



CREATING ECONOMIC GROWTH

Lessons for Europe

Marco Magnani



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Creating Economic Growth

Lessons for Europe

Marco Magnani

Harvard Kennedy School, USA

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Alla mia mamma e al mio papà....

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Preface and Acknowledgments

Like many Italians growing up, I learned early about a favorite Italian pastime: Telling stories about how someone else screwed things up and how someone else ought to set things right. Many Italians, me included, accepted this pastime as time-honored. You complained about leaders, but in the end you accepted what they dished out. Today I attribute this habit in Italy to a long history of foreign invasions and subjugation, whether by the Arabs or by the Normans, by the Spanish or by the French.

This history means that, in Italy, criticizing and ‘playing victim’ can sometimes rise to the level of a national sport. And taking public action to fix things is not considered a priority. This, I believe, stems from people confusing the collective interest – what today is the interest of the nation – with the interest of the ancient foreign rulers. Italians got used to waiting out these foreign exploiters, criticizing without taking public action, always figuring that the next ruler would also impose his will. As a result, people today often don’t perceive collective interest as aligned with individual interest. This has led to a habit of passive participation in national public life, low political involvement, and a focus on the interests of people you can trust – yourself, your family, and your community.

I have to admit to being a guilty party when I was younger – if not to playing victim, then of being willing to passively accept what national leaders dished out. Like the vast majority of my peers, I focused on my own interest, academic and professional, without considering public action and service. I actually benefited from people with far greater wealth and influence than I had in growing up in Parma, Italy. When I was 16, I was an AFS scholar and attended a school in the US, in the state of Washington. I later received scholarships for all of my university studies and for graduate school. Eventually, I made a place for myself in investment banking where I worked for nearly 20 years in some of the top institutions in the US and Europe.

After two decades, I decided the game was up. It was time to contribute beyond my personal and professional development. It was time to use my experience to give back. In this spirit, I accepted a position as a fellow at the Harvard Kennedy School of Government. My goal was to study and think through issues of collective interest, to research a topic

of huge significance since the start of the global financial crisis in 2008: how to reform economic policy to revitalize Italy's economy by 2030. I was taking responsibility as a citizen to help spur economic growth – and perhaps even to go so far as to set an example for young people to do the same.

During my research at Harvard, I realized that many of the topics I was studying in Italy, whether economic challenges or opportunities, were similar to those of many other European countries and that the research could become a lens to look at and address problems elsewhere in Europe. I felt compelled to write this book, because citizens in Italy and across Europe face a special time. It is special because, since 2008, we have faced economic problems of such scale that national leaders cannot solve them alone – in part because politics today is so divisive. It is also special because this challenging time can be turned into an opportunity. It is an opportunity for citizens to take the reins themselves to breathe new life into local economies.

Opportunity is the key word, and to publicize that opportunity this book highlights a simple but powerful conclusion: At a time when passivity leads people to engage in the game of playing victim, local leaders across Europe can spur – and as case studies in this book show, *are* spurring – economic growth without the need for central players. That's not to say people at local and regional levels don't need or want central support. It is simply to say that while that support remains wanting, they can act alone, from the bottom or middle up. They can, as I say in the Introduction, rise to the occasion to restore the energy, spirit, and vigor needed for a dynamic economy.

I have been fortunate to refine these ideas in Cambridge, Massachusetts. For one, the right distance from my native Italy allowed me to gain a fresh perspective on the challenges facing Europe. For another, I benefited from the immense contribution of colleagues at the Harvard Kennedy School in identifying opportunities for renewed economic vitality. In many places, the ideas you will read stemmed from collaborative thinking, even as I take full responsibility for their current form. The credit for the completion of the research and the book in your hands goes to the time I spent at Harvard and at a handful of other leading institutions.

In that light, I would like to thank several people who helped me during the research work I performed over two years: primarily Larry Summers, Richard Zeckhauser, and John Haigh at the Harvard Kennedy School for guiding, advising, and supporting me; Paolo Busco and Paolo Di Caro for their contributions of ideas and data (and the *Federazione Nazionale Cavalieri del Lavoro* for supporting them); and my research

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Many friends have given me useful and constructive feedback on this book, as well as support and encouragement. Among them are Esko Aho, Richard Balzer, Gretchen Bartlett, Benito Benedini, Marina Benedetti, Lorenzo Bini Smaghi, Alberto Bisin, David Bustamante, Angelo Ciancarella, Alberto Cribiore, Piero Cipollone, Gianluca Giansante, Francesco Giavazzi, Maurizio Gili, Leigh Hafrey, Dan Hamilton, Valter Lazzari, Kishore Mahbubani, Marcello Messeri, Rosa Morona, Roger Myerson, Valerio Onida, Nicole Poindexter, Tommaso Piffer, Mietta Rodeschini, Roberto Ruffino, Augusto Schianchi, Michael Spence, Guido Tabellini, and Giacomo Vaciago. I am grateful for their effort and interest. Thank you to my American parents Dave and Linda Kelly for their patience in teaching me English, and much more, when I was a teenager. Last but not least, a very special thanks to Laurence for her support.

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Cambridge, Massachusetts
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About the Author

Marco Magnani leads the research project 'Italy 2030' at the Harvard Kennedy School of Government, where he is a Senior Research Fellow. He is also a visiting fellow at the School of Advanced International Studies (SAIS) at The Johns Hopkins University in Washington, DC.

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Marco Magnani is a member of a number of think tanks: The Aspen Institute, Chatham House, Institute for International Affairs, The Economic Club of New York, and Young Leaders Council for the United States and Italy. He is the chairman of AFS Italy (Intercultura) and a member of the Board of Trustees of AFS International Programs.

He is a Luciano Jona scholar and has completed programs in leadership and public policies at the Harvard Kennedy School and at the Jackson Institute for Global Affairs at Yale University. He holds a degree in Economics from the University of Rome and an MBA from Columbia University. He published *Sette Anni di Vacche Sobrie* (UTET, 2013).

Introduction

Rising to the Occasion

So precious is the Parmesan cheese produced in and around Parma and Reggio Emilia, Italy, that the local Credito Emiliano bank accepts wheels of the cheese as collateral for loans to dairy owners. In fact, the bank operates two climate-controlled vaults whose shelves brim with more than 400,000 wheels of cheese, valued at roughly \$187 million. The bank lends up to 80 percent of the cheese's value to dairy operators, providing ample financing for dairies to continue production while the cheese finishes two years of aging (Migliaccio and Rotondi, 2009).

That Parmesan cheese, officially known as *Parmigiano Reggiano*, has such value can be traced to the work of local agricultural leaders. They sought to protect the unique status of the so-called 'king of cheeses' years ago. They achieved Italian status in 1955 and European Union 'protected designation of origin' (PDO) status in 1992. They furthered that value in 2008, when the European Court of Justice ruled that German dairies could not label cheeses as 'Parmesan' – the Anglicized name – nor could any other EU country. 'Parmesan' cheese is not generic, the court ruled. It comes only from the provinces of Parma, Reggio Emilia, Modena, parts of Bologna, and Mantua.¹ With the intention to further that value even more, in 2013 local leaders have filed for recognition of *Parmigiano Reggiano* as an 'Intangible World Heritage' by the United Nations Educational, Scientific and Cultural Organization (UNESCO).

As part of the Consortium of Parmigiano Reggiano Cheese, the local cheese leaders today spearhead initiatives critical to global success in the cheese business – participation in cheese research (e.g., how to inhibit pathogens), coordination of production levels (e.g., adopting a 2013 supply regulation plan), quality control (a system of inspecting 3.5 million wheels of cheese each year), export marketing (budgeting €4 million in 2014 alone), clever positioning ('It's not manufactured,

it's made'), and spearheading a special school for both new and veteran dairy operators (*Scuole dei Casari*).²

At the same time, educators at the University of Parma and the University of Gastronomic Sciences in Bra, Italy, have contributed by offering an undergraduate degree in 'Gastronomic Sciences' and a master's degree in 'Culture, Organization and Marketing of the Food and Wine industry'. These initiatives and others allow 500 dairies and 3,500 associated dairy farms in this particular part of Italy to safeguard the quality, flavor, and authenticity of *Parmigiano Reggiano* – as well as its premium price globally.

That brings us to the thesis of this book: That at a time when actions to revitalize national economies are often frozen by political bickering and paralysis, people of action at the local and regional level can step in to make an economic impact. Leaders like those masterminding the *Parmigiano Reggiano* legacy show that local people – people willing to rise to the occasion in specific locales and regions – not only benefit the economies where they live but, collectively, their national economies.

Of course, such leaders hail not just from the agricultural sector. They come from many other sectors too. Working in hundreds of cities and regions across Europe, they are the ones who can make the difference in restoring the continent's economic vitality. Imagine several scenarios: A businessperson sees intellectual property in local universities and turns it into a line of branded consumer products. A citizen activist takes stock of his community's artistic and architectural heritage and organizes and showcases it for touristic development. A student acquires an advanced degree in biotechnology and applies his/her years of study to advance genetic research. An educator notes the unfulfilled potential of children and develops a new system to radically improve their cognitive abilities in preschool. A local government official sees an unrelenting influx of immigrant entrepreneurs and spurs the economy by helping talented foreigners start job-creating businesses.

Many would-be leaders have been absorbing the brunt of the current once-in-a-generation economic malaise, and they are looking for a better economic future on their own terms. These are leaders who, together with peers, neighbors and fellow citizens, see opportunity instead of problems. And these are the leaders who, in a sense, this book addresses. They may not have previously played a starring role in spurring economic growth. They may be citizen leaders, movers and shakers, agents of change, iconoclastic trailblazers, and architects of the future. These are the people who, no matter the constraints on action by national leaders and by bureaucracy, can create value for the economy

by leveraging resources locally to compete globally. To them, globalization is not a threat but an opportunity. They, like those leaders championing the economic cause of *Parmigiano Reggiano*, have taken economic destiny into their own hands.

Of course, leaders at all levels recognize that national policymakers and pundits are still crucially important: Elected officials, government administrators, influential politicians, media opinion makers, and elite business executives still play a lead role in guiding nations economically. In addition, absent national and international networks, the risk is for local capabilities to be less effective and cut off from global competition. But at a time when the ranks of the elite are constrained from acting, local and regional leaders can take a vow to stop complaining and instead step in as catalysts of change to further economic progress. The time has come when the 'outsiders' at the local and regional level, along with the 'insiders' at the national level, can work in parallel to restore economic vitality. The time has come for potential leaders to step down from the bleachers into the playing field.

The growing nationalist movements in all of Europe pushing for various degrees of autonomy or independence – such as in Scotland, Northern Ireland, Catalonia, the Basque countries, Corsica, the Baltic countries, South Tyrol, Veneto, and so on – are a symptom of how current and sensitive the topic is. They are also a signal that there is a need for more attention to local problems, economic and political. Belgium, a country in the heart of Europe with only 11 million people, and headquarter of many EU institutions, is at risk of splitting into two countries, the Dutch-speaking Flanders and the French-speaking Wallonia. An institution such as the European Union presents many opportunities but also significant challenges. Successfully facing the latter and taking advantage of the former does not necessarily require every region with a strong identity to become economically autonomous or politically independent, but it may require local people and leaders to rethink governance and revitalize economic factors at the community level.

To some extent, we are recommending a paradigm shift, from relying on central powers to guide a nation's destiny to relying on local and regional powers. On the other hand, we are not suggesting a shift at all. We are offering a strategy with deep historical roots, though too long underappreciated. In recent decades, the progress by Europe's social democracies in powering economic growth has often been credited to the national leaders of those democracies. It is now time to call on the local leaders and citizens of those democracies for credit. These

'followers' can take up the reins just as well as the national leaders can. They can, in a sense, help resuscitate a vibrant democracy at the local level. After all, the roots of democracy were local in the Greek *polis*.

Local growth despite national barriers

How great is the potential for local and regional leaders to spur economic growth? To some extent, cases like that of *Parmigiano Reggiano* give us the answer. The success of *Parmigiano Reggiano* has persisted for 800 years, through every twist and turn of economic history. By virtue of the dedication of the area's leaders to nurturing local advantages and age-old skills and strengths, global demand for the cheese remains strong. To be sure, the region's dairies make the cheese in a traditional way. According to strict standards, they use milk only from cows fed grass. The whole milk of the morning milking is mixed with the skim from the night before to form new cheese wheels in less than 20 hours. The only other ingredients are calf rennet and salt. But the value comes not from a unique mixture of grass, geographic location, climate, or other natural resources. It comes from unique efforts by people to find new ways to create value.

The fact is, of course, that local and regional leaders today have little choice but to exercise talents and capabilities independent of central authorities and influence. Leaders at the national level are hamstrung by the short-term demands of politics, and by all appearances they will remain so for some time to come, as the problems they have created will take years to work out. The most prominent of problems is the level of public debt and annual budget deficits. Both remain very high. In Italy, public debt in 2013 was 133 percent of GDP, the budget deficit close to 3 percent of GDP (the limit allowed under EU treaties). By comparison, in the United States, public debt in 2013 hit 100 percent of GDP, the deficit, 4.1 percent of GDP. Other European countries also have significant debt and deficit levels.³

Other constraining factors include sluggish labor markets, the prevalence of a 'shadow economy',⁴ underfunded pension systems, and the ossification of government and other institutions. As for labor markets, unemployment remains stubbornly high. Italy ended 2013 with a 12.9 percent unemployment rate, the US with a 6.7 percent rate. Unemployment is especially severe among the young, hitting 42 percent in Italy. The ratio between the unemployed in the 15–24 age group versus the 25–74 age group in 2013 was 4 in Italy, 2.5 in the Eurozone, and 1.6 in Germany.⁵

As for the 'shadow economy', tax evasion and tax avoidance distort income distribution and undermine the credibility of fiscal authorities. They also make austerity policy less effective and unfair. In Italy, the shadow economy in 2013 was estimated to be €333 billion of a total GDP of €1,577 billion, or about 21 percent. In Germany it was estimated to be about €351 billion, or 13 percent of GDP. The average in the Eurozone is about 15 percent of GDP.⁶

As for pension systems, an aging population is forcing painful reforms in most European countries. Younger generations bear a high burden for contributions but will probably receive low pensions. And as for government and other institutions, they create inefficiencies in sectors ranging from telecommunications to transportation, energy, banking, and public services. Most of these problems are highly visible in Italy today but are also common in most other European countries.

These problems, which stem from an ongoing and inexorable focus on the short term, are exacerbated by other structural problems. In Italy, in particular, the civil justice system works poorly; infrastructure remains wanting when it comes to transportation, energy, telecommunications, and waste management, particularly in the southern part of the country; and immigration systems remain behind the times, unable to anticipate future economic implications, in particular the need to leverage inevitable immigration flows for growth.

The paralysis caused by this range of problems is compounded by the nature of politics today. Political debate has gotten 'personal' and fails to address issues of national importance. Politics and politicians have lost credibility. They have also often lost touch with the people, their lives, and their needs. What this means is that younger generations are increasingly frustrated and disaffected with politics. They have fewer dreams for the future when faced by a society in decline. They see the problems as insurmountable – and for the most part, at the national level, in the short term, they are.

And that is precisely why the answer, in the near- and mid-terms, remains in the hands of people who operate at the local and regional levels – whether from the ranks of government, business, education, or civil society. Until the time when national leaders regain their footing and credibility to take fresh actions to right the mother ship, the leaders elsewhere in the economic flotilla need to take charge. Now more than ever, as globalization intensifies direct competition between locales, the actions of leaders 'on the margins' and 'in the trenches' matter. To some extent, this is true not just in Europe, but in Asia and the Americas. In other words, the answer to today's malaise involves a

further disaggregation of power, or at least initiative, and a power shift from the elite to the citizens, in government, corporations, and non-profit institutions.

To put it another way, one way to escape the economic doldrums is for citizens and citizen leaders to rediscover the economic model of Italian city-states and communes of the twelfth and thirteenth centuries,⁷ essentially a 'nation of one hundred cities', which eventually flourished in the Renaissance. This is the model that can figure prominently in revitalizing European economies. Whether citizens in those economies are business people founding new firms, education leaders pioneering new ways to unleash human potential, elected officials catalyzing administrative reform, or simply citizens acting in their communities' self-interest, the time for local economic leadership is now. In some ways, the potential for local and regional leaders to create growth is limited only by their resourcefulness, inventiveness, dedication, energy, and constancy of purpose.

The opportunities for local and regional leaders

How do such people spur economic vitality locally and regionally? Where can they make headway in spite of paralysis at the national level? What are the leverage points? We address the issue as realists. Paraphrasing Paul Krugman (1996), the difference between a 'realist' and a 'strategist' is crucial. The realist takes theory seriously but admits to its incompleteness and offers few recommendations. The strategist, influenced by the same theories, stresses actions and interventions but risks not being in touch with reality. In this book, we take the realist approach, and far from suggesting what Krugman calls 'time-honored fallacies dressed up in new and pretentious rhetoric', we use tried-and-true economic principles as a compass for our recommendations.

As part of our realist approach, we focus on low-cost actions, performed in the near and medium terms, executed locally by people with the freedom to act and focused on traditional strengths. Just like the leaders of *Parmigiano Reggiano*, we are not only suggesting people invent new ideas but instead rediscover truths well supported by theoretical and empirical evidence. We are also suggesting that people work not on their weaknesses but instead leverage their strengths. At a time of economic crisis, local and regional leaders will win through traditional capabilities, not by reinventing themselves. That's what all individuals, cities, and countries do in challenging times. They win by creating a

virtuous cycle – hope followed by planning, action, and a steady cycle of improvement in strengths that motivates others to follow.

When we refer to ‘local’ and ‘regional’ in this book, what do we mean? The geographic size is less important than the fact that a locale comprises a collection of productive activities that have some characteristics: They are integrated in that people share formal and informal institutions, sense of community, social relations, and some sense of a border. We might mean a region, sub-regional unit, a city, or even a neighborhood. A locale corresponds to a cohesive unit of geography, human community, and business enterprises, as theorized for Italian districts (*distretti*) by Giacomo Becattini (1989) on the basis of the ideas of Alfred Marshall (1920).⁸ The locale might also be called a *milieu*, cluster, or inter- or intra-sector firm integration.

When we talk about action at the local level, we generally mean cities, specifically cities integrated with surrounding urban, exurban, and rural geographies. The city as a locus of economic activity has triumphed globally as the main driver of economic development. More than half of the world’s population (almost 68% in the case of the EU) lives in predominantly urban areas. As a practical matter, economic solutions that stand up to global competition will largely emerge in cities, which have the scale and scope of resources to make value creation more efficient and easier to export.

As recently emphasized by Edward Glaeser in his book *The Triumph of the City* (2011): ‘Cities, the dense agglomerations that dot the globe, have been engines of innovation since Plato and Socrates bickered in an Athenian marketplace. The streets of Florence gave us the Renaissance, and the streets of Birmingham gave us the Industrial Revolution. The great prosperity of contemporary London and Bangalore and Tokyo comes from their ability to produce new thinking. . . . Cities are the absence of physical space between people and companies. They are proximity, density, closeness.’ In other words, they consolidate in one place the prime factors for efficient economic growth.

One of the powerful advantages of cities is specialization and the knowledge ‘spillovers’ that occur from one firm to another in a particular industry. These spillovers contribute to endogenous growth (Romer, 1986). This view was firstly theorized by Alfred Marshall (1920) in describing the development of industrial districts and subsequently extended by Kenneth Arrow (1962) in his model of learning-by-doing and Paul Romer (1986) in a framework based on knowledge externalities. Hence, *à la* Marshall–Arrow–Romer (MAR), urban spaces become attractive to innovative businesses because of externalities.

In Italy, there are many examples: The design sector and the fashion industry concentrated in Milan, the microelectronics cluster in Catania, the faucets district in Novara, the production of eyeglass frames in Belluno, the historic shipyards of Naples, the gold and jewelry in Arezzo and Valenza, the ceramics of Sassuolo, the leather tanning district in Arzignano (Vicenza), the wine bottling and packaging in Canelli and Asti, the food valley in Parma, and the marble in Carrara. In this book, we study several successful clusters throughout Europe looking at how they have built on their strengths and reinvented themselves: Eindhoven leveraging on the Philips legacy and building on technology, knowledge, and inventiveness; Mannheim leveraging on its tradition of inventiveness and building on mobility, energy, and medical technology; Manchester on creative and digital businesses; Lyon on pharmaceuticals and biotech; Barcelona on tourism and sports; Utrecht on sustainability; Oulu on technology, health and environment, and Malmö on diversity and creativity.

Within such clusters, the sharing and accumulation of both physical and human capital stimulates growth of specific industries. Linkages among firms aid the transfer of ‘tacit knowledge’, sometimes indirectly, ‘through spying, imitation, and rapid inter-firm movement of highly skilled labor’ (Glaeser et al., 1992). Sometimes a large firm is the source of the spillovers and many small enterprises flourish around it and benefit. Good examples are the firms surrounding Apple in Cupertino, Microsoft in Seattle, Nokia in Oulu, and Philips in Eindhoven. The presence of a university typically stimulates the improvement and diffusion of human capital as well, as illustrated by Stanford’s influence on Silicon Valley, MIT’s influence on Route 128, Cambridge’s influence on Cambridge Fen in the United Kingdom, and Technion-Israel Institute of Technology’s influence on Silicon Wadi.

London, Bilbao, Los Angeles, and Kolkata are other international examples of innovative urban spaces. Trieste, Salerno, Bergamo, Perugia, Trento, and Lucca, represent Italian cities where small and medium-sized ‘local’ economies thrive. The point is that economies have a polycentric geographical structure. They are not, or at least need not be, monoliths. In Italy, the appropriate image for local and regional leaders is not an economy with Rome as the top of an economic pyramid. It is the Renaissance economy of *one hundred belfries*. In this image, local and regional leaders are the ones ringing the bells for more vibrant economic growth.

As a guide to that effort, we offer a six-point plan for restoring economic vitality in the medium to long term. We present this plan

in six chapters. In each chapter, we include theoretical underpinnings, empirical evidence, case studies, and numerous proposals for local and regional leaders based on a philosophy of realism. The chapters make the following six recommendations:

1. Build Assets of Local Development
2. Unleash and Stimulate Entrepreneurial Creativity
3. Foster Innovation and Research
4. Leverage Cultural Resources and Creativity
5. Make the Most of Cultural Diversity
6. Champion Social Mobility

Build assets for local development

In chapter 1, we argue for building and nurturing the development of the intangible assets that make up the foundation for a vibrant local economy. These assets include human capital, civic capital, and institutions with effective governance. Human capital includes educated and skilled workers. Civic capital includes trust and social cohesion. Institutions with effective governance transcend sluggish bureaucracy and cronyism to deliver administrative services that facilitate commerce. These intangible assets, together, support the cities, industrial districts, knowhow clusters, and centers of technological- and knowledge-based excellence that enable a locale to compete in global markets.

More than any other point in our six-point plan, the task of nurturing local intangible assets falls directly on the shoulders of local and regional leaders, whether elected or unelected, volunteer or paid. Even in developed nations, national leaders often lack the ability to effect local change. Even in the best of cases, they are not as effective in driving local development as the citizens of that locale. Only local leaders and citizen activists have an intimate knowledge of the factors that contribute to the prerequisites for efficient local commerce. Moreover, local and regional leaders, as outsiders, can work without being hemmed in by the ruts and rules binding national leaders invested in the status quo.

We argue for a number of actions, as illustrated by cases including the province of Ragusa, Italy, the American city of Pittsburgh, Pennsylvania, the cities of Turin in Italy, Lyon in France, Manchester in the UK, and Holland's Dutch flower district. Actions range from investing in education to sharing best practices with other leaders to reorganizing local government to provide more accountable processes and more incentives for local people to spur economic growth. Local leaders can – and

must – create a rich mosaic of local advantages, a piecing together of the social elements that make up the platform for robust commerce.

Stimulate entrepreneurial creativity

In chapter 2, we argue for actions and initiatives to unleash entrepreneurial spirit and creativity, both in traditional (mature) firms and startups. These actions should support the four pillars of entrepreneurial success: education, skills development, a capacity for innovation, and a sense for risk taking. The actions should also pave the way for structural changes: reducing administrative burdens, improving civil justice and the legal system, lowering taxes, and reducing barriers to credit. Along these lines, countries in Europe and especially Italy have enormous room for improvement.

Once again, local leaders, whether citizens or elected officials, can act as prime movers and facilitators, making changes that support local centers of excellence, industrial districts, and knowhow clusters. On other issues, specifically high taxes and barriers to credit, local leaders need to act as catalysts while partnering with national leaders. Among the swiftest and lowest-cost initiatives we recommend are lowering the cost of credit through new or revitalized institutions, namely mutual guarantee organizations like Italy's *Confidi* and microcredit institutions now common in developing nations. We also recommend fostering much closer ties between, or even formal partnerships among, businesses, universities, and research institutions.

Foster innovation and research

In chapter 3, we argue for much more coordination and support for 'networks of knowledge', clusters of universities, R&D centers, and private companies. Support could one day come increasingly from national sources, but in the meantime, funding can come from corporate partnerships. Small and medium-size enterprises (SMEs), embedded in locales but connected with national and international partners, can bring world-class innovation to local companies.

What's not widely accepted is that local leaders – government officials, business people, or even citizens – can be the drivers of innovation. Given that innovation remains one of the most powerful catalysts for growth – as we demonstrate with the empirical evidence – local and regional leaders need to establish links that support the growth of businesses in their area. We look at the examples of Eindhoven and Utrecht in the Netherlands, of Mannheim in Germany, and of Oulu in Finland. We focus on the impact of innovation on traditional sectors,

including agriculture. We recommend centralizing centers of research excellence to establish critical mass in specific research areas; promoting integrated research institutions; supporting PhD programs in partnerships between business and universities; arranging and incentivizing more venture-capital backing for university spinoffs; and coordinating profit-making and nonprofit enterprises for sharing of innovation.

Leverage cultural resources and creativity

In chapter 4, we argue that local and regional leaders can drastically boost their ‘return on cultural assets’. These assets are the often-unexploited treasure accumulated over centuries in the form of art, architecture, music, performing arts, and related creations. Many of these assets, along with the natural environment, are largely idle and yet amount to valuable natural, intellectual, and cultural property. As we point out, this is especially true in Italy, which has the highest number of UNESCO world heritage sites, the most of any country, while remarkably, having far fewer tourists than its neighboring countries.

Local leaders are again at the right place at the right time to stimulate economic development to create new jobs, professions, services, and even technologies from local culture. They can trigger a multiplier effect from culture to the creative sectors, tourism, and the overall economy. We argue for a number of actions, illustrated by cases like *Parmigiano Reggiano*: thinking more strategically about culture; urgently mapping and inventorying hidden and underutilized treasures within each locale and region; creating incentives for public–private partnerships; and supporting education, financing, and multi-level governance to fully exploit cultural heritage without degrading it. Among our illustrations are the Palazzo Strozzi Foundation in Florence, a global success story of cooperation among public and private sector leaders to make the most of a locale’s heritage; Cremona, an example of how building on a cultural legacy such as the violin-making tradition can give a town an image of broad cultural and artistic excellence; and the Spanish cities of Barcelona and Valencia, with the different outcomes of their strategy to become touristic hubs.

Make the most of cultural diversity

In chapter 5, we argue that local and regional leaders can create fresh economic value by leveraging diversity. This means diversity in all its forms – gender, life choices, ethnicity, language, religions – but especially, diversity driven by persistent or growing immigration. The challenge is to make the most of fresh and novel talent, ideas and capabilities

while managing the costs of immigrant populations. Leaders cannot let this asset go idle, but instead use it as a wellspring of new innovation driven by people with new competencies and skills. Fittingly, in 2000, the European Parliament adopted as a motto *in varietate concordia* (unity in diversity) to signal the importance of diversity.

Although immigration policy remains in the hands of national leaders, local officials, business people, and citizen leaders can create a complementary strategy to facilitate integration at the local level. After all, it is at the local level that a successful integration process can be achieved and brings the most benefits. We argue for a range of actions, including pressure on national politicians for reform; programs by business for integration of immigrant populations into the workforce, as best illustrated by the Manni Group; support for immigrant populations with tailored services, as in loans and banking services by Extrabanca; the creation of immigrant networks to spur cross-border trade with home countries; the provision of microcredit, described in chapter 2 as well; and reforms to champion best practices in education, internationalization of university enrollments, and provisions of residency permits to recent top-rung university graduates.

Champion social mobility

In chapter 6, we argue that fostering intergenerational mobility can spur economic vitality by helping the best and brightest students realize their potential, no matter their family background. From an economic point of view, the principle is simply to increase the efficient use of human resources. People come with a host of talents, capabilities, levels of motivation, willingness to work hard, appetites to take on risk, and so on. These assets are wasted if the limits reached by one generation are imposed on the next. A prime means to spur economic growth is to enable the fluid movement of young people up the social and economic ladder to the place of their highest and best use. That partly means fostering a whole new generation of leaders at the local level, the ultimate act of social mobility.

Here again, national leaders, through their control of funding and educational standards, play a big role in furthering mobility. On the other hand, local and regional leaders have final control in the implementation of standards and the creation of ancillary programs to aid mobility. And they can also take initiatives, as in Reggio Emilia, where private citizens, teachers, and local authorities have created the best network of childcare and preschool in the world, a crucial step to increase social mobility for both children and their mothers. We argue for a

range of changes, which include increasing the availability of childcare and mandatory preschool; standardized testing that genuinely scores students on merit; and structuring university education to enable working students to matriculate without the burden of work undermining scholastic performance.

The Italian contribution

Across the developed world, nations face many of the same challenges, whether in the US, EU, or Asia. To be sure, every country has its strengths, and some have come through the last decade in excellent shape compared to others. Still, most suffer from degrees of political short-termism, legislative stalemate, unprecedented indebtedness, fiscal inflexibility, lagging infrastructure development, and so on. Among the countries with a full repertoire of challenges is Italy. Although this book began as a study of Italy and a game plan for Italian action, it evolved into something different. It soon became apparent that the challenges among countries were as common as the differences. The set of challenges seen in Italy was often the same – if not in degree, in kind – as in other countries, particularly in Europe.

This is the reality across nations: The foundations for local economic growth, namely human capital, civic capital, and effective institutions, have deteriorated. The conditions for entrepreneurial activity, whether startups or mature companies, still falls short. Investment in R&D or the ‘networks of knowledge’ remains insufficient to briskly drive value-creating innovation. The leveraging of cultural assets remains an orphan project in all but a few locales. Skill in creating value from diversity remains rare. And social mobility – the promise that a nation will do all that it can to make the most of its young people’s talents – lags miserably, and often in some of the most surprising places, including the US.

This book, then, describes a practical, low-cost agenda for economic growth at the local level across the developed world. In a sense, this is its contribution to the flood of literature on economic reform today. While it covers ground similar to other books, and while it reveals theoretical and empirical research that can be found elsewhere, it weaves together a novel six-point plan along with a novel set of case studies to present a practical agenda that cuts across six large issues not otherwise attempted in one book. Moreover, it weaves together an action plan brought to life by using one country, Italy, as a case.

Italy in fact may become a ‘lesson’ for the rest of Europe (and perhaps beyond Europe). That’s because its economy is large enough that

a 'failure' would hurt the entire continent, because its problems and the challenges it faces in the long term are similar to those of most European countries, and because its potential to find alternative pathways to growth is common to other nations. It may also serve as a lesson because, to the extent that local development is key to taking on current challenges and tapping new opportunities, Italy shows an unparalleled history and track record of local development: Within its borders are a number of 'untold stories' of locales thriving through local development – locales with great historical, economic, and cultural significance that have spawned a unique network of industrial districts and clusters.

Italian clusters are not limited to design, craftwork, and food, but are also strong in automation, machinery, and equipment. This should not come as a surprise given that Italy is the second largest manufacturing economy in Europe. Most of the specialized products from Italian clusters belong to the so-called 'Made in Italy' or '4A' sectors of clothing/fashion; home furnishings; automation, machinery, and equipment; and food products and beverages.⁹ These clusters account for about half of total national exports and closely tie into Italy's pattern of corporate development, which features a high proportion of SMEs.

Of course, other countries have an analogous legacy. In Germany, the importance of the *Mittelstand*, or the noteworthy presences of SMEs in manufacturing, has helped the country remain healthy in spite of global economic distress. Still, Italy serves as a model for development centered on tightly knit locales and regions. The European Cluster Observatory estimates that there are approximately 180 clusters in Italy. In the region of Marche, on the Adriatic Coast, almost 80 percent of the total employment and 70 percent of exports stem from industrial districts.

What this means is that local leadership, even if underutilized today, is in the DNA of Italy. Since the eleventh century, city-states or communes represented a new civic and social culture based on commerce and exchange of knowledge with the world outside Western Europe. The Republic of Ragusa and the Republic of Venice, for example, traded with Muslims and Hindus, contributing to the initial development of the Italian Renaissance. By the late twelfth century, a new society emerged in northern Italy: rich, mobile, expanding, with a mixed aristocracy and urban class of citizens interested in urban institutions and a republican form of government. By the fourteenth century, most of these republics, excepting Venice, Florence, Lucca, and a few others, had become princely states, fertile ground for great cultural change and achievement, initiated locally and disseminated broadly to the rest of Europe.

This is why we say that this is a book of rediscovered truths. It's also why we don't accept the excuse that nations are condemned to years of disappointing growth owing to today's general impasse at national levels. We argue that local *savoir faire*, leadership in multiple forms and by multiple people, and local energy in the face of national apathy can restore economic vitality. Today, 3,500 farms and 500 dairies in central Italy remain on top by creating premium value from an age-old product, *Parmigiano Reggiano*. They do so with R&D, quality control, production control, global market expansion, e-commerce, and more. Indeed, when it comes to creating value a locale or region can take to the bank, the *Parmigiano Reggiano* dairies have remained champions.

Other locales and regions can rise to the same level. Leaders and would-be leaders willing to see opportunity can use this book as a road-map to a new dynamism. They can be pioneers of a new value-creating landscape, architects of a prosperous future, spark plugs that ignite their local economic engine. This is the challenge. This is the opportunity. For Italy. For Europe.

1

Building Assets of Local Development

The role of human capital, civic capital, and local governance

If you buy an early-season tomato in Europe, chances are you might be purchasing one grown in the province of Ragusa, Sicily. That's not only because Sicily has the agricultural advantage of roughly seven hours of sun a day and not much cold. It's because the region has made an effort to become a leader in growing greenhouse produce. Along the southeastern coast of the island, 'hothouses' line up for miles. They are as common as tourists in the summer sun.

To passersby, the army of greenhouses on the Ragusa coast may appear low tech. Many are wooden-frame affairs, covered with sheets of polyethylene. But the homegrown look is deceptive. The region has invested in a host of efforts to leverage native agricultural strengths to make it a global competitor. One of the local initiatives is supporting research on effective greenhouse technology.

A part of that is university research. In 2012, the nearby University of Catania sponsored its third agricultural conference in Ragusa, this one on worker safety in greenhouses.¹ One paper looked at the risks of heat to workers. The conference represented one of many efforts to make Ragusa a force in agriculture. In this case, a partnership between the academia and the community leads the way.

An interesting indicator of Ragusa's economic advance is the rapid increase in employment for women. Four times as many women as men count themselves as shareholders in social cooperatives in Ragusa. Women are especially talented in working and managing firms in the food-processing and service sectors. Even after the recession of the past few years, the rate of participation in the workforce in Ragusa in 2013

was 40.7 percent, still low compared to the rest of the country and to Europe but high for Sicily and the south of Italy.

Ragusa's support for such advances in agriculture and employment illustrates the first of our six recommendations for revitalizing local and regional economies: building human capital, civic capital, and institutions as the means to get the most out of native strengths. Through such actions, Ragusa has lifted itself to an enviable spot in Sicily. Since 1999, exports from Ragusa have grown more than 50 percent. Unemployment, at about 9 percent in 2011, has stayed well below that of Sicily and southern Italy. Female unemployment has fallen to 10 percent, compared to the Sicilian figure of 15.8 percent, and in line with the national rate of 9.7 percent.

Tomatoes are not the only reason for the relative economic vitality, but they serve as a symbol of revitalization. So does the boomlet in tourists to the Ragusa coast – known for its endless sand beaches. And so does the celebrated handmade Ragusano cheese, for which Ragusa claimed a PDO mark (Protected Designation of Origin, a form of protected geographic status) in 1995. Ragusano is a hard cheese much loved for its sweet flavor when young and spicier flavor when aged. It comes from Modicana cows grazing on grasses and wildflowers on the Sicilian uplands. Modica, a town in the province of Ragusa, is also renowned for its chocolate, still made using the technique of the ancient Aztecs of Mexico.²

To be sure, Ragusa has not performed an economic miracle. It has further to go in building the robust economy of the most vibrant locations in Europe. But it shows that local and regional leaders can take the initiative where leaders at the national level do not. Local leaders can inject dynamism into their economies by nurturing often-neglected local and regional assets – and in so doing grab a share of global commerce in produce, fruits and vegetables, dairy, chocolate, and tourism. And they can do this even in a region not known for economic vitality – and in a country with policy paralysis at the national level.

In other words, not just any community with greenhouses and a lot of sun can succeed in the global produce trade. It takes local and regional leadership to conceive, cultivate, fund, and manage the factors upon which that export machine depends. That is the case in Ragusa.

The significance of Ragusa could easily be written off as having few implications for the rest of Europe. But that would be a mistake. Today, every locale, no matter the country, faces an intensifying challenge: How to create increasing value when people elsewhere in the world can easily copy your products and processes. The solution, as Ragusa shows,

is to turn challenge into opportunity: Don't try to fight the commodity products of copycats. Create newfound value from superior, hard-to-copy, and often tacit knowhow.

In a world where many developed nations cannot compete on price, local *savoir faire* can become a global competitive advantage. Prosperity depends on the ideas of people and the complexity of products and processes managed by these people. Talented, motivated, clever individuals – working together in a variety of ways that we discuss in this and the next five chapters – are the basis for the generation, production, and commercialization of hard-to-replicate products and services that can restore economic vitality.

The way forward

Even in developed nations, however, support for local economic growth based on such a philosophy is often lacking. That puts the spotlight on leaders and community members who can stand outside that norm. Local people have the opportunity to take action to build local economies on their own. They have not always taken that opportunity in recent decades, and that leads us to a point we make again and again in this book: Local and regional leaders, including *ad hoc* citizens and business leaders, do not have to wait for leaders at the national level to pull them up. They can do much more to pull themselves up by their own bootstraps.

Relying on national leaders to take action is a loser's game. Invariably, given today's pressures, these central leaders will not (or cannot) deliver on expectations. People at the local and regional level will become frustrated as a result. Worse, locally elected leaders will use the inaction at the national level as an excuse for their own lack of performance. This can trigger a mentality of victimization, with both citizens and leaders obsessed with articulating complaints rather than creating solutions.

Ragusa could have easily found an excuse to blame its problems on the lack of national support. Indeed, the Sicilian province ranks next to last among Italian provinces in physical infrastructure. Ragusa is the only province in Italy without a single kilometer of highway. This is particularly challenging for a region where 90 percent of goods are moved by truck, due to poor railroads, and especially for an economy based on tourism and the export of perishable agricultural products. But Ragusa long ago moved beyond excuses to executing its own plans for revitalization.

So how does a locale or region rise to the occasion instead of falling into disarray? To begin with, people who exercise leadership recognize that in their city and surroundings they have a concentration of activities to compete globally on their own. As we mentioned in the introduction, cities and their connected surroundings are a prerequisite for global competition. As firms mutually evolve and specialize in cities (Porter, 1990), they enjoy the benefits of decreasing costs, labor market pooling, highly specialized production, knowledge accumulation through learning-by-doing and learning-by-watching, and spillover value provided by workers sharing (or poaching) ideas across corporate or institutional boundaries.

Other benefits of cities are dynamism, an increased scale of demand, and concentrations of culture with greater economic significance. Dynamism stems from the process of 'creative destruction', as described by Joseph Schumpeter. It also stems from social relationships that promote the adaptation and creation of specialized technologies, often via public-private R&D partnerships. Increased demand stems from individual preferences that spur larger and diversified markets, per the consumption variety argument (Abdel-Rahman, 1988; Ogawa, 1998). One of those markets is for goods requiring large audiences to be successful, such as main sport events, concerts, and the opera (Glaeser et al., 2001).

The concentration of culture stems from cities as the place culture is created, showcased, commoditized, sold, and enjoyed. The desire by consumers to seek out cultural events with 'reputation and authenticity' ties them unavoidably to particular cities (Scott, 1997). New York, London, Paris, Rome, Venice, Florence – tourists are attracted by different aspects such as architectural beauty, history and traditions, recreational opportunities, festivals, and art and music events such as *la Luminaria* in Pisa³ and the Verdi Opera Festival in Parma.⁴

Given the city as an environment for prosperity, local leaders, like those in Ragusa, can start their economic success story by focusing on building human capital, civic capital, and vibrant governance delivered by active institutions at the local level. For a representation of this idea, see Figure 1.1.

This is a new perspective playing on an old theme: As noted by Dani Rodrik (2005), 'growth-enhancing policies shall be context-specific'. Every locale – Ragusa in Italy, Regensburg in Germany, Rio in Brazil – has to leverage its strengths in its own way. Every locale starts with a different deck of economic and social cards. It inherits civic capital from previous generations and the social environment. It

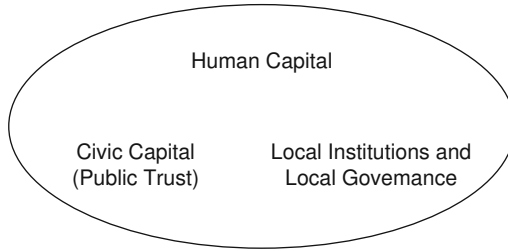


Figure 1.1 The makings of renewed local economic development

inherits a locale's unique circumstances – sunny weather, unique markets, trading networks, universities, an educated workforce, and so on. It also inherits local diverse institutions that reflect unique histories. Dealt this hand, local leaders must create, on their own and with these resources, competitive and comparative advantages to compete globally.⁵

We start our story of how to spur local development by stressing human capital. To determine their destiny, local and regional leaders need to nurture a workforce that has both scientific and technical knowledge – in Ragusa that might mean both people who can figure out the right carbon-dioxide levels to best grow hothouse tomatoes and people who can install greenhouse ventilation systems to obtain those levels. They also need to nurture a workforce that has both general and specific skills – in Ragusa's case, the knowledge of global tomato-market dynamics and the means to get ripened tomatoes on store shelves in those markets. This requires, for example, tailoring vocational training to be sure the locale doesn't have too much or too little of the skill needed. Ultimately, leaders must monitor local schools and universities to balance the creation of ideas with the transformation of them into advantages that will differentiate the locale from all others.

Along with this nurturing of human capital is the responsibility to build and preserve civic capital, or the elements of public trust. Mutual confidence is invaluable in creating economic vitality and dynamism. Indeed, an environment rich in mutual confidence tends to show low levels of corruption and minimal demand for more regulation. A large reservoir of civic capital – public trust, reciprocal cooperation, and a sense of community – differentiates a locale just as powerfully as workers who increase productivity, favor innovations, and promote better styles of management.

Along with the responsibility to nurture human and civic capital comes the interrelated job of nurturing effective governance through local institutions. Governance should reflect a broad system of rules and beliefs generally accepted at the local level. These rules and beliefs directly affect the economic vitality of a region. Socially efficient institutions favor mechanisms to better coordinate economic success. They work against cronyism, patronage, political bargaining, and other forms of clientelism and rent-seeking that allocate resources in an inefficient manner. When the formal and informal rules by which local institutions operate contribute to welfare-enhancing activities, they facilitate the success of a renewed economic strategy.

Nurturing human capital

For what reasons do human capital, civic capital, and well-governed institutions deserve emphasis as the first agenda items for local and regional leaders concerned with growth? Simply put, without them, leaders cannot set apart their regions as robust competitors in today's globalized, knowledge-driven economy. Well-governed institutions, human capital, and civic capital together provide the rich soil from which a locale like Ragusa reaps a harvest of ample economic growth. This soil, if it does not remain rich in nutrients, can blight economic vitality.

Let's start with one of the three components of that soil, human capital, which ranks among the most important nutrients of economic growth. According to research by the World Bank (2011), educated people are more employable, able to earn higher wages, cope better with economic shocks, and raise healthier children. Time spent in school, vocational training, and acquiring technical and scientific knowledge contribute to so-called 'private' returns, such as higher labor-force participation and productivity, as well as to 'social' returns such as pecuniary and non-pecuniary externalities. Pecuniary externalities might include enriching the local economy indirectly by an educated workforce attracting investment and higher wages. Nonpecuniary externalities might include a workforce better able to adapt to new technologies and to change, more able to exchange valuable ideas, increase work-related knowledge, and facilitate diffusion of innovation across a region.

People, then, are essential resources for development as emphasized by Gary Becker (1964) some years ago. Those locales that invest in human capital reap the benefits of endogenous elements of growth (OECD, 2009). An interesting example comes from countries like Australia, Canada, Chile, the Czech Republic, and Korea. Since 2000, the progressive rise in the number of foreign students enrolled in tertiary education

has been linked to positive economic performance. In addition, over the last ten years, employment rates across OECD countries among people with tertiary-type qualifications increased on average by about 88 percent (men) and 80 percent (women). Moreover, leaders will find that human capital attracts more human capital, as educated people move to live with people like themselves. The local web of human capital (Bénabou, 1996) creates favorable conditions for spillovers of many kinds: community, neighborhood, firm.

Growth in human capital in nations today bodes well for economies in general. In the last four decades, the number of students enrolled in tertiary education has substantially increased in developed nations (Figure 1.2). In Italy, for example, the percentage of students in tertiary education in 2010 was three times higher than in 1975. Trends are similar in France, Japan, and the UK. In the US, more than 90 percent of students enrolled in tertiary education in 2010, compared with 50 percent in 1975.

Between 1998 and 2010, Italy experienced a 24 percent increase in the number of students between 15 and 24 years old enrolled in all levels of education as a percentage of the corresponding age population. This steady growth is typically an underpinning for healthier economies, provided the education continues to fit the needs of the evolving global economic environment. Comparing Italy and the US in the past two decades, Italy has closed the gap with the US and other countries.

Researchers have studied and described most aspects of human capital, but they have had trouble identifying the elements that matter. Three factors explain this trouble. First, human capital represents a complex concept with many articulations: general and specific skills, technical and scientific knowledge, different levels of education, on-the-job

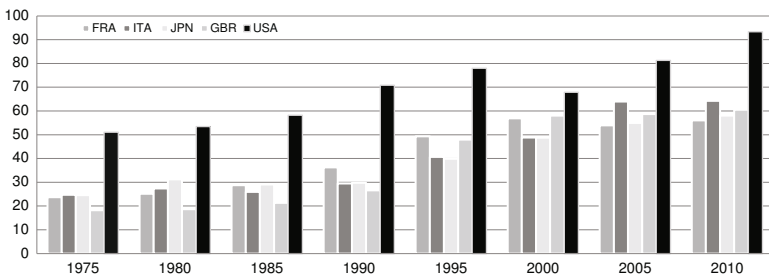


Figure 1.2 Tertiary education enrollment (%)

Source: Author's elaboration; data from World Bank (2013)

training, and so on. Second, each aspect of human capital has different causes, consequences, and interdependencies. Third, human capital is embodied in people, and as a result, nobody has figured out an unambiguous way to measure its appearance or how it changes.

For our purposes, it is convenient to adopt a recent approach (Acemoglu and Angrist, 2000; Gennaioli et al., 2013) focusing on several principle effects of human capital on regional development. This approach suggests that three areas can have the biggest impact when addressed by local and regional leaders: education of workers, education of entrepreneurs, and externalities such as the indirect effects of education on innovation.

Education of workers, of course, has a direct impact. The workers contribute to increased productivity and to the adoption of new and more productive technologies. The contribution depends on the aggregate skill level, the capability of skilled workers to generate more ideas, and their work in facilitating the diffusion of innovation. Growth through the diffusion of innovation is evident in the electronics districts of Toulouse, France, or in the Italian footwear districts between Fermo and Macerata (Marche region).

The education of entrepreneurs is essential for productive activities in at least two instances. Primarily, skilled people are more inclined to start new firms (Glaeser et al., 2011). As we show in the next chapter, there is a strong correlation between stock of human capital and new firm formation. Secondly, if entrepreneurship is about change, skilled people act as agents of change by introducing, developing, and earning financial returns on new ideas. The creation of new firms, operated by well-educated, change-oriented people, stimulates *ceteris paribus* new labor demand, the attraction of other skilled people, and as a consequence, the accumulation of additional human capital, reinforcing a cumulative virtuous process of local and regional growth. The ultimate example today is Silicon Valley in the US. Throughout history, Italy has shown a number of remarkable examples such as the Republic of Venice, when it comes to trade and commerce, or Florence and Siena in banking and insurance.

The relationship between education and entrepreneurial growth is not always straightforward. Not every graduate is an entrepreneurial talent. Some locales can abound with well-educated people but lack innovative entrepreneurs. The south of Italy is an example, as we see in the next chapter. Distortions derive from a mismatch between individual and social incentives. All else being equal, an individual might strike out on the entrepreneurial path, attracted by the rewards, thrilled by the risks.

But all else isn't equal, as social practices, rules, and norms act as incentives to sway an individual toward salaried employment, if only for the sake of prestige or family approval. To avoid this inefficiency, regional and local leaders need to differentiate individuals' qualifications and graduation level.

There is an additional subtle benefit to educating entrepreneurs. A high level of human capital can counterbalance the negative effect of 'dynastic management'. In family-owned firms, typical of Italian industrial organizations, the 'inter-generational transmission of control is a potential source of inefficiency: if the heir to the family firm has no talent for managerial decision making, meritocracy fails' (Caselli and Gennaioli, 2009).⁶ This 'talent-ownership mismatch' can be partly reduced in the presence of a well-educated second generation of entrepreneurs. Illy, Benetton, and Ferrero are examples of dynastic management successes that stem from investment in the education of heirs.

A good example of a successful initiative taken by local leaders to increase entrepreneurial education as well as management skills among entrepreneurs is the *Fondazione CUOA*, a business school launched in the late 1950s and currently located close to the city of Vicenza. The school is characterized by a strong, rooted connection to the surrounding territory, one with a very high density of enterprises.

The education of workers and entrepreneurs has more than direct and observable effects. Exchanging ideas, solving work-related problems, and generating new knowledge are nonpecuniary externalities resulting 'from [educated] people in a given location spontaneously interacting with and learning from each other' (Gennaioli et al., 2013). R&D activities and patents are clear examples of knowledge externalities.

Similarly, when a greater level of human capital in a particular area attracts more investments by firms, in turn raising overall wages, regions earn pecuniary human capital externalities. Simon and Nardinelli (2002), for example, found consistent evidence in the twentieth century of local pecuniary and nonpecuniary externalities from human capital for American cities such as Los Angeles, Dallas, Washington, Lincoln, and Madison. Hence, the localized effects of human capital, as broadly conceived, help define both competitive and comparative advantages.

In sum, investing in human capital can make and unmake places. Human capital in the form of well-educated people stimulates local economic development through various channels. It increases productivity, favors innovations, fosters entrepreneurship, promotes a better style of managing organizations, and increases externalities. Once these channels of economic stimulation are understood, given the multifaceted

nature of human capital, local and regional leaders can use them to develop actions for revitalization.

In Italy, most economic development can be explained by the explicit and tacit transmission of knowledge among people at the local level. Workers, entrepreneurs, schools, universities, and other education centers increase and spread human capital across entire regions, as in Ragusa. Many hundred-year-old Italian international economic success stories – of Piaggio, Pirelli, Barilla, Agusta – stem from a combination of ideas, investments in education, and shared knowledge. The same combination has sustained and is still sustaining the export-led success of thousands of small and medium firms. If education is both the seed and the flower of economic development, per Harbison and Myers (1965), sowing and harvesting stand out as important skills and prime responsibilities of local and regional leaders.

As an aside, it is worth mentioning that increases in human capital also go along with increases in quality of life. In turn, the higher quality of life may attract people with higher levels of skills. Glaeser and Shapiro (2003) highlight three connections of this variety. First, skilled individuals are the first to move from declining to growing areas. For example, college-educated people are more likely to move into areas with low pollution (Costa and Kahn, 2000). The migration decisions of high-skilled households are more sensitive to the level of crime in an area (Cullen and Levitt, 1999). Second, concentrations of skilled individuals encourages the growth of sophisticated consumer markets, such as theaters, restaurants, and shops, which then make the area more attractive to other highly educated migrants. Cities with superior markets for goods and services therefore experience faster population growth (Glaeser et al., 2001). Third, highly educated households usually act to improve local quality of life. This may be due to the fact that they are more likely to be homeowners and they want to raise property values. In addition, some evidence suggests that homeowners make greater investments in their local communities (Glaeser and Shapiro, 2003).

Building and preserving civic capital

The knowledge-driven economy is also highly influenced by social capital. The bestselling book by Robert Putnam, *Making Democracy Work: Civic Tradition in Modern Italy* (1993), reprised a well-affirmed concept in the sociological tradition with new and reshaped empirical evidence. Comparing Italian regions from the early 1970s through the 1980s, Putnam and his coauthors emphasized the presence of ‘social capital’ (civicness) as a crucial factor explaining the economic divergence among

Italian regions, in particular between north and south. The more social capital a region had, the better it did. This represented a watershed in the socioeconomic literature.

In the last twenty years, 'social capital' has become a buzzword among social scientists, journalists, and politicians, inspiring a flood of articles, books, and initiatives. This has prompted some scholars to call the concept into question.⁷ Dozens of definitions and hundreds of empirical works have been written in this area, perhaps, as one critic writes, 'in the hope that repetition will reinforce the reader's and the writer's confidence in its truth and its usefulness [. . .] But imprecision is not a virtue, and "for example" is not an argument' (Solow, 1995).⁸

The concept of 'social capital' can, as critics say, be vague, hard to measure, and poorly defined. Some experts question whether it is a form of capital by any definition (Arrow, 1999; Bowles, 1999). Other critics say that social capital amounts to a tautology (Portes, 1998), taking the form of a circular argument. That raises the issue of causality. Do changes in social capital cause changes in communities or the other way around (Durlauf, 1999)? Social capital may have a negative side, too. When it drives behavior, it may hinder economic success, or as various researchers say, undermine meritocratic action and efficient decision-making (Adler and Kwon, 2002; Portes, 1998; Quibria, 2003).

Despite the debate, social capital is a concept that has attracted interest among policymakers. In addition, the concept, handled in a discriminating way, offers practical guidance to local and regional leaders looking to understand and nurture the foundations of economic vitality. Recognizing the vagueness and the analytical imprecision of the term,⁹ let us concentrate our attention on public trust (*fides publica*) following the approach, inaugurated in 1765, by the Neapolitan economist Antonio Genovesi in his *Lezioni di Economia Civile*. In line with Roman tradition, Genovesi defined *fides publica* as 'a rope that ties and unifies. Public trust is, then, the bond of families living companionably' (*fides* in latin can be translated as 'rope which ties and unifies').

Public trust, in this sense, can be included in an argument for economic growth as an expression of the concept of 'civic capital', recently proposed by Guiso et al. (2010). They define civic capital as 'those persistent and shared beliefs and values that help a group to overcome the free ride problem in the pursuit of socially valuable activities.' Those shared beliefs and values facilitate collective action in a community. They are what tie families and community together, providing advantages to both. Mutual confidence, reciprocal cooperation, and sense of community are some of these values. A second part of civic capital is the

community itself, where people live companionably. The community, in this sense, is a structure of social interaction, in the sense of the German concept of community kinship, or *gemeinschaft*. A community is characterized both by geography and the many generations of people who have lived there.

Civic capital is context-dependent. To make the most of it as an asset, local leaders and community members need to identify its attributes (values and beliefs). What form of *fides publica* is at work in a particular locale? To begin with, historical roots matter, as discussed by Guiso and his colleagues (2010). Second, civic capital can be easily studied using models of political behavior. Likewise, it can be measured. Direct measures can be arrived at through surveys and experiments, such as the *European Values Study* and the *World Value Survey*. Indirect measures include participation rates in blood donation and electoral referenda, the number of newspaper readers, and the number of volunteers and sports associations in a certain area.¹⁰

As for the benefits of civic capital,¹¹ several important ideas are worth discussing. Kenneth Arrow (1972) argued ‘that much of the economic backwardness in the world can be explained by the lack of mutual confidence.’ Several authors have in turn attempted to link civic values and trust with economic growth.¹² The empirical evidence generally suggests a positive relation, although an understanding of the context is important. When local and regional leaders act to build mutual confidence – by, for example, providing political stability, clear and certain rules and regulations, and efficient and predictable public administration – they can expect to stimulate growth, including reducing the costs of transactions, stimulating the accumulation of physical and human capital, and increasing the efficiency in the provision of public goods (Tabellini, 2010).

Enhancing public trust can also improve government performance, the quality of bureaucracy, and the judicial system (La Porta et al., 1999; 2008). Avi Ben-Bassat and Momi Dahan (2008) maintain that socially embedded values – in education, health, and workers’ rights – provide the basis for a common view of constitutional commitments by bureaucrats, civil servants, and citizens. This has led, as in France, to shared values that contribute to an efficient and effective state bureaucracy and administration.

Benefits may come from different sources. For one thing, public trust encourages pro-social behavior while strengthening social signaling. When people trust each other, they don’t incur a high cost in such desirable activities as helping strangers, giving to political candidates and

charities, and volunteering their services. Public trust also strengthens incentives or disincentives for people to behave as they do (Bénabou and Tirole, 2006). For example, the greater the civic capital, the lower the presence of crime. Halpern (2001) found that values like intolerance and social mistrust correlate strongly with crime data. Sampson and colleagues (1997) maintain that social capital may provide a means to discipline people – through, for example, shaming – when people violate behavioral norms. The reverse is also true: Public distrust may both neutralize the benefits of social capital and create harm on its own, spurring calls for regulation. This is just the reverse of what people expect when they move to a community, as confirmed by research by Philippe Aghion and his colleagues (2010).

Local and regional leaders, of course, are better positioned than anyone else to identify the values and beliefs of civic capital. Given that civic capital can be accumulated through time, the question to answer is not just what constitutes that capital but how to nurture and make more of it: What are the right actions for leaders of local development?

An excellent example of actions over many generations comes from the city of Siena, in Tuscany (Dreschsler, 2006). Siena has an unusually high level of both wealth and social capital, along with an extremely low level of crime. Despite having neither an airport nor a highway connection, it has an important university, a large bank (albeit now dealing with major financial distress), a significant pharmaceutical industry, and a vibrant tourist industry. The city is most renowned for its world-famous, biannual horse race, the Palio, in the Piazza del Campo, which for our purposes is more illustrative of civic capital than about the horse business.

Traditional neighborhood associations, or *contrade*, a tangible example of robust civic capital, organize the Palio. The *contrade* make up the 17 units of the historic walled city of Siena. Each *contrada* has a recognizable identity represented by its symbol, coat of arms, colors, motto, flag, patron saint or holy event, and feast days. The key symbol is a square silk scarf that a *contradaio* receives the day of his or her baptism into the *contrada*, which often occurs earlier than the religious baptism. The scarf is worn at all *contrada*'s events, no matter what gender, age, and status. Owing to the unique influence of the *contrade*, Siena neighborhoods don't split along class or economic lines. The *contrada* creates a remarkably inclusive environment, creating a sense of equality 'from aristocrat to pauper' (Dundes and Falassi, 2005; Warner, 2004).

Along with competing in the Palio as part of one's *contrada*, the people of Siena organize group initiatives for people of all ages, from children

to the elderly. As noted by Liebscher (2001) and Warner (2004), the *contrada* serves as an 'enlarged house' or a 'second family'. The *contrada* remains a constant fixture at every step in a person's life (Dundes and Falassi, 2005; Liebscher, 2001). It helps in finding a job, making introductions, and getting financial assistance in times of need, almost like a second family. As Silverman (1989) says, 'The modern *contrade* of Siena are marked by an unusually high degree of corporateness, internal organization, and functionality'. A higher level of bonding social capital can hardly be found anywhere else.

As Siena shows, investing in the civic capital of a community creates the basis for a self-reinforcing pattern of public trust, low regulation, and positive economic effects. It also spurs information-gathering among people living together, reducing moral hazard and adverse selection problems. This can contribute to preventing failures of coordination and cooperation among people. For young people, it can simply serve as a way to find jobs. It can also help with financial development, providing an avenue to gain access to credit (Guiso et al., 2004).

An important question concerns the origins of public trust and how to generate more of it. Following a well-known approach among sociologists (Trigilia, 2005), local and regional leaders will find they can generate (and accumulate) civic capital in two complementary ways: belonging and acquisition. On the one hand, they can reaffirm the values and beliefs people naturally inherit from personal (family) and collective (community) histories. That is, leaders are the caretakers of the public trust that is traditionally rooted in 'familial societies' and communities where people are more or less homogeneous and equal (Alesina and La Ferrara, 2002).¹³

Prato in Tuscany in the past and New Hampshire in the US today are examples of regions that generate civic capital merely through belonging. Prato's civic capital has roots in its medieval role as a textile manufacturing and trading center and is documented in the diaries of merchant Francesco Datini. New Hampshire's civic capital was most clearly revealed in the Social Capital Community Benchmark Survey (2006) of 40 different geographic areas across the US. New Hampshire scored highest on civic equality. The northeastern state exhibited extensive community involvement and high civic participation among citizens of all backgrounds. As Harvard's Robert Putnam once commented, 'In New Hampshire, the bank janitor and the bank teller take part in community activities along with the bank president.'

People living in these communities are caretakers of civic capital through at least three channels: families where civic values are

historically inherited; (compulsory) social organizations like schools; and day-to-day exchanges of ideas. Being part of these communities means having multiple opportunities when people implicitly (I am born here) or explicitly (I move in/I stay in) decide to belong to this social environment. Leaders can help their regions acquire public trust through these channels, typically through educational and other institutions. Formal and informal norms together with individual education (in its original Latin sense of *educere*) help to foster pro-social behavior and reciprocal cooperation.

Local public trust assumes the form of 'collective capital' disposable to people living in one 'naturally and historically bounded area sharing common culture and institutions' (Dei Ottati, 1994a). This implies a certain number of externalities. At the regional level, the presence of mutual confidence can be associated with shared attitudes of industriousness and socially enhancing activities. In Italy, this enabled the birth and ongoing operation of popular banks and institutions of cooperative credit, in line with the suggestion proposed by don Luigi Sturzo at the beginning of the twentieth century.

Civic capital or public trust is, by definition, delimited in space and time. Some people are 'in' and others 'out' of a specific community's sharing of civic values and beliefs. The effects of public trust nonetheless extend outside the community. They are not exclusive. When a place exhibits an abundance of civic capital, people outside the locale, as well as firms that work to extend their operations to new locales, carry some of the capital with them. This then brings added benefit to the locale, which shares in the prosperity as local businesses, headquartered at home, repatriate profits from elsewhere.

Strengthening local governance and institutions

Along with human and civic capital, the knowledge economy depends for its vitality on local decision-making. In fact, it depends on decisions at the local level more than ever as a result of globalization. When commerce depended solely on grand economies of scale and skills – the post-World War II era of Ford-like assembly lines – international business was the domain largely of national-scale enterprises. But globalization has eroded the power of big decision-making centers, whether corporate, government, or NGO. In some ways, and especially in some locales, central political decision-making has become steadily less relevant. This change has usually been illustrated in the international relations literature as a shift from a 'diamond' to an 'hourglass' (Figure 1.3).

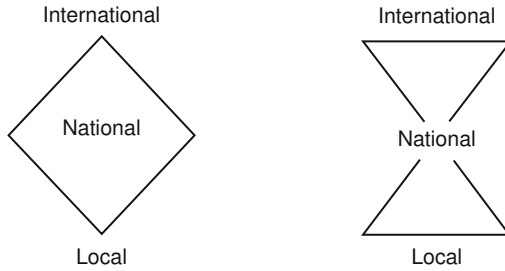


Figure 1.3 From the diamond to the hourglass

In Italy, three additional factors have influenced the resurgence of local decision-making. The first is new thinking on European regional policy launched by Jacques Delors in 1988. The Delors Agenda explicitly identified subnational levels as keystones for the future economic success of the European Union. The second is administrative and political decentralization begun in the second half of 1970s and completed at the beginning of 1990s. Several reforms, the most relevant of which are known as Bassanini laws, transferred additional competences and resources from the central state to both regional and subregional levels of government.

The third factor is the direct election of local chief executives: the mayor for municipalities (1993), the president for the intermediate body (*provincia*) (1993), and the president for the region (1999). For the first time, Italy has a localized democratic structure, connecting citizens and local executives in line with the ideas of John Stuart Mill and Alexis de Tocqueville. With the direct election of the mayor, cities are a better example of bottom-up democracy, affording citizens direct participation and impact. This contrasts with top-down, central, and statist bureaucracy, dominated by unelected technocrats and politicians who have lost touch with their constituencies.

What has evolved from these trends in Italy and elsewhere is not just a changed body of local government, which has historically operated largely as a regulator. What has emerged is an emphasis on the bigger, multifaceted concept of local governance. Today, to advance their locales economically, local and regional leaders need to think of their institutions as fitting in the broader picture of making things work. This can be a foreign but powerful perspective for furthering local development.

The study of local governance involves different disciplines and theoretical approaches.¹⁴ Local governance requires local institutions¹⁵

as they work together to perform the job of governance. That job comprises interacting, bargaining, and other activities – the *modus operandi* of local institutions. Following the analysis of Avner Greif (1993), these institutions represent a ‘system of rules, beliefs, and organizations’ present in a particular place in a given period. Their formal and informal rules influence individual behavior. The personal and collective beliefs characterize each individual’s actions. The actual organizations, such as associations, parties, and administrative agencies, bring people together in different ways.

The identification and the separation of ‘rules, beliefs and organizations’ in a particular local space and the study of their historical coevolution (path-dependency) create the basis for understanding how to nurture them for local development. There are a number of questions local leaders want to answer: Which institutions are operating in a given territory today? What are their ends and codes of conduct? What is their position in the local institutional environment? Why do they follow a certain pattern? By answering these questions, leaders can begin to grasp how to shape governance to spur economic development.

But observing rules (e.g., laws and regulations) and creating organizations together with tangible behaviors are not enough for local leaders to understand how to move forward. They need to reveal the institutional foundations behind them, to grasp the sometimes irrational and persistent negative institutional dynamics, such as the presence of socially inefficient (welfare-reducing) actions. These actions derive from institutions’ traditional architecture. Inefficiencies, such as the underutilization of potential advantages and distortions in the allocation and redistribution of money and other resources, stem from particular configurations. The same, of an opposite kind, is present in market-promoting and growth-spurring institutions.

Several advantages enjoyed by leaders during local economic development can be attributed to the presence of ‘high-quality institutions’, even if further research is needed at the subregional level. Recently, Micheal Storper (2011) identified four interesting success factors in realizing that quality. First, high-quality institutions are open to new ideas and actors (which increases knowledge absorption capacity). Second, they contribute to limiting clientelism and rent-seeking. Third, socially efficient local institutions facilitate coordination among local agents, reducing transaction costs. Fourth, they can positively influence expectations by creating a positive attitude, and a sense of general trust and optimism.

In addition, high-quality institutions bolster and promote markets by enforcing property rights and ensuring contracts. They contribute to increased savings, eliminate frictions in the credit markets, and spur investment and entrepreneurship in nontraditional activities (Rodrik, 1995). Moreover, strong local institutions contribute to providing more and better public goods such as pollution control, integrated urban planning, and labor market monitoring.

In sum, positive results of governance at the local level can only come if institutions themselves are sound. Leaders need to more fully acquire knowledge of local institutions to understand actors, interactions, beliefs, and rules from an historical perspective. As local governance and local institutions operate in a multilevel environment, local and regional leaders need to further understand the relations between different geographical units of governance (international, national, regional, cross-local). A pluralistic view *à la* James Madison in the Federalist Papers, stressing 'checks and balances', needs to be adopted. With these tasks accomplished, local leaders can shape governance for the present and future to further economic vitality.

In the last thirty years, Italy has experienced an intense debate on local governance. Some local institutions have underperformed and have become a safe harbor for mediocre politicians who fail to operate in the common interest. Among these institutions are those that have grown too large and have thus become centers of power that overlap other institutions. At a time of budget constraints, this has triggered the abolition of the *province* and raised the concern on budget deficit of the regions.

Complicating the debate, the political party *Lega Nord* (Northern League) has swung for two decades between asking for federalism and threatening secession of the northern part of the country.¹⁶ This has, in part, undermined the credibility of supporters of a healthy decentralization of power. Nonetheless, policymakers, civil society organizations, bureaucrats, labor unions, and firm unions have progressively paid more attention to local institutions. Although decentralization has been stop-and-go, local institutions and governance will play a significant role in Italy's future.

Cases

Given this overview, let's now look at four cases to illustrate how local leadership can leverage human capital, civic capital, and local governance and institutions for economic growth. Two of the examples are in Italy, Turin in the north and Ragusa in the south, one is the Dutch

flower district, and another one the US city of Pittsburg. We also briefly look at the stories of Manchester, Lyon, and Valencia.

Turin: From company town to smart city

In the 1980s, the identity of Turin was bound up with a single automaker, FIAT, in the same way Cleveland and Detroit in the US were connected to Ford, GM, and Chrysler. In 1990, the FIAT Group was still the second largest European manufacturer with a 13.8 percent market share, only slightly trailing the 15.7 percent share of Germany's Volkswagen Group. FIAT dominated the Italian market with more than a 50 percent share. Almost one third of the families living in the Turin metropolitan area had direct or indirect professional connections to FIAT and its subcontractors. Both economic and social relations in Turin reflected a typical Fordist society based on division of labor (Bagnasco, 1986). Local institutions were mainly influenced by FIAT and changes in its business and prosperity.

Japanese competition and new management techniques pioneered by Japanese automotive manufacturers such as Toyota, Nissan, and Honda started disrupting the US auto market in the 1980s, putting increasing pressure on GM, Ford, and Chrysler. With new quality-control techniques, the Japanese started manufacturing better cars at lower prices. The European market, and specifically the Italian market, was less exposed to global competition, and yet the same crisis recurred in the 1990s. Competition destabilized FIAT. This was a second blow to Turin, following the shutdown in 1982 of Lingotto, the largest automotive factory in Europe. Turin eventually lost more than 100,000 jobs by the end of the century. The principal response of leaders in the Turin metropolitan area was to create a new identity based on native competitive advantages and shared values and beliefs.

The changes kicked off in the first half of 1990s were often led by the first municipal government (and the first mayor) directly elected by citizens in 1993. In 1998, after a period of preliminary analysis and public debate, the city launched the First Strategic Plan of Turin, supported by leaders from businesses, government, and NGOs. The plan addressed six strategic categories. It specified 20 objectives and 84 actions. The strategic categories included 'Innovations and Entrepreneurship, Education, Knowledge and Research, Urban Governance, Culture and Tourism'.¹⁷

To put the plan into action, leaders created an organization called *Torino Strategica*, which was charged with implementing, monitoring, and promoting the list of new actions. Public authorities, big firms, small and medium enterprises, universities, research centers, charitable

foundations, and the rest of civil society played a role in revitalization. People from 41 inner-belt and 24 outer-belt towns participated. The Turin metropolitan area repositioned itself as a different kind of business and cultural center, and it promoted its new image both nationally and internationally. For the first time, different actors from the city and suburbs got behind a common and integrated program that allowed sharing knowledge, revealing preferences, and benefiting from interaction and cooperation. Put simply, various smart initiatives made Turin unique.

A symbol of the process of urban rejuvenation (Giaccaria, 1999) was the revival of the *Lingotto*, the first automotive plant in the city, designed by Le Corbusier and opened in 1923. After its closing in 1982, it was redesigned in the 1990s by Italian architect Renzo Piano and transformed into a modern commercial and exhibition center, hosting a shopping mall, restaurants, hotels, an art gallery, and an 11,000-square-meter high-end Italian food market. The old test track on the roof remains at the disposal of hotel guests for jogging. As emphasized by a *Time* magazine special issue, 'when Fiat sneezed, Torino didn't just catch a cold; everybody competed to supply the handkerchief.' In other words, everyone pitched in to make the revitalization a success.

A second strategic plan was launched in January 2005. It was officially presented after the Winter Olympic Games in 2006 and declared that 'competition, attractiveness, social and territorial cohesion are strategic meta-objectives that need to be managed in order to give the opportunity to the city (of Turin) of continuing to be an engine of development and innovation and becoming an open society' (Torino Internazionale, 2006a,b).

In recent years, leaders in Turin have integrated the implementation of the second plan with new programs and initiatives. In 2007, for instance, they created the specific mark 'Made in Torino. Tour the Excellent' as a joint initiative of the local Chamber of Commerce, the European Institute of Design (IED), and internationally recognized firms in three sectors: automobile design, ballpoint pens, and aerospace. The historical productive district of cacao and chocolate was promoted through the expansion of *Ciocolatò*, a citywide chocolate-making festival, exhibition, and fair inaugurated in 2002. Recently, Turin leaders developed the first Turin Jazz Festival and started pursuing participation in the European 'Smart Cities' project, focusing on five areas: energy, inclusion, integration, life and health, and mobility.

Since its revitalization, Turin has enjoyed praise from news outlets like *The Wall Street Journal* and *Time*.¹⁸ Its new stature is illustrated by its recent candidacy for European Capital of Culture in 2019.¹⁹ Turin,

the first capital city of Italy in 1861, has risen again. Its vitality shined globally in the Winter Olympic Games in 2006, and it shined again when it was nominated for World Design Capital in 2008.

Lessons from the Turin case

Turin is an example of leaders creating a deliberate strategy of local economic development. In a city with industrial troubles, they adopted innovative and dynamic solutions to modern and unexpected challenges. These solutions relied on the triad of 'community, people and enterprises' paired with ambitious policy-making initiatives, such as the two strategic plans and a common long-term view. It also relied on a number of actors. The local university, the polytechnic university (offering engineering architecture and industrial design), and the chamber of commerce, all based in the urban area, became crucial in economic development.

The many leaders in the Turin metropolitan area brought together local towns and spread externalities such as transport connections, area-wide mobility, and joint cultural programs. By broadening the city influence and perimeter, both the city and surrounding towns created greater critical mass and more economic opportunity across different zones. Among urban transport initiatives, the city improved the subway system, bus network, the railway, airport, and other urban infrastructure. This connected people like never before while opening the region to more national and international business and tourism. Since the 1990s, the city of Turin has participated in international networks in combination with other important urban areas. In addition, an aggressive urban plan was pursued and roughly 60 percent of Turin's abandoned industrial land has been repurposed.

A great example of local leadership comes from Turin's bookseller Angelo Pezzana and entrepreneur Guido Accornero. In 1988, the duo started the International Book Fair (*Salone Internazionale del Libro*). Today the IBF is the biggest book fair in Italy and one of the most important in Europe attracting almost 320,000 visitors and over 1,400 exhibitors.

In the last quarter of the century, innovation has been a key factor in local economic growth in Turin. Small and medium firms have specialized in advanced manufacturing (aircraft and spacecraft construction, auto design, electronics, office equipment, industrial machines, and information and communication technologies). Big companies have progressively become more international and competitive. Three of the main national insurance companies and one of the most prominent Italian banks are located in the city. New organizational and managerial

solutions have been adopted even in more traditional sectors such as food processing, printing, and publishing.

Leaders in Turin have created public–private research centers *ex novo*, as in the case of the Environmental Park and the Virtual Reality & Multimedia Park. They have integrated the five existing research centers of the National Centre of Research (CNR) (including the prestigious Galileo Ferraris) with laboratories of the local university’s physics department. Several charitable foundations²⁰ have launched innovative projects and research. A recent study conducted by the Chamber of Commerce of Turin (2011) among a sample of firms in the metropolitan area noted that between 2008 and 2010 most firms ‘introduced some kind of innovation and almost the 73 percent have invested in Research & Development’.

Turin leaders have also, since the adoption of the first strategic plan, sought to improve education and build human capital. The local system of vocational training has been redefined to match new demands coming from firms and the changing international environment. Both the university and the polytechnic school have also upgraded and internationalized their operations, stimulating innovation and further education of both workers and entrepreneurs across the region. For instance, in 2004 the program *Fiera delle Idee* (‘Ideas Festival’) gave the opportunity to fully exploit the creativity of hundreds of young people by putting into practice their ideas as presented through selective educational programs coorganized by more than 50 private and public universities, research centers, and other institutions. In addition, the Giovanni Agnelli Foundation, an independent institute of culture and research focusing on education, and the International Training Center (ITC) of the United Nations’ agency International Labour Organization (ILO) further strengthen the role of Turin as an education hub.

Additional programs to stimulate entrepreneurship have been organized by banks, the Chamber of Commerce, and other foundations. The Chamber of Commerce and most banks, for example, have sustained initiatives to make more venture capital available. Several local foundations have meanwhile continuously sponsored I3P, a startup incubator. These efforts have been fruitful: As shown in Figure 1.4, the number of European patents per million people registered in Turin is consistently higher than both nationally and regionally.

Leaders have also nurtured public trust at the local level to support their economic development activities. They have profited from a background of mutual confidence, reciprocal cooperation, and sense of community, both in the case of the Association *Torino Internazionale* and

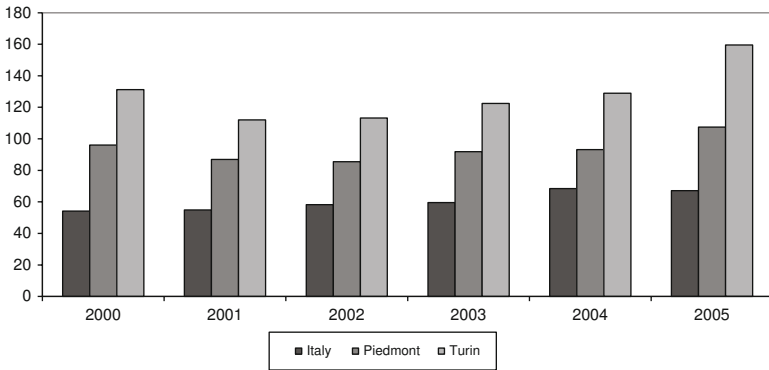


Figure 1.4 Number of European patents registered per inhabitant (millions of people)

Source: Author's elaboration; data from Unioncamere and European Patent Office (EPO)

in day-to-day contacts among people and enterprises. Adriano Olivetti, founder of legendary office-equipment maker Olivetti, is a highly symbolic and historical example of this spirit: A combination of innovation, cooperation, and strong interpersonal relations has been the core of his working life and professional success. As a specific indicator of civic capital, the province of Turin has one of the highest numbers of blood donations per inhabitant in Italy.²¹ The widespread attitude of community-mindedness is further demonstrated by two factors: the local tradition of volunteering in local organizations and the high level of electoral participation in referenda.

Leaders, of course, have relied on the indigenous system of beliefs, rules, and organizations, which bolster coordination among people and initiatives. Local actors have been able to 'organize themselves in order to capture and connect supra-local flows of goods, people, capitals and information in order to address the transformation of the local "endowment" in economic and cultural values circulating in the global exchange circuits' (Torino Internazionale, 2000). In short, institutions genuinely favoring the public good have led to high-quality local governance. Local representatives directly elected by citizens for the first time have coordinated this process, demonstrating leadership and pulling together votes of people with different political inclinations, regardless of their political history. In elections, the spirit was community minded: The city came first, the political affiliation second.

Through all these means, in the last three decades, the leaders of the metropolitan area of Turin have been able to transform destabilizing

challenges into new opportunities for citizens. They have in the process leveraged Turin's place-specific advantages. Among those advantages are Turin's history as Italy's first capital city, leadership in the unification process finally completed only in 1861,²² Turin's business and cultural ties with France, the US, and the rest of Europe, strong industrial and manufacturing capabilities, a strong design tradition (e.g., Pininfarina, Giugiaro, Bertone), a strong work ethic, and excellent schools (e.g., Politecnico of Turin). They have relied on the critical mass of the city's resources, its innovativeness, education, entrepreneurial energy, civic capital, and high quality institutions. And they have successfully created a new future. A deliberate process of policy-making, pursued by forward-looking private and public actors, has been able to create and sustain momentum on a collective path to development.

Ragusa: Prosperity on the island

The province of Ragusa is located in the southeast part of Sicily, the biggest Italian island. It contains about 320,000 people living in 12 small and medium-size towns. The main city is the municipality of Ragusa (70,000 people), which is not well known in Europe or internationally. Despite having three UNESCO World Heritage sites,²³ Italians view it as a peripheral locale in a peripheral region. It has become more famous in recent years after having being featured as a set for several movies including 'The Star Maker' of Academy Award Winner Giuseppe Tornatore and an Italian bestseller narrative book series written by Sicilian author Andrea Camilleri. The series has become a popular TV show, 'Montalbano', in Italy and also in the UK, where it is featured on BBC.

Ragusa, however, is an interesting example of local economic development in the presence of systemic difficulties. It ranks next to last among Italian provinces in physical infrastructure, according to *Tagliacarne – Unioncamere*, at less than half the national average.²⁴ Only in February 2014 was a plan approved to build a highway connecting Ragusa and Catania, about 100 kilometers apart. And only in the summer of 2009 was a tourist port in Marina di Ragusa inaugurated. Ragusa still lacks a port for goods, and perishable agricultural products need to be taken by truck to Siracusa or Catania. In 2013, the small military airport of Comiso was turned over to civilian authorities, but no highway or train was built to connect the airport to the city of Ragusa, only five kilometers away.

Nonetheless, during the 1996–2004 period, GDP per person grew on average about 5 percent, the eighth highest growth rate in Italy. Over the same period, value added per person grew at an annual 5.3 percent

average, higher than both the regional and the national average. The 1996–2004 period is significant, as it coincides with a national effort to help the Italian South meet a set of objectives (*Nuova Programmazione Barca-Ciampi*). Ragusa outperformed most southern provinces. Today the province of Ragusa has one of the highest per capita incomes in southern Italy.

Ragusa remains challenged by its remoteness, yet enjoys a good measure of economic vitality, building on a strong base from the 1990s and early 2000s. Between 1999 and 2008 exports increased by more than 50 percent. In the 2003–2005 period, gross fixed investments grew 23 percent. These results stem partly from an enviable rate of entrepreneurship. In 2012, the worst of the past eight years in Italy in terms of firm birth rate (the difference between firms starting up and closing) half the Italian provinces showed a net negative balance. Ragusa showed a positive net balance of 248 firms, nineteenth best nationally and much higher than regional counterparts.

Of particular interest is the local labor market. In 2011, three years after the start of the global financial crisis, the unemployment rate was 9.1 percent (Rapporto Fondazione RES, 2012), lower than the regional rate (14.7%) and the rest of southern Italy or Mezzogiorno (13.4%), although higher than the Italian average (8.4%). For the same year, the occupation rate in the province of Ragusa was 49.7 percent (Sicily, 42.6%; Mezzogiorno, 43.9%; Italy, 56.9%) and the overall activity rate 60.2 percent (Sicily, 50.1%; Mezzogiorno, 50.8%; Italy, 62.2%).

As we noted at the start of the chapter, a great deal has been done to increase female occupation in the area, which in 2013 stood at 40.7 percent. Women remain one of the many resources of the south of Italy that is poorly utilized. Female participation in the workforce is only 35.3 percent in Sicily and 39 percent in Italy's south. (In Italy as a whole, the rate is at 46.6% versus an OECD average of about 60%.) Figure 1.5 illustrates the number of people occupied across Sicily in 2010. The difference between the overall territory of Ragusa and the other regional local labor systems is remarkable.

Since the first half of the 1990s, the province of Ragusa has benefited economically from the formal and informal coordinating role of the provincial administration and the local Chamber of Commerce, which manage programs of regional cooperation set at both the national and European level.²⁵ These public actors have acted to align priorities and coordinate action. As one of the public leaders involved since the 1990s says, 'that moment has been conceived as an opportunity to open the territory to the involvement of most actors living and

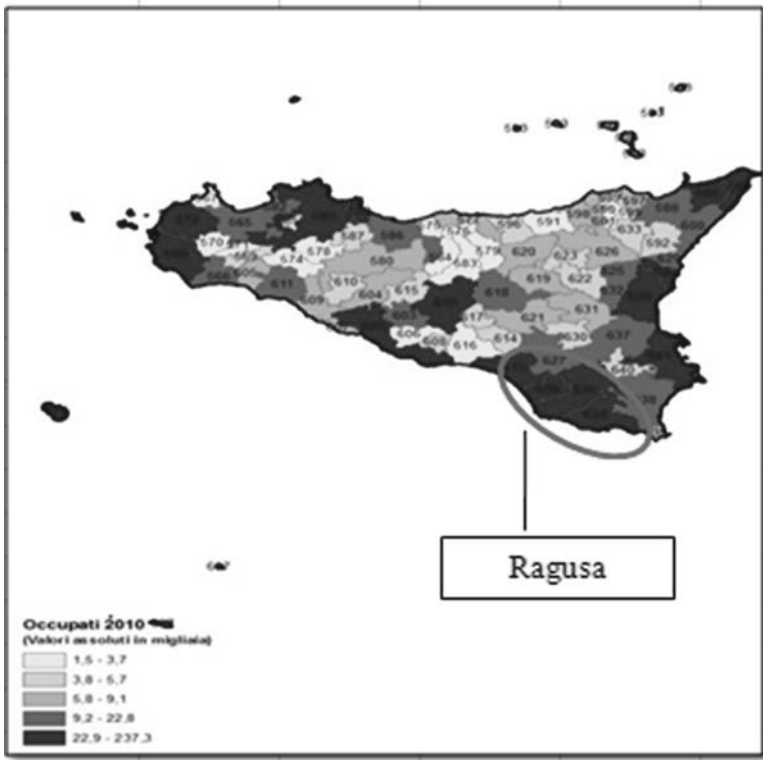


Figure 1.5 Number of people occupied in Sicily

Source: Department of Development Policy – Ministry of Economy and Finance of Italy – Notebook structural economic 2011

working in it. [Despite] the presence of new challenges for our productive environment, the provincial administration became the facilitator, meeting point, center of discussion, a new and unified space of discussion and strategic planning.'

Positive results can be observed as stemming from the programs initiated with regional cooperation in the last two decades. The effects have extended across the province and have included most private and public actors, generating a virtuous cycle. From these macro projects have been derived many micro initiatives, both from private and public actors. An example of cooperation includes the horticultural district, recognized in 2008. Other European initiatives adopted in recent years by Ragusa include the project *RE.DI.RE.* (national and local partnership

for development), which concluded in 2008, and the ongoing project 'SolidarCity', a European initiative with 11 partners in Greece, the UK, Finland, Romania, and Bulgaria and the goal to develop best practices for employment programs and labor policy at the local level.

Nowadays, the open-minded spirit of leaders in Ragusa is still alive, and people are taking a long-term view. The Chamber of Commerce has recently promoted the internationalization of local firms, promoting expansion into North Africa and some Eastern European Countries with trade events, joint ventures, translation desks, and exchange programs. A local financial consortium has obtained ample funding for investing in microcredit. The municipality of Ragusa has launched a strategy of urban redevelopment to rejuvenate poor neighborhoods.

Real estate has boomed in the past 15 years. 'Property', the real estate insert of the British newspaper *The Guardian*, ranked the province of Ragusa as the best place in Italy for real estate investments. While low prices certainly attract real estate investments in the area, other factors that influenced the ranking were a reduced level of Mafia interference and unlawful building, more common in the rest of Sicily, as well as the fact that Ragusa has one of the lowest crime rates in Italy.

The spirit of Ragusa extends to surrounding areas. The tomato growers in Pachino, 55 kilometers to the south, have taken advantage of their unique climate at the southernmost tip of Sicily to grow and popularize the unique 'Pachino' cherry tomato. They have even achieved the PGI mark (protected geographical indication), which gives them rights similar to those gained for *Parmigiano Reggiano*. Similarly, the pistachio growers in Bronte, 150 kilometers to the north, have become renowned for the 'green gold' they grow in their unique steep, rocky, volcanic soil. Pachino and Bronte show that the leaders of these areas around Ragusa have an uncommon capability to leverage local strengths.

Lessons from the Ragusa case

Whereas a few observers and journalists have praised the province of Ragusa in profuse terms, local people view the positive results as stemming from routine activities. Given their location and history, they are used to doing without things that others in Italy consider normal. One explanation of a prevailing positive attitude is that people are accustomed to making their own success in spite of lagging infrastructure development and limited political pull at the national level. By necessity, they have learned to become their own masters.

Other explanations of why people in this area are very resilient go back to the many foreign dominations through the centuries and to the

devastating 1693 earthquake, the biggest ever in Italy, which completely destroyed Ragusa and killed two thirds of its population. The people of Ragusa rebuilt the city and the towns around it, specifically the Val di Noto, in a late Baroque style later recognized by UNESCO as World Heritage and described as ‘the culmination and final flowering of Baroque art in Europe’.

Ragusa provides interesting lessons that deserve better visibility. During the 1990s, new and veteran leaders built on traditional competitive advantages such as talent and skill in specialized agriculture and mechanical manufacturing. They better coordinated these industries in sharing knowledge and experience across the region. Public servants, such as those at the Chamber of Commerce and the provincial administration, furthered this sharing by increasing communication and coordinating and facilitating various activities.

The city of Ragusa is not a big urban center. It is certainly small when compared to its bigger neighbor, Catania, the most important urban center in southeast Italy. However, despite being a small city, Ragusa has attracted investment and entrepreneurs from Catania and workers from rural surrounding areas. The most recent economic and social initiatives in this part of Sicily have been spearheaded by the city of Ragusa, which has become an important center of public debate. In the first half of the 1990s, moreover, Ragusa has attracted some university departments and programs from the University of Catania, creating *de facto* a local education cluster.

One of the distinguishing features of Ragusa’s revitalization has been innovation at firm level. Farmers and business leaders have reoriented traditional work such as horticulture, dairy farming, food processing, and manufacturing to compete in a globalized world. Specifically, to facilitate tomato exports they have promoted joint trademarks, developed vertical and horizontal integration, participated in general and specific exhibitions, and started collaborations with big traders in the UK, Germany, and other European countries. New kinds of work, such as personal services, tourism and green jobs, have expanded, and innovation along with them. According to the European Patent Office (EPO), in 1999 Ragusa did not register any European patent, whereas since 2008 Ragusa has registered an average of three national patents per year.

Ragusa’s leaders have been particularly active in investing in education. They have worked with public and private actors such as AVIS (the association of blood donors), the local bank of Ragusa, unions, and entrepreneur associations to tailor vocational training to local needs. As an example, leaders have organized roughly 100 six-month internships

offered by cooperatives, private firms, and local government. Moreover, new investments by the heirs of successful entrepreneurs have favored the intergenerational transfer of ideas.

Public trust, a legacy of the early expansion of sharecropping and agricultural cooperatives, runs deep in Ragusa and has supported the region's revitalization. As an indicator of its vibrancy, the number of social cooperatives is much higher in Ragusa than elsewhere in Sicily. In fact, it is in line with the highly cooperative regions of Tuscany or Emilia-Romagna. The province of Ragusa also ranks first in Italy for the rate of blood donations: Ragusa women contribute blood at a much higher rate than those elsewhere in Italy (38% of the total compared to the national average of 30%).

Ragusa also offers an important case of rebuilding trust through the cooperatives that are entrusted with land taken away from organized crime. Specifically, the cooperative 'Libera-Terra' (free-land), dedicated to Beppe Montana, a man killed by the Mafia in 1985, manages several farms confiscated from the Mafia. Moreover, the Ragusa-based association 'Libera' (freedom) offers 'responsible tourism' to understand and fight organized crime. This is an interesting example of how to rebuild communities, markets, and legality. The cooperative structure has proven an effective vehicle for this Mafia-to-community conversion, as neither public nor private ownership would as effectively reduce the chance of the property being reclaimed by organized crime.

Mutual confidence and reciprocal cooperation have furthered development by fostering two crucial intangible benefits. The first is relationships between firms and workers, which have been historically characterized by little conflict. When years ago one large cement plant owned by Insicem shut down, workers and management collaborated in easing the transition. In the words of a local trade unionist: 'The common objective is the development of the territory. Politicians, bureaucrats, firms and workers are able to overcome parochial views in order to promote this unified purpose.'

The second is that the local credit market benefits from the presence of an important popular bank in Italy, the *Banca Agricola Popolare di Ragusa*. The regional activities of this credit institute, founded in 1889, have been and are still crucial for supporting local cultural and social events, supporting restoration of local arts and historical buildings, and lowering credit barriers during credit crunch times.

The deep-rooted *fides publica* in Ragusa has been institutionalized through rules and by organizations. The traditional 'individualistic mobilization' (Trigilia, 1992), in which people consume resources for

themselves and their families at the expense of the region, is almost absent, unlike in many parts of Italy. The process of administrative and political decentralization in Italy in the 1990s gave Ragusa the opportunity to strike out on its own, with a locally elected mayor and provincial president Ragusa gained local political power to propose new policies and determine its future.

Today's lack of action at the national level has created a thirst for local action in Ragusa. As the paralysis in national politics will likely remain for some time, especially when it comes to approving new infrastructure, local leaders in Ragusa continue to act with an eye on the long term. As an example, when bureaucratic red tape at the national level blocked the conversion of the Ragusa airport to civil aviation, Ragusa leaders pressured the Ministry of Transportation and Italian Civil Aviation Authority to act. After two years of delay, Ragusa citizens protested in the streets of Ragusa and Rome in 2009 and 2010. This dedication to innovation, cooperation, a sense of community, and local governance that stresses the public good bodes well for more growth. Building on this rich base, Ragusa shows how a peripheral Italian province can show other locales and regions how to get a fresh start on local development.

The Dutch flower district: Tradition and innovation

Since the first tulip was imported by the Netherlands in the sixteenth century, the horticultural sector, mainly flower production and nursery operations, has become a significant part of the Dutch economy. In 2008, floriculture represented 35 percent of agricultural exports and supported more than half a million jobs (Porter et al., 2011). The Netherlands today is still the number one producer of cut flowers in the world, and it is the biggest market of the international flower trade.

Although floriculture is spread across the Dutch peninsula, it is concentrated in the provinces of North Holland and South Holland.²⁶ Aalsmeer, Harlem, Leiden, Lisse, and Westland are the backbone cities of the Dutch flower district, the so-called 'Dune and Bulb Region'. The two most important flower auctions in the world (Aalsmeer Flower Auction-VBA and FloraHolland), covering almost 60 percent of all international trade in flowers, are located here and represent an impressive success in terms of organization, flower pricing, technology, and governance.

The Dutch flower industry comprises a complex set of specialized activities developed around traditional regional advantages. Breeders, small growers, traders, retailers, logistic firms, boutiques, and auction houses compete and cooperate in the same place. The infrastructure

network of the *Randstad* – the region including Amsterdam, Rotterdam, The Hague, Utrecht, and suburbs – provides important interconnections to the rest of Europe and the world. The centrality of Amsterdam and Rotterdam, with its ports, represents powerful worldwide links.

Over the years, the cultivation and commercialization of cut flowers have been integrated. As outlined by Tavoletti and Te Velte (2008), the Dutch flower district has combined local historical advantages and exploited them at international level through ‘its extreme degree of interwoven *ness* and the local presence of a great number of highly specialized related and supporting industries’.

The Dutch flower district has come up with various innovations – specialized logistic systems (1972), modern artificial lighting (1978), climate-controlled greenhouses (1983), and improved harvesting and growing techniques (1985) (Porter et al., 2011). Moreover, flower auctions have been increasingly updated to follow the changing market. The Holland Supply Bank and the Tele Flower Auction System are two recent examples of modern auction processes, relying on advanced information and communication technologies to operate. In 1993, industry leaders created the *Milieu Project Sierteelt* (MPS), an authority responsible for environmental certification. This has extended the *Randstad*’s influence to defining the benchmark of international standards for ‘sustainable flower cultivation’. Other initiatives have included the launching of two of the most recognized horticultural exhibitions in the world, *Keukenhof* and *Floriade*.

The role of local government (municipalities) has progressively increased. The city of Boskoop, for instance, established a tribunal for horticulture commerce (*Boskoop Scheidsgerecht voor de Boomkwekerij*) to deal with industry-specific controversies. The officials in Dutch municipalities have played a key role, particularly in ‘the acquisition of land and the provision of infrastructure, municipal zoning, and land-use plans (*bestemmingsplan*)’ (Patel-Campillo, 2011), including the Fifth National Policy Document on Spatial Planning 2000–2020. Government initiatives and industry regulations help sustain the flower district’s success and expansion internationally. The Flower Council of Holland (FCH), for example, is an industry association that promotes and markets flower products from the Netherlands.

In the 2000s, Dutch leadership in flower production and commercialization at the international level ran into some internal and external challenges. New competitors, higher energy costs, and urban sprawl concerns in the *Randstad* stimulated the reorientation of the Dutch flower district. The traditional industrial organization, based on small

and medium family enterprises, had to change to benefit from scale economies. The two principal auction houses and many logistic companies invested in emerging markets such as China, Colombia, Ecuador, and Kenya. New programs were launched, such as 'TransForum' (2004), a scientific effort to increase knowledge and innovation for more sustainable agriculture in the Netherlands.

Lessons from the Dutch case

The dynamic evolution of the Dutch flower district through the centuries represents an interesting example of local economic development. It is useful in providing insights on international development factors for other regions in Europe. Italy, for example, is the second-ranked horticultural producer in Europe. Big floricultural districts exist in Lucca-Pistoia, Sanremo, and Bari, and some Italian flower wholesalers have prominent positions in the world market.

The Dutch case underscores at least two lessons. First, a region can continue to exploit its traditional advantages even in a changed competitive environment by investing in innovation and broadening and integrating its offering. Dutch business and municipal leaders have pioneered innovative techniques and new ways of cultivation along with advanced logistic platforms, modern systems of commercialization, and strategic networks of marketing and promotion. Some of these innovations – such as integrating greenhouse flower production with energy-saving strategies in neighboring high-pollution plants – have been adopted at the world level, becoming widespread and accepted benchmarks.

Second, the evolution of the industry toward localized specialization shows how an industrial district, integrating vertically and horizontally *à la Marshall-Becattini strictu sensu*, can expand to include a broad array of activities contributing to economic development. Rather than limiting the exploitation of its competitive and comparative advantages to just the floriculture sector in a purely defensive way, Dutch flower leaders have built on their core advantages, combining them with resources offered by the local community, people, and enterprises.

Development of the Dutch flower district has benefited from a combination of factors outside the industry. The conurbation of *Randstad* and the infrastructural connections of Amsterdam and Rotterdam have played a crucial role in expansion of the district internationally. The Amsterdam-Schiphol hub and the development of KLM Royal Dutch Airlines as a global air carrier have facilitated shipping of products around the world.

In addition, the main cities of the region have shared knowledge and coordinated activities. Starting in 1908, for instance, leaders established the Dutch Horticultural Council (NTR), the first flower trade organization. Some years after, flower entrepreneurs and employers created the Dutch Organization for Agriculture and Horticulture (LTO) focusing on connecting technologies, joint strategies for selling products, joint initiatives for reducing costs via economies of scale, and so on.

Investments in education have been fundamental to strengthening both the skills and knowledge of workers and entrepreneurs. Over the years, leaders have established six agricultural educational institutes (AOCs), seven regional agricultural centers, and more recently began awarding a Bachelor of Science degree in Food and Flower Management at the University of Fontys – Applied Science. Two historical research centers, the Plant Research International Centre at the University of Wageningen and the Flower Bulb Research Centre at University of Lisse, have supported the adoption of many innovations in the district.

The presence of civic capital in the region seems to have been essential for the diffusion of a deep-rooted sense of community and reciprocal cooperation. Similar to Ragusa, a map illustrating blood donations and philanthropy in the Netherlands (Bekkers and Veldhuizen, 2008) indirectly confirms the spread of *fides publica* in most of the municipalities of the flower district. For instance, several cities in this area are above the Dutch average with respect to the number of blood donors over the total population.

The creation of cooperatives, relying on public trust and shared values and beliefs, has been crucial to the diffusion of technological innovations. The most important flower auction in the world, FloraHolland, remains a cooperative and counts more than 6,000 localized growers among its members. The members determine the direction of the company by coming together twice a year during the General Members' Meeting (ALV).²⁷ Moreover, the *Rabobank*, a world-renowned historical cooperative agricultural bank established in 1898, plays a complementary role. It offers special-purpose credit channels tailored to agriculture and joint projects where mutual confidence is important. By investing in the area, it also upgrades and improves the business environment for its stakeholders.

Several institutions have coordinated joint projects such as flower exhibitions. Public and private partnerships have also been established to provide collateral services, such as promotion of the district by Plant Publicity Holland (PPH) and sharing R&D initiatives with the help of the Product Board for Ornamental Horticulture (PT) (Belussi and Sedita, 2010).

To be sure, the Dutch flower district has benefited from the Dutch socioeconomic context. The Dutch government, the local municipalities, and public and private organizations favor investment in research and development. The district has enjoyed broad support and funding for an extended and efficient network of physical and social infrastructures, such as the education system, railway connections, and links to airports. In addition, the Netherlands' central geographical position provides cheaper and faster access to markets.

Nevertheless, the actions taken by local government, business, and NGO leaders in the Dutch flower district show how a region can develop and sustain local industries – in spite of global competition – through the centuries. The Dutch have reoriented and amplified initial advantages in horticulture by investing in education, shared knowledge, and innovation. At the same time, cities spread across the region have built such an enviable set of connections to each other that they have made a northern European region, of all places, a global leader in an agricultural product often grown more easily and at far less cost elsewhere. Long-view strategies, such as the creation of the first auction houses and 'environmental sustainability certification', have allowed Dutch flower businesses to power local economic growth.

Pittsburgh: From steel city to best destination

Few people would have predicted in the 1980s that Pittsburgh would become one of the best worldwide travel destinations (National Geographic, 2011). The city had become synonymous with the 'Rust Belt', a declining industrial region of the central US. It was known for legions of unemployed looking for jobs. But Pittsburgh transformed itself from one of the world's capitals of heavy industry to one of the most livable cities in the US. It became known for 'shacking off its smoky image' (The Washington Post, 2009). Using the words of US President Barack Obama to announce the organization of the G-20 summit in 2009: 'As a city that has transformed itself from the city of steel to a center for high-tech innovation, Pittsburgh will provide both a beautiful backdrop and a powerful example for our work.'

The Pittsburgh area in southwest Pennsylvania, counting almost two million inhabitants, encompasses fifteen main cities in five counties, anchored by Pittsburgh's urban center (about 300,000 people). For decades, the area was an industrial powerhouse, featuring a massive industrial agglomeration of facilities related to steel, defense, chemicals, electronics, and oil. In 1969, manufacturing accounted for one third of employment; most of the top international firms in steel and oil were based there.

The economic crisis of the 1970s and 1980s hit Pittsburgh and its citizens hard. Between 1970 and 1990, the population fell by more than 40 percent. Unemployment soared to the highest rate in the US. Manufacturing executives downsized their operations relentlessly. By the end of the 1980s, the manufacturing industry made up less than 15 percent of total employment, and many firms had declared bankruptcy. Pittsburgh and the surrounding Ohio River Valley underwent a process of social and economic desertification.

The story of Pittsburgh as a local development marvel starts at the depth of this crisis. That was the crucial stimulus for revitalization. The path chosen for a return to prosperity was based on research and development, entrepreneurship, innovation, and cooperation. The renewed engines of growth became healthcare, biotechnology, robotics, education, and financial services. Guiding that growth were leaders of traditional public-private partnerships and philanthropists such as the Heinz Foundation. The public University of Pittsburgh and the private Carnegie Mellon University contributed. The community committed itself to working together for the long term (Sabel, 1992).

Pittsburgh launched 'Renaissance II', a major partnership conceived by several public and private local leaders in the 1977-1987 period.²⁸ Among the crucial interventions promoted by the partnership were support for high-technology networks, investing in education through universities and colleges, providing funds to early-stage companies, and promoting cultural and community development (Ahlbrandt and Weaver, 1987). For example, the Enterprise Development Area Program was launched in 1983 to help business development through specific enterprise zones.

This Pittsburgh regional agenda benefited from the pivotal role of the Allegheny Conference on Community Development (ACCD), the mayor of Pittsburgh, and important local foundations.²⁹ In particular, the ACCD, founded in 1943 by business leaders to address city problems at that time, informally became the planning center for initial development work (Ahlbrandt and Weaver, 1987). It was responsible, directly and indirectly, for creating some of the agencies and programs to spearhead revitalization. Some of the agencies included the Regional Industrial Development Corporation (1955) and Penn's Southwest Association (1972). Among the programs were those for export trade development and for funding export-based growth strategies.

The Pittsburgh Renaissance was based on a polycentric local development strategy. The Western Pennsylvania Advanced Technology Center (1983), for instance, was jointly created by the University of Pittsburgh

and the Carnegie Mellon University to assist entrepreneurs and improve education and training at the regional level. The Mon Valley Initiative, a series of small projects to address entrepreneurship in the declining mill towns of the Mon Valley, funded by the Pittsburgh Foundation, fostered and spread entrepreneurship around the city of Pittsburgh. Similar work by the 'South-western Pennsylvania Economic Development District' focused on technical assistance and services to small companies. The continued commitment to research by the local RAND corporation helped by providing top-level research support and sponsoring many events at a local level.

A complementary role in the revitalization was played by culturally driven activities. For example, the Pittsburgh Cultural Trust, founded in 1984, invested in the creation of the Cultural District, a central city area transformed into an amazing 14-square-block cultural hub. At the same time, revitalization highlighted the role of many theatres and museums such as the Carnegie Institute's Museums of Art and Natural History, the Pittsburgh Culinary Institute, and the Pittsburgh Symphony Orchestra. Moreover, vigorous programs of urban redevelopment reduced pollution and put the area on the path to green development.

In recent times, Pittsburgh has enjoyed well-deserved rewards. In 2010, during global economic doldrums, the unemployment rate was lower than the US average, and most economic indicators in Pittsburgh remained positive. In 2011, the Pittsburgh area's population grew for the first time in years. Today, the largest single employer in the city is the University of Pittsburgh Medical Center, and the jobs in business sectors developed since the Renaissance account for more than 50 percent of total employment.

Lessons from the Pittsburgh case

Pittsburgh serves as an example of revitalization for other cities and regions for several reasons. First, it shows the resilience and potential of a region in crisis, and how out of the economic darkness can come a plan that brings new light. Second, it shows how a region can build on its native strengths, in particular, human capital, civic capital, and well-governed institutions.

Local leaders, community, and enterprises contributed to the renaissance of the 'Paris of Appalachia', to use the title of a recent book about Pittsburgh. Universities, foundations, private corporations, public organizations, and nonprofit associations collaborated to develop new opportunities. Traditional skills in place-based planning of the Urban Redevelopment Authority of Pittsburgh, for example, dated to 1946, and

they remained crucial to efforts at revitalization. So did the tradition of partnership, which favored the dissemination of new thinking and action. People, in short, invested in the strengths of the past to invent the future.

The role played by the city of Pittsburgh, especially the Pittsburgh city administration and city-based foundations and associations, was crucial. The city leaders helped clarify priorities and direct development across a broad area. They spearheaded 'Strategy 21', the 'Greater Pittsburgh International Airport Area Redevelopment', and the improvement of physical and social infrastructure at the metropolitan level. They exercised the creativity and wisdom deserving of the birthplace of Andy Warhol and the graduation town of John Nash.

The seeds of innovation were planted in the city and shared with neighboring locales. The role of universities and research centers was crucial (Porter, 2002). New ideas and innovative businesses were promoted through the joint effort of civic associations, such as the Allegheny Company and regional banks like the Pittsburgh National Corporation (PNC). Out of this cooperation came organizations like the Pittsburgh High Technology Council, managed by small high-technology companies, the Regional Industrial Development Corporation, the Carnegie-Mellon University, and the Penn's Southwest Association. As if to demonstrate the role of fresh thinking and innovation, the city in 2007 elected the youngest major in the history of the US – 27 years old.

Education represented the lubricant for this dynamic engine. In 1982, leaders created the Ben Franklin Partnership between universities and industries. The purpose was to connect private enterprises and higher education. Several training and retraining programs were implemented to raise the quality of the workforce: the Western Pennsylvania Advanced Technology Center, the Southwestern Pennsylvania Economic Development District, the Pittsburgh High Technology Council, and the Enterprise Corporation. New technical courses were offered by the Allegheny County Commission on Workforce Excellence, the Mon Valley Education Consortium, and the Business Consortium on School-to-Work. In addition, the Enterprise Corporation of Pittsburgh and the Western Pennsylvania Advanced Technology Center spearheaded training and other activities to educate entrepreneurs.

The leaders of the Pittsburgh area leaned heavily on the region's shared sense of community, mutual confidence, and reciprocal cooperation. The overall decision-making process favored public debates and citizen participation. As an indication of the strength of civic capital, the people of Pittsburgh began a tradition of donating blood even before

the creation of the nationally well-known Central Blood Bank in 1951. As another indicator, community-based organizations, voluntary associations and neighborhood partnerships have played an increasingly important role in the diffusion and adoption of new development work at the metropolitan level.

Pittsburgh resembles much of the US in remaining dedicated to urban planning and supporting a strong university system. But it stands out for several additional reasons. First, its leaders adopted a long-term perspective in making the transition from heavy industry to the mix of enterprises now supporting the economy. They have developed ideas and spent money to support a new strategy, rather than spending money on outdated sectors, and they did this in spite of calls for help from declining industries. Second, they multiplied their effectiveness by bringing together universities, partnerships, and foundations to reach a critical mass and benefit from cross-border externalities. Third, this renewed local path to development has been directly or indirectly based on two essential pillars we stress throughout this book: building on place-specific strengths and relying on sound economic principles.

A path for other cities and regions

Europe is full of examples of locales that have turned around and diversified their economies, leveraging traditional strengths to react to periods of decline, thanks to a mix of innovation, creativity, education, and culture. Among the prominent European examples are cities like Barcelona, Manchester, Utrecht, Eindhoven, Oulu, Mannheim, and Lyon.

To take just two more examples in this chapter, Manchester, once a down-and-out city gutted by decline from its industrial heyday, has in the last fifteen years become the second-largest cluster of creative and digital businesses in the UK. It is a hub of industry, education, and culture. In 2010, the UK Competitiveness Index rated Manchester third in the UK, behind just Edinburgh and Bristol.³⁰ Similarly, Lyon, the third largest city in France, has transformed itself from a center of traditional industry to focus on advanced sectors like pharmaceuticals and biotechnology. In these sectors it has attracted investments of groups such as Merial, Sanofi Pasteur, SEB, Euronews, GL Events, and Aguettant. It is today a city of innovation, and it is also known as the European capital of digital imagery, video games, and interactive entertainment.

On the opposite end of the spectrum is an urban area like Valencia in Spain (Frayer, 2013; Govan, 2012). It invested heavily to become a tourist destination. Among its many projects are a €1.1 billion City of Arts

and Sciences, a €150 million airport, a €2.3 billion harbor area to host the 2007 America's Cup, and a €750 million track for the 2008–2012 European Formula 1 Grand Prix races. When the 2008 financial crisis hit, Valencia was caught overextended, and intense local development turned into intense financial disaster. City debts today have ballooned to €21 billion, unemployment to 27 percent, two points higher than the rest of Spain. Valencia should stand out as a cautionary tale that getting the mix of initiatives and timing right can pose a tricky management task.

Still, by taking the long view, guided by proven theories showing the relationship of cities, human capital, civic capital, and governance to revitalization, locales and regions can chart a new course to economic development. These elements cannot, of course, bring about revitalization on their own. But they are essential prerequisites for success if leaders and would-be citizens and business leaders want to bring about an economy vibrant enough to succeed in a globalized world rife with competitors.

Many people give these factors too little thought. The reasons are many, and vary. In Italy, in spite of a flood of reports and conferences about the value of development driven by local forces, local leaders find that central policymakers consider local-development factors 'children of a lesser God'. Local leaders are also deterred from taking up local economic growth policies because they are flooded with inconsistent models. The chaotic menu of ideas suggests that experts do not actually know what works.

A third factor militating against local action is what policy maven A. O. Hirschman called 'fracasomania', an insistence on viewing all past efforts as utter failures and an unwillingness to see any positive effects. Despite success stories like those in Turin and Ragusa, a negative bias persists against development initiatives driven at the local level. This reminds one of the comment, 'The times are troubled indeed when the good news is almost indistinguishable from the bad' (Piore and Sabel, 1984). To be sure, no cookbook approach can be tested in one place and transferred in its entirety to another. But we can identify points that will launch local and regional leaders in the right compass direction.

To begin with, a review of theory and our four cases amply demonstrates the importance of cities, human capital, civic capital, and institutional governance. These are factors that can only be addressed by local and regional leaders in concert with people in their municipality. Let us stress our three points again: Leaders must (1) invest in the education of workers and entrepreneurs to foster adaptation to a changing

socioeconomic environment, sustain entrepreneurship, and get the most out of people's talents; (2) nurture the presence of public trust, exhibited as mutual confidence, reciprocal cooperation, and sense of community; and (3) refine the governance of institutions to better serve people who rely on socially beneficial systems of rules, beliefs, and organizations.

What are the starting points for making improvements? There are five. First, eradicating what Economics Nobel Prize winner and Harvard University Professor Amartya Sen defines as 'disengaged toleration' (Sen, 2009) or a lack of a collective commitment at the local and regional level. Leaders and community members need to replace apathy with an explicit individual and civic willingness to act. This requires recognizing the fundamental role of local leaders – existing and potential ones – to obtain needed expertise and to lead the way. It also requires fresh public debate on local development. In Italy, the seminar *Cento idee per lo sviluppo* (One hundred ideas for development) launched in 1998 in Catania by the then-Italian Minister of the Economy Carlo Azeglio Ciampi is a good example of a program built with collective participation and public-private partnerships to include different stakeholders.

Second, doing more in-depth research on the three factors discussed in this chapter is imperative. Leaders need to insist on and invest in the collection of local and regional data. Universities, local government entities, private organizations, and research centers can act as crucial data collectors.

Third, local and regional leaders need to share best practices and project experiences. Local leaders can create formal and informal networks to discover potential partners and foster cooperation and reciprocal learning – and they need to do this both across regional and international boundaries.³¹

Fourth, local programs that have fallen by the wayside need to be revitalized. Many locales benefited from past policy and program initiatives, and local leaders should recognize and build on those gains and the knowledge obtained. In Italy, the Territorial Pacts and other instruments of the so-called *Programmazione Negoziata*, together with new European initiatives for local development, could be redesigned to avoid past mistakes and capture positive elements. Mistakes to avoid include dispersion of resources, lack of strong coordination between the center and periphery, and political and bureaucratic discontinuity. Positive elements to capture include a clear strategy and responsibilities, involvement of local innovators (public and private), and pre-defined objectives.

Fifth, local government needs reorganization. A dynamic local economy requires a dynamic government. Institutions need to be able to

recognize opportunities and integrate local initiatives in flexible ways. To this end, locally elected and appointed officials need to think about the city or local territories and not just about their careers, parties, and voters. They need to clearly identify tasks and responsibilities – transparently – so they show that public agencies and the government are responding to collective needs. A carefully designed fiscal decentralization can help to make this happen. They also need to replace rigid processes with realistic mechanisms driven by incentives and disincentives, based on transparency and accountability. For instance, simple indicators of performance could govern funding from national and European entities.

Ironically, many locales and regions are endowed with a critical mass of people with good ideas and many isolated success stories. These people are often eager to make change happen. The future of their communities and their children is at stake. And yet leaders have not emerged or acted to take advantage. The time has come for people to become proactive, to act confidently in getting the most out of native strengths. As we have seen, there are many models for the way forward. For local leaders or citizens ready to exercise leadership, it's time to reestablish the priority of community, people, local enterprises, and locally driven growth. It is time to build a local economy for future generations.

2

Unleash and Stimulate Entrepreneurial Creativity

The role of entrepreneurial action in local development

The hurdle for small businesses in getting a start anywhere in the world often comes down to the same issue: credit. If you can't get a loan, you can't get your enterprise up and running. If you're in the stone-carving business, for example – like the artisans in the Carrara region of Tuscany, Italy, sources of marble for Michelangelo's David and La Pietà – how do you get a new business going when you don't have a financial track record, don't have collateral, and nobody knows you at the bank?

In Italy, you join the *Confidi*. The *Confidi* is a mutual guarantee organization that generally operates at the local level. Some members might be stone carvers, some furniture makers, and some jewelers. The *Confidi*, usually a group of businesses of a similar kind and in the same sector, facilitates borrowers' acquisition of loans, backed by the *Confidi* organization. Together, members get credit more easily and at a lower cost than they could ever get directly from a mainstream lender.

Confidi money originates from banks, of course, but the mutual guarantee organization acts as a friendly intermediary, providing the equivalent of what all bankers are looking for – more reliable information on the five Cs of credit: character, collateral, capital, capacity, and conditions. The *Confidi* helps out on several counts and, in turn, allows people who have been shut out of mainstream credit markets to get inside another market – a consortium of creditworthy SMEs.

Italy is not the only country with mutual guarantee organizations or programs. Other nations in Europe have them in institutions such as the *Bürgschaftbank* in Germany, *Sociedad de Garanzia Reciproca* in Spain, and *Socama* in France. But the *Confidi* in Italy are much more numerous, reach more companies than organizations in the rest of Europe,¹

and operate in a unique way: Unlike in other countries, their programs are not established from the top down. The owners of SMEs who have become debtors drive them.

In other words, the way the *Confidi* operate suggests another means by which, without waiting for action by federal authorities, local and regional leaders can spur economic development. Across Europe, many barriers discourage entrepreneurial creativity. But local leaders, having also nurtured their locale's human capital, civic capital, and governance, can step in to help remove such barriers to aid creative entrepreneurs start and run businesses.

Which leads to the second point in our six-point plan for how local and regional leaders can spur growth: Find additional ways to eliminate barriers that dampen or wipe out innovation by creative-minded people, and at the same time, find fresh ways to unleash entrepreneurial creativity. Removing barriers and introducing measures to foster entrepreneurial spirit can provide a significant and low-cost boost to economic growth.

Along with difficult access to credit, other barriers include a heavy tax burden, high administrative costs owing to bureaucracy, delays caused by a malfunctioning and lengthy civil judicial system, and disincentives to sharing innovation and circulating knowhow. In Italy, a more subtle obstacle is one studied by Di Tella in many Latin American countries with a strong Catholic presence:² a widespread negative perception of entrepreneurship and the creation of wealth. Di Tella demonstrated a strong negative correlation between perceived corruption and the level of output. He also showed Latin American citizens actually perceive successful individuals, including entrepreneurs, as not transparent (Ades and Di Tella, 1997).

Ways to unleash the entrepreneurial spirit and foster innovation include change in, or introduction of, new technology, organizational management, and corporate governance. These measures can both facilitate the creation of new enterprises (startups) and revitalize existing firms, even in traditionally mature sectors. A high number of startups is a strong signal of economic vitality and dynamism, but existing creative enterprises, particularly in mature sectors, can act as even more important engines of growth. Without this entrepreneurial creativity – without the inspiration, energy, and ability to create the new and revitalize the old – a local economy cannot compete in the new globalized world.

In many locales and regions, leaders work to preserve the vibrancy of the status quo, just as many constituencies ask them to. But while an array of traditional strengths may provide the basis for long-term

vitality, traditional businesses may not. Many experts invoke the work of Joseph A. Schumpeter, who focused his research on business cycles and development, to explain. Schumpeter (1942) emphasized the role of entrepreneurs 'to reform or revolutionize the pattern of production by exploiting an invention or, more generally, an untried technological possibility for producing a new commodity or producing an old one in a new way [. . .]. It consists in getting things done.'

In the last chapter, we touched on this topic: Revitalizing local economies by reforming and revolutionizing via entrepreneurial creativity – whether in Ragusa, Turin, Pittsburgh, the Dutch flower district, Manchester, or Lyon. But in this chapter, we take entrepreneurial creativity as our focus. A human act, entrepreneurial creativity starts with a person having a new idea and the ability to capitalize on unexploited opportunities. It leads to that person developing new products and technologies, and/or inventing different ways of developing existing products and processes.

As the Organisation for Economic Co-operation and Development (OECD) recently wrote (2012): 'Entrepreneurial activity is the enterprising human action in pursuit of the generation of value, through the creation or expansion of economic activity, by identifying and exploiting new products, processes or markets.' That exploitation appeals to a lot of people, and local and regional leaders often underestimate the power of tapping the entrepreneurial interest of the people around them. According to one indicator of entrepreneurial sentiment, the 2008 Eurobarometer–Entrepreneurship Survey, 45 percent of interviewed EU citizens prefer to be self-employed. The latent desire to grow through entrepreneurship is just below the surface.

The elusive notion of entrepreneurial creativity

The OECD and other programs do point to a difficulty for leaders trying to articulate the goals of entrepreneurial creativity. The definition of the subject is hard to pin down. In some ways, not much has changed in the economic literature since William Baumol (1968) wrote that the entrepreneur is 'one of the most elusive characters in the cast that constitutes the subject of economic analysis.' The definition of entrepreneurial creativity remains a work in progress.

Although researchers have made advances in the economics of entrepreneurship in recent years (Parker, 2009), most of the economic literature is still 'entrepreneur-less' in some aspects. Three main factors explain this gap. First, researchers find it hard to work with such

vague concepts as entrepreneurship and entrepreneurs. Introducing the multifaceted notion of entrepreneurial activity in the theory of a firm is no simple task: it requires changing traditional approaches to economics. For this reason, the most fruitful contributions at the theoretical level have come from work focused on the formalization of innovation (Aghion and Howitt, 1992), the importance of human capital (Grossman and Helpman, 1991), and research and development (R&D) (Segerstrom et al., 1990).

Second, the absence of a clear and agreed-upon definition of entrepreneurship, along with several obstacles to delimiting its activity, present perilous research ground from an empirical point of view. For instance, is entrepreneurial creativity limited to entrepreneurs running firms or should it also take into account architects, lawyers, and other self-employed professionals? Although the former definition seems closer to the conventional idea of entrepreneurship developed in, say, the business literature, many empirical works use the number of self-employed in the overall population as a proxy for detecting entrepreneurial activities.

One of the difficulties in arriving at a fixed definition is that there is no way to identify the innovations made by entrepreneurs, and more generally, the creative side of the entrepreneurial process. The number of startups is widely recognized at an international level as an indirect indicator of entrepreneurship, but data are clearly influenced by various exogenous components (e.g., legal and administrative rules present in a particular system) only partially referable to the entrepreneurial process itself. Similarly, patents and R&D expenditures used to capture the innovative capacities of existing firms give only a partial picture of the broad creative attitude of the majority of entrepreneurs.

A final issue is that entrepreneurial creativity is directly linked to *homo creativus* (Foster and Metcalfe, 2012) and the importance of mankind's institutional, cultural, geographic, and social environment. Inevitably, one has to conclude that entrepreneurial creativity is an imperfect topic. That's not to say that the concept has not gradually come into better focus. In particular, contributions in recent decades in management, sociology, psychology, and experimental studies have played an increasingly important role in the debate on the nature and impact of entrepreneurship on economies. In turn, there has been cross-fertilization between different perspectives and a multidisciplinary approach. But to avoid the confusing mix of perspectives, we will limit our discussion to the theoretical and empirical background as it has developed in recent studies of the economics of entrepreneurship.

The theoretical impacts of entrepreneurial activity

If we look across the literature, we find that entrepreneurial creativity is a human activity that affects economies through knowledge, skills, innovation, and risk. Armed with knowledge, both explicit and tacit, entrepreneurs can undertake creative activities and invest in the face of uncertainty. When they have skill, they make a difference not only for themselves, but also in their community via learning transmission, knowledge sharing, and multiple spillovers across time and space. When they exercise innovation, creating advances by acting as both intrepid first movers and productive late comers, they can benefit both the firm and society. And when they take a risk, they help create the future by showing a propensity for new things to allow people to thrive as times change. See Figure 2.1

In other words, entrepreneurial creativity is able to provide a favorable low-cost foundation for local growth through the creation of jobs, circulation of ideas, and adoption of innovative activities (Audretsch and Thurik, 2001). Modern nations, with deep roots in tradition, may reflexively put their faith in veteran businesses with little innovation. But they will benefit, as was the case with human capital, civic capital, and governance in the last chapter, when leaders take steps to help people rediscover their entrepreneurial potential. The four factors of knowledge, skills, innovation, and risk, theory suggests, give local and regional leaders areas on which to focus their efforts.³

A model for the source of innovation

Let's turn now to the specific research on these issues, starting with a look at definitions and theoretical models. Developing a formal 'entrepreneurial theory' has historically represented a crucial hurdle to describing the particular role of entrepreneurs in a given society. Adam

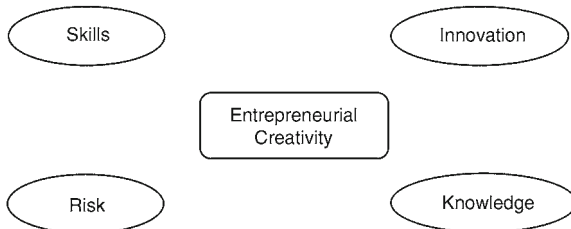


Figure 2.1 Synthesis of the renewed entrepreneurial creativity path

Smith (1776) paid special attention to the owner of the enterprise who must 'be able to read, write and account, and must be a tolerable judge too, of different sorts of goods, their prices, qualities, and the markets where they are for a great merchant'. He is, then, an individual with a particular combination of skills and specific knowledge who stimulates innovation.

But this definition remains nebulous in describing the nature of innovation. Joseph A. Schumpeter (1942) conducted the first analysis of entrepreneurial activity and its importance to economic growth in his studies on innovation and economic development. The entrepreneur, Schumpeter believed, played a crucial role in the process of creative destruction (Schumpeter, Mark I). Individuals generate economic value by combining physical and social technologies – the innovations themselves – with human skills. Moreover, they build businesses with increasing scale based on these innovations, and make knowledge investments to bolster economic development through these innovations, via a process of creative accumulation, in which they develop one good idea after another to multiply value (Schumpeter, Mark II).

Doing something new, of course, is key to value creation. Foster and Metcalfe (2012) recently observed that 'since the seminal contributions of Schumpeter, it has been accepted that the generation of novelty via entrepreneurship is the pivotal catalyst in economic emergence.' Entrepreneurial creativity and its main protagonist, the entrepreneur, create the next new thing by fostering discontinuity and innovative evolution. This is only possible with talented people who can manage the challenges posed by their environment and who can perform a coordination role (Lucas, 1978).⁴ With ideas, talent, and coordination, they create economic growth.

The innovation traits of an entrepreneur develop along different trajectories or, borrowing the expression of Galor and Michalopoulos (2012), in a 'Darwinian evolution'. The early stages are characterized by 'growth promoting traits and technological advancements' – that is, actions that increase productivity and in turn growth. In line with Schumpeterian intuition, entrepreneurial people 'lie outside of the routine tasks which everybody understands' (Schumpeter, 1942), a crucial position in endogenous growth theory *à la* Romer (Aghion and Howitt, 2009; Romer, 1986). Romer held that economic growth results mainly from internal and not external factors. That is, investment in human capital, innovation, and knowledge are the biggest contributors to economic growth. Moreover, these contributors create economically positive externalities and spillover effects.

The first formal model of entrepreneurs was presented by Holmes and Schmitz (1990). The authors argued that individuals differ in their entrepreneurial ability, and this heterogeneity provides the basis for diverse ways of exploiting new opportunities. They also pointed out that the least able individuals manage existing firms, while more entrepreneurial people set up new businesses and enter novel sectors.

Aghion and Howitt (1992) extended this perspective when they developed a formal model of creative destruction and long-run growth relying on innovation.⁵ They noted that innovations have different origins: process innovations (increase production factors' productivity); product innovations (introduce new products); or organizational innovations (make production more efficient). They also pointed out the role of investment in innovative activities (i.e., R&D and the acquisition of new skills) and the discontinuous pattern of economic growth (Aghion, 2012).

Although most of the literature on endogenous growth has focused on the role of innovation in production and tried to quantify that innovation using proxies such as patents and R&D, entrepreneurial creativity happens at every level of production (Acs and Audretsch, 1988). It is not limited to modern sectors or to particular technology (e.g., information and communications technology). It includes the transformation of old sectors and reshaping of production methods. Innovative activities, however, are linked to a particular product and sector, and they are always based on tacit knowledge *à la* Polanyi (1958, 1966).⁶

Tacit knowledge – as opposed to explicit knowledge – is specific knowhow that is hard to communicate, transfer, replicate, and thus hard to copy by competitors; it can be acquired and transferred only by years of training, education, and sharing. The mass manufacturing of shoes requires explicit knowledge that competitors can learn and use to make shoes more cheaply; making a pair of custom made shoes requires tacit knowledge that is art-like – hard to replicate and hard for competitors to compete on price. Innovation linked to tacit knowledge can be a real competitive advantage. As Polanyi wrote in *The Tacit Dimension* (1966), we should start from the fact that 'we can know more than we can tell'.

The creative side of entrepreneurship can occur in both the production of goods and the provision of services. Innovation improves both the quantity and quality of the economy by increasing or ameliorating the productive process. Innovations may also advance 'bleeding edge' technology in a particular sector (frontier innovations) or allow the firm

or sector to converge at the existing technological frontier (imitations) (Acemoglu et al., 2006).

Entrepreneurship and education

Although we touched on education in the last chapter, much research has been conducted on its relationship to fostering entrepreneurship. If entrepreneurship is about change (Audretsch, 1995), then skilled people act as agents of change by introducing, developing, and creating value from new ideas. The creation of new firms, operated by well-educated people, stimulates *ceteris paribus* new labor demand, the attraction of other skilled people, and, as a consequence, the accumulation of more human capital, creating a virtuous cycle of growth (Berry and Glaeser, 2005).

This is particularly significant in the modern globalized economy. Audretsch and Thurik (2001), for instance, discuss how the connection between education and propensity for entrepreneurship has acted as a crucial determinant of economic development, especially during the expansion of the modern knowledge-based economy. That's not to say any education matters. Innovation requires different knowledge, both tangible and intangible, and policymakers need to distinguish between what counts and what does not.

Not every graduate is a talent in the sense of Murphy et al. (1991). Some fields have an abundance of well-educated people, but few innovative entrepreneurs. This distortion derives from a mismatch between individual and social incentives. Low innovation contexts, where people generally don't value entrepreneurship, can distort social incentives to become an entrepreneur. Del Monte and Giannola (1997), for example, justified the presence of well-educated people (with high tertiary education) and a low number of startups in some parts of southern Italy with the presence of high individual expectations to obtain a public occupation. Sometimes, it seems, the loyalty of waiting can pay more than the action of innovation.

The mismatch of incentives, of course, results in a misallocation of talents. The same inefficiency can arise when new firms are not oriented toward innovation. As highlighted by William Baumol (1990), entrepreneurship is not always productive. On the contrary, it can be 'unproductive' and even 'destructive' when entrepreneurs act in ingenious and creative ways to increase their wealth, power, and prestige at the expense of others or society. Local leaders concerned with development, then, will need to cautiously analyze the education needed for effective entrepreneurship by disaggregating each sector of activity. Institutions

and rule of law must channel entrepreneurial talent into productive and not rent-seeking activities.

Entrepreneurship and skill

Skilled entrepreneurs can make a difference throughout the life of a firm. Nelson and Phelps (1966) suggest that 'in a technologically progressive or dynamic economy, educated people make good innovators, so that education speeds the process of technological diffusion.' Educated entrepreneurs, therefore, are 'quicker to adopt profitable new processes and products, better to discriminate between promising and unpromising ideas, and hence less likely to make mistakes.' In other words, the higher the level of entrepreneurial skill, the lower the risk of adopting lousy new technologies and the more pronounced the innovative side of the firm and of the overall economy.

A traditional way of relating entrepreneurial creativity and economic growth has focused on the inclusion of the entrepreneurial element in the well-known 'Solow residual'. The residual, an element in the growth equation, takes into account the determinants of productivity, presumably including skills that produce innovation. Audretsch (2007), for instance, introduced the concept of entrepreneurial capital, defined as a broad stock of entrepreneurship, to explain the economic performance of given contexts. Entrepreneurial capital would explain at least part of the Solow residual, the excess growth not explained by inputs of financial capital, labor, and property.

Entrepreneurial capital is capable of generating economic growth for different reasons. First, through the skill of the entrepreneur, it represents a mechanism of appropriation, codification, and diffusion of knowledge (Audretsch, 1995). Second, as argued by Porter (1990) and Nickell (1996), entrepreneurial capital fosters economic growth, increasing the number of enterprises, and therefore, creating competition in a particular sector. Third, entrepreneurship can augment economic performance, increasing firm diversity within and across sectors (Cohen and Klepper, 1992).

More recently, knowledge spillovers related to the entrepreneurial activity have created the basis for studying productivity and the 'missing link between investment in new knowledge and economic growth' (Thurik, 2009). Building on traditional models of knowledge production function (Audretsch, 1995; Griliches, 1979), this approach has tried to disentangle the knowledge component arising from the action of entrepreneurs. More simply, the ability 'from within' and its dissemination can explain both increases in productivity and advancement of the technological frontier.

Entrepreneurship and risk

The risky nature of the activities pursued by entrepreneurs and, in a broader sense, their capability to deal with uncertainty⁷ can be a driver of growth. Almost none of the decisions that entrepreneurs make are risk-free. Creative individuals (or groups) face uncertainty in everything from introducing their ideas in the market to making decisions about the location, the business model, and the use of resources and institutions (Bianchi and Henrekson, 2005). The coordinating role of entrepreneurs, then, becomes a source of additional growth and long-term prosperity, especially when they act as risk-smoothers over time and across spaces.⁸

An area of study that relates to risk has been the analysis of entrepreneurship during business cycles (Congregado et al., 2012; Khoellinger and Thurik, 2009). Simon C. Parker (2012), for example, recently emphasized the relevance of entrepreneurship for explaining business cycles and variations in economic performance.⁹ The pro-cyclical behavior of entrepreneurs has been explained by a risk-oriented framework (Rampini, 2004): When shocks to the economy are favorable, productivity and the wealth-creating potential of entrepreneurship increase, making agents more willing to bear risk and become entrepreneurs.

During adverse shocks, the opposite occurs. Recessions can trigger 'cleaning effects' (Caballero and Hammour, 1994) among enterprises with low productivity and second-rate products, killing off inefficient firms, reallocating resources to the more productive companies. While this 'cleaning' occurs, entrepreneurs may act in an anti-cyclical way. Their behavior originates from varying sources, generally identified as 'recession push' and 'prosperity pull' (Parker, 2009). The basis for starting courageous, novel activities may in fact stem from unexpected challenges and extraordinary risks. People with an entrepreneurial bent recognize that new occupational opportunities often form during negative periods.

Though influenced by economic fluctuations, entrepreneurs view booms and busts in a particular way. Their 'animal spirits' may sometimes prompt them to anticipate unexpected situations, help them to see opportunity in positive or negative economic periods, and allow them to take advantage of cyclical and anti-cyclical swings. History is full of examples of risk-loving entrepreneurs benefiting from economic recoveries because they were able to position themselves for the upswing during adverse moments.

Small and medium-size firms have historically held a special place in entrepreneurial theory. With the emergence of new ways of production and the increased importance of service-based activities, especially since the 1980s, SMEs have been studied to find alternative strategies

for growth. Four main reasons have been adopted for explaining this attitude toward smaller scaled production (Acs, 1992; Storey, 1985). First, small firms are sources of dynamism and job creation, given their organization and their role as 'agents of change'. Second, they are more inclined to benefit from spillovers and cross-fertilization of activities when compared to big enterprises. Third, small and medium-size actors are more able to survive the process of economic reorganization experienced in recent decades. Fourth, they tend to be more responsive due to their flexible structure.

In sum, despite the intuitive connection, the theoretical relationship between entrepreneurial creativity and economic revitalization remains speculative. Still, we can see the basis for concluding that the entrepreneurial economy, like human capital, civic capital, and governance, provides an important foundation for economic vitality and dynamism. Entrepreneurial talent represents a set of skills that yields benefits for both the firm and the overall society where it is developed. Moreover, entrepreneurs take risks and involve themselves in business endeavors with an uncertain future, and that's just what's needed in a rapidly changing globalized world.

Empirical evidence of growth via entrepreneurial creativity

Unlike in the theoretical literature, the empirical literature abounds with evidence linking entrepreneurial creativity and growth.¹⁰ It includes econometric techniques, case studies,¹¹ survey-based analysis, and special-purpose indicators widely adopted in academies to debate the topic and by policymakers to justify public programs to foster entrepreneurial activity. Authors and researchers have widely recognized that, to create new jobs and sustain traditional occupations, a modern economic system must bet its future on all things entrepreneurial, including the diffusing and leveraging of knowledge, investing in innovation, and concentrating on producing unique, high-value products.

Startup companies on their own are not the driving force that turns around ailing economic regions, produces innovation, creates jobs, and spurs growth. In fact, many studies show just the opposite. Existing firms, not new ones, are typically more productive. In addition, no evidence demonstrates that more startups lead to more economic growth, even over the long term. Haltiwanger et al. (1999) showed that firm productivity actually goes up with the age of the firm. This means that the average new firm uses resources less efficiently than the average existing firm.

As national wealth grows, and the rate of startups falls, larger companies prosper and hire would-be entrepreneurs, bringing the best talent that might start businesses inside. Carree et al. (2002) notes that the prosperous big firms can then pay people more, which creates an opportunity cost for entrepreneurial people thinking of starting a company. The weight of research thus points to an obvious corollary: the figure to pay attention to when seeking economic growth is not the number of startups but the number of ‘winners’.

All that said, new firm creation remains a good indicator of a country’s economic vitality and dynamism. In recent years, the OECD and Eurostat have contributed significantly to the development of this indicator through the Entrepreneurship Indicator Program (EIP), a comprehensive measurement of entrepreneurship, its determinants, and its manifestations. The EIP framework defines four broad impacts of entrepreneurial activity: job creation, economic growth, poverty reduction, and formalization of the informal sector.

As a sampling of the data, see Figure 2.2. Selected OECD countries show a similar trend in a stable number of new startups. Notable exceptions are France, which demonstrates high growth after the reform launched in late 2008, and Spain, showing a marked downtrend accompanying its persistent economic malaise. The number of new enterprises

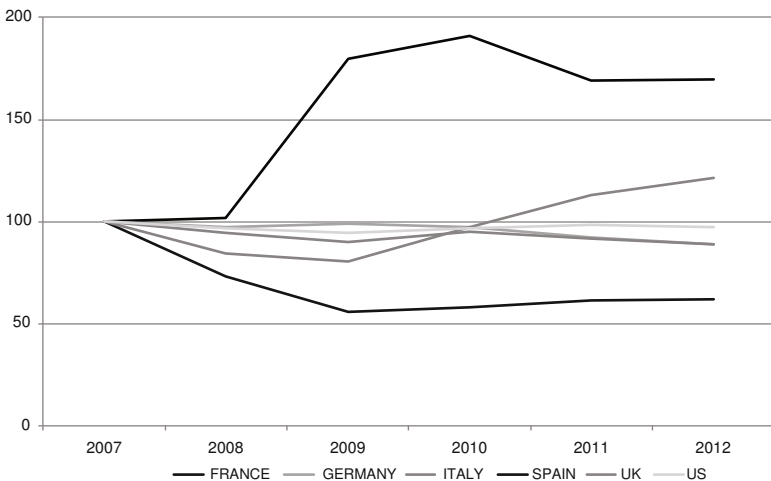


Figure 2.2 Number of new enterprises in selected countries (trend-cycle 2007=100)

Source: Author’s elaboration; data from OECD (2013)

offers a proxy for comparing job creation and the evolution of new firms at an international level.

A complementary measure adopted by the EIP is the churn rate, or sum of business births and deaths, used as a proxy for a country's degree of creative destruction (OECD, 2013). The relative churn rate, or churn rate over the total number of firms, measures the turnover in a given country and for different sectors. In 2010, the relative churn rate in manufacturing in Italy was 13.77 percent. The US figure was 12.96 percent. Almost all OECD countries showed a higher churn rate in services than in manufacturing, confirming the higher volatility of that sector.

Two other EIP indicators that show the effect of entrepreneurial creativity on economic activity are the 'rate of high-growth enterprises' and the 'share of gazelles'.¹² The rate of high-growth enterprises is measured as the share of enterprises with average growth in the number of employees greater than 20 percent per year over a three-year period. The rate is calculated as the number of high-growth firms with ten or more employees at the beginning of the period as a ratio of all enterprises of similar size. Share of gazelles is defined as the number of high-growth enterprises born five or fewer years before the end of the three-year observation period as a ratio of all high-growth enterprises of similar age. See Figure 2.3 for an example of the former for the US and Italy for both manufacturing and services. As for the latter, many modern countries, like the Netherlands and Sweden, saw a sharp decline in 2009, presumably stemming from the global financial crisis. In Italy's case, the 'gazelle' rate was 27 percent for manufacturing and 55 percent for services in 2010, versus 28 percent and 50 percent respectively the year before.

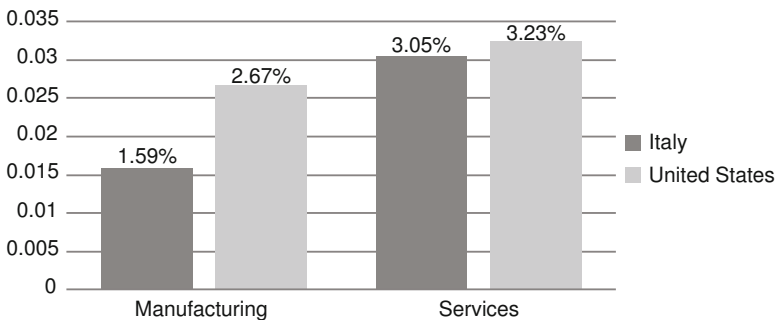


Figure 2.3 Rate of high growth enterprises, Italy and the US, 2010

Source: Author's elaboration; data from OECD (2013)

Another useful indicator is the Global Entrepreneurship Monitor (GEM). Experts apply it widely at the international level to gauge entrepreneurial activity. Relying on a survey-based monitoring system jointly launched in 1999 by the London Business School and Babson College, it makes cross-country comparisons based on several indicators with observations in each country collected and analyzed by domestic taskforces (GEM, 2012).¹³ According to the last GEM report on Italy (2009), 4.6 percent of interviewed adults were involved in entrepreneurship as nascent entrepreneurs (individuals committing resources to start a business they expect to own themselves) and new business owners (people who own and manage a new business, paying salaries from 3 to 42 months). This is not too different from Germany (3.8%), France (5.6%), the UK (5.9%), and Japan (5.4%), but is lower than the US (10.8%).

The majority of the entrepreneurs in the Italian data were 24- to 35-year-old men with a university degree. In Italy in 2008, business services had the highest level of early-stage entrepreneurial activity at 37.6 percent and consumer services second-highest at 32 percent. Both figures are in line with other innovation-driven economies. The Italian male–female ratio of early-stage entrepreneurs was 2.3, higher than Germany (1.2) and the US (1.4), but lower than France (2.5) and Japan (2.6) (GEM, 2009).

Academic contributions studying the impact of entrepreneurship on economic growth often work with different units of analysis: firms, nations, regions, and cities.¹⁴ Results and conclusions vary based on the datasets used, which differ in their definitions of entrepreneurial activity and economic growth measures (mainly, productivity growth and job creation). In any case, data from Eurostat to GEM show that entrepreneurship correlates strongly with economic growth.

At the country level in the US, entrepreneurial creativity has had a positive impact, measured as productivity change over time (Acs and Armington, 2006; Holtz-Eakin and Kao, 2003). Acs et al. (2004) found a similar positive relation for a large sample of nations, using OECD country-level data throughout the 1990s. More recently, Erken et al. (2009) demonstrated a favorable relationship between total factor productivity and entrepreneurship for a panel of twenty OECD countries over the 1971–2002 period.

Van Stel et al. (2005) investigated whether total entrepreneurial activity, per the GEM dataset, influenced GDP growth for a sample of 36 countries over the 1992–2000 period. Their findings: ‘Entrepreneurial activity by nascent entrepreneurs and owner/managers of young businesses affects economic growth, but this effect depends upon the level

of per capita income.' They emphasized the role of entrepreneurship 'in the process of the commercialization of new (technological knowledge), in the introduction of various (nontechnological) innovations, and in the ability of newcomers to enter (or even create) new industries'.

In recent years, authors have explored with renewed interest the importance of entrepreneurial activity during business cycles. Carree and Thurik (2010), for instance, analyzed entrepreneurship compared to employment growth, GDP growth, and labor productivity growth. They found that the relation changes depending on the phase of the business cycle. More specifically, when a country's business cycle lags behind the rest of the world, entrepreneurship grows after one quarter. When a country's business cycle leads the rest of the world, entrepreneurship grows after one to two years. In other words, entrepreneurial action depends on the timing of cycles domestically versus internationally – at least in open economies.

At the firm level, researchers have investigated several channels by which entrepreneurial creativity may influence economic growth. The seminal work of Birch (1987) in the US was followed by empirical studies of the role of SMEs as job creators. Audretsch et al. (2002) found evidence of the positive effects of reorienting productive activities from large plants to small firms for seventeen European countries. Carree and Thurik (1998) found that in European countries in 1990, small firms in manufacturing industries create favorable effects in terms of industry-output growth.

Various authors have illustrated the impact of entrepreneurship in different ways, for instance, as increasing the number of competitors within an industry or improving economic performance (Lever and Nieuwenhuijsen, 1999; Nickell et al., 1997). Other complementary studies have focused on the relevance of firm growth and firm survival in the overall dynamic of specific sectors (Davidsson et al., 2006; Sutton, 1997). Of note is that entrepreneurial activity, measured in terms of firm size and age, is positively related to growth. New and very small firms grow, on average, systematically faster than large and established incumbents. These findings hold across Western economies and across time periods. Similarly, recent contributions have tried to unveil the process of creative destruction, analyzing different innovations in many sectors in 200 countries (Klimek et al., 2012).

In Italy, much literature has tried to disentangle the different aspects related to entrepreneurship and economic growth.¹⁵ Recently, Grilli and colleagues (2010) found a link between localized stock of human capital and new firms formation in the 103 Italian provinces for the 1996–2005

period. Garofoli (1994) advanced a similar explanation for the increased number of new firms in Italy in the 1980s and 1990s.

Using data on Italian firms concentrated in medium-size, high-tech industries from 1998 to 2003, Cozza et al. (2012) illustrated the crucial role of product innovations in explaining variations in productivity between enterprises. Significant differences in economic performance have been found 'when considering micro and small sized firms' (Cozza et al., 2012). The main conclusion by the authors was that there is a positive and significant 'innovation premium' both in terms of profitability and growth for those firms that introduce new innovative products. This innovation premium is particularly large for small firms and even more so when considering newly established firms.

Despite several gaps in the literature, the link between entrepreneurial creativity and economic development is supported empirically both at the firm and country level. It remains for these descriptive studies to be followed up by studies of causal effects. In the meantime, we can conclude from the evidence that to create new jobs and sustain traditional occupations, leaders of local and regional economic-development efforts should recognize their future in entrepreneurial creativity. The creativity of old and new entrepreneurs, along with their ability to advance the innovative frontier, can make all the difference in a local economy. Indeed, guiding the evolution of diverse sectors to compete in a knowledge-intensive, globalized world will require the brave action of talented individuals, acting as coordinators, innovators, and risk-takers.

Motivating the entrepreneur

To be or not to be an entrepreneur? What prompts innovation-minded individuals to choose to be one? And what role do local and regional leaders have in making sure their cities and communities provide favorable conditions for entrepreneurs to make that choice in the affirmative? For answers, we need to look at research on both personal incentives and social incentives for entrepreneurial creativity.

The determinants of entrepreneurship and the individual decision processes involved have long interested researchers and policymakers. Becoming self-employed rather than an employee is a fundamental life decision. In this section, we look at the most relevant motivations behind the decision to become an entrepreneur. We will distinguish individual behavioral constraints, such as family, community, and society, from incentives and obstacles related to the contextual environment. Although the entrepreneurial occupational choice is multifaceted, and

personal and social traits act in combination, a clear understanding of the decision process is very important.

Individual incentives

According to the last Eurobarometer *Survey* in 2009, 12 percent of interviewed European citizens were involved in entrepreneurial activity. Their preference for self-employment was motivated by ‘personal independence, self-fulfillment, the chance to do something of personal interest and freedom to choose their own place and time of work’ (European Commission, Eurobarometer, 2010). In reality, researchers can’t define a homogenous entrepreneurial profile since individuals who choose that path each have a unique personality and history. Indeed, the characterization of traits common among entrepreneurs has brought about much speculation in the economics of entrepreneurship literature.

One traditional way of analyzing the generation phase of entrepreneurship is by looking at occupational choice under uncertainty (Kihlstrom and Laffont, 1979; Lucas, 1978). The presumption is that individuals maximize their occupational decisions, choosing between two alternatives: becoming entrepreneurs or searching for paid employment. Kihlstrom and Laffont (1979) modeled an individual decision process under Knightian uncertainty, showing how people who are least risk-averse choose entrepreneurship and running the largest firms. People who are most risk-averse prefer to be paid employees. The authors pointed out the importance of risk-sharing in a society: they posited that people collectively pursue the maximum social welfare by some embracing risk and others avoiding it.

A complementary perspective highlights the process of new firm formation as an ‘alternative to uncertain future career prospects, or even an escape from unemployment’ (Vivarelli, 2012). This would suggest that during an economic downturn individuals have an incentive to start companies. Empirical results confirm this pattern both at the country and firm level. Audretsch and Vivarelli (1995, 1996) similarly showed the importance of job losses as an incentive for the rise in startups across Italian regions. This is in line with the *Entrepreneurship Survey*, in which Italians chose business ownership for reasons of personal independence (in line with the profile of the average person in Europe) and future income (a departure from the average profile) (Eurobarometer, 2010).

Another approach to describing the initiation of entrepreneurial creativity looks at financial constraints (Fazzari et al., 1988; for a recent detailed analysis, see Kerr and Nanda, 2011). The seminal contribution of Evans and Jovanovic (1989) shows how personal wealth and

individual capability are important traits for obtaining startup funding. Constrained entrepreneurs who lack personal capital, they found, are disadvantaged compared to unconstrained ones in undertaking particular projects.

Banerjee and Newman (1993) studied the effects of different wealth distributions among individuals in the presence of capital market imperfections. They found that inherited resources make the difference: Wealthy agents become entrepreneurs, but poor agents prefer to work for a safe wage. Moreover, positive effects have been associated with extraordinary financial gains (e.g., lottery prizes or job bonuses), which increase the probability of starting up a firm (Holtz-Eakin et al., 1994; Lindh and Ohlsson, 1996).

In keeping with our earlier discussion, the entrepreneurial decision process is also influenced by an individual's set of skills, and more generally, human capital. As noted by Lazear (2000, 2004), individuals with a balanced skill set are more inclined to become entrepreneurs, as they are 'jacks of all trades.' Parker and Van Praag (2004) have provided a unified framework to consider human capital and financial constraints simultaneously. According to them, 'more highly educated entrepreneurs will face lower borrowing constraints', and in turn, human capital achieves a dual objective: a 'direct effect' of leveraging education to spur entrepreneurial creativity and an 'indirect effect' through lower costs of funding.

Further individual motivations are based upon noneconomic determinants such as psychological traits and personal perceptions (Koellinger et al., 2007).¹⁶ Among the noneconomic variables affecting the entrepreneurial spirit at its origins are self-confidence, attitude toward autonomy, and the preference for a particular social status (Blanchflower and Oswald, 1998; Evans and Leighton, 1990). In the case of Italy, for instance, Vivarelli (2004) studied the psychological motivation behind the decision to become an entrepreneur. He found a strong relationship between new firm formation and the 'search for independence and a desire to fully exploit his/her own skills.'

In summary, individuals choose to be entrepreneurs based on four different motivations. First, they embrace risk, ready to launch innovative activities and undertake future projects under uncertainty. Second, they overcome (or are not burdened by) financial constraints as significant obstacles to startups and ongoing firm operations. Third, they show a high interest in firm creation and undertaking innovative activities – higher if they rank high in human capital or, more specifically, skills. Fourth, as Alfred Marshall put it, men and women of 'an adventurous

disposition are more attracted by the prospects of a great success than they are deterred by the fear of failure.'

A word of caution about risk. Although common experience confirms the role of risk profiles and attitudes in the factors that motivate entrepreneurial creativity, other variables figure in the entrepreneur's decisions. An example can help clarify this point. Two individuals with a similar (personal) risk behavior can act in different ways when influenced by different systemic risks arising from their respective contexts. An individual intending to start an air-delivery business could be deterred if the cost of fuel spikes. A peer intending to start a clothing business could be encouraged if a new low-cost manufacturing zone emerges in a developing country. The systemic risk can make the difference in each individual's startup decision. A tolerance for, or love of, risk promotes entrepreneurship only in the context of a host of other internal and external decision factors.

Context-dependent incentives

Along with an understanding of personal incentives, leaders at the local and regional levels will want to understand context-specific incentives – especially incentives they can influence directly. Entrepreneurs are unavoidably influenced by multiple endogenous and exogenous factors. Where they live and what social ties they keep have the power to influence their entrepreneurial spirit.¹⁷ Local leaders can positively or negatively influence the environment to activate or extend local entrepreneurs' business-building decisions.

Context-dependent incentives can be divided into four broad areas. First, there are market forces such as the industrial structure (industry mix), the technological frontier, and the market configuration (structure of the market). Second are institutional aspects, a combination of political and bureaucratic variables (e.g., rule of law, political stability, administrative framework). Third are resources – capital, labor, infrastructure, and technology. Fourth are cultural factors such as the perception of entrepreneurship and other shared values in society.¹⁸

As for market forces, since the influential contribution of Blau (1987), the configuration of the market environment has been a crucial variable in the discussion of new firm formation. Blau attributed the increased number of enterprises in the US primarily to changes in economic structure and innovation in technologies. Carree et al. (2002) studied the relations between business ownership and economic development and noted, 'low barriers to entry and exit of business owners are a necessary condition for the equilibrium seeking mechanisms which are vital for

a sound economic development.' Therefore, it is important not only to 'guarantee free entrepreneurial entry into any market where profit opportunities may be perceived to exist' (Kirzner, 1997) but also to safeguard an exit free of stigma and financial burdens (Acs et al., 1999).

As for institutional aspects, the impact of institutional conditions on entrepreneurship has become one of the main focuses of the 'Entrepreneurship Agenda' pursued by the European Union. This topic has been widely analyzed by international organizations such as the World Bank and the OECD. A well-known result is the *Doing Business Report* prepared by the World Bank every year. The report rates countries on starting a business, registering property, getting credit, enforcing contracts, and other factors important to entrepreneurial ventures.

The *Doing Business Report* gives a clear view of which countries are improving, and how. It also suggests ways in which local and regional leaders might initiate change. A recent report showed that, in Italy, institutional reforms introduced in recent years, such as changes to bankruptcy proceedings, an online registration system for new enterprises, and simplification of business procedures, have made the system more pro-entrepreneurship. On the other hand, administrative and fiscal burdens in the country remain huge impediments to entrepreneurial creativity.¹⁹

Most academic analyses of institutional aspects have focused on the effects of specific policy programs on firm formation. An integrated perspective is far from being reached, given the plurality of approaches adopted both at the theoretical and empirical levels (Parker, 2009). This means there can be no one-size-fits-all approach to context-specific incentives. Incentives and disincentives arising from political variables must be understood and managed in a project-specific way. Moreover, the different impact on small and large firms demands an assessment of each new firm's unique regulatory framework (Brock and Evans, 1985, 1986).

The third context-dependent incentive, resources, focuses especially on financial markets. Concerns related to financial markets combine both institutional aspects and the availability of resources (for a detailed analysis, see Kerr and Nanda, 2011). In a well-defined legal system where investors are highly protected, financial intermediation is efficient and capable of sustaining the circulation of capital, and in turn, the possibility of new firm formation (La Porta et al., 1997, 1998).

Stiglitz and Weiss (1981), while studying issues of asymmetric information, outlined the higher costs of screening and monitoring faced by startups. New entrepreneurs are less able to obtain funds because they

are virtually unknown to the financial system. As a result, they must provide additional collateral or pay higher interest rates. This is a particular burden when creating small firms in novel sectors. Hence, information barriers play a significant role in the creation of enterprises (Klapper and Love, 2011) – which, of course, is where in Italy the *Confidi* come in.

Beyond financial markets, as recently highlighted by Kerr and Glaeser (2009) in their study of manufacturing entrepreneurship in the US, a wide set of resources must be taken into account when considering new firm formation and leading enterprises. According to the authors, local costs, natural advantages, and the role of related industries explain the presence of startups in specific entrepreneurial areas.

Facilitating the provision of various kinds of resources for entrepreneurs is an obvious target for policymakers and local leaders concerned with supporting the starting phase and life of a business. Job matching in labor markets, knowledge sharing among colleagues and competitors, proximity of natural and nonnatural resources, and a system tailored around entrepreneurship are all positive aspects for new entrants and going concerns. Ultimately, the concentration of similar producers in a given place (i.e., districts and clusters) has several advantages in stimulating entrepreneurial creativity (Audia and Rider, 2005; Martin and Sunley, 2003).

The fourth context-dependent incentive, social and cultural traits, plays a significant role in promoting or hampering the entrepreneurial spirit in a particular locale or region. As highlighted by Stam (2008), ‘the process of starting a new firm is eminently social, as information and resources are to a large extent acquired via the personal networks of the (nascent) entrepreneur.’ Creating an environment that facilitates entrepreneurs in cultivating personal relationships and nurturing mutually rewarding collective behaviors can, therefore, create a special attitude that lends itself to the process of creative destruction and creative accumulation.

The influence of family background is a well-documented factor in fostering entrepreneurship. In Italy, for instance, where the number of family-owned enterprises is high, intra-family relations are fundamental in explaining the creation and evolution of many successful firms. Indeed, individual decision-making is influenced by inherited attitudes.

The social perception of entrepreneurship and entrepreneurs is a concern in some areas. Social stigma toward failures of entrepreneurs is responsible for a negative view in some quarters about the entrepreneurial process.²⁰ Local leaders would do well to foster a new view: considering entrepreneurs as job creators and innovative actors who

can indirectly favor local activities and sustain local economies during adverse moments. This is particularly true in the modern, information-based society.

In sum, people decide to become entrepreneurs based on their risk tolerance, personal financial constraints, skills, and psychological perceptions. Moreover, they set their expectations based on environmental variables such as market forces, institutional aspects, the availability of resources, and social and cultural relations. When incentives help entrepreneurs overcome obstacles and their 'animal spirit' conquers the fear of failure, they choose to start new businesses and introduce innovation, the lifeblood of a vibrant local economy. This is valid in both new and established firms.

To put it another way, internal and external determinants of entrepreneurship vary across sectors, time, and space. For local and regional leaders looking to further economic revitalization, ways need to be found to best exploit entrepreneurial talent. This requires a careful examination of the effects of all policy on both push and pull incentives, as well as on constraints and opportunities. With this perspective in hand, leaders can help potential entrepreneurs rediscover the rewards of entrepreneurial creativity and, in turn, pave the way for a better future.

Policy proposals for local and regional leaders

Economic crises are interesting moments as they present new risks, challenges, and opportunities. During such extraordinary times, citizens, researchers, and leaders all want fresh answers. How can we stimulate revitalization? In a national crisis, the calls go out especially for policy reforms and interventions to national leaders. Often, these interventions cost a lot of money. And often, they don't work well to drive entrepreneurial creativity. That puts the responsibility ever more on local leaders, to look at the research and make reforms that will spur local development.

To be sure, local and regional leaders should act in line with current national programs, the recent European debate on the *Entrepreneurship Action Plan (2020)*, and more generally with the desirable 'strategic role' of the state in enhancing competition and growth (Aghion, 2012). But they will want to fashion their own long-term perspective and low-cost, local programs that support the four pillars of entrepreneurial creativity, namely education, skills, innovation, and risk.

Local and regional leaders can help to create a positive framework or fertile ground for entrepreneurial creativity. We suggest thinking

about fulfilling two goals at the same time. The first is appropriately stimulating startup activity, the second, spurring entrepreneurial activity in existing, mature, and traditional firms. In a time of economic downturn and high unemployment, particularly among young people, many political leaders announce initiatives and incentives for startups alone and measure the success of those initiatives with the number of newly created companies. They initiate transfer payments, loans, subsidies, regulatory exemptions, and tax benefits to encourage individuals to start a business, any business. The results are disappointing, however, as startups often create short-term, part-time, lower-paid jobs with fewer fringe benefits and less job security than existing firms.

The solution is to implement a far more discriminating set of actions when it comes to startups. That set should include, to begin with, thinking like venture capitalists and concentrating time and money aimed at stimulating startups by extraordinary entrepreneurs, the likely winners. What are the criteria to focus on to recognize winners? Human capital and motivation of the founder, promising sectors of the startup, solid new company strategy, strong capital structure, and so on. To complement the focus on startups, the set of actions should include ones to help revitalize mature and traditional companies, whether small or large. The focus on the traditional is likely to yield as much or more return when it comes to economic vitality.

Given the research, we believe the focus should be threefold: First, on making it easier for companies to do business; second, on reducing financial constraints, especially for SMEs; and third, on promoting innovation and knowledge through a special relationship between knowledge institutions and entrepreneurs. A collaboration of public and private actors is also a very important element of a successful strategy. Local officials, associations of entrepreneurs and workers, financial intermediaries, schools and universities, foundations, and nonprofit organizations can be involved in creating value through entrepreneurship. We turn now to the three recommendations.

Making business easier to conduct

Across Europe, but especially in Italy, local and regional leaders can work in small and big ways to facilitate the conduct of business. We see three common areas for improvement. The first, albeit a part of a national agenda, can be taken up as a cause for political action by leaders at all levels: reducing the tax burden on enterprises and on labor.

The second is lowering administrative costs, which are a strong disincentive for startups and for young individuals as well as a penalty for

micro and small businesses, the backbone of the Italian local economy. In the US, starting a business takes an average of four procedural steps, four days, and costs \$166. In Canada, it takes just two steps, two days, and \$380. In contrast, in Germany it takes 10 steps, 45 days, and \$4,000; and in Italy, 16 steps, 62 days, and about \$5,000 (Alesina and Giavazzi, 2006).

The third is improving the legal framework. 'Justice delayed is justice denied' is the phrase attributed to nineteenth-century four-time British Prime Minister William Ewart Gladstone. Just the efficient execution of financial agreements is crucial to diversifying risk and speeding business development. Comparative data collected regarding the enforcement payment of a bad check in various countries shows that in the US it takes an average of 54 days to reach sentencing and 14 days to execute the sentence. In Italy, it takes 645 days and 230 days, respectively. Urging the proper authorities to reform the justice system remains imperative for economic revitalization. The malfunctioning civil justice has negative impact on the overall economy and on the ability of local and regional companies to attract investment from abroad.

Reducing financial constraints

In 2009, almost one third of European citizens interviewed for the Eurobarometer Survey said the infeasibility of becoming self-employed was due to financial constraints. When researchers expanded the observation periods and used more disaggregated surveys within countries, similar results emerged. The evidence is clear that access to finance is a problem both across Europe and in particular locales when it comes to starting a firm. We can infer that the same is true for many small and medium-size firms. That makes credit access a prime target for intervention. This is particularly true in Italy, where small and medium-size (even micro) enterprises account for most industrially productive activities.²¹

Two solutions have traditionally been proposed for reducing financial constraints and sustaining entrepreneurship.²² One is the expansion of mutual guarantee institutions like Italy's *Confidi*. The other is the startup or expansion of microcredit. Local and regional leaders can encourage and nurture both.

Mutual guarantee institutions are credit-guarantee schemes arranged so that participating members take joint responsibility for backing each other's loans. In Italy, the *Confidi* are *consortia* or cooperatives created as mutual credit assistance programs among entrepreneurs in the same sector.²³ Small to medium-size agricultural, commercial, tourist, and craft businesses have been widely interested in this alternative way of obtaining funds.

The system of Italian *Confidi* offers one approach to getting more credit to local entrepreneurs and small company owners. The *Confidi* play an important role of intermediation between member firms and financial institutions. In Italy overall, *Confidi* guarantee 15 percent of loans obtained by SMEs. They serve almost one third of Italian SMEs (2009 data).²⁴ As shown by Mistrulli and Vacca (2011), being a member of a mutual guarantee institution can make a significant difference during a financial crisis: Guaranteed entrepreneurs have more access to credit and pay lower interest rates than nonguaranteed ones.

The *Confidi* contribute to a participative approach to nurturing entrepreneurship. That's because they are based on the collective work of a number of entities, such as chambers of commerce, banks, associations of entrepreneurs, national and local governments. Local and regional leaders can take part in the collective effort. Along with increasing funding for startups, they can help spur local entrepreneurial creativity through the life of a firm, especially when entrepreneurs need money for investments in innovative projects.

The *Confidi* play a complementary role to banks in Italy's financing system for several reasons. For one, they facilitate the reduction of asymmetric information between small borrowers and big lenders. The *Confidi* provide information to increase the screening of debtors, and this in turn reduces adverse selection, decreasing risk. In other words, when *Confidi* provide banks with previous certifications related to the five Cs of credit, they in turn allow banks to provide more credit.

The *Confidi* also help lenders overcome *ex post* moral hazard or taking risks without genuinely thinking you have responsibility for paying back the loan. This stems from the presence of peer borrowers, who create an incentive to pay back loans through peer monitoring and social constraints. This way, the members of the mutual guarantee organizations bolster each other's financial position and strengthen the lending relationship between banks and entrepreneurs. Again, mutual guarantee institutions favor the reduction of credit risk and, at the same time, release additional resources for the creativity of small and medium enterprises,²⁵ increasing the probability that entrepreneurs will receive funds and at lower interest rates (Busetta and Presbitero, 2008).

Of course, the efforts of local and regional leaders to strengthen mutual guarantee organizations would benefit from increased support at the national level. Efforts by national leaders can provide a coherent framework, consistent standards, and a means to share best practices and externalities. A national perspective could also bring together various public and private entities in this emerging sector, nurturing

collaboration among banks and unions, work associations, retailers, and other entities. Recent reforms have contributed to providing additional resources to *Confidi* (e.g., refinancing of the *Fondo di Garanzia per le PMI* or allowing the participation of professionals) and reorganizing to further consolidation and specialization.

Local and regional leaders can, however, participate in nurturing the effective financing work of mutual guarantee organizations like *Confidi* by making sure the *Confidi* are well known, increasing the collection of data on members and their credit history, and supporting the development of *Confidi* focusing in the core industries of their locale or region. *Confidi* are deeply embedded in financing at the sub-regional (provincial) level, providing an avenue for tailoring lending for small entrepreneurs operating in specific circumstances.

Along with mutual guarantee institutions, which have a long tradition in Italy and other countries among established entrepreneurs, modern microcredit, or microfinance, has recently gotten a foothold as a form of credit for startup enterprises.²⁶ Its emergence follows waves of microfinance programs in both developing and developed countries in the last two decades. Microcredit activities are designed for small amounts of capital. They serve individuals without a reliable debtor's position (e.g., those who lack real and personal collateral or have a very high risk profile). Microfinance generally prevails in poor countries as a way to encourage the inclusion of excluded borrowers and promote entrepreneurship among them. Mohamed Yunus's Grameen Bank in Bangladesh is a celebrated example of a successful microcredit initiative.²⁷

In the last few years, microfinance has grown in the Italian credit system.²⁸ According to the *European Microfinance Network* (EMN), thirty organizations operated in Italy in 2010 with almost 4,000 active credits. Most loans went to small startups and established micro-enterprises. Twenty-seven percent of beneficiaries were women, 21 percent immigrants, and 11 percent young people (EMN, 2011). Recently, the Italian government has started a discussion to set up a more coherent regulatory framework for microfinance.

In the past few years there have been several initiatives at the local level.²⁹ In 2008, private organizations created the Italian microfinance network *Rete Italiana di Microfinanza* (RITMI) with the main objective of sharing experiences and best practices at the national level. As of this writing, an Italian financial institution *Banca di Credito Cooperativo Mediocrafi* joined the group of microcredit providers under the *European Progress Microfinance* to promote micro-enterprises and self-employment in the Calabria region and just received a government-backed guarantee.

The economic advantages of microfinance originate from both asymmetric information and imperfections in the credit market. Microcredit schemes typically involve group lending, social constraints (Besley and Coate, 1995), and nonmonetary guarantee mechanisms (Khoja and Lutafali, 2008). These are paired with a flexible structure of contracts, allowing microcredit activities to mitigate adverse selection, overcome moral hazard, and provide dynamic incentives such as 'progressive lending,' in which a borrower receives increasing loan amounts upon good repayment (Morduch, 1999; Arméndariz de Aghion and Morduch, 2005).³⁰

Particular categories of individuals who were previously excluded from the mainstream credit system can now obtain a loan for starting or managing their enterprises. Microcredit loans in the EU generally come in amounts under €25,000. By providing financing in this way, microcredit stimulates entrepreneurship, giving the beneficiaries the opportunity to undertake and renew an entrepreneurial process.

Recently, Banerjee et al. (2009) found a robust link between microcredit and the startup or expansion of businesses in India. While microcredit had no effect on expected benefits – changing education, health status, or women's decision-making – it did allow households to borrow, invest, and create and expand businesses. That should give local and regional leaders further confidence that focusing on small loans can further entrepreneurial creativity as a means for local development.

Introducing and supporting microcredit as a stimulus for entrepreneurial creativity has several advantages. First, it institutionalizes an additional credit source now missing from many developed-country credit systems. Second, it can promote entrepreneurship in underserved sectors and, in particular, for individuals like women, immigrants, and young people who have trouble getting credit. In the case of young prospective entrepreneurs, individuals or groups, microcredit can also act as an introductory step in the credit system. That is, successful repayments of microcredit loans signal creditworthiness to mainstream lenders who might become the source of future loans.

Exploiting knowledge and innovation

In the coming years, knowledge and innovation will continue to grow as critical elements in enhancing growth that stems from entrepreneurial creativity. That begs the question as to how to promote both in low-cost ways to serve local development. The answer, inevitably, is to design a knowledge-based entrepreneurial system anchored in knowledge institutions, namely, universities and research centers. These *loci* of culture

and higher education can allow better access to all of society to exploit the potential of academic discovery, invention, and development.

What can local and regional leaders do? They live in the same communities with academic leaders, and they can push for research institutes at local universities to feed their knowledge and innovation to potential entrepreneurs. They can also be sure that the universities take advantage of laws to license and leverage new intellectual property, so that it doesn't remain shuttered in the ivory tower. Over the years, too little valuable intellectual property has moved from the university into products, and in turn, to serve the profit-making needs of local businesses.

To be sure, the relationship between knowledge institutions and entrepreneurial creativity is complex. The role of universities and research centers for entrepreneurship is also not a priority for policymakers in some countries. In some continental European countries, unlike the US or UK, there is a lack of a clear framework, too much heterogeneity between institutions (private and public universities, research centers, etc.), and a persistent awkward relationship between academics and the entrepreneurial world. Of course, some progress has been made.

However, more can be done, especially in Italy. The entrepreneurial role of knowledge institutions in Italy is a relatively recent phenomenon, increasing in importance since the late 1990s. For example, in 2002 some Italian universities created the *Network for the Valorization of University Research* (NetVal). NetVal now represents an increasing number of Italian knowledge institutions. These institutions generally aim to increase technology transfer and its related advantages among members. They also aim to act more internationally.³¹

According to the last *NetVal Report* (2013), its institutional members have presented 319 'priority demands', the first step for a patent registration, in 2011. This is an increase of 152 percent since 2004. Inventions doubled from 2004 with 468 inventions registered. In 2011, moreover, Italian universities owned 2,787 patents (up 135% since 2005) and promoted 117 spinoffs. These academic-related startups were particularly concentrated in the information and communication technology (28%), energy and environment (16%), life sciences (16%), innovation services (15%), biomedical (8%), and electronics (7%) sectors.

One means for stimulating the transfer of knowledge and innovation is illustrated by the Bayh-Dole Act (1980)³² in the US. The law reversed former ownership rules of federally funded research results and patents. Today, academics and university spinoff organizations, rather than just the federal government, can take possession of patents and make money on them. The Italian counterpart, the Law n.297/1999,

came into existence 20 years later. Academic spinoffs – with direct and indirect links to knowledge institutions, the so-called parental organizations (Pirnay et al., 2003) – have since attracted much attention and many resources in many countries.

Even without spinoffs, universities and research centers generate and accumulate human capital that is important to both entrepreneurs and workers. Graduate students are more prone to go the entrepreneurial route and start new firms (Åstebro et al., 2012). These entrepreneurs benefit not only from their own education but also from the increased education of the workers they hire, who then have more sophisticated competencies and updated knowledge.

Knowledge institutions favor the entrepreneurial creativity of traditional firms in two complementary ways: representing focal points for the associations of entrepreneurs, and more generally for a broad spectrum of organizations, universities, and research centers that have the opportunity to disseminate knowledge (e.g., launching joint projects with entrepreneurs and their associations) and research activities. Moreover, they can assist in the establishment, development, and successful growth of entrepreneurial creativity by providing consultancy activities.

Advocating the possibility of undertaking consultancy activities does not necessarily mean affecting the original mission of knowledge institutions. Even as they generate fresh revenues for patents and licenses, they can still remain anchored in their historical principles and independent governance. Nevertheless, university and research centers could be part of, or even start, special-purpose institutes in partnership with private and public entities to explore a novel pattern for research.³³

The development of academic spinoffs has several proven advantages. They favor high-tech entrepreneurship (Etzkowitz and Leydesdorff, 2000) and leverage economies of scale through collaboration with the parental organizations (e.g., joint projects, recruitment). In addition, they become resources for likeminded organizations in their geographies (Di Gregorio and Shane, 2003) and bolster economic externalities, such as attracting talented people and stimulating circulation of ideas, especially in the presence of networks, as in the case of Science Parks.³⁴

Of course, one aid to local development would be for central authorities to design appropriate incentives to reorient universities and research centers that do not now participate in the entrepreneurial life of the community. They could also define a coherent framework for university activity. But in the meantime, local and regional leaders are well positioned to encourage relationships between knowledge institutions

and entrepreneurs as much of the entrepreneurial activity takes place locally. They can provide coordination among local actors interested in the knowledge network. They can also provide incentives such as free space, equipment, services, and tax cuts to facilitate the creation and establishment of knowledge startups.

A good example of local support for knowledge networks comes from the city of Bergamo, where public and private leaders – in particular Alberto Bombassei, chairman of Brembo – launched the *Kilometro Rosso* (the ‘Red Mile’), a science and technology park for knowledge-intensive activities.³⁵ Opened in January 2004, *Kilometro Rosso* ‘is one of the top 10 excellence places for Innovation in Italy’ (Censis report, March 2009). Among the goals of *Kilometro Rosso* are to create strong links between science, industrial research, technological development, and innovation and to implement a virtuous circle of innovation development throughout the region.

Over the years, *Kilometro Rosso* has signed agreements to open labs, research centers, and incubators with several partners, including: the Mario Negri Institute, a pharmacological research institute; Brembo, one of the world leaders in the design and manufacture of automotive braking systems; Italcementi, a leader in construction materials; the local University of Bergamo; and Jacobacci & Partners, a leading intellectual property firm in Europe. *Kilometro Rosso* also has a partnership with the Massachusetts Institute of Technology.

Actions for local and regional leaders

In this chapter, we have chosen to stress three ways to improve entrepreneurial creativity: making it easier to do business, unleashing additional credit for small and medium-size businesses, and creating knowledge networks. Local and provincial leaders, however, are not limited by any particular constraints. They can keep their eyes on the task of inventing new ways to shore up any of the drivers of entrepreneurial creativity – knowledge, skills, innovation, and risk-taking.

When it comes to knowledge, they can support knowledge sharing, whether the knowledge is tacit or explicit. The Carrara stone carver’s tacit knowledge, for example, sets him or her a tier above copycats elsewhere in the world. This gives such artisans a global competitive edge, the ability to charge a premium over other worldwide competitors.

When it comes to skills, leaders can support study and on-the-job learning (i.e., learning-by-doing and watching). This human capital, as we have previously stressed, drives entrepreneurs’ ability to respond

to opportunities and challenges in a changing economic environment. Most of these skills are difficult to replicate and require intergenerational transmission to be fully exploited.

When it comes to innovation, leaders can further their quest in a variety of ways. Exploring new markets, introducing new products, and inventing new ways of production represent the source for Schumpeterian creative destruction and creative accumulation. Patents and registered trademarks are only a small part of a broader and more intense process of innovation.

Finally, when it comes to risk-taking, they should support entrepreneurs in an uncertain environment in which even seasoned business people are continuously challenged to distinguish between seemingly foolish actions and successful initiatives. Stories of undertaking activities in the face of doubt and ridicule are common among entrepreneurs. Investing in spite of risk is one of the main sources of economic performance derived from the *vita activa* of entrepreneurs.

It is time for local and regional leaders to take all necessary measures to reawaken entrepreneurial creativity. They can start by nurturing local access to credit through organizations like Italy's *Confidi*. They can continue by fostering partnerships among business, government, and universities to drive innovation out of academia and into the marketplace. With that innovation, and by tapping people's latent creativity and entrepreneurial spirit, they can use entrepreneurial creativity as an effective vehicle for delivering local economic vitality and global leadership.

3

Foster Innovation and Research

Building the innovation engines for growth

That innovation is the most powerful catalyst of economic growth is widely accepted. Joseph Schumpeter not only explained that long-run growth is driven by innovation but, as we noted in the last chapter, stressed innovation as essential to ‘getting things done’. What is not widely accepted is that local leaders – government officials, business people, and citizens – can be the drivers of that innovation.

In countries around the world, policymakers talk endlessly about the central government paying millions of euros to fund big labs – labs at renowned universities and research centers. But suggesting big labs as the only place to invent new things diverts attention from another path and from taking action in a different way.

The path we’re talking about is that taken by Enrico Loccioni as head of the Loccioni Group in the city of Ancona, on the central Adriatic coast of Italy. Loccioni’s company spends over 4 percent of its €64 million in revenue on R&D. The company pioneers new test and control equipment for the healthcare, energy-management, environmental monitoring, and automotive sectors.

What’s most important, however, is not just how much money Loccioni spends. It’s how and with whom he spends it. He’s not spending it all on just secretive, in-house research projects. He’s helping fund networks of companies, universities, and research centers to do research together. Loccioni and other leaders in his 360-person-strong enterprise have founded these networks themselves. They are not waiting for central-government programs.

One of the Loccioni Group’s networks aims to revolutionize energy management in residential buildings. The ultimate goal is to build

zero-carbon homes. Loccioni put together 80 companies, among them appliance maker Whirlpool, power company ENEL, and networking equipment makers Beckhoff and Cisco. Included in the network are university experts, in particular, professor Federico Butera of the Polytechnic University of Milan, an expert in ecologically sustainable buildings (Baraldi et al., 2011).¹

Loccioni, as a company, couldn't have done all the work necessary on its own to achieve its ambitious goals. A tiny firm in comparison to its partners, it has acted as general contractor and systems integrator. The network of firms, however, has worked together to create the components and technology to complete a pioneering home-cum-laboratory called the Leaf House.

The Leaf House is so named because it mimics the workings of a leaf, that is, consuming only renewable energy and producing no CO₂ emissions. Among the house's component systems are those for power production, energy efficiency, power storage, and building automation. Real-time systems monitor electricity use of every appliance. Batteries store enough power to keep the house off the grid 20 hours a day.

Since the building of the house, the project has grown bigger, and now includes many Loccioni buildings. The result is that Loccioni Group has created the first community in Italy – the 'Leaf Community' – where people can live and work in an almost completely sustainable environment. The house's power today comes from the sun, the earth's heat, and hydropower. Among the power sources are a 36-kilowatt mini hydro plant and a 920-kilowatt solar farm – the basis for Loccioni's own micro-grid.²

Starting as a maker of monitoring and testing equipment for everyday products 40 years ago,³ the company has expanded to produce high-tech products that rival the best in the world. For such efforts, Enrico Loccioni won a national award for innovation and the environment in 2010. In the energy sector, the company now offers a fully integrated solution for power – production, storage, efficiency, service, monitoring, and so on. The Leaf House and the broader Leaf Community remain the company's laboratory and test bed.

Loccioni's work exemplifies the third point in our six-point platform for local economic development: One of the most crucial routes to local economic growth is through innovation, especially in networks. Loccioni Group shows that world-leading innovation isn't something attainable only with the funding available to giant firms and labs. Even local and regional organizations outside traditional channels of innovative thinking – weather in Marche by the Adriatic coast in Italy,

in Algarve on the Atlantic Ocean in Portugal, or in Auvergne in the mountains of France – can insert themselves into the global knowledge network at relatively low cost.

Innovation and growth: What theory says

Although we intuitively know that innovation can build powerful local and national economies, just how important is it? We know that modern economies are built with ideas as much as with capital and labor. This is very much the case in our collective imagination: James Watt, Alexander Graham Bell, Thomas Edison, and Orville and Wilbur Wright are but a few of the great innovators with breakthrough ideas during the first and second Industrial Revolutions. The third Industrial Revolution is underway today, brought about by the digitalization of manufacturing processes, the combination of new materials, and the development of web-based services.

How much value will be created? The link between innovation, knowledge, and the creation of durable value has been the focus of many policy-oriented contributions, such as the OECD *Frascati Manual*, which underlines the pivotal role of ‘creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications’. Every day, thousands of entrepreneurs and smart people are involved in innovative projects contributing to upgrade the stock of global ideas – and contribute to future jumps in GDP.

Innovation in technology is often the driver. Consider, for instance, ‘3D printing’, a yet imperfect technology allowing users to print goods, ranging from houses to microchips, using special-purpose printers operated by complex software. Should 3D printers become viable in the near future, they would completely shake up many aspects of business – from transportation to labor to consumers’ preferences to environmental management. They would provide an economic engine to take companies in new directions to create novel products and services.

To gain some perspective on what’s ahead with such technologies, let’s look back. In the second half of the last century,⁴ Moses Abramovitz at Stanford explained the impressive output growth in the US between 1870 and 1950 by noting that only 15 percent of that performance was due to increase in inputs such as capital and work, and the remaining 85 percent was due to qualitative enhancements of the technology used in production processes, the methods used for the production of goods, and the quality of the machinery employed in US factories and

production plants – in other words, to innovation. About the same time, Robert Solow at MIT presented his theoretical model, which then became the backbone of the neoclassical economic theory, in which technical change acted as the exogenous driving factor influencing economic growth.

In Solow's neoclassical framework, innovation enters the production function in the form of technological change, which is able to spur economic growth in the long run. Three main consequences follow from technology. First, innovation increases the productivity of each input, without altering the marginal rate of technical substitution, implying a rise in total factor productivity (TFP). This technological progress is defined as Hicks-neutral. Second, innovation in technology can ameliorate the impact of the labor input without modifying the relation between capital and output (Harrod-neutrality). Third, variations in technology influence the capital-output ratio, but not the labor-capital ratio (Arrow-neutrality). Traditionally, neoclassical economic theories have dealt with technology focusing on Hicks-neutrality and the relevance of TFP for economic growth.

A few decades after the publication of Solow's framework, Romer (1986) and Aghion and Howitt (1992) pioneered the introduction of innovation as an endogenous factor for economic development, giving theoretical form to the Schumpeterian intuition: creativity makes the difference 'to reform or revolutionize the pattern of production by exploiting an invention or, more generally, an untried technological possibility for producing a new commodity or producing an old one in a new way'. With this new thinking, innovation moved from a nebulous concept to the center of formal economic modeling.

Within the so-called endogenous growth theories, the positive relation between knowledge and innovation can sustain long-run growth through different channels. R&D activities, for instance, are considered specific investments for increasing the stock of knowledge and for attributing to some firms first-mover status in technology. Technological progress can then stem from competition among firms determined to improve their competitive advantage in a particular sector or geography. Innovation is crucial both to companies and to countries' economies.

Today few economists completely agree on the main areas of economic innovation (process, product, organizational) and its positive effects on firms, people, and economies as a whole. Two questions need further exploration: How do human knowledge and innovative activities interact? And what are the most appropriate policy instruments to make innovation work? The former question requires figuring out the

overall connection between tacit and explicit knowledge and new ways of production, distribution, and consumption. This is an issue of human capital and the ability of people and organizations to turn knowledge into high-potential activities.

The latter question is of practical interest to policymakers all over the world. Indeed, everywhere public and private decision makers wrestle with investments for promoting innovation, they deal with questions that relate to who gets what: Which sector of production gets priority? What university or research center gets support? Who are the best individuals who will get funding?

As discussed in the last chapter, innovation is intrinsically related to entrepreneurship and entrepreneurs. At the origin of each innovative economically significant idea is a human act to discover untouched opportunities and create value from them. The worldwide web, solar panels, and modern aircraft are examples. So is a new mixture of grapes that produces a different wine or the mixture of biological knowhow in commercializing biological products.

A company can innovate in many ways other than directly investing in R&D. For instance, it can pursue a continuous updating of the company-specific innovative culture. Or it can experiment with novel organizational rules and reward mechanisms. Such innovation is particularly appropriate for SMEs, where the lack of resources can be overcome by investing in day-to-day innovation and making decisions to adopt low-cost, high-impact inventions. In countries like Italy, with many SMEs, tacit innovation implemented in this way has played and still plays a crucial role in the growth of firms, sectors, and the economy.

Innovation in traditional sectors and agriculture

The importance of innovation for the so-called mature sectors of production should not get lost in the excitement of talking about the latest high-tech inventions. Most of the time, when we think about innovation, we imagine high-tech or emerging sectors of a 'new' economy. The 'app' revolution is a clear example of this pattern. However, novel ways to improve product creation, manufacturing, and organization may occur in old-fashioned goods such as artisanal pieces and agriculture, contributing to premium value for these products.

Agriculture, for example, receives too little focus as the target for innovation, and yet innovation has revolutionized agriculture repeatedly over the centuries, from the invention of the plow to the green revolution. Indeed, if the productivity improvements of the past are

any indication, innovation in agriculture has far to go. Over the 50-year period of 1950–2000, the productivity per cultivated hectare has jumped by almost 150 percent. The productivity of agricultural workers has grown 75 percent. Total factor productivity has risen 55 percent. Are similar increases on the horizon for the next 50 years?

Consider an innovation called ‘precision farming’. Cook and Bramley define it as ‘crop management methods which recognize and manage within-paddock spatial and temporal variations in the soil-plant-atmosphere system’. The objective of precision agriculture is to improve the control of input variables – fertilizer, seed, chemicals and water – and deliver higher yields, better profits, reduced environmental risk, or better product quality. Technologies like Geographic Information Systems (GIS) and the Global Positioning System (GPS) play a role. So do a range of sensors, monitors, and controllers for agricultural equipment such as shaft monitors, pressure transducers, and servomotors. Thanks to these high-tech tools, farmers in a ‘traditional’ and even ‘low-tech’ sector will engage in work with all the sophistication of Silicon Valley.

A practical example of precision agriculture is the installation of new software developed by Kverneland, an international agriculture equipment manufacturing company. The software, IsoMatch GEOcontrol, allows the control of all the functions of the seeding machine. The farmer enters the characteristics of the land, and the software automatically figures out the seed quantity, fertilizer application, and necessary weed control. The application has been developed for commercial dealers and potential customers who have adopted the IsoMatch Tellus terminal. With the software, the terminal’s calculator actually specifies how much money a farmer can save by taking alternative actions.

Though seemingly produced in the same way for eons, farm goods can become pioneering high-tech-related products. For these reasons, leaders of local and regional economic development, whether business people, elected officials, or citizen leaders, should think of innovation generally, not necessarily related to specific sectors or products. This is in keeping with the root of the word innovation, *innovare*, which means introducing novel ideas, products, and approaches compared to past experience and usage. Innovators create economic value at both the individual and social levels by modifying any number of current techniques, products, and behaviors. It is not the sector that matters, but the spirit on which the innovative ideas are based. That spirit can be directly influenced at the local level.

A recent EU report, ‘Agricultural Knowledge and Innovation Systems in Transition’ (2012) notes, ‘Innovation not only involves a technical

or technological dimension. It also, and increasingly, involves strategy, marketing, organization, management and design. Farmers do not necessarily apply or develop “new” technologies: their novelties emerge as the outcome of different ways of thinking and different ways of doing things and in recombining different pieces of knowledge in an innovative way.¹⁵ It is possible to distinguish innovation just in agriculture, for example, into at least five categories: technology, biotechnology, organization and governance, finance, and soft innovation related to product quality.

As an example of innovation in biotechnology, consider the production of so-called ‘functional food’, or products invented to respond to a need such as to give a health benefit. According to the report ‘Functional Food in Europe’, the definition of functional food requires that ‘the base product was a food, that it contained or was fortified with an ingredient, a micronutrient or a naturally occurring chemical with a beneficial effect on health, well-being or disease prevention and that this effect went beyond normal and adequate nutritional effects, that these effects had been “demonstrated” or were at least claimed and communicated to the consumers and that these effects can be expected to materialize when the food is consumed in normal amounts.’

Functional food provides a huge target for innovation. The food has the identical smell and taste of traditional foods but has positive effects on one or more specific functions in the body. These foods differ from genetically modified foods, because they have not undergone genetic treatment in a lab. To avoid the production of food without a real benefit, FAO/WHO Codex Alimentarius, the Council of Europe, and national legislation define codes of conduct for the producers. Under this code, in Europe, over 40 percent of total food products are new and reformulated in just the last few years, and more than 4,000 products have been transformed in some way to meet the needs of the consumer.

As an example, in Italy in the city of Pozzuoli, biotech researchers have developed a variety of tomato with large quantities of lycopene, an antioxidant that prevents cancer and heart disease. The lycopene appears in concentrations 50 times higher than in traditional tomatoes. The technique used to create this new product is called ‘marker assisted selection’ (MAS) and increases growth rates by 1,500 percent without introducing foreign DNA, as is the case in genetically modified organisms (GMOs).

Note that research and innovation are two faces of the same coin. Searching for new materials, speculating on novel techniques, questioning old problems and new ones, or simply trying unexplored paths – these are all ways to set the power of ideas to work. When these activities

lead to a new set of goods and services, we all benefit from economic growth, both at the micro and macro levels. As a side benefit, research and innovation may at the same time prompt a new way for people to consume goods and services, a way that's less costly and more sustainable, as was a goal at Loccioni's Leaf project.

Tradition- and crisis-driven innovation (the cases of Mannheim, Eindhoven, and Oulu)

Innovation often thrives most vigorously when it comes from a local tradition of entrepreneurial activity as exemplified by the experience of Mannheim in Germany. In Mannheim, local leaders have made a point to integrate innovative spirit into the fabric of the city – and for many years. The people of Mannheim invented the automobile, bicycle, and tractor. Today, *Forbes* magazine rates Mannheim, known for its medical technology, green logistics, e-mobility, and innovative business models, as the eleventh most inventive city in the world (Pentland, 2013). The city's inventors receive patents at the rate of 4.95 per 10,000 people (*The New Economy*, 2014).

Mannheim's success comes from the dedication of local leadership in nurturing a cluster policy. Financiers, research institutions, and the Economic Aid Department of the city of Mannheim work together. In particular, they have recently sought to further the city's preeminence in medical technology, identified in 2009 by Roland Berger as having the potential to create 2,000 new jobs over 10 years. Today, 7,500 people work in the industry, many at the headquarters of firms like Roche Diagnostics, DENTSPLY Friadent, VRmagic and Siemens Healthcare.

One focus of local leaders is on infrastructure. The city is part of the so-called Rhein-Neckar region, and a tram system connects the city to all its neighbors. The city is also only 30 minutes from the Frankfurt airport, and its large inner harbor connects the city to the world. The city hosts some prominent institutions, including the University of Mannheim, a leader in economics, and the Center for European Economic Research. Among the institutions focusing on applied research is the Mannheim Molecular Intervention project, an effort to improve cancer treatment by manipulating cellular structure.

As for its knowledge networks, Mannheim hosts the government-funded 'E-Energy' program, aimed at demonstrating how to integrate renewable energy into the electricity grid. The program also aims to show how the city itself can function as a means to store and release electricity depending on demand. Among the partners in the network

are PPC (communication systems), MVV Energie, and IBM. The program has shown how a city can connect households, decentralized systems of electricity generation, and measuring devices into a unified system. Three thousand households will participate in the project. Homeowners will allow the communications system to control their appliances and feed encrypted electricity usage information into the network. As part of the project, Mannheim aims to eventually produce all of its own electricity, in part by burning unrecyclable trash. Today, the city produces all the energy needed for heat and 60 percent for electricity.

Mannheim's inventiveness stems in part from the city's focus on creativity. The city's leading creative institutions include the famous *Mannheimer Schule*, the National Theater, Reiss-Engelhorn Museum Complex, the *Kunsthalle Mannheim*, and the *Papakademie*. The *Papakademie* is Germany's first university for study of pop music and the music business. It complements Mannheim's music festivals, including the Maifeld Derby and Time Warp. In addition to music, fashion design flourishes in Mannheim, home of Dorothee Schumacher's studio. Such entrepreneurship and creativity is encouraged by Mannheim leaders. The *Mannhaeimer Grudungszentrum* gives help to business founders, advising them on how to get started and providing office space.

Mannheim mayor Peter Kurz stresses the importance of the network of creative, business, research, and other institutions. He has called it a 'prosperous social ecology' that allows 'symbiotic' growth of ideas and business (*The New Economy*, 2014). This attitude, and the institutions that go along with it, makes Mannheim one of the most attractive business locations in Germany.

Though innovation may remain a part of a city's fabric, sometimes it takes a crisis to renew it. That's the case of Eindhoven in the Netherlands. For many years, Eindhoven, the headquarters of Philips, was a major industrial and technology hub, renowned for its tech creativity and leadership. As Philips's fortunes began to slip, however, so did the potential for the city to remain at the top of its game. Local leaders stepped in to keep the city from declining along with Philips, and Eindhoven today is ranked the most inventive city in the world and the center of what is known as the Dommel Valley.⁶ In 2011, it produced 22.6 patents for every 10,000 residents (Pentland, 2013), giving it a 'patent intensity' more than double any other city in the world.

In one key move to keep Eindhoven a knowledge-economy leader, the former secretive laboratories of Philips were converted in 2003 into the High Tech Campus, or HTC (Hennop, 2013). Today the HTC houses more than 100 companies and 8,000 researchers, developers, and

engineers. Big companies like Philips and small startups now collaborate in an 'open' environment where sharing knowledge produces more value than keeping it secret. The patent statistics provide the evidence: Of the 3,238 patent applications filed in the Netherlands in 2011, 42 percent came from the HTC. No wonder that Eindhoven ranked third in the world in the 2013 *Financial Times* Foreign Direct Investment Index.

The HTC story, along with the larger ecosystem of research and development in Eindhoven, shows how traditional strengths, when threatened, can be leveraged for a new blossoming of innovation. The Dutch government was critical in playing a role, founding an entity in 2004 called Brainport Development to bring together business, knowledge-based institutions, and public money to take advantage of the large numbers of skilled workers undergoing layoffs at the start of the century. The effort created 60,000 new jobs in the region by 2011 (Hennop, 2013). Also critical was Eindhoven's location near the Schiphol International Airport hub and Seaport Rotterdam.

Another example of resilience and innovation that stem from a crisis is the northern Finland city of Oulu, once a key Nokia R&D site with more than 5,000 researchers employed by the Finnish multinational, more than three times the next biggest private sector employer in the area. The crisis of Nokia, and its following sale to Microsoft, shook the city and left thousands jobless.

The local reaction was remarkable, facilitated by two characteristics of Finland: the resilience of its people and the strong focus on education. The many spinoffs from Nokia, the high concentration of technology and science researchers in the area, the presence of University of Oulu and Oulu University of Applied Sciences, both with many links and partnerships with technical companies both globally and in the local area, transformed this area in what is today referred to as the Silicon Valley on Ice.

Oulu's technology park is home to hundreds of high tech companies employing thousands of highly educated people. In addition to being the center of the Finnish telecom cluster with companies such as TietoEnator and Nokia Siemens Networks, it is also a center for health, biotech, and environmental clusters. Oulu is a serious candidate for attracting a \$250 million Microsoft data center.

Innovation and growth: Measuring the impact

To get an idea of the importance of R&D, or as we will also call it 'Research and Innovation (R&I)', let's look at some data in recent years from selected countries, especially Italy and the EU.⁷ Table 3.1

Table 3.1 Global innovation index, selected countries, 2013

Ranking	Country	Score
1	Switzerland	66.6
2	Sweden	61.4
3	United Kingdom	61.2
4	The Netherlands	61.1
5	United States	60.3
15	Germany	55.8
20	France	52.8
22	Japan	52.2
29	Italy	47.8
35	China	44.7
58	South Africa	37.6
62	Russia	37.2
64	Brazil	36.3
66	India	36.2

Source: Author's elaboration; data from Global Index Project (2014)

reports the Global Innovation Index published jointly by Cornell University, INSEAD, and the World Intellectual Property Organization (WIPO) for 2013, for selected countries. The index ranks 142 national economies according to their innovation-enabling environment and innovative output. Compared to the leaders in the top five positions, which include four European nations and the US, most countries lag behind significantly. New global players such as Brazil, China, India, Russia, and South Africa lag the most, although heavy R&I investment by China and Brazil promises to change their rankings in the near future.

In the EU, even during the recent financial turmoil, the importance of innovation for growth has remained significant. Figure 3.1 illustrates the correlation between GDP growth (data from 2011) and the percentage of GDP spent on innovation activities in 2007, obtained as the sum of all the investments in innovation (i.e., public and private R&D expenditures), for selected European countries. Apart from three outliers (Greece, Luxembourg and Lithuania), GDP growth and the initial expenditure in R&I appear directly correlated for the time period considered. Sweden shows the highest R&D spending and a very high growth rate; Greece and Cyprus, the lowest R&D spending and the lowest growth rate.

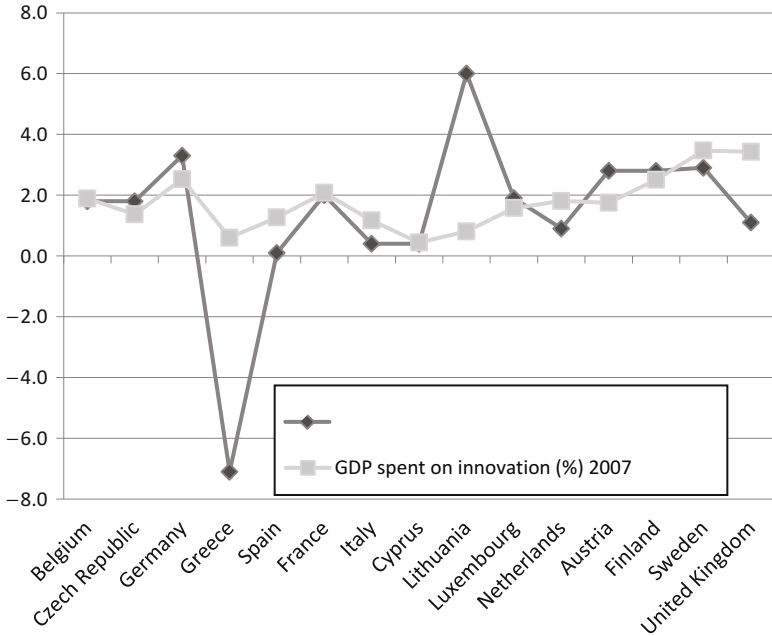


Figure 3.1 Correlation between GDP growth (2011) and GDP expenditure on innovation (2007) for selected EU countries
 Source: Author's elaboration; data from Eurostat (2011)

Not surprisingly, places where innovation ranks high in terms of the GDP spending register not only high GDP growth but also growth in labor productivity. Comparing the Italian case with the US, for example (using data from OECD), we observe that from 2001 to 2007, higher investments in innovation in the US were correlated with about 1.7 percent of annual GDP (per-capita) growth and 2.1 percent of annual labor productivity growth. For the same period, in Italy, a nation steeped in creativity and inventiveness but lagging in investments in innovation, GDP growth remained at about 0.3 percent, and labor productivity growth stood at zero. The US has long remained a benchmark in R&D spending. Despite the global economic crisis between 2007 and 2011, US spending on R&D rose an annual average 9.6 percent, driven by both high-tech and traditional sectors. That this increase came during a recession suggests the importance of innovation in difficult economic circumstances. Innovation is the single most effective way to spur an economy's performance or help it through crisis.

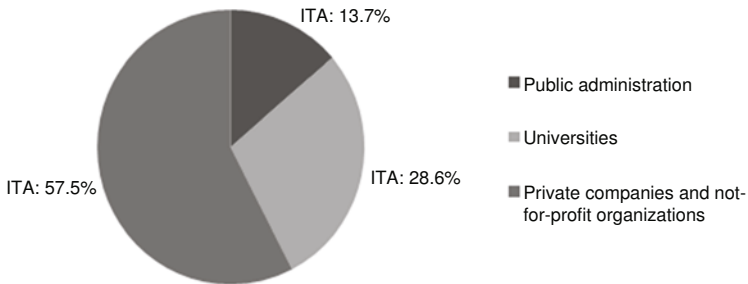
Focusing on selected member states of the EU, Table 3.2 reports GDP expenditure (%) in research and development over the 2007–2011 period. In general, northern European countries – Scandinavian nations, Austria, and Germany – rank at the top. As traditional innovation leaders, they spent in line with the EU long-term goal of 3 percent of GDP. Belgium, France, the Netherlands, and the UK rank in the middle, registering 2.00 to 2.20 percent. Italy, Spain, and some Eastern members like Poland and Hungary rank as moderate innovators, with a percentage hovering around 1.00.

In Eastern Europe, we see a situation developing unlike in the old member states. Comparing R&D spending at the end of the period (2012) with the beginning (2007), Poland's spending rose by 57 percent and Hungary's by 32 percent. In contrast, Spain's rose by just 2.5 percent and Italy's by 9 percent. This modest increase could signal the maturation of technology in Spain and Italy. The gains in Poland and Hungary could meanwhile signal a rapid uptake of technology in new member states,

Table 3.2 R&D spending as a percentage of GDP, selected countries, 2007–2012

Country	Year					
	2007	2008	2009	2010	2011	2012
EU-27	1.85	1.92	2.02	2.01	2.03	2.06
Euro area (17 countries)	1.88	1.96	2.06	2.06	2.09	2.14
Austria	2.51	2.67	2.71	2.79	2.75	2.84
Belgium	1.89	1.97	2.03	2.01	2.04	2.24
Czech Republic	1.48	1.41	1.47	1.55	1.84	1.88
Denmark	2.58	2.85	3.16	3.07	3.09	2.99
France	2.08	2.12	2.27	2.24	2.25	2.26
Germany	2.53	2.69	2.82	2.80	2.84	2.92
Hungary	0.98	1.00	1.17	1.17	1.21	1.3
Ireland	1.29	1.46	1.76	1.71	1.72	1.72
Italy	1.17	1.21	1.26	1.26	1.25	1.27
The Netherlands	1.81	1.77	1.82	1.85	2.04	2.16
Poland	0.57	0.60	0.67	0.74	0.77	0.9
Slovenia	1.45	1.66	1.85	2.09	2.47	2.8
Spain	1.27	1.35	1.39	1.39	1.31	1.3
Sweden	3.40	3.70	3.60	3.39	3.37	3.41
United Kingdom	1.77	1.78	1.85	1.80	1.80	1.72

Source: Author's elaboration; data from Eurostat (2013)



	Public administration	Universities	Private companies and not-for-profit organizations
GER	14.8%	18.0%	67.2%
FRA	16.4%	21.3%	62.3%
GB	9.4%	27.2%	63.4%
SPAIN	20.1%	28.3%	51.6%

Figure 3.2 R&D expenditures at sector level, selected EU countries, 2010
Source: Author's elaboration; data from COTEC, Annual Report on Innovation (2012)

where various sectors reap the benefit from an increase in R&D spending in the broader region. The cause/effect relationship will become clearer as Eastern European countries receive additional funds for innovative projects.

As highlighted in the OECD Innovation Report (2011a), in 2009 research and development intensity in Italy lagged behind other European countries. For the same year, the measure of the overall investments in R&D was 2.77 percent of GDP in the US and 2.01 percent in the EU (27 member states): in Italy it was only 1.27 percent. Significant differences across countries become apparent by disaggregating R&D investments by sector: public, private, and universities. To this end, Figure 3.2 reports the components of R&D spending for 2010 for Italy compared to other European countries.

Regarding Italy, two points are worth noting. First, Italian innovation is highly related to investments at universities and research centers. The same is true in Spain and the UK, though less so in countries such as Germany and France. Second, Italian firms are less prone to invest in R&D than their European counterparts. In 2010, Italian private companies spent about 10 percent less on R&D than did German firms and 5 percent less than French firms.

The comparison with the US is even more striking. In 2009 (data from OECD), public expenditure on R&D in Italy was about 0.57 percent of GDP, while in the US it reached 0.65 percent of GDP. For the same year,

business spending on R&D stood at 0.64 percent of Italian GDP, but 2.01 percent of GDP in the US. Italian innovative potential may be stunted, compared to competitors, by the low level of private expenditure on R&I.

The aggregated data raises questions about which kind of innovation matters. That is, which kind of innovation should a country invest in? Should the investment go to intangible assets, human capital updating, organizational improvements, new machinery and equipment? Figure 3.3 shows the components of R&I investments for 2006, in selected countries.

Looking at the four areas of investment in innovation in Figure 3.3, we see that most countries in our sample introduced innovation through machines and equipment. They also invested in patenting activities. A few nations, such as the US and the UK, invested more in brand

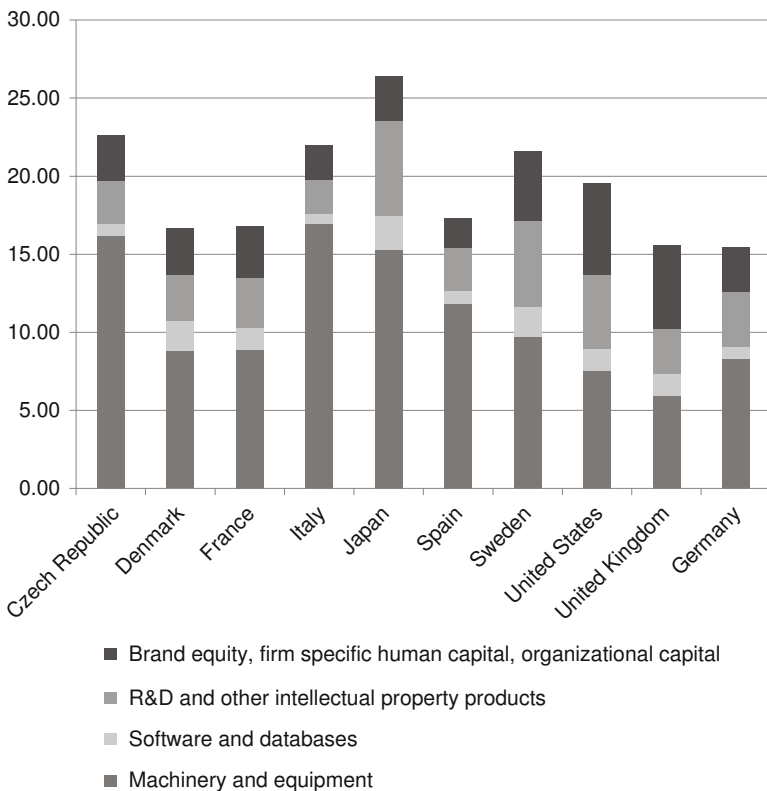


Figure 3.3 Areas of investment in innovation (% of GDP), selected countries, 2006

Source: Author's elaboration; data from OECD (2011)

equity and human and organizational capital than in R&D activities. All invested varying amounts in new software.

In Italy and in some European countries, the gap in innovation probably stems from different causes: inappropriate reward mechanisms for innovative firms; difficulties in establishing private–public partnerships; small-scale projects unable to create a critical mass; and troubles in addressing innovation in the right way. One of the more debated factors hampering Italian innovative potential is the small size of the average firm. In Italy (data from Bank of Italy), an average company has a workforce of 4 employees, compared to 11.1 in the UK, and 13.3 in Germany. At first glance, the scale influences both the availability of resources for innovation and the opportunity for carrying out joint initiatives.

To be sure, this small-scale bias may be a distortion in the data. Most of the time, innovation taking place in small and medium-size enterprises is difficult to capture in official statistics. SMEs' contribution to the innovation system is wide-ranging and includes not only R&D-based new products and services, but also improved designs and processes, the adoption of new technologies, organizational updates, and a variety of innovations not explicitly observable.⁸

In recent years, as the Loccioni Group illustrates, Italian small and medium-size enterprises have increasingly been involved in collaborative projects with universities, research centers, and large companies at both national and international levels. Leaders of local development should not underestimate the spillovers created in such networks. Knowledge created within an enterprise works its way relatively quickly into other enterprises in the network. It has become widely accepted that 'homemade' innovation as well as knowledge-driven innovation can have a broad impact. This is particularly true with SMEs, given access to patenting, intellectual property rights protection, and large-scale research initiatives.

As small and medium-size enterprises carry significant economic weight in Europe, and especially Italy, the means to maximize their innovative impact remains a question of significant interest. Today, these enterprises face the challenge of stiff cost-based competition, but they also face the opportunity to access new markets and knowledge needed to build competitive advantage. One thing in their favor is that, in spite of globalization, geographic boundaries still matter, and proximity to other firms can have a deciding impact on their future.

With that in mind, the way firms cluster together remains of crucial importance as the clustering directly affects access to new ideas and tacit knowledge. There are two different theories about the most effective

type of clusters. The Marshall-Arrow-Romer (MAR) model suggests that a concentration of firms within a particular industry in a region facilitates knowledge spillovers across firms and therefore facilitates innovative activity. The idea is that for firms engaging in similar activities, a number of costs such as those of communication and transactions are minimized, and there is a higher probability that knowledge will spill across firms.

The Jacobs model shows that knowledge externalities do not exist only for firms within the same industry. It argues that the most important source of knowledge spillovers is in fact external to the industry in which a firm operates. The ultimate examples are cities, the locus of considerable innovation because of the great diversity of knowledge resources. According to Jacobs, the exchange of complementary knowledge across diverse firms yields greater returns on new economic knowledge. A greater variety of industries within a cluster promotes knowledge externalities, innovative activity, and economic growth.

The MAR model predicts that local monopolies work better than local competition. The monopoly allows firms to get the most possible economic value from investments in new knowledge. Jacobs (1969) and Porter (1990) would counter that competition spurs firms to produce more knowledge, and in turn more externalities. Competition also implies there are more firms in the knowledge-creation business, and at the same time, more firms enter the market to develop complementary and specialized niches. All firms benefit from such diversified competition, as opposed to monolithic, vertically integrated companies.

Research in the last two decades provides evidence that Jacobs and Porter were right. Diversity and local competition did positively influence industry growth rates in US cities from 1956 to 1987 (Glaeser et al., 1992). In addition, Feldman and Audretsch (1999) found that a region with a diversity of firms working in similar areas but sharing a common science base exhibits more innovation than a region that specializes. They also showed that local competition for new ideas aids innovative activity more than does local monopoly. In any case, when it comes to innovation, the economic and institutional framework matters, as do the connections among companies.

Innovation policy in practice

All the evidence suggests that the prosperity of any country tomorrow will be determined by its willingness to invest in research, knowledge, and innovation today. For local and regional leaders, a variety

of measures should be considered. The measures can aim at boosting innovation by improving the local environment for entrepreneurship and small firm development, increasing the innovative capacities of enterprises, and facilitating the link between and the cooperation among local actors.

First, however, let's look at national and Europe-wide proposals now in the works. Action at the highest levels can complement and strengthen local and regional efforts, even if the two are independent. Globalization, of course, reduces the degrees of freedom governments have in their policy responses, but they can still play an important role with appropriate incentives and regulation, especially in encouraging SMEs to innovate and to implement the strategies required to effectively meet the globalization challenge.

When considering innovation policy to enhance productivity growth, the work of Acemoglu et al. (2006) remains especially relevant in showing that the effect of policies on growth differs based on each country's distance from the innovation frontier. Emerging countries, far from the frontier, can grow fast because they do not bump against diminishing returns on capital. They benefit the most from technology transfer and improved management. Advanced countries, on the other hand, require a different approach by policymakers – investment in education, opening up product markets, making labor markets flexible, creating more robust equity markets, and so on.

Innovation policy and programs in Europe

The EU has recently launched a flagship initiative called 'Innovation Union', which is a part of the broader Horizon 2020 strategy for smart, inclusive, and sustainable growth. By the year 2020, the strategy calls for as much as 3 percent of the GDP of EU countries to be spent on R&D investments. Building on the deficiencies of the 15-year-old 'Lisbon Agenda', the strategy recognizes the important role of innovation in economic growth, and puts people, knowledge, and ideas at the center of the stage.

An adequate supply of highly qualified workers and researchers at the European level remains a priority. By 2020, the demand for highly qualified professionals is forecasted to increase in the euro area by over 16 million people. Meeting a target for this many trained people will require investing in human capital, whether at national or local levels. To this end, the EU Commission has presented several projects aimed at increasing the number of graduating students within the EU, creating about one million new research positions, strengthening the link

between academia and business, and creating curricula tailored to the challenges of the new economy.

European policymakers are meanwhile working to enhance the 'European Research Area', an innovative space where researchers, scientific knowledge, and technology can freely circulate. Programs like the 'Innovative Doctoral Training in Europe', the EURAXESS Job Portal, and the 'European Framework for Research Careers' aim to reduce differences in people's skills across countries and remove barriers between academia and the private sector.

Policymakers at the national level are paying particular attention to sectors such as nanotechnology, biotechnology, renewable energy, and agriculture. Increasing the number of collaborative Euro-wide initiatives is one of the goals of the 2014–2020 programming period. For example, the European Institute of Innovation and Technology supports partnerships of many institutions of higher education, research organizations, and businesses. Thanks to top-notch researchers and laboratories, the institute operates in high value-added areas: knowledge and innovation communities (KIC), sustainable energy (InnoEnergy), climate change adaptation and mitigation (Climate – KIC), and future information and communication in society (EIT ICT Labs).

Smart and tailored strategies are necessary so that sound ideas generated within the R&I system are translated into economic advantages that reach the market. To this end, European policymakers have identified three priority actions, namely improving access to finance, protecting and enhancing the value of intellectual property, and boosting creativity (Cooke, 2010). These actions are common concerns among small and large-scale firms, universities, and research centers.

Knowledge-driven companies meanwhile need a favorable way to raise money at all stages of development, whether at their startup, high-growth, or mature phases. Seed investors and venture capitalists can support these companies with selective investments and by searching for high-value innovative projects to fund. With the aim of creating productive innovation that crosses national boundaries, the EU has helped to define common regulations to harmonize the tax treatment of capital devoted to R&D in cross-border operations.

Of course, there are difficulties in developing a common Euro-wide system of patents and intellectual-property-rights protection. Indeed, different member states often set conflicting rules and priorities given their desire to protect national champions and competitive advantages. As a consequence, it would probably be more effective to build a strategy for enhancing cooperation among the frontrunner member states and

big European firms. Local leaders can play an important role as they are the ones attracting big firm R&D efforts in their areas not only with monetary incentives (tax breaks, etc.) and infrastructure (airports, ports, roads, etc.) but also with the human capital that results from the quality of the local administration. Only the regions that have been successful at attracting talent, investing in schools, education, and culture will be able to offer fertile grounds for research and innovation.

From a policy perspective, the 2011 and 2012 'State of the Innovation Union' reports (2012 and 2013) has outlined a number of ongoing initiatives undertaken by most of the European countries to promote R&I. In recent years, for instance, Spain has passed the 'Science, Technology and Innovation Act' aimed at implementing a long-term National Innovation Strategy. Germany, one of the champions of innovation in Europe, has redesigned its innovation agenda with a new focus on the relationship between societal changes and high-tech developments.

In the same vein, France has committed almost €22 billion in new educational and research projects, under the umbrella of *Investissements d'Avenir*. Particular attention should be paid as well to several other innovative initiatives started in Eastern European countries. For the 2014–2020 period, Poland will benefit from receiving a large amount of European structural funds to support innovation and update the Polish manufacturing system. Slovakia has created dedicated agencies to enhance innovation policies and monitor implementation. These developments indicate the growing intensity of competition based on innovation.

Europe in many ways is not trailing other countries in its efforts to foster innovation. This is shown by the cases of cities like Mannheim, Eindhoven, and Oulu. It is also shown in a quantitative way by the inventiveness rankings that highlight each city's achievements. In that all leaders need a way to measure how they stack up against others, the rankings provide a rough guide to the urgency of action. They also give leaders hard data with which to galvanize action by peers. The rankings come from the OECD Patent Cooperation Treaty (see Table 3.3). Europe has nine out of the fifteen most inventive cities in the world, including four in Germany and three in Sweden. No Italian city is on the list, confirming a cultural reluctance of small Italian firms to apply and spend money for patents to protect their inventions.

To be sure, the use of the number of patents to measure innovation has its critics. The measure works better in some industries than others, it fails to measure innovation in business processes or management, and in high-tech industries patents serve more as a tool to defend turf

Table 3.3 World's most inventive cities

City	No. of patents per 10,000 residents
Eindhoven (The Netherlands)	22.58
San Diego (United States)	8.95
San Francisco (United States)	7.57
Malmö (Sweden)	6.85
Grenoble (France)	6.23
Stuttgart (Germany)	6.18
Boston (United States)	5.80
Stockholm (Sweden)	5.72
Minneapolis (United States)	5.06
München (Germany)	4.97
Mannheim (Germany)	4.95
Göteborg (Sweden)	4.40
Seattle (United States)	4.25
København (Denmark)	3.75

Source: Author's elaboration, data from OECD Patent Cooperation Treaty (2012)

than advance the state of the art. Bessen and Hunt (2004) even show that companies most actively seeking software patents cut R&D spending. Though the measure is crude in some ways, the relative number of patents does provide a reasonable estimate of inventiveness and a good proxy for a locale's ability to innovate. Some evidence (Katila, 2000) suggests patent intensity also indicates the presence of more radical innovation, and more radical leaps in progress can lead to competitive advantage.

Local and regional leaders could be lulled into thinking they need to take no action at all, as so much action to promote innovation is happening at the national and Europe-wide level. Just the reverse remains true, as the case of Luccioni made clear. Local initiatives may not get national or EU startup funds to facilitate innovation, but local business, government, and citizen leaders can rise to the occasion to spur innovation of their own. Measures of crucial importance at the local level include many we have already touched on: financing via loans and venture capital, education and help in protecting innovations, and a vast array of partnerships that can create products and services of the future like sustainable housing and energy management. To the extent that the benefits of national initiatives reach a given locale or region, local leaders have the opportunity to dovetail their efforts with more centralized ones.

Innovation policy and programs in Italy

Italy today serves as an example of a country that has let efforts to drive innovation lag. As a nation, it has recently been unable to relaunch a long-run virtuous cycle of innovation. Private projects are too disconnected and dispersed to reach critical mass. Public initiatives get cut short and remain short-term oriented. Universities and research centers remain reluctant to transform themselves into more internationalized and autonomous institutions. The link between research, innovation, and market exploitation is weak, and as a consequence innovators have trouble translating ambitious projects into economic growth.

This less-than-optimal state of affairs appears even clearer if we look at some recent data.⁹ In 2009, Italy is ranked the lowest among industrialized European countries for R&D spending. That spending trended downward through the second half of the 1990s. In 1990, Italy invested almost 0.5 percent more of its GDP in innovation than did Spain, whereas 20 years later, Italy was outspent by Spain by 0.1 percent of GDP. Moreover, in 2010, Italian employment in knowledge-intensive activities reached 33 percent of total employment, compared to 35.1 percent for the EU as a whole.

The Italian case presents a sort of paradox worth noting by leaders at both the national and local levels. At a first glance, the quality of Italian researchers remains high, delivering results on par with the highest international standards. The portion of the population pursuing PhDs in Italy, for example, is in line with the European and US averages. The number of international scientific copublications is lower than the EU average but higher than in the US. In 2009, moreover, the number of scientific publications within the 10 percent most-cited publications worldwide was 12.1 percent of total scientific publications in Italy, 11.6 percent in the EU, and 15.3 percent in the US.

But the Italian case shows how a country can struggle to implement a coherent innovation strategy countrywide that includes both public and private entities. In 2009, the number of researchers per thousand people in the labor force was 3.8 percent in Italy, 9.2 percent in the EU, and 9.2 percent in the US. In 2006, less than 50 percent of individuals holding a PhD in Italy had a permanent job, with most of them not always engaged in carrying out proper research. For the same year, one out of two PhD researchers worked in a field connected to their studies, with the lowest level registered in architecture (34%) and medicine (35%), and the highest level in mathematics (65%) and physics (74%).

This situation raises another issue all leaders have to watch for: a mismatch between skills and occupations. A person's investments in education, research, and training may not be appropriately rewarded. This causes an asymmetry between the cost of acquiring knowledge and the abilities and benefits (material and not) associated with its exploitation at the individual level. This has an unfortunate downside: the increased chance that Italian students and researchers will be forced to migrate to other countries to practice in their chosen field. Another country then takes advantage of Italian human capital expenditure, and the productivity of investment in research declines.

Historical economic divides among geographic regions, whether in Italy or elsewhere, can play a crucial role in innovation. For example, some northern Italian regions work successfully to keep up with their more advanced European counterparts, but most of the regions in the South face ongoing difficulties in not falling behind. Southern regions instead perform on par with much-less-developed areas of Europe. Almost 50 percent of the workforce that operates in the research

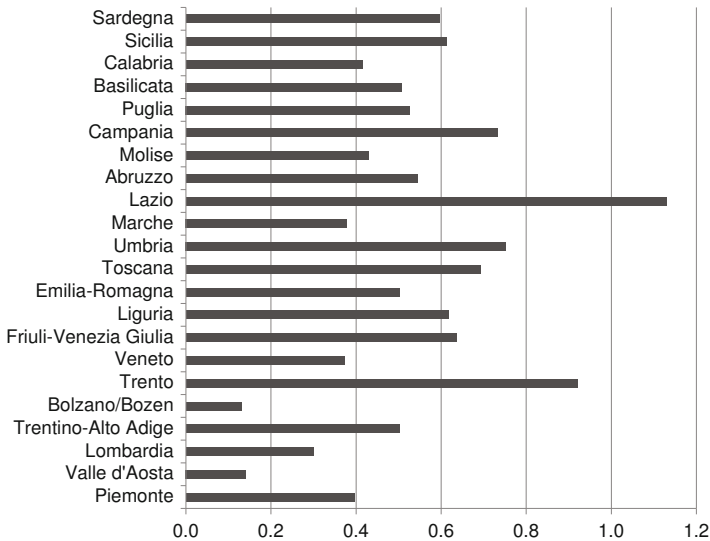


Figure 3.4 Regional expenditures on R&D (% of regional GDP), Italian regions, 2011

Source: Author's elaboration; data from Istat (2013)

industry in Italy is located in just three regions (Lombardy, Lazio, and Piedmont).

Figure 3.4 illustrates another problem that local and regional leaders struggle with: The distribution of R&D spending is uneven across regions. In Italy, in 2011, the variation was striking. Even if the traditional north–south divide seems to be present, with regions in the north at the top and southern regions at the bottom, the data show other trends.¹⁰ Apart from Sicily, most of the highly ranked regions are more heavily developed in terms of both population and presence of firms (e.g., Campania, Lazio, Piedmont). Regions like Friuli and Trentino probably benefit from a broader amount of autonomy granted by special statutes¹¹ as well as from transnational cooperation projects, given their location next to other European countries. This shows how leaders of less-developed regions need to step into the breach to compensate in some way for the lack of central funding.

This is especially true in the light of other data. Figure 3.5 shows the percentage of innovative Italian firms undertaking patenting activities. Firms in the Center–South regions outperform their Center–North counterparts. The center firms (at 20.5%) and the southern ones (at 13.2%) patent at well above the national average (11.9%). The details on the composition of patenting activities, of course, are crucial to draw firm conclusions. Nonetheless, the data make the point that business leaders need to monitor their firms' creation and protection of intellectual capital and act in that way to create more value for their locales.

Moving from macro observations to micro firm-level data, the appropriate conclusion about the situation in Italy changes somewhat, demonstrating that local leaders need to take the time to understand their local conditions. Indeed, a significant number of Italian firms operate relatively intensive R&I activities, albeit depending on sector and cluster. Figures 3.6 and 3.7 show disaggregated data collected by survey-based analysis by the Bank of Italy on firm innovation with and without R&D spending. In general, Italian firms innovate more through R&D than not.

Further showing the need to take into account local conditions, over the 2008–2010 period in Italy, almost 64.1 percent of large companies (more than 250 employees), 47.1 percent of medium-size business (50–250 employees) and 29.1 percent of small businesses (fewer than 50 employees) introduced some sort of innovation (Istat, 2012).¹² The size of companies also influences the opportunity to cooperate with research centers and universities as well as participate in innovation networks.

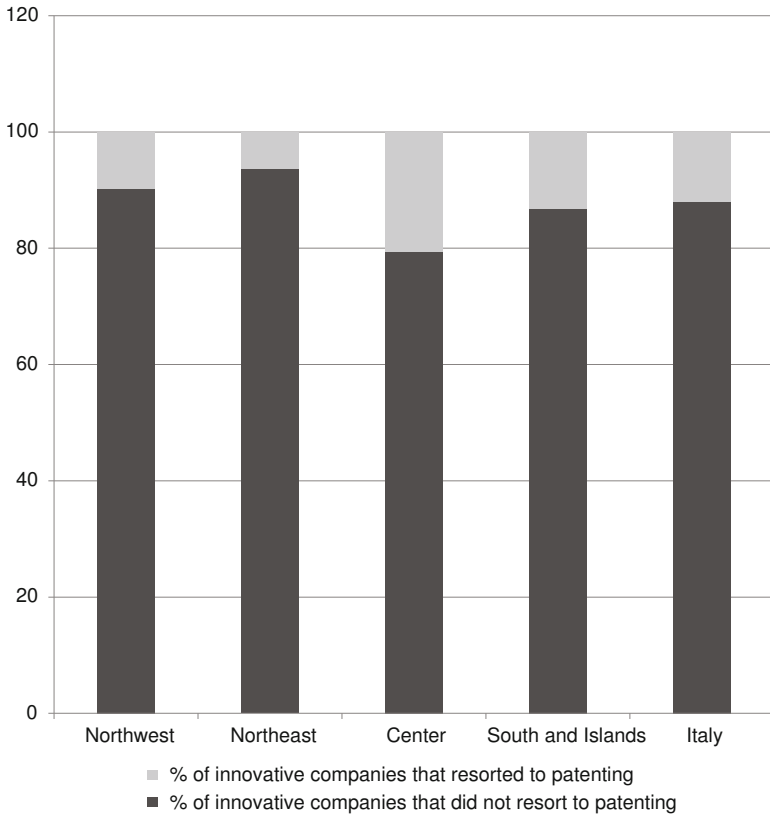


Figure 3.5 Italian innovative companies, % of patenting activities at macro-regional level, 2008–2010

Source: Author's elaboration; data from Istat (2011)

Figures 3.8 and 3.9 illustrate the Italian situation, showing that the room for improvement is vast. Local and regional leaders could have an impact here by facilitating the establishment of networks of SMEs that can approach research spending in a coordinated way.

Given that micro, small, and medium-size enterprises make up a large part of any country's economic system – and especially so in Italy – data on the performance of SMEs is of particular interest. To this end, consider survey-based data collected *ad hoc* by the Institute *Fondazione Impresa – Ricerca sull'Innovazione* (2010) for a sample of 600 Italian SMEs operating in different sectors in 2008 and 2009. Only one of three Italian SMEs in the survey enacted some form of

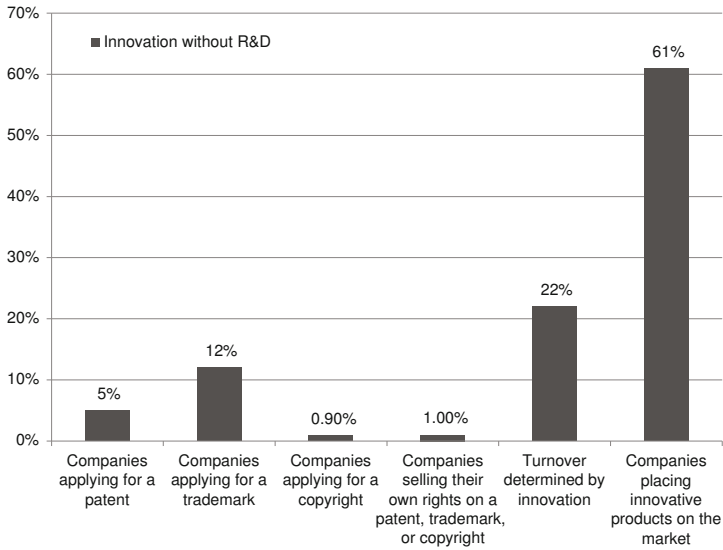


Figure 3.6 Innovation by Italian firms without R&D, 2011

Source: Author's elaboration; data from Bank of Italy (2012)

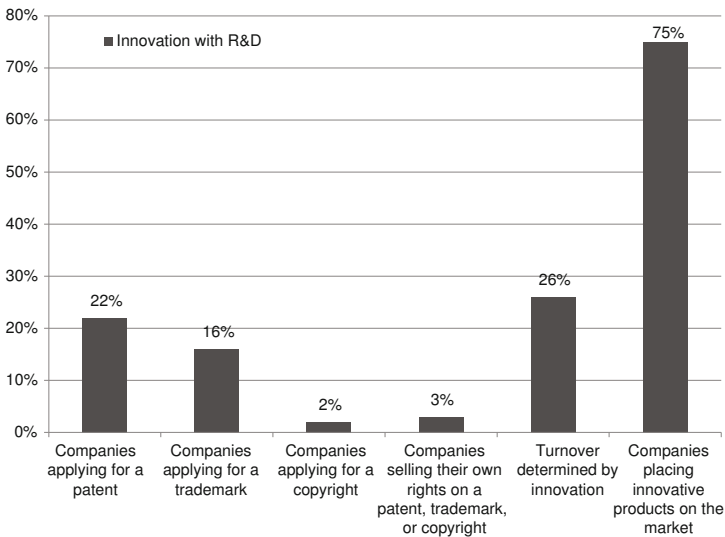


Figure 3.7 Innovation by Italian firms with R&D, 2011

Source: Author's elaboration; data from Bank of Italy (2012)

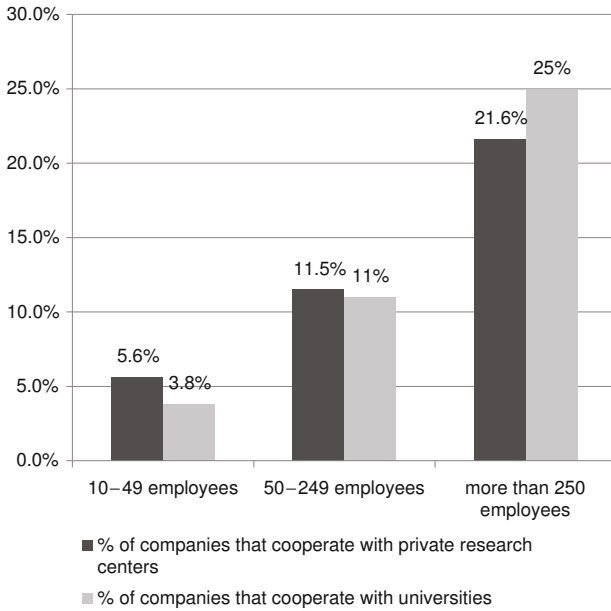


Figure 3.8 Cooperation between firms and research institutions, 2008-2010
 Source: Author's elaboration; data from Istat (2012)

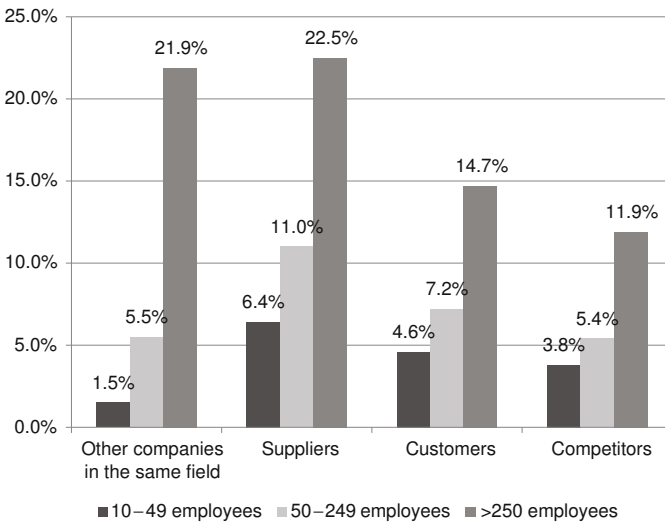


Figure 3.9 Innovative companies part of innovative networks, 2008-2010
 Source: Author's elaboration; data from Istat (2012)

innovation in its business processes over the period of observation. Moreover, most R&I activities undertaken by these enterprises related to endogenous innovation, namely innovation introduced within the company by workers or owners. Indeed, less than 27 percent of innovation occurred during external cooperation with other firms or public entities. We can speculate that the same insularity is common in SMEs in many other countries. This again shows room for improvement.

The Italian case illustrates another problem for local leaders intent on spurring innovation. Companies are not only reluctant to pursue innovation in research networks. They are also reluctant to connect with other companies in exchanging or improving their existing innovation strategies. This can be a particular hindrance in creating new value through innovation, given that breakthroughs that have a big impact on firm performance hardly ever result from individual activity, but rather come from incremental work resulting from the efforts of a number of operators (Cafaggi and Iamicelli, 2007). This underlines the importance of networks for the spread of innovation, both to foster direct exchange and positive, indirect externalities. To be sure, companies do want to protect their proprietary technology, but they risk going too far – to the detriment of the firm and local economic development.

A recognition of the importance of networks has arisen in the agricultural sector. Innovation has evolved from a traditional linear model of technology transfer – scientists to farmers – to an interactive model. Innovation is more of a social process, in which ‘participation’ by all those in the system is the byword. Innovation is more bottom-up instead of top-down. This in part stems from the reality that farming is much more diverse than in the past. Many more people play a role, from researchers and consultants to trainers and farm-operations people. All can suggest actions and experiments and adaptations to the work. Thinking about innovation in this systemic way from the start helps people overcome geographic barriers to sharing ideas, knowledge, and inventions.

To make the point about underinvestment in innovation in another way, see Figure 3.10. The vast majority of surveyed SMEs in Italy spends less than €10,000 per year on R&D. This can be due to two complementary factors in common with many firms around the world: The firms involved in innovative activities are too small for starting worthwhile projects, or the SMEs prefer to undertake many minor R&I initiatives instead.

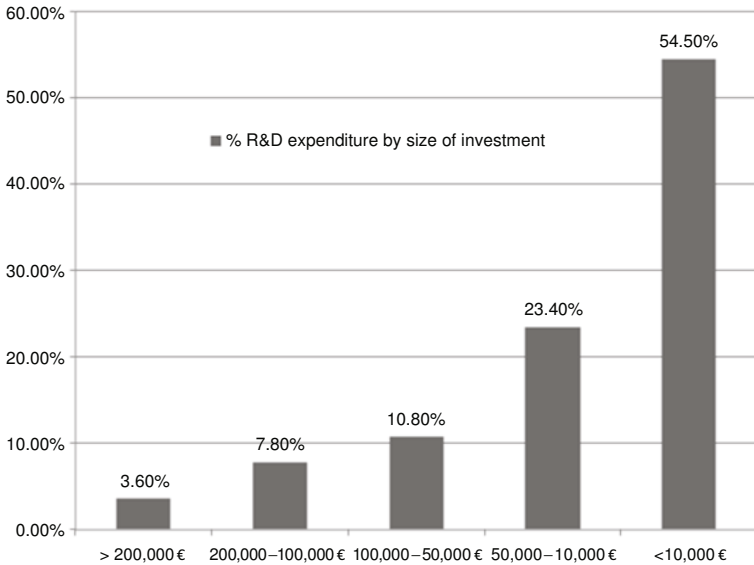


Figure 3.10 R&D expenditures, Italian SMEs, grouped by size of investments
Source: Author's elaboration; data from *Fondazione Impresa* (2010)

Culture may explain some of the Italian situation, although SMEs may act similarly across countries. Italian SMEs, at least those analyzed here, do not attribute particular importance to protecting innovation through patenting and investments in intellectual property rights. According to survey responses collected by *Fondazione Impresa*, more than 64 percent of innovative SMEs believe that patenting 'is not necessary' for their entrepreneurial activity; 16.5 percent do not patent because they have already sold the innovation to other large companies; and 11.2 percent discard the option of patenting because of the difficulty of exploiting the patent in the market or applying it on a large scale. We can speculate that, in addition, some innovations are regarded as trade or process secrets, and public patent protection might reveal secrets to competitors.

The behavior of SMEs is particularly important for local and regional leaders, as the vast majority of firms they might influence fall into this size category. The SMEs are also less equipped to embrace change and development through innovation, and they do not always perceive innovation as an engine and catalyst of growth. Instead, innovation is often considered a marginal business priority, so much so that most companies invest minimally and lack specific professionals entrusted

with supervising innovation. An exception is Zambon Group, a pharmaceutical and chemical firm that has grown to 2,600 employees in 15 countries. Elena Zambon launched the *Benvivere* (Living Well) initiative for enhancing quality of life at work, improving the comfort and appeal of shared work spaces. She sought a welcoming environment for individual expression and creativity. The *Benvivere* initiative led to formal initiatives to spur creativity, including the so-called Creativity Office and Listen Room.

Company managers may believe that R&I is an autonomous process they would only engage in by themselves, without resorting, like Loccioni, to the cooperation of powerful knowledge-networks, be they universities, research institutions, or other companies operating in the same or closely-related fields. They may feel this way in part because of the complex of bodies, regulations, and initiatives operating in this policy area. In Italy, leaders of all locales face duplication and excessive administrative burdens, an issue we touched on in the last chapter. As a result, private incentives to build a more innovative environment are discouraged and, in some cases, hampered. For these reasons, a long-term innovation strategy would have to provide for systematically organizing multiple R&I projects. By simplifying procedures and reducing the number of entities involved, the power of ideas might better realize its potential.

Italy has taken some initiatives at the national level that will pave the way for progress in innovation. For instance, the Italian Institute of Technology (IIT) was established and continuously supported in creating bridges between innovation clusters, academia, and private actors. The IIT is specialized in high-quality research areas such as advanced robotics, neuroscience, brain and cognitive sciences, nanostructures, pattern analysis, and computer vision. Since the beginning in 2003 – and despite much criticism of the choice of investing resources to start a new research center as opposed to supporting other existing best practices and also of the lack of research funding coming from the private sector – IIT has been committed to promoting top-level R&I, generating more than 3,000 publications, producing more than 101 inventions and 99 patents, and employing about 1,000 researchers from around the world.

Local and regional leaders should encourage national leaders to implement more such programs. A good opportunity would have been the program *Industria 2015*, whose main sponsor was the Italian Ministry for Economic Development. Unfortunately, poor management of the project and frequent changes of governments in Italy in the past few years did not allow, at this time, a successful implementation of *Industria 2015*.

New policy proposals to consider

Innovation that contributes to new processes, products, and organizational solutions can help locales and regions throughout the EU compete anew with other global players. We have touched on many helpful initiatives in the works that provide starting points for unlocking this unexplored potential. Some of these are national efforts. Others suggest options for local, regional, and citizen leaders to take action. Let's now look at some additional proposals for the future. We will start with national-level actions leaders at all levels would do well to support to assure R&I activities contribute to economic growth. We will then look at actions that leaders at the local, regional, and firm level should support to spur local development.

An example can clarify how these 'macro' and 'micro' actions can work together. Consider the best way to support a research team involved in studying robotics for industrial applications. From a macro point of view, national leaders can encourage research by defining funding opportunities, giving members of the research team a chance to enter academia, and favoring cross-border sharing of knowledge with other countries through countrywide exchange programs. From the micro point of view, local and regional leaders can create incentives for innovation in the long run. Moreover, leaders of companies, large and small, can exploit results from local and regional networks for product development, creating economic value from the initial investment in knowledge by local firms and research institutions.

The following proposals offer a robust overview for European and Italian policymakers. They offer selected actions that are low-cost and provide the high value addition expected from R&I efforts. With the creation of the appropriate incentive mechanisms at individual, firm, and organizational levels, these proposals offer leaders at all levels ways to stimulate the creation of valuable solutions while reducing efficiency losses.

Policy actions at the macro level

At least four main obstacles to innovation are implicit in our discussion so far. The first is the small scale of SME innovation projects and the narrow scope of their research. The second is a weak or non-existent integration among firms, research centers, and academic institutions, which prevents SMEs from taking full advantage of R&I investments. The third is a lack of strong incentives for students and scholars to pursue R&I projects, which in turn decreases both the short- and long-term

productivity of human capital. The fourth is an absence of workable financial mechanisms, such as venture capital, to fund innovation, which of course limits the availability of money for high-risk, high-potential projects.

With these obstacles in mind, let's look at actions that national and European leaders can take to make a difference to both local and national economies. These then provide background support for initiatives by local, regional, and citizen leaders, whether in business, government, or NGOs.

Action 1 – Concentration of R&I activities

Sometimes funding for research gets spread among many entities even when the research conducted is similar. The result is that money spent, often, has far less impact on R&I than it might. In Italy, the Italian Council of National Research (CNR), which coordinates the allocation of all public funding for research, lists more than 100 research institutes receiving support. This is not *a priori* a problem, because each research organization can be involved in different activities and sectors. But the risk is that the money is not only spread too thin among many private and public entities, but duplication grows and economies of scale and opportunities for cross-fertilization shrink.

Getting the right critical mass at each institution requires policymakers to create a framework to support research clusters, merged organizations, and formal relationships between research centers working in complementary fields. Only the top-tier and most advanced research efforts should be supported and funded. This would minimize R&I duplication between public and private entities and facilitate the combination of similar research initiatives to create a critical mass.

In recent years, Italy has partially started down this route, bolstering the role of research clusters by supporting dedicated spaces called *Parchi scientifici e tecnologici*, or scientific and technology parks such as the *Kilometro Rosso* mentioned in the last chapter. The progress on this front can be observed in Table 3.4, which shows the number of research institutions (universities, private, and public centers) and related research clusters for some representative sectors for the year 2012. The clustering points the way to avoiding the scattering and spreading of funds among myriad small centers. This in turn prevents an inefficient allocation of scarce resources that does not significantly improve the quality of research.

Among recent examples of consolidating research efforts is the association *Italia Start*²⁰. In 2012, a group of young entrepreneurs and investors created an association that provides an independent platform for

Table 3.4 Research institutions and research clusters by sector of research, Italy, 2012

Research sector (industry)	No. of research institutions	No. of research clusters
Pharmaceutical	163	–
Mechatronic	156	2
Food and Taste	132	27
Biomedical	114	4
Chemical	101	–
Renewable energies	78	3
Automotive	62	–
Logistics and Transports	57	5
Biotech	55	4
Aerospaziale	44	4
Fashion	34	–
Nautical	25	5
Footwear	19	–

Source: Author's elaboration, data from 'Map of Innovation in Italian companies', *Confindustria* (2012)

sharing knowledge and spreading a 'competitive entrepreneurial ecosystem' in Italy. More than 420 members are involved daily in promoting R&I activities and supporting joint initiatives. *Italia Start^{UP}* works in five areas: mapping of innovation, institutional relations, synergies between startups and industry, entrepreneurial education, and events and communications. It is an example of spontaneous collaboration of new and long-established companies, mostly highly innovative SMEs, to spread ideas and stimulate positive externalities. It also suggests a possible opportunity for local and regional leaders to encourage peers in business to work together to create the critical mass necessary for constructive research.

Action 2 – Integration between research institutions and private companies

To turn ideas into viable business products, it is important to create long-term profitable synergies between research institutions and small, medium-size, and large businesses. By strengthening the relationship between firms and research organizations, a given system can promote sharing of tacit and explicit knowledge, innovation through patenting, and research-based industrial applications. As at Loccioni, this can represent a strategic tool to enhance economic growth.

Let's consider, for instance, research activities that can serve micro and small companies. As we have previously observed, small enterprises don't have the wherewithal to conduct significant R&I projects. Nor do they have the people and money to play a big role in innovation networks. SMEs, in fact, prefer to undertake autonomous innovation. They often work as islands, without collaborating with others. A macro action, therefore, should create the environment for large-scale projects and joint initiatives among SMEs. Local and regional leaders could contribute to this effort.

One way to integrate business and research networks would be through programs to offer students a PhD through work within a company. This is one of the main objectives of the Marie Skłodowska-Curie Program launched by the EU. In Italy, a cooperation agreement was signed in 2011 between the main association of Italian entrepreneurs (*Confindustria*) and the governing body of Italian universities (*Conferenza dei Rettori*). The universities and firms can now work together to help university students enter the private sector at different stages of their educational life. The University of Siena and Bocconi University (Milan) are pioneering this approach, combining research, education, and innovation.

SMEs, however, would benefit from more tailored policy actions for participating in these programs. The universities could create PhD programs that require the participation of at least one SME. This integration of efforts could be promoted through the creation of institutions comanaged by both firms and public entities. This offers another opportunity for leaders to intercede to encourage local and regional businesses to participate in developing the human capital that creates the basis for local economic growth.

The EU targets better integration in the agricultural sector, providing incentives to national agricultural innovation systems (AIS) and to agricultural knowledge systems (AKIS). A national AIS, as defined by World Bank (2006), is 'a network of organizations, enterprises, and individuals focused on bringing new products, new processes, and new forms of organization into economic use'. AKIS are formally defined as 'a set of agricultural organizations and/or persons [. . .] engaged in the generation, transformation, transmission, storage, retrieval, integration, diffusion, and utilization of knowledge and information, with the purpose of working synergistically to support decision-making, problem solving, and innovation in agriculture' (Röling and Engel, 1991).

The link between private firms and research institutions could be further reinforced by incentivizing university spinoffs. While they

start from university-related research, spinoffs provide researchers with a more flexible environment than universities and research centers, allow them to fully exploit patenting activities and potential industrial applications, and increase their ability to raise private funding and sign cooperation agreements with firms. Spinoffs have become increasingly important in the Italian system, more than tripling to over 800 in the last decade.

Action 3 – Special-purpose funding mechanisms for R&I

As we stressed in the last chapter, one of the elements most hampering the diffusion of R&I activities is the shortage of financing. Banks and financial institutions give support to the most secure and promising projects, but they don't play much of a role in funding more marginal, ambitious, and risky initiatives. The degree of uncertainty and the long delays in delivering financial returns discourage the availability of a broad set of funding mechanisms for risky projects.

Innovative projects pose several risks that discourage help from mainstream financiers. The innovators have to identify the potential gap in the market where the new product is going to be positioned; innovative activities imply the acquisition of expensive machinery and intangible assets; investments in developing new ideas may require highly qualified and often scarce human capital; information on SMEs and their projects is often incomplete; and funders worry about adverse selection and moral hazard. For SMEs, these obstacles are hard to overcome. SMEs thus suffer from a chronic lack of financial resources.

To overcome these obstacles, new or revived special-purpose mechanisms can be very important. Equity, in the form of private equity, is an especially effective way of financing innovation. In general, venture capitalists are willing to share company risks by providing money in return for acquiring control of equity.¹³ Moreover, they are inclined to support innovation for a long term in return for receiving big returns. The role of venture capitalists and business angels is particularly important for startups. Figure 3.11 illustrates venture capital investments as a percentage of GDP for selected European countries, distinguishing between early-stage and other investments. For comparison, US venture capital investments range between 0.40 percent and 0.45 percent of GDP.

As a policy, national and European leaders need to further encourage venture capitalism. One idea is to involve universities and research centers as small venture capitalists. Research institutions have both the technical skills to assess business projects and the screening ability to

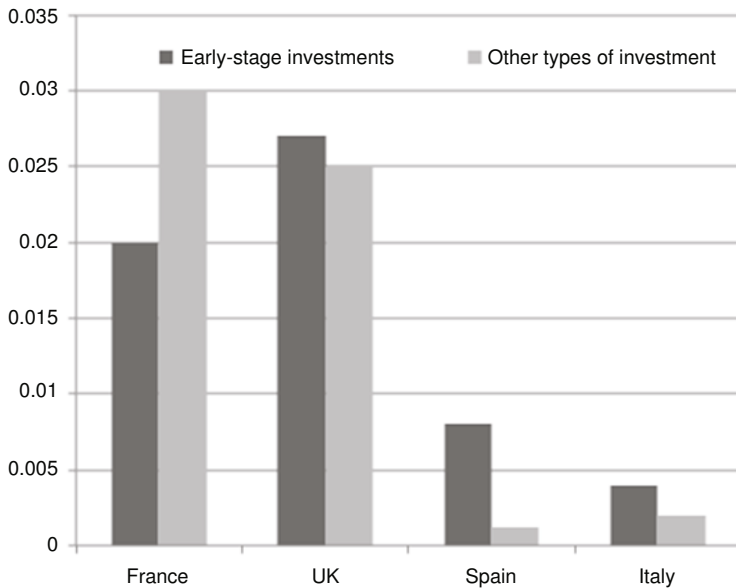


Figure 3.11 Venture capital investments (% of GDP), selected countries, 2009
Source: Author's elaboration; data from Eurostat (2011)

evaluate the merit of innovation initiatives. When projects are started under their wing, as in the case of university spinoffs, research institutions are able to provide the initial specialized support to help new enterprises. Moreover, research institutions can become a bridge between private companies and financial institutions by undertaking the role of connectors and guarantors, at least partially.¹⁴

In addition, policymakers could promote flexible financing instruments for R&I activities, including mutual guarantee institutions as discussed in the last chapter (e.g., in Italy, *Confidi*). Whether or not a firm would receive a guarantee would depend on the innovative traits of its activity. Local and national funds that guarantee loans by *Confidi* could also be used as an incentive to spur R&I. For example, a portion (e.g., 30%) of public funding obtained by *Confidi* for guarantees could be allocated to loans to firms that are using the loans for R&I. This could become a policy tool to foster R&I at the micro level.

In the meantime, the screening and monitoring ability of mutual guarantee institutions could be used for assessing the innovative potential of private initiatives, a service that could provide an additional evaluation other than that carried out by banks and financial institutions.

Local leaders would then be in a unique position to leverage the data to assess the innovative potential of firms, industries, and initiatives. This would offer a roadmap of trends and help identify elements of success, increasing the possibility of picking winners and avoiding wrong policies and investments.

Policy proposals at the local and regional level

Unlocking the innovative potential of a given economic system implies not just big, overarching initiatives but a multitude of smaller ones. Firms, research centers, regional and local authorities, and citizen leaders can promote knowledge-driven activities. Many smart initiatives at the local level can make the difference as a whole. Let's now look at three 'micro' actions for R&I that can make that difference – and suggest how local leaders can play a vital role.

Action 1 – Promoting integrated research institutions

A good Italian example of a successfully integrated research institution benefiting from the advantages of consolidation and concentration is the *Istituto di Genetica e Biofisica Traverso* (IGBT). Founded in 1962 in Naples by renowned geneticist Adriano Buzzati Traverso, the institute has 47 researchers from the Italian Council of National Research and more than 150 scientists among PhD students, post-docs, and senior researchers. A top-flight international institution, the institute carries out research in molecular elements of human disease, from genetic mechanisms to evolutionary ones. It uses a number of experimental models (e.g., unicellular, tissue culture system, etc.).

One of the key strengths of the institute is its ability to bring together and share research results. In recent years, the IGBT has been able to set up a significant number of high-profile collaborations with Italian and foreign research institutions, including 21 agreements with US-based institutes, 17 with those in the UK, and 11 with those in France. IGBT has benefited from several exchange programs, a wider spectrum for the dissemination of its activities, and new insights from sharing knowledge and ideas.

The fully integrated perspective pursued by IGBT has allowed it to focus financial resources, avoiding dispersion and limiting overlapping projects. From 2005 to 2010, its R&I activities have been financed by different entities: European, national, and regional public institutions; international agencies; and private foundations. With this support, IGBT has continued to operate with high quality standards, in spite of constraints stemming from global economic turmoil.

IGBT showcases how public–private partnerships can drive important R&I activities. Highly qualified industrial partners work in combination with the IGBT to bolster research and innovation in different ways, from biotech services to innovation in food products, clinical-stage discovery, production and distribution of molecular biology, development of liquid-handling systems for laboratory automation, and discovery of new ingredients for agrochemical applications.

The presence of a well-integrated research institution can be a big draw for related R&I entities. Consider the relationship between IGBT and the ‘Telethon Institute of Genetics and Medicine’ (TIGEM), a world leader in the field of genetics. Telethon moved to Naples to be close to the IGBT and today has 12 research groups with 200 members. With the two institutions as neighbors, they generate positive externalities and share tacit and explicit knowledge. They in effect form the basis of an R&I cluster, spreading their beneficial effects within the community, nation, and abroad. The concentration of researchers in the same city and on the same premises creates opportunities for exchange, sharing, and improving knowledge that crosses many boundaries. In addition, the two institutions cooperate with others in Naples. TIGEM offers PhD courses in genetics and biology in collaboration with the University of Naples Federico II, Seconda Università di Napoli, and British Open University.

A European example of a similar kind is the Zurich Graduate Institute, a Swiss institution active in the field of applied sciences and engineering. The institute has been able to combine exceptional research with concrete innovations to place products on the market. It does this by establishing a set of joint initiatives with private companies in which PhDs work for firms and receive cofunded scholarships. The institute has undertaken such collaborative programs at the international level as well, amplifying the spectrum of knowledge sharing and influence at the institute.

At least three micro interventions are required to effectively promote well-integrated R&I activities. First, research institutions need to select areas of research that best provide the opportunity of exploiting economies of scale and cross-fertilization of ideas and knowledge. Second, private companies need to create, on their own and by means of their associations, selected R&I plans for addressing their efforts and resources toward selected initiatives. Third, the concentration of research clusters in particular places needs to be encouraged to gain the value of R&I districts. Local leaders play a distinct role here, in facilitating relationships between research institutions, as in the case of Telethon and IGBT.

Action 2 – Bridging the gap between firms and academia

Reducing the distance between the educational and research system and private firms unavoidably requires sector- and firm-specific actions. Indeed, company leaders often have more freedom to propose long-term connections than do colleges and universities. From the firm's point of view, the academia–business link can improve the competitive advantages of both the firm and the educational institution. From a public point of view, such relationships can facilitate the exploitation of unexplored innovative areas, advancing the technology frontier of a given sector, region, or even an entire country.

In this respect, the Loccioni Group is a leader. It showcases the value that can be created through mutual and durable cooperation between private entities and institutions. In recent years, the family-owned firm has contributed to creating innovative research clusters, achieving remarkable results in both research and business. Along with relationships built for the Leaf project, the group has upgraded R&I activities through explicitly building relations with the educational system in several complementary ways.

Internally, Loccioni has developed a top-level research center focusing on R&D in robotics, energy, automotive, environment, and home furniture. To improve knowledge sharing and enlarge the spectrum of activities in its research center, it has also founded U-Net, an innovation network with 28 partners, including research centers and universities from Bologna to Brazil, from France to Finland, from Spain to South Carolina. Indeed, in spite of its provincial roots and its small size, Loccioni draws knowledge and innovation from around the world.

The company has established several agreements with Italian and European universities and recruits students for traineeship programs, which typically lead to an employment offer. Loccioni also sponsors a new post-graduate program in 'Mechatronic and Management', designed for young engineers.

Loccioni is also very active with local universities. It offers direct grants to the best students at the University of Ancona, helping them to develop a thesis project in an area of interest to the company. Most of these students end up working for the company. It has decided to outsource most of its information technology applications and services to the University of Camerino. Recently, thanks to the strong cooperation with local hospitals, the company developed a 'robot-nurse' that prepares toxic chemotherapy drugs automatically, without the assistance of a human. After a prototype period, the nurse has taken up residence in 12 hospitals spread across Italy.

Outside Italy, an example of strong networking between academia and business has emerged in Cambridge (UK).¹⁵ Cambridge University acts as a connector between research and innovation. It directly and indirectly influences the setup and clustering of high-tech industries in its neighborhood. The high-tech district in Cambridgeshire is one famous example. Silicon Fen (so called because it lies in the southern part of the English Fenland) is one of the most important technology clusters in Europe, home to numerous high-tech businesses focusing on software, electronics, and biotechnology. The company in the area that triggered the interest in technology was Acorn Computers. Connections with Cambridge University are very strong. Starting in 1995, the university established a special-purpose fund for seed investments in university-related companies. Today the university holds equity in about 68 companies, employing more than 1,700 people.

Other examples are Silicon Wadi in Israel, considered second in importance only to Silicon Valley in California and with strong links to Technion-Israel Institute of Technology, and Route 128 in Massachusetts with strong links to MIT. In New York, the Applied Sciences initiative has attracted Cornell University and Israel's Technion to invest \$2 billion to establish an innovative graduate-level college and tech startup hub on the 12 acres donated by the Bloomberg administration on Roosevelt Island. This will reinforce the existing Manhattan tech cluster known as Silicon Alley. According to New York City officials the project will create more than 48,000 permanent jobs, generate \$23 billion in economic activity and help launch about 1,000 spinoffs in the next 30 years.

The current gap between the education system and private firms remains significant in many countries, especially Italy. Local and regional leaders of all kinds can step in to bring the two parts of society together for mutual benefit. Of course, macro programs will be important to help ease bureaucratic and administrative burdens. But even on the individual level, people armed with the resolve to create more value through connections can come up with brave and unconventional solutions linking R&I to product development and commercialization, once again creating premium value locally.

Action 3 – Smart governance

Other than the macro and micro actions mentioned, R&I activities can be fostered by undertaking novel solutions in terms of governance, networking, and the overall creation of value. Indeed, the power of ideas can create fresh opportunity when applied to unexplored fields. Investments can be targeted at testing the feasibility of different

processes, methodologies, and operating systems. This problem solving can come from both public and private entities. Local governance can play a crucial role. Public and private entities operating together can focus knowledge sharing by setting common priorities and actions, advancing the local technology frontier by focusing on high-return projects and sectors, and helping SMEs to find the best innovative networks and partnerships.

In Italy, an historical and well-documented example of smart local governance is *Etna Valley* in Sicily, dating back to the 1980s. This technological district benefited from the establishment in 1987 of STMicroelectronics, a global high-tech firm. Over the years, the area has provided a benchmark for work in electronics, robotics, and mechatronics. The area today has a network of more than 160 companies, public research institutions such as the National Institute for Nuclear Physics, three universities, a technology and scientific park, part of the activity for the Italian Council of National Research, and the Institute for Microelectronics and Microsystems. Despite some recent challenges, the *Etna Valley* spirit has contributed to the long-term establishment of activities like elite university courses and the operation of global companies with local roots (e.g., NTET, SIELTE).

A more recent and significant example of smart governance at the local level is the case of *Marche Innovazione*, a large-scale R&I project developed by the Marche region, a dynamic area located in the center of Italy, where industrial districts and innovative spirit are embedded in the local culture. In recent years, regional authorities have designed a place-based innovation strategy fully integrated with national and international initiatives. The first phase of the *Marche Innovazione* strategy has been mapping all of the innovative players in the region. Thanks to the so-called *INTESA* initiative, the region has collected information on nearly 500 companies, identifying hundreds of innovative businesses.

After the mapping phase, regional policymakers selected five strategic themes: sustainable architecture, innovative home appliances, new green-friendly products 'Made in Italy', energy and environment, and industrial automation. To each innovative firm belonging to one of these areas, the regional government has provided support in terms of knowledge-exchange programs, knowledge sharing initiatives, experimentation with new technologies, and connections with primary research institutions and universities.

In other words, this smart project has successfully tackled one of the critical barriers that prevents small and micro firms from pursuing effective innovation, namely a lack of contact with other

innovation-fostering institutions, be they universities or other companies. In addition, the regional authority is providing funds to companies that intend to introduce new product or process innovations in cooperation with other firms and research institutions. The initiative seems to be bearing fruit, given that today this region has the most research spinoffs in Italy.

Another interesting initiative undertaken within the *Marche Innovazione* framework is the creation of an online market of innovation where demand and supply for innovation can match. More precisely, research institutions working on particular innovative technologies can make contact with businesses looking for the same. In the absence of a widespread and mature network of exchange of information among SMEs, this initiative is the easiest way at the local and regional level to overcome one of the major hindrances to an innovation-oriented culture among small enterprises. Considering the range of initiatives, the *Marche Innovazione* promises to remain a premier example of how to spur innovation at the regional and local level, worthy of careful study by leaders in other locales.

Even in a traditional sector like agriculture, there is innovation in organization and governance. A good example is Cooperative Settesoli,¹⁶ established in 1958 in the province of Agrigento. The cooperative has 2,000 wine producers as members for a total of 6,000 hectares of vines, about 5 percent of Sicilian vineyards. It has three factories, a bottling plant, and a warehouse. Almost three quarters of the families in the towns of Menfi, Montevago, and Santa Margherita di Belice have at least one member working for Settesoli.

Most of the cooperative's member farms are small, family-run, and tied to traditional patterns of wine production. They were unwilling to innovate for many years. In the wake of the global financial crisis it would have been hard for most of them to invest and for some of them to survive. The cooperative embraced innovation and, in so doing, pushed aggregate revenues up 12 percent in 2011. The main innovations have been in production and marketing. Cooperative managers developed a brand for national and foreign markets, specifically Settesoli and Inycon for large retail distribution and Mandrarossa for the hospitality and restaurant sector. They also established a quality certification system in 2003, which today allows them to trace every bottle of wine back to the vineyard or origin.

Other initiatives were an environmentally friendly 250-kilowatt solar farm, the launch of agro-tourism in the vineyards, and a closer association with local culture and literature, thanks to the presence of

nearby Greek archeological sites, namely Selinunte and the Valley of the Temples in Agrigento.

In Europe, there are several examples of smart governance. In the Valencian Community in Spain, the establishment of the 'Institute of Valencian SMEs (IMPIVA)' has brought to the region fresh financial resources, mostly from the EU, that funded highly innovative sectors and products and favored technological transfer. In Saxony in Germany, a well-integrated combination of company-based R&D expenditures, both from SMEs and large firms, has stimulated the virtuous connection between knowledge, innovation, and economic growth.¹⁷ Utrecht in the Netherlands is yet another example, ranking first of 262 cities on the 2013 EU Regional Competitiveness Index and leveraging strong relationships between business, government, and knowledge institutions to develop various sectors in the economy, including climate policy, traffic, services, life sciences, and gaming. Like the *Marche Innovazione*, these examples provide models and inspiration for local and regional leaders elsewhere.

Success factors for leaders

Research and innovation share a common trait: Done in the right way, they are the fundamental engines for economic growth. But they also require careful crafting of strategies and disciplined management during strategy implementation. Let's look at three factors – simple yet profound – that help on both counts and that we think are crucial to get the most out of R&I activities.

The first factor is freedom to use initiative. R&I succeed when self-starting, motivated individuals and organizations feel free to invent and act. Whatever local and regional leaders can do to eliminate constraints on action – financial, administrative, and logistical – will increase the potential for value-creating innovations to emerge. This is not to say we suggest freedom of all kinds. Freedom in a well-managed setting implies a clear separation of responsibilities and decisions within a well-defined policy boundary. But with managed freedom, low-cost innovations can emerge both within particular institutions and across geographic and institutional boundaries.

The second factor is integration. From a public policymaker's point of view, this means cautiously designing R&I initiatives to focus – and not fragment – resources and efforts at all levels. Promoting networks of innovation is an example of integration. So is the consolidation of research organizations into clusters, to gain synergies from collaboration.

From a private business's point of view, integration is achieved when companies or research centers are able to connect different areas of R&I both inside the company (internal integration) and build robust relations with other innovative actors in local and national research clusters (external integration).

The third factor is flexibility. An innovation strategy having high value-addition needs to remain open to change. To be sure, policies and individual decisions need to respond directly to pre-defined objectives and results. But research organizations like universities and private companies need to experiment with innovative joint collaborations. Thinking 'out of the box' means trying novel, perhaps even 'silly', approaches. But the flexibility to experiment may make all the difference in the long run.

We have offered a range of models in this chapter for local, regional, and citizen leaders to study and emulate. The case of Enrico Loccioni is particularly instructive: Big rewards can come by exercising the freedom to initiate, the desire to integrate, and the willingness to change on the fly. Leaders who are willing to learn from this example can create more value on their own in a shorter time period. While people on the local level need to encourage and monitor the implementation of national and Europe-wide policy, they can stimulate the creation of globally competitive innovations in their own backyards.

4

Leverage Cultural Resources and Creativity

How to build value from cultural and historic heritage

One rarely goes to a museum to find a model of how to stimulate local economic development. That's particularly true in Florence, Italy, where you instead go to see treasures by Botticelli, da Vinci, Raphael, Caravaggio, and Titian. But Florence has a noted exception if you're an economist: the Palazzo Strozzi. Since the end of World War II, the Palazzo Strozzi has been known as Florence's largest space for temporary exhibitions. In the last decade, it has also become known for being an example of how to use art to stimulate economic development.

That's because, since 2006, the Palazzo has been run by the Palazzo Strozzi Foundation, the guiding hand of a unique public-private partnership aimed at both injecting new energy into the presentation of art and new vitality into Florence.

The Palazzo Strozzi, the foundation's home, is by itself one of Florence's treasures. Finished in 1538, it was built by merchant Filippo Strozzi, in part to compete with the de' Medici legacy. A remarkable example of Renaissance residential architecture, with a spacious internal courtyard surrounded by arcades, it is located only a few hundred meters from Michelangelo's David and from the city cathedral, which features a dome engineered by Brunelleschi and a tower (*Campanile*) designed by Giotto.

But the Strozzi Foundation has not simply preserved a piece of the Renaissance. For one thing, it has modernized the Palazzo to hold both classic and contemporary art. In 2013 and 2014, it hosted avant-garde art from Siberia and the Russian East. For a second, it takes advantage of the latest technology to lure visitors, such as GPS-enabled iPhones and iPad apps. As the foundation says, one of its key goals is to make exhibitions a pleasure, not a duty, to visit.

The foundation also serves as an example of management innovation. The board is chaired by Lorenzo Bini Smaghi, an economist, a native of Florence, and former European Central Bank board member, and includes independent trustees, such as Rena M. De Sisto, Global Arts and Culture executive at Bank of America, Merrill Lynch, and Rocco Forte, chairman of Rocco Forte Hotels Group. The general director is an Anglo-Canadian of international repute, James Bradburne. Three Florence public entities support the foundation – the City of Florence, the County of Florence, and the Florentine Chamber of Commerce – but they keep their hands out of the operations. The foundation has government-free control of its budget.

So this is not your aging, dimly lit museum of yesteryear. It is another example of building a business model to leverage age-old artistic strengths found in a specific locale to create new economic opportunity. The foundation leans hard on art and cultural heritage and the value it can bring. It offers guided visits to the studios of contemporary artists, organizes international conferences, holds graduate courses in museum management, and conducts research on the economic impact of the city's cultural strategies.

How has the foundation done in stirring up economic vitality with its cultural capital and management acumen? By its own reckoning, it created more than €28 million in economic impact in 2012. That included €16.6 million in 'direct' revenue (exclusive to exhibitions) and €11.8 million in 'indirect' revenue (economic transactions by visitors following their direct impact).¹ In other words, more Florentines than just the museum staff benefited – so did unaffiliated cab drivers, restaurateurs, gift-store owners, and others. The foundation calculates that restaurants alone rang up €2.9 million in sales from visitors who came to Florence expressly to visit the Palazzo Strozzi.

The foundation seems to be fulfilling its main goal: 'To help make Florence a dynamic contemporary city, and thereby contribute to renewed quality tourism, increased economic growth, and a better quality of life for its citizens.'² The foundation has even prevailed with its economic goals through the plunge in commercial activity that occurred after the financial panic in 2008 – a year when the foundation logged revenues of €7.1 million, just shy of €7.25 million in 2007.³

Across Europe, locales can take much better advantage of the cultural treasures too often hidden away or underutilized. This is especially true in Italy, which has the world's highest number of UNESCO world heritage sites,⁴ while remarkably, having fewer tourists than some of its neighbors – 46 million compared to France's 81 million and Spain's 56 million.⁵ Italy does better than France in terms of number of overnight

stays of foreign visitors – 178 versus 123 million – but still lags behind Spain’s 240 million. In some ways, art is Italy’s untapped ‘shale oil’, too long buried yet incredibly valuable if properly exploited and managed.

The Strozzi Foundation is showing how to tap that oil. It also illustrates the fourth item in our six-point plan for local economic development: Local and regional leaders can leverage the great artistic, cultural, and environmental assets of a locale or region to create new jobs and new professions and new technologies, increasing their locale’s ‘return on cultural assets’.

The foundation and Italy are not alone in having this opportunity. Many cities across Europe and the world have cultural heritage that can provide a springboard for local economic development. Local and regional leaders, whether government officials or civic-minded volunteers like some of those involved in the Strozzi Foundation, just need to know how to manage and exploit the riches in their midst.

Why the focus on culture?

How important is making cultural value work toward local economic success? Although the case of the Strozzi Foundation offers evidence, the aim of this chapter is to provide a more rigorous economic rationale. What can local and regional leaders gain in the long term by investing in culture and creativity? How can they unlock the potential of cultural and historic traditions? Creating some sort of roadmap is a necessary step to make cultural creativity a source of economic growth.

The idea of mining culture for economic growth is not new, of course. Forty years ago, in 1972, the UNESCO World Heritage Convention confirmed the economic role of culture. So what explains the resurgence of culture and creativity in the debate on economic development today? There are at least three explanations. First, the increased demand for culture, fueled by globalization and better economic conditions. As explained by William Baumol (2006) ‘rather than being the almost exclusive preserve of a narrow privileged group, the arts have expanded in the consumption patterns of society as a whole.’ Theaters, concerts, museums, and cinemas are more accessible to a wider audience now than they were just a few decades ago.

Second, new technologies and continuous digitization of activities have called into question the value and utility of traditional methods of conceiving, creating, and reproducing culture. Such technology-driven change has influenced both the supply and the demand of cultural goods. E-books, new media, virtual tours of museums and galleries,

digital reproduction of art, and original musical instruments challenge traditional vehicles of culture and creativity. Third, a new institutional and political framework has changed some of the decision-making processes related to culture and economic development. Specifically, in Italy, being part of the European Union, on the one hand, and giving more power to cities and regions, on the other, has increased flexibility to leverage cultural heritage.

For these three reasons, there is a renewed awareness that culture and creativity can be engines of sustainable economic development. The European Union long-term strategy (i.e., Europe, 2020)⁶ is accompanied by a 'Work Plan for Culture 2011–2014', and the European Structural Funds allocated to culture in the 2007–2013 period are up to €6 billion (1.7% of total funds).⁷ The Italian government recently set up a panel of experts to identify 'the characteristics of an Italian model of creativity and cultural production' (Santagata, 2010). The experts drafted the 'White Paper on Creativity' (2010).⁸

Other initiatives in Italy include the *Manifesto per una Costituente della Cultura* and the *Stati Generali della Cultura*, both spearheaded by Italy's financial newspaper *Il Sole 24 Ore* and sponsored by several public and private Italian institutions. The *Manifesto* outlines the importance of culture for economic development. The *Stati Generali* is a summit/conference to discuss the same.

As pointed out by Santagata in his book *The Culture Factory. Creativity and the Production of Culture* (2010), 'The model is a simple one: to produce culture and knowledge, creativity is needed, otherwise what is repetitive, academic and old would prevail.' Hence, creativity becomes a deep well for drawing fresh expressions of culture and innovation, giving local and regional leaders a powerful new lever for economic development.

What is cultural creativity?

Before introducing connections between culture and economic development, we need to clarify two premises. First, let's start with definitions. Culture can be regarded as the 'set of distinctive spiritual, material, intellectual and emotional features of society or a social group, and that it encompasses, in addition to art and literature, lifestyles, ways of living together, value systems, traditions and beliefs' (UNESCO, 2001). This broad definition gives boundaries to our discussion. It allows us to consider tangible and intangible expressions of a cultural system of values, which is influenced by both place and time.

Second, our focus will be on various economic manifestations of culture, above all cultural production, cultural capital, and cultural industries. Cultural production comprises ideation, creation, and distribution of cultural goods. Cultural capital is an asset that incorporates, preserves, and provides cultural value above and beyond economic value (Throsby, 1999). Cultural industries comprise the enterprises producing and commercializing goods and services that embody cultural expressions.

As an example, think of the theater. Each artistic performance – a comedy or a tragedy – is the result of a set of activities having economic and noneconomic value. The first manifestation of economic value is the cultural production: The ideation of a *pièce* originates from the creativity of the author, who has intellectual property rights. The second manifestation, cultural capital, is embedded in the theater and is not only the added value of every theatrical creation but also the ‘history’ of each author, actor, or stage. The *Rivoluzione Pirandelliana* started by Italian playwrights and Literature Nobel Prize Laureate Luigi Pirandello at the beginning of the twentieth century is an example of cultural capital nurtured over the years. Similarly, the work of William Shakespeare in the late sixteenth and early seventeenth centuries is an example that has triggered a revolution worldwide in literature with spillovers in the following centuries in literature, theater, opera, and film. The third manifestation, the cultural industry, is a broader concept: It includes supply and demand, various job markets, incentive mechanisms, and the concurrent presence of several economic factors.

In a study of Italian regional theaters, for instance, Fazioli and Filippini (1997) pointed out the ‘multiproduct firm’ nature of Italian local theaters, where the presence of scope and scale economies play a significant role. The final appearance on the stage is possible only with the coordinated work of many people with several competencies. The components of a theatrical production use, create, or depend on all three manifestations of cultural creativity: cultural production, cultural capital, and cultural industries. To be more concrete about the manifestations of culture, we turn to the ‘White Paper on Creativity’. The white paper lists three categories of products and/or industries:

1. *Material culture*: fashion, industrial design, and crafts
2. *Production of content, information, and communication*: film, television, radio, publishing, advertising, computer software, and gaming devices
3. *Historic and artistic heritage*: cultural heritage, music and performing arts, architecture, and contemporary art

Although this breakdown is similar to that used by different academics and institutions,⁹ it has two distinctive merits. First, leaders in many locales and regions in the developed world can use it to broaden the definition and scope of culture when trying to leverage its economic potential. Moreover, the three broad creative areas represent three different syntheses of the components of culture: artifact, contents, and heritage (or product, information, and cultural history).

Fashion artifacts, for example, like those *Made in Italy*, are examples of material culture embedded in a given good. If we buy Italian shoes or ties, they represent vehicles of information of a particular style or trend as in the case of the original creations of *Missoni*, *Ferragamo*, or *Marinella*. The shoes and ties also represent a collection of a given historic and cultural heritage from a specific locale. As a creative work, they are the result of a complex process in which an individual or group has ‘affixed’ culture to a product or expression.

Cultural and creative industries are characterized by specific elements not present in many product industries.¹⁰ For one thing, culture and creativity that create the most value in the future will be characterized by uniqueness, authenticity, and nonubiquity. Given these attributes, local talent becomes a powerful capability for a locale or region to extract premium value in global markets. According to Richard Caves (2000), two other aspects are worth noting: interdependence of multiple skills and durability of the creations (*ars longa, vita brevis*).

The economic importance of cultural creativity

How do culture and creativity contribute to economic growth? And how important are they? Let’s start with importance. In 2012, the cultural and creative sectors in the European Union made up 3 to 4 percent of GDP and more than 3 percent of total employment, with nearly 7 million jobs (European Commission, 2012). If we look beyond these sectors, to cover almost all the cultural activities discussed above, the share of the European creative economy as a proportion of both GDP and employment was more than 6 percent.¹¹ It is interesting to note that during the recent economic crisis, employment in the cultural and creative sectors has proven to be more resilient than in the rest of the economy.

A recent study conducted by *Fondazione Symbola & Unioncamere* (2013) shows that in Italy culture and creative industries accounted for €80.8 billion in GDP in 2012 (about 5.4% of the total, equally split between culture and creative industries) and employed nearly 1.4 million people (5.7% of the workforce). When considering cultural tourism and

education, related transportation, trade, and other indirectly generated revenue, the impact on the economy triples to about 15 percent of GDP. The multiplier effect triggered by culture and creative industries varies depending on the calculations but it is very significant for the Italian economy.

Culture also has a big impact on the trade balance surplus. In 2012 Italian exports of culture and creativity were €39.4 billion or 10.1 percent of total exports (with most of it, 9.3%, coming from creative industries) with a trade surplus of €22.7 billion, the second largest after mechanics and transport vehicles. In the 2002–2008 period, prior to the crisis, Italian exports in this sector had grown at about 10 percent annually.

In addition, culture attracts tourism, and tourism generates cultural revenues. More than one third (36.5%) of tourist spending in Italy goes toward cultural activities (€26.4 billion of €72.2 billion in 2012). The Marche region ranks first, closely followed by Friuli, Lazio, and Piemonte, in the ability to leverage on tourism to generate cultural spending. For every euro spent by tourists in the region, about 50 cents are culture related.

The same study shows the strength and growth of creative value at a more disaggregated level. For the 2007–2012 period, Italian cultural and creative industries registered favorable results in employment, up 1.5 percent, and added value, up 2.5 percent. Architecture, fashion, industrial design, music, and audiovisuals were the main sources of this growth.

Figures 4.1 and 4.2 illustrate the composition of the cultural and creative sectors at the end of 2012. In both figures, architecture, design, handicraft, videogames and software, and books and publishing represent the main activities. Interestingly, value and employment are not always proportional. The macro sector of film, TV, and radio contributes more added value than employment, while the opposite is true for historic and artistic heritage.

The *Fondazione Symbola & Unioncamere* report also shows the geographical distribution of cultural and creative employment in 2012. The Italian macro area North-West counts for 31.7 percent of the national aggregate, the North-East for 23.7 percent, the Centre for 24.1 percent, and the South for 20.5 percent. Almost 6 percent of total 2012 employment at the national level was in the cultural and creative sectors.

The demand for cultural and creative activities exhibits a complex pattern in different sectors. A positive global trend in demand has been driven in many areas by Eastern and Asian countries. Domestically, according to the *Federculture Report* (2012), annual spending by Italian

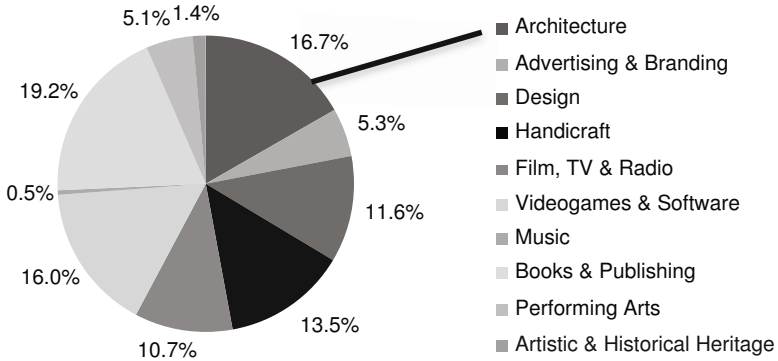


Figure 4.1 Percentage distribution (added value) of cultural and creative industries in Italy, 2012

Source: Author's elaboration; data from Symbola-Unioncamere (2013)

Note: Read pie-chart clockwise starting from Architecture at 16.7 percent

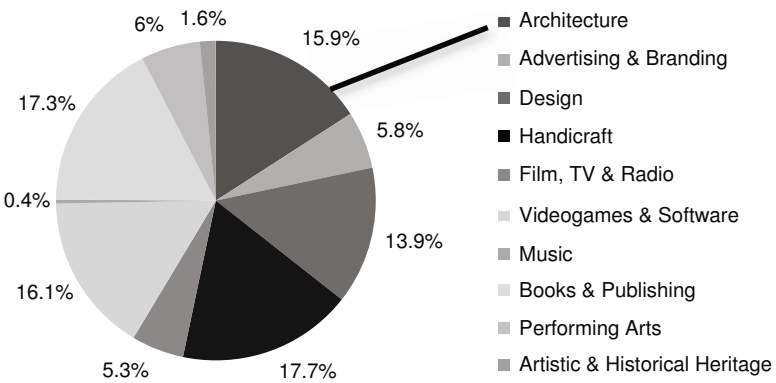


Figure 4.2 Percentage distribution (employment) of cultural and creative industries in Italy, 2012

Source: Author's elaboration; data from Symbola-Unioncamere (2013)

Note: Read pie-chart clockwise starting from Architecture at 15.9 percent

families rose 2.6 percent from 2010 to 2011. In the decade 2001–2011, it rose 26.3 percent, with large gains registered for theater (up 17.1%), lyrics (up 11%), and museums and galleries (up 6.1%). The 2013 report reflects the economic crisis and shows for the first time a drop in spending of 4.4 percent (more than 8% for theaters and concerts) and a larger

drop of 12 percent in the number of attendees/visitors. Visitors to public museums dropped from 40 to 36 million.

The overall figures confirm the relevance of culture and creativity for economic development and also the importance of innovation to achieve growth in the sector. It is surprising, then, that the economic impact of cultural and creative industries has not traditionally figured in long-term strategic planning for local and regional economic growth.

A model for leaders: The creative path from creativity to economic growth

Local and regional leaders looking for a model of how to gain economic value from cultural creativity can take their cue from the theoretical research conducted in recent years. This research does not point to a cookbook design for long-term creative development because, as we have seen, culture and creativity vary too much to figure in just one recipe. It's also because culture and creativity influence the economy and the development of products across too many sectors. But we can still sketch out a rough model of how we can spur economic development through cultural creativity.

That model needs to take into account several factors. The first is that all cultural industries produce an original creative product. That product, in keeping with our definitions, is a tangible expression of culture, includes information content, and reflects historic and artistic heritage. Its tangible and intangible components are, broadly speaking, the engine of value. Examples of original creations are a new industrial-design model, a novel book, or a monument in the city square. Other examples include traditional wine and food products, a new advertising strategy, and a century-old music festival.

The second factor to take into account in a model of creativity is the innovation introduced in the creation of these original products. This innovation is a reflection of continuous experimentation and search for ingenious solutions. The Pyramids of Giza are an example of an original creation shaped by innovation. So is the molecular gastronomy launched by Catalan chef Ferran Adrià.

The third factor to take into account is talent, which drives both original creations and innovation.¹² Talent, or individual skills and abilities, are the basis for what we later observe in the form of products, information content, and heritage. This *savoir faire* is a result of education, daily work, learning by doing, and reciprocal exchange of knowledge and ideas. In line with more recent literature in this field, creative industries

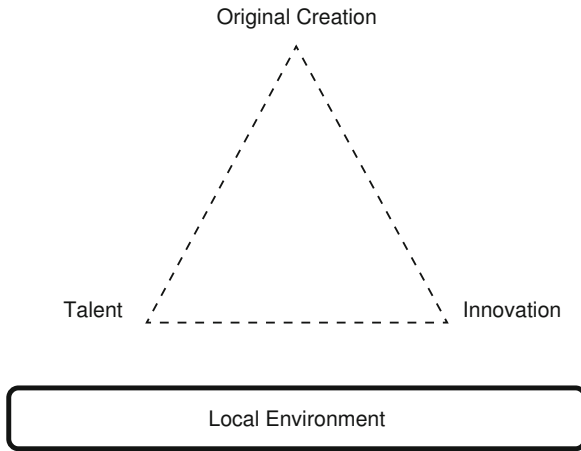


Figure 4.3 A synthesis of the creativity-led development path

denote a unique system of cultural activities characterized by a process of continuous ideation (Goleman, 1997).

A fourth factor to take into account is a given territory, which represents both the cultural space where creative industries operate (i.e., ‘cultural atmosphere’) and the broad socioeconomic local environment. The former directly influences the creation and reproduction of cultural value, whereas the latter, as we saw in chapter 1, acts as a fertile and complementary substrate in which that value can grow.

Figure 4.3 illustrates a synthesis of the pillars on which the various expressions of the creative process are based. The essential original creation is interdependent with the presence of talent and innovation. Moreover, these three creative pillars interact with the local environment. Put differently, creative industries are the result of a mix: people, ideas, symbols, and knowledge are the key drivers.

In the Italian case, the relationship between the triad of pillars and a particular place are fundamental to understanding creative dynamics. This is valid not only for a consumer-products culture, where a handicraft or food or wine is identified with its place of origin. It is also true for culture that fits into the specific context of a specific place (e.g., the Italian experience of the *Radio Popolari* flourished during 1970s and 1980s across Italy) or cultural heritage (e.g., the *Baroque & Liberty* architecture style spread across some provinces of southern Italy).

Making cultural value work means orienting a locale or region’s creativity along a path of long-term development. The value of original

creations, talents, and innovations spread across Europe can be unlocked only in the context of a conscious strategic view based upon the recognition that culture and creativity matter. They matter because the products that result are not ubiquitous and are distinctive. They also matter for the value products create for exploitation in international markets.

The theoretical link to economy

Let's now turn to the theoretical link between cultural creativity and economic growth. On its surface, the link relies upon innovation *sensu lato*, that is, in a broad sense.¹³ All cultural activities are intrinsically characterized by the continuous search for novel expressions and creations. This constant generation of knowledge favors the appearance of new products, innovative businesses, and the accumulation of *savoir-faire*, all of which amount to evidence of economic growth.

David Throsby, in an independent report for the UK economy, noted four kinds of innovation, depending on the cultural and creative industries in question: innovation in audience reach; innovation in artifacts (product) development; innovation in value creation; and innovation in business, management, and governance (Bakhshi and Throsby, 2009). An individual or group in the throes of a creative process may innovate in all these ways, whether involved in a new film in Hollywood or in the production of a piece of pottery in a small artists' studio. The different phases of innovation allow the exploitation of the economic potential of culture, often related to unexplored demand for new creations. The influence of innovation is not limited to the original sector or product where it first emerged. Rather, it extends into other economic areas, favoring externalities and cross-fertilization.

As discussed in chapter 2, on entrepreneurial creativity, a supplementary source of innovation is entrepreneurship, which is particularly important across the spectrum of cultural activities. New firms in the creative sectors are able to advance the creative frontier in search of new solutions and markets. The firms perform a sort of double innovation.¹⁴ Cuccia and Cellini (2009) have in addition demonstrated that in the cultural and creative sectors there may be benefits to establishing employee-run enterprises.

Cultural and creative industries are economic engines on the basis of yet another element: human capital. Indeed, the original nature of these industries depends primarily on individual or joint talent. Artists, architects, musicians, actors, tailors, and designers are people with unique attitudes and knowledge. Their creations are the result of innate talent,

education, training, and learning by doing. And this combination of tacit and explicit knowledge is a unique original value addition. In addition, the exchange of talents and the study of cultural topics favor the wider diffusion of knowledge.¹⁵

An indirect benefit of culture and creative industries is that they can become a powerful source of 'soft power'.¹⁶ They improve the image of the country and its ability to be influential, and this in turn generates positive economic externalities for other sectors of the economy. If Hollywood films, pop music, hamburgers, and Coca-Cola contribute to US soft power, design, fashion, opera, and Italian cuisine contribute to the soft power of Italy. Another form of soft power comes from historical roots that tie countries together. Italian exports to Japan and to China, for instance, are indirectly supported by the fact that Italian Jesuit Matteo Ricci and Venetian merchant Marco Polo are part of Chinese history. A striking illustration of this power surfaces when Chinese politicians and businessmen meet with their Italian counterparts. Conversations often start with each side recognizing the other as an ancient culture and thus especially worthy of mutual respect and cooperation.

Another way in which cultural and creative industries spur economic growth is through tourism. A locale's historic and artistic heritage, as well as the presence of material culture, can stimulate tourist demand in both cities and rural areas. Although it is difficult to identify whether cultural activities create their own demand (e.g., cultural tourism) or whether they contribute to overall demand in a locale known for many attractions, the relevance of cultural capital to tourism appears evident.

Superstar museums such as the *Louvre* in Paris and the *Uffizi* in Florence are clear examples of culture driving tourism. Music festivals, as in the case of the Wagner celebration in Bayreuth, the Harvest festival in Westminster Abbey, the Salzburg festival, and the Spoleto festival of the Two Worlds, are special events able to attract thousands of visitors every year. Art festivals, such as the Venice Biennale, which features exhibitions of contemporary art and architecture, and Art Basel in Switzerland, the world's premier international art show for modern and contemporary works, similarly attract thousands. Religious pilgrimages, such as the *Routes to Santiago de Compostela* in Spain, the Marian apparitions of Lourdes in France, and *Sant'Antonio da Padova* in Italy, attract visitors for spiritual purposes. Likewise, sporting events such as the Wimbledon Tennis Championship, *Tour de France* cycling race, UEFA Champions League soccer games, and historical folkloristic events such as the *Palio* (horse race) of Siena and the Carnival of Venice attract sports fans and aficionados of traditional culture.

While it is very difficult to calculate the impact of specific events on the local economy, several studies have attempted to determine a multiplier effect based on event funding requirements, number of visitors, and revenue generated. Dubini et al. (2013) calculated some of the returns. Small music festivals such as Umbria Jazz, organized with an investment of €2–3 million and attracting about 10,000 visitors has a multiplier effect of about 4.5; the much larger Salzburg Music Festival, organized with €50 million and attracting 250,000 visitors has an impact on the local economy of about 5.4 times. A mass event such as the Munich Oktoberfest, which only takes 3.3 million of funding and attracts nearly 7 million visitors over the course of a month, has a multiplier effect of more than 130 times. It is not a surprise that, typically, temporary events or festivals have multiplier effects larger than theaters and stable cultural institutions, carrying more fixed costs. As an example, the multiplier effect of Milan's La Scala is estimated between 2.2 and 3.2 times.

Cultural attractions on the *UNESCO World Heritage List (WHL)* also draw significant numbers of tourists. Sites named to the list rank among a select number of cultural and natural sites internationally recognized for their unique characteristics. Recent literature linking economic growth and inclusion on the list provides contrasting results (Arezki et al., 2009; Cellini, 2011; Frey et al., 2010; Yang et al., 2010). Still, the 'UNESCO' trademark remains a distinctive feature, a 'brand' implying high value and offering an implicit guarantee of quality to visitors. The WHL designation may have special significance in Italy, which has the highest number of sites in the world.

For local and regional leaders, the potential for spurring economic growth through culture, whether via tourism or in other ways, often relies on cultural districts. Districts are not only associated with a given geographical area, but a specific system of values, abilities, skills, and knowledge. To put it another way, cultural values rely on the 'creative atmosphere' (Santagata and Bertacchini, 2011), which is essential to preserve them, recognize them for their strategic value, and leverage them to create fresh value that a locale or region may not yet have recognized.¹⁷

The study of cultural districts and creative cities (Cooke and Lazeretti, 2008) suggests connections between creativity and economic development. Examples of cultural districts can be recognized at both the national and international level across all three areas recognized in 'The White Paper on Creativity', namely in terms of material culture, culture of content, and historic and artistic heritage. The Fashion and Design District developed around Milan, the artistic glass of Murano

(Venice), the laboratories of the *Presepe* in Naples, and the five-century-old violin-making tradition in Cremona are all manifestations of culture converted into valuable and value-creating manufacturing. The *Cinecittà Studios* in Rome, the cradle of Roberto Rossellini's and Vittorio De Sica's neorealism and inspiration for Federico Fellini's *Dolce Vita* and for Ennio Morricone's soundtracks, is an example of the culture of content. The rich historic and artistic heritage spread across the peninsula has been the starting point for the institutionalization of various cultural districts and specific-purpose networks, which in turn become potential springboards for creating economic growth.

In general, cultural and creative districts gain strength and vitality from the same factors as other local developments: innovation in cities; education and entrepreneurship; public trust or civic capital; local institutions and local governance. However, they are uniquely able to produce value of a specific kind: the 'production of idiosyncratic cultural goods based upon both creativity and intellectual property' (Santagata, 2010). They can only do so, however, if local and regional leaders act to turn cultural strengths into competitive advantages. And for that, they need to build a strategy for local development that actively leverages local cultural products, cultural capital, and the actions of cultural and creative industries. They need to realize as well that the uniqueness of a cultural district relies on the presence of auxiliary activities, inflows of talent, formal and informal networks, and welfare-enhancing institutions.

Note that not every concentration of cultural and creative industries can be considered a cultural district. One of the ways local and regional leaders can create added value is by undertaking the process of 'districtization'. They need to institutionalize mechanisms of coordination to overcome free-rider problems and exploit the creativity of their entire locale. For these reasons, the role of individual regional designations in creating added value – like the PDO mark for Ragusa's Ragusano cheese – has been emphasized by many authors; and so has the role of collective trademarks (e.g., UNESCO WHL) (Cooke and De Propriis, 2012; Cuccia and Santagata, 2003; Lazzeretti et al., 2008; Santagata, 2002) been emphasized.

Collective trademarks have large potential for the institutionalization and growth of a cultural district by ensuring informational, organizational, and protective functions. They can also contribute to a better harmonization of individual (i.e., firm or product-specific) trademarks, acting as a coherent framework. Collective trademarks used for cultural districts may have a signaling function that spurs demand, as well. They

can thus attract tourists and sustain the distinctive features of particular creative and cultural industries.¹⁸

As a final point about the influence of cultural creativity on economic vitality, it is important to point out that as much as a culture can contribute to economic vitality, economic vitality can (and must) contribute financially to key cultural institutions. Culture as embodied in single cultural institutions is not self-sustainable or a breakeven. Opera theaters' 'own revenues', monies coming from performance tickets, cover only 10 to 20 percent of labor cost (*La Scala* in Milan is an exception at about 30%). Other cultural institutions in Italy and in Europe cover on average about 15 percent of total costs. The gap can be closed in various ways, with government or private funding, but local leaders need to step in to help, lest premier cultural institutions not survive as torchbearers for a cultural district's entire 'cultural atmosphere'.

To gain full advantage of cultural creativity, local leaders need to think broadly. They need to help create a virtuous cycle, in which culture stimulates economic growth and economic growth creates the financially robust conditions for funding cultural institutions. The alternative is to slip into a vicious cycle of a faltering economy leading to a faltering cultural foundation. Premier cultural institutions then fall short of funds, and an entire district's cultural atmosphere deteriorates. In that case, the sought-after growth multiplier, in which the foundation of cultural riches spawns economic growth, goes into reverse.

Instead, local leaders need to dedicate themselves to leveraging the great artistic, cultural, and environmental assets for growth, jobs, and high-quality professions such as theater manager, museum curator, art insurer, and so on. Through such leveraging, they can also stimulate the introduction of new digital technologies. The risk arises that, in the digital age, without adequate protection cultural heritage may be raided by pirates, as so many other economic sectors have been. Still, locales that make the most of their cultural assets while taking measures to mitigate risks will benefit from the opportunities before them.

The empirical evidence

With these thoughts in mind, let's look at several cases that illustrate how cultural creativity can lead to economic growth. We will select one case from each of the three categories cited in the 'White Paper on Creativity', namely material culture; artistic content, information, and communications; and historic and artistic heritage. The case of *Parmigiano Reggiano* illustrates the first category; books and publishing

in Italy illustrates the second; and the cultural foundations of Florence illustrate the third. Each shows the potential of action by local leaders and activist citizens in producing ever more economic value from their culture. Following these cases, we will offer brief remarks on the difficulty of developing for tourism, as illustrated by the diverging cases of Barcelona and Valencia in Spain.

***Parmigiano Reggiano*: Value in gastronomy**

Parmigiano Reggiano, profiled in the introduction, is an 800-year-old artisanal creation developed in the Centre-North of Italy and made only in five provinces (Parma, Reggio Emilia, Modena, parts of Bologna, and Mantua). Today, more than 3,500 dairy farms in this area produce the milk used in this process, with more than 500 dairies producing the cheese. Its unique characteristics have been recognized at the European level, where it has attained the official recognition as a product with Protected Designation of Origin (PDO).¹⁹

Since the beginning of the twentieth century, the production and valorization of *Parmigiano Reggiano* have been coordinated by a consortium of producers (*Consorzio Parmigiano Reggiano*), which is responsible for protecting the stature of the product, organizing its production (by means of specific production plans), assuring the integrity of its supply chain, supporting relations with consumers, and undertaking promotion and commercialization. The consortium is the sole owner of the different marks, logos, and labels that can be used for producing and commercializing *Parmigiano Reggiano*. Moreover, it is responsible for the appropriate use of the PDO trademark and the protection of it against improper practices.

The evidence as presented in the introduction is that leaders of the *Parmigiano Reggiano* effort have steadily built greater value from this cultural treasure. After the two negative years during the worst years of global economic instability in 2008 and 2009, both production and exports show a positive trend. Projections forecast similar growth in the long run. Exports have grown rapidly owing to new demand from East Asia: Japan (exports up 54.1%), China (up 341.4%), and Singapore (up 54.2%).²⁰ The UK, France, Germany, and the US are traditional markets for the product.

The numerous skills and abilities demanded for the production of *Parmigiano Reggiano* are spread across the sector, with competences in fields such as agriculture, biology, chemistry, economics, and the environment. Since 1972, most of these skills have been supported by the *Centro Ricerche Produzioni Animali* (CRPA), a public-private research

center providing advisory services. More specifically, four specialized laboratories have been created to help in the production and preservation of *Parmigiano Reggiano* and other products in this region (e.g., *Prosciutto di Parma*): chemical and physical analysis; olfactometric studies; sensorial analysis; and studies on animal forage.²¹

In terms of innovation, leaders in the *Parmigiano Reggiano* consortium have pursued a large variety of initiatives in different areas. Research activities have contributed upstream linkages with milk producers and to increasing quality standards. The creation of an information system (*Sistema Informativo filiera Parmigiano Reggiano*) has improved data availability to monitor the entire production process. Innovative channels of distribution (e.g., direct selling) and impressive promotional campaigns have established the distinctive image of the product. Current innovation focuses on environmental impacts, cuisine aspects, rural development, touristic connections, and the creation of a 'Dairy School'.

Worthy of note for other leaders is that, with *Parmigiano Reggiano*, as in almost all Italian gastronomy, the local environment plays a crucial role in sustaining the traditional creativity of the locales that make the product. Growth-enhancing institutions, a rich network of enterprises, a significant endowment of human capital, and the presence of important research centers have contributed to the success of *Parmigiano Reggiano*. The influence of regional projects has also been important. The projects include the *Musei del Cibo di Parma*, a network of traditional museums with one dedicated specifically to *Parmigiano Reggiano*, and *Cibus International Food Exhibition*, the top food and beverage fair in Italy and the third in the world. The same goes for the two education centers that specialize in gastronomy and taste, the *Italian Food Academy* and the *International School of Italian Cuisine Alma*.

As a success story of local economic development in the Food and Wine (or Taste) industry, *Parmigiano Reggiano* represents a powerful example of creating value from traditional culture through the action of institutions, people, and ideas. When a 2008 *Bloomberg* article dealt with *Parmigiano Reggiano* and the protection of its tradition, it seemed to suggest that many Italian enterprises reaped value solely from being anchored in particular places and practices. A traditional creation, however, acts as a driver of economic growth based on all three aspects we have been stressing: originality, talent, and innovation. It's not enough for leaders to rely on their geographic location and cultural heritage alone. *Parmigiano Reggiano* is a story of leveraging all three points of our creativity model – in addition to linkages with the surrounding local environment.

The Italian taste industry, with *Parmigiano Reggiano* as the representative example, often demonstrates the efforts, coordination, and leadership required to spur local development with culture as the basis. But the transmission of knowledge over the centuries needs to be institutionalized through appropriate practices in pursuit of fulfilling a long-term development strategy. This requires investing in innovation and education as well as working together in the specific cultural and geographic context.

To those who question the potential of agriculture to further significant local growth, figures across Europe show that the level of value remains high. In Italy, the food and wine sector is growing steadily. In 2011 and 2012, its aggregate turnover grew 2.4 and 2.3 percent, respectively. In the same period, wine and food exports rose 10 and 8 percent, respectively, reaching a total of about €25 billion, which represents 19 percent of the total agro-industrial sector and 7 percent of total Italian exports. Of the total exports of wine and food, the dairy component accounts for more than 9 percent.²² These growth figures are all the more notable in that they occurred during a persistent Europe-wide economic malaise.

It is understandable as a result that, according to a recent research by the Bank of Italy (2012), from 1999 to 2007 the number of new enterprises operating in the Italian taste industry increased on average by 0.5 percent annually. SMEs played a prominent role in this increase. A success story of a company growing by leveraging Italian strengths in the food, taste, and culture business is Eataly. Founded by Oscar Farinetti in 2007, Eataly has strong connections with Slow Food – a movement founded by Carlo Petrini – and strives to preserve traditional regional cuisine and local agriculture valuing local, artisanal producers, food education, and sustainable sourcing and production. In addition to food and wine, Eataly stores offer to its customers jazz concerts and theater plays, exhibition of Modigliani sculptures and street artists' performances, and sell books and objects of Italian design. The *New York Times* called Eataly 'a megastore that combines elements of a bustling European open market, a Whole-Foods-style supermarket, a high-end food court and a New Age learning center' (Tardi, 2007). Today the company counts 24 stores worldwide, 11 in Italy, 9 in Japan, and others in New York, Chicago, Dubai, and Istanbul. Revenues have reached €400 million.

The prominence of agricultural traditions across Europe remains strong. What is said for Italy is often true of locales in many developed countries. As highlighted in the 'White Paper on Creativity': 'Food

and Wine is a very complex sector combining economic weight with intangible features of the cultural heritage.' The challenge for local and regional leaders elsewhere is to understand how they fit on the map of global competitors and how, with creativity, they can take advantage of their centuries-old cultural treasures.

New pathways for books and publishing

In 2012, the books-and-publishing sector was the top Italian creative industry in terms of added value (19.2%) and the second in terms of employment (17.3%). The year was tough for the sector as its size dropped 8 percent to about €3 billion (AIE 2013 Report²³). In this traditional cultural industry, the presence of family-owned SMEs is significant, though a few big companies operate in specific markets. In the last two decades, centuries-old publishing houses have been integrated with modern publishers. The latter, typically more flexible, have benefited from the creation of new distribution channels such as Internet and E-book readers.

The number of registered publishing houses in 2011 was 8,440. In the last two decades, the total number of publications in Italy jumped from 37,780 per year in 1990 to 61,000 in 2012. This favorable trend reflects the increased importance of micro enterprises and international commerce: In 2010, the number of book titles sold abroad rose 15 percent over the previous year. The number of titles imported from abroad rose 9.6 percent. While the number of published titles has grown, the number of printed copies has plunged to 220 million, down 20 percent in a year.

The books-and-publishing sector includes a wide range of activities: ideation, editing, proofreading, managing rights, translation, promotion, distribution, and so on. In general, most traditional publishing houses perform all these functions, while some modern ones specialize in a few. Creativity is embedded in almost every phase. An original creation is ideated by the author, selected by the editor, designed and packaged into a product, and printed. Culture and knowledge influence the work of each person in the chain, whereas explicit and tacit relations influence the passage of the work along this chain.

The publishing houses in Italy today all reflect their local environment, which generally combines specific history and a 'creative atmosphere'. Indeed, most of the main Italian publishing houses are identified with their city of origin: *Laterza* (Bari), *il Mulino* (Bologna), *Giunti* (Firenze), *Mondadori* (Milano), *Giunta* (Napoli), *Sellerio* (Palermo), *Neri Pozza* (Vicenza), *Donzelli* (Roma), *Einaudi* and *UTET* (Torino). Each

publishing house has access to specialized skills and abilities together with formal and informal socioeconomic networks.

In the last few decades, innovation has deeply affected the evolution of books and publishing. The introduction of digital components and the wider use of information and communication channels have influenced ways of conceiving and producing books from the author's atelier to the bookshop boutique. Nowadays, people in charge of this kind of content production are looking for new strategies to actively confront modern challenges, leading to the growth of E-books, E-commerce, virtual publishing houses, and other innovations.

As elsewhere in the world, these challenges have prompted a restructuring in the books-and-publishing sector. Big companies and SMEs have both changed. Industry experts have recognized that a more flexible structure, higher specialization, investments in education, upgrading in training, and more internationalization are required to improve competitiveness. This shows an important opportunity for local leaders hoping to spur economic growth based on local cultural creativity. An important development is the improvement of some book fairs such as the *Salone Internazionale del Libro di Torino*, the *Children's Bookfair* in Bologna, *il Festivalletteratura* in Mantova, and many others. Through these fairs, publishers are becoming progressively more able to capture increasing international demand.

Also, some of these fairs generate a multiplier effect on the local economy. A study of Bocconi University (2013) estimates that the *Festival della Mente* (Minds Festival) taking place since 2004 in Sarzana, a small town in the region of Liguria, has a multiplier effect of more than seven times on the local economy. The multiplier effect of the book fairs of Mantova and Torino are at 10.3 and 11.4 times, respectively.

Despite these signs of dynamism, publishers haven't put together a long-term strategy, nor have they coordinated and developed joint initiatives. Unlike the *Parmigiano Reggiano* case, they haven't established cultural districts that can attract public support and private initiatives focused on one area. This weakness can be associated with two main causes. First, most publishers compete head to head in their markets, rather than pursue the common good of a single locale. Second, there is a significant gap between big and small players, disproportionately in favor of the larger publishers.

Nevertheless, since the early 2000s, a small number of Italian book publishers have established joint initiatives using different coordinating mechanisms.²⁴ This points to where more opportunity for spurring

growth may lie. In particular, publishers in specific locales (mainly regional) have created associations to nurture publishing-related creative activities, preserve and improve the quality of the publications, favor the institution of specific training courses, and so on. The *Associazione Editori Modenesi*, the *Associazione Editori Abruzzesi*, *Editori del Veneto*, and the *Associazione Editori Umbri* are some examples of this trend.

This cooperation has become particularly beneficial in some southern regions where the books-and-publishing sector has demonstrated more resilience than in other Italian areas in recent years. In six southern regions (Calabria, Basilicata, Campania, Puglia, Sicilia, and Sardegna) there are 318 active publishers, about 20 percent of the total, publishing about 4,100 titles, less than 7 percent of the total publications (AIE 2013 Report).

Publishers' associations in these regions have been recently institutionalized as in the case of the *Editori Campani Associati – Edica* (Campania), *Associazione Pugliese Editori* (Puglia), and *Associazione Editori Sardi* (Sardegna).²⁵ These sector-specific associations share a willingness to revitalize the connections with locales in which they work and to develop a more unified long-term strategy. Moreover, one of their main aims is to preserve and create value from the original culture and creativity present at the local level through fairs, local language courses, and other initiatives.

For leaders elsewhere who are looking to the potential of cultural creativity for local economic development, three points are worth noting. First, these associations allow members (especially small and medium-size publishers) to reduce individual costs (e.g., translation, marketing, and promotion) and benefit from scope and scale economies. Second, these associations combine the knowledge of various entities and become a significant source of information at the local level. Third, these publisher associations are establishing unique relations at both the local level (e.g., with local government) and the national level (e.g., with countrywide, sector-specific associations).

Although these associations are still work in progress they represent a powerful strategy for furthering economic growth. They bring together different original creations, talents, skills and abilities, and innovative people into associations or districts that favor innovation and help publishers take more advantage of their locale's cultural strengths and institutions. In an environment where making publishing profitable is increasingly challenging, creative individuals can still make money by appealing to their local roots.

Florence: Making historic and artistic heritage count

Cultural heritage is, by nature, idiosyncratic to a given area. The *Colosseo* in Rome, *Piazza San Marco* in Venice, the archeological site in *Pompei*, and the multitude of museums and libraries spread across Italy are such examples. In a way, original cultural creations are akin to natural landscapes unique to particular regions such as *le Dolomiti* in the North-West of Italy, *le Cinque Terre* in Liguria, the *Sila* mountain in Calabria, and *Maddalena* archipelago off the coast of Sardinia's Costa Smeralda. Unlocking Italian cultural potential means focusing on these unique and irreproducible inheritances. Just like natural landscapes, they need to be preserved, managed for value creation, and when possible, improved.

The huge potential for historic and artistic heritage to create value has long been discussed, and yet even in Italy that potential remains unrealized. Today the macro sector of 'Historic and Artistic Heritage' accounts for only 1.4 percent of total added value and 1.6 percent of employment – and this in a country with a variety and abundance of culture that should produce far more value. Paraphrasing a recent comment of Lorenzo Bini Smaghi, the Palazzo Strozzi Foundation chair, 'one cannot eat culture, but it feeds a lot of people'.

Historic and artistic heritage comprises a wide range of cultural expressions able to yield both direct and indirect value. Included in this category are archives, libraries, museums, churches, archeological sites, and historic centers in cities and towns. These original creations combine artistic elements, traditional legacy, and cultural symbols. Together, they form unique assets for particular areas, sustaining cultural tourism and economic activity related to art and culture. Table 4.1 inventories Italian

Table 4.1 Historic and artistic heritage in Italy

Heritage	Number
Museums	4,739
Archeological sites and monuments	5,668
Archives	62,134
Libraries (public and private)	12,388
Church heritage	59,763
Zoological, botanical & natural gardens, aquariums	102
Historic centers in cities and towns	22,000

Source: Authors' elaboration; data from MiBac, Legambiente, White Paper (2009)

cultural heritage. The number of archives includes church archives. The number of libraries (public and private) includes church libraries. Church heritage comprises churches, monasteries, and convents.

When it comes to an illustration of how to leverage historic and artistic heritage for economic growth, the cultural foundations in Tuscany and Florence provide many instructive insights.²⁶ In 2011, cultural and creative industries in Tuscany accounted for 6.7 percent of added value and 7.7 percent of employment for those industries in Italy as a whole. In the same year, the city of Florence ranked number one in Italy in terms of cultural entrepreneurship, with 11.8 percent of total enterprises related to culture. Moreover, some of the most important cultural sites in the world, such as the *Biblioteca Nazionale Fiorentina* and the *Galleria degli Uffizi e Corridoio Vasario*, are situated in Florence.

The cultural foundations of Florence, about 45 institutions if we include the provincial territory, cover a wide range of sectors:²⁷ arts and languages (*Accademia delle Arti del Disegno, Accademia della Crusca*); valorization of individual legacy (*Fondazione Giovanni Boccaccio, Fondazione Giovanni Michelucci*); museums (*Museo e Istituto Fiorentino di Preistoria Paolo Graziosi*); preservation and operation of specific cultural sites (*Fondazione Palazzo Strozzi, Fondazione Casa Buonarroti*); and general cultural activities (*Fondazione Florens*). Centuries-old foundations, and even more recent ones, have contributed to preserve, create value from, and reorient the immeasurable cultural heritage of Florence. They have been important vehicles for raising private money and increasing the accountability and transparency of public investments. Moreover, many have been involved in training and support of specialized cultural studies.

Aside from their many competencies and purposes, cultural foundations are examples of a more flexible way of managing historic and artistic heritage. Through formal and informal rules, they institutionalize novel governance. Through their coordination, a group of actors – public entities, banks, private firms, and associations – spur a locale or region's development. The cultural foundations serve as the coordinating mechanism even while maintaining autonomy.

The Palazzo Strozzi Foundation or *Fondazione Palazzo Strozzi* is a well-known example of public and private actors coordinating to revitalize the cultural and economic value of the historical *Palazzo Strozzi* and the city of Florence. The foundation's ambitious goals for revitalizing the locale depend on its long-term strategy to operate expositions, projects for cultural and social inclusion, events related to cultural products (e.g., *Palazzo Strozzi e il Chianti*), and several research activities and

sponsorships. An additional project is the *Centro di Cultura Contemporanea Strozzi* to promote the spread of contemporary arts.

All these cultural achievements were started as seed activities for the intelligent promotion of Florence and its broad cultural heritage at both the national level (e.g., on the occasion of diverse forums) and international level (e.g., *Progetto Cina*). The foundation, moreover, was committed from the start to give an accurate evaluation of its economic impact to further economic vitality. On top of the €2.9 million for restaurants in 2012, for example, it cites as examples €3.1 million for lodging and €3.0 million for shopping.

For students of the Florentine experience, a question arises: Can the different Florentine cultural foundations go one step farther, merge their capabilities and experience, and pursue a more coordinated strategy? Put differently, could they construct a larger and more vital creative district? A partial affirmative answer can be found in the recent founding of the *Fondazione Florens* (2011), a cultural foundation responsible for the governance of the new event *Settimana dei Beni Culturali e Ambientali* for leveraging the value of Florence's cultural heritage as a whole. The creation of such formal (or even informal) networks could open new opportunities for coordination and value creation. The foundations could, for example, pursue a two-stage strategy, where sector-specific foundations operated in their respective areas, while an upper body organized activities more generally to raise cultural and economic value even further.

What leaders in other locales and regions should notice about the Florentine and similar experiences is that what is generally labeled as cultural heritage is the result of artistic creations developed over centuries. Architects, painters, sculptors, and stonemasons have represented one of the main expressions of Italian talent in the past, and a vivid modern generation is still flourishing. Moreover, numerous related jobs are based on the original creations: restoring, cataloguing, preserving, and transcribing. It remains up to today's leaders to educate the talent to carry this forward. Vocational training and learning by doing are strategic investments. Students at art colleges and apprentices in laboratories will eventually create economic value from these creative assets.

As at *Palazzo Strozzi*, new techniques and novel technologies may act as growth-enhancing tools for reshaping the economic value of cultural capital. As pointed out by Friel et al. (2009), at least six technological influences can be associated with this sector: materials (e.g., restoration), diagnostic systems, installations, building and construction, safety and security, and digital technology for exhibits. Some additional

technological areas are the creation of networks, marketing and promotion, and monitoring systems.²⁸

The virtual tour of an archeological site, an electronic multilingual guide, a digital cataloguing system, and the online network of archives, museums, and libraries are some examples of powerful technological applications and ways to make the most of artistic and cultural heritage. When they are introduced, of course, one should remember the main end of technology is assuring this heritage's preservation and strategic exploitation.

In general, cultural heritage can be considered a localized cultural good. The historic center of a city or town, a church or a library – these are the original creations that can flourish at a new level through talent and innovation, with the aid of institutions and private entities, supported by economic and social infrastructures, in the context of unique human capital in the form of place-based knowledge, skills, and abilities.

Managing the relationship of cultural heritage with its surrounding context to create value is no easy task. Free-rider problems and issues derived from the lack of coordination need to be resolved. Bringing together private and public actors, moreover, is difficult for people pursuing multiple goals with varying expectations. Additional stumbling blocks include fundraising and the control of money. For these reasons, cultural foundations like those in Florence must think long term and act strategically to obtain the full benefit from cultural heritage. If they do so, cultural foundations may become a crucial vehicle for attracting new demand, investing in education, solving coordination problems, and sustaining the localized public-private partnerships necessary to make the most of a locale's artistic and historic heritage.

Investing in tourism: Easier said than done

A cautionary tale for many local leaders is the story of two Spanish cities, Barcelona and Valencia. Where Barcelona succeeded in leveraging cultural resources for touristic development, Valencia did not. As we mentioned in chapter 1, Valencia invested heavily in infrastructure. It had sought to diversify its economy away from just agriculture and trade, building convention and exhibition centers, hotels, expanded cruise ship facilities, and new facilities for car racing, tennis tournaments, and equestrian events. But it wound up with an overwhelming debt load and fell short of its ambitions, a result of poor timing and overinvestment.

On the other hand, Barcelona was able to leverage its choice as a site for the 1992 summer Olympics into long-term, persistent growth. The city redesigned its urban layout to focus its economy on tourism, sport,

and food. As one report noted: '[New] roads represented an increase of 15% over those existing in 1986; new sewage systems, 17%, and new green areas and beaches, 78%' (Brunet, 2005). The investment tab was \$11.4 billion (2009), quadruple the budget. But in spite of this over-spending, Barcelona created a magnet for business and tourism. It now attracts over 7 million visitors a year, about half on leisure and half on business. That's more than triple the number of 20 years ago. Its cruise ship port is the busiest in Europe and the fourth in the world. Business tourism has increased by 95 percent in the last 20 years, and the International Congress and Convention Association (ICCA) has ranked Barcelona as the third city in the world for a number of international association meetings (after Vienna and Paris). In addition, Barcelona is also an emerging fashion city and one of Europe's sport capitals. The city ranks sixth in Europe, according to the Cushman and Wakefield European Cities Monitor (2011), as a place to do business, and it ranks number one for its quality of life.

The point is not that Valencia 'did it wrong' and Barcelona did it right, but instead local leaders need to heed the lessons of these and other cities in transition. The way to leverage cultural strengths, how much to invest in them, when, and so on are questions that deserve realistic analysis. For Barcelona, the Olympics served as an essential springboard toward a prosperous future. Winning a spot as a site for the games opened the spigot of public and private funding nationally. The spending energized the entire country, fueling the Spaniards' passion for and investment in business for sports. The upshot is that today Barcelona has 20,000 permanent jobs stemming from infrastructure built for the games.

As mentioned earlier in the chapter, the relevance of tourism for the Italian economy is very high, and its potential is even higher. The industry could be much better exploited and managed than it is today. Things have actually deteriorated in the recent past. Despite its unparalleled potential, Italy went from being the top tourist destination in Europe in 1995 to third place today. In addition, the average spending per day of foreign tourists in Italy is still less than €100. Some of the reasons are the lack of infrastructure (transportation and hotels) and the narrow range of services offered. Another key issue is reachability. In its 2013 report, *Fondazione Symbola & Unioncamere* pointed out that in a randomly chosen week in the month of July 2012 there were 223 low-cost flights scheduled from Germany to the Spanish Balearic Islands, while only 17 options were allowing Germans to go to Sicily. As the cases of Barcelona and Valencia show, management, organization, and planning

are important in the tourist sector, and just having very attractive assets is not enough to be successful.

A cultural action plan for local leaders

What is the action plan for local leaders, both government officials and activist citizens and business people? What do they do first to pursue an overall program for gaining more value from cultural creativity? They should start by inventorying the cultural heritage that expresses the uniqueness of their locales and regions. They should next take stock of the original creations of their locale, the talented people that produce them, and the forms of innovation these people exercise. That then gives them targets for preserving and building on existing cultural and historic heritage to spur a rebirth of economic vitality.

Once again, three factors matter most: original creations, talent, and innovation. An original creation is recognizable by its uniqueness and not ubiquity. This is true no matter which cultural industry is involved: whether it is material culture, production of content, information, and communications, or historic and artistic heritage. Talented people offer a set of deep and, often, unique skills and abilities for creating, reproducing, and ameliorating the cultural value. Talent is exercised along with innovation in its broad sense to influence the overall creative process. The result is significant added value and full exploitation of a locale's creative potential.

Cultural and creative industries, as we have stressed, are firmly anchored in locales where they operate and establish formal and informal relations. A long-term creative strategy takes into account these place-based attributes, which include links to the surrounding environment and institutions. Cultural 'atmosphere', in other words, matters. Whether it is *Parmigiano Reggiano*, books and publishing, or Florentine artistic heritage, finding fresh value depends on this atmosphere. When leaders properly nurture and refine this atmosphere, they can go a step further – acquire individual and collective trademarks and build coordinating mechanisms to create value from them. Premium value then stems not just from a label that says, *Made in Italy*, but 'Made in Parma', or 'Made in Florence', or even 'Made in Ragusa'.

In this light, consider the experience of Cremona, Italy, whose violin-making tradition gained registration on UNESCO's Intangible Cultural Heritage List at the end of 2012. The whole town, its institutions, its local leaders, and its citizens were informed and involved in the application project, essentially to make 'Made in Cremona', a town

of 50,000 in Lombardy, an extraordinary mark of distinction. The mark enhances the stature of Cremona and of its traditional stringed products. It also builds on an extraordinary cultural legacy that, in musical circles, already ranked as world class.

Violin-making art developed in Cremona in the sixteenth century with Andrea Amati and reached its apex in the eighteenth century with the most famous of all violin makers, Antonio Stradivari. The art involves exclusively manual procedures and a deep knowledge about materials and working techniques, knowledge passed from 'maestros' to pupils, often father to son, refined by practice. In past times, the instruments made in Cremona determined, from the Renaissance on, the evolution of Western musical culture. The violin naturally became the symbol of Cremona, giving the town an image of cultural and artistic excellence.

Violin makers acquire their art and craft from the study of both antique and new instruments, exchanging information, observing their peers' gestures and habits, and, in general, transferring the explicit and tacit knowledge in an exemplary cultural district. They also benefit from constructive discussion with musicians from every part of the world who travel to Cremona in search of instruments tailored to their specific needs – or to have 'maestros' specialized in restoration, repair and refurbish their old instruments.

Today, local leaders, working with public and private institutions, continue to nurture this heritage. Their work, in league with public and private institutions, produced the UNESCO registration. The town, of course, more than deserves the honor. It has 141 specialized workshops, 93 Italian and 48 foreign. The Violin-Making International School, attended by Italian and foreign students, preserves the core of the violin-making art. The Museum of Violin holds a prestigious collection of historical instruments. Cremona remains at the center of an international network of pupils, violin makers, purchasers, musicians, violin lovers, and Italian and foreign tourists.

As Cremona and our other cases illustrate, some management principles can accelerate progress by local and regional leaders along the path to realizing greater value from their cultural heritage. They include disciplined scheduling, public-private partnerships, transparency and accountability, simplicity and flexibility, internal and external openness, and multilevel governance. Disciplined scheduling is crucial to reduce uncertainty and guarantee long-term commitment. Public-private collaboration overcomes roadblocks such as shortages of funds and bureaucratic rigidities. Transparency in procedures and accountability in governance give legitimacy to, and build trust in, formerly closed-door

operations. Simple, flexible rules and organizations keep people focused on creating value. Openness encourages creative industries to gain synergies locally and attention internationally. Coordination at different levels of governing bodies divides the labor to avoid duplication and waste.

We can see many of these principles illustrated in the case of the Palazzo Strozzi Foundation. But what might be an example of an industry that could be a future success story? Consider the tailoring sector in Italy, which is spread across the country. It comprises big firms and small family-owned workshops. It can be considered the cultural legacy of both particular locales and of Italy overall. In economic terms, tailoring is directly related to the fashion industry and indirectly supports functions like spinning. In recent years, however, this sector has been dealing with numerous challenges, including falling demand for acquiring specialized skills and abilities.

What can be done, then, to direct this unique creative capital along a path of long-term growth? To start with, a focus on training and education is fundamental, as exemplified by the successful *Scuola di Sartoria di Brioni*, a firm-related training center recognized worldwide. In addition, innovative financial instruments (e.g., microcredit and other creative credit instruments) can sustain existing micro enterprises and the creation of new ones. Appropriate coordination mechanisms, such as multilevel cultural foundations, can coordinate interests, support scope and scale economies, and institutionalize relations with people in the surrounding locale.

Tailoring may sound like a small industry. But culture and creativity flourish in both niche and large sectors, whether in Italy or elsewhere. They are part of the unique productive engine of both Italy and the rest of Europe. Local leaders and activist citizens who take the reins to further local economic growth through a greater return on cultural assets will find that fresh value flows to more than the individuals who build enterprises or entities like the Strozzi Foundation. It flows to entire locales and regions, providing a more durable base for economic vitality – a base that other countries cannot undercut.

5

Make the Most of Cultural Diversity

Reforming society, the workplace, and education for economic advantage

Leaders for many years have talked about the importance of taking greater advantage of their nation's, region's, and community's diversity: diversity owing to culture; diversity owing to gender; diversity owing to people's life choices; diversity owing to immigration. The vast majority of leaders, however, have not taken full account of diversity's growing importance.

Consider OECD data: If you measure the chance that a random person of one ethnic background will meet a person of another in a particular country, the likelihood has been rising steadily. In Italy, the so-called 'fractionalization index' – 0 means no chance of meeting someone unlike you and 1 means a 100 percent chance – is 0.115. In Germany, the rate is 0.168, in Spain, 0.417, in the US, 0.490 (Alesina, 2003).

This is a sea change from a generation ago, when the rate in most OECD countries for possible encounters with people of a different ethnic group was at least 35 percent lower (Patsiurko et al., 2013). The increase in these rates offers leaders a big opportunity to more fully tap a growing resource to spur economic growth. In a world where nations, regions, and communities need a strong flow of abilities, skills, and ideas to make economies prosperous, the diversity of people remains a rich resource ready to tap.

This message is not new, but leaders at all levels should take it up with new seriousness. Debate on the issue comes up especially at the national level, in particular when the subject turns to immigration of highly skilled professionals. Consider the latest moves by Austria, which in July 2011 switched from a quota-based immigration system to a system based

on competencies.¹ Immigration to the country for work is now regulated by the so-called Red-White-Red card scheme (the colors of the Austrian flag), which grants access to immigrants wanting to work in Austria if a variety of criteria are met that serve Austria's economic interest.

To be specific, Austria assigns points to immigrants for age, skills, qualifications, work experience, and knowledge of languages. Immigrants are divided into five categories: (1) 'high potentials' or specific highly qualified workers; (2) skilled workers in professions or trades where there is labor shortage in Austria; (3) other 'key' workers; (4) foreigners who have graduated from an Austrian university; and (5) self-employed 'key' workers. The country then admits immigrants to serve demonstrated job-market needs, efficiently allocating human resources as they are needed.

For example, high-potential workers (doctors, lawyers, engineers) who score a minimum of 70 points out of 100 are granted the right to enter Austria to look for a job for as long as six months and, if successful, can stay without further checks. As another example, skilled trade professionals (electricians, plumbers, specialized carpenters) who score at least 50 points can stay only if there is labor shortage in their trades.

The Austria program takes advantage of an important part of the diversity opportunity, and it brings us to the fifth recommendation in our six-point program for spurring local economic growth: devise policies and programs and create incentives to make the most economically of diversity of all kinds. The first step is recognizing the talents, skills, and perspectives of diverse populations as a resource. The next step is to utilize the resource for maximum benefit. In lay terms, this is the message: In an increasingly diverse world, leaders who learn first to fully leverage diversity will win.

The view of diversity and immigration by the public

By recognizing diversity as a resource, leaders will be taking the same view held widely at official levels. The Universal Declaration on cultural diversity sponsored by UNESCO in 2001 recognizes that cultural diversity is as necessary for humankind as biodiversity is for nature and that it is one of the roots of development. Diversity is to be understood not simply as advantageous for economic growth but also as a means to achieve a more satisfactory intellectual, emotional, moral, and spiritual existence.²

In this chapter, we will focus on the economic front, and on that front the public admittedly has second thoughts. Many people believe, simply enough, that they will lose their jobs to foreigners. They point to numbers to make their point. In 2010, for example, more than 3.1 million people immigrated into a EU member state, either from third world countries or from another member state. Although the outflow was almost as significant, with more than 2 million people emigrating from the EU,³ the public remained focused on the immigrants flooding *toward* their borders.

In Italy, in 2013, the number of foreign persons aged 15 to 64 amounted to 2,352,418 individuals. Out of this pool, about 70 percent were employed or actively looking for a job. Those who actually had a job amounted to 58.1 percent. Men were employed more frequently than women (67.9% of men had a job, as opposed to 49.3% of women) (Istat, 2014). In 2008, according to the last data classified by age available in Istat, only 3.5 percent of foreigners above the age of 55 were working, as opposed to almost 67 percent of those aged 25 to 44. The number of immigrants in Italy was far less than in, say, the US, where in 2008 almost 13 percent of permanent residents were not citizens of the country (US Census Bureau, 2012). The growing number of immigrants in Italy, however, has made immigration an issue that cannot help but be part of a renewed economic debate.

One of the chief worries of the public is that immigrants will consume public resources that are limited. Will they compete for housing, health services, schooling, and in general, the enjoyment of the modern welfare state? That the public has developed negative perceptions is demonstrated by a number of studies, especially in countries with a long history of dealing with immigration such as the UK and the US.⁴ A University of Oxford report (2011) shows that as many as 69 percent of Britons believe that immigration should be reduced.⁵ Spanish and French citizens feel the same way.⁶ In the US, where immigration often emerges as a central issue in house, senate and presidential elections, 52 percent of people consider immigration a threat rather than a source of opportunity. In the UK, the number is 68 percent, in Italy, 48 percent, in Germany, 43 percent.⁷ And in the EU, 63 percent of people believe immigration poses too high a burden on welfare systems, to the detriment of citizens.

Such survey data demonstrate that the issue of immigration is sensitive and complex. Leaders who hope to take better advantage of diversity – and do so in a more inclusive and tolerant society – will need

to approach the question of diversity with reasoned arguments and data that demonstrate diversity's value to all.

Whether or not immigration *per se* has the potential of boosting economic activity, Europe suffers from a chronic lack of highly qualified workers. The internal labor supply of talented people is insufficient for a knowledge-intensive economy. Europe also loses talent to sophisticated economies like the US and Australia. Numbers speak for themselves: It is estimated that by 2015 Europe will need around 700,000 information-technology workers; by 2020, it will need 1 to 2 million health-care workers, including doctors and specialized professionals. Europe cannot fill these needs with local professionals, and immigrants obviously have the potential to close the gap.

To make EU economies thrive, leaders will need to do all they can to attract people with the competencies, skills, and innovative abilities needed for future economic vitality. Of course, many immigrants relocate for humanitarian, economic, or hardship-related reasons. They have few qualifications. This means that 'talent migrants' need to be the focus. Local and regional policy needs to take into account the fact that talented people will move to countries that offer them economic opportunity, ease of doing business, ways to make a contribution, and an environment to thrive as people.

Courting these talented professionals is not a concept well-rooted in European political circles. Even in Germany, the percentage of highly qualified immigrants who moved to the country in 2011 was less than 2 percent of the total. In comparison, in the US and Australia, the number of highly qualified immigrants as a percent of the total was about 10 percent. An example of a European city that embraces diversity and reaches excellent results in terms of innovation and creativity is Malmö in Sweden. The city has the highest proportion of foreign-born residents of any city in the country and it ranks fourth in the OECD's measure of patent intensity.

One way to measure the level of qualified people entering a country is to track the percentage of immigrants who have had their degrees recognized in the new country. The numbers of immigrants in Italy who have completed the process make up only about 3 percent of the total, and requests are pending for an additional 1 percent. In the vast majority of cases, the degree recognition is not necessary to get a job. Though the numbers would differ in other countries, the overall picture would be the same, as the vast majority of people do not attempt to have degrees recognized. In other words, they are employed in occupations that do not require high levels of specialization, and in some cases, no

education at all. They are employed mainly in manufacturing and other labor-intensive industries.

Italy is somewhat different. Unlike countries with many large corporations, where human resource departments have strategies and programs to hire foreign talent, small Italian firms struggle in this. A study by *Fondazione Leone Moressa* (2011) of 1,000 Italian companies with less than 20 employees confirms that, although employment of foreign workers by Italian small businesses has increased by 2.4 percent over the last five years, most of that employment is typically in sectors requiring fewer skills such as construction (27%) and manufacturing (22.4%). Overall, 54.8 percent of immigrants working in those firms were completely unskilled, 16 percent were partially skilled, and 23 percent were skilled only in the field of manufacturing. About 43.3 percent of employees were required to have only general work experience, and 18 percent were not required to have any prior experience at all.⁸

Clearly, leaders have much room for improving the way they tap the global workforce for talent. To this end, in this chapter, we argue for improving the way leaders leverage diversity in three areas: in society, in the workplace, and in education. We argue that diversity aids, rather than hinders, economic development. In fact, local leaders looking for a means to spur economic development without resorting to help from national leaders should consider managing diversity as a top priority. They can gain confidence from cities like Utrecht, one of the most multilingual cities in Europe – and among the best in education and most prosperous. As we mentioned in chapter 3, it ranks first of 262 cities on the EU Regional Competitiveness Index. The challenge is devising ways to make the most of diversity's advantages while minimizing the costs, to make the tradeoff fruitful for everyone, in strict abidance with the moral and legal obligations expected in free and democratic countries.

Defining diversity and its scope

When we use the word 'diversity', we mean diversity of culture in all its forms. And when we talk about 'leveraging diversity', we mean leveraging the interplay between people expressing different cultural forms for economic benefit. Ordinarily, if one thinks of cultural diversity, ethnic, and linguistic differences come to mind (Fearon, 2003). As our focus is on economics, we refer in this chapter particularly to such identifiable categories, namely ethnicity, language, and religion in line with mainstream economic studies (Gellner, 1983).

We are not dismissing other kinds of diversity. In anthropology, for example, the word has many meanings (Di Leonardo, 2004). Paraphrasing the definition of culture provided by Edward Burnett Tylor (1871) as the ‘complex whole which includes knowledge, belief, morals, law, custom, and any other habits and capabilities acquired by man as a member of society’, it is possible to say that cultural diversity encompasses all differences in culture of whatever kind. It extends to factors such as age, social background, gender, and so on.

But if we are to look at what is ordinarily known as ‘diversity’ in economic theory, we are led to the concept known as ‘fractionalization’, and, in particular, fractionalization of the three key factors of ethnicity, language, and religion. By looking at fractionalization figures, as we did at the start of the chapter, we can get a quantitative feel for the diversity level of different countries. We can also get a feel for the scale of the opportunity for leaders today – and if trends continue, the scale in future years – for using diversity to spur economic growth.

A number of indexes have been developed to measure fractionalization, the most famous of which was proposed by Harvard’s Alberto Alesina. The index, once again, ranges from 0 to 1 and measures the probability that two randomly selected individuals within a given group (normally consisting of a country) belong to different subgroups, in terms of ethnic provenance, spoken language, or religious affiliation. The closer to 1 the index is, the more heterogeneous the system is. For example, the fractionalization index for Italy for the year 2003 with regard to ethnicity, language, and religion was, respectively, 0.1145, 0.1147 and 0.3027. This in turn means that there is, respectively, an 11 percent, 11 percent, and 30 percent probability that two randomly chosen individuals belong to a different ethnic, linguistic, or religious group (Patsiurko et al., 2013).

Fractionalization indexes are sensitive to political changes and are, in many cases, a litmus test for the sort of transformations taking place, even over short periods. For example, Patsiurko et al. (2013) measured ethnic fractionalization for Czechoslovakia in 1985 at 0.4979, indicating a diverse social fabric. In 1992, upon formation of the Czech Republic and Slovakia, the fractionalization index dropped to 0.1802 and 0.2539, respectively, demonstrating the homogeneity of the two resulting countries.⁹ Alesina’s work (2003), although dated, demonstrates the broad range of ethnic fractionalization. At the most diverse were Canada at 0.7124, Belgium at 0.554, Mexico at 0.5418, Switzerland at 0.5314, and Luxembourg at 0.5302. At the low end were Sweden at 0.06, Portugal at 0.0468, Japan at 0.0119, and South Korea at 0.002.

These data highlight some unique cases. Canada, for instance, the country with the highest ethnic fractionalization index among those selected, was a site of powerful migratory flows in the nineteenth century. These flows shaped a mosaic of cultures comprising more than 200 ethnic groups, not to mention two main linguistic clusters, English and French. The diversity explains a Canadian prime minister's famous words, 'Canada will be a strong country when Canadians of all provinces feel at home in all parts of the country, and when they feel that all Canada belongs to them.'¹⁰

South Korea, at the other end of the spectrum, is the least ethnically fractionalized among OECD states. The nation has never been a target of immigration, owing to strict policies barring most immigrants from citizenship. Koreans have always believed a unified culture is a necessity for a unified state, and in turn multiculturalism has remained an alien concept. Immigrants to South Korea represent about 1 percent of the population, although some observers contend that the numbers are steadily rising and the government intends to enact policies to sustain this trend (Prey and Doucette, 2010). Japan, historically strict on immigration policies, today faces dramatic population decline and aging, a major threat to Japanese economic prospects.

The fractionalization index for languages follows the same pattern as for ethnic fractionalization. It does exhibit a higher level of homogeneity, even among those countries that are at the top of the index. This can be explained by newcomers learning local languages, causing language fractionalization to fade over time, unlike fractionalization from ethnicity or religion. In the case of Italy, the similar level of ethnic and language fractionalization is a symptom, despite the existence in the country of small German- and French-speaking minorities, of both the relatively recent nature of immigration flows and of the incompleteness of integration.

On the other hand, less homogeneity exists in small countries with many neighbors. Luxembourg has three official languages, Switzerland four. Belgium, which hosts many international organizations, is also divided between Flemish-, Walloon-, and German-speaking populations. This means that three official languages (Dutch, French, and German) and a number of nonofficial dialects (Picard, Champenois, Lorrain, Low Dietsch, Luxembourgish, and Yiddish) contribute to the diverse linguistic environment.

As examples of the language fractionalization figures calculated by Alesina in 2003, at the top was Luxembourg at 0.644, Canada at 0.5772, Switzerland at 0.5441, Belgium at 0.5409, and the Netherlands at 0.5143.

Italy was 0.1147, France 0.1221, and Germany 0.1642. At the bottom were, again, Portugal, Japan, and South Korea, at 0.0198, 0.0178, and 0.0021, respectively.

The religious fractionalization index gives a different view of diversity. Australia, for example, is a country where two individuals randomly selected from the population stand a chance of over 80 percent of following different religions. This can be explained by, among other things, Australian legislation that protects and in some cases gives incentives to religious minorities. In Turkey, where from the time of Atatürk the republic has pursued a policy of secularism that has included disincentives to practice religion, religious fractionalization is very low. According to the religious fractionalization figures calculated by Alesina in 2003, at the top were the US at 0.8241, Australia at 0.8211, and New Zealand at 0.811. In the middle were Japan at 0.5406, France at 0.4029, and Italy at 0.3027. At the low end were Portugal, Iceland, Luxembourg, and Turkey at 0.1438, 0.1013, 0.0911, and 0.0049, respectively.

It should be noted that fractionalization indexes are built on data that are, often, available only for specific years, so it is difficult to build trends. The index created by Patsiurko et al. (2013) has the merit of showing two different datasets from the same source 15 years apart, 1985 and 2000. The data tell a story of migrations across Europe. In the case of Belgium, for example, the country went from being relatively ethnically homogenous in 1985 (ethnic fractionalization index 0.1683) to having a high degree of diversity in 2000 (0.6066), most likely due to the growing African, North African, and Arab communities. The US went from 0.2637 to 0.4707, the UK from 0.1082 to 0.1506, Spain from 0.4359 to 0.7033, Germany from 0.1378 to 0.2158, and France from 0.2428 to 0.3998. As mentioned at the start of the chapter, this data point to the growing opportunity for leaders to leverage cultural differences for economic growth.

So this raises the question for all leaders: What is the potential for recognizing diversity as a usable asset in your country or community? On the fractionalization index, what threshold differentiates diverse societies from homogeneous ones? And how far along is your community on the spectrum from 'multiethnic' to 'multicultural', in which cultures not only live alongside each other but also integrate to gain the benefits of cultural interplay? Given other opportunities to spur economic vitality, how much should you stress the management of diversity as a strategy in promoting growth?

To some extent, the point is moot, as the question is how to make the most of a situation that demands attention. To use Italy as the example,

most immigration, and thus diversity, has been ‘unqualified immigration’: Immigration to Italy, on one end of the spectrum, is not by immigrants ‘selected’ by the country as in the Austrian example and, on the other end, is not by immigrants selecting the country for opportunities but as a place to which to flee from poverty and underdevelopment. According to the Italian Institute of Statistics, in 2002 foreign residents in Italy were about 1.3 million. Almost ten years later, in 2011 the number exceeded 4.5 million. The increase stemmed partly from new immigrants and partly from newborns of foreign parents on Italian soil (over 78,000 in 2010). These newborns are not considered citizens in Italy because the country does not recognize a *jus soli* criterion to grant citizenship.

Though it has its unique pattern of immigration, Italy shows the necessity of ‘knowing your diversity’. Some immigrant communities are particularly well represented. According to official statistics in 2013, Romanian citizens account for about one fifth of the entire foreign component, numbering 1,072,342 people, followed by Morocco (513,374), Albania (497,761), China (304,768) and Ukraine (224,588). Overall, about half of immigrants residing in Italy come from Eastern Europe, a quarter from those countries that joined the EU between 2004 and 2007. Another 17 percent come from Asia and 15 percent from North Africa. The remaining immigrants come largely from Central, South, and North America (Istat, 2013). As in many countries, the vast majority of immigrants lives and works in urban areas with more robust economic development, mostly in the north.

The advantages of diversity in society

To what extent can we confirm that cultural diversity benefits economic performance? At the theoretical level, Hannerz (1996), as reported in Khovanova and Pinelli (2012), identified a number of ways in which diversity may benefit human development and, hence we can infer, economic performance. First, as human beings rejoice in differences *per se* – appreciating foreign art and architecture, tasting food from different places, going on holidays to remote countries – diversity creates value ‘independently from any actual or potential use’ (Khovanova, 2009). Second, diversity provides a source of creativity and inventiveness, as we learn how others tackle problems, explore solutions, and adapt existing solutions to create new ones of their own. This sets off a virtuous cycle for the economy and society. Third, diversity aids resilience or in the words of Khovanova and Pinelli ‘the capacity of a system to stand negative shocks and adapt to new conditions’.

The biggest driver of diversity today is immigration, as the fractionalization data make clear. In that light, a number of studies have focused on outlining the economic effects of immigration, very often reaching diverging opinions (Borjas, 1994). To understand the full picture, one must first of all establish how heterogeneity within a certain group affects economic performance. Alesina and La Ferrara (2005) provided a review of the literature from which three main relationships emerged between economic outcomes and the interplay of diverse cultures.

First of all, diversity may simply govern personal preferences of consumers and business people and, hence, orient individuals' choices on what to buy. If, for instance, individuals attribute a positive utility to the well being of members of their own group and a negative utility to members of groups different from their own, they may orient their choices, including economic choices, to favor people of their own kind. This may not increase economic activity so much as reshape it to fit the contours of the diverse society.

Second, diversity may govern strategic thinking about how to do business with others in society. For instance, people may find it more effective and economically safe to trade or entertain relationships only with people from the same group. Where trust and connections are crucial to the functioning of a system, individuals may give preference to exchange only with the groups they have learned to trust. Again, this may not increase economic activity but merely reshape it.

Third, diversity may affect the production of goods and services by introducing into the system a variety of skills. These skills may boost output. More heterogeneity, in other words, may mean more productivity. To be sure, heterogeneity can turn out to be negative in some instances: Even if production of *private goods* benefit from a more diverse environment, the same does not necessarily hold for *public goods*. Public goods may be negatively influenced by the potentially higher conflicts within the society and higher degree of difficulty in agreeing on public policies. Some authors contend that in a fragmented society it may be difficult for individuals to 'accumulate resources for collective purposes', because each ethnic group tends to have its specific interest.

A most pessimistic contention is drawn by Alesina and La Ferrara (2005), who calculates that economies characterized by complete homogeneity have the potential of generating annual income growth of about 2 percent more than economies that are fully heterogeneous. His calculations refer to GDP growth rates per capita in countries, cities

in developed countries (the US), and in villages in developing countries from 1960 to 2000. Alesina's studies are consistent with other studies in the EU that correlate homogeneity with lower degrees of unemployment, although at a minimal level. They also are consistent with a report by Easterly and Levine (1997), who concluded that high values on the fractionalization index coincide with slower and lesser growth. Although Easterly and Levine focused on Africa, whose 'growth tragedy' (and often political and human rights tragedy) can be partially explained by ethnic fragmentation, the authors believe the same conclusion may hold for other countries. The lack of homogeneity in the social structure can cause political instability, underdeveloped financial systems, and even low levels of schooling, not to mention social conflicts from language barriers, fear of losing a perceived identity, and xenophobic reactions and hostility to integration.

Other studies take a more optimistic view of the impact of diversity on economic performance. This is particularly true when taking the long-term approach. A paper by Ashraf and Galor (2011) demonstrated that societies with higher levels of geographic insulation and less exposure to other cultures grow less than more open societies. The authors studied the differences in richness between the Western world and developing countries before and after the industrial revolution. They showed that 'the interplay between cultural assimilation and cultural diffusion [has] played a significant role in giving rise to differential patterns of economic development across the globe.' That is to say, diversity spurs economic development and homogeneity slows it down.

According to Ashraf and Galor, if, before the Industrial Revolution, the differential in per-capita-income ratios between the richest regions of the world and the poorest was around 3:1, in 2000 it reached 18:1. Obviously, a number of factors contributed to this growth, but according to the authors, cultural diversity is to be counted among them. Ashraf and Galor write: 'The lack of cultural diffusion and its manifestation in cultural homogeneity and rigidity diminished the ability of these societies to adapt to a new technological paradigm, thereby delaying the onset of their industrialization and, thus, their take-off to a state of sustained economic growth.'

Florida (2011) takes a similar view: 'There is compelling evidence that geographical openness and cultural diversity and tolerance are key drivers of economic progress. Proximity, openness and diversity operate alongside technological innovation and human capital as the key engines of economic prosperity. Indeed, one might even go so far as to

suggest that they provide the motive force of intellectual, technological, and artistic evolution.'

A study by Ottaviano and Peri (2003) carried out in a number of US cities showed that in those urban areas characterized by the highest degrees of cultural diversity, wages and rents for houses tended to be higher than in more homogenous cities. More diverse cities tend to attract more creative individuals, people who value human capital and use it as the main engine to produce revenue.

We can infer that a number of years may be necessary for the effects of diversity to bear fruit since in the short run the negative aspects seem to outweigh the positive ones. Another study by Peri (2010) reached this conclusion. In the short term, Peri maintains that immigration may slightly reduce both wages and local employment levels, but the effect is temporary. After adjustments in the system to change, immigrants do not reduce natives' employment rates but increase productivity and hence average income.

Specifically, between 1990 and 2006, Peri found that in the short run immigrants depressed wages 0.7 percent for native workers with no high school degree and depressed average wages by 0.4 percent. In the long run, they increased wages by 0.3 percent for workers without high school degrees and increased the average wage by 0.6 percent. Peri's results reflect similar findings on wage elasticity found in the labor literature since Katz and Murphy (1992). Peri also found that new immigrants depressed wages of previous immigrants by 6 percent. Interestingly, between 2005 and 2011, the employment rate of Italian citizens decreased by about 3.4 percent (partly owing to the economic crisis since 2008), whereas over the same period the rate for foreigners increased by 97 percent (CNA, 2013).

Ottaviano and Peri showed in another paper (2007, 2013) that, to understand the impact of immigrants on wages of native-born workers, one must perform a 'substitutability' assessment: Only if two workers are perfectly substitutable can a massive presence of immigrants lead to a reduction of native workers' salaries. Immigrants and locally born workers usually are not perfect substitutes for the same job, particularly for more qualified professions. On qualified jobs, the long-term impact is positive: a growth in salaries of both locals and immigrants. For example, the paper estimates the substitutability between natives and immigrants of comparable education and professional experience in the US from 1990 to 2006. They indeed found a lack of perfect substitutability, although small, between natives and immigrants. For their study period, they calculated that immigration into the US depressed real wages of the least educated natives by 0.1 to 3.1 percent.

Others have shown that diversity may, by itself, attract human capital. For instance, according to Florida (2002a, 2002b), cities with a variety of diverse attractions and a multifaceted environment, not just from the perspective of ethnicity but also from that of sexual orientation and cultural affiliation, are normally associated with higher levels of income. Florida explores the relationship between talent, diversity, and regional development.

He makes clear that diversity helps to attract talent, and that talent is in turn related to high-technology industry and regional growth.

A definitive answer to the issue is impossible to reach. Yet three conclusions may be drawn. First, whether or not diversity *per se* catalyzes growth – and however great or little its value as an intangible asset – large parts of national GDPs depend on diverse populations of immigrants. These immigrants' contribution to local economies is significant. Leaders at all levels would be remiss in not enhancing the value of that contribution through a variety of actions. Second, some of the temporary economic disadvantages that cultural diversity could create tend to be offset by advantages that take time to emerge. To realize diversity's potential, leaders need to nurture a new level of integration. Third, as some studies demonstrate, the benefits of diversity, whatever their nature or scale, are neutralized when the country does not have democratic institutions that facilitate thorough integration. Moves that undercut the functioning of democratic institutions may reverse the effects of diversity.

Note that a special kind of diversity gets too little attention. In addition to the heterogeneity due to recent immigration flows, many European countries have significant minorities with deep historical roots, usually concentrated in specific regions. These regions often enjoy a federal or special status within the current nation states. Some of them are aiming to gain more autonomy or to become politically independent. Well-known examples are the Basques countries and Catalonia in Spain; Scotland and Northern Ireland in the UK; and the German- and French-speaking communities in Italy. During economic downturns, such as the recent crisis, these regions engage in more independence and separation rhetoric. But if diversity is viewed as a value as opposed to a problem, then the uniqueness, 'local energy', sense of pride and belonging, and resilience of these minorities can be harnessed to achieve economic growth.

Actions to leverage diversity: Austria's new policy

As we noted at the start of the chapter, Austria offers an example that highlights the moves national policymakers can take to reap the benefits of diversity from immigration. Of particular note is that forward-looking

leaders can recognize diversity as a source of economic opportunity and revolutionize immigration policies to take advantage of it. The trend toward increased fractionalization is a tide that cannot be fought and, instead, should be thought of as a tide whose power can be tapped. To be sure, managing immigration alone is a blunt tool for managing diversity for economic benefit, but today it offers a serious means for spurring economic development.

In Austria, in addition to provisions to facilitate immigration of highly qualified professionals and trades people, policymakers have made provisions for 'key' workers who include those people who have undergone professional training but do not work in professions which are particularly in demand in Austria. Unlike the higher-end categories, they can enter the country only if they have a job offer and the company hiring them proves the job offered cannot be carried out equally well by Austrian nationals enrolled in job-seeker lists.

Along with these less qualified key workers, foreign students who have graduated from an Austrian university are allowed to stay in Austria for six months after graduation to search for a job. If they find a job that corresponds with their qualifications and their salary is at least 45 percent of the 'maximum contribution' as defined by law (about €1,900 gross per month),¹¹ they are granted a Red-White-Red card. Before the change in the legislation, these students fell under the old key workers' quota regulation and thus, to stay, had to earn a much higher monthly salary. Last but not least, self-employed workers may more easily enter Austria. If they transfer capital to the country or create jobs open to Austrians as well, they are granted the Red-White-Red card, regardless of any points they may score.

Austria also makes it much easier for immigrants to settle permanently. After living in Austria for one year and after having been employed for a period of at least ten months, the Red-White-Red card is automatically upgraded to a premium version. The new card, unlike the base version, which only allows its holders to work for a specific employer, opens up jobs anywhere in the labor market. It also gives benefits to immigrants' spouses and children. This facilitates integration.

This new immigration model effectively tackles the lack of qualified workers in the Eurozone. Abandoning the strict quota-based system has allowed the Austrian market to regulate the flow of immigrants much more efficiently. The new law also addresses the fears of national employees associations, worried about the effects of 'dumping' too many workers into the job market. Not only does the law provide anti-dumping provisions, such as those defining the salary level that immigrants need

to achieve to be granted access, but also includes specific provisions that take care of the local workforce.

Actions to leverage diversity: The EU Blue Card for talented immigrants

The Blue Card, passed by the EU legislature as Directive 50/2009, is a new set of norms to allow talented and qualified immigrants from outside the EU to enter for work purposes and to benefit from a number of advantages traditionally limited to EU citizens. For example, immigrants falling into this category can circulate freely in every country of the Union for work purposes after staying just 18 months in the first state. This is not traditionally allowed to immigrants who move to a European country under ordinary immigration laws.

Beneficiaries of the Blue Card directive are entitled to a number of rights in terms of education, social security, and work conditions that are normally reserved for EU citizens. The directive allows for an exception to the traditional quotas that limit immigration into EU countries. It expressly recognizes that skilled and professional immigrants are an asset, and the EU should encourage their mobility across borders. Eligible individuals have to demonstrate certain qualifications gained in their country of origin, typically a university degree, and they need to have met certain work qualifications in their home countries. In addition, they need to have an offer of a work contract for not less than one year and a remuneration of not less than €24,789.

These requirements are not particularly strict, as they measure ‘qualifications’ more than ‘talent’. But they move the discussion beyond equating all immigration with low-qualification jobs. While it is too early to make any assessment of the application of the EU directive in the Italian system – its implementation began in mid-2013 – it provides a means for local leaders to encourage the use of immigration and a way for the diverse skills, abilities, and perspectives of immigrants to make a difference in their communities.

The advantages of diversity in the workplace

We can see that diversity has huge potential to benefit society as a whole if properly managed.¹² That raises a second question: To what extent can diversity benefit performance in the workplace? What are the economic effects? Popular rhetoric asserts that cultural diversity is an asset for company performance.¹³ The perceived benefits that diversity may bring to business enterprises range from enhancing originality to increasing

the quality of business relationships, to fostering inventiveness, to providing a positive reputation for a firm.¹⁴ These benefits are at the basis of the so-called ‘business case for diversity’, the widely held belief that diversity in the workplace enhances productivity and firm effectiveness.

Former Hewlett-Packard¹⁵ CEO Lew Platt long ago identified three main reasons why diversity could benefit his firm, and in so doing essentially spoke for many business leaders: ‘(1) A talent shortage that requires us to seek out and use the full capabilities of all our employees; (2) The need to be like our customers, including the need to understand and communicate with them in terms that reflect their concerns; (3) Diverse teams produce better results.’ He admitted that he didn’t have empirical results to show that he was right: ‘This last point is not as easy to sell as the first two – especially to engineers who want the data. What I need is the data, evidence that diverse groups do better.’¹⁶

According to a study carried out by the Centre for Strategy and Evaluation Services (CSES) and commissioned by the European Commission, firms seek both long- and short-term advantages from nurturing a diverse workplace. The long-term advantages include strengthening long-term ‘value-drivers’. Short-term advantages include creating new opportunities to generate cash flow in the short- to mid-term. The first has to do with the enhancement of the firm’s human capital: Companies access a talent pool that would otherwise remain underexploited, improving their long-term capability to remain globally competitive. This would include talent that helps them manage global networks of customers and suppliers.

Other companies believe that heterogeneity is synonymous with creativity and innovation. Forbes surveyed a number of executives of global corporations with revenues of \$500 million to \$20 billion (2013).¹⁷ Most interviewed managers expressed a firm belief in diversity as a means to foster innovation and hence long-term productivity. Asked if they agreed with the statement, ‘a diverse and inclusive workforce is crucial to encouraging different perspectives and ideas that drive innovation’, 48 percent strongly agreed and 37 percent somewhat agreed. Only 3 percent strongly disagreed.

Berliant and Fujita (2011) provided the first empirical confirmation of these executives’ perceptions, focusing in particular on the role that diversity plays in broadening the array of production skills and, hence, making it easier to identify and employ best practices. The authors maintain that knowledge creation is optimized when common and differentiated knowledge are balanced. Neither a situation where two individuals have completely shared nor completely different knowledge is as productive

as situations where people's knowledge is mixed. Heterogeneity, embodied in individuals, is a basis for creating new and successful ideas. An employee's ethnicity may reflect unique networks, affiliations, beliefs, and perspectives. Page (2007) similarly scrutinized decision-making processes and reached the conclusion that more diversity produces more high-quality decisions with obvious economic returns.

According to the report prepared by the Centre for Strategy and Evaluation Services (2003), diversity may also boost organizational capital. Organizational capital is generally grouped into (1) reputation with management and other stakeholders; (2) marketing image; and (3) cultural values within the company. Some companies cherish a long-term investment in strengthening internal corporate values based on diversity because they believe that this will yield many benefits – allowing managers to address change more easily, to make sure the company behaves responsibly toward external stakeholders, and so on.

Regarding short-term advantages, experts maintain they come mostly from reducing costs. For instance, some contend that workplaces that truly value diversity enjoy lower costs related to litigation and legal expenses stemming from allegations of discrimination or unfair treatment. Others contend the retention rate of workers is higher in multi-ethnic companies, reducing costs related to training new employees and to losing time for people to focus on professional growth. Yet others say that a diverse working environment cuts unjustified absenteeism.

Such benefits may of course increase productivity. For instance, opening company culture to a more diversity-oriented approach may guarantee a better supply of workers and fewer labor shortages. More diversity may also provide necessary guidance for the creation of products that target specific customers, allowing companies to abandon the increasingly unprofitable one-size-fits-all commodity products. This may in turn increase customer satisfaction, loyalty, and sales.

To be sure, many of these benefits remain perceptions and not proven results. Even so, these perceptions are widely held by people working inside firms who deal with these issues daily. Figure 5.1 gives a picture of the main advantages managers cite from an increase in the diversity of the workforce, showing the percentage of companies that gained the benefits. The interviewed companies, queried by the Centre for Strategies and Evaluation Services, included 200 major corporations from across the world.

Creating value by managing diversity requires training and, in turn, investment. Managers and employees need instruction on how to deal with new issues. Companies need to adapt to the cultures they manage.

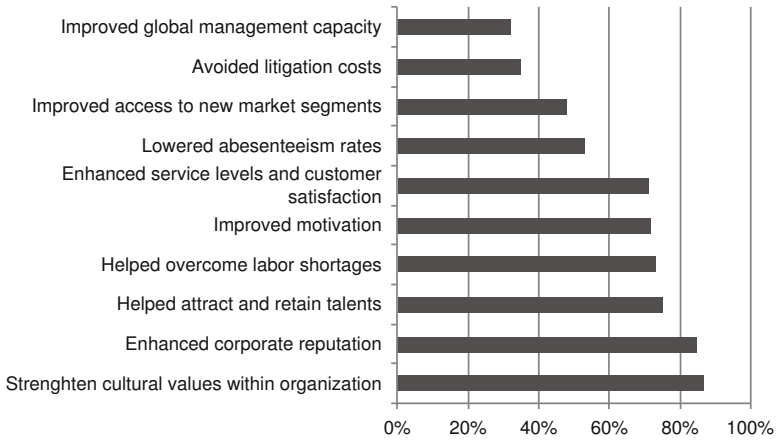


Figure 5.1 Benefits gained from diversity

Source: Author's elaboration; data from Centre for Strategies and Evaluation Services (2003)

This means less standardization is possible in practices and benefits. At the beginning, enacting diversity strategies will thus take time and also distract managers and employees from other business goals. CSES provides data that indicates the range of costs created by diversity efforts, as shown in Figure 5.2.

As our review of the subject reveals, the business case connecting management of diversity to economic benefits remains unclear. Despite the perceptions of company managers, empirical studies do not always provide support for perceptions. Kochan (2002) investigated a number of Fortune 500 companies and arrived at the conclusion that diversity, especially ethnic diversity, if unattended, is bound to create more conflict than cohesion. He observed that diversity had a negative impact on group processes, save in some specific contexts. For instance, in competitive organizational cultures, ethnic diversity hurt business performance. In other cases, a diverse workplace had no impact on the firms' capabilities to better their marketplace performance.

In the end, we can say that, whether or not, economically speaking, companies find it advantageous to engage proactively in fostering diversity, they have increasingly less choice about doing so, given that societies are moving steadily toward greater inclusion and cultural fractionalization. The value of diversity is one that should be pursued in any case.

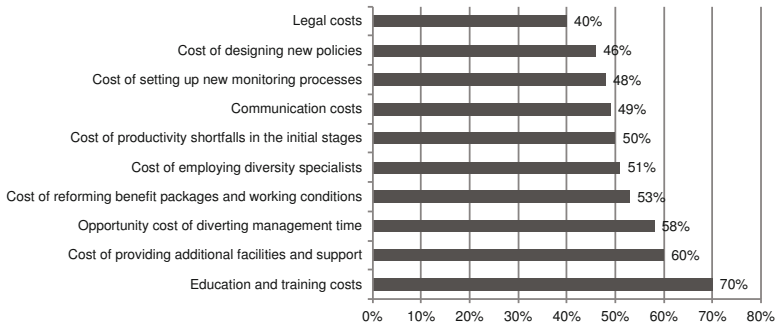


Figure 5.2 Costs from diversity

Source: Author's elaboration; data from Centre for Strategies and Evaluation Services (2003)

Actions to leverage diversity: The case of Gruppo Manni HP

An excellent example of a company that is leveraging diversity in Italy is the Manni Group, a €650-million privately owned steelmaker headquartered in Verona, with 20 sites in Europe. The company has distinguished itself by hiring employees from different cultural backgrounds and integrating them into the company structure. It has won awards for its integration efforts in 2004 and 2010. Of 807 employees, more than 102 are foreigners, both from within and outside the EU. In 2002, during the Argentinean economic crisis, it hired financially distressed Italian-Argentinean immigrants to work in Italy as highly specialized labor giving permanent employment to 17 immigrants from Cordoba.

To assure integration became part of the fabric of the firm, in 2003 the Manni Group formed a partnership with the department of psychology and anthropology at the University of Verona to study the psychological mechanisms that operate when an individual faces the challenge of diversity. The study, covering 150 Italians and 50 foreign employees, produced a set of concrete actions to facilitate integration. Integration was promoted, for instance, by organizing intensive language courses and creating a small company dictionary, translated into six languages, to allow all employees to communicate and interact professionally and personally. The program went beyond the company's walls, fostering inclusion of foreigners in social and recreational activities, providing help for housing to employees, and guidance on job-search to their family members.

Managers of the firm enrolled in a special program in cooperation with the Institute Don Calabria in Verona, where they trained in facilitating the integration of workers into the fabric of the city. By taking such affirmative actions, the group reaped the results hoped for: high levels of satisfaction among workers and minimizing of clashes within the working environment. We can infer that this in turn has led to increased productivity. We can speculate that Manni, by stepping ahead of other firms in its management of diversity, will hold a competitive edge as the fractionalization of Europe continues.

Actions to leverage diversity: Focus on entrepreneurship

The opportunity for leveraging diversity in business may come not just when immigrants take salaried jobs but when they start their own firms. More and more, immigrants decide to embark on the road to entrepreneurship, and they can often count on help from a large support network in their communities of origin. Immigrants tend to be risk takers compared to locals. In the first place, many, particularly foreign students and labor immigrants, display gumption, independence, and ambition when they leave their country of origin. They also often, especially in the US, remain for only a limited period confined to working in somebody else's business at unskilled jobs with little prospect of moving up. They position themselves at the top of the business pyramid and from there inject new energy into the economy. We might call these 'multicultural' firms.¹⁸

In the US, the role of immigrants as a driver of innovation and entrepreneurialism, and as a consequence of economic growth, is very clear and widely recognized. According to the OECD, in the US 'skilled migrants outperform college-educated natives in terms of starting companies, per capita patenting, commercializing and licensing patents.' A study done by The Kauffman Foundation of Entrepreneurship (2014)¹⁹ shows that about a quarter of technology and engineering companies founded in the US in the 2006–2012 period had at least a foreign-born cofounder. In Silicon Valley, the number was more than 40 percent. The general trend is growing: While in 1996, 13.7 percent of new entrepreneurs were immigrants, in 2012 they were more than 27 percent.

A Kleiner, Perkins, Caufield & Byers presentation²⁰ shows that 42 percent of America's Fortune 500 companies (equivalent to about \$4.5 trillion in annual revenue or 30% of GDP) were founded by either first- or second-generation immigrants. Again, in the technology sector numbers are stunning, with 60 percent of the top 25 US tech companies founded by first- or second-generation immigrants. Among these are Apple, Google, IBM, Oracle, Amazon, eBay, Facebook, Yahoo!, and LinkedIn.

The importance of foreign talent for the US economy is very clear to the business community (less so to the political leadership of the country), particularly in the tech world. In June 2013, a number of Silicon Valley leaders wrote to the US Senate to support immigration reform arguing that ‘our success stems from our historic diversity, and the constant infusion of new and innovative ideas’. By 2020, American firms are estimated to need more than 120,000 employees with computer science skills, twice as many the estimated number of computer science graduates in the US.

Europe, with the notable exception of the UK, offers a different picture. Today, immigrant entrepreneurs in Europe tend to operate in market segments that do not appeal to locals, and in this way they complement rather than compete with native entrepreneurs. Like immigrants seeking employment, they also tend to work in segments requiring fewer qualifications. Many studies demonstrate a tendency for immigrants to choose different professions as well – as tailors, say, as opposed to crane operators (Khovanova and Pinelli, 2012). This complementarity of multicultural firms is often an imposed choice, of course, for lack of alternatives (Jones et al., 2006). Empirical research even suggests that immigrants may be forced to start their own firms by former employers. To save on costs and reduce risk, an employer may instruct an employee to start a company and accept outsourced work along with risks formerly borne by the firm (Zucchetti, 1996).

Immigrants may face other barriers to freewheeling entrepreneurship. In many countries, certain professions can only be exercised after passing exams, and this constitutes an obstacle for those who do not speak the language. The process to have degrees recognized may be long and demanding, as it is in Italy, and this poses another obstacle. Then, too, accessing financing can prove particularly difficult, and some countries still limit foreigners doing business with conditions requiring reciprocity with their state of origin.

Despite this, the contribution of immigrant entrepreneurship to a country’s economy can be significant. OECD data (2010) show that the number of those engaging in entrepreneurial activities in Europe over the last decade has increased steadily, partly because people from some countries tend to have a strong flair for entrepreneurship. In OECD countries, for example, it is estimated that about 12.7 percent of immigrants manage a business, as opposed to 12 percent of natives. Many of these businesses go beyond ethnic retail or food enterprises.

For local leaders hoping to stimulate economic growth, the opportunity offered by immigrant entrepreneurs is hard to overlook. Immigrants

need the same services in getting a business off the ground as natives, and they create jobs and economic activity of the same kind. It has even been calculated that in some countries – for example, the UK – an average company founded and run by immigrants creates more jobs than the average native firm, with greater effect on total national employment. Immigrant-founded firms have the added advantage of creating strong links to their communities of origin, creating opportunities for more quickly accessing global markets. Many of the obstacles to firm creation and growth encountered by immigrant firms could be directly addressed by local leaders wishing to find a fresh way to stimulate economic activity.

The Italian case suggests some difficulties and opportunities that can be directly addressed. Italy is among the few OECD countries where the entrepreneurial rate of immigrants falls below that of locals. In the 2007–2008 period, the percentage of self-employed among foreign-born people was about 17 percent, compared to 23 percent for self-employed natives. In the UK, the foreign versus native rate is 14 versus 12 percent; in France, 11 versus 8 percent; in Belgium, 15 versus 12 percent; in Poland, 29 versus 11 percent (OECD, 2010).

That leaders do not do more to encourage immigrant entrepreneurship is puzzling from an economic point of view. OECD data show that between 1998 and 2008, foreign entrepreneurship in Italy created more than 300,000 new jobs. The percentage of immigrants in the total working population has grown by ten times, from 0.4 percent in 1998 to more than 4 percent a decade later. According to the CNA Report on immigration (2013), during the economic crisis, the Italian immigrant working population grew by about 580,000 units, a 33.3 percent increase and the highest among large European countries (Germany was up 13%, France up 5%, Spain down 25%). In the same timeframe, Italian natives lost about 1.1 million jobs.

In 2012, the number of foreigners who were direct owners of a firm in Italy was 232,000, making up 6.9 percent of total entrepreneurs, up from 4 percent in 2007. This implies a 39.2 percent growth since 2007 despite the economic crisis. The contribution to Italian GDP of foreign entrepreneurs reached 12 percent, or €170 billion, in 2011, up from 7.1 percent in 2005.²¹

Figure 5.3 shows the fields where foreign entrepreneurs are particularly active in Italy. They are fields characterized by limited levels of innovation that require no investment in knowledge-intensive activities yet require a constant supply of manual workers. About 37.3 percent of foreign-born entrepreneurs are in building/construction, a

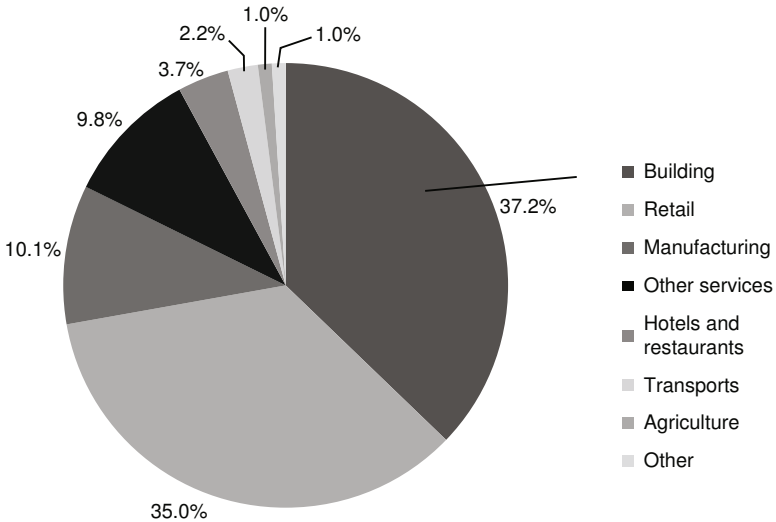


Figure 5.3 Main industry sectors of immigrant entrepreneurs, Italy
 Source: Author's elaboration; data from CNA (2012)

sector that typically requires little training. The figure for Europe is half that. In the US, the figure is 15 percent, in Australia, 21 percent.

This again suggests an opportunity for leaders looking to leverage diversity and immigration to economic advantage. The education level of immigrant entrepreneurs in Italy is higher among foreign-born business people than among natives: 20.4 percent of foreign-born entrepreneurs have high academic qualifications, as opposed to just 16.0 percent of Italian company owners. Conversely, low-educational levels are more common among Italian businesspersons than foreign-born ones, 40.2 percent versus 44.2 percent. This strongly suggests the talents and capabilities of foreign-born entrepreneurs are underutilized.

The picture that emerges is that, in Italy, leaders handle immigration as a process of hosting immigrants, without any real action to promote their full potential. In particular, immigrant entrepreneurs, unlike in other countries in Europe, are often relegated to the lower segments of the market, and despite having the capabilities and the education to engage in knowledge-intensive and innovative business, they do not. The opportunity for leaders is to reverse this situation, to exploit the potential of immigrant workers, and not allow it to go to waste in low-level, unskilled professions. As a start, leaders could increase interaction

with immigrant communities to explore reciprocal advantages. We will have more to say about this in the closing section of the chapter.

Actions to leverage diversity: Focus on funding

One of the thorniest problems immigrants face in setting up and running companies in a foreign country is financing. Whereas access to credit has become difficult for entrepreneurs generally, structural issues make financing even harder for immigrants. Some of the commonest obstacles are: language barriers, an inability to provide proper financial guarantees, an inability to explain investment projects, and simple prejudice. These barriers provide plenty of opportunity for civic, citizen, and business leaders to intervene to promote more robust economic activity.

In Italy, one financial institution that shows the way to remove these obstacles is Extranbanca. Founded in 2010, Extranbanca has been successfully growing, thanks to a user-friendly approach to clients and a business model for efficiently serving those who need credit in a foreign country. The bank operates for the most part as a traditional lending institution, but it tailors its operations to immigrants in Italy. The bank doesn't limit itself to serving the needs of one ethnic community, as many other initiatives do, but rather serves immigrants in general; immigrants account for more than 90 percent of its clientele. Italian nationals make up only a residual segment, accounting for about 9 percent of the bank's business. Among the bank's largest customer groups are those from the Philippines (25%), Sri Lanka (14%), Peru (8%), Ecuador (7%), Pakistan (6%), Ukraine (4%), India (3%), and Egypt (3%). Ten other countries each make up roughly 1 to 2 percent of its business.

As part of the bank's immigrant-friendly approach, the staff is well-versed in the requirements of foreign entrepreneurship. They are fluent in foreign languages. And they provide competitively priced services such as foreign money transfer, loans up to €50,000 for immigrants to buy a house in their country of origin, and specific financial plans for those who are not yet residents in the country. The bank limits its services to the 50 most-used financial instruments, the first of which is funding for entrepreneurial projects. Loan approvals depend not just on quantitative data but the bank's use of competencies in assessing the risk of multiethnic entrepreneurial deals.

Extranbanca is a particularly good example of how leaders in business can leverage diversity to both stimulate economic activity and make a profit. Not only does the business model of Extranbanca help supply credit to foreigners, it grants the immigrant community legitimacy, both socially and economically, to play a vital role in building

businesses and creating jobs – jobs well beyond those in corner shops or ethnic restaurants. In chapter 2, we discussed another way to obtain financing that applies well to the immigrant community, and that is microfinance. Microfinancing can be especially effective among minorities and women.

The advantages of diversity in education

We have so far seen that leaders have a role in leveraging diversity for economic advantage in society as a whole and in the workplace in particular. We now turn to our third question: To what extent can diversity improve education and, through education, become a driver of economic performance?

People mean different things when they refer to a ‘multicultural education’, from multicultural coursework to studying in foreign countries. In this chapter, we will limit our definition to an educational environment where students interact directly with students or teachers from other countries. The Erasmus program in Europe is a good example, in which undergraduates spend one or two terms to complete part of their education. The benefits of rubbing shoulders in the educational environment with others from foreign countries, however, start at a very young age. Empirical studies demonstrate that interracial friendships developed by primary school students in nonhomogeneous schools affect their way of perceiving diversity throughout their life, with more open attitudes not just toward ethnic diversity *per se*, but toward any complexity posed by any varied environment they may encounter later in life (Kline, 2010).

Indeed, it is a common contention, supported by a large corpus of literature, that people once exposed to a multicultural system of education make better citizens, more apt to understand the functioning of democratic societies, and more likely to adhere to the principles of a democratic citizenship (Gurin et al., 2004). Students immersed in a multicultural learning environment, for example, are supposed to better appreciate ‘perception of commonalities in values between their own and other groups; mutuality in learning about their own and other groups; interest in politics; participation in politics; commitment to civic participation after college; and acceptance of conflict as a normal part of social life’ (Gurin et al., 2004).

In Italy, Ongini (2011), a specialist in multiculturalism in Italian education, outlines ten ‘common-sense’ advantages of cultural interplay among students. He begins with one that most directly relates to

economic growth: quality. Data collected from across Italy prove that where there is a high presence of foreigners, school quality improves. The schools in Turin, which have one of Italy's highest concentrations of foreign students, are considered among the country's best. Similarly, students in the rural schools in the Veneto region, another heavily multicultural area, score the highest in the Invalsi test, Italy's national certification on knowledge of mathematics and language. We can assume these more skilled and capable students go on to promote more economic vitality than their peers elsewhere.

Ongini cites other benefits of multicultural schools not related to economics. Nonetheless, these benefits might have a significant indirect impact by building human and social capital. One is respect and commitment. Foreign students, according to many teachers, exhibit more of both, perhaps as a result of their background. A second is complementarity. Students from Asia widely excel in math and science, for example, owing to the emphasis by Asian families on these subjects. These students' high standing likely contributes in lifting up Italian students. The same 'lifting up' might occur as a result of local students working with foreign students from Africa, Latin America, and India, who bring expertise in French, Spanish, and English. A third benefit is meritocracy. Ongini contends that students from abroad set an example of excelling through performance as they cannot rely on family help and established social networks. Other benefits of multicultural schools include international exposure and the ability to gain constructive criticism from people experienced with other school systems.

To produce such benefits, multicultural education cannot be interpreted as simply desegregation (Pettigrew, 1998). The mere coexistence of people from different ethnic backgrounds is inadequate. What is needed is integration, sustained by affirmative action, aimed at guaranteeing 'equality in status, existence of common goals, and intimacy of interaction' (Gurin et al., 2004). This requires a proactive approach on the part of school and citizen leaders, who should not limit their work to making sure different nationalities are represented in classrooms, but should devise strategies and programs to keep students engaged with each other.

Diverse faculty is a factor that has a tremendous impact on learners' educational quality. A study by Umbach (2006), for example, demonstrates that a faculty of color benefits undergraduate teaching in two ways: First, the faculty of color uses a larger set of pedagogical techniques and interacts more frequently with students than their white

counterparts. Second, greater structural diversity among faculty increases their effectiveness in educational practices.

A university or high-school career that features experiences in foreign countries can also have positive short-term benefits, endowing students with a set of skills they cannot acquire domestically. A study carried out by the British Council in 2007, for example, demonstrated that over 60 percent of the 20 top British employers agreed that an international experience during university highly increased the chances of employability. An increasing number of universities in the US and in Europe require a period of studies or professional training in a foreign country. Acquiring language competence is the most evident of advantages. Learning about different ways of doing business or research is also beneficial.

Diversity in primary and secondary schools

How much room for improvement do schools in Europe have? The Italian system offers one view. Foreign students have become a common fixture in Italian primary and secondary schools as a result of immigration, and of course that presence has steadily increased. In 1996, the number of non-Italian students enrolled in national schools was just below 50,000, less than 1 percent of the student population. In 2011, the number had risen to over 710,000, over 7 percent of enrollment. More than 187 nationalities were represented in Italian schools, consistent with immigration flows into the country. Students from Albania were the best represented, closely followed by Romanians and Moroccans. Most of the students were born in Europe (49.8%), followed by those born in Africa (24.3%), Asia (15.7%), and America (9.7%). The diversity suggests the potential for improving educational quality as a driver of economic growth.

Italian leaders encourage multiculturalism only to a point. Ministry of Education data show that foreign students are spread across the country, more so in northern and central Italy, the most common destinations for immigration. Twenty-four percent of schools in the country have no foreign students; 58 percent have less than 15 percent; 13 percent have between 15 percent and 30 percent; and 0.7 percent of institutions have more than 50 percent. Italian policymakers have worried more about too much foreign participation, going so far as to establish quotas. An administrative decree passed by the Ministry of Education in 2010 forbids foreign-student populations exceeding 30 percent in classrooms. One rationale for the ruling is that, owing to language barriers, foreign students often lag behind native students, and in turn, hinder the pace of learning.²²

Percentages measuring classroom populations, however, do not give the whole picture of multiculturalism in primary and secondary schools. The Italian website www.scuoleinternazionali.org, in cooperation with some statistical institutions, has devised an internationalization index of schools that takes into account a number of parameters. Among them are the number of foreign languages studied and taught at school, exchanges with foreign schools and foreign classes, the presence of an ethnically diverse teaching faculty, the presence of foreign students hosted for a trimester or more in the school, the participation of teachers in training exchanges with foreign teachers, and the possibility of doing internships abroad. The index ranges from 0 to 100, and on average, Italian schools score about 40, showing progress but also much room for improvement. This gives a wide opening for local government, civic, and citizen leaders to act to shape the education of employees, entrepreneurs, and citizens of the future.

One longstanding program in Italy is Intercultura, the largest association in the country for fostering international mobility among high school students. Intercultura, which is the Italian partner of AFS (American Field Service) Intercultural Programs, provides scholarships for students to spend one year abroad.²³ Whereas other programs such as Erasmus and Amerigo facilitate international mobility among university students, programs that target students aged 16 to 18 are less common. The lack of opportunities to send high schoolers abroad is particularly pronounced in Italy. According to research by the IPSOS Explorer Institute, on average just 3,300 Italian high school students spend one year abroad. In Germany, the number is over 12,000.²⁴

Intercultura partly fills this educational gap: In the 2013–2014 school year, the association, which is the recipient of a number of awards for its role in the promotion of cultural interplay, handled more than 1,500 positions to study abroad for Italian students and almost 700 for foreigners wanting to study in Italy. Study programs offered take place not just in Western countries. They are also in countries of increasing economic importance, such as Thailand, China, India, and Brazil, providing exchange students with an unmatched insight into the functioning of societies that will play an ever-growing role in tomorrow's economy and world relations. Intercultura also promotes 'class exchanges' for limited periods of time. At a time when much talk surfaces about the challenges EU countries are facing to push integration forward (economic, political, and cultural), a three-month mandatory class exchange between EU high schools would be an easy, low-cost investment to foster medium-term integration of the EU.

Intercultura in Italy and AFS in many other countries are great examples of how local leaders can make a difference to fostering intercultural exchange. Exchange students and hosting families are selected by local volunteers and local high schools, and teachers are directly involved in making the experience valuable, and often time, scholarships to fund programs are coming from local firms and local private and public institutions that recognize the value of increasing intercultural exposure for their territory.

Diversity at the university level

Multiculturalism in universities is also important, yet the state of diversity is not nearly so encouraging in Italy. Italian primary and secondary schools are multicultural due to the attendance of the children of immigrant families. However, at the university level, the Italian system doesn't attract meaningful interest of students from other countries. See Figure 5.4. To be sure, the universities enroll immigrant children who have often gone through Italian secondary schools but not an impressive number of foreign students without Italian background. There are exceptions – Bocconi University, *Politecnico di Milano* and *Politecnico di Torino* – but they are few.

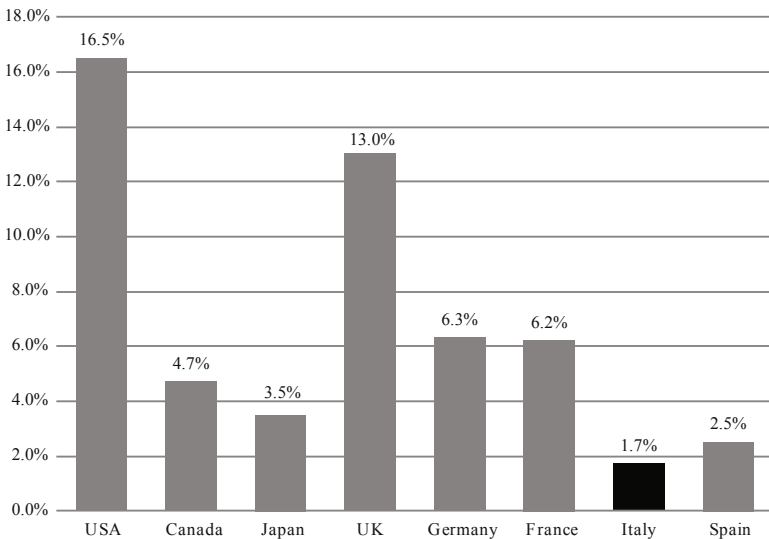


Figure 5.4 Percentage of foreign students that some countries can attract to their universities

Source: Author's elaboration; data from OECD (2011)

Leaders across Europe can make a significant difference in improving education as a means to influence economic vitality. If the university system is not able to attract talent from abroad, business misses the potential and benefits that accrue from highly skilled foreign students, often fluent in more than one language and able to add to the quality of the workforce. Understandably, the US and UK attract the biggest number of foreign students, owing to the widespread use of English by foreign students. Yet Italy still attracts far fewer students than other EU countries. Germany and France attract almost four times as many.

If we are to gauge the internationalization of various countries, measured by the percentage of foreign students attracted by their universities out of the overall student population, the numbers are telling: Roughly 11 percent of French and German university students come from abroad, compared to 3.4 percent in Italy. In the UK, the figure is 14.2 percent, in the US, 3.4 percent.

Another factor of interest is whether a country attracts students from emerging countries that will have a big impact on the world economy in coming years – countries including Brazil, Russia, India, and China. In 2010, more than 26,000 students of Indian nationality were enrolled in UK universities, whereas just over 600 chose Italy. More than 25,000 Chinese students moved to Germany to study, while about 5,000 chose Italy. According to the Ministry of Education, in Italy 19 percent of foreign students are from Albania, 9 percent from China, 8 percent from Romania, 4 percent from Cameroon, 4 percent from Greece, 3 percent from Iran, Morocco, Peru, Moldova, and Israel, and fewer numbers from Ukraine, Russia, Poland, Germany, Croatia, and Brazil.

Again there are exceptions that deserve to be studied to identify best practices. One practice worth emulating is to encourage local leaders to work closely with local universities to encourage internationalization, especially targeting students of countries with skillsets that are most needed for local economic vitality. Years ago, local entrepreneurs in Lecco and Como, for example, initiated a program that brings several students every year from countries that are key trading partners in emerging markets (primarily China and India) to study engineering (and Italian) at the *Politecnico* of Milan's branches of Lecco and Como. This is a good example of a bottom-up initiative.

The inability to attract talent at a globally competitive level is tantamount to missing out on a share of an enormous global asset – and the economic gains afforded. While reversing current negative trend in Italy may require national structural reforms touching both the university system and the labor market, local leaders – as specifically in private

firms and universities like in the case of Lecco and Como – can take initiatives to attract specific foreign talent, leveraging local work opportunities in the process.

Furthering the contribution of diversity to the economy

Many reforms in society, at the workplace, and in education, can be easily formulated and instituted, leveraging diversity with greater power than most countries today exert. Some measures cost little but promise big benefits. We turn now to these proposals.

Diversity proposal for the school: Study best practice educational models from abroad

Improving school performance is very important to attract high school students from around the world. In Italy, as PISA test scores show consistently over the years, students lag behind in mathematics and reading. The problem is not lack of resources, as Italy spends in education is high. It is more about allocation of those resources. As a result, Italy should examine the educational models of nations with higher scores in PISA tests, the same way the US and other countries do, and try to improve its own system.

One method tried in the US is the Singaporean curriculum for teaching mathematics, in part because Singapore children do much better in math and in part because the curriculum is in English. In more than 200 US high schools that tried the method in a pilot program, the abilities of students in math and calculus rose significantly. While curricula in Italy need to comply with national standards, local leaders of schools can learn to improve their systems by studying the best in the world, whether in Asia, Finland (another top scorer in math and science), or any other country. Given that most schools have a large degree of local autonomy, government and citizen leaders can play a pivotal role in instigating an examination of other countries' systems and adopting low-cost improvements.

Diversity proposal for the university: Attract more and more diverse foreign students to universities

University students embark on a study career abroad depending on factors like quality, accessibility, and employment opportunities after graduation. Italy needs to improve all of the above. A fairly easy way to increase access would be to offer more courses in English. This would not only increase diversity in terms of foreign nationals but diversity

overall. In the Netherlands, more than 19 universities offer degree courses taught completely in English. Students may apply online in English. Not surprisingly, the Netherlands has one of the highest rates of foreign-student enrollment in Europe.

Italy has earned a rich payoff when it has taken similar steps. Universities in the Milan area offer a number of courses entirely in English and are consistently ranked as having a level of internationalization higher than the European average. Other Italian universities have a limited offering of courses in English. According to the Italian Ministry of education,²⁵ 16 of 89 universities offering the first-cycle degree equivalent to a Bachelor's degree offered courses in English in 2007. But of these 16 universities, only 8 offered a full degree in English, far short of what's needed by foreign students who do not speak Italian fluently.

Even the eight universities offering a full degree in English do so only for a limited number of degrees. Only one (Bocconi University) offers a choice of three degrees, whereas two other universities offer two degrees, and five universities offer only one. Economics is for the most part the only degree offered in English, at times along with engineering and the sciences. A foreign student in law, philosophy, medicine, art, political science, or other fields does not have the option of an all-English degree.

University leaders can play a key role in changing this situation to better bring about diversity and leverage its potential for stimulating economic vitality. To minimize additional costs, they could increase the course offering in English, replacing courses with low enrollment. Local entrepreneurs could support the process in specific courses, depending on their geographic and technical areas of business.

Diversity proposal for talented students: Grant residency permits to the best foreign graduates

The prospect for employment after graduation ranks among the most important factors for students choosing a university; Italy essentially discourages capable and talented people from staying and contributing to the Italian economy. After foreign students' study permits expire, they are forced to leave the country unless they have a job – no matter their potential. A tool for retaining this talent would be to grant the right to stay for three years, regardless of whether the student is offered a job after graduation.

To ensure that this offer applies to talent that can actually contribute to the economy, it can be limited to students who achieve the highest levels of academic excellence. After the three-year period, those students who have found a job consistent with their academic

studies at an adequate salary would receive permanent residency (or a visa for a period of time sufficient to go through a naturalization process), without further requirement and regardless of immigration quotas.

This is a way to motivate self-starting, capable, and economically valuable talent to enter and stay in the country. Many countries have implemented similar policies. In Germany and the UK, for example, foreign students are allowed to stay for one year after graduation and look for a job. In the US, students with advanced degrees often obtain H1-B visas after graduation. Japan now allows scientists and engineers to stay five years after graduation.

Such an approach would improve human capital and foster economic growth. While this matter requires a national policy and a national legal framework, there is a strong interest at the local level to retain foreign talent after the completion of studies. Local leaders – university deans, entrepreneurs, political leaders – could find ways within the current legal framework to make a viable option for talented foreign students who want to stay in the region after the end of their education.

Diversity proposal for business: Help immigrants become business liaisons

Immigrants naturally bring a ‘global’ network to the country and the city they move to. Local leaders can leverage these networks by thinking of immigrants as intermediaries between their country of origin and the host locale. Despite the increasing globalization of the economy, many barriers, financial and bureaucratic, thwart the efforts of enterprises to conduct business across borders. To improve access to foreign markets, local leaders in Italy and elsewhere can step in to explore and tap the ability of immigrants to supply information, contacts, and knowledge of their home countries.

Data on the incidence of facilitation by immigrants of foreign exchanges and international trade give a hint of this potential (Dunlevy, 2006). It is estimated that the exchange of goods between the country of origin of immigrants and the hosting country may increase by as much as 10 percent if the potential of immigrants is exploited. A study in Sweden revealed that an increase of about 6 percent in the stock of immigrants increased imports by about 9 percent and exports by 6 percent between the two countries involved (Hatzigeorgiou, 2010). Some of this trade stems from entrepreneurs with long tenures in the host country, and their long-term trusting relationships amount to a valuable form of social capital.

At the local level, leaders could actively engage established immigrants in economic diplomacy – by creating associations that provide information to fellow countrymen who want to invest in the city or territory they currently live in, by using their networks to introduce local entrepreneurs abroad, by establishing formal contacts with business associations in countries of origin, and so on. This would be a new way of conceiving diplomacy outside the formal network of embassies and commercial offices yet still a means of formalizing relations between immigrant entrepreneurs and their countries. Local leaders should facilitate the involvement of selected immigrants in local institutions such as chambers of commerce and trade organizations.

Diversity proposal for entrepreneurs: Grant citizenship to successful foreign entrepreneurs

Article 9 of Italian law 91/1992 provides that under exceptional circumstances, Italian citizenship may be granted to foreign nationals who have distinguished themselves by benefiting the Italian Republic. This norm is largely reserved for heroes and is rarely used. Given the imperative to spur economic growth, this notion could be applied to immigrants who deliver significant economic accomplishments to benefit society at large.

The prospective citizen's contribution to the economy could be assessed with several criteria: the number of people that the firm employs, its annual turnover, and the sectors where the firm operates. Economic sectors considered strategic to the Italian economy – renewable resources, biotechnology, geriatric care – could be given special consideration. Once guidelines are set and if they are met, the process to grant citizenship should operate at high speed and without bureaucratic barriers.

Local leaders should, in the interest of their own territories and local economies, help identify and support the candidacy of those foreign nationals who have contributed to the local economy. This proactive approach would demonstrate a commitment to all entrepreneurs that local leaders are ready to act as liaisons in granting citizenship. This would increase the foreign entrepreneurs' sense of belonging to a community.

The benefits of diversity realized

The average immigrant-founded business in Europe creates about 2.1 percent more jobs than do domestic businesses (OECD, 2011). The absence of a diverse population means losing the opportunity to create

thousands of jobs. We have cited the inevitable at the start of this chapter: The increased fractionalization of countries around the world, and especially in Europe, will make countries increasingly more diverse. We can now say that, having made an argument for the many ways in which this fractionalization can be leveraged, the inevitable can be a good thing for economies; and indeed, it *has* to be good for any nation hoping to remain globally competitive today.

We urge action in three areas: in the integration of immigrants into the local society, in the integration of immigrants into the workplace, and in the embrace of multiculturalism in education. In all three areas, we are suggesting a much broader and deeper recognition of the change all around us. We are also suggesting recognition that we are facing not a problem we cannot ignore but an opportunity we cannot refuse. Though leaders at all levels may sometimes play to reactionary human tendencies to keep communities homogeneous, leaders who spur future economic development are those that will reach out and help communities leverage the resource of diversity.

To be sure, local leaders may see immigration as a national issue. And they may thus put their energies into other initiatives to spur economic development. But this will itself prove to be increasingly unwise. Local leaders, official or volunteer, can step in to help immigrants integrate into the fabric of the community. The success of integration, after all, is measured at the local level. Leaders can help immigrant-founded businesses gain the financing and resources they need to thrive and hire more people. And they can help to reshape schools to leverage diverse student bodies for the economic benefit young people bring to society. This is not a job just for national leaders. This is a job that starts in every neighborhood. Immigration is often perceived as a national threat or problem; it could become a local opportunity.

6

Champion Social Mobility

Advancement via meritocracy that begins in school

Few developed countries transfer economic disadvantage from one generation to the next as effectively as the US, UK, and Italy. If your father held a job as a tradesman, you often will. If he held a job as a professional, you probably will, too. If your father earned mediocre wages, you often will. If he earned a big salary, you probably will, too. Data from the OECD (2010) on intergenerational income mobility, as measured by intergenerational income elasticity, makes the point. In a range between 0 and 1, the lower the number the higher the income mobility across generation, the US came in at an inelastic 0.47, the UK at 0.50, and Italy at 0.48. This compares, for example, with particularly mobile (elastic) countries, Denmark at 0.15 and Norway at 0.17.¹

People exhibit a host of talents, capabilities, levels of motivation, willingness to work hard, appetites for taking risks – all these assets can be wasted if the social and occupational limits reached by previous generations are imposed on the next. To put it another way: Underutilization of human potential and human capital across society as a result of social immobility creates economic inefficiency that hurts everyone.

That's not to say society's leaders are not doing anything to move people up the social ladder. In the UK, the Villiers Park Scholars Program² is representative of an educational initiative at the local level to reverse low social mobility. The program aims to provide 'very able students without a family tradition of higher education' with the means and support to apply and get into a leading university in the country. The general idea behind the program is that 'for students with high academic potential, university should be the expected destination'.

The program is aimed at bright and talented students from disadvantaged backgrounds. The indicators of disadvantage include, among others, annual household incomes of less than £25,000, an applicant who is the first generation in the family to stay in school past the age of 16, and parents who are engaged in nonprofessional occupations. The program enrolls scholars from their tenth year of schooling and provides four years of free support. The first year is dedicated to developing not just skills that may be used in higher education but also the motivation that is required to embark on challenging courses of study.

The efficacy of the program has been the subject of analysis.³ Almost 77 percent of those who took part in the program in 2010 enrolled in a university degree course the following year, and out of these, about half went to a high-quality institution. That compares favorably with overall statistics nationally, which shows that as little as two percent of UK students from disadvantaged backgrounds pursue further studies at the most select universities.

The Villiers Park program is similar to programs that have run for many years in other countries. We include it here to illustrate the sixth recommendation for spurring local economic growth: finding ways to break the ironclad parent-to-child transmission of disadvantage. Only by doing so can societies ensure that people across the socioeconomic spectrum make a difference to the full extent their faculties allow, that they contribute at the maximum of their productive powers, and in turn help spur economic growth.

As far back as Plato, great thinkers recognized that a prosperous and sustainable society depended on letting people fulfill their potential. In *The Republic*, Plato held that people could be distinguished according to three categories: those made of gold (high capabilities); those made of silver; and those made of bronze (low capabilities). He advised against entrusting to 'bronze children' – simply because they came from 'gold families' – the management of the significant interests of the state. To preserve and foster the functioning of the Republic, he suggested that 'gold' talent, regardless of its origin and upbringing, be in charge of the overall management of the *Res Publica*.⁴

Today, the challenge for leaders at every level is to make sure all people, whether bronze, silver, or gold, contribute at their highest desired level to national economic vitality. Persisting with a social, economic, and political system that keeps the gold talent from rising to the top and discourages it from shining brightly on the job hurts economic growth at all levels. Instead, the system should help people, based on the merit

of their talents and efforts, break through to jobs and stature commensurate with their potential.

At a time when national-level leaders have slowed or stalled action and often give the impression of being bronze rather than gold, it is critical to broaden the search for gold across society. Gold talent is more abundant and underutilized at the local level than many people appreciate. Locales of all kinds offer many sources of leadership – political, economic, and cultural – and particularly in a time of crisis these sources need to be tapped. True, social mobility allows the grooming of a new leadership class from a broader group of citizens, a cross-section likely to be more representative and capable than the current elite of insiders.

To be sure, in a modern democracy, social mobility is normally a social and political goal as well as an economic one. High mobility fulfills the aspirations that are at the very core of human nature: that they be makers of their own destiny and have the right to pursue their own happiness, whether on the job or elsewhere. The public in developed countries, as a result, widely believes in bettering society by fostering mobility as a principle of fulfilling the potential of democracy, in spite of the hot winds of passion that seem to constantly blow in political circles when people debate this issue.

When it comes to economic prosperity, however, we see that on economic merits alone, facilitating intergenerational mobility allows society to efficiently and effectively tap the talents, brains, and energy of all people. Realizing this efficiency and effectiveness is an economic feat of great value as it allows nations to develop and deploy human resources for ever-greater returns. As a 2007 OECD Report says, ‘if the degree of intergenerational transmission of disadvantage can be reduced, the aptitudes and abilities of everyone in society are more likely to be used efficiently, thus promoting both growth and equity’ (d’Addio, 2007).

Defining social mobility

Before we go further, we need to better define social mobility as the term is used in different ways. When a society has high levels of social mobility, individuals, no matter the circumstances of their birth, can easily, during their lifetimes, move either up or down the social ladder. Rising to and staying within a certain social class depends upon factors other than birth and previous social affiliation. In such a society, on a practical level, nepotism, cronyism, elitism, and other brands of favoritism and privilege fail to convey disproportionate advantage to anyone.

To put it in Blanden et al.'s words (2005), 'The level of . . . mobility in society is seen by many as a measure of the extent of equality of economic opportunity or life chances. It captures the extent to which a person's circumstances during childhood are reflected in their success in later life, or, on the flip-side, the extent to which individuals can make it by virtue of their own talents, motivation and luck.' In a society with low social mobility, occupational position, income levels, and social status tend to perpetuate themselves down through the generations. As people enter and age in the workforce, they find their position in society is very much the same as that of their parents.

Although the fundamental notion of social mobility is easy to grasp, let's clarify our specific use of the term. Traditionally, the distinction has been drawn between intergenerational and intra-generational mobility. The former describes changes in social status from one generation to the next, contrasting the positions in society of parents and children. The latter takes into account shifts in social status during the lifespan of an individual. In this chapter, we focus on intergenerational mobility.

Another important distinction is between absolute mobility and relative mobility. Absolute mobility studies the aggregate movements from classes that occur in society as a whole, how today's generation has changed from the previous. Most people in the developed world have experienced some upward mobility over the last century, mainly by transitioning from an agricultural to an industrial and then to a post-industrial society.

Relative mobility measures the mobility of an individual in relation to the mobility of the society where he or she lives. Data show that relative mobility has prevailed at a high level for some time in Northern European societies, especially Scandinavia. It has not done so to anywhere near the same degree in the US, the UK, and Italy, which share the bottom rung when it comes to this measure. Not surprisingly, absolute and relative mobility correlate closely. Absolute mobility can, and has, changed the economic structure of societies, and it in turn has given individuals the ability to change their social status over the course of their lives.

A final distinction is between long- and short-range mobility, for either an individual or a society as a whole. The farther the social class of origin and the one of arrival stand apart over time, the more mobility can be described as 'long range'. Needless to say, we cannot address all forms of social mobility in one chapter, and we will therefore focus attention primarily on relative intergenerational mobility, which is in

our opinion the category of social mobility more likely to be positively affected by medium-range, customized policies.

Mobility as a social and political goal

There is no denying that social mobility has been recognized to promote positive effects of many kinds. From an ideological point of view, social mobility has traditionally been seen as a catalyst to promote two different and specific systemic effects within a society: equality of opportunities and growth. But there are other benefits that authorities connect with social mobility that may play a role in sustained economic vitality.

Let's start with a notion that has become outdated, and yet remains a theme often cited: social stability. Vilfredo Pareto, the Italian sociologist who developed the theory of the circulation of the elite, argued in 1916 that governing elites must find ways to assimilate the exceptional individuals who excel in specific fields of expertise because only by doing so will leaders preserve social order and prevent outbreak of violence spurred by injustice. Social mobility is therefore seen as a 'social stabilizer'.

Along the same lines, the World Value Survey, referred to in a work on social mobility of the Council of Europe of 2010, noted that 'the opportunity for mobility within an unequal society may mitigate some of the negative impact that inequality has on people's subjective well-being' (Nunn, 2011). Studies investigating this hypothesis show that not only effective social mobility, but also perceived social mobility, might have an impact on subjective well-being. Once again, this can only have positive economic consequences.

Drawing heavily from the works of Rawls (1971), it could be said that efforts to foster social mobility should ensure that formal equality of opportunities in modern societies – that is, recognition of the same rights to all individuals, regardless of their origin – is translated into actual equality of opportunities. Equality of opportunities does not mean equality of outcomes – nor should it if the best and brightest demonstrate the talent and energy to take on 'gold' jobs. But equality of opportunity is widely considered 'fair' as a starting point, and it remains entirely compatible with contemporary views of people in democratic societies.

For example, in a 2009 survey in the US, as reported by Corak (2010), interviewees were asked if it was more important 'to reduce inequality in America or to ensure that everyone has a fair chance of improving their

economic standing'. Seventy-one percent of those interviewed opted for the latter alternative. Only 21 percent considered reducing overall inequality the priority. In other words, not just economists but the public at large seems to accept at least some inequality of outcomes (income) as acceptable to an economic system that benefits society as a whole.

Data from the International Justice Project, as reported in d'Addio (2008), confirm this conclusion for the OECD as a whole. Table 6.1 shows the percentage of adults in OECD countries that agree with certain statements related to fairness of opportunity, equality, and income distribution. People are more ready to accept income inequalities when a society provides mechanisms for everyone, at least in principle, to attain high social status and income.

Alesina et al. (2004) have confirmed that a person's political, rather than economic, beliefs might govern the way people approach the issues of equality, income distribution, and perception of social mobility. Nonetheless, the data show that so long as people are afforded equal opportunity they accept capitalist forces as governing the social mobility in their society. By inference, we can say that the majority of those surveyed would agree that promoting a society based solely on a principle of equality of outcomes would be tantamount to denying that individuals are in fact different from one another.

The differences, of course, are precisely the factors that allow some people to produce more economic value than others, and in turn justify, to a point, unequal income. To put it in the words of one of the most famous theorists of equality of opportunities, Roemer (2005), social mobility does not necessarily imply equality of outcomes but rather 'level(ling) the playing field so that all have the potential to achieve the same outcomes; whether or not, in the event, they do, depends upon individual choice'.

These considerations are of the utmost importance for leaders. Indeed it is key to recognize at the outset that whereas some of the determinants of social mobility could and should become the subject of policies, others could not and, above all, should not. Some interventions, for example, would intrude into the personal choices of individuals. For instance, children from families with divorced parents are on average less likely to experience social mobility than children from families where parents are married or live together. However, making divorce illegal to increase social mobility is of course not a viable option.

That some people have and make the most of innate qualities that other people do not is elemental to, and not contradictory to, the ideal of social mobility. Innate talents, artistic flair, intelligence, and so on

Table 6.1 Attitudes of adults in OECD – Percentage share agreeing minus percentage share not agreeing

	'It's fair if people have more money and wealth, but only if there are equal opportunities'	'The fairest way of distributing wealth and income would be to give everyone equal shares'	'It is just luck if some people are more intelligent or more skillful than others, so they don't deserve to earn more money'	'People who work hard deserve more money than those who do not'	'People are entitled to keep what they have earned even if this means some people will be wealthier than others'
Japan	40	-39	-37	86	56
Former West Germany	72	-37	-27	89	83
United Kingdom	71	-32	-56	93	72
United States	74	-51	-66	89	88

Source: Author's elaboration; data from International Justice Report in Marshall et al. (1997)

are to be cherished and leveraged – Plato’s point. As Swift (2005) asserts, ‘equality of opportunity does not require us to compensate for differential luck of the kind that is constitutive of who people are. It requires only the removal of the social barriers and silver spoons that prevent people from competing on level terms with those constituted like them. The distinction that matters is between those mechanisms that, although a matter of differential luck, is constitutive of the individual and those that are not.’

In other words, if you win by your own luck and superior capabilities, good for you. You are probably adding economic value that helps not just yourself but society. If you win by virtue of birth, you may simply be displacing someone who would create more value than you do. You may be depressing economic vitality. Only when the motivation of individuals is stimulated by the formal and substantial recognition of equal opportunities for everyone can the growth potential of a country be realized.

A paradox arises when it comes to equality of outcomes. At times inequality operates to produce economic growth, and at other times the reverse happens. Inequality is of course necessary as an incentive – one person being offered more money than another to reward him or her for superior value-creating performance. As noted by Davis and Moores (1970), ‘as a functioning mechanism a society must somehow distribute its members in social positions and induce them to perform the duties of these positions. It must thus concern itself with motivation at two different levels: to instill in the proper individuals the desire to fill certain positions and the desire to perform the duties attached to them.’ Instilling that desire often requires the enticement of money, essentially a bonus for more capable people.

But the use of this incentive for individuals contains a danger. If the inequality grows too great among groups – if the bonus gets too big – it acts as a disincentive. That is, it may undermine the confidence of people more broadly in society’s commitment to equality of opportunity and, in turn, to opening the door to moving up socially and economically to a higher, perhaps coveted, status in life. Given that some studies demonstrate that even the perception of social mobility has a positive impact on people’s subjective well-being, the growth of income inequality to the point of undercutting people’s perception of social mobility, can hurt economic efficiency. The lesson is that inequality cuts both ways, and leaders need to gain a sense of how to manage this paradox to create both social mobility and healthy long-term growth.

How to measure social mobility

Let's now turn to the measurement of social mobility. How do we know mobility has gone up or down? All studies carried out in the field of social mobility take, as a starting point, that individuals can be arranged in social groups according to a hierarchical scheme. Experts debate the layers in the hierarchy and the criteria for each are complicated by many factors. For example, each profession might enjoy a different level of prestige in a different part of the world, or even among different generations. Working in public administration might be revered in Italy but not in the US. Similarly, the social status of a physician in America is not the same as in the UK.

Despite these complications in standardization, attempts have been made to draw up a scheme that allows for some objective classification, at least for Europe and North America. The famous Goldthorpe scheme comprises a seven-tiered system that, taking a sociological approach, considers profession as the parameter to create a hierarchy among individuals, families, and groups in society. The top tier of the system includes 'higher-grade professions; administrators and officials; managers in large industrial establishments; and larger proprietors'. The second tier includes 'lower-grade professionals, administrators, and officials; higher grade technicians; managers in small industrial establishments; supervisors of non-manual employees'. The third tier includes 'routine non-manual employees' split into high and lower grades. The fourth tier includes 'small proprietors, artisans, etc.' with and without employees. It also includes farmers and 'self-employed workers in primary production'. The fifth includes 'lower-grade technicians and supervisors of manual workers'. The sixth includes 'skilled manual workers'. And the seventh includes 'semi-skilled and unskilled manual workers other than those employed in agriculture', and at a lowest level, 'agricultural and other workers in primary production' (Breen and Luijckx, 2004).

The model is far from perfect, as it outlines groups in a broad and imprecise way. Attempts have been made to refine the model by creating a sort of 'micro-class' regime (Jonsson et al., 2009). Models have also been proposed to supersede the outdated notion of class. For instance, a five-tier model features, as the first tier, the 'global managerial class', as the second tier, 'relatively secure employees and successful entrepreneurs', as the third tier, 'relatively insecure employees and new business entrepreneurs', as the fourth, 'short-term unemployed who are actively seeking work', and as the fifth, 'long-term unemployed and inactive [people] who are not actively seeking work or face significant barriers'.

But in our treatment of social mobility, we will rely on the Goldthorpe model, which is based on the wealth and income of individuals, even though it allows for sociological factors. From a practical point of view, income is a relatively objective parameter and so serves as a good indicator of mobility among generations. The challenge for researchers is to identify an income-based measurement of social mobility that allows for comparisons between parents and children's earnings. Traditionally, the measure chosen has been intergenerational earnings elasticity, and that is what we rely on here.

The determinants of social mobility

The general perception, strongly borne out by empirical studies of modern societies, is that social mobility does not occur automatically. Nor is social mobility an aim adopted by societies by default. To the contrary, parental status and family background have a significant impact on the future of children as the traits and elements of that background tend to perpetuate themselves from generation to generation. Without intervention by policymakers, children from well-off families tend to maintain that status later in life, and children from families with financial difficulties, though they might strive for better lives, often fail. To a certain extent, this is 'normal'.

Many children naturally make the same educational and work choices as their parents, and hence end up later in life in the same class or income group. Research carried out in the UK shows that 56 percent of children born in a family where parents have a professional career wish to embark on a professional career themselves. This contrasts with 13 percent of children born to parents with lower qualifications aspiring to a professional career. Family background has a big impact. One could argue that these are not circumstances any policy should try to change as they reflect the passing on of values, lifestyles, and priorities. This is a family's prerogative.

Other factors that seem to have an impact on social mobility include the structure of the family. Research from the UK's Department for Education and Skills demonstrates that children living in households with both parents normally score higher in the General Certificate of Secondary Education (GCSE) exams than peers living in families with single parents. Nunn et al. (2007) and Margo et al. (2006) note that the structure per se may not be the factor that affects educational performance and, hence, later life. It may be that single parents suffer from constrained incomes compared to couples. Another factor is that people from working-class backgrounds are more prone to become single

parents than people from middle-class backgrounds. The structure of the family might, therefore, simply be an indicator of socioeconomic disadvantage, which is in fact the basic causal factor affecting the social mobility of offspring.

If leaders at national, regional, and local levels are to have an influence on social mobility, what factors should they take into account? One of the first might be income inequality. The Policy Research Institute of Leeds Metropolitan University (Nunn, 2007) draws heavily from prior literature on social mobility to identify a number of factors globally influencing the level of social mobility. Even though the relative influence of each determinant is uncertain, income seems to have a bearing on all of them. The hypothesis is that, to the extent income is unequal, it tends to remain unequal across generations.

Although one cannot establish a causal link between income inequality and intergenerational income mobility, recent research demonstrates a correlation. Countries with high levels of income inequality, as measured by the Gini Index, present low levels of intergenerational income mobility. Countries with lower levels of income inequality present higher levels of intergenerational income mobility. The implication is that most determinants of social mobility are, directly or indirectly, affected by the income of the family of origin. Children have some flexibility in determining their future, but without intervention, they remain in the same income *strata* as their parents.

Aside from income, experts recognize that one of the primary determinants of social mobility is social capital. In the context of social mobility, social capital is defined as the system of relationships and networks normally attached to a certain social status. Traditionally, a distinction has been drawn between social capital that can be fostered through 'bridging' and social capital that can be fostered through 'bonding'. The former refers to establishing links between different groups of individuals that share some characteristics. The latter refers to social contacts among individuals in the same group, therefore promoting group cohesion. Bridging is what you do when you make friends with people who are not like you, like supporters of another soccer team. Bonding is what you do when you are socializing with people who are like you, the same age, race, religion, and so on.

Bridging and bonding play a star role in educational and occupational achievement when they occur within networks of contacts and a culture oriented toward productivity, dedication to one's job, and identification of positive role models. Children's aspirations, expectations, confidence, and adulthood achievements are boosted in an environment rich with

positive role models. The opposite is true when an individual lacks positive social networks. Children not belonging to rich networks make different choices and have different aspirations as teenagers. Their lack of social capital has been demonstrated to be related to low levels of social mobility, constraining them within their classes of origin.

This is the reason why the reciprocal relationship between bridging capital and bonding capital of a social group is important. Robert Putnam (2000) argues that the two kinds of social capital, bonding and bridging, strengthen each other. But he also notes that where a group experiences a high level of bonding capital and low level of bridging capital, members risk enjoying a limited number of opportunities. Bonding capital does give the group cohesion and uniformity, but without bridging capital, the group may not transmit values necessary for a person's success in life.

Social capital comes in several forms, and many studies have tried to identify its possible manifestations. What may be most critical to note is that social capital may largely determine parents' attitude toward, and investment in, their children's human capital. As we discussed in chapter 1, human capital is the sum of 'knowledge, experience and talents that contributes to one's productivity, enhancing the ability to perform specific tasks' (d'Addio, 2008). Investment in a good education is probably the most evident subset of human capital investment that a parent can undertake, and the benefit in terms of skills, productivity, and opportunities has an obvious bearing on the social mobility of the child. Financial difficulties associated with poor social capital and related constraints on education are bound to reverberate among those born from not so well-off parents.

If the lack of knowing people who might have been in higher education reduces social mobility, the same is true of a risk-averse attitude or a set of values more inclined to focus on the short-term. Sons and daughters may choose not to pursue higher education in order to immediately contribute income to improve the family's well-being. In this respect, even the neighborhood where a child or a teenager grows up and the sorts of *stimuli* the child is exposed to have been proven to have a clear influence on educational choices and, in turn, professional achievements later on in life.

Mobility through education

Education is arguably the foremost factor influencing intergenerational social mobility where leaders at all levels can make a difference. To gauge that difference, experts measure the so-called 'intergenerational

transmission of education' to determine how significantly a family's educational background affects the next generation's performance at school. They also measure 'educational mobility', which compares the levels of education of parents and children, establishing to what extent the former has an impact on the latter. The correlation between educational social mobility and employment social mobility is crucial if the advantages of a good educational system are to be translated into occupational and status gains later in life.

The data for 'transmission' and 'mobility' are sometimes at odds when it comes to education. This is evident from data available from the so-called PISA tests, the Program for International Student Assessment.⁵ Data from the PISA 2003 survey in mathematics (analyzed by Fisher in a 2008 paper) compare student test scores with family educational backgrounds. Intergenerational transmission is measured as the difference between the mean score of those with a highly educated family background and those with an average educated family background. The level of education of the family is measured in different ways, and the maternal education level is a prominent one. Multiplying the mean-score difference by -1 allows us to arrange the results so that the higher the value (the least negative or positive), the more equitably a society transmits education to students of all backgrounds. A very high value implies that the educational disadvantages of family background do not carry over to the next generation's educational performance.

Data show that the countries in the OECD with the most negative figures are all in Eastern European countries: Poland, with a value of -53 points, and the Czech Republic, with -54 points, Hungary with -57 points. In other words, the difference in educational transmission between advantaged and disadvantaged families from a maternal education standpoint is large. These countries also rank relatively low for occupational and income mobility. Sweden and Switzerland, two mobile countries from the perspective of employment, exhibit high values for intergenerational educational transmission, at -2.59 points and (in a remarkable high-end outlier) 2.41 points, respectively. Italy, interestingly, also ranks high. In an apparent paradox, despite being one of the least mobile countries as far as employment and occupation, its intergenerational transmission score comes in at -1.28 points.

The correlation of educational transmission to family background holds for both Italy and other European countries when a slightly different analysis is done, based on the socioeconomic status of students' family of origin. PISA 2012 data show that in OECD countries, a student who comes from a socioeconomically advantaged background scores,

on average, 39 points higher in mathematics than does a student from a comparably less-positive context. This difference amounts to about one year of schooling. In Italy, the divergence is less marked, at around 30 points, yet is nonetheless still significant.

In the case of Italy, the data show that nearly equal school performance does not necessarily lead to educational and social mobility. The equitableness of Italy's education system is apparently above standard, even though it scores below the European average when it comes to measuring learners' ability in specific fields such as reading, science, and mathematics. It has been calculated that only 10 percent of the difference in scores among Italian students in the PISA 2012 test is attributable to differences in the socioeconomic background of the test-takers. (It is about 15% at the overall OECD level.) Moreover, Italy has actually improved its results when it comes to equity from PISA 2003 to 2012, and students from disadvantaged backgrounds have improved the most. In mathematics, for instance, students from disadvantaged backgrounds improved by 27 points, compared to 17 points for those from more advantaged contexts.

Nonetheless, the school performance does not appear to be the main factor, or even a significant factor, in governing educational mobility in Italy. To be sure, the expansion of the welfare state has had beneficial effects in absolute terms, increasing the level of education nationwide. As Cobalti and Schizzerotto note (1994), not only has this narrowed disparities among men and women in educational attainment, but it has also created more homogeneous standards among different geographic areas of the country. Still, as Table 6.2 shows, parental education, not educational transmission, remains a strong predictive element of the

Table 6.2 Intergenerational educational mobility in Italy

	Destination: Son's education				
	Origin: Father's education				
	None	Primary school	Lower secondary	Upper secondary	University degree
None	3.5	19	47.6	28.3	1.6
Primary school	0.1	6	50	38.3	5.6
Lower secondary	0	1.3	26.2	56.7	15.8
Upper secondary	0	1	6.8	59.2	33
University degree	0	0.4	9.2	35.8	54.5

Source: Author's elaboration, data from Istat (various years)

quantity and quality of education a person will get in the course of his or her life. The number of people holding a diploma or a degree varies consistently according to parental background and education.

Despite the 'transmission' data from Italy, experts widely recognize a connection between educational and social mobility. Many countries have in turn acted to assure greater intergenerational advancement for the disadvantaged through education. One of the most notable examples is Finland (Pekkarinen et al., 2006). Between 1972 and 1977, the country undertook significant school reform to provide 'equal educational opportunities to all students irrespective of place of residence or social background'. Finland implemented a unified curriculum for all students until age 16. It also postponed the age at which students are tracked according to their abilities, from age 10 to 16. The author of the study calculated that, besides increasing educational achievement, these actions improved intergenerational educational mobility and intergenerational income elasticity, reducing the income elasticity figure to 0.18 from the pre-reform value of 0.30.

The country's effort showed that mere equality of opportunities did not alone govern social mobility – and this leads us to an explanation of why Italy appears as an exception in turning educational transmission into educational mobility. Among other things, Finland postponed the age at which students are asked to choose their career direction from an age when parents likely make the choice to an age at which students likely make the choice along with their parents. The postponement puts the attainment of social mobility more in the hands of the child than in those of the parent. By doing so, mobility appears to improve.

Indeed, the experience of Sweden seems to reaffirm this conclusion. In 1962, the Swedish government passed a bill that provided for early tracking of students, and depending on the results, offered educational streams with a vocational bent. During the seventies, however, the government dismantled the system because it did not increase mobility and replaced it with a homogenous curriculum in keeping with its intention to enhance equality of opportunity or, more concretely, improve social mobility.

Finland and Sweden are not the only countries that have grappled with this issue. Some authors maintain that in countries like Germany the low figures of intergenerational mobility can be explained, at least partly, by the early tracking system of students, which starts at age ten (Dustman, 2004). To remedy this situation, policymakers in some countries have adjusted their programs to avoid the pitfalls apparent in early tracking. In the Netherlands, for example, lawmakers have provided

mechanisms to enable students to change their course of study during the first months of education. Students who have trouble with demanding programs are allowed to enroll in less challenging courses. Students who underestimated their aspirations can upgrade. Many institutions also offer 'supplements' to augment one's course of study after its completion and hence achieve a higher standard of education.

The age of choice of educational track is a prime target for reform to improve social mobility, but it is not the only one. Many countries have acted in response to studies that confirm that learners develop a significant set of cognitive abilities from the earliest stages of education. Denmark is an example. It scores the highest in international ranking in social mobility, and although the reasons for this are multiple, reports suggest that attention to preschool care may play a role (Nunn, 2011). Denmark has the highest enrollment rate in Europe for formal childcare for children under the age of three. Over 70 percent of infants under three are enrolled in preschool childcare. That the Danish believe strongly in leveling the playing field at this age is shown by a move of the Danish government to avoid differences in the preschool experience of all children: Packed lunches brought from home are not admitted. Every child receives the same food provided by the educational institutions.

At the local level, Italy provides an example of best practices in this area. In the wake of the destruction wrought by World War II, an educator in Reggio Emilia named Loris Malaguzzi resolved to change children's education for the better. Out of Malaguzzi's work over many years, Reggio Emilia developed a system of infant, toddler, and preschool education starting at three months, in part to accommodate working mothers. Now studied by educators around the world, the system calls on teachers to be collaborators and learners with the children. It in turn calls on the children to learn through exploration and questioning, guided by teachers who encourage various avenues for thinking, revising, constructing, negotiating, developing, and expressing thoughts and feelings. Ultimately, the child 'constructs' his or her knowledge rather than the teacher 'instructing'. Learning stems from completing projects instead of studying topics and themes. The teacher, giving the child some control over the direction of learning, becomes a colearner.

A more detailed explanation of the Reggio Emilia approach is beyond the scope of this book. But it points to how local people, policymakers, and leaders can often make up for perceived deficiencies in educational policy and control at the national level. At higher levels of education, England offers another example with its Villiers Park Scholars

Program mentioned at the start of the chapter. In addition to those benefits already mentioned, families receive support from the National Association for Gifted Children. Before the completion of the program, students are assigned a mentor (normally an undergraduate student in the same discipline of interest), are invited to attend a number of lectures at the university and at dedicated conference centers, and are also granted access to a number of online resources, which include, for instance, assistance in preparing for interviews for admittance at university, mentoring, and so on. Such a range of initiatives explains the success of the program in leading to the enrollment of over three quarters of participants in university degree courses. Some scholars of the Villiers Park Program reported they would have left education after high school without the mentoring and increased confidence they received from the initiative.⁶

Of course, examples of unfortunate educational policy and implementation abound as well. Sometimes low levels of social mobility reflect not just inadequate policies but illegal or negligent implementation. The plight of Romani children in the schools of some European countries is sadly telling. Whereas social mixing of people from different backgrounds is widely thought to be a strong catalyst for social mobility, in some countries pockets of segregation persist. Children of certain ethnicity are assigned automatically to 'special schools'. In a judgment rendered in 2013, the European Court of Human Rights ruled against Hungary (and previously against the Czech Republic) for providing to certain Romani children an education that 'compounded their difficulties and compromised their subsequent personal development instead of helping them to integrate into the ordinary schools and develop the skills that would facilitate life among the majority population'.⁷

Intergenerational income mobility in Italy

The Italian case, though with its own peculiarities, is illustrative of the scope and scale and historical roots of challenge throughout Europe. Like many countries in Europe, Italy has largely benefited from the transition from an agricultural to an industrial to post-industrial economy. The general shift of Italian society toward a more modern allocation of the workforce might account for the encouraging data which emerge from one of the earliest studies on social mobility, carried out in 1986 by a group of Italian university researchers (Cobalti and Schizzerotto, 1994). Results showed that over 60 percent of the 5,000 interviewed experienced some sort of absolute social mobility during the course of

their lives, in other words, changing socioeconomic strata from their family of origin (De Lillo, 1996).

In 44 percent of the total cases, it was upward social mobility and in 16 percent downward and, thus, an overall improvement in class positioning and income compared to parents. These data refer to absolute social mobility, and as mentioned earlier, this is not a precise indication of the degree of mobility of individuals in a society. The shift up the social ladder might be explained not as the outcome of a social system where personal skills and abilities can bridge the gap and mediate the 'class-of-origin/class-of-destination' link but as the result of structural changes that affected the society as a whole.

This hypothesis is confirmed by further analysis of data elaborated by Schizzerotto and Marzadro (2008). Looking at birth cohorts, the researchers found that the highest levels in upward social mobility were reported during the 1938–1957 period (when almost 75 percent of Italians moved up in social class) and the 1958–1987 period (when about 72% of the population managed to better its position in comparison to its family of origin). These two birth cohorts coincide with two cycles of growth of the Italian economy. The first, spanning the two World Wars, was characterized by a transition from a mainly agricultural economy to an industrial one. The second, primarily triggered by the economic upturn of the 1960s, benefited from post-war reconstruction and, especially in the last decade of the birth cohort, the beginning of a new post-industrial era.

Despite the overall upward movement of society as a whole, the authors concluded that the Italian system in these periods presented strong elements of rigidity and a marked difference in mobility for people from different social classes. They point out that the occupational groups at the bottom of social stratification, or close to the bottom, found it comparatively hard to move upward compared to those who are higher up on the stratified scale. Second, they noted that the social mobility of the era was of medium-range and did not last long term.

According to the analysis, data related to intra-generational social mobility, depicting prospects for career advancement, was bleaker still. Only 30 percent of Italians managed to attain some sort of career advancement over the course of their employed life. The remaining 70 percent retired holding exactly the same position they had when they were first taken on. This data, if compared with those on intergenerational income mobility, demonstrate that the first job that a person manages to get has a much higher impact on his or her status later in life than does advancement during a career. Put differently, it is not so much

by career advancement that a person can move up, but rather by means of the features and qualities of the first full-time job, which somehow tends to remain constant.

The reasons for this are two-fold: First of all, a system of career advancement based on seniority rather than meritocracy prevents many employees from significantly improving their occupational status. Second, the configuration of the Italian industrial fabric, comprising a number of small to medium-size companies, hinders intergenerational social mobility. This is true especially for manual workers, who face a lack of opportunities for career advancement (Schizzerotto and Marzadro, 2008).

Almost thirty years on from the early studies on intergenerational social mobility in Italy, it seems that the discouraging picture has persisted, especially when the social fluidity of the Italian society is compared with that of other OECD nations. A recently released study carried out by the OECD (2010), noted at the start of the chapter, ranks Italy among the countries with the lowest degree of intergenerational income mobility, scoring better than just the UK in the measurement of how much children's earnings are affected by their fathers' earnings. Figure 6.1 shows more detail. Scandinavian countries, at the other end of the spectrum, seem to be characterized by low wage persistence among generations, and, by the same token, overall higher social fluidity.⁸

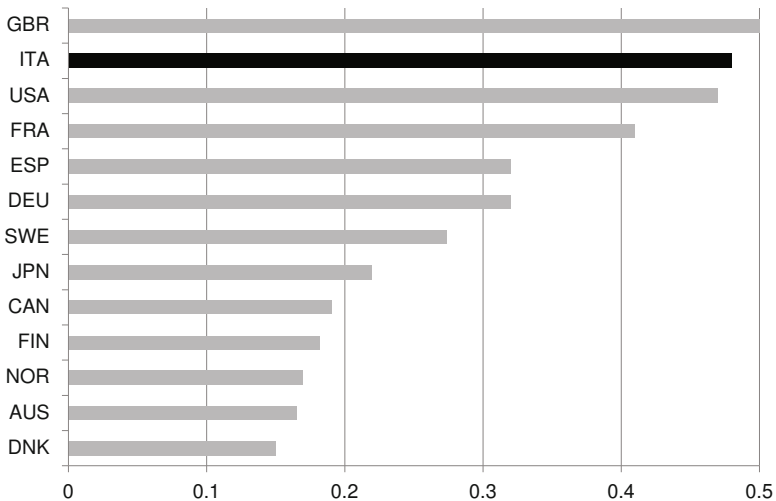


Figure 6.1 Intergenerational earnings elasticity

Source: Author's elaboration; data from OECD (2010)

A recent Italian study by Mocetti (2007) reaches similar conclusions. The study analyzes data drawn from the Survey on Household Income and Wealth carried out biannually by the Bank of Italy. It applies a two-sample estimation method to overcome the paucity of sufficient and appropriate datasets. In that way, the author calculated a correlation of intergenerational income of 0.50, a figure even higher (worse) than traditionally cited. To make matters worse, the study proved the existence of some nonlinearity in mobility: 'children from poorer families do have a lower likelihood of being upwardly mobile than the average level of mobility would suggest.'

Mocetti's work seems to confirm conclusions from earlier studies. Piraino (2006) reached similar results using the same dataset, estimating the value of intergenerational persistence at 0.48. These figures help explain a general disillusionment of younger generations in Italy over what they will be able to achieve and what their opportunities in society will be. According to a study of the SWG Research Institute, only 6 percent of those born between 1985 and 1990 believe they will improve their situation compared to their families. Twenty percent are convinced that they will do worse (Colli-Franzone and Velo, 2010).

Mocetti (2007) calculates an intergenerational occupational mobility matrix for Italy. Although he uses a slightly different scheme from the traditional Goldthorpe Model, a high degree of correlation still emerges between parental (in this case, paternal) occupation and children's trajectories in life: The son of a blue-collar worker has 47.6 percent chance of becoming a blue-collar worker himself and only 19.8 percent chance of making it to the top occupational stratum. The son of an office worker or teacher has a 43.3 percent chance of being the same and only a 14.7 percent chance of making it to the top. In an exception, the son of a member of a profession has a 25.9 percent change of being the same but a 33.7 percent chance of moving up, albeit just one rung, to the top entrepreneurial level.

Another way of looking at the challenge of social mobility is to study income inequality. That's because, as mentioned earlier, the two are correlated. Moreover, one may cause the other – an increase in social fluidity spurring more equal allocation of wealth among individuals. Although the existence of a direct link has proven hard to demonstrate, empirical analysis shows an association. The case of Italy is significant in showing the challenge as measured by this factor. According to data presented by the Bank of Italy, Italy is an unequal country, with a high concentration of wealth. At the end of 2010, the richest 10 percent of families had an estimated 45.9 percent of the overall national wealth, whereas the poorer half of Italian families had less than 10 percent (Bank of Italy, 2012). If inequality is indeed an indicator of the lack of mobility, the challenge for Italy is huge.

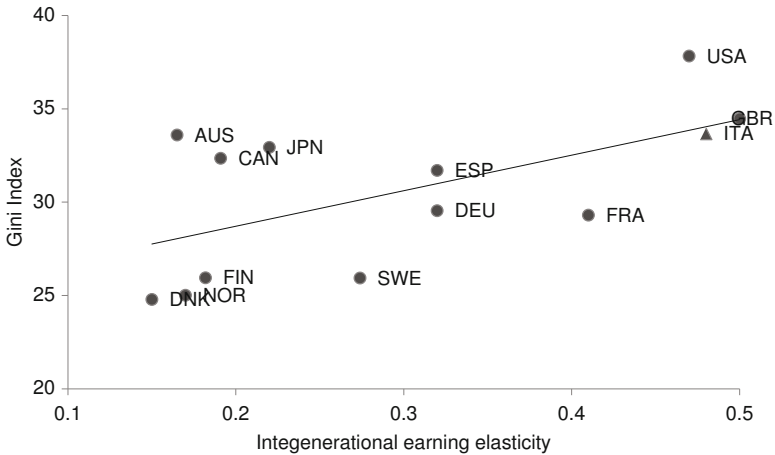


Figure 6.2 Correlation between intergenerational earnings elasticity and income inequality as measured by the Gini Index

Source: Author's elaboration; data from OECD and World Bank (2010)

The OECD confirms the scale of the challenge: Along with the UK and US, Italy exhibits one of the highest levels of inequality in the distribution of income in Western countries. The UK exhibits a Gini Index of 32.56, the US, 35.57, and Italy, 34.71. In keeping with the correlation, and again as mentioned in the opening to the chapter, the UK, Italy, and the US exhibit the lowest levels of intergenerational income mobility in the OECD, as measured by intergenerational income elasticity. Figure 6.2 shows the correlation between intergenerational earnings elasticity and income inequality as measured by the Gini Index in selected countries. It suggests that only a few countries, such as Denmark, Finland, Norway, and Sweden, have achieved the kind of mobility that maximizes the development of, deployment of, and returns on human capital – the returns that are so important to spurring economic growth at all levels.

The challenge of improving social mobility through education in Italy

Despite the significant consensus among scholars that education remains one of the most effective drivers of intergenerational social mobility, the achievement of educational systems in many countries that actually bridge the socioeconomic gap between origin and destination in life still has a very long way to go (Blanden et al., 2006). As we have shown, this

is particularly true in Italy, where a strong correlation remains between the attainments of children and their fathers. As for intergenerational educational mobility, Italy is a rather immobile country. There also remains an obvious (although, according to some studies, weaker) link between the social and economic background of a person, and his or her educational attainments, which also acts to reduce intergenerational career mobility. The reasons for this gap in Italy are complex and can be explained by looking at a range of factors.

Despite the great increase in the availability of educational opportunities, a notable consequence of the welfare state, not everyone has been equally able to make the most of it. A number of studies demonstrate that in many countries it is primarily middle-class families that have benefited from a system of education that is, at least at some stages, free and open to everyone (Nunn, 2011). In 1990, for example, Italian legislators passed a number of laws that were meant to expand the supply of higher education. They did so to reverse low rates of enrollment and completion of tertiary education. It was thought that higher supply would increase equality of opportunities, and therefore contribute to the creation of a more just system, with beneficial effects on social mobility.

The laws passed created new university campuses, granted high degrees of autonomy (including spending autonomy), and increased the number of courses offered. A study by Bratti, however, showed that the increase in supply did not result in an increase in the rate of students completing university education before the age of 30. Rather, it only incrementally increased enrollment. The expansion of university campuses across Italy, more remarkably, bore no effect at all, not even on enrollment rates (Bratti et al., 2008). The students who benefited the most came from middle-class families, even though the new capacity was not meant to benefit them *per se*. The data show that supply is not the solution to mobility, and in turn not the solution to increasing the utilization of Italy's human capital for economic gains.

The authors gave one possible explanation, namely the 'parking lot' hypothesis, as expounded by Dornbusch and Giavazzi (2000). University students would enroll in and remain at an affordable university, often close to home, to avoid facing a constrained job market. They parked themselves at the university while job opportunities did not seem to come knocking. And what explains the lack of an increase in the rates of completed tertiary education? One explanation is that, ironically, the greater availability of higher education and the reduction of costs – which indeed worked as an incentive for more disadvantaged students to enroll – forced these students to look for jobs to pay for their

education. That took away from time for study, presumably depressing graduation rates (Bratti et al., 2008).

Indirect evidence that the disadvantaged, more than the advantaged, were forced into this position, come from data released by Istat for 2007. The data showed that, primarily, students from vocational school (more likely to be from low-income or not highly educated families) decided to work during their tertiary education (see Table 6.3). Therefore, the first, and arguably the greatest hindrance to the catalyst-like effect of education on social mobility is not the educational system itself, but the lack of adequate incentives or the presence of constraints for people from disadvantaged backgrounds. In a nutshell, there might be opportunities for everyone, but not everyone might be equally prepared to seize them.

To reiterate from what was stated earlier, risk aversion may be an explanation for failure to seize opportunity. As Nunn aptly puts it, recalling Breen and Goldthorpe, ‘children from lower socio-economic backgrounds are rationally more conservative over educational decision-making such as participation in higher education, as a result of lower aspirations and enhanced perceptions of risk associated with failure’ (Nunn, 2011). A lack of positive role models within one’s social environment might also account for the decision of many students to not move on to tertiary education. Many medicine graduates had or have physician parents, and the same holds true for lawyers, architects, engineers, and all those people in professions that have a reputation, formally or informally, as being part of a working elite or a particularly privileged and protected professional group. Here again, for children

Table 6.3 Percentage of students working during university (per type of school of origin)

Type of school of origin	Percentage of working students during university
Professional institute	38.8
Polytechnic school	29.3
Liceo	19.9
Teacher-training high school	28.2
Artistic high school	29.5
Total	36.0

Source: Author’s elaboration; data from Istat (2007)

from lower socioeconomic backgrounds, a greater supply of education does not provide an answer, in such cases, to improving social mobility.

A deeper look at the Italian example from this perspective is revealing. A study carried out by Checchi and Radaelli (2010) used an *ordered probit* model to estimate the probability of Italian students ending up in a certain kind of institution (*liceo, istituto tecnico, or istituto professionale*), based on a number of variables meant to capture the nature of the family background. The variables included (1) the level of study reached by the highest-educated parent; (2) the prestige associated with the occupation of the parent that held the most prestigious job in the family; and (3) the amount of educational resources that were available at home for the student. Over six years, the correlation between choice of school and education of parent diminished a bit, but occupational prestige and availability of educational resources had an increasing impact. As an example, in 2000, a student whose parents were not educated had, on average, a 37 percent smaller likelihood of choosing a *liceo* than a student from a family with at least one parent holding a degree. In 2006, this figure fell by 20 percentage points, but prestige and resources still had a growing impact in influencing educational choices.

Another factor that shows that supply is not the answer is cost. Aside from whether a student decides to stay in post-compulsory education or not, families vary in their ability to pay for enrollment in the highest-quality institutions. For example, training in professions such as medicine might require a financial commitment that is not within everyone's reach. Put differently, those parents who want to give a competitive advantage to their children might be more willing to invest more. As stated by Lucas (2001) and reported by Nunn (2011): 'once a level of schooling becomes nearly universal . . . the socio-economically advantaged seek out whatever qualitative differences there are at that level and use their advantages to secure quantitatively similar but qualitatively better education.' In some countries, especially those where entities rank educational-institution quality down to the preschool level, this factor may play a particularly significant role.

In sum, a variety of factors play into the question of how to use education to increase intergenerational social mobility. It is pivotal to recognize that fresh initiatives from both within the educational system and from the outside could have a significant impact on intergenerational social mobility. The initiatives might include policies aimed at increasing the social and cultural capital of children and teenagers, making sources of funding more available, and addressing the roots of the problems that have been sketched in the paragraphs above.

Improving social mobility in Italy through education

If we take Italy as the case example, what proposals might we specifically offer to address the complex issue of improving the use of the educational system to expand social mobility? Or more pertinently for leaders at national, regional, and local levels, how can we change education and the factors related to its effectiveness to get the most out of each individual – to allow people to fulfill their potential and contribute to the highest degree to economic vitality?

Before we can fully address these challenging questions, we need to briefly look at the structure of Italy's education system. This is because leaders need to tackle dysfunctional aspects of the system first, aspects that prevent people from gaining the expected return on investment in education. Aspects that fall in this category include the duration of vocational and professional training, the system of student tracking, the structure of the course of studies, and the measures to reduce student dropout rates. After looking at these endogenous issues, we will look at exogenous ones.

The Italian education system at a glance

The Italian educational system can be divided into five stages, the equivalent of preschool, primary school, middle school, high school, and university. In 2013–2014 about 7.9 million students enrolled in 41,483 institutions. Compulsory education starts at age 6 and ends when the student turns 17. The structure of the system has been shaped and reshaped by lawmakers over the years in an effort to translate into practice Article 34 of the Constitution, which states that 'education is open to everyone' and that 'those who have abilities and those who deserve it (in Italian *i capaci e i meritevoli*) have the right to reach the highest levels in their studies'. Article 34 needs to be read in conjunction with Article 3 of the Constitution, which states, 'The Republic has to remove all economic and social obstacles that, by hindering the actual liberty and equality of citizens, impede the full personal realization of individuals and the participation of all workers in the political, social and economic life of the State.'

This provision has often been the basis for ideological arguments in favor of a system characterized by sheer egalitarianism – a system that would fulfill the demands of all those intending to study, regardless of their abilities and merit. For example, when admission to some universities in Italy started being regulated by an entry exam to assess candidates' aptitudes and abilities in their chosen field, many of those who failed the test challenged the legitimacy of the selection mechanisms.

They alleged the mechanisms did not conform to the combined provisions of Articles 3 and 34 and some courts, agreeing with this argument, ruled in favor of the failed students' admission.

These courts' initial interpretation cannot be what was intended by the Constitution, given the requirement in any system to wisely manage scarce resources. Strictly following the principles of egalitarianism would undermine the core and sense of Article 34, especially in a system, like the Italian one, where the costs the State incurs for higher education is much higher than the fee paid by students. To recall the language of the Constitution, education that provides the greatest opportunities should be available to those who have the abilities or the talent (*capaci*) and those who 'deserve' it or have the merit (*meritevoli*). This may strike some as an elitist interpretation. But a reading of Article 34 demonstrates that the intended goal is to provide both equality and efficiency in the allocation of resources.

The Italian system of preschool care comprises two different phases: one for children aged 0–3, and one for those aged 2.5–6. Neither phase is compulsory. The first phase is not organized at a national level. Autonomy is granted to individual Italian regions, both in deciding on standards and the granting of subsidies to disadvantaged families. The lack of a standard system nationwide arguably introduces the first element of disparity among the opportunities that may be available to children. Whereas children from disadvantaged backgrounds who live in wealthier regions might benefit from public funding, disadvantaged children from poorer regions might not. Given the importance of preschool care in the development of cognitive skills later in life, the first phase of preschool should not be neglected, as too often it is.

The second phase of preschool education, aimed at children aged 2.5–6, is governed at the national level; however, there are big differences in the organization of the services that are provided. This stems from the private, instead of public, operation of these institutions, which in turn may account for the main discrepancies in the standards of education. In 2013–2014, about one million children were enrolled at preschool care institutions in Italy.

The first phase of compulsory education, beginning at age six, is organized at the state level and lasts five years. The education ministry outlines the programs of study, and this guarantees, at least in principle, equal standards of education across the nation. This phase of education was recently reformed. In 2013–2014, nearly 2.6 million children were enrolled.

The second phase of education runs for three years for children aged 11–14. In general, and also from the perspective of social mobility, this phase of education offers a particularly productive target for reform given its impact on the early stage of a teenager's education. In 2013–2014, nearly 1.7 million students were enrolled.

The third phase of education stands out because, starting at this juncture, students are the subject of tracking. The typical notion of student tracking, namely, grouping students according to skill level, is not adopted in Italy. Instead, Italian institutions track students according to the kind of secondary school they will attend. The grouping is based on a formal assessment of aptitudes, skills, and abilities demonstrated by students up to that time. Some schools aim at providing the students with general knowledge to prepare them for university (the *licei*); others focus on technical or practical skills to go directly to the job market (the *istituti tecnici* and *istituti professionali*). Other schools have a hybrid

Table 6.4 Transition rate to university (values expressed in percentages)

Type of school of origin	Enrolled at university	Never enrolled at university
Istituto Professionale	23.6	76.4
Istituto Tecnico	51.0	49.0
Liceo	93.8	6.2
Liceo Pedagogico	82.7	17.3
Scuola Artistica	46.9	53.1
Total	63.7	36.3

Source: Author's elaboration; data from Istat (2011)

Table 6.5 University dropout rate in relation to school of origin (values expressed in percentages)

Type of school of origin	Drop-out rate at university
Istituto Professionale	8.6
Istituto Tecnico	11.3
Liceo	5.8
Liceo Pedagogico	11.2
Scuola Artistica	9.9
Total	8.9

Source: Author's elaboration, data from Istat (2011)

nature (*scuole magistrali* and *scuole artistiche*). In 2013–2014, nearly 2.6 million students attended 5,403 secondary schools.

Given that tracking, as described in Finland and Sweden, has been shown to have an effect on social mobility, data measuring the transition rate from secondary to tertiary education are of special interest. Table 6.4 gives an idea of the impact the tracking of students at age 14 has on their future educational and, hence, career attainments. Sixty-four percent of students enroll in university, but mostly from schools that have specifically put them on that track.

Not only are students from *licei* more likely to embark on tertiary education, they are also more likely to successfully complete the course of study. Dropout rates at university demonstrate a high correlation with the school of origin of the student. The data in Table 6.5 demonstrate that students from *licei* are less likely to abandon their university studies than their colleagues from other schools.

The Italian university system

University education in Italy has gone through a number of reforms, some of which are ongoing. The many attempts to rationalize the system have proven effective in some respects. A university degree in Italy is still a sound investment, yielding a good return. Data from the OECD (D'Addio, 2008) show that in 2006, 80.6 percent of those having a tertiary education degree were employed, compared to 74.4 percent of those holding high-school diplomas. For those who did not make it to secondary education, the employment rate in 2006 stood at just 52.5 percent. These numbers exceed the average of OECD countries, where the difference in employment rates between those holding tertiary-education degrees and those having only primary education is on average 26 percent. In Italy it is 28 percent.

Employment rates are not the only indicator that shows the value of a completed tertiary education. The prospect of future earnings makes the investment worthwhile as well. Those aged 24–65 with a tertiary education earn 65 percent more than those who quit their studies with an upper-secondary diploma. In recent years, the earnings advantage has been growing. Since 1998, when the advantage stood at just 27 percent, it has risen over 30 percentage points.

The system of tertiary education does present some dysfunctional elements: One problem is a difficulty in attracting both local and foreign students. Another issue is the dropout rate in Italy, which is among the highest in Europe with roughly one out of ten students failing to complete university studies (see Table 6.5).

Policy proposals for Italy

The use of education to spur mobility is not straightforward and remains complicated by a number of social, financial, and political factors. Even so, leaders at different levels of society can still target education as a way to improve social mobility and in turn bring more vitality to local and regional economies. Below we outline a number of proposals. Many of these require action at the national level, but leaders at all levels – in government, business, and in the citizenry – can support useful actions and legislation.

Ultimately, the efficiency and the efficacy of an education system should be measured in terms of the amount of social and occupational mobility that it generates. In other words, schools work effectively when they enable students to achieve occupational and educational goals regardless of family background.

Policy proposal 1: Compulsory preschool care and share national best practice

Studies demonstrate that the acquisition of skills and abilities that are believed to play a role in shaping an individual's personality are dependent, for a significant part, on a set of conditions and circumstances that might present themselves at a very early age, before the start of schooling and compulsory education. Policies aimed at enhancing social mobility, therefore, cannot fail to address the stage of preschool care, considering its strong links with future educational choices and equal opportunity for individuals.

Despite the fact that the correlation between the cultural capital that a family can provide and its income is still unclear, the early years in children's lives are largely affected by parental income. That is, the *stimuli* a child might be exposed to still depend on his or her family's financial condition. Though some reasons for this are self-evident, others are subtle. The Italian experience exhibits factors common to many countries. In the case of working-class families, if a mother decides to retain her job or to seek one, the child might spend early years in low-quality institutions that do not contribute to a proper cognitive upbringing and put the child at a disadvantage later in life. On the other hand, if a mother decides not to work, and to take care of her child instead, it might well be that the upbringing she can provide from the perspective of social and cultural capital is not optimal. This would contribute to perpetuating the differences in opportunities between those who have and those who have not.

A positive step forward might be to offer a system of high-quality, affordable preschool care for children (3–6 years old), an environment rich in *stimuli* that creates a positive impact by making up for the lack of social and cultural capital at home. The example of the Reggio Emilia system mentioned earlier in the chapter is a model worthy of study by parents and local educational leaders. The Reggio Emilia approach stresses parental involvement, and parents are a common fixture in the schools that follow the system. A system of this kind adopted widely at the local level would contribute to level the daycare playing field. Scandinavian countries are an example of best practice at the national level in Europe. Data show that intergenerational income mobility has improved significantly since the introduction of a daycare system for children with the qualities referred to above.

Interestingly, the investment in ‘formal education’ undertaken by Scandinavian countries is no greater than in other OECD countries. The difference, we can speculate, is in the steps taken before children step into ‘formal’ classrooms. A high-quality preschool system would have a double benefit, as it might also increase female employment. In Italy 30 percent of Italian women quit their job when they have their first child. Participation of women between the age of 18 and 64 in the workforce in Italy is only about 47 percent, one of the lowest percentages in advanced economies. The OECD average is about 60 percent, other European countries such as France, Spain,⁹ and Germany are at 66, 69, and 72 percent respectively. Norway, Sweden, and other Scandinavian countries are in the mid to high 70 percent range. Surprisingly, despite having one of the lowest female participation rates in the workforce, Italy also has a very low fertility rate at 1.44. For comparison, Norway has one of the highest fertility rates of the industrialized world (1.88). The widespread presence and high quality of preschool is certainly one reason for its wide divergence from the Italian experience.

Italy has many institutions that cater to the demands of preschool children, but attendance is not compulsory, a policy failure that reveals an underestimation of the importance of early childhood education, and quality standards are not homogeneous. While there are cases of recognized worldwide best practice, notably the Reggio Emilia approach, the otherwise insufficient supply of public preschool has been an incentive for private low-quality institutions to meet demand. In the 1990s, a private–public partnership between the Reggio Emilia’s Malaguzzi Foundation and local authorities created Reggio Children, a network that today comprises more than 80 childcare institutions, private, public, and cooperatives. This partnership is a start on what’s

needed, but Italy would benefit from much more initiative in furthering the implementation of a broad-based compulsory preschool system.

Policy proposal 2: Standardized written entry university exam instead of unstandardized exit exam

The whole Italian education system is based on exit exams, meaning that at the end of each school cycle students are graded on past work. That might work well for various levels of elementary and junior schooling, but when it comes to high school, it creates distortions and may be an obstacle to social mobility. Graduation from high school depends on success in the so-called *Maturità* (a name that implies the student who has passed has reached maturity). The *Maturità* is taken at the completion of a five-year high school course of study.

The *Maturità* has several weaknesses, especially the inclusion of an oral component and the lack of national standardization.¹⁰ The exam therefore is not a good standard for ranking students throughout the country. It also leaves a great deal of discretion to the examiners and the schools. The upshot is that it is an inefficient way to test student aptitude and ability to pursue one university degree or another. Many universities have therefore established an entry test that applicants often take when they are still in high school – which means the *Maturità* becomes meaningless.

This situation could be addressed in various ways. One option would be to institute a pure entry test system. Another would be to implement a weighted entry test system. The first is, in essence, the current system for some of the best universities, at which admissions are exclusively based on their entry tests. This system could be extended to the entire country, eliminating the *Maturità* and introducing a national standardized written entry aptitude test (SWEAT), conceptually similar to the Standard Aptitude Test (SAT) in the US and to the General Certificate of Secondary Education (GCSE) in the UK. Each college could then decide what it requires, in addition to the entry test, for more targeted evaluations.

The second option would require a reform of the *Maturità* to make it a more credible component of a university entry evaluation. Admission to university could be based on a mix of the SWEAT and the *Maturità*, appropriately weighted, for example, 70/30. The *Maturità* component itself could also be more fairly weighted, considering both the academic performance of the five-year high-school period and the performance in the final exit exam.

More standardized methods of assessment of a student's knowledge and skills would provide a just means of allocating scholarships and

other sources of funding. This would be especially the case for top-percentile scorers who have the abilities and, in the spirit of the Italian Constitution, 'deserve' to earn a seat at university. Local leaders can play a key role in encouraging this kind of reform. It will be their voices from the grass roots – voices of citizen leaders, parental leaders, and educators – that will be a vital driver in making change happen.

Policy proposal 3: Close the gap between school and work

Since risk aversion is one of the main factors affecting the intergenerational social mobility of individuals from economically disadvantaged backgrounds, it remains a key target for intervention. The cost-opportunity ratio of pursuing tertiary education is especially high for those who are particularly talented or show a flair for studying and yet have financial constraints. These less-well-off students may not want to burden their family; they may wish to quickly gain economic independence; and they may lack a supportive family in terms of social capital.

One of the critical obstacles to alleviating this situation in Italy is the length of university studies. While gaining an average degree in Italy used to take four years, to adapt to the requirements of the Bologna Process, the new system now offers two phases of tertiary education: a first three-year cycle leading to the *Laurea Triennale*, and an additional two-year cycle, for the *Laurea Magistrale*. Whereas some private employers might recruit upon completion of just the first cycle, the most coveted and highly remunerated jobs, both in the private and public sectors, require a *Laurea Magistrale*. The commitment asked of students is very significant. They will likely be 24 before gaining the *Laurea Magistrale*. That compares with 22 for similarly talented peers in the US and UK.

Though university fees are comparatively affordable in Italy, the opportunity cost of a period of at least five years spent studying with no income is high for those who are not from well-off backgrounds. Hence, the most obvious proposal to enhance social mobility would be to go back to four-year degrees. At first, this would seem to violate the requirements of the Bologna Process, according to which the first cycle of education needs to lead to the completion of 180 to 240 credits and the second cycle 90 to 120 credits. But the case of the UK is revealing in this respect. In the UK, the first cycle of education is completed in three years, with the award of an LLB, and the second cycle runs just one year, leading to a Master's Degree.

Italy could allow for some flexibility of a similar kind. To be sure, access to the most coveted professions should still require the completion of both educational cycles, but the second cycle could be squeezed

into one year.¹¹ A new 3 + 1 cycle could either replace the existing one or be added as a fast-track offering for the most talented students. Either way students would receive degrees to compete for all jobs in the market, with the possible exceptions of jobs in academia, for which a PhD might be required.¹² Because achieving 60 credits in one year requires abilities, dedication, and commitment, admission to the fast-track second cycle would be conditional on good or excellent performance in the first cycle.

In addition to reducing the duration of tertiary education, another way to reduce the impact on financially constrained students would be to encourage employers to begin their recruiting process well ahead of graduation. Job offers could be made conditional on reaching specific academic requirements. The student would be less inclined to drop out. Needless to say, these kinds of job offers would mainly go to the most talented students with very limited means. Companies could also start paying a small stipend to the student during the last year of studies. The amount paid could be deducted from salary once the person starts working full time. The impact on the attitude of talented students from low-income backgrounds could be significant.

Although these proposals might work well only for some occupational fields and for some students, new incentives such as these would have an undeniable effect, real and perceived, on social mobility.

Social mobility driven by merit

Failing to facilitate people's fluid movement across social and economic barriers – failure to allow people to put themselves to their highest and best use – only hurts economic development. Only when people's talents and skills are made the most of – when equal opportunities to excel are provided to all – can a society thrive and be prosperous. In Italy and elsewhere in the OECD with limited social mobility, self-starting people show they can climb the ladder of attainment when the conditions are right. It remains up to national, regional, and local leaders to create these conditions for all people.

Without the right conditions, nations, regions, and locales suffer together. Employers find it hard to attract and retain talent. Employable graduates take years to become financially independent from their families, and they delay starting their own families. In society, people become frustrated and pessimistic about the future. Not only does society lose the talents, skills, and energy of a host of otherwise high-performing

young people, it loses the can-do attitude for collectively creating a better world. Economically, the result is disastrous.

We have seen that the correlation between one generation and the next when it comes to education, jobs, and income is strong – and this is not good news. In Italy, only 10 percent of children whose father does not have a high-school diploma obtain a university degree. In other countries, the figures are more encouraging – 33 percent in Spain, 35 percent in France, 40 percent in the UK. Still, the job of increasing mobility to maximize the returns on society's human capital remains unfinished. The disparity between children's chances at a better life is vast and does not depend on their talent; rather, it depends primarily on their family status.

To finish the job of increasing mobility, we have urged reform to improve educational mobility. In particular, we urge policy changes to more effectively advance students who demonstrate merit. Too often, family name, family status, social class, and other circumstances of birth and social circle determine the fate of young people. To stimulate economic growth, to regain vitality of nations and communities, we must work to attack the roots of immobility that strand young people short of their potential. That is the sixth and final task of leaders – and not just national leaders. It is up to local and citizen leaders as well to change attitudes and expectations and vision.

Social mobility also means looking for new leaders at the local level, among 'outsiders' who can compensate for the weaknesses and flaws of elite insiders. A country's leadership can only benefit from higher social mobility, and in turn a broader universe of potential leaders. To fill this need, we must lift up students who have the potential, whatever their parents' income, educational, or socioeconomic background, to realize the brightest possible future for our societies and economies.

Conclusion

New Leaders, New Growth

The reality this book assumes is simple: National-level policymaking and implementation has slowed, stalled, or failed when it comes to critical actions for spurring economic growth. This may stem from political horse trading, legislative gridlock, distractions by political and geopolitical conflict, or an elite national leadership of ‘insiders’ out of touch with constituents. Whatever the reason, national-level action needed to restore economic vitality has, to everyone’s frustration, been postponed.

So the challenge of the day is for local leaders, would-be leaders, citizen movers and shakers, and trailblazing businesspeople who run small and medium-size enterprises to step into the breach as *ad hoc* leaders. Locales and regions are brimming with people with the potential to step forward and make a difference if only they have the will and plan for doing so.

To be sure, local leaders can and should encourage national leaders and influential policymakers to take action that will improve the economy on a countrywide scale. Local leaders should lobby and cheerlead for sweeping change. But they should not let that persist as a reason for waiting to make productive change at the local and regional level. Local leaders must quit complaining and take responsibility for acting as partners with other agents of change in the community. From the bottom up, as ‘outsiders’, they can set an example of stimulating economies at the local and regional levels.

In some ways, now more than ever, people at the mid levels of society know more about how to rejuvenate the economy than ever before. They have the information sources, the backing of their peers and fellow citizens, and the role models in people like those mentioned in this book. Gripped by the specter of getting trapped in an unrelenting economic malaise, they also have the incentive to act. They need to

take stock of this specter but use it as an opportunity to act – to embrace change and make a difference community by community, city by city, and region by region. They need to make local pragmatism win over national bureaucracy. This is the right time to take action; this is the time when action is needed.

Local officials and would-be leaders have this opportunity because, first, many actions needed are relatively low cost. The actions do not necessarily require allocations of money that only central or federal governments can provide. Second, the actions call on local and regional leaders to focus on traditional – and familiar – strengths. When you're down, you don't win by inventing new strengths; you win by flexing the latent ones you already have. Third, the actions offer significant opportunities for growth with local action alone: The right small actions can provide the leverage for big results. Finally, as 'outsiders', local leaders have the perspective and credibility that elite central leaders have often lost.

An agenda for results

In this book, we have offered a six-point plan for guidance. We don't claim to have invented new ideas. All of the proposals in this book are, in a sense, rediscovered truths. But we face a special time, when the central government does not have the political wherewithal to craft solutions – to speak nothing of funding them. What countries in Europe need are citizen catalysts, organizers, and economic engineers – leaders in the form of official and unofficial movers and shakers who can get things done locally when the main engine isn't firing on all cylinders. Local leaders can now act where central ones cannot. The time is not to be passive. The time is to rise to the occasion and instigate change.

1. Build assets of local development

First, we suggest that local leaders begin their work on stimulating economic growth by building up and leveraging the foundational elements on which all economic activity depends: human capital, civic capital, and effective governance of local institutions. As in locales like Ragusa in Sicily, this means helping the workforce gain scientific, technical, and general knowledge through rich vocational and university training. It means fostering trust and integrity within the community to reduce regulation and increase cooperation. It means improving governance of local institutions to safeguard the implicit rules of doing business and the societal beliefs that enhance the community's welfare.

Local leaders can start by making a collective commitment to engagement rather than disengagement, a pledge to focus on action rather than apathy, setting an example for eradicating a widespread ‘disengaged toleration’. They can invest in research on how to grow human capital, civic capital, and effective governance. They can share best practices with leaders in other locales. They can re-invest in effective programs that have fallen by the wayside. And they reorganize local government to recognize growth opportunities and provide the transparent, accountable processes and incentives to profit from them.

2. Unleash and stimulate entrepreneurial creativity

Second, we suggest that local leaders stimulate entrepreneurial creativity. At the highest level, this means fashioning a variety of ways to support the four pillars of entrepreneurial action: education to arm people with the explicit and tacit knowledge to create; skills to give people the technology and organizational means to turn creations into products; innovation-mindedness to create incremental and breakthrough advances, as first movers and fast followers; and risk taking to allow people to break out of the status quo as new times demand it.

Local leaders can start by emphasizing three actions. The first is contributing to the national call for basic structural change to unleash entrepreneurial spirit and creativity. That includes lowering taxes, reducing administrative costs and bureaucracy, and reforming the civil justice system. The second is helping to lower the cost of credit – in particular, by supporting microcredit operations and mutual guarantee organizations along the lines of the *Confidi* in Italy. The third is fostering connections and partnerships among the product makers and the idea makers, between businesses and universities and research centers. With such connections, local leaders can act to encourage change, spur startups, and increase innovation in traditional sectors and mature companies.

3. Foster innovation and research

Third, we suggest that local leaders help to spur innovation by supporting investment and activity in ‘networks of knowledge’, university clusters, R&D centers, and company labs that produce deep knowledge for future economic growth. As shown by the Loccioni Group, when small and medium-size enterprises connect with global centers of intelligence, whether public or private, entirely new ideas and growth through innovation follow.

Local leaders can do this by supporting national efforts to centralize centers of research excellence, creating critical masses such as the *Istituto di Genetica e Biofisica Traverso* (IGBT) in Naples. They can also support novel PhD programs between businesses and companies and more venture-capital backing for university spinoffs. At the local level, they can promote integrated research clusters that bridge the gap with academia, as at Loccioni Group. They can promote social and emotional well-being for workers, improving their quality of life to boost innovation, as at Zambon Group. They can experiment with novel regional arrangements like the *Marche Innovazione*, the Marche region's effort to map and coordinate innovation for the region's benefit. They can build a framework for universities and local businesses to share research and knowledge, as in Cambridge Fen in the UK, in Silicon Wadi in Israel, and in Route 128 in the US. They can even inspire the creation of a new local cluster from scratch, as New York's Bloomberg administration with the Applied Sciences initiative. They can spur innovation by leveraging the local tradition of entrepreneurial activity, as has Mannheim in Germany, or by reacting to a local industrial crisis, as have Eindhoven with Philips in The Netherlands and Oulu with Nokia in Finland.

4. Leverage cultural resources and creativity

Fourth, we suggest that local leaders stimulate economic development by leveraging artistic, cultural, and environmental assets to create new jobs, professions, technologies, products, and services. The concept is simple: boost the 'return on cultural assets' already recognized as community and regional treasures as shown by the Palazzo Strozzi Foundation. Greater returns can come through increased tourism, local products and services, and works of artists, musicians, actors, designers, architects, and so on. Italy and other European countries have a unique opportunity to better monetize this cultural and intellectual property.

Local leaders can do this by inventorying their unique cultural heritage, by connecting the cultural offerings, and by nurturing their 'cultural atmosphere'. With enough care, they can create new value with collective trademarks as has Parma and other locales with *Parmigiano Reggiano*. By drafting the right strategy and with the right public-private partnerships, they can exploit their heritage more fully, coordinating many players within the local economy to improve economic vitality, as has Cremona with its centuries old violin-making tradition. This will require ongoing training and education, financing to sustain micro

enterprises, and teamwork by local governing bodies for multilevel governance.

5. Make the most of cultural diversity

Fifth, we suggest that local leaders leverage rather than simply ‘manage’ cultural diversity that stems from immigration, gender, life choices, and historical ethnic, language, and religious differences. With the steady trend toward ethnic, language, and religious ‘fractionalization’, leaders will forfeit economic value if they delay further in fully recognizing and acting to make the most of differences. Homogeneity among people is the rarity. Learning to tap the flow of competencies and skills from diverse populations is a big opportunity, specifically for economic growth.

Local leaders can leverage diversity by supporting national policy to encourage immigration of highly qualified professionals – without onerous barriers to residency – as has Austria. On the local level, where the success of integration is measured and the initiatives to foster it are executed, they can embrace diversity in their cities to foster innovation and creativity, as has Malmö in Sweden. They can encourage business to embrace immigrants and diverse citizens as part of the workforce, as has the Manni Group. They can support immigrant entrepreneurship, as has Extranbanca. They can leverage networks of immigrant business people to kick start cross-border trade. And they can encourage national reforms to champion best practices in multicultural education, make universities more attractive to foreign students, and grant residency permits to top foreign graduates.

6. Champion social mobility

Sixth, we suggest that local leaders foster reforms to improve intergenerational mobility, so that children from all families make the most of their talents, capabilities, resourcefulness, and willingness to work hard. Locales today thrive first on their human capital. Leaders must work to structure society and education to develop children to their highest potential, to use the energy, creativity, and the smarts as they mature to stimulate economic growth. Human capital is a precious asset, and underutilization creates inefficiency that hurts everyone.

We have covered a number of factors that can affect social mobility, from family background to income inequality. But we stress that national and local leaders can best increase the fluid transfer of children to their highest potential through education. This requires local leaders who support high-quality childcare from three months to three

years of age and mandatory preschool from three years up. It requires standardized exams that genuinely advance students based on merit. And it requires limiting university education to four years, making it more affordable for students from all socioeconomic backgrounds.

It is up to local leaders, citizen leaders, business leaders, and civil society leaders to create the conditions for the flourishing of human capital. As the Reggio Emilia approach shows, private citizens, teachers, and public authorities can partner to create the best network of childcare and preschool in the world, a crucial step to increase social mobility for both children and their mothers. At the same time, they have another critical task: to broaden the definition of leaders. Though once limited to the elite of the society, leaders can emerge from anywhere in the ranks of citizens at the local level who have the ability and the desire to contribute. This broadening of leadership is in itself an advance in social mobility.

A call for urgent action

Of course, these six points, broad as they are, cannot remedy all those factors depressing economic vitality. Two crucial factors in particular are not on our list, and they are almost preconditions for sustainable long-term growth. The first is an effort to reduce corruption and increase transparency. Another is a framework to improve institutions, specifically changing electoral law, reforming the judicial system beyond measures just to ease the conduct of business, and rethinking government effectiveness. We believe these are essential targets for leaders at all levels to address, albeit national leaders with the support of all political parties must take the lead role.

That said, our six-point agenda offers a wide-reaching plan for today's local leaders. In many countries, change and improvement come slow not for lack of people's potential to make a difference. It comes slow because people in general – natural leaders and natural followers – believe they are neither part of the problem nor part of the solution. They mimic politicians whose *modus operandi* is finding someone to blame for the problems and finding someone else to blame for lack of solutions. But that attitude has to be set aside. The *modus operandi* of citizen leaders, official or not, must be to shoulder responsibility for the problems and work with likeminded peers to implement solutions that make their economies resilient and robust.

The time will return when the central government may provide efficient answers. No country wants every locale and region working at cross

purposes owing to an explosion of uncoordinated local initiatives. But given the extraordinary circumstances we now face, with a vacuum of central leadership too often prevailing, people with the will to exercise leadership need to step forward. They cannot just keep busy holding their private lives together. They need to pitch in publicly to help hold the economy of their locale and region together. This book lays out a plan for action. For people with energy and resolve, for official and unofficial leaders, making a difference in their countries is their destiny.

Notes

Introduction: Rising to the Occasion

- 1 The ruling does not apply outside the EU. This is why Kraft markets a product labeled 'Parmesan' in the US but was legally forced to stop selling it in Europe. The US does not abide by EU legal determinations in several similar cases, including champagne and Kobe beef.
- 2 http://www.parmigianoreggiano.com/technical_area/default.aspx
- 3 Debt and deficit to GDP in 2013 were: Germany about 78 percent and zero, France 93 and 4.3 percent, Spain 86 and 7.3 percent, the UK 89 and 6.1 percent, Eurozone 90.6 and 3.7 percent (Eurostat and Trading Economics).
- 4 Various terms are used in literature: 'shadow', 'underground', 'informal', 'second', 'cash-', or 'parallel'. We consider the shadow economy as the market-based production of goods and services that escapes detection in the official calculation of GDP. In other words, this is the realm of legal business activities performed outside the purview of authorities. This is primarily due to undeclared work and underreporting, which are ways to evade and elude taxes. In our definition, shadow economy excludes the portion of GDP illegally generated, directly or indirectly, by organized crime, estimated in an additional 9 to 11 percent of GDP, depending on the calculation.
- 5 Eurostat, 2013. <http://epp.eurostat.ec.europa.eu/>
- 6 A. T. Kearney, VISA, and Friedrich Schneider, 'The Shadow Economy in Europe, 2013' (2013, published by A.T. Kearney).
- 7 The model has also been studied by Robert Putnam in *Making Democracy Work*, Princeton University Press, 1993.
- 8 In reality, there is no consensus on this conceptualization of districts in the literature. Several authors with different backgrounds have used and still use different definitions. We prefer to go back to the source and adopt the original definition. Agreeing with Pyke, Becattini and Sengenberger (1990): 'A characteristic of the industrial district is that it should be conceived as a social and economic whole. That is to say, there are close interrelationships between the different social, political and economic spheres, and the functioning of one, say the economic, is shaped by functioning and organization of the others.'
- 9 'Made in Italy' companies are generally split into four main groups, all starting with an 'A' in Italian: Abbigliamento-Moda (clothing-fashion), Arredamento-Casa (home-furnishing), Automazione-Meccanica (automation, machinery, and equipment), and Alimentari-Bevande (food products and beverage).

1 Building Assets of Local Development

- 1 http://www.enama.it/ew/ew_eventi_2/fiere/FlyerRagusa.pdf, [http://www.ragusashwa.it/CD_2010/lavori/TOPIC6/orale/Photovoltaic%20Green houses%20\[ENG\]\[1\].pdf](http://www.ragusashwa.it/CD_2010/lavori/TOPIC6/orale/Photovoltaic%20Green houses%20[ENG][1].pdf)

- 2 Chocolate makers in Modica make their product from plain cacao beans – without adding cocoa butter or soy lecithin.
- 3 As described by local authorities: ‘The Luminaria takes place since 1688 along the Lungarni (the Arno riversides) on the 16th of June to celebrate Pisa’s patron saint San Ranieri. At dusk over 120,000 wax candles are placed in transparent glass cups and hung from white painted wooden frames (known as “biancheria”), designed to emphasize the outlines of the buildings, bridges, churches and towers that line the Pisan Lungarni. Hundreds of candles are placed on the water to float down the river Arno.’ See www.pisaunicaterra.it
- 4 The Maestro Giuseppe Verdi was born in Busseto, a small town near Parma, and the annual Opera Festival celebrates him by performing some of his work.
- 5 Comparative advantage is the ability to produce something at less cost due to having resources that others might not have. Competitive advantage is the ability to produce something at less cost due to resources that one has created, perhaps by gaining additional expertise in a field.
- 6 Caselli and Gennaioli (2009) studied different sources of dynastic management inefficiencies, primarily financial-market imperfections.
- 7 An interesting analysis of the criticism appears in Ingenio Working paper series “*Before Going Any Further With Social Capital: Eight Key Criticisms to Address*” by Paul Haynes, Working Paper No. 2009/0. Among Italian economists, criticism of Putnam’s definition of social capital appears in Trigilia, Pizzelli and Bagnasco.
- 8 This critique was explicitly addressed by Robert Solow, in his article ‘*But Verify*’ published in *The New Republic* (11 September 1995), to another best-seller in this field, the book of Francis Fukuyama *Trust: The Social Virtues and the Creation of Prosperity* (1995). Also see Solow, R. M. (2000), Notes on Social Capital and Economic Performance, in P. Dasgupta and I. Serageldin (eds), *Social Capital: A Multifaceted Perspective*, Washington: World Bank, 6–10.
- 9 Portes (1998), Bowles and Gintis (2002) and Dasgupta (2005) provided some theoretical critiques of social capital. Durlauf (2002) and Durlauf and Fafchamps (2005) criticized social capital from an empirical point of view.
- 10 Examples of surveys are the World Values Survey and Eurobarometer. Interesting experiments have been conducted at the micro level by different authors (Frey et al., 2010; Glaeser et al., 2000). Blood donations were first adopted by Richard Titmuss (1970), while electoral participation in referenda was part of the set of indicators used by Putnam (1993). Guiso et al. (2004) provide an explanation of the distinctive aspects of these two indicators.
- 11 It should be noted that we adopt the main results in the literature on ‘social capital’, because ‘social capital’ in its various definitions can be conceived as being derived from the original concept of civic capital.
- 12 Alfred Marshall (1920) captured the same idea some decades before Arrow. He stressed: ‘the whole mechanism of society rests on confidence: it permeates all life, like the air we breathe, and its services are apt to be taken for granted and ignored like those of fresh air, until attention is forcibly attracted by their failure.’
- 13 In this respect, differences in historical regimes are important. The contrast between feudalistic society and communal society is widely used in the literature (Hirschman, 1984; Putnam, 1993).

- 14 Some of the disciplines involved are economics, sociology, public choice, public affairs, administrative law, and political science.
- 15 In the following pages, institutions are not conceived as mere 'body of government', but we adopt the broader economic perspective (Greif, 1993, 2006; North, 1990).
- 16 The *Lega Nord per l'Indipendenza della Padania* (North League for the Independence of Padania) is a federalist party, founded in 1991 by Umberto Bossi. Its biggest electoral successes were at the national elections in 1996 (10.07% of the votes) and at the European elections in 2009 (10.22%). *Lega Nord* has participated as part of a coalition in four Berlusconi governments for a total of eight years between 1994 and 2011. *Lega Nord* has been advocating political and fiscal federalism and a regional autonomy, especially for the northern regions and, at times, it has advocated political independence of the northern part of Italy, which it calls *Padania*.
- 17 A more detailed description of the overall process experienced in Turin in the last two decades can be found at the website: <http://www.torinostrategica.it>
- 18 'Fiat's hometown offers prism viewing its history', *The Wall Street Journal*, 28 December 2009, and 'What Torino Can Teach Cleveland', *Time Specials – Intelligent Cities*, 2 December 2010.
- 19 While Turin was not selected to be part of the short list, the presentation of the candidacy and the project is an important effort of coordination between private and public institutions.
- 20 The most prominent are *Fondazione Rosselli*, *Fondazione Agnelli*, *Fondazione Einaudi*, *Compagnia di San Paolo*, *Fondazione CRT*, *Fondazione IRI*.
- 21 As emphasized by Richard M. Titmuss some years ago (1970), the giving of blood is giving not to specific individuals but to an anonymous recipient. Hence, the motives for such giving are regarded as definitely more altruistic than those for giving to individuals.
- 22 Turin was capital of Italy from its unification in 1861 to 1865. Florence was capital from 1865 to 1870, when Rome was taken from the Papal State and became the capital.
- 23 UNESCO-appointed World Heritage site, the 'Late Baroque Towns of the Val di Noto', includes eight Sicilian towns, three of which are in the Province of Ragusa: Modica, Scicli, and the old city of Ragusa, Ibla.
- 24 The *Tagliacarne Institute* and *Unioncamere* are the two most important national sources of territorial data for Italy.
- 25 During the 1990s and the early 2000s, Italy launched some new regional programs and reshaped some others. The following stand out: (1) *Patti Territoriali* (Territorial Pact), constituted in 1994 as agreements between private and public subjects to promote local development; (2) *Contratti d'area* (1996), related to the location of new firms and jobs in specific recovering areas; (3) *Contratti di Programma*, inaugurated in 1971 with the purpose of attracting investments and stimulating productive activities in certain regions; (4) *Progetti Integrati Territoriali* (PIT, Territorial Integrated Project), linked to European 2000–2006 Financial Period and conceived as a set of inter-sector actions to promote local development; and (5) *Contratti di Localizzazione* (Local Area Plan, 2003), constituting both infrastructural programs and productive activities. For a detailed description see: www.dps.tesoro.it

- 26 The Netherlands is divided into 12 administrative regions, named Provinces, which are composed of different municipalities.
- 27 <http://www.floraholland.com/en/about-floraholland/our-cooperative-company/>
- 28 The 'Renaissance I' partnership was formed in the Pittsburgh area in the aftermath of World War II. It included many of the institutions involved in the next partnership.
- 29 Some of the main foundations include the Richard King Mellon Foundation, the Pittsburgh Foundation, and the Heinz Foundation.
- 30 Centre for International Competitiveness, Competitiveness Index 2010, <http://www.cforic.org/pages/ukci2010.php>
- 31 Sharing best practices is important, as different clusters in the same sector may have very different performance. As an example, in the period 2008–2012 the upholstery district of Forlì has done much better than the one in Murgia, the leather tanning in Arzignano (Vicenza) has performed better than Solofra (Avellino).

2 Unleash and Stimulate Entrepreneurial Creativity

- 1 In Italy, there are approximately 650 *Confidi* providing guarantees to almost a million firms for approximately €15 billion, about 15 percent of total bank guarantees for SMEs. Germany has about 20 *Bürgschaftbank* providing guarantees for about €5 billion (the lowest level in Europe as percentage of GDP) to 43,000 firms. Spain has 20 *Sociedad de Garanzia Reciproca* providing guarantees for €2.8 billion to 70,000 firms. France has 42 *Socama* providing, together with larger *Siagi* and *Sofaris*, about €8 billion in guarantees to about 600,000 firms (EACM, European Commission, 2005; Banca d'Italia, 2013).
- 2 On the subject of relationship between religion and capitalism, see Weber (1905).
- 3 The traditional justification for the absence of a 'size effect' on the performance of entrepreneurship relies upon the so-called Gibrat's Law of Proportionate Effect. According to this law, the 'probability of a given proportionate change in size during a specified period is the same for all firms in a given industry – regardless of their size at the beginning of the period' (Gibrat, 1931).
- 4 The seminal contribution of Robert Lucas (1978) represents one of the first formalizations of entrepreneurial theory. It is a model of occupational choice developed along the lines of the historical intuition of J.B. Say.
- 5 Schmitz (1989) represents an additional classic reference in this area of study, theorizing the link between entrepreneurship and endogenous growth.
- 6 Michael Polanyi was a scientist and philosopher who wrote *Personal Knowledge* (1958) and identified what he calls the 'structure of tacit knowing'. Tacit knowledge can be described as 'know-how' – as opposed to 'know-what' (facts), 'know-why' (science), or 'know-who' (networking). It involves learning and skill but not in a way that can be written down. The tacit aspects of knowledge are those that cannot be codified but can only be transmitted via training or gained through personal experience.

- 7 More precisely, entrepreneurs are economic actors exploiting the uncertainty of a given context, as initially proposed by Frank Knight in *Risk, Uncertainty and Profit* (1921).
- 8 Quadrini (2000) and Cagetti and de Nardi (2006) have provided additional arguments for the role of entrepreneurship in economic growth, focusing on the ability of entrepreneurs to accumulate savings and wealth.
- 9 Simon C. Parker's 'Theories of Entrepreneurship, Innovation and the Business Cycle', was recently published in a special issue of the *Journal of Economic Surveys* (vol. 26, n.3, 2012), entirely devoted to entrepreneurship.
- 10 Some issues related to the specific empirical strategy adopted still exist. The application of econometric techniques can create, among others, the following difficulties: sample selection bias; unobserved heterogeneity; endogeneity; and nonstationarity (Parker, 2009).
- 11 Recent research completed by the Fondazione IRSO, *L'Italia che compete. The Italian way of doing business'* (2011) reveals some interesting case studies of entrepreneurship.
- 12 Additional indicators worth mentioning are value added by enterprises, exports by enterprise size class, and employment by enterprise size class. For more detail on both the methodology and results, see *Entrepreneurship at a Glance* (OECD, 2012).
- 13 More precisely, GEM has two main data sources in each participating country: the Adult Population Survey and the National Expert Survey. Each year 1,000 to almost 27,000 individuals are surveyed in each country. The last Italian report for 2008 had a sample of 3,000 representative individuals (GEM, 2009).
- 14 A recent synthesis of empirical works is provided by Carree and Thurik (2010), who highlight the effect on economic growth of: (1) changes in the size distribution in regions; (2) number of market participants in an industry; (3) number of self-employed individuals (business owners) or people with entrepreneurial intentions.
- 15 As reported by many authors the number of self-employed in Italy has been traditionally higher than in other European countries (for a detailed description, see Carree et al., 2002). This aspect is further developed in the next section when we focus on the mechanism of entrepreneurial decision-making.
- 16 Psychological issues also affect the creation of new firms. In particular, many authors have described the adverse side of overconfidence and unrealistic over-optimism (Dosi and Lovallo, 1998). More recently, Koellinger et al. (2007) illustrated the role of entrepreneurial confidence in the evolution of firms.
- 17 One of the main ideas theorized by Joseph Schumpeter for explaining the emergence of modern entrepreneurial behavior was related to the transformation of social relations over the centuries. In particular, entrepreneurship was possible when individuals broke their social connections (i.e., primitive relations) and started to behave in a self-oriented and innovative way.
- 18 From an empirical point of view, the Entrepreneurship Indicator Program showed five external determinants: (1) regulatory framework (e.g., administrative burdens, various regulations); (2) market conditions (e.g., competition, accessibility); (3) access to finance (e.g., stock markets); (4) knowledge

- creation and diffusion (e.g., universities, technological diffusion); and (5) culture (e.g., risk attitude in society, attitude toward entrepreneurs).
- 19 The negative effects due to the presence of bureaucratic entry regulations have been extensively studied by Djankov et al. (2002) and Klapper et al. (2006).
 - 20 In this sense, the *European Entrepreneurship Action Plan* (2004) dedicated a special section to the reduction of the stigma of failures.
 - 21 Financial constraints experienced by SMEs are well-known in the economic literature. The seminal contribution of Levitsky and Prasad (1989) underlined four main reasons: (1) high risk associated with SMEs given their vulnerability; (2) financial institutions being biased toward large corporations; (3) higher administrative costs for banks; and (4) lack of information on the activities of SMEs.
 - 22 It should be noted that certain characteristics of Italian companies' capital structure are also a constraint on growth. Specifically, Italian firms are highly leveraged, primarily with short-term bank debt.
 - 23 For a more complete overview on Italian *Confidi*, see Costa and Costagli (2007) and Mistrulli and Vacca (2011).
 - 24 More specifically, there are two categories of *Confidi*: (1) *Confidi107* having the status of regulated financial intermediaries and monitored by the Bank of Italy; and (2) *Confidi106* operating in the traditional way, without regulation by financial intermediaries. When this chapter was being written, 57 *Confidi107* and 593 *Confidi106* were in existence.
 - 25 In recent years, several proposals have been made to reform the *Confidi*. Some of the suggestions are: broadening the spectrum of activities, ameliorating the transmission of information among different actors, increasing the profitability of these activities through investments in governance, and improving highly attractive competencies. For a more detailed analysis, see Gai (2006) and Baldinelli (2012).
 - 26 In reality, different forms of microfinance have been historically developed in Italy in specific sectors such as agriculture and farming or in cases such as that of *Monti di Pietà*. Our focus, however, will be on microcredit as originally diffused in many developing countries, and therefore we refer to this as 'modern microcredit.'
 - 27 In 2006, Yunus and the Grameen Bank were jointly awarded the Nobel Peace Prize. In May 2012, Bangladesh's Central Bank ousted Yunus from his position as managing director of Grameen Bank.
 - 28 In general, this trend is noticeable in other European countries. In 2010, for instance, the European Union launched the European Progress Microfinance Facility (Progress Microfinance), allocating €200 million for promoting microfinance and self-employment.
 - 29 Some interesting cases worth mentioning are: *Fondo Microcredito* launched by the Regione Sardegna in 2009; the allocation of European Social Fund's resources to microloan programs in Basilicata; various initiatives in Lombardy.
 - 30 Arméndariz de Aghion and Morduch (2007) highlighted some limits related to microcredit and group lending. In particular, these authors have discussed the presence of hidden costs (e.g., searching, information), collusion (against the creditor), and nonefficient self-selection mechanism.

- 31 In 2011, this network includes 55 members (52 universities), representing 77.2 percent of all professors in the scientific and technological sectors and 80.8 percent of academic spinoffs in Italy.
- 32 The Bayh–Dole Act or Patent and Trademark Law Amendments Act (Pub. L. 96-517, 12 December 1980) deals with intellectual property arising from federal government-funded research and introduces a significant change regarding ownership of inventions made with federal funding. While before the Bayh–Dole Act federal research funding grants obligated inventors to assign inventions they made using federal funding to the federal government, the Act permits businesses, universities, and non-profit institutions to pursue ownership of an invention.
- 33 While some Italian private universities have launched private–public special-purpose partnership, for the great part of Italian public universities, this practice is not familiar.
- 34 In this vein, Colombo e Del Mastro (2002) provides empirical evidence for Italy on the relation between Science Parks and entrepreneurial success.
- 35 The park has the shape of a right triangle. The hypotenuse, one kilometer long and bright red – like the Brembo logo and like Ferrari – was voted in as the symbol of the entire structure. The Park is situated close to the highway Milano-Bergamo and is visible to thousands of drivers.

3 Foster Innovation and Research

- 1 Enrico Baraldi, Gian Luca Gregori, Andrea Perna, ‘Network evolution and the embedding of complex technical solutions: The case of the Leaf House network’, *Industrial Marketing Management*, 40(6), 2011 838–852. See online: <http://www.sciencedirect.com/science/article/pii/S001985011100068X>
- 2 <http://corrente.gse.it/Lists/GSE%20Contenuti/Attachments/671/Loccioni-Giovannelli.pdf>
- 3 The firm was founded in 1968, but at that time it was more a craft enterprise than a business. See http://it.wikipedia.org/wiki/Enrico_Loccioni
- 4 It is beyond the scope of this chapter to give a complete overview of the main academic contributions dealing with innovation in economics. For a recent review of the literature, see: Cellini R. and L. Lambertini (2008), *The Economics of Innovation*, Emerald Group Publishing; Hall B. H. and N. Rosenberg (2010), *Handbook of the Economics of Innovation*, Elsevier.
- 5 EU SCAR in 2012.
- 6 The Dommel is a stream in the Netherlands and in Belgium, and it flows through the city of Eindhoven.
- 7 The empirical evidence reported in this section comes mostly from OECD, Eurostat, and the Booz & Company Innovation Report 2010. For more details, see the special issue ‘Innovation, Entrepreneurship, Geography and Growth’ of the *Journal of Economics Surveys*, vol. 26(3), July 2012. For a discussion on data collection on innovation, see the OECD Oslo Manual ‘Guidelines for Collecting and Interpreting Innovation Data’, 2005.
- 8 As evidence for this argument, we can observe that, in 2006 (data from OECD), the total percentage of revenue spent on R&D by SMEs in Italy was in line with Germany and higher than Sweden, Spain, and the UK. For

additional statistics on SMEs innovation see also Community Innovation Surveys (CIS) issued in the past decade.

- 9 Most of the figures discussed in this section are from OECD, various years.
- 10 Note that Italian regions do not have full autonomy in terms of public finances; therefore, data in Figure 3.4 do not perfectly reflect territorialized expenditures.
- 11 In accordance with Article 116 of the Italian Constitution, the regions of Valle d'Aosta, Trentino Alto Adige, Friuli Venezia Giulia, Sardegna and Sicily 'shall benefit of particular conditions of autonomy for reasons such as cultural, ethnic or language peculiarities'.
- 12 For the 2008–2010 period (data from Istat), the sector-specific composition of innovative activities in Italy was as follows: mechanical industry (14.1%), hardware (10.6%), pharmaceutical (8.1%), clothes and leather products (5.1%), fishing, farming, and agriculture (5.1%).
- 13 For a more detailed discussion of venture capitalism in Italy, see Bank of Italy (2006), *The Causes and Consequences of Venture Capital Financing. An Analysis Based on a Sample of Italian Firm*, Rome.
- 14 The recent reform of the Italian University system should have focused on this aspect for determining the selection criteria for allocating public resources among universities. For instance, some of the funds allocated by the Ministry of University and Research could have been assigned based on innovation indicators such as the number of university spinoffs created in a certain timeframe and the number of registered patents.
- 15 For a more detailed discussion of the Cambridge innovation district see Breznitz, S. M. (2011), Improving or Impairing? Following Technology Transfer Changes at the University of Cambridge, *Regional Studies*, vol. 45(4); Garnsey, E. and P. Haffernan (2005), High-technology clustering through spinout and attraction: The Cambridge case, *Regional Studies*, vol. 38(8).
- 16 The name 'Settesoli' comes from the name of the feudal property of the main character of the famous novel *il Gattopardo*, written by Tomasi di Lampedusa.
- 17 For a more detailed presentation of these two cases, see the *Regional Innovation Monitor Report* (2011 and 2012) elaborated by the European Commission and the references therein.

4 Leverage Cultural Resources and Creativity

- 1 <http://www.palazzostrozzi.org/Sezione.jsp?titolo=Annual+Report+2012&idSezione=2379>
- 2 www.palazzostrozzi.org/andthecity
- 3 http://www.palazzostrozzi.org/allegati/ANNUAL%20REPORT%20p53_108_090430061428.pdf
- 4 There are 981 UNESCO World Heritage Sites across 160 countries. Italy has 49 sites plus another 40 pending approval.
- 5 In June 2012, the United Nations World Tourism Organization (UNWTO) noted the number of foreign tourists per country. For comparison purposes, the US annually hosts 62 million foreign tourists; China, 57 million.
- 6 Europe 2020 is the European Union's ten-year growth and jobs strategy that was launched in 2010. It is about more than just overcoming the current

- crisis of the EU economies; it is also about addressing the shortcomings of the growth model and creating the conditions for a smart, sustainable and inclusive growth.
- 7 In Italy, these resources have been used mainly for the 'protection and preservation of heritage' and the 'development of cultural infrastructures' (Sacco, 2012).
 - 8 The 'White Paper on Creativity' is the English translation of the original Italian version *Libro Bianco sulla Creatività. Per un modello italiano di Sviluppo* (2009).
 - 9 Another interesting classification for the cultural and creative sector was presented in the *United Nations Conference on Trade and Development (UNCTAD) Creative Economy Report 2011*. According to this report, cultural and creative industries are divided as follows: (a) *Heritage*: Cultural sites (e.g., archeological sites, museums, libraries) and traditional cultural expressions (e.g., crafts, festivals, and celebrations); (b) *Arts*: Visual arts (e.g., painting, sculptures, antiques) and performing arts (e.g. theater, circus, opera, dance); (c) *Media*: Publishing and printed media (e.g., books and press) and audiovisuals (e.g., film, television and radio); (d) *Functional Creations*: Design (e.g., fashion, jewelry) and creative services (e.g., advertising). A report in the same vein is the *OECD Project of Cultural Data*, launched in 2007 (OECD, 2007).
 - 10 In particular, William Baumol (2006) highlighted the presence of repeatedly sunk costs, pricing problems, and new issues, such as the presence of 'superstars', introduced by mass media.
 - 11 Data availability and collection for cultural and creative sectors have been recently improved at both national and international levels. The *European Statistical System Network on Culture* (ESSnet-Culture) is an example of transnational cooperation in this field. It allows us to distinguish 10 cultural domains: heritage, archives, libraries, book and press, visual arts, performing arts, audiovisual and multimedia, architecture, advertising, and arts crafts. Moreover, it identifies six main functions: creation, production/publishing, dissemination/trade, preservation, education and management/regulation (ESSnet-Culture, May 2012).
 - 12 Defining 'talent' is not easy, given that it is based on both objective and subjective features. For the creative side of the economy, however, its relevance has been widely discussed by many authors (see, for instance, Florida, 2002a, 2002b). In our discussion, talent covers an individual's skills, abilities, and knowledge.
 - 13 For a more detailed analysis of the relations between cultural activities and economic growth, see Throsby (1994), Blaug (2001), Baumol (2006), and Pratt (2008) and the references therein quoted.
 - 14 For a more detailed analysis, see the recent report (2010) *The Entrepreneurial Dimension of the Cultural and Creative Industries*, completed by Hogeschool vor de Kunsten Utrecht and commissioned by the European Union.
 - 15 Regarding cultural education, it is worth noting that, in Italy, for the years 2007–2008, the number of tertiary students in fields of education related to culture was much higher than the European average (Eurostat, 2011).
 - 16 Joseph S. Nye, Jr. at the Harvard Kennedy School developed the concept of soft power. Nations can use it to cajole and coopt others into cooperating, as opposed to threatening force or offering money. The term comes from Nye's

- books, *Bound to Lead: The Changing Nature of American Power* (1990) and *Soft Power: The Means to Success in World Politics* (2004).
- 17 The concept of 'creative atmosphere' was recently introduced into the economic debate on the basis of an evolutionary perspective, according to which it is 'the result of an intense flow of ideas and information within a community on products, styles, art forms, consumer needs, technological innovation, business models, industrial design' (Santagata and Bertacchini, 2011).
 - 18 It is clear, however, that the adoption of collective trademarks implies many issues related to free-rider problems and the necessity to introduce appropriate incentive mechanisms for coordinating the different actors.
 - 19 *Parmigiano Reggiano* is allowed to contain only three ingredients: milk, salt, and rennet (a natural enzyme from calf intestine). Kraft 100% Grated Parmesan Cheese, sold in the US but banned in Europe by a European Court of Justice ruling, has three additional ingredients, including cellulose powder and potassium sorbate, which are banned in the production of *Parmigiano Reggiano*.
 - 20 Data on exports refer to both *Parmigiano Reggiano* and *Grana Padano*, the two most significant Italian cheeses exported.
 - 21 For a more detailed description, see www.crupa.it.
 - 22 Data are the result of different elaborations of *Federalimentare* (various years).
 - 23 The *Associazione Italiana Editori* (National Associations of Italian Editors) is the official representative body for associated publishers.
 - 24 These joint projects should not be confused with the AIE.
 - 25 More specifically, in terms of associated members we have: *Editori Campani Associati* (21); *Associazione Pugliese Editori* (23); and *Associazione Editori Sardi* (30).
 - 26 In the following discussion, we also consider the Italian *Accademie* as cultural foundations.
 - 27 For a more detailed list, see <http://www.cultura.toscana.it/biblioteche/istituzioni/elenco.shtml>
 - 28 In particular, several advantages are related to the application of innovation for monitoring. If we consider a museum, for instance, traditional indicators such as the number of visitors, tickets sold, and total revenues can be integrated with online customer-based data, such as the number of web contacts, and appropriate surveys for checking the perception of different experiences.

5 Make the Most of Cultural Diversity

- 1 The new system applies to immigrants who do not benefit from the principle of the right of establishment and free movement of workers that stems from being an EU citizen.
- 2 UNESCO Declaration on Cultural Diversity, Art. 3.
- 3 Data provided by Eurostat.
- 4 Transatlantic Trends, Immigration Survey 2011.
- 5 The Migration Observatory at the University of Oxford, Thinking Behind the Numbers, Understanding Public Opinion on Immigration in Britain, 2011.
- 6 The survey is available at <http://euobserver.com/social/31980>
- 7 Transatlantic Trends, Immigration survey 2011.

- 8 <http://www.integrazionemigranti.gov.it/Attualita/News/Documents/Comunicato-stampa-Imprese-condotte-da-stranieri.pdf>
- 9 Diversity at the country level refers to the overall amount of diversity within a certain country, regardless of any other factor.
- 10 Pierre Trudeau, Canadian Prime Minister, 1968–1979, 1980–1984.
- 11 The General Social Insurance Law, Allgemeine Sozialversicherungsgesetz.
- 12 This section will review the advantages that companies may gain from establishing a diverse working environment. However, it is society at large that benefits when immigrants are well integrated into the country's productive system. Work is an essential component in a person's life, and a rewarding, open work environment produces more satisfied people in every part of society.
- 13 There are many ways in which companies might foster diversity. The typical one is by hiring and retaining employees from culturally diverse backgrounds. Another way is to buy products and services from minority-owned companies. In this first part, the focus will be on building diversity by means of creating a diverse workforce.
- 14 Similarly, some companies may decide to become diverse for ethical reasons, regardless of any economic consideration, for instance, because they believe in cultural interplay as a means of moral growth of the society at large.
- 15 Hewlett Packard has long been considered one of the most proactive companies in fostering diversity in the workforce.
- 16 Lew Platt, former CEO of Hewlett Packard, comments to the Diversity Research Network, Stanford Business School, 18 March 1998.
- 17 Forbes, Fostering Innovation through a Diverse Workforce, 2012.
- 18 There are many definitions of multicultural firms. Three types are: Firms where the multiethnic component consists in the foreign origin of the entrepreneur and of the employees; firms that are multicultural because they produce products or services which are otherwise difficult to find in the host country; firms that are multicultural for the pool of customers or the community they serve. Obviously, these features could coexist within the same company. See also Martinelli, 2002, 'Immigrati imprenditori: la fotografia di una realtà dinamica', in *Impresa & Stato*.
- 19 Entrepreneurial Policy Digest, 27 March 2014 available on www.kauffman.org
- 20 Presentation by Mary Meeker and Liang Wu of Kleiner Perkins Caufield & Byers, 29 May 2013.
- 21 It is worth noticing that almost 60 percent of total foreign entrepreneurs are from four countries: Morocco, Romania, China, and Albania; 87 percent of the firms are concentrated in the Center-North of the country, and about 23 percent in Lombardy.
- 22 Circolare del Ministero Istruzione, Università e Ricerca n 2, January 2010.
- 23 AFS Intercultural Programs, Inc., has 60, not-for-profit *partners*, each with its own network of volunteers. In 2013, almost 13,000 participants traveled abroad on AFS cultural programs involving 110 countries and supported by nearly 43,000 volunteers.
- 24 <http://www.interculturala.it>
- 25 http://www.studiare-in-italia.it/pdf/CRUI_off_inglese.pdf

6 Champion Social Mobility

- 1 OECD (2010), *A Family Affair: Intergenerational. Social Mobility across OECD Countries*, Paris.
- 2 The Villiers Park Scholars Program is Villiers Park Educational Trust's flagship scheme, started in 2009. It supports capable students from less advantaged backgrounds so that they can fulfill their academic potential and gain places at leading universities. It involves ongoing mentoring, inspirational residential courses at Villiers Park, university master classes, and online support, as well as working with schools and parents. <http://www.villierspark.org.uk/what-is-the-Scholars-Programme>
- 3 <http://www.sussex.ac.uk/newsandevents/pressrelease/id/11824>
- 4 Plato, *Res Publica*, III, 414 D.
- 5 PISA is an international survey given every three years to test the skills and knowledge of 15-year-old students in 70 countries. Among the test subjects are reading, math, and science. PISA is unique because it develops tests that are not directly linked to a school's curriculum. The tests are designed to assess to what extent students at the end of compulsory education can apply their knowledge to real-life situations and be equipped for full participation in society. The test also allows countries participating in successive surveys to compare their students' performance over time and assess the impact of education policy decisions.
- 6 <http://www.sussex.ac.uk/newsandevents/pressrelease/id/11824>
- 7 European Court of Human Rights, *Horváth and Kiss v Hungary*, Judgment of 29 January 2013, at para 127.
- 8 OECD (2010), *A Family Affair: Intergenerational. Social Mobility across OECD Countries*, Paris.
- 9 Since 1994, Spain has increased women participation rate by 23 points.
- 10 The exam comprises three parts: first, a written portion, common to all students in all schools across the country; second, a written portion that varies from school to school; and third, an oral part, which allows even more discretion to individual examiners.
- 11 This could comply with Bologna rules, which require the second cycle of education to 'typically' span over 90 to 120 credits, but that it meet a minimum of only 60 credits, which corresponds to the amount of work that could be carried out in one year.
- 12 An alternative solution would be to replace the 3 + 2 system for everyone except those who intend to pursue an academic career. In this case, the 3 + 2 degree would be a requirement for the PhD exam admission.

Bibliography

Introduction

- Arrow, K. J. (1962), The Economic Implications of Learning by Doing, *Review of Economic Studies*, 29(3), 155–173.
- Becattini, G. (1989), Riflessioni sul distretto industriale marshalliano come concetto socioeconomico, *Stato e Mercato*, 25(April), 111–128.
- Glaeser, E. L. (2011), *The Triumph of the City: How Our Greatest Invention Makes Us Richer, Smarter, Greener, Healthier and Happier*, New York: Macmillan.
- Glaeser, E. L., Hedi, D. K., Scheinkman, J. A., and Schleifer, A. (1992), Growth in Cities, *Journal of Political Economy*, 100(6), 1126–1152.
- Krugman, P. (1996), Making Sense of the Competitiveness Debate, *Oxford Review of Economic Policy*, 12(3), 17–25.
- Marshall, A. (1920), *Principles of Economics*, London: Macmillan.
- Migliaccio, A. and Rotondi, F. (2009), In Italy, Parmesan Is as Good as Money, *The Boston Globe*, 16 August 2009.
- Pyke, F., Becattini, G. and Sengenberger, W. (1990), Industrial District and Inter-Firm Co-operation in Italy, International Institute for Labour Studies, Geneva.
- Romer, P. M. (1986), Increasing Returns and Long-run Growth, *Journal of Political Economy*, 94(5), 1002–1037.

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- Abdel-Rahman, H. M. (1988), Product Differentiation, Monopolistic Competition and City Size, *Regional Science and Urban Economics*, 18(1), 69–86.
- Acemoglu, D. and Angrist, J. (2000), How Large are Human-Capital Externalities? Evidence from Compulsory-Schooling Laws, *NBER Macroeconomics Annual*, 15, 9–74.
- Adler, P. and Kwom, S.-W. (2002), Social Capital: Prospects for a New Concept, *Academy of Management Review*, 27(1), 17–40.
- Aghion, P., Alghan, Y., Cahuc, P. and Shleifer, A. (2010), Regulation and Distrust, *Quarterly Journal of Economics*, 125(3), 1015–1049.
- Ahlbrandt, R. S. Jr. and Weaver, C. (1987), Public-Private Institutions and Advanced Technology Development in Southwestern Pennsylvania, *Journal of the American Planning Association*, 53(4), 449–458.
- Alesina, A. and La Ferrara, E. (2002), Who Trusts Others?, *Journal of Public Economics*, 85, 207–304.
- Arrow, K. (1972), Gifts and Exchanges, *Philosophy and Public Affairs*, 1, 343–362.
- Arrow, K. (1999), Observations on Social Capital, in Dasgupta, P. and Serageldin, I. (eds), *Social Capital. A Multifaceted Perspective*. Washington, DC: The World Bank.
- Bagnasco, A. (1986), *Torino: un profilo sociologico*. Torino: Einaudi.

- Barber, B. R. (2013), *If Mayors Ruled the World: Dysfunctional Nations, Rising Cities*, New Haven: Yale University Press.
- Barca, F. (2006), *Italia frenata. Paradossi e lezioni della politica per lo sviluppo*, Rome: Donzelli.
- Barca, F. (2009), *An Agenda for a Reformed Cohesion Policy: A Place-Based Approach to Meeting European Union Challenges and Expectations*, Independent Report Prepared at the Request of the European Commissioner for Regional Policy, Danuta Hübner, Bruxelles: European Commission.
- Becattini, G. (ed.) (1987), *Mercato e forze locali: il distretto industriale*. Bologna: Il Mulino.
- Becattini, G. (1989), Riflessioni sul distretto industriale marshalliano come concetto socioeconomico, *Stato e Mercato*, 25(April), 111–128.
- Becattini, G., Bellandi, M. and De Propriis, L. (eds) (2009), *Handbook of Industrial Districts*, Cheltenham, UK: Edward Elgar.
- Becker, G. S. (1964), *Human Capital*, New York: Columbia University Press.
- Bekkers, R. and Veldhuizen, I. (2008), Geographical Differences in Blood Donation and Philanthropy in The Netherlands – What Role for Social Capital?, *Tijdschrift voor Economische en Sociale Geografie*, 99(4), 483–496.
- Belussi, F. and Sedita, S. R. (2010), Local Systems Playing Globally, in Belussi, F. and Samarra, A. (eds), *Business Network in Clusters and Industrial Districts*, London: Routledge.
- Ben-Bassat, A. and Dahan, M. (2008) Social, Identity and Voter Turnout, Paper CESifo Working Paper Series 2331, CESifo Group Munich.
- Bénabou, R. (1996), Equity and Efficiency in Human Capital Investment: The Local Connection, *Review of Economic Studies*, 63, 237–264.
- Bénabou, R. and Tirole, J. (2006), Incentives and Prosocial Behavior, *American Economic Review*, 96(5), 1652–1678.
- Bowles, S. (1999), Social Capital and Community Governance, *Focus: Newsletter for the Institute for Research on Poverty*, 20(3), 6–10.
- Bowles, S. and Gintis, H. (2002), The Inheritance of Inequality, *The Journal of Economic Perspectives*, 16(3), 3–30.
- Caselli, F. and Gennaioli, N. (2009), Dynastic Management, *Economic Inquiry*, 51(1), 971–996.
- Chamber of Commerce of Turin (2011), *Torino Economia. Rapporto sulla Provincia di Torino*, Torino.
- Ciampi, C. A. and Barca, F. (1999), *La nuova programmazione e il Mezzogiorno*, Rome: Donzelli.
- Citizens Advisory Committee (2008), *Government for Growth: Forging a Bright Future Built on Unity, Efficiency, Equity, and Equality for the People of Allegheny County and the City of Pittsburgh*, Pittsburgh.
- Costa, D. and Kahn, M. (2000), Power Couples: Changes in the Locational Choice of the College Educated, 1940–1990, *The Quarterly Journal of Economics*, 115(4) (November), 1287–1315.
- Cullen, J. and Levitt, S. (1999), Crime, Urban Flight, and the Consequences for Cities, *The Review of Economics and Statistics*, 81(2), 159–169.
- Dasgupta, P. (2005), The Economics of Social Capital, *Economic Record*, 81, S2–S21.
- Dei Ottati, G. (1994a), Trust, Interlinking Transactions and Credit in the Industrial District, *Cambridge Journal of Economics*, 18(6), 529–546.

- Dei Ottati, G. (1994b), The Metamorphosis of a Localised Industry: The Rise of the Prato Industrial District, in Leonardi, R. and Nanetti, R. (eds), *Régional Development in a Modern European Economy: The Case of Tuscany*, London: Pinter Publisher.
- Dei Ottati, G. (2005), Global Competition and Entrepreneurial Behaviour in Industrial Districts: Trust Relations in an Italian Industrial District, in Hoehmann, H. H. and Welter, F. (eds), *Trust and Entrepreneurship: A West-East Perspective*, Cheltenham, UK: Edward Elgar.
- Di Tella, R. and MacCulloch, R. (2009), Why Doesn't Capitalism Flow to Poor Countries?, *Brookings Papers on Economic Activity, Economic Studies Program, The Brookings Institution*, 40(1), 285–332.
- Drechsler, W. (2006), The Contrade, The Palio, and The Ben Comune: Lessons From Siena, Tallinn University of Technology, *Trames*, 10(2), 99–125.
- Dundes, A. and Falassi, A. (2005), *La Terra in Piazza. An Interpretation of the Palio of Siena*. 2nd ed. Siena: Nuova Immagine.
- Durlauf, S. N. (1999), The Case “Against” Social Capital, *Focus: Madison Institute for Research on Poverty*, 20(3), 1–5.
- Durlauf, S. N. (2002), On the Empirics of Social Capital, *Economic Journal*, 112(483), 459–479.
- Durlauf, S. N. and Fafchamps, M. (2005), Social Capital, in Aghion, P. and Durlauf, S. N. (eds), *Handbook of Economic Growth: Volume 1B*. Amsterdam: Elsevier, 1639–1699.
- Farole, T., Rodríguez-Pose, A. and Storper, M. (2011), Cohesion Policy in the European Union: Growth, Geography, Institutions, *Journal of Common Market Studies*, 49(5), 1089–1111.
- Fondazione RES (2012), Rapporto RES (2011), *Osservatorio congiunturale della Fondazione RES*, Istituto di Ricerca su Economia e Società in Sicilia.
- Foster, A. D. and Rosenzweig, M. R. (1996), Technical Change and Human-Capital Returns and Investments: Evidence from the Green Revolution, *American Economic Review*, 86(4), 931–953.
- Frayer, L. (2013), How a Spanish City Went Boom, Then Bust, *NPR*, 29 January 2013.
- Gennaioli, N., La Porta, R., Lopez-de-Silanes, F. and Shleifer, A. (2013), Human Capital and Regional Development, *The Quarterly Journal of Economics, Oxford University Press*, 128(1), 105–164.
- Giaccaria, P. (1999), Learning and Local Competitiveness: The Case of Turin, *GeoJournal*, 49, 401–410.
- Glaeser, E. L. (2011), *The Triumph of the City: How Our Greatest Invention Makes Us Richer, Smarter, Greener, Healthier and Happier*, New York: Macmillan.
- Glaeser, E. L. and Shapiro, J. M. (2003), Urban Growth in the 1990: Is City Living Back? *Journal of Regional Science*, 43(1), 139–165.
- Glaeser, E. L., Laibson, D. I., Scheinkman, J. A. and Soutter, C. L. (2000), Measuring Trust, *Quarterly Journal of Economics*, 115(3), 811–846.
- Glaeser, E. L., Kolko, J. and Saiz, A. (2001), Consumer City, *Journal of Economic Geography*, 1(1), 27–50.
- Glaeser, E. L., Ponzetto, G. A. M. and Tobio, K. (2011), Cities, Skills and Regional Change, *NBER Working Papers 16934*, National Bureau of Economic Research.
- Govan, F. (2012), Valencia: The Ghost City that's Become a Symbol of Spain's Spending Woes, *The Telegraph*, 29 September 2012.

- Greif, A. (1993), Contract Enforceability and Economic Institutions in Early Trade: The Maghribi Traders' Coalition, *American Economic Review*, 83(3), 525–548.
- Greif, A. (2006), *Institutions and the Path to the Modern Economy*, New York: Cambridge University Press.
- Guiso, L., Sapienza, P. and Zingales, L. (2004), The Role of Social Capital in Financial Development, *American Economic Review*, 94(3), 526–556.
- Guiso, L., Sapienza, P. and Zingales, L. (2010), Civic Capital as the Missing Link, *NBER Working Paper No. 15845*, National Bureau of Economic Research.
- Halpern, D. (2001), Moral Values, Social Trust and Inequality: Can Values Explain Crime, *British Journal of Criminology*, 41(2), 236–252.
- Harbison, F. and Myers, C. A. (1965), *Manpower and Education: Country Studies in Economic Development*, New York: McGraw-Hill.
- Hirschman, A. O. (1958), *The Strategy of Economic Development*, New Haven: Yale University Press.
- Hirschman, A. O. (1984), *Getting Ahead Collectively: Grass-roots Organizations in Latin America*, New York: Pergamon Press.
- La Porta, R. et al. (1999), The Quality of Government, *Journal of Law, Economics and Organization*, 15(1), 222–279.
- La Porta, R. et al. (2008), The Economic Consequences of Legal Origins, *Journal of Economic Literature*, 46(2), 285–332.
- Lewin, T. (2001), One State Finds Secret to Strong Civic Bonds, *New York Times*, 26 August 2001.
- Liebscher, S. (2001), Der Stadtrat von Siena, 1993–1997. Der Einfluß des Handlungsrahmens auf Netzwerke und Kognitionen politischer Akteure, Hamburg: Hamburg University (dissertation).
- Lucas, R. E. (1988), On Mechanisms of Economic Development, *Journal of Monetary Economics*, 22(1), 3–42.
- Lucas, R. E. (2009), Ideas and Growth, *Economica*, 76, 1–19.
- Marshall, A. (1920), *Principles of Economics*, London: Macmillan.
- National Geographic Traveler (2011), Pittsburgh among the Best Trips in 2012, November/December 2011 issue.
- North, D. (1990), *Institutions, Institutional Change and Economic Performance*, Cambridge/New York: Cambridge University Press.
- OECD (2009a), *How Regions Grow*, Paris.
- OECD (2009b), *Regions Matter: Economic Recovery, Innovation and Sustainable Growth*, Paris.
- OECD (2011a), *Regions at a Glance 2011*, Paris.
- OECD (2011b), *OECD Regional Outlook 2011*, Paris.
- Ogawa, H. (1998), Preference for Product Variety and City Size, *Urban Studies*, 35(1), 45–51.
- Osservatorio Nazionale Distretti Italiani (2012), *Rapporto 2012*, Rome.
- Patel-Campillo, A. (2011), Transforming Global Commodity Chains: Actor Strategies, Regulation, and Competitive Relations in the Dutch Cut Flower Sector, *Economic Geography*, 87(1), 79–99.
- Piore, M. and Sabel, C. (1984), *The Second Industrial Divide: Possibilities for Prosperity*, New York: Basic Books.
- Porter, M. (1990), *The Competitive Advantage of Nations*, London: Macmillan.

- Porter, M. (2002), *Cluster of Innovative Activities*. Pittsburgh, Washington, DC: Council of Competitiveness.
- Porter, M. and Ketels, K. (2009), Clusters and Industrial Districts: Common Roots, Different Perspectives, in Becattini, G. et al. (eds), *A Handbook of Industrial Districts*. Cheltenham, UK: Edward Elgar.
- Porter, M., Ramirez-Vallejo, J. and Van Eenennaam, F. (2011), The Dutch Flower District, *Harvard Business School*, Case 711-507 (Revised November 2013).
- Portes, A. (1998), Social Capital: Its Origins and Application in Contemporary Sociology, *Annual Review of Sociology*, 24, 1–24.
- Puga, D. and Venables, A. J. (1999), Agglomeration and Economic Development: Import Substitution versus Trade Liberalization, *The Economic Journal*, 109(455), 292–311.
- Putnam, R. (1993), *Making Democracy Work: Civic Traditions in Modern Italy*. Princeton: Princeton University Press.
- Quibria, M. G. (2003), The Puzzle of Social Capital: A Critical Review, *Asian Development Review*, 20, 19–39.
- RES (2012), *Report on Data 2011*, Istituto Di Ricerca su Economia e Società in Sicilia.
- Rodrik, D. (1995), Taking Trade Policy Seriously: Export Subsidization as a Case Study in Policy Effectiveness, in Deardorff, A. et al. (eds), *New Directions in Trade Theory*, Ann Arbor: University of Michigan Press.
- Rodrik, D. (1999), Where Did All the Growth Go? External Shocks, Social Conflict and Growth Collapses, *Journal of Economic Growth*, Springer, 4(4), 385–412.
- Rodrik, D. (2005), Growth Strategies, in Aghion, P. and Durlauf, S. N. (eds), *Handbook of Economic Growth*, vol. 1A, North Holland: Elsevier.
- Romer, P. M. (1986), Increasing Returns and Long-run Growth, *Journal of Political Economy*, 94(5), 1002–1037.
- Romer, P. M. (1990), Endogenous Technological Change, *Journal of Political Economy*, 98(5), S71–S102.
- Sabel, C. (1992), Studied Trust: Building New Forms of Cooperation in a Volatile Economy, in Pyke, F. and Sengenberger, W. (eds), *Industrial Districts and Local Economic Regeneration*. Geneva: International Institute for Labour Studies, 215–50.
- Sampson, R. J., Raudenbush, S. and Earls, F. (1997), Neighborhoods and Violent Crime: A Multilevel Study of Collective Efficacy, *Science*, 277, 918–924.
- Schumpeter, J. A. (1934), *The Theory of Economic Development*, Cambridge, MA: Harvard University Press.
- Scott, A. J. (1997), The Cultural Economy of Cities, *International Journal of Urban and Regional Research*, 21(2), 323–339.
- Sen, A. (2009), *The Idea of Justice*, London: Allen Lane.
- Shapiro, J. M. (2003), Smart Cities: Explaining the Relationship between City Growth and Human Capital, *Urban/Regional* 0309001, EconWPA.
- Shapiro, J. M. (2006), Smart Cities: Quality of Life, Productivity, and the Growth Effects of Human Capital, *Review of Economics and Statistics*, 88(2), 324–335.
- Silverman, S. (1989), The Palio of Siena: Game, Ritual, or Politics?, in Zimmerman, S. and Weissman, R. F. E. (eds), *Urban Life in the Renaissance*. Newark: University of Delaware Press/London and Toronto: Associated University Press, 224–239.
- Simon, C. J. and Nardinelli, C. (2002), Human Capital and the Rise of American Cities 1900–1990, *Regional Science and Urban Economics*, 32, 59–96.

- Social Capital Community Benchmark Survey (2006), A Research Study Undertaken by the Saguaro Seminar at the John F. Kennedy School of Government, Harvard University.
- Solow, R. (1995), *But Verify*, *The New Republic*, 11 September 1995, pp. 36–39.
- Storper, M. (1997), *The Regional World: Territorial Development in a Global Economy*. New York: Guilford Press.
- Storper, M. (2009), The Economics of Context, Location and Trade: Another Great Transformation?, in Becattini, G. et al. (eds), *A Handbook of Industrial Districts*. Cheltenham, UK: Edward Elgar.
- Storper, M. (2011), Why Do Regions Develop and Change? The Challenge for Geography and Economics, *Journal of Economic Geography*, 11, 333–346.
- Storper, M. and Scott, A. J. (2009), Rethinking Human Capital, Creativity and Urban Growth, *Journal of Economic Geography*, 9, 147–167.
- Tabellini, G. (2010), Culture and Institutions: Economic Development in the Regions of Europe, *Journal of the European Economic Association*, 8, 677–716.
- Tavoletti, E. and Te Velte, R. (2008), Cutting Porter's Last Diamond: Competitive and Comparative (Dis)advantages in the Dutch Flower Cluster, *Entrepreneurship and International Management*, 15(2), 303–319.
- Titmuss, R. (1970), *The Gift Relationship: From Human Blood to Social Policy*, London: Allen and Unwin/New York: Pantheon books (1971).
- Torino Internazionale (2000), *Il Piano Strategico della Città*, Torino.
- Torino Internazionale (2006a), *Il II Piano Strategico. Guida*, Torino.
- Torino Internazionale (2006b), *Il II Piano Strategico. Visione*, Torino.
- Triglia, C. (1992), *Sviluppo senza autonomia*, Bologna: il Mulino/Contemporanea.
- Triglia, C. (2005), *Sviluppo locale. Un progetto per l'Italia*, Rome: Laterza.
- Warner, A. (2004), *Die Contraden von Siena. Lokale Traditionen und globaler Wandel*, Frankfurt/New York: Campus.
- Washington Post (2009), Pittsburgh, Site of G-20 Summit, Is Shaking off Its Smoky Image, Alexi Mostrous, Thursday, 24 September 2009.
- Weiss, M. A. and Meitzger, J. T. (1987), Technology Development, Neighbourhood Planning and, Negotiated Partnerships, *Journal of the American Planning Association*, 53(4), 469–477.
- World Bank (2011), *Learning for All. Investing in People's Knowledge and Skills to Promote Development*, World Bank Group Education Strategy 2020: Executive Summary. Washington, DC: World Bank.
- World Bank (2013), *Tertiary Education: A Global Report*, Washington, DC: World Bank.

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- Acemoglu, D., Aghion, P. and Zilibotti, F. (2006), Distance to Frontier, Selection and Economic Growth, *Journal of the European Economic Association*, 4(1), 37–74.
- Acs, Z. J. (1992), Small Business Economics: A Global Perspective, *Challenge*, 35(6), 38–44.
- Acs, Z. J. and Armington, C. (2006), *Entrepreneurship, Geography and American Economic Growth*, London: Cambridge University Press.
- Acs, Z. J. and Audretsch, D. B. (1988), Innovation in Large and Small Firms: An Empirical Analysis, *American Economic Review*, 78(4), 678–690.

- Acs, Z. J., Carlsson, B. and Karlsson, C. (1999), *Entrepreneurship, Small and Medium-Sized Enterprises and the Macroeconomy*, London: Cambridge University Press.
- Acs, Z. J., Audretsch, D. B. and Braunerhjelm, P. B. (2004), The Missing Link: The Knowledge Filter and Entrepreneurship in Endogenous Growth, *CEPR Discussion Papers*, No. 4783, London: CEPR.
- Ades, A. and Di Tella, R. (1997), The New Economics of Corruption: A Survey and some New Results, *Political Studies*, 45(3), 496–551.
- Aghion, P. (2012), From Growth Theory to Growth Policy Design, *Institute for Government – LSE*, 12 April.
- Aghion, P. and Howitt, P. (1992), A Model of Growth through Creative Destruction, *Econometrica*, 60(2), 323–351.
- Aghion, P. and Howitt, P. (2009), *The Economics of Growth*, Cambridge, MA: MIT Press.
- Alesina, R. and Giavazzi, F. (2006), *Goodbye Europe*, Milan: Rizzoli.
- Arméndariz de Aghion, B. and Morduch, J. (2005), *The Economics of Microfinance*, Cambridge, MA: MIT Press.
- Åstebro, T. and Bazzazian, N. (2011), Universities, Entrepreneurship and Local Economic Development, in Fritsch, M. (ed.), *Handbook of Research on Entrepreneurship and Regional Development: National and Regional Perspectives*, Cheltenham, UK: Edward Elgar Publishing.
- Åstebro, T., Bazzazian, N. and Barguinsky, S. (2012), Startups by Recent University Graduates and their Faculty: Implications for University Entrepreneurship Policy, *Research Policy*, 41, 663–677.
- Audia, P. G. and Rider, C. I. (2005), A Garage and an Idea: What More Does an Entrepreneur Need?, *California Management Review*, 46, 6–28.
- Audretsch, D. B. (1995), Innovation, Growth and Survival, *International Journal of Industrial Organization*, 13(4), 441–457.
- Audretsch, D. B. (2007), Entrepreneurship Capital and Economic Growth, *Oxford Review of Economic Policy*, 23(1), 63–78.
- Audretsch, D. B. and Thurik, R. (2001), What's New about the New Economy? Sources of Growth in the Managed and Entrepreneurial Economies, *Industrial and Corporate Change*, 10(1), 267–315.
- Audretsch, D. B. and Vivarelli, M. (1995), New Firm Formation in Italy, *Economics Letters*, 48, 77–81.
- Audretsch, D. B. and Vivarelli, M. (1996), Determinants of New-Firm Startups in Italy, *Empirica*, 23, 91–105.
- Audretsch, D. B., Carree, M. A., Van Stel, A. and Thurik, R. (2002), Impeded Industrial Restructuring: The Growth Penalty, *Kyklos*, 55(1), 81–98.
- Baldinelli, C. (2012), Il ruolo dei Confidi in Italia nell'attuale situazione economica, 13 Giugno, Milan.
- Banca d'Italia (2011), I Confidi e il Credito alle Piccole Imprese durante la Crisi, *Questioni di Economia e Finanza*, n.105, Rome.
- Banca d'Italia (2012), <https://www.bancaditalia.it/vigilanza/regolamentati/albi-elenchi/confidi>
- Banca d'Italia Rapporto Svimez* (2013), I Confidi e lo sviluppo dell'economia: ruolo, problemi e prospettive, Roma.
- Banerjee, A. V. and Newman, A. F. (1993), Occupational Choice and the Process of Development, *Journal of Political Economy*, 101(2), 274–298.

- Banerjee, A. V., Duflo, E., Glennerster, E. and Kinnan, C. (2009), The Miracle of Microfinance: Evidence from a Randomized Evaluation, *Bread Working Paper*, No. 278 (revised in 2014).
- Barbagallo, C., Direttore Centrale per la Vigilanza Bancaria e Finanziaria Banca d'Italia (2012), Rapporto SVIMEZ su relazioni banca-impresa e ruolo dei Confidi nel Mezzogiorno. Mercato, regole e prospettive di sviluppo.
- Baumol, W. J. (1968), Entrepreneurship in Economic Theory, *American Economic Review*, 58(2), 64–71.
- Baumol, W. J. (1990), Entrepreneurship: Productive, Unproductive, and Destructive, *Journal of Political Economy*, 98(5), 893–921.
- Berry, C. R. and Glaeser, E. L. (2005), The Divergence of Human Capital across Cities, *Papers in Regional Science*, 84(3), 407–444.
- Besley, T. and Coate, S. (1995), Group Lending, Repayment Incentives and Social Collateral, *Journal of Development Economics*, 46, 1–18.
- Bianchi, M. and Henrekson, M. (2005), Is Neoclassical Economics Still Entrepreneurless?, *Kyklos*, 58(4), 353–377.
- Birch, D. L. (1987), *Job Creation in America: How Our Smallest Companies Put the Most People to Work*, New York: Free Press.
- Blanchflower, D. G. and Oswald, A. (1998), What Makes an Entrepreneur?, *Journal of Labor Economics*, 16, 26–60.
- Blau, D. M. (1987), A Time Series Analysis of Self-Employment in the United States, *Journal of Political Economy*, 95(3), 445–467.
- Brock, W. A. and Evans, D. S. (1985), The Economics of Regulatory Tiering, *RAND Journal of Economics*, 16(3), 398–409.
- Brock, W. A. and Evans, D. S. (1986), *The Economics of Small Businesses: Their Role and Regulation in the US Economy*, New York: Holmes and Meier.
- Busetta, G. and Presbitero, A. F. (2008), Mutual Loan-Guarantee Societies, Small Firms and Banks: An Empirical Investigation (Confidi, Piccole Imprese E Banche: Un'Analisi Empirica). Available at SSRN: <http://ssrn.com/abstract=1108904>
- Busetta, G. and Zazzaro, A. (2009), Mutual Loan-Guarantee Societies in Monopolistic Credit Markets with Adverse Selection, mimeo.
- Caballero, R. J. and Hammour, M. L. (1994), The Cleaning Effect of Recessions, *American Economic Review*, 84(5), 1350–1368.
- Cagetti, M. and De Nardi, M. (2006), Entrepreneurship, Frictions and Wealth, *Journal of Political Economy*, 114(5), 835–870.
- Carree, M. A. and Thurik, R. (1998), Small Firms and Economic Growth in Europe, *Atlantic Economic Journal*, 26(2), 137–146.
- Carree, M. A. and Thurik, R. (2010), The Impact of Entrepreneurship on Economic Growth, in Acs, Z. J. and Audretsch, D. B. (eds), *Handbook of Entrepreneurship Research*, chapter 20, Springer.
- Carree, M. A., Van Stel, A., Thurik, R. and Wennekers, S. (2002), Economic Development and Business Ownership: An Analysis Using Data of 23 OECD Countries in the Period 1976–1996. *Small Business Economics*, 19(3), 271–290.
- Cohen, W. M. and Klepper, S. (1992), The Anatomy of Industry R&D Intensity Distribution, *American Economic Review*, 82(4), 773–799.
- Colombo, M. G. and Del Mastro, M. (2002), How Effective are Technology Incubators? Evidence from Italy, *Research Policy*, 31, 1103–1122.

- Congregado, E., Golpe, A. and Parker, S. C. (2012), The Dynamics of Entrepreneurship: Hysteresis, Business Cycles and Government Policy, *Empirical Economics*, 43(3), 1239–1261.
- Costa, S. and Costagli, S. (2007), Finanza per le piccole e medie imprese: il ruolo dei Confidi, *Credito Popolare*, 14(1), 5–41.
- Cozza, C., Malerba, F. et al. (2012), Innovation, Profitability and Growth in Medium and High-tech Manufacturing Industries: Evidence from Italy, *Applied Economics*, 44(15), 1963–1976.
- Davidsson, P., Achtenhagen, L. and Naldi, L. (2006), What Do we Know about Small Firm Growth? in Parker, S. (ed.) *The Life Cycle of Entrepreneurial Ventures. International Handbook Series on Entrepreneurship*, New York: Springer, 361–398.
- Del Monte, A. and Giannola, A. (1997), *Istituzioni economiche e Mezzogiorno. Analisi delle politiche dello sviluppo*, Rome: NIS.
- Di Gregorio, D. and Shane, S. (2003), Why Do Some Universities Generate More Start-ups than Others?, *Research Policy*, 32, 209–227.
- Djankov, S., La Porta, R. et al. (2002), The Regulation of Entry, *Quarterly Journal of Economics*, 117, 1–37.
- Dosi, G. and Lovallo, D. (1998), Rational Entrepreneurs or Optimistic Martyrs? Some Considerations on Technological Regimes, Corporate Entries, and the Evolutionary Role of Decision Biases, in Garud et al. (eds), *Foresights and Oversights in Technological Change*, Cambridge/New York: Cambridge University Press.
- Erken, H., Donselaar, P. and Thurik, R. (2009), Total Factor Productivity and the Role of Entrepreneurship, *Tinbergen Institute Discussion Paper*, 034-4.
- Etzkowitz, H. and Leydesdorff, L. (2000), The Dynamics of Innovation: From National System and 'Mode 2' to a Triple Helix of University-Industry-Government Relations, *Research Policy*, 29(2), 109–123.
- European Commission (2004), *European Entrepreneurship Action Plan*, http://europa.eu/legislation_summaries/enterprise/business_environment/n26043_en.htm
- European Commission (2005), Guarantees and Mutual Guarantees. Best Report: Report to the Commission by an Independent Expert Group, Bruxelles.
- European Commission (2010), Eurobarometer, Entrepreneurship in the EU and Beyond. A Survey in the EU, EFTA Countries, Croatia, Turkey, the US, Japan, South Korea and China, Analytical Report 2010.
- European Commission (2012), *Consultation on Entrepreneurship 2020 Action Plan*, http://ec.europa.eu/enterprise/policies/sme/public-consultation/index_en.htm
- European Microfinance Network – EMN (2011), *Microfinance Sector in Italy*, http://www.european-microfinance.org/pays_en.php?piId=22
- Evans, D. S. and Jovanovic, B. (1989), An Estimated Model of Entrepreneurial Choice under Liquidity Constraints, *Journal of Political Economy*, 97, 808–827.
- Evans, L. B. and Leighton, L. S. (1990), Small Business Formation by Unemployed and Employed Workers, *Small Business Economics*, 2, 319–330.
- Fazzari, S. M., Hubbard, R. G. and Petersen, B. C. (1988), Financing Constraints and Corporate Investment, *Brookings Papers on Economic Activity*, 115, 695–713.
- Fondazione IRSO (2011), *L'Italia che compete. The Italian Way of Doing Business*, Milan: Franco Angeli.

- Foster, J. and Metcalfe, J. S. (2012), Economic Emergence: An Evolutionary Economic Perspective, *Journal of Economic, Behaviour and Organization*, 82, 420–432.
- Gai, L. (2006), La Trasformazione del Confidi in Intermediario Finanziario Vigilato: potenzialità, criticità e possibili soluzioni, *Banche e Banchieri*, 3, 187–198.
- Galor, O. and Michalopoulos, S. (2012.) Evolution and the Growth Process: Natural Selection of Entrepreneurial Traits, *Journal of Economic Theory*, 147(2), 759–780.
- Garofoli, G. (1994), New Firm Formation and Regional Development: The Italian Case, *Regional Studies*, 28(4), 381–393.
- Gibrat, R. (1931), *Les Inégalités économiques*, Paris: Librairie du Recueil Sirey.
- Glaeser, E. L. and Kerr, W. A. (2009), Local Industrial Conditions and Entrepreneurship: How Much of the Spatial Distribution can We Explain?, *Journal of Economics and Management Strategy*, 18(3), 623–663.
- Global Entrepreneurship Monitor – GEM (2009), *2008 Executive Report – Italy*, www.gemconsortium.org.
- Global Entrepreneurship Monitor – GEM (2012), *2011 Global Report*, www.gemconsortium.org.
- Griliches, Z. (1979), Issues in Assessing the Contribution of R & D to Productivity Growth, *Bell Journal of Economics*, 10, 92–116.
- Grilli, L., Lenzi, C., Piva, E. and Rossi Lamastra, C. (2010), The Effects of Human and Infrastructural Capital on the Entry Rates of New Technology-based Firms at the Local Level, *Economia e Politica Industriale*, 4, 1–29.
- Grossman, G. M. and Helpman, E. (1991), *Innovation and Growth in the Global Economy*, Cambridge, MA: MIT Press.
- Haltiwanger, J., Lane, J. and Spletzer, J. (1999), Productivity Differences Across Employers: The Role of Employer Size, Age, and Human Capital, *American Economic Review Papers and Proceedings*, 89(2), 94–98.
- Holmes, T. J. and Schmitz, J. A. Jr (1990), A Theory of Entrepreneurship and Its Application to the Study of Business Transfers, *Journal of Political Economy*, 98(2), 265–294.
- Holtz-Eakin, D. and Kao, C. (2003), Entrepreneurship and Economic Growth: The Proof is in the Productivity, *Center for Policy Research*, Paper 50, Maxwell School Syracuse University.
- Holtz-Eakin, D., Joulfaian, D. and Rosen, H. (1994), Sticking It Out: Entrepreneurial Survival and Liquidity Constraints, *Journal of Political Economy*, 102, 53–75.
- Kerr, W. R. and Nanda, R. (2011), Financing Constraints and Entrepreneurship, in Audretsch, D. B. and Falck, O. et al. (eds), *Handbook of Research on Innovation and Entrepreneurship*, Cheltenham, UK: Elgar.
- Khoja, F. and Lutafali, S. (2008), Micro-financing: An Innovative Application of Social Networking, *Ivey Business Journal*, 72(1), 1–9.
- Kirzner, I. M. (1997), Entrepreneurial Discovery and the Competitive Market Process: An Austrian Approach, *Journal of Economic Literature*, 35(1), 60–85.
- Klapper, L. and Love, I. (2011), Entrepreneurship and Development: The Role of Information Asymmetries, *World Bank Economic Review*, 25, 1–8.
- Klapper, L., Laeven, L. and Rajan, R. G. (2006), Business Regulations as a Barrier to Entrepreneurship, *Journal of Financial Economics*, 82, 591–629.
- Klimek, P., Hausmann, R. J. and Thurner, S. (2012), Empirical Confirmation of Creative Destruction from World Trade Data, *CID Harvard Working Papers*, No. 238, Cambridge, MA.

- Knight, F. H. (1921), *Risk, Uncertainty and Profit*, New York: Houghton-Mifflin.
- Köllinger, P. D. and Thurik, R. (2009), Entrepreneurship and the Business Cycle, Discussion Paper TI09-xxx/3, Tinbergen Institute, Rotterdam: Erasmus University.
- Köllinger, P. D., Minniti, M. and Schade, C. (2007), 'I think I Can, I think I Can': Overconfidence and Entrepreneurial Behaviour, *Journal of Economic Psychology*, 28(4), 502–527.
- La Porta, R. et al. (1997), Trust in Large Organizations, *American Economic Review*, 87(2), 333–338.
- La Porta, R., Lopez-de-Silanes, F., Shleifer, A. and Vishny (1998), Law and Finance, *Journal of Political Economy*, 106(6), 1113–1155.
- Lazear, E. P. (2000), Performance Pay and Productivity, *American Economic Review, American Economic Association*, 90(5), 1346–1361.
- Lazear, E. P. (2004), Balanced Skills and Entrepreneurship, *American Economic Review, Papers & Proceedings*, 94, 208–211.
- Lerner, J. and Malmendier, U. (2011), With a Little Help from My (random) Friends: Success and Failure in Post-business School Entrepreneurship, *NBER Working Paper 11-108*, Harvard Business School.
- Lever, M. and Nieuwenhuijsen, H. (1999), The Impact of Competition on Productivity in Dutch Manufacturing, in Audretsch, D. and Thurik, A. (eds), *Innovation, Industry Evolution, and Employment*, Cambridge, MA: Cambridge University Press, 111–128.
- Levitsky, J. and Prasad, R. N. (1989), Credit Guarantee Schemes for Small and Medium Enterprises, *World Bank Technical Paper*, No. 58.
- Lindh, T. and Ohlsson, H. (1996), Self-Employment and Windfall Gains: Evidence from the Swedish Lottery, *Economic Journal, Royal Economic Society*, 106(439), 1515–1526.
- Lucas, R. E. (1978), On the Size Distribution of Business Firms, *Bell Journal of Economics*, 9, 508–523.
- Martin, R. and Sunley, P. (2003), Deconstructing Clusters: Chaotic Concept or Policy Panacea?, *Journal of Economic Geography*, 3(1), 5–35.
- Mistrulli, P. E. and Vacca, V. (2011), I confido e il credito alle piccole imprese durante la crisi, Banca d'Italia Occasional Papers, n. 105.
- Morduch, J. (1999), The Microfinance Promise, *Journal of Economic Literature*, 37(4), 1569–1614.
- Murphy, K., Shleifer, A. and Vishny, R. (1991), The Allocation of Talent: Implications for Growth, *Quarterly Journal of Economics*, 106(2), 503–530.
- Nelson, R. R. and Phelps, E. S. (1966), Investment in Humans, Technological Diffusion, and Economic Growth, *American Economic Review*, 56, 69–75.
- Network per la Valorizzazione della Ricerca Universitaria (2013), *Rapporto 2012*, www.netval.it
- Nickell, S. J. (1996), Competition and Corporate Performance, *Journal of Political Economy*, 104, 724–746.
- Nickell, S. J., Nicolitsas, D. and Dryden, N. (1997), What Makes Firms Perform Well, *European Economic Review*, 41(3–5), 783–796.
- Noorderhaven, N., Thurik, R., Wennekers, S. and Van Stel, A. (2004), The Role of Dissatisfaction and Per Capita Income in Explaining Self-employment across 15 European Countries, *Entrepreneurship Theory and Practice*, 28(5), 447–466.
- OECD (2012), *Entrepreneurship at a Glance 2012*, Paris.

- OECD and Eurostat (2012), *The Entrepreneurship Indicators Program*, <http://www.oecd.org/industry/entrepreneurshipandbusinessstatistics/theentrepreneurshipindicatorsprogrammeeipbackgroundinformation.htm>
- Parker, S. C. (2005), The Economics of Entrepreneurship: What We Know and What We Don't, *Foundations and Trends(R) in Entrepreneurship*, 1, 1–54.
- Parker, S. C. (2009), *The Economics of Entrepreneurship*, London: Cambridge University Press.
- Parker, S. C. (2012), Theories of Entrepreneurship: Innovation and the Business Cycle, *Journal of Economic Surveys*, 26(3), 377–394.
- Parker, S. C. and Van Praag, C. M. (2004), Schooling, Capital Constraints and Entrepreneurial Performance: The Endogenous Triangle, *Tinbergen Institute Discussion Paper*, 106/3 (revised March 2005).
- Pirnay, F., Surlemont, B. and Nlevmo, F. (2003), Toward a Typology of University Spin-offs, *Small Business Economics*, 23, 355–369.
- Polanyi, M. (1958), *Personal Knowledge. Towards a Post Critical Philosophy*. Chicago: University of Chicago Press.
- Polanyi, M. (1966), *The Tacit Dimension*, London: Routledge (Chicago: University of Chicago Press, 2009 reprint).
- Porter, M. (1990), *The Competitive Advantage of Nations*, London: Macmillan.
- Quadrini, V. (2000), Entrepreneurship, Saving, and Social Mobility, *Review of Economic Dynamics*, 1–40.
- Rampini, A. A. (2004), Entrepreneurial Activity, Risk and the Business Cycle, *Journal of Monetary Economics*, 51(3), 555–573.
- Romer, P. M. (1988), Capital Accumulation in the Theory of Long Run Growth, *RCER Working Papers 123*, University of Rochester – Center for Economic Research.
- Schmitz, J. A. Jr. (1989), Imitation, Entrepreneurship and Long-Run Growth, *Journal of Political Economy*, 97(3), 721–739.
- Schumpeter, J. A. (1939), *The Theory of Economic Development*, New York: Oxford University Press.
- Schumpeter, J. A. (1942), *Capitalism, Socialism and Democracy*, New York: Harper and Brothers.
- Segerstrom, P., Anant, T. C. A. and Dinopoulos, E. (1990), A Shumpeterian Model of the Product Life Cycle, *American Economic Review*, 80, 1077–1092.
- Smith, A. (1776), *An Inquiry into the Nature and Causes of the Wealth of Nations*, London: Strahan and Cadell.
- Stam, E. (2008), Entrepreneurship and Innovation Policy, *Jena Economic Research Papers*, 2008-006.
- Stiglitz, J. E. and Weiss, A. (1981), Credit Rationing in Markets with Imperfect Information, *American Economic Review*, 71, 393–410.
- Storey, D. J. (1985), Manufacturing Employment Change in Northern England, 1965–78, in Storey, D. J. (ed.), *Small Firms in Regional Economic Development: Britain, Ireland and the United States*, London: Cambridge University Press.
- Sutton, J. (1997), Gibrat's Legacy, *Journal of Economic Literature*, 35(1), 40–59.
- Thurik, R. (2009), Entrepreneuromics: Entrepreneurship, Economic Growth and Policy, *Entrepreneurship Growth and Public Policy*, 219–249.
- Van Stel, A., Caree, M. A. and Thurik, R. (2005), The Effect of Entrepreneurial Activity on National Economic Growth, *Small Business Economics*, 24(3), 311–321.

- Vivarelli, M. (2004), Are All the Potential Entrepreneurs So Good?, *Small Business Economics*, 23, 41–49.
- Vivarelli, M. (2012), Entrepreneurship in Advanced and Developing Countries: A Microeconomic Perspective, *Discussion Paper Series Forschungsinstitut zur Zukunft der Arbeit*, n. 6513, <http://hdl.handle.net/10419/58425>
- Vivarelli, M. and Audretsch, D. B. (1998), The Link between the Entry Decision and Post-entry Performance: Evidence from Italy, *Industrial and Corporate Change*, 7, 485–500.
- Weber, M. (1905), *The Protestant Ethic and the Spirit of Capitalism*, London: Routledge.
- World Bank (various years), *Doing Business in Italy*, www.doingbusiness.org.
- Yunus, M. (1999), *Banker to the Poor*, London: Aurum Press.

3 Foster Innovation and Research

- Abramovitz, M. (1950), *Inventories and Business Cycles with Special Reference to Manufacturer's Inventories*, Cambridge, MA/New York: NBER Publications.
- Acemoglu, D., Aghion, P. and Zilibotti, F. (2006), Distance to Frontier, Selection and Economic Growth, *Journal of the European Economic Association*, 4(1), 37–74.
- Aghion, P. and Howitt, P. (1992), A Model of Growth through Creative Destruction, *Econometrica*, 60(2), 323–351.
- Aghion, P., Bond, S., Klemm, A. and Marinescu, I. (2004), Technology and Financial Structure: Are Innovative Firms Different?, *Journal of the European Economic Association*, 4, 277–288.
- Banca d'Italia (2006), *The Causes and Consequences of Venture Capital Financing. An Analysis Based on a Sample of Italian Firm*, Rome.
- Banca d'Italia (2009a), Rapporto sulle tendenze nel sistema produttivo italiano, in Brandolini, A. and Bugamelli, M., *Questioni di economia e finanza*, 45.
- Banca d'Italia (2009b), Il private equity in Italia, *Questioni di economia e finanza*, 41.
- Banca d'Italia (2011), Are Incentives to R&D Effective? Evidence of Heterogeneous Effects from a Regional Program in Italy, in Bronzini, R. and Iachini, E., *Working Paper No. 791*.
- Baraldi, E., Gregori, G. L. and Perna, A. (2011), Network Evolution and the Embedding of Complex Technical Solutions: The Case of the Leaf House Network, *Industrial Marketing Management*, 40(6), 838–852. Available at: <http://www.sciencedirect.com/science/article/pii/S001985011100068X>
- Bessen, J. and Hunt, R. (2004), An Empirical Look at Software Patents, FRB of Philadelphia Working Paper No. 03–17.
- Bond, S., Harhoff, D. and Van Reenen, J. (2003), Investment, R&D and Financial Constraints in Britain and Germany, *Working Paper No. 99/5*, London: Institute for Fiscal Policies.
- Breznitz, S. M. (2011), Improving or Impairing? Following Technology Transfer Changes, *Regional Studies*, 45(4), 463–478.
- Bugamelli, M. (2012), Il Gap innovativo del sistema italiano: Radici e possibili rimedi, Banca d'Italia, 121.
- Cafaggi, F. and Iamiceli, P. (2007), *Reti di imprese tra crescita e innovazione organizzativa: riflessioni da una ricerca sul campo*, Bologna: Il Mulino.

- Cellini, R. and Lambertini, L. (2008), *Economics of Innovation: Incentives, Cooperation, and R&D Policy*. Bingley, UK: Emerald Group Publishing Limited.
- Colombo, M. G., Grilli, L. and Murtinu, S. (2011), R&D Subsidies and the Performance of High-Tech Startups, *Economics Letters*, mimeo.
- Cook, S. E. and Bramley, R. G. V. (1998), Precision Agriculture – Opportunities, Benefits and Pitfalls of Site-specific Crop Management in Australia. *Australian Journal of Experimental Agriculture* 38, 753–763.
- Cooke, P., de Laurentis, C., MacNeill, S. and Collinge, C. (2010), *Platforms of Innovation; Dynamics of New Industrial Knowledge Flows*. Cheltenham, UK: Edward Elgar.
- COTEC (2012), *Rapporto sull'Innovazione 2012*, Fondazione per l'innovazione tecnologica, COTEC, Rome.
- DPS (2009), Migliorare le politiche di Ricerca e Innovazione per le Regioni. Contenuti e processi di policy, *Ministry of Economic Development*, 63, Rome.
- European Commission (2008), *The Concept of Clusters and Clusters Policies and Their Role for Competitiveness and Innovation: Main Statistical Results and Lessons Learned*.
- European Commission (2008), *Towards World-class Clusters in the European Union: Implementing the Broad-based Innovation Strategy*.
- European Commission (2009), *EU Cluster Mapping and Strengthening Clusters in Europe*.
- European Commission (2009), *Mainstreaming Sustainable Development into EU Policies: Review of the European Union Strategy for Sustainable Development*.
- European Commission – Enterprise and Industry (2009), Challenges for EU Support to Innovation in Services Europe, *INNOVA/PRO INNO Europe*, 12, Luxembourg.
- European Commission (2010), *Europe 2020: A Strategy for Smart, Sustainable and Inclusive Growth*.
- European Commission (2011, 2012), *Regional Innovation Monitor*.
- European Commission (2012), State of the Innovation Union 2011, Bruxelles.
- European Commission (2013), State of the Innovation Union 2012, Bruxelles.
- EU SCAR (2012), *Agricultural Knowledge and Innovation Systems in Transition – A Reflection Paper*, Bruxelles.
- Feldman, M. P. and Audretsch, D. B. (1999), Innovation in Cities: Science-based Diversity, Specialization and Localized Competition, *European Economic Review*, 43(2), 409–429.
- Garnsey, E. and Heffernan, P. (2005), High-technology Clustering through Spin-out and Attraction: The Cambridge Case, *Regional Studies*, 39, 1127–1144.
- Generale, A. and Sette, E. (2010), Venture Capital and Private Equity in Italy: Evidence from Deal-level Data on Contracts, Advice and Performance, mimeo, Banca d'Italia.
- Glaeser, E. L., Hedi, D. K., Scheinkman, J. A. and Schleifer, A. (1992), Growth in Cities, *Journal of Political Economy*, 100(6), 1126–1152.
- Greenan, N. and Guellec, D. (2000), Technological Innovation and Employment Reallocation, *Labour*, 14, 547–590.
- Hall, B. H. (2002), The Financing of Research and Development, *Oxford Review of Economic Policy*, 18(1), 35–51.
- Hall, B. H. (2009), The Financing of Innovative Firms, *European Investment Bank Papers*, 14(2), 8–28.

- Hall, B. H. and Mairesse, J. (1995), Exploring the Relationship between R&S and Productivity in French Manufacturing Firms, *Journal of Econometrics*, 65(1), 265–293.
- Hall, B. H. and Rosenberg, N. (2010), *Handbook of the Economics of Innovation*, Amsterdam: Elsevier.
- Hall, B. H., Lotti, F. and Mairesse, J. (2008), Employment, Innovation and Productivity: Evidence from Italian Microdata, *Industrial and Corporate Change*, 17, 813–839.
- Hall, B. H., Lotti, F. and Mairesse, J. (2009), Innovation and Productivity in SMEs: Empirical Evidence for Italy, *Small Business Economics*, 33(1), 13–33.
- Hall, B. H., Lotti, F. and Mairesse, J. (2012), Evidence on the Impact of R&D and ICT Investment on Innovation and Productivity in Italian Firms, *Economic Working Papers 874*, Banca d'Italia, Economic Research and International Relations Area.
- Hennop, J. (2013), Dutch City Patently the World's Most Inventive, 28 July 2013, More at <http://phys.org/news/2013-07-dutch-city-patently-world.html>
- Istat (2012), L'innovazione nelle imprese, Available online at: <http://www.istat.it/it/archivio/74035>
- Jacobs, J. (1969), *The Economics of Cities*, New York: Random House.
- Katila, R. (2000), Measuring Innovation Performance, *International Journal of Business Performance Measurement*, 2, 180–193.
- Landabaso, M. and Rosenfeld, S. (2009), Public Policies for Industrial Districts and Clusters, in Becattini, G. et al. (eds), *A Handbook of Industrial Districts*, Cheltenham, UK: Edward Elgar.
- Lichtenberg, F. R. and Siegel, D. (1991), The Impact of R&D Investment on Productivity: New Evidence Using Linked R&D-LRD Data, *Economic Inquiry*, 29(2), 203–228.
- Lotti, F. and Viviano, E. (2010), Why Hiring Temporary Workers? Their Impact on Firms Profits and Productivity, mimeo, Banca d'Italia.
- Magliocco, A. and Ricotti, G. (2012), Venture Capital Funds and the New Tax Framework, *Italy European Taxation*, 52(2/3), 92–102.
- Magri, S. (2009), The Financing of Small Innovative Firms: The Italian Case, *Economics of Innovation and New Technology*, 18(2), 181–206.
- McCann, P. and Oxley, L. (2012), Innovation, Entrepreneurship, Geography and Growth, *Journal of Economics Surveys*, 26(3), 373–376.
- Merito, M., Giannangeli, S. and Bonaccorsi, A. (2008), L'impatto degli incentivi pubblici per la R&S sull'attività delle Pmi, in de Blasio, G. et al. (eds), *La valutazione degli aiuti alle imprese*, Bologna: Il Mulino.
- Norman, V. and Venables, A. V. (2004), Industrial Clusters: Equilibrium, Welfare and Policy, *Economica*, 71(284), 543–558.
- OECD (2005), *Oslo Manual: Proposed Guidelines for Collecting and Interpreting Technological Innovation Data*, 3rd ed., Paris.
- OECD (2011a), *The OECD Innovation Strategy. Getting a Head Start on Tomorrow*, Paris.
- OECD (2011b), *Measuring Innovation. A New Perspective*, Paris.
- OECD (2011c), *Main Science and Technology Indicators*, Paris.
- Orlando, M. J. (2000), On the Importance of Geographic and Technological Proximity for R&D Spillovers: An Empirical Investigation, *Research Working Paper, 00-02*, Federal Reserve Bank of Kansas City.

- Pentland, W. (2013), World's 15 Most Inventive Cities, Forbes.com, 9 July 2013.
- Piva, M. and Vivarelli, M. (2005), Innovation and Employment: Evidence from Italian Microdata, *Journal of Economics*, 86(1), 65–83.
- Piva, M., Santarelli, E. and Vivarelli, M. (2005), The Skill Bias Effect of Technological and Organisational Change: Evidence and Policy Implications, *Research Policy*, 34(2), 41–57.
- Porter, M. E. (2008), Clusters and Competition: New Agendas for Companies, Governments, and Institutions, in Porter, M. (ed.), *On Competition*, Boston: HBS Press, October 2008 (1st ed. 1998).
- Porter, M. E. and Ketels, C. (2009), Clusters and Industrial Districts: Common Roots, Different Perspectives, in Becattini, G. et al. (eds), *A Handbook of Industrial Districts*, Cheltenham, UK: Edward Elgar.
- Rodriguez, M. D., Prats, M., Enright, M. and Ballarin, E. (1995), *The Catalan Leather Industry, Case 9-795-105*. Boston: Harvard Business School.
- Romer, P. M. (1986), Increasing Returns and Long-Run Growth, *Journal of Political Economy*, 94(5), 1002–1037.
- Röling, N. G. and Engel, P. G. H. (1991), IT from a Knowledge System Perspective: Concepts and Issues. Paper presented at the European Seminar on Knowledge Management and Information Technology, Wageningen.
- Spiezia, V. and Vivarelli, M. (2002), Technical Change and Employment: A Critical Survey, in Greenan, N. et al. (eds), *Productivity, Inequality and the Digital Economy*, Cambridge, MA: MIT Press.
- Sterlacchini, A. (2001), The Determinants of Export Performance: A Firm-Level Study in Italian Manufacturing, *Review of World Economics*, 137(3), 450–472.
- The Economist* (2012), A Third Industrial Revolution, 21 April 2012.
- The New Economy* (2014), The Manhattan of Germany: The Innovative Mannheim City, 21 March 2014.
- World Bank (2006), *Enhancing Agricultural Innovation: How to Go Beyond the Strengthening of Research Systems*, Washington DC: The World Bank.

4 Leverage Cultural Resources and Creativity

- Arezki, R., Cherif, R. and Piotrowski, J. (2009), Tourism Specialization and Economic Development: Evidence from the UNESCO World Heritage List, *IMF Working Paper 09/176*, Washington, DC.
- Associazione Italiana Editori – AIE (2013), *Rapporto Annuale*, Milan.
- Bakhshi, H. and Throsby, D. (2009), *Innovation in Arts and Cultural Organizations*, UK: NESTA Publishing.
- Baumol, W. (2006), The Arts in the ‘New Economy’, in Ginsburgh, V. A. and Throsby, D. (eds), *Handbook of the Economics of Arts and Culture*, Amsterdam: Elsevier.
- Bini Smaghi, L. (2012), *Il sodalizio che fa del bene un utile*, ilSole24Ore, 22 April 2012.
- Blaug, M. (2001), Where are We Now on Cultural Economics?, *Journal of Economic Surveys*, 15(2), 123–143.
- Bodoni, S. (2008), Only Italian can Call it Parmesan Cheese, Court Says, *Bloomberg*, 26 February.

- Bolton, M. and Carrington, D. (2007), *Missions, Models, Money. Catalysing a More Sustainable Arts and Cultural Sector*, Deutsche Bank.
- Brunet, F. (2005), The Economic Impact of the Barcelona Olympic Games, 1986–2004: Barcelona: The Legacy of the Games, 1992–2002, Barcelona: Centre d'Estudis Olímpics UAB. Available at: http://olympicstudies.uab.es/pdf/wp084_eng.pdf
- Caves, R. E. (2000), *Creative Industries*, Cambridge, MA: Harvard University Press.
- Cellini, R. (2011), Is UNESCO Recognition Effective in Fostering Tourism? A Comment on Yang, Lin and Han, *Tourism Management*, 32(2), 452–454.
- Cooke, P. and De Propriis, L. (2012), A Policy Agenda for EU Smart Growth: The Role of Creative and Cultural Industries, in Bailey, D., Lenihan, H. and Arauzo-Carod, J.-M. (eds), *Industrial Policy Beyond the Crisis, Regional, National and International Perspectives*. London: Routledge.
- Cooke, P. and Lazzarretti, L. (eds) (2008), *Creative Cities, Cultural Clusters and Local Economic Development*, Cheltenham, UK: Edward Elgar Publishing.
- Cuccia, T. and Cellini, R. (2009), Workers Enterprises and the Taste for Production: The Arts, Sport and Other Cases, *Scottish Journal of Political Economy*, 56(1), 123–137.
- Cuccia, T. and Santagata, W. (2003), Adhesion-Exit: incentivi e diritti di proprietà collettivi nei distretti culturali, *STUDI ECONOMICI*, FrancoAngeli Editore, 2003(80).
- Dubini, P. et al. (2013), Il valore generato dal teatro alla Scala, Research Center ASK, Bocconi University, Slide presentation.
- ESSnet-Culture (2012), Final Report 2012, Luxembourg.
- European Commission (2010), *Green Paper Unlocking the Potential of Cultural and Creative Industries*, Bruxelles.
- European Commission (2012), *Promoting Cultural and Creative Sectors for Growth and Jobs in the EU*, Bruxelles.
- European Union (2012a), *European Agenda for Culture. Policy Handbook*, Bruxelles.
- European Union (2012b), *European Agenda for Culture. Work Plan for Culture 2011–2014*, Bruxelles.
- EUROSTAT (2011), *Cultural Statistics*, Bruxelles.
- Fazioli, R. and Filippini, M. (1997), Cost Structure and Product Mix of Local Public Theatres, *Journal of Cultural Economics*, 21, 77–86.
- FEDERCULTURA (2012), *Cultura e sviluppo. La scelta per salvare l'Italia*, Rome.
- Florida, R. (2002), *The Rise of the Creative Class*, New York: Basic Books.
- Florida, R. (2002a), Bohemia and Economic Geography, *Journal of Economic Geography*, 2(1), 55–71.
- Florida, R. (2002b), The Economic Geography of Talent, *Annals of the Association of Economic Geographers*, 92(4), 743–755.
- Fondazione Palazzo Strozzi (2012), *Annual Report 2011*, Florence.
- Frey, B. S. (1994), The Economics of Music Festivals, *Journal of Cultural Economics*, 18(1), 29–39.
- Frey, B. S. (1998), Superstar Museums: An Economic Analysis, *Journal of Cultural Economics*, 22, 113–125.
- Frey, B. S. (2005), What Values Should Count in the Arts? The Tension between Economic Effects and Cultural Value, *Working Paper No. 253*, Institute for Empirical Research in Economics, University of Zurich.

- Frey, B. S., Pamini, P. and Steiner, L. (2010), *World Heritage? Where are We? An Empirical Analysis*, *CEsifo Working Paper Series No. 2919*, CESifo Group Munich.
- Friel, M., Guerzoni, G. and Santagata, W. (2009), *The Cultural Heritage*, in Santagata, W. (ed.), *White Paper on Creativity. Towards an Italian Model of Development, Creative Commons Attribution*.
- Goleman, D. (1997), *Emotional Intelligence*, New York: Bantam Books.
- Guerzoni, G. (2013), *Le ricadute economiche, sociali e culturali dei festival*, Bocconi University, Slide presentation.
- Hall, P. (2000), *Creative Cities and Economic Development*, *Urban Studies*, 37, 639–649.
- ilSole24Ore (2012), *Editorial: Niente Cultura Niente Sviluppo*, 19 febbraio 2012.
- Interreg IVC (2013), *Analysis Report on Creative Industries*.
- Lazzeretti, L., Boix, R. and Capone, F. (2008), *Do Creative Industries Cluster? Mapping Creative Local Production Systems in Italy and Spain*, *Industry and Innovation*, 15(5), 549–567.
- NESTA (2011), *A Guide to Creative Credits*, London, UK: NESTA Publishing.
- Nye, J. (1990), *Bound to Lead: The Changing Nature of American Power*, New York: Basic Books.
- Nye, J. (2004), *Soft Power: The Means to Success in World Politics*, New York: Public Affairs.
- OECD (2005), *Culture and Local Development*, Paris: OECD Publishing.
- OECD (2007), *Project on the International Measurement of Culture*, Paris: OECD Publishing.
- Porter, M. E. (2006), *Strategy for Museums*, Boston: American Association for Museums.
- Pratt, A. C. (2007), *The State of the Cultural Economy: The Rise of the Cultural Economy and the Challenges to Cultural Policy Making*, in Ribeiro, A. P. (ed.), *The Urgency of Theory*. Manchester, UK: Carcanet Press/Gulbenkin Foundation.
- Pratt, A. C. (2008), *Creative Cities: The Cultural Industries and the Creative Class*, *Geografiska Annaler: Series B, Human Geography*, 90(2), 107–117.
- Sacco, P. L. (2012), *Culture and the Structural Funds in Italy*, *EENC Paper*.
- Sacco, P. L. and Segre, G. (2009), *Creativity, Cultural Investment and Local Development: A New Theoretical Framework for Endogenous Growth*, in Fratesi, U. and Senn, L. (eds), *Growth and Innovation of Competitive Regions. The Role of Internal and External Connections*, Berlin: Springer.
- Santagata, W. (2002), *Cultural Districts, Property Rights and Sustainable Economic Development*, *International Journal of Urban and Regional Research*, 26(1), 9–23.
- Santagata, W. (ed.) (2009), *White Paper on Creativity. Towards an Italian Model of Development, Creative Commons Attribution*, Milan: Bocconi University.
- Santagata, W. (2010), *The Culture Factory. Creativity and the Production of Culture*, Berlin: Springer.
- Santagata, W. and Bertacchini, E. (2011), *Creative Atmosphere: Cultural Industries and Local Development*, *Working Paper No. 4/2011*, Ebla Center, University of Turin.
- Santagata, W. and Signorello, G. (2000), *Contingent Valuation of a Cultural Public Good and Policy Design: The Case of 'Napoli Musei Aperti'*, *Journal of Cultural Economics*, 28, 181–204.
- Sen, A. K. (2004), *How does Culture Matter?*, in Rao, V. and Walton, W. (eds), *Culture and Public Action*, Stanford: Stanford University Press.

- Tardi, A. (2007), Spacious Food Bazaar in Turin Plans Manhattan Branch, *The New York Times*, 24 October 2007.
- Taylor, A. (2012), How the Olympic Games Changed Barcelona Forever, *Business Insider*, 26 July 2012.
- Throsby, D. (1994), The Production and Consumption of the Arts: A View of Cultural Economics, *Journal of Economic Literature*, 32(1), 1–29.
- Throsby, D. (1999), Cultural Capital, *Journal of Cultural Economics*, 23, 3–12.
- Throsby, D. (2010), *The Economics of Cultural Policy*, Cambridge: Cambridge University Press.
- UNCTAD (2011), *Creative Economy Report 2010*, Geneva.
- UNIONCAMERE – Fondazione Symbola (2013), *Read Clockwise*.
- Utrecht School of the Arts, K2M Ltd. & Eurokleis s.r.l. (2011), *The Entrepreneurial Dimension of the Cultural and Creative Industries*.
- Viviano, E. (ed.) (2012), *La Grande distribuzione e l'industria alimentare in Italia*, Questioni di Economia & Finanza 119, Banca d'Italia, Rome.
- Yang, C-H. and Lin, H-L. (2011), Is Unesco Recognition Effective in Fostering Tourism? A Comment on Yang, Lin and Han: Reply, *Tourism Management*, 32, 455–456.
- Yang, C. H., Lin, H. L. and Han, C. C. (2010), Analysis of International Tourist Arrivals in China: The Role of World Heritage Sites, *Tourism Management*, 31(6), 827–837.

5 Make the Most of Cultural Diversity

- Alesina, A. and La Ferrara, E. (2005), Ethnic Diversity and Economic Performance, *Journal of Economic Literature*, 43(3), 762–800.
- Alesina, A., Devleschawuer, A., Easterly, W., Kurlat, S. and Wacziarg, R. (2003), Fractionalization, *Journal of Economic Growth*, 8, 155–194.
- Amin, A. (2002), *Ethnicity and the Multicultural City: Living with Diversity*, University of Durham: Report for the Department of Transport, Local Government, the Regions, the ESRC Cities Initiative.
- Arcand, J-L., Guillaumont, P., Guillaumont Jeanneney, S. (2000), How to Make a Tragedy: On the Alleged Effect of Ethnicity on Growth, *Journal of International Development*, 12(7), 925–938.
- Ashraf, Q. and Galor, O. (2011), Cultural Diversity, Geographical Isolation, and the Origin of the Wealth of Nations, *Working Papers 2011-16*, Brown University, Department of Economics.
- Barrett, G. A., Jones, T. P. and McEvoy, D. (2003), United Kingdom: Severely Constrained Entrepreneurialism, in Kloosterman, R. and Rath, J. (eds), *Immigrant Entrepreneurs: Venturing Abroad in the Age of Globalization*, Oxford: Berg.
- Berliant, M. and Fujita, M. (2011), The Dynamics of Knowledge Diversity and Economic Growth, *Southern Economic Journal*, 77(4), 856–884.
- Borjas, G. (1994), The Economics of Immigration, *Journal of Economic Literature*, 32(4), 1667–1717.
- Borjas, G. (1995), The Economic Benefits of Immigration, *Journal of Economic Perspectives*, 9(2), 3–22.

- Borjas, G., Freeman, R. and Katz, L. (1997), How Much Do Immigrants and Trade Affect Labor Market Outcomes, *Brookings Papers on Economic Activity*, 1, 1–90.
- Centre for Strategy & Evaluation Services (CSES) (2003), *Methods and Indicators to Measure the Cost-effectiveness of Diversities Policies in Enterprise*, Final Report Prepared for the European Commission.
- CNA Confederazione Nazionale dell'Artigianato e della Piccola e Media Impresa (2012), *L'imprenditoria straniera in Italia nel 2012*, www.cna.it
- CNA Confederazione Nazionale dell'Artigianato e della Piccola e Media Impresa (2013), *Rapporto sull'immigrazione 2013*, www.cna.it
- Di Leonardo, M. (2004), Human Cultural Diversity, Paper Presented at the "Race and Human Variation: Setting an Agenda for Future Research and Education," Alexandria, Virginia.
- Dunlevy, J. A. (2006), The Influence of Corruption and Language on the Pro-trade Effects of Immigrants: Evidence from the American States. *Review of Economics and Statistics*, 88(1), 182–186.
- Easterly, W. and Levine, R. (1997), Africa's Growth Tragedy: Policies and Ethnic Divisions, *Quarterly Journal of Economics*, 112(4), 1203–1250.
- Fearon, J. D. (2003), Ethnic and Culture Diversity by Country, *Journal of Economic Growth*, 8(2), 195–222.
- Florida, R. (2002a), Bohemia and Economic Geography, *Journal of Economic Geography*, 2(1), 55–71.
- Florida, R. (2002b), The Economic Geography of Talent, *Annals of the Association of Economic Geographers*, 92(4), 743–755.
- Florida, R. (2011), How Diversity Leads to Economic Growth, *The Atlantic*, 12 December 2011.
- Fondazione Leone Moressa (2011), Report about Foreign Companies in Italy, Available at: <http://www.integrazionemigranti.gov.it/Attualita/News/Documents/Comunicato-stampa-Imprese-condotte-da-stranieri.pdf>
- Forbes Insights (2012), Global Diversity and Inclusion, *Fostering Innovation through a Diverse Workforce*, New York.
- Gellner, T. (1983), *Nations and Nationalisms*, Oxford: Blackwell.
- Gurin, P., Nagda, B. A. and Lopez, G. E. (2004), The Benefits of Diversity in Education for Democratic Citizenship, *Journal of Social Issues*, 60, 17–34.
- Hannerz, U. (1996), *Transnational Connections. Culture, People, Places*, London: Routledge (1st ed.).
- Hatzigeorgiou, A. (2010), Does Immigration Stimulate Foreign Trade? Evidence from Sweden, *Journal of Economic Integration*, 25(2), 376–402.
- Helliwell, J. (2003), *Immigration and Social Capital: Issue Paper*, Presented at International Conference on the Opportunity, Challenge of Diversity: A Role for Social Capital, Montreal.
- Istat (2014), *Rapporto Annuale. La situazione del paese*. Roma.
- Janssens, M. and Zanoni, P. (2009), Facilitating Intercultural Encounters within a Global Context: Towards Processual Conditions, in Janssens, M. et al. (eds), *Sustainable Cities. Diversity, Economic Growth, Social Cohesion*, Cheltenham, UK: Edward Elgar.
- Jones, T., Ram, M. and Edwards, P. (2006), Ethnic Minority Business and the Employment of Illegal Immigrants. *Entrepreneurship and Regional Development*, 18(2), 133–150.

- Kagan, J. (2009), *The Three Cultures. Natural Sciences, Social Sciences, and the Humanities in the 21st Century*, New York: Cambridge University Press.
- Katz, L. F. and Murphy, K. M. (1992), Changes in Relative Wages, 1963–1987: Supply and Demand Factors, *The Quarterly Journal of Economics*, 107(1), 35–78.
- Khovanova-Rubicondo, K. (2009), *Intermediate Evaluation of the Intercultural Cities Programme*, Council of Europe. Available at: http://www.coe.int/t/dg4/culture-heritage/culture/cities/EvaluationInterculturalCities_en.pdf
- Khovanova-Rubicondo, K. and Pinelli, D. (2012), *Evidence of the Economic and Social Advantages of Intercultural Cities Approach*, Literature Review.
- Kline, C. (2010), Comparative Studies in Race and Ethnicity, *Stanford University Working Paper*.
- Kochan, T. et al. (2002), The Effects of Diversity on Business Performance: Report of the Diversity Research Network, *Human Resource Management*, 42(1), 3–21.
- Korac, M. (2009), *Remaking Home: Reconstructing Life, Place and Identity in Rome and Amsterdam*, New York and Oxford: Berghahn Books.
- Kroezen, Q. (2013), Eindhoven World's Most Inventive City, *Forbes*, 7 October 2013, <http://portal.launchyourbusiness.nl/News/Eindhoven-world-s-most-inventive-city>
- La Ferrara, E. (2003b), Solidarity in Heterogeneous Communities, in Van Parijs, P. (ed.), *Cultural Diversity versus Economic Solidarity, Proceedings of the Seventh Francqui Colloquium*. Bruxelles: De Boeck, 2004.
- Martinelli, M. (2002), Immigrati imprenditori: la fotografia di una realtà dinamica, *Impresa & Stato*, 59.
- The Migration Observatory at the University of Oxford (2011), *Thinking behind the Numbers: Understanding Public Opinion on Immigration in Britain*, University of Oxford.
- OECD (2010), *Open for Business. Migrant Entrepreneurship in OECD Countries*, Paris.
- OECD (2011), *Entrepreneurship and Employment Creation of Immigrants*, Paris.
- Ongini, V. (2011), *Noi Domani. Un viaggio nella scuola multiculturale*, Rome: Laterza.
- Ottaviano, G. I. P. and Peri, G. (2003), The Economic Value of Cultural Diversity, mimeo, UC Davis.
- Ottaviano, G. I. P. and Peri, G. (2007), Rethinking the Effects of Immigration on Wages, *HWWI Research Papers*, 3-8, Hamburg Institute of International Economics.
- Ottaviano, G. I. P., Peri, G. and Wright, C. (2013), Immigration, Offshoring, and American Jobs, *American Economic Review*, 103(5), 1925–1959.
- Page, S. E. (2007), *The Difference: How the Power of Diversity Creates Better Groups, Firms, Schools and Societies*, Princeton, NJ: Princeton University Press.
- Patsiurko, N., Campbell, J. L. and Hall, J. A. (2013), Nation-State Size, Ethnic Diversity and Economic Performance in the Advanced Capitalist Countries, *New Political Economy*, 18(6), 827–844.
- Peri, G. (2010), *The Impact of Immigrants in Recession and Economic Expansion*, Washington, DC: Migration Policy Institute.
- Pettigrew, T. F. (1998), Prejudice and Discrimination on the College Campus, in Eberhardt, J. L. and Fiske, S. T. (eds), *Confronting Racism: The Problem and the Response*, Thousand Oaks, CA: SAGE.
- Platt, L., Former CEO of Hewlett Packard, Comments to the Diversity Research Network, Stanford Business School, 18 March 1998.

- Prey, R. and Doucette, J. (2010), Between Migrant and Minjung: The Changing Face of Migrant Cultural Activism in Korea, *The Asian-Pacific Journal: Japan Focus*, 12.2–10, 22 March 2010.
- Putnam, R. D. (2000), *Bowling Alone: The Collapse and Revival of American Community*. New York: Simon & Schuster.
- Putnam, R. D. (2007), E Pluribus Unum: Diversity and Community in the Twenty-First Century, The 2006 Johan Skytte Prize Lecture, *Scandinavian Political Studies*, 30(2), 137–174.
- Quigley, J. M. (1998), Urban Diversity and Economic Growth, *Journal of Economic Perspectives*, 12(2), 127–138.
- Tylor, E. B. (1871), *Primitive Culture Researches into the Development of Mythology, Philosophy, Religion Language, Art, and Custom*, London: John Murray.
- Umbach, P. D. (2006), The Contribution of Faculty of Color to Undergraduate Education, *Research in Higher Education*, 47(3), 317–345.
- UNESCO (2001), Universal Declaration on Cultural Diversity, UNESCO, CLT-2002/WS/9.
- US Census Bureau (2012), American Community Survey, The Foreign-Born Population in the United States 2010, Washington, DC.
- Wallman, S. (2011), *The Capability of Places. Methods for Modelling Community Response to Intrusion and Change*, London, UK: Pluto Press.
- Wilkinson, R. and Pickett, K. (2009), *The Spirit Level. Why Equality Is Better for Everyone*, London, UK: Penguin Books.
- Williams, K. Y. and O'Reilly, C. A. (1998), Demography and Diversity in Organisations: A Review of 40 Years of Research, in Staw, B. M. and Cummings, L. I. (eds), *Research in Organisational Behaviour*, vol. 20, Greenwich, CT: Jai Press.
- Zucchetti, E. (1996), Le attività imprenditoriali degli immigrati oltre la dimensione etnica, *Sociologia del lavoro*, 64, 120–137.

6 Champion Social Mobility

- Alesina, A., Di Tella, R. and McCulloch, R. (2004), Inequality and Happiness: Are European and Americans Different? *Journal of Public Economics*, 88, 2009–2042.
- Autor, D., Levy, F. and Murnane, R. (2003), The Skill Content of Recent Technological Change: An Empirical Exploration, *Quarterly Journal of Economics*, 118(4), 1279–1334.
- Banca d'Italia (2012), I bilanci delle famiglie italiane nel 2010, Supplementi al Bollettino Statistico, Indagini Campionarie, Roma.
- Bauer, P. and Riphahn, R. T. (2006), Timing of School Tracking as a Determinant of Intergenerational Transmission of Education, *Economics Letters*, 91(1), 90–97.
- Becker, G. (1989), On the Economics of the Family: A Reply to a Sceptic, *The American Economic Review*, 79(3), June, 514–518.
- Becker, G. S. and Tomes, N. (1979), An Equilibrium Theory of the Distribution of Income and Intergenerational Mobility, *Journal of Political Economy*, 87, 1153–1189.
- Biggart, A. (2002), Attainment, Gender and Minimum-Aged School Leavers' Early Routes in the Labour Market, *Journal of Education and Work*, 15(2), 145–162.

- Bjorklund, A. et al. (2005), Intergenerational Earnings Mobility in the Nordic Countries, the United Kingdom and the United States: An Overview, mimeo, Åbo Akademi University, Finland.
- Blanden, J., Gregg, P. and Machin, S. (2005), Intergenerational Mobility in Europe and North America, *Centre for Economic Performance*, London: London School of Economics.
- Blanden, J., Gregg, P. and Macmillan, L. (2006), *Accounting for Intergenerational Income Persistence: Non-Cognitive Skills, Ability and Education*, London: Centre for the Economics of Education, London School of Economics.
- Bowles, S. and Gintis, H. (2002), The Inheritance of Inequality, *Journal of Economic Perspectives*, 16(3), Summer, 3–30.
- Bratti, V., Checchi, F. and di Blasio, G. (2008), Does the Expansion of Higher Education Increase the Equality of Educational Opportunities? Evidence from Italy, *IZA Discussion Paper No. 3661*.
- Breen, R. and Goldthorpe, J. (1999), Class Inequality and Meritocracy: A Critique of Saunders and an Alternative Analysis, *British Journal of Sociology*, 50(1), 1–27.
- Breen, R. and Goldthorpe, J. (2002), Merit, Mobility and Method: Another Reply to Saunders, *British Journal of Sociology*, 53(4), 575–582.
- Breen, R. and Jonsson, J. O. (2005), Inequality of Opportunity in Comparative Perspective: Recent Research on Educational Attainment and Social Mobility, *Annual Review of Sociology*, 31, 223–243.
- Breen, R. and Luijkx, R. (2004), Social Mobility in Europe between 1970 and 2000, in Breen, R. (ed.), *Social Mobility in Europe*, Oxford: Oxford University Press.
- Brooks-Gunn, J. (2003), Do You Believe in Magic?: What We Can Expect from Early Childhood Intervention Programs, *Social Policy Report*, 17(1), 3–15.
- Buck, N. (2000), Housing, Location and Residential Mobility, in Berthoud, R. J. and Gershuny, J. (eds), *Seven Years in the Lives of British Families: Evidence on the Dynamics of Social Change from the British Household Panel Survey*. Bristol: Policy Press.
- Card, D. (2001), Estimating the Returns to Schooling: Progress on Some Persistent Econometric Problems, *Econometrica*, 69(5), 1127–1160.
- Causa, O. and Chapuis, C. (2009), Equity in Student Achievement across OECD Countries: An Investigation of the Role of Policies, *OECD Economics Department Working Papers No. 708*.
- Checchi, D. and Garcia-Peñalosa, A. (2008), Labour Market Institutions and Inequality, *Economic Policy*, 56, 601–649.
- Checchi, D. and Redaelli, S. (2010), Scelte Scolastiche e Ambiente Familiare, in Checchi, R. (ed.), *Immobilità diffusa, Perché la Mobilità Intergenerazionale in Italia è così bassa*, Bologna: Il Mulino.
- Chevalier, A., Denny, K. and McMahon, D. (2003), A Multi-Country Study of Inter-Generational Educational Mobility, *UCD Geary Institute Working Paper No. 25*.
- Cobalti, A. and Schizzerotto, A. (1994), *La mobilità sociale in Italia*, Bologna: Il Mulino.
- Colli-Franzone, I. and Velo, F. (2010), Social Mobility and Higher Education in Italy, in Hagg, I. (eds), *Liberal Reflections on Life Chances and Social Mobility in Europe*, Stockholm: Ingemund Hägg.

- Corak, M. (2006), Do Poor Children Become Poor Adults? Lessons from a Cross Country Comparison of Generational Earnings Mobility, *Research on Economic Inequality*, 13(1), 143–188.
- Corak, M. (2010), Chasing the Same Dream, Climbing Different Ladders: Economic Mobility in the United States and Canada. Washington, DC: Economic Mobility Project, The Pew Charitable Trust.
- Davis, K. and Moore, W. (1970 [1945]), Some Principles of Stratification, *American Sociological Review*, 10(2), 242–249.
- D’Addio, A. C. (2007), Intergenerational Transmission of Disadvantage: Mobility or Immobility Across Generations? A Review of the Evidence for OECD Countries, *OECD Social, Employment and Migration Working Paper, No. 52*.
- D’Addio, A. C. (2008), Intergenerational Mobility: Does It Offset or Reinforce Income Inequality, in OECD (ed.), *Growing Unequal? Income Distribution and Inequality in OECD Countries*. Paris.
- De Lillo, A. (1996), voce Mobilità sociale, in *Enciclopedia delle scienze sociali*, Rome: Istituto della Enciclopedia Italiana.
- Dornbusch, B. and Giavazzi, F. (2000), Italy must Abandon Its University Populism, *International Herald Tribune*, 14 September 2000.
- Duru-Bellat, M. and Suchaut, B. (2005), Organisation and Context, Efficiency and Equity of Educational Systems: What PISA Tells Us, *European Educational Research Journal*, 4(3), 181–194.
- Dustmann, C. (2004), Parental Background, Secondary School Track Choice, and Wages, *Oxford Economic Papers*, 56(2), 209–230.
- Erikson, R. and Goldthorpe, J. (1992), *The Constant Flux: A Study of Class Mobility in Industrial Societies*, Oxford: Clarendon Press.
- Erikson, R. and Goldthorpe, J. (2002), Intergenerational Inequality: A Sociological Perspective, *Journal of Economic Perspectives*, 16(3), 31–44.
- Esping-Andersen (2005), Social Inheritance and Equal Opportunities Policies, in Delorenzi, S., Reed, J. and Robinson, P. (eds), *Maintaining Momentum: Promoting Social Mobility and Life Chances from Early Years to Adulthood*, London: IPPR.
- European Court of Human Rights, Horváth and Kiss v Hungary, Judgment of 29 January 2013.
- Fischer, J. (2008), The Welfare Effects of Social Mobility: An Analysis for OECD Countries, *MPRA Paper No. 16339*, University Library of Munich, Germany, revised Jun 2009.
- Fone, D., Dunstan, F., Williams, G. and Lloyd, K. (2007), Places, People and Mental Health: A Multilevel Analysis of Economic Inactivity, *Social Science and Medicine*, 64(3), 633–645.
- Forsyth, A. and Furlong, A. (2003), Access to Higher Education and Disadvantaged Young People, *British Educational Research Journal*, 29(2), 205–225.
- Fuchs, T. and Woessmann, L. (2004), What Accounts for International Differences in Student Performance? A Re-Examination using PISA Data, *Empirical Economics*, 32, 433–464.
- Gabriele, S. and Kostoris Padoa Schioppa, F. (2006), Un’analisi economica della mobilità sociale in Italia, *Rivista di Politica Economica*, Maggio-Giugno 2006, 47–112.
- Goldberg, A. (1989), Economic and Mechanical Models of Intergenerational Transmission, *The American Economic Review*, 79(3), 504–513.

- Goldthorpe, J. (1985), On Economic Development and Social Mobility, *British Journal of Sociology*, 36(4), 549–573.
- Goldthorpe, J. (1987), *Social Mobility and Class Structure in Modern Britain*, 2nd ed., Oxford: Clarendon Press.
- Goldthorpe, J. (2002), Globalisation and Social Class, *West European Politics*, 25(3), 1–28.
- Goldthorpe, J. (2003), Progress in Sociology: The Case of Social Mobility Research, *Working Papers No. 2003-08*, Oxford: Nuffield College.
- Goldthorpe, J. (2004), Trends in Intergenerational Mobility in Britain in the Late Twentieth Century, in Breen, R. (ed.), *Social Mobility in Europe*, Oxford: Oxford University Press.
- Goldthorpe, J. (2006), Education-Based Meritocracy: The Barriers to Its Realisation, Paper Presented to the Russell Sage Foundation Conference on Social Class, New York, April 21–22.
- Goldthorpe, J. and McKnight, A. (2004), The Economic Basis of Social Class, *CASE Paper 80*, London: Centre for Analysis of Social Exclusion, London School of Economics.
- Goldthorpe, J. and Mills, C. (2000), Trends in Intergenerational Class Mobility in Britain in the Late Twentieth Century, in Breen, R. (ed.), *Social Mobility in Europe*, Oxford: Oxford University Press.
- Hanushek, E. A. and Woessmann, L. (2005), Does Educational Tracking Affect Performance and Inequality? Differences-in-Differences Evidence across Countries, *Economic Journal*, 116(510), C63–C76.
- Iannelli, C. and Paterson, L. (2005), Does Education Promote Social Mobility? *CES Briefing No. 35*, Edinburgh: Centre for Educational Sociology, University of Edinburgh.
- Istat (2007–2011), Data on Italian University, Available online at: <http://www.istat.it/it/archivio/78617>
- Jonsson, J. O., Grusky, D., Di Carlo, M., Pollack, R. and Brinton, M. C. (2009), Microclass Mobility: Social Reproduction in Four Countries, *American Journal of Sociology*, 114, 977–1036.
- Kingsley, D. and Moore, W. E. (1970 [1945]), Some Principles of Stratification, *American Sociological Review*, 10(2), 242–249.
- Kintrea, K. and Atkinson, R. (2001), Neighbourhoods and Social Exclusion: The Research and Policy Implications of Neighbourhood Effects, *Urban Change and Policy Research Group Discussion Paper, 3*, University of Glasgow.
- Lucas, S. R. (2001), Effectively Maintained Inequality: Education Transitions, Track Mobility, and Social Background Effects. *American Journal of Sociology*, 106(6), 1642–1690.
- Mare, R. D. (2000), Assortative Mating, Intergenerational Mobility and Educational Inequality, *Online Working Paper Series No. 004-00*, Los Angeles: California Centre for Population Research, University of California.
- Margo, J., Dixon, M., Pearce, N. et al. (2006), *Freedom's Orphan's. Raising Youth in a Changing World*. London: IPPR.
- Marshall, G., Swift, A. and Roberts, S. (1997), *Against the Odds? Social Class and Social Justice in Industrial Societies*, Oxford: Clarendon Press.
- Mocetti, S. (2007), Intergenerational Earnings Mobility in Italy, *The B.E. Journal of Economic Analysis and Policy*, 7(2), December, 1–25.

- Murphy, K. M., Shleifer, A. and Vishny, R. (1991), The Allocation of Talent: Implications for Growth. *Quarterly Journal of Economics*, 106(2), 503–530.
- Nunn, A. (2011), Draft Report of Fostering Social Mobility as a Contribution to Social Cohesion, European Committee of Social Cohesion, *24th Meeting Strasbourg*, 19–20 May.
- Nunn, A., Johnson, S., Monro, S. et al. (2007), Factors Influencing Social Mobility, *Research Report No. 450*, Department for Work and Pensions.
- OECD (1998), *Integrating Distressed Urban Areas*, Paris.
- OECD (2002), *Employment Outlook, Chapter 5, "And the Twain Shall Meet: Cross-Market Effects of Labour and Product Market Policies,"* Paris.
- OECD (2003), *The Sources of Economic Growth in OECD Countries*, Paris.
- OECD (2004), *Learning for Tomorrow's World: First Results from PISA 2003*, Paris.
- OECD (2005a), *PISA 2003 Technical Report*, Paris.
- OECD (2005b), *PISA 2003 Data Analysis Manual*, Paris.
- OECD (2009), *Highlights from Education at a Glance 2008*, Paris.
- OECD (2010), *A Family Affair: Intergenerational. Social Mobility across OECD Countries*, Paris.
- OECD (2013), *PISA Focus in Results*, Paris.
- Pareto, W. (1916), *Trattato di sociologia generale*, 2nd vol., Florence: Barbera.
- Pekkarinen, T., Uusitalo, R. and Pekkala, S. (2006), Education Policy and Intergenerational Income Mobility: Evidence from the Finnish Comprehensive School Reform, *IZA Discussion Paper, No. 2204*.
- Piraino, P. (2006), Comparable Estimates of Intergenerational Income Mobility in Italy, *Department of Economics University of Siena Working Paper, No. 471*.
- Pisati, M. and Schizzerotto, A. (2004), The Italian Mobility Regime, in Breen, R. (ed.), *Social Mobility in Europe*, Oxford: Oxford University Press.
- Plato, *Res Publica*, III, 414 D.
- Platt, L. (2006), The Role of Family Background and Education in Shaping Social Class Background, in Delorenzi, S. (ed.), *Going Places: Neighbourhood, Ethnicity and Social Mobility*, London: Institute for Public Policy Research.
- Platt, L. (2006), Understanding Ethnic Group Differences in Britain: The Role of Family Background and Education in Shaping Social Class Outcomes, in Delorenzi, S. (ed.), *Going Places: Neighbourhood, Ethnicity and Social Mobility*, London: Institute for Public Policy Research.
- Putnam, R. (2000), *Bowling Alone: The Collapse and Revival of American Community*, New York: Simon & Schuster.
- Rawls, J. (1971), *A Theory of Justice*, Cambridge, MA: Harvard University Press.
- Reed, J. and Robinson, P. (2005), From Social Mobility to Equal Life Chances, in Pearce, N. and Paxton, W. (eds), *Social Justice: Building a Fairer Britain*, London: Institute for Public Policy Research.
- Roemer, J. E. (1998), *Equality of Opportunity*, Cambridge, MA: Harvard University Press.
- Roemer, J. E. (2004), Equal Opportunity and Intergenerational Mobility: Going Beyond Intergenerational Income Transition Matrices, in Corak, M. (ed.), *Generational Income Mobility in North America and Europe*, Cambridge: Cambridge University Press.
- Roemer, J. E. (2005), Equality of Opportunity, in Blume, L. and Durlauf, S. (eds) *New Palgrave Dictionary of Economics*, 2nd ed., London: Palgrave Macmillan.

- Schizzerotto, A. and Marzadro, S. (2008), Social Mobility in Italy since the Beginning of the Twentieth Century, *Rivista di politica economica*, 98(9–10), 5–39.
- Schizzerotto, A., Trivellato, U. and Sartor, N. (2011), *Generazioni disuguali Le condizioni di vita dei giovani di oggi e di ieri: un confronto*, Bologna: Il Mulino.
- Shonkoff, J. P. and Phillips, D. A. (eds) (2000), *From Neurons to Neighbourhoods: The Science of Early Childhood Development*, Washington, DC: National Academy Press.
- Solon, G. (1992), Intergenerational Income Mobility in the United States, *The American Economic Review*, 82(3), 393–408.
- Solon, G. (2002), Cross-Country Differences in Intergenerational Income Mobility, *Journal of Economic Perspectives*, 16(3), 55–66.
- Sutherland, D. and Price, R. (2007), Linkages Between Performance and Institutions in the Primary and Secondary Education Sector, Performance Indicators, *OECD Economics Department Working Papers*, No. 558, Paris.
- Swift (2005), Justice, Luck, and the Family: The Intergenerational Transmission of Economic Advantage from a Normative Perspective, in Bowles, S., Gintis, H. and Osborne Groves, M. (eds), *Unequal Chances: Family Background and Economic Success*, Russell Sage Foundation, Princeton: Princeton University Press.
- Sylva, K., Melhuish, E., Sammons, P., Siraj-Blatchford, I., Taggart, B. and Elliot, K. (2004), *The Effective Provision of Pre-School Education (EPPE) Project: Findings from the Pre-school Project*, London: University of London.
- Van de Mheen, H. et al. (1999), The Influence of Adult Ill Health on Occupational Class Mobility and Mobility Out of and into Employment in The Netherlands, *Social Science and Medicine*, 49, 509–518.
- Waldfogel, J. (2004), Social Mobility, Life Chances, and the Early Years, *Centre for the Analysis of Social Exclusion (CASE) 88*, London School of Economics.
- Wolf, A. (2002), *Does Education Matter: Myths about Education and Economic Growth*, London: Penguin.

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