CHAPTER NINE

INCOME

Alessandro Brunetti, Emanuele Felice and Giovanni Vecchi

NON CITARE NE' CIRCOLARE SENZA IL PERMESSO DEGLI AUTORI

1. Who doesn't know what GDP is?

Gross Domestic Product (GDP) was conceived in the United States, in the National Bureau of Economic Research (NBER), a private research institute founded in New York in 1920. Today, the NBER is one of the most important think tanks of North American economists. The first estimates came out in 1934, driven by the need to measure the impact of the Great Depression on economic activity and to monitor the road to recovery [Kuznets 1934]. Since then, GDP has become the most famous and widely used macroeconomic indicator in the world. In Italy, the vast majority of primary school textbooks contain a lesson on Gross Domestic Product: even children have to know what GDP is.

The career path of GDP has been spectacular, to say the least. It first became established in national accounting (the set of accounts describing a country's economic activity), receiving much greater attention with respect to consumption (which a great deal of a household's wellbeing depends on), investment (which future economic growth depends on), exports and public spending. GDP then went on to become an international standard, managing to get the countries of the whole planet, from East to West, to agree

on the methods and definitions necessary to build a homogeneous, shared and comparable measure. Finally, its last promotion came through a "ratification" by the five main international institutions – the United Nations, the Organisation for Economic Cooperation and Development (OECD), the International Monetary Fund (IMF), the World Bank and the European Commission – which agreed on the rules for measuring GDP, thereby crowning it as the supreme macroeconomic indicator at both a juridical and practical level [Lequiller and Blades 2006].

The advantage of using GDP probably lies in its aggregate nature: it brings together, within a single number, the value of the final production created by all the economically active agents (private enterprises, public administration, non-profit institutions and households), both resident and non-resident ones, over a certain period of time. GDP is a number that can be quickly worked out on the basis of easily available macroeconomic data: it has no roots in economic theory and it is also the fruit of conventions devised to perform a steering function useful to those charged with governing the economy [Fenoaltea 2008].

In more technical terms, GDP measures the overall value – calculated at market prices – of all final goods and services produced within an economic system (a country or a region) over a certain period of time (normally one year). In 2011, Italy's GDP was 1,580,220,244,000 Euros (just under one thousand, six hundred billion Euros), a figure corresponding to 90% of British GDP, 80% of French GDP, about 60% of German GDP, a little under 40% of Japanese GDP, 30% of Chinese GDP and lower than 15% of US GDP. According to IMF estimates (2012), if we set the GDP of the European Union (of 27 member states) to 100, the contribution made by Italy's GDP is 12, while if we set the

GDP of the entire planet to 100, the Italian contribution would drop to 3. As we can see, the GDP measure allows us to easily compare the size of international markets.

The value of GDP is often equated to a country's overall income. The reason for this is rather simple and can be illustrated by using the analogy of the first principle of thermodynamics: as the energy of a system cannot be created or destroyed, but only transformed from one thing into another, in the same way the value of the production of goods and services within a given year cannot be lost, but is distributed among the individuals who contributed to creating that value. Hence, the value of what the system has produced (GDP) cannot but correspond to the sum of all the incomes earned by the individuals of a population (Box 1).

Box 1 – 1934 AD: GDP is born

Year in, year out the people of this country, assisted by the stock of goods in their possession, render a vast volume of services towards the satisfaction of their wants. Each of these services involves an effort on the part of an individual and an expenditure of some portion of the country's stock of goods. Some of these services eventuate in commodities, such as coal, steel, clothing, furniture, automobiles; others take the form of direct, personal services, such as are rendered by physicians, lawyers, government officials, domestic servants, and the like. If all the commodities produced and all the direct services rendered during the year are added at their market value, and from the resulting total we subtract the value of that part of the nation's stock of goods that was expended (both as raw materials and as capital equipment) in producing this total, then the remainder constitutes the net product of the national economy during the year. It is referred to as national income produced, and may be defined briefly as that part of the economy's end product that results from the efforts of the individuals who comprise a nation.

In the text above, Kuznets provides a definition of "national income" which has been accepted ever since. The definition of GDP is based on that of national income and diverges from it with regard to a few aspects which are totally irrelevant in our context. [Carson 1975].

In January 1934, the National Bureau of Economic Research (NBER) gave Simon Kuznets the task of presenting the first estimates of "national income" of the United States for the years 1929-1932. This was no small news for the experts of the times, especially if we consider that in the early decades of the 20th century the "empirically oriented" economists were a scant minority [Fogel 2000].

The prose with which Kuznets took to his task is incomparable, managing to combine scrupulous attention to technical details with the desire to put across the underlying ideas. It is worth re-reading the passage reproduced above, taken from the original document, the *NBER Bulletin*, published on 7 June 1934. It is a page of economic history and policy that is as important as it is little known.

Other things being equal, the most populous nations have higher levels of GDP. To take this aspect into account when making international comparisons, we can divide GDP by the number of inhabitants to get a new measure – GDP per head or per-capita GDP – which can be interpreted as the national *average* income. Since the Italian population in 2011 was estimated to be 60,626,442 individuals, per-capita GDP for that year was 26,065 Euros per head. Unlike with total GDP, international comparisons based on per-

capita GDP take into account the diverse demographic nature of each country. If we look at 2011, GDP per head of the Italians was 96% of that of the Germans, 90% of the French, 84% of the British and 64% of the US, while it was three times the Chinese figure.

Once we have established that per capita GDP can be interpreted along the lines of the average income of a population, there may be the temptation to go a step further by considering GDP as a measure of the prevalent wellbeing in a society: per capita GDP would be to a population's wellbeing what personal income is to individual wellbeing. This apparently harmless and sensible equivalence is incorrect, however. Per capita GDP is *not* the same thing as wellbeing.

2. GDP and wellbeing

Although scholars recognise and agree that there is a strong empirical correlation between per capita GDP and the wellbeing of a population, there is a clear distinction between the two terms at a conceptual level. On the one hand, GDP *excludes* aspects that go to define wellbeing and which should thus be included. There are many examples of such things and they typically concern non-monetary spheres of wellbeing that have no market or even a price with which to evaluate them: health, education, the enjoyment of political and civil freedoms, the availability of free time, clean air, the quality of affective life, to name but a few examples. GDP does not take all these aspects into consideration while an ideal measure of wellbeing should. Nor does GDP account for benefits deriving from the possession of durable goods and their quality (things like household appliances and means of transport), many of which significantly affect our everyday lifestyle and thus our wellbeing.

On the other hand, GDP *does include* items that do not generate increases in wellbeing and which should thus be excluded: amortization (that is, the loss of value incurred by machinery owing to physical wear and tear or obsolescence), incomes earned by individuals residing abroad, as well as the so-called "regrettables" (expenditures which do not directly contribute to individual wellbeing, but which prevent it from falling, such as spending on defence and on the administration of justice).

GDP *ignores* factors which represent costs – and not necessarily pecuniary ones – linked to the production of goods and services, such as pollution or the impoverishment of environmental resources, but even the increase in economic insecurity connected to the spreading of atypical and temporary labour contracts. These costs should be deducted from GDP, but they are not.

GDP does not even take other items into account which, although having an economic valence, are not monetized. In particular, GDP does not consider unpaid work, and this sometimes has paradoxical effects. An old textbook example of this, which is still found in many economics books today, explains that every time a bachelor marries his own domestic help, the country's GDP falls: this is because the housework performed by the lady of the house without any monetary remuneration is not counted in the GDP accounting, while the same activity performed by a person not belonging to the household, and hired as an employee, contributes to GDP. In the same way, if parents decide to entrust their children's care to a paid babysitter, this leads to a rise in GDP. As in the bachelor's case above, this happens because GDP takes into account the value of paid work, but not of routine housework (Box 2). Both examples describe circumstances where GDP variations do not reflect corresponding variations in the wellbeing of society as a whole: marriages between bachelors and their home helps lead to decreases in GDP

as a consequence of accounting conventions, but this does not in any way mean a fall in society's wellbeing as well.

Box 2 – Homemade GDP.

The value of homemade spaghetti is not computed in GDP accounting, while the value of the same spaghetti consumed in a restaurant is: "official" GDP does not consider the value of household production. The scene above shows Alberto Sordi (1920-2003) in the 1954 film directed by Steno Un americano a Roma *(An American in Rome).*

National accounting rules do not consider the value of goods and services produced within the household for GDP purposes. The fact that the sheer scale of this household production in Italy is greater than in other countries led Alberto Alesina, a Harvard economist, and Andrea Ichino, of Bologna University, to reflect on the consequences that this peculiar vocation of Italian households has on GDP. They concluded that international comparisons based on "official" GDP figures *under*estimate the standard of living of the Italians. If the value of "homemade" goods and services were taken into consideration in GDP accounting, then Italy would improve its international ranking. For example, Italy's gap with regard to the US would narrow from 44 to 36%, while the 2% deficit with respect to Spain, recorded in "official" GDP, would turn into a 7% advantage for the Italians [Alesina and Ichino 2009]. The lesson is a universal one: "official" GDP, as calculated by statistics agencies, penalises the Italians in international comparisons of living standards.

Household production does not only bring benefits, but also has its costs. In Italy's case, the main costs are the ones borne by women and by the "young elderly" (people aged sixty or so), who in the prime of their productive capacities devote themselves to household chores. In both cases, the people concerned are often involved in less productive tasks than the ones they could perform in the

market: the foregone income is the cost of "homemade GDP".

The overall lesson that can be learned from these considerations is as follows. Despite the fact that GDP is not a suitable measure of the living standards of a population, it is still a measure that the analysts of wellbeing look to with attention because of the instrumental function it plays: an increasing trend in GDP shows that there is economic growth, which is (usually) a necessary condition for promoting the wellbeing of a population. Therefore, it is wrong to deny the importance of GDP in determining the wellbeing of a population, but it is also wrong to confuse the means with the ends and to equate GDP with wellbeing [Anand and Sen 1993]. In the rest of this chapter, therefore, GDP will be interpreted for what it is, a market production index of the economic system, but also bearing in mind what it can make possible: an improvement in a population's standard of living.

3. The GDP factory

Thanks to the reconstruction published in 1957 by the Italian national statistics agency, Istat, Italy was one of the first countries in the world to create its own historical series for GDP[1]. This definitely pioneering work did not really pay in terms of results: judging by what the experts say, the first reconstruction of national GDP had a great many discrepancies along with a relative opacity with regard to sources and methods.[2]

In the following decades, the reconstruction of the historical series of Italian GDP has become an increasingly more practiced activity: new estimates of the same variable have been published at an average rate of one every four years [Vecchi 2003][3]. Despite the many activities, the "factory" entrusted with producing the historical series of national accounting has not managed to assemble its own products to give shape to a system of consistent historical series for the entire 150 years since Italy's unification. Seen from the outside, the "GDP factory" appears to be enlivened by active industrious craftsmen, often extraordinarily qualified and specialised, but with absolutely no desire for coordination [Fenoaltea 2010: 77]. "Each to himself, God for all". This attitude has given users of the

---

[1] See Istat (1950, 1957, 1958). The system of national accounting was introduced in Italy in the aftermath of World War II, shortly after "the governments of Britain, Canada and the United States had started to use it, during the war, in order to assess compatibility between aims and resources" [Falco 2006: 377; Vanoli 2005].

[2] Nor were they made good by the revision carried out in the 1960s by a group of scholars coordinated by Giorgio Fuà (1919-2000). See Fuà (1968) and Fenoaltea (2003).

[3] Many contributions, however, are variations on the same theme, that is, the estimate published by Istat in 1957 [Cohen and Federico 2001].

historical series a general sense of disorientation: the various series produced soon began to coexist and to compete with one another (Which one to choose? How to reconcile inconsistent overlaps? How to bridge the gaps or discrepancies that have existed and persisted for decades?).

All this is visibly reflected in the current state of the specialized literature, not too different from the situation that one sees with a railroad network when there is no agreement on what standard track gauge to adopt. If railroad track manufacturers were to use different gauges, the final result would be that no train could circulate. In our case of the "GDP factory", this lack of coordination has concerned the scientific community as much as the institutions. Not by chance, until very recently, the only existing long-run reconstruction of Italian GDP had been created outside our factory, by a Briton, Angus Maddison (1926-2010)[4].

The last product of the factory was presented during the celebrations marking the 150th anniversary of Italian unification. A study coordinated by the Bank of Italy in cooperation with Istat and the 2nd University of Rome "Tor Vergata" (and hereinafter referred to as BIT), reconstructed the national accounts since Italy's unification [Baffigi 2013]. On both method and contents, the break with the past was clear-cut: the study managed, for the first time, to coordinate all the activities inside the GDP factory – it did not just connect all the existing series, but incorporated the results of new studies, thereby yielding historical series covering the whole 150-year history of united Italy.

[4] See Maddison (1991, 2010) and Conference Board (2012).

The following section will present the results of a new estimation exercise performed by updating the BIT series in the light of the latest publications on the subject. In keeping with tradition, the work of the GDP factory is never-ending.

4. The long leap in the short century

For those who have never had the chance to see the century-long trend of per capita GDP before, figure 1 will certainly be very interesting. It shows the trend of Italian GDP, both total and per head, for the whole post-unification period. The series have been calculated "at constant prices", meaning that they allow for variations in the *quantity* of national production rather than variations in its *value*: when the GDP curve in the figure goes up or down, the effect is "real" in that it does not depend on price changes (inflation or deflation), but on a higher or lower volume of quantities of goods and services produced and marketed. In this sense, we can say that the GDP trend in figure 1 encapsulates the entire history of the average income of the Italians.

The estimates show that, on average, Italians today earn thirteen times more than their ancestors did at the time of unification. Figure 1 also shows that progresses in GDP per head are a relatively recent phenomenon, largely coming about in the latter half of the twentieth century. Since World War II, per capita GDP has increased over seven fold, while in the previous hundred years or so (1861-1951) it had a little over doubled. In a nutshell, the income of the Italians made a long leap in a very short time [Toniolo and Vecchi 2010].

Figure 1. Italy's Gross Domestic Product, 1861-2011.
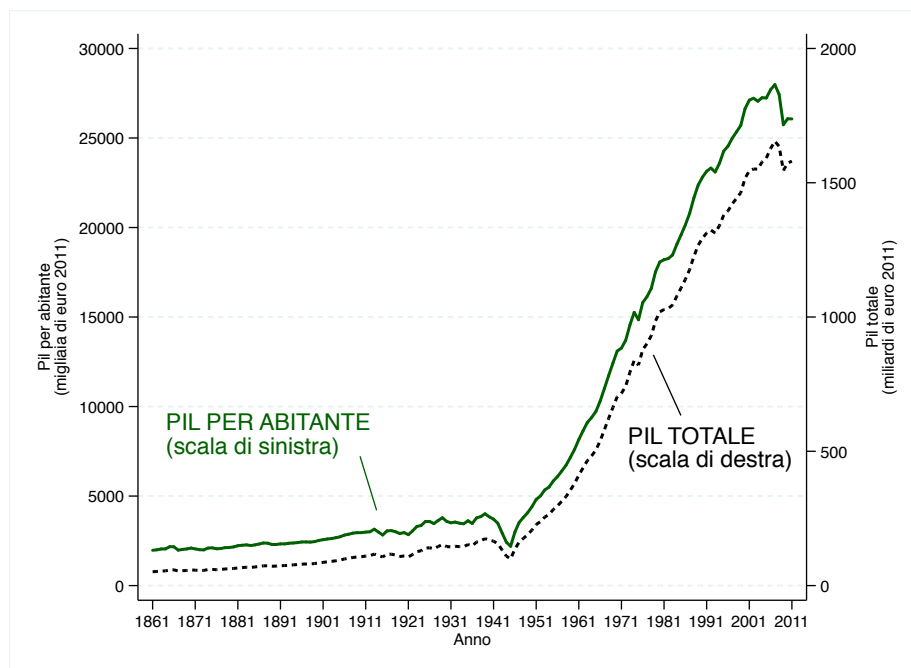
The graph shows the series for total GDP (broken line, right-hand vertical axis) expressed in *billions* of 2011 Euros at today's boundaries and the series of per capita GDP (unbroken line, left-hand vertical axis) in *thousands* of 2011 Euros.

The non-linear nature of the growth can best be grasped by looking at the trend of per capita GDP in some symbolic dates. At the time of unification, in 1861, the average income of the Italians has been estimated at around 2,000 Euros *a year* per head, at today's purchasing power, and about two-thirds of this sum was taken up by food consumption. In 1911, at the peak of the so-called "first globalisation", Italy celebrated the 50th anniversary of its unification with an increased per capita GDP of around 3,000 Euros per year, 46% of which went to satisfy primary needs. In the third jubilee, in 1961, average annual income was just over 8,000 Euros – a value almost three times the one recorded fifty years earlier – and food consumption accounted for about 25% of this sum. Today, over a hundred and fifty years since unification, annual per capita GDP is about 26,000 Euros – more than treble the 1961 figure, with less than 10% devoted to food

consumption. By managing to triple personal income over the latter two jubilees, the average Italian has become affluent – if we do not want to use the actual word "wealthy".

Having gone through the dynamics of per capita GDP *levels*, we now need to look at the *rate* at which it increased (or decreased) in the various periods considered. The calculations required – concerning GDP growth rates – are reported in Table 1. The first growth rate given in the table (column 1) refers to the overall change in GDP in each sub-period. This is a useful figure in that it tells us the magnitude of the change observed between the initial year and final one, but not very useful when we wish to compare periods of different lengths: it is clear that longer observation periods will tend to show greater total change rates. The problem is easily solved by calculating the *annual* percentage change (rather than the total one) during the period (column 2). The table also includes a third, alternative measure of the GDP growth rate: in column 3, instead of using the change rate, we calculated the number of years it would be necessary to wait before GDP doubled, assuming that it changes at a constant rate from one year to the next, that is, variations of the same percentage (the one given in column 2) every year[5].

---

[5] The calculation is based on a little rule known as the "rule of 70", according to which the number of years needed to double a certain magnitude can be calculated as the ration between 70 and the annual growth rate of the economic magnitude concerned. For example, if GDP grows at 2% a year, the formula tells us that we need to wait 35 years (= 70/2) before it doubles.

Table 1. The changeable rate of per capita GDP, Italy 1861-2011.

	Total variation (%)	Average annual Variation (%)	Years necessary for per capita GDP to double
	(1)	(2)	(3)
Italy in the Liberal period (1861-1913)	**59.8**	**0.91**	**77**
1861-1881	12.9	0.61	115
1881-1901	15.2	0.71	99
1901-1913	22.9	1.73	40
Fascist Italy (1922-1938)	**26.1**	**1.46**	**48**
1922-1929	24.0	3.12	22
1929-1938	1.7	0.19	372
Republican Italy (1948-2011)	**584.4**	**3.10**	**23**
1948-1973	282.3	5.51	13
1973-1992	60.2	2.51	28
1992-2002	16.7	1.56	45
2002-2011	-4.2	-0.48	-146
Italy 150 years on (1861-2011)	**1222.6**	**1.74**	**40**

The table compares per capita GDP growth rates for various periods of Italy's post-unification history. Column (1) shows the total variation recorded during each sub-period (e.g., between 1861 and 1913, per capita GDP rose on the whole by 59.8%); column (2) shows average *annual* variation (e.g., between 1861 and 1913, per capita GDP rose at a rate of 0.91% per year); column (3) shows the number of years needed for per capita GDP to double, assuming that it changes at the average rate given in column 2 (e.g., given that the average annual growth rate between 1861 and 1913 was 0.91% per year, per capita GDP would take 77 years to double). The negative value observed in the last decade is interpreted as the number of years necessary for per capita GDP to halve.

If we wish to schematically summarise the main "facts" emerging in Table 1, then we could draw up the following list.

– *1861-1901*. The first two generations of Italians in post-unification Italy did not experience high growth rates in per capita GDP. Indeed, the rate at which GDP increased over the first four decades of the new Kingdom of Italy (0.6-0.7% per year) would have required at least a century to double.

- The political unification of the country did not lead to any "take-off" with regard to the average income of its citizens, but to a slow and gradual increase[6]. However, something changed at the dawning of the twentieth century.

- *1901-1913*. The years of the so-called "Giolitti age" saw an acceleration in GDP: compared to the previous two decades, the economic growth rate more than doubled (1.7% per year). World War I marked a sharp break in this favourable period, but growth would resume rapidly once again in the aftermath of the Treaty of Versailles (1919).

- *1922-1938*. The new estimates describe the inter-war period as the combination of two decades that were very different from one another: the 1930s were as bleak (average per capita GDP growth rate was +0.2%), as the 1920s were rosy (+3.1%). Such a marked difference between the two decades constitutes a novelty not found in the previous literature.

- *1948-2011*. The republican period shows features that are largely well known: *(a)* in the years 1948-1973 Italy sped along at an unprecedented rate it has not experienced again since (+5.5% per year); *(b)* The slowdown in the years 1973-1992 is very conspicuous: much like a motorist shifting from a cruising speed on an open highway

---

[6] Toniolo (2013) gives two reasons for the deadlock of this period. On the one hand, there was the sluggishness *(a)* of the process for creating a single national market (political, administrative and economic unification did not come about overnight), *(b)* of the formation of an adequate human capital stock (schooling of the population was difficult) and *(c)* in the establishment of the new legal institutions (from the single currency to the approval of the commercial and administrative codes). On the other hand, there were external shocks (two wars of independence, the problem of banditry in the south of the country) and economic policy mistakes with regard to trade and monetary matters.

to a much slower pace on entering a town; *(c)* in the last decade (1992-2011), per capita GDP actually *fell* by 0.5% per year.

Box 3 – A very long-term look, Italy 1300-2011.
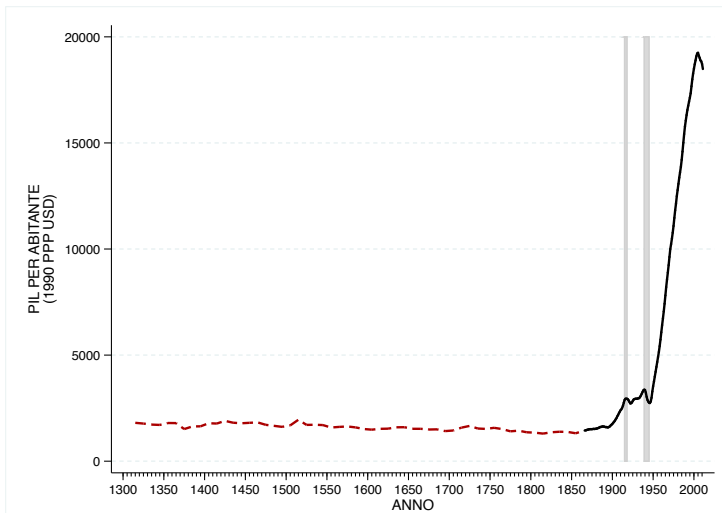
The graph shows the trend in per-capita GDP (vertical axis) over time (horizontal axis). The stationariness observed from the 14th century to the 19th century corresponds to the pre-industrial economy; modern economic development started in the latter half of the nineteenth century.

Our curiosity of knowing the average income of the Italians in the centuries preceding the country's unification may, at least in part, be fulfilled. Economic historians have actually estimated GDP even for unsuspectingly remote times. The most adventurous estimates refer to the Ancient Roman period: according to Maddison (2007), at the time of the death of Emperor Augustus (14 DC), the Italic peninsula was (by far) the richest of all the Roman provinces of the Mediterranean basin. Instead, the following centuries were, on the whole, bleak and characterised by a long period of decline, with signs of recovery found only around the 10th century [Lo Cascio and Malanima 2005: 204-5].

The earliest reliable estimates for per capita GDP of the Italian peninsula date back to 1300: by connecting the reconstruction made by Malanima (2006) to the new estimates of the period 1861-2011, we obtain the curve shown in the figure above. This reveals the distinctive features of a pre-industrial economy, that is, a centuries-old stagnation of per-capita GDP. The graph's scale hides as much the frequency as the intensity of the annual variations: although the Italian economy of the early Middle Ages had a mastery of the most advanced technology of the times [Cipolla 1952], there were recurring famines, even within the same generation [Livi Bacci 1991: xx; Malanima

16

2003], with disastrous consequences on the population's standard of living [Ò Grada 2009].

With the start of the Modern Age, say from 1500, the overall GDP of the Italian economy started to rise, but it was accompanied by an even greater increase in the population, with the result shown in the figure: a slow but inexorable decline in per-capita income [Malanima 2006: 21]. Despite this downward trend, Italy is still considered to have been one of the most advanced countries until the mid-1700s. After this time, the gap with other western European countries started to increase: "Things changed after 1750. For more than a century, with very short interruptions, the Italian economy experienced a decline which was at once absolute and relative." [Malanima 2006: 111].

As we know, at the close of the 1700s Italy missed out on the first industrial revolution, not being able to adopt British technology based on steam and the railways [Allen 2009]. This is reflected in the GDP trend in the figure, which shows a flat trend in continuation of the past. The curve starts to rise in the last decades of the nineteenth century, during the second industrial revolution, based on electricity, oil and chemicals [Mokyr 1990]. This marks an epochal moment in the history of the wellbeing of the Italians – a crossroads in history where Italy took the right road and embarked on the process of "modern economic development" described by Kuznets [1966]: rural backward Italy embarked on a deep transformation which would change its features, on both a qualitative and quantitative level, and turn it into an advanced economy within the space of a century or so.

5. Interpreting the past

Right from World War II, historiographers have put forward various, often conflicting, hypotheses to explain the country's industrialization and modernization process, summarized in the long-term trend of per-capita GDP (figure 1). In this section, we shall segment Italy's per-capita GDP series into the three periods corresponding to the political periodization of the country over the 150 years since its unification: the Liberal period (1861-1913), the Fascist period (1922-1938) and Republican Italy (since 1946). We shall

thus examine each phase in sequence, placing the GDP series within a broader context in which we shall introduce, albeit superficially, the technological progress and institutions – two key factors to explain a country's long-term economic performance.

Technology is behind increases in productivity and thus represents the main determinant in per-capita GDP [Jovanovic and Rosseau 2005; Giannetti 2001]. Over the 150 years since its unification, Italy has gone through as many as four technological regimes [Freeman and Perez 1988]: *(a)* the first (1861-1875) is the one identified by the three main inventions of the times, the steam engine, the spinning machine and the railways; *(b)* the second (1875-1908) coincides with the "second industrial revolution", characterized by heavy industry (steel, first and foremost, to which the mechanical industry is connected) and electricity; *(c)* the third (1908-1970s) is defined by the establishment of mass production, such as with Henry Ford, in which petroleum plays a key role and there is the take-off and affirmation of durable consumer goods, starting with the automobile; *(d)* the fourth and last regime corresponds to the "third industrial revolution" (1970s-today) triggered by the advent of information technology and telecommunications: the industries showing the fastest growth in this phase are linked to electronics and particularly to computer technology [Gordon 2012]. The dates marking the shift from one regime to another are obviously approximate and only serve to outline the timeline with which the main innovations have followed on from one another.

Technology represents a necessary but not sufficient condition for a country to feed its own course towards prosperity: the technological changes must be accompanied

by changes in the institutions, in the broadest sense, and in the society's ideology[7]. Did the new technological paradigms – exogenous factors with regard to the Italian economy – find fertile terrain in the country owing to the fact that institutions and ideologies were favorable to their adoption?

5.1 The industrialization of the peninsula (1861-1913)

Much has been written on the economic history of Liberal period Italy[8]. The question at the heart of the historiographic debate has often been the following: *when* and *why* – from being a rural country, "poor" and backward, as it had been for centuries – did Italy become an industrial country, "wealthy" and modern? The "giant who dominated the Italian debate" after World War II was Alexander Gerschenkron (1904-1979), a US-naturalized Russian economist; it is worth starting from his thesis [Fenoaltea 2007: 352]. Gerschenkron identified the "big industrial push" of the country around the mid-1890s and put it down to the creation of *mixed banks – Banca Commerciale Italiana* (*Comit*), founded in 1894 with German capital, *Credito Italiano* (*Credit*), *Banco di Roma*, and later on *Banca Italiana di Sconto*. Mixed banks, or universal banks, are so called because they collect capital (the prerogative of commercial banks) and channel it to favor industrial development (the prerogative of investment banks). Through their network of branches, mixed banks collect deposits *short*-term from ordinary citizens to then invest the capital in shares: that is, they turn the capital into *long*-term credit to industry:

---

[7] This is a fundamental point in the speech Simon Kuznets made in Stockholm when he received the Nobel prize for economics [Kuznets 1971], taken up again in various forms by Abramowitz (1986), and more recently by Acemoglu and Robinson (2012). See also Felice and Vecchi (2013).

[8] Among the more important recent monographs, see Toniolo (1988, 2012), Zamagni (1993), Fenoaltea (2006) and Ciocca (2007).

precisely what is needed, according to Gerschenkron, to favor the industrialization of a backward country.[9] For Gerschenkron, this was the institutional innovation that acted as the "engine of growth", in Italy and in Germany: it was the mixed banks which managed to compensate for the country's drawbacks (the scarcity of natural resources, the political instability and hesitations of governments during the first decades after unification, the insipience of economic policies) on the path toward Italy's industrialization [Gerschenkron 1955, 1959 and 1962].

The debate following Gerschenkron's work was intense and remained so over the following decades. The common denominator of all the interpretations put forward in the successive years was that of assuming that economic development followed a stage-by-stage model [Rostow 1960]. According to this view, a country develops following an orderly sequence of stages (or phases). Initially, the *prerequisites* for growth must be created (for instance, infrastructure and human capital); the second stage envisages an economic *take-off* – economic growth starts up with a great boost and marks a break with the GDP series trend; the next stage marks a *rise to maturity* (technology opens up new investment opportunities and the economy becomes more complex), and, finally, there is the age of *mass wellbeing*.

---

[9] In return, the mixed banks typically entered the boards of the firms they financed and obtained access to strategic information. The advantages associated with the presence of a mixed bank must be weighed up against the greater fragility of the economic system, due to the interweave that is created between credit capital (banking system) and industrial capital (the real economy).

Figure 2. Per-capita GDP between 1861 and 1913: no lull, no take-off
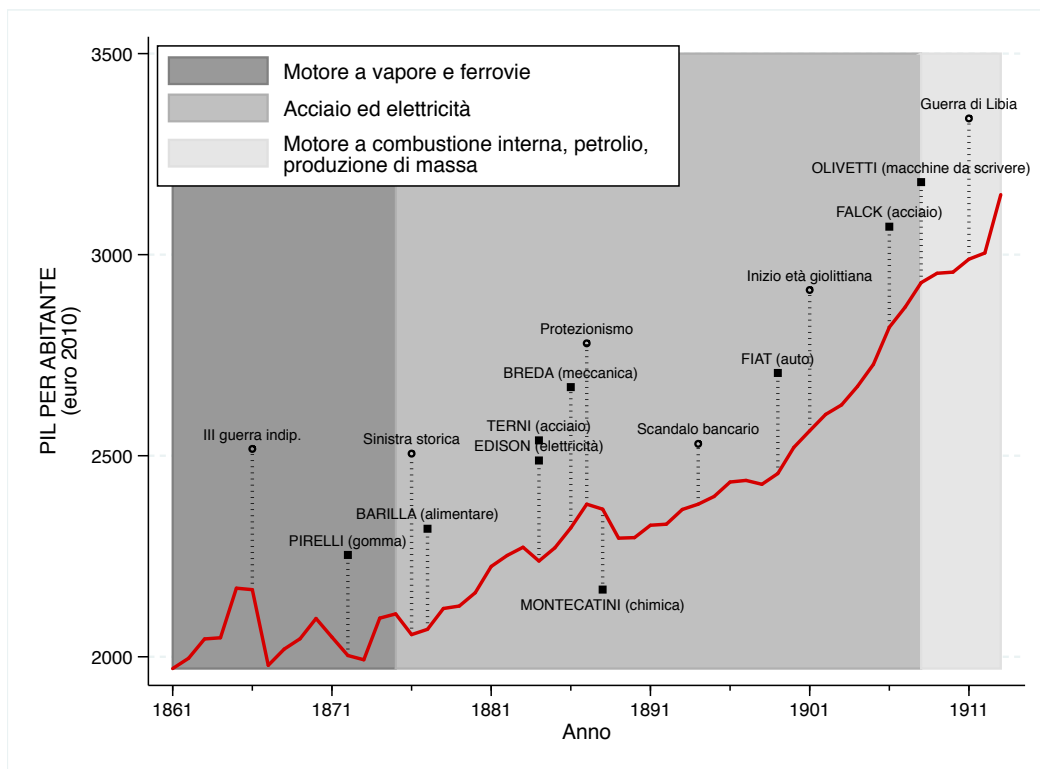
The figure shows the per-capita GDP trend against the background of technological changes (indicated with a different background color intensity), and the main political and economic innovations.

It is difficult to establish whether the per-capita GDP series in figure 2 shows a trend in line with the explanation offered by stage-based models. The first two decades of post-unification Italy show an uncertain start, and it is only with the beginning of the "Historical Left" and the Depretis Government (1876) that GDP started to grow at an increased rate. The trend does not show any trace of the crisis of the 1880s, while the slowdown in the 1890s is well visible. On the whole, the terms "take-off" or "big industrial push" are quite inappropriate to describe the trend with regard to the latter half of the 1890s.

An alternative interpretation to the one suggested by the stage-based model was proposed by Fenoaltea [1988, 2006]. In this case, the story begins by observing that the new GDP series has an upward trend with no breaks or take-offs, but with fluctuations:

these are "economic cycles", mainly caused by the construction industry and more generally by the infrastructure sector. According to Fenoaltea, construction and infrastructure were in turn driven by foreign investment, especially British at the time: therefore, what decided the various stages of Italian economic growth during the Liberal period was the foreign investment cycle. In this model, Italy behaves like any other European fringe country: when the political climate positively influences investor expectations, capital flows in and the economy gets going; when greater risk is perceived, capital flows cease, indeed, they flow out of the country and the economy contracts. The view of Italy as an "open economy", that is to say, as part of an international economic system, does not require any stage-based development process and does not envisage any take-off stage: the process is guided by the interweaving of the international economic cycle, investor expectations and the domestic political cycle. Fenoaltea's interpretation appears largely consistent with a cyclical development along an increasing trend, as the one shown in figure 2. Less convincing is the fact that it overlooks the role played by national institutions and domestic economic policy decisions[10]. This point has been grasped and well reasoned out by Gianni Toniolo:

> In order to profit from the international boom, Italy had to abandon expensive colonial
> adventures and put order to its public finances, rebuild almost from zero a banking system
> that laid in tatters, create a central bank, overcome the credibility shock generated by the
> suspension of gold convertibility. More than that: Italy had to overcome a social and political

---

[10] See Toniolo (2012). On a more technical level, we may add the following observation: the estimates by Felice and Carreras (2012) with regard to just industry for the period 1911-1951, when combined with those of Fenoaltea (1861-1913), suggest that the cyclical model is valid only up to the mid-1890s. From that time on, more or less coinciding with the creation of the mixed banks, for the cycle of Italian industry not only does the production of durable goods count, but also the production of consumer goods.

crisis that threatened to undermine the very foundations of the liberal state. Both politics and society stood up to the occasion: the crisis (...) was overcome. Democracy was maintained, the disastrous African policy was discontinued, sound economic institutions were put in place and the banking system was revitalized. In the following years successive governments maintained a time-consistent fiscal and monetary policy, the gold standard was shadowed but cleverly not officially reinstated, commercial treaties brought back the fresh air of freer trade. All this lies behind Italy's ability to surf the long wave of international growth. *It did not need to be so: even sailing with the tide requires expert skippers.* [Toniolo 2007, p. 132. Our italics]

5.2 The interwar period (1919-1938)

Compared to the Liberal period, the interwar years have received a lot less attention[11]. This is certainly a bad thing because it was a decisive period in which Italy modernized and enhanced the sectors of the second industrial revolution (chemicals and heavy industry at the expense of textiles and foodstuffs), and also saw progress at the institutional level by creating the foundations which would accompany the subsequent economic miracle.

Even though it was a rather difficult time, to say the least, at a domestic level and even more so at the international one (two world wars, the Great Crisis of 1929, the Fascist dictatorship and its autarchic turn), in the period 1919-1938 the per-capita GDP growth rate (1.5% a year) was significantly higher than the one recorded during the Liberal period (0.9%).

---

[11] Among the exceptions: Toniolo (1980), Gualerni (1995), Galimberti and Paolazzi (1998), Petri (2002), Feinstein, Temin and Toniolo (2004, 2008), and Felice and Carreras (2012).

Behind this overall figure lie very diverse trends which characterized the 1920s and 1930s (figure 3). The growth of the 1920s was rapid, the result of an increase in productivity; if the war had any beneficial consequence, then it was its positive effect on the technological backwardness accumulated during the conflict – technological progress in the chemical industry, in motor vehicle production and in aeronautics was greatly stimulated by the war effort [Feinstein, Temin and Toniolo 1998: 87]. Between 1919 and 1929, Italy grew at a high rate – over 3% a year, on average. The 1920s were really "Roaring Twenties" for the Italians, but these were then followed by very difficult years economically, and even more so politically, speaking. The Great Depression of 1929 appears to have had a greater impact than previously thought: between 1929 and 1933 Italy suffered an 8% decrease in per-capita GDP compared to the 3.5% decrease previously estimated by the "old" series [Vitali 1969]. This is higher than the UK figure (-4%), close to the French (-10%) and German (-12%) ones, but a long way off from the catastrophic figure recorded in the USA, where GDP decreased by 27%.

Figure 3. Per-capita GDP in the interwar years: a conflicting 20-year period
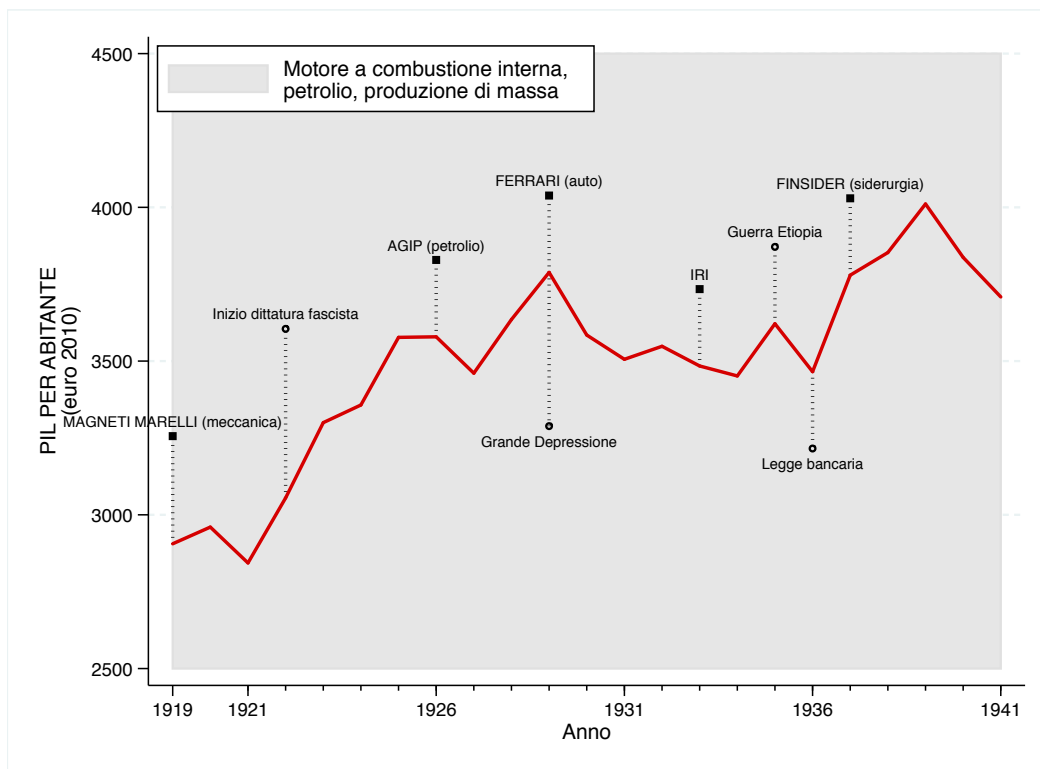
The interwar period was characterized by very marked economic cycles: the graph shows a boom in the decade after the Treaty of Versailles (1919-1929), the recession following the 1929 crisis and the lively recovery starting in the latter half of the 1930s.

Paradoxically, but perhaps not so much, it was the very autarchic policies which steered modernization and thus the expansion of the Italian productive base: the deflationary turning point of 1926 (with the drastic revaluation of the Italian lira) made the price of imported materials (e.g. cast iron) and of machinery drop, thereby benefiting industry which could use inputs at lower prices. At the same time, however, it made prices rise for traditional Italian exports in light industries such as textiles, thereby damaging the less advanced Italian production sectors. The 1929 crisis led to a broad reform of the Italian production system. On the one hand, it forced the industrial sector to substitute labor

(now more expensive[12]) with capital, and this led to an increase in mechanization; on the other, the calamitous effects of the crisis on the real economy and on finance led to the institutional reorganization of the whole edifice of national capitalism. The institute for industrial reconstruction IRI (*Istituto per la Ricostruzione Industriale*) was created in 1933, and in 1936 the banking reform law achieved the separation between banks and industry, that is, between short-term and long-term credit.

On the whole, the prevalent view today in interpreting the interwar period is that the Fascist years were not a break in the long-term path of the Italian economy, but rather a premise for the great leap which would take place after World War II [Gualerni 1995; Petri 2002; De Cecco 2000].

5.3 From the periphery to the centre (1946-2011)

The new GDP estimates (figure 4) for the years following World War II do not add very much to what we already knew. Once post-war reconstruction was completed, Italy "put on wings" and embarked on a period of growth which history would call the "economic miracle"[13]. The new estimates confirm the exceptional performance of the 1950s and 1960s which emphasize – as we saw in Box 4 – an actual break in the centuries old trend [Malanima 2003; 2006]. It is these two decades which saw Italy complete its transition from the "periphery to the centre", according to the fortunate definition put forward by

---

[12] Deflation, i.e. price decreases, led to a rise in real wages, or to an increase in the labor factor of production, which became more expensive compared to other goods [Mattesini and Quintieri, 1997].

[13] In actual fact, GDP showed a miraculous trend in most countries in western Europe: not surprisingly, the period 1950-1973 became known as "Europe's golden age" [Temin 2002].

Vera Zamagni [1993]: the country became a modern industrial one, with a great shift in labor from rural areas to industry, even in Italy's *Mezzogiorno* or southern regions. There were many reasons for this achievement, starting from some decisions in the geopolitical and international arena. Firstly, the Marshall Plan, whose funds were used better in Italy (to renovate the industrial apparatus) than in other countries [Zamagni 1997; Fauri 2010]. Secondly, the far-seeing anchorage to the European edifice [Fauri 2001; Ciocca 2007]. Other factors also moved in the right direction. The fixed exchange rate system based on the dollar, low prices for oil and other natural resources, the gradual liberalization of international trade brought their benefits to more or less all advanced countries, and particularly to Italy: for example, the decrease in raw material prices in the 1950s and 1960s was particularly advantageous for a country lacking in natural resources.

Among the important elements explaining the country's growth after World War II there is also the continuity with the past, and particularly with regard to the interwar years. This is the case with the system of *partecipazioni statali* (that is, of enterprises indirectly owned by the state through management entities), which was created in the 1930s and made an important contribution to growth in the 1950s and 1960s, becoming the driving force of industrial modernization. There is no counter-evidence, obviously, but the idea which has been put forward is that these state holdings played a key role making it possible to devise "far-seeing strategic plans which were instead absent – if we exclude FIAT of Valletta – in large scale private industry" [Barca and Trento 1997: 197].

By the end of the 1960s, Italian industry appeared broadly diversified and even impressive, in some respects: the country excelled in the automobile and IT sector, developed an important chemicals industry and was at the forefront of the aerospace industry. At the same time, there were also those traditional sectors of *made in Italy*

(particularly textiles, footwear, food and home furnishings), supported by a widespread fabric of small and medium-sized enterprises [Amatori, 1980, 2011; Colli and Vasta, 2010].

Figure 4. Per-capita GDP after World War II
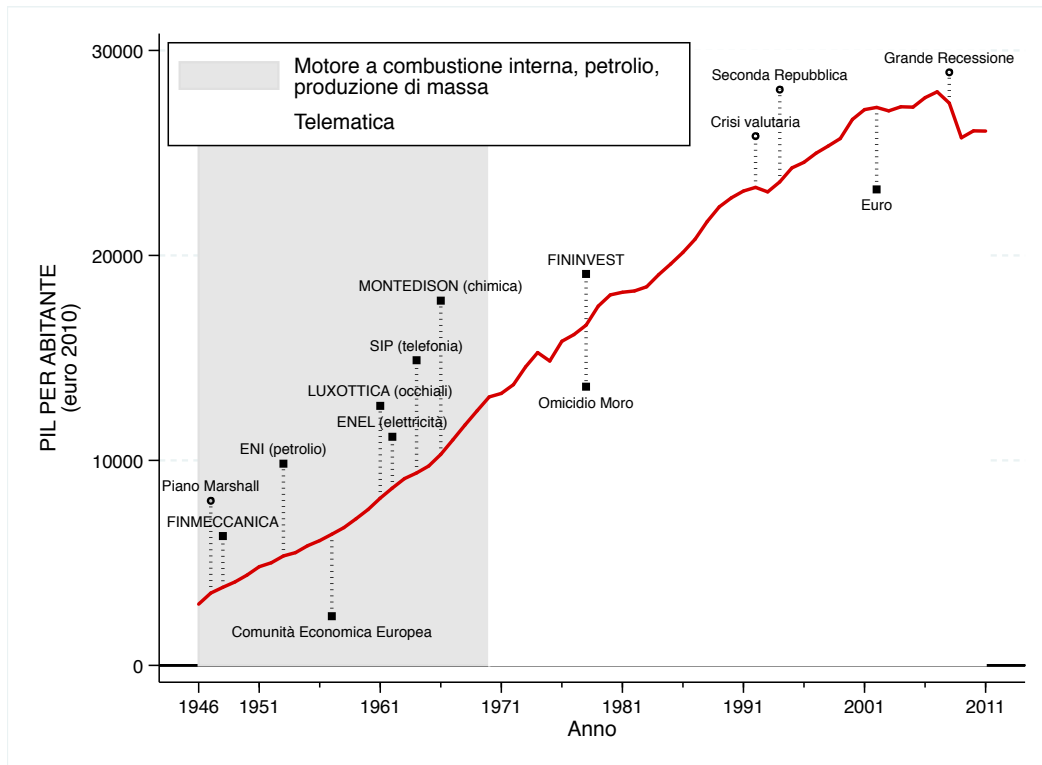
GDP in the decades after World War II is characterized by an upward trend – taking Italy from the "periphery to the centre" – and by a conspicuous slowdown starting in the 1990s, leading to stagnation with the advent of the new millennium.

Growth slowed down in the 1970s and 1980s, starting with the first energy crisis in 1973: the system of *partecipazioni statali* degenerated and ended up by obeying clientele-type political demands which led to setting up manufacturing plants in locations that were far from convenient [Felice 2010]. Large scale enterprises lost ground and a tertiarization of the economy – that is, a GDP shift from industry to services – took hold in Italy, too.

In any case, the GDP increase in this period still appeared in line with that of the main European competitors, driven by exports and by the country's industrial districts[14]. The latter seem to take on a new paradigm in the history of enterprise, but some critical observers [De Cecco 2000] noted how their rise owed more to the devaluation of the lira and to a lack of fiscal control: a view confirmed in the light of their disappointing performance in recent years.

The years since 1992 have witnessed a decrease in growth, more than halving even with respect to the previous twenty-year period. As Salvatore Rossi (2010) observed, "Adapting to the ICT revolution and globalization (…) was, and is, not an easy operation, above all with regard to the change in technological paradigm." (p. 15). What has characterized the last twenty years is, in sum, a hitherto unprecedented inability to adapt to the context – once again exogenously given – that Italy has to operate in [Paolazzi and Sylos Labini 2012]. Italy has fallen behind, and visibly so, compared to its main European partners, which in turn have lost ground to the USA and even more to emerging Asian countries (we shall see this in section 7). At the turn of the millennium, both the national press and public opinion spoke in terms of an economic decline (Box 4).

---

[14] An industrial district is a system of highly specialized small and medium-sized enterprises geared to export and active in a specific geographical area providing them with the necessary social and economic infrastructure. In synergy with other local institutions, these firms manage to cut transaction costs without requiring a hierarchical structure that is typical of large enterprises [Becattini 1979].

Box 4 – Words are important: recession and depression, crisis and decline.

An illustration (still in preparation) by Roberta Zanetti, inspired by the front cover of The Economist *of 16 July 2011.*

Recession, crisis, depression and economic decline. These are the words that begin to circulate as soon as GDP slows down. If the media do not always pay the necessary attention to them, there are important differences between their everyday meaning and their technical one. It is worth going into their meaning, not for the sake of semantics, but as a premise in order to more clearly deal with the theme of Italy's economic decline.

Recession. In everyday language, periods of positive growth in GDP are called "expansions" while periods of negative growth are called "recessions" (or "contractions"); alternating periods of expansion and contraction of GDP give rise to the so-called *economic cycle*. In economics, the word recession is only used when the period of negative growth lasts at least *two consecutive quarters* [Blanchard 1997: 25]. There is an alternative definition, used by the US National Bureau for Economic Research (NBER), that, unlike the previous definition, is also sensitive to the scale of the GDP decrease (the idea is that it is worth distinguishing between a 0.1% decrease and a 10% one) and depends not only on the GDP trend, but also on that of other indicators (such as unemployment or sales volume). According to the NBER, "a recession is a significant decline in economic activity spread across the economy, lasting more than a few months, normally visible in real GDP, real income, employment, industrial production, and wholesale-retail sales" [NBER 2008]. In practice, the two definitions often coincide, but not always and not necessarily so.

Crisis. There is no single technical or formal definition of the word "crisis". Ironically, the most prestigious Italian encyclopedia, published by the Istituto Treccani, discontinued the volume containing the entry "economic crises" in 1931, right at the height of the most serious crisis of the capitalist economy. The definition underlined the element of surprise and the speed associated with

the phenomenon: "The crisis is a shift, often a *sudden* one, from a given equilibrium position to another very different one; the shift is usually a jolting one and *unexpected* by many of the agents, and brusquely leads to *serious* decreases of value and of production activity, a reduction or cessation of remuneration; it is often accompanied by bewilderment, by dramatic episodes." (p. 913, our italics). Since then the international specialist literature has tended to replace the generic term "economic crisis" by distinguishing between a financial crisis (linked to monetary, banking and exchange-rate matters or to the public debt) and a crisis concerning the real economy. Carmen Reinhart and Kenneth Rogoff (2011) defined the various forms of crisis in quantitative terms: although it is still a little too early to consider the definitions proposed by the two authors as a "standard", they are, undoubtedly, the most authoritative we have available today.

Depression. Likewise for the word "depression", economists still do not have a univocal definition. The new edition of the Palgrave Dictionary of Economics has even removed this entry, while the previous editions attributed an international dimension to the term that is totally missing in the definition of recession: "That term [depression] is reserved for longer periods of more serious adversity on an international scale" (ed. 1987: p. 809). John Maynard Keynes provided an implicit definition of depression: "a chronic condition of subnormal activity for a considerable period without any marked tendency either towards recovery or towards complete collapse" [Keynes 1936: cap. 18]. More recently, Paul Krugman (who won the 2008 Nobel prize for economics) put forward an informal, but very practical, definition of the term: "depression" describes a situation where the normal medicines (the economic policy tools) administered to the system in order to boost economic activity do not work [Krugman 2012]. In short, an economic system would be in a state of depression as soon as economists have repeatedly shown they do not know what to suggest to trigger a recovery.

Decline. Attempting to say what "economic decline" should be taken to mean in the space of a few lines is the hardest task. On the topic of decline, the most interesting reflections are undoubtedly the ones found in economic history. Gianni Toniolo (2004) wrote an essay full of reflections from which we can gather the features of an economic decline: *(1)* we must distinguish between an *absolute* decline (when a country cannot manage to maintain the level of wellbeing achieved in the

past) and *relative* decline (when a country cannot keep up with the most dynamic economies and, although not experiencing any actual worsening of living conditions, goes down in the international ranking of prosperity); *(2)* a decline has many facets: it concerns the economy, but it is the symptom of a more general malaise involving the institutions, politics, society and culture, that turns into sclerosis, into a loss of vitality, and into a recalling of past models [p. 22]; (*3*) a decline is slow and hardly perceptible: it becomes a political and social problem only when its effects are very widespread and the cost of ignoring them becomes unbearable for the governing elite, sometimes due to shocks such as wars, revolutions and great financial crises [p. 10]; *(4)* about the causes, a decline stems from the inability to adapt an old production model to new circumstances, and this inability to adjust is greater the more successful the older model had been in the past [p. 9].

6. At last, the GDP of the regions

Once Italy's national accounts had been reconstructed, some economic historians began to pursue the aim of replicating the task for each one of the Italian regions. The first attempt on this was made by Vera Zamagni in 1978 by drawing up an income estimation of the Italian regions for the year 1911. Although she was successful, hers was an isolated attempt: silence soon returned and in the next two decades the measurement of regional differences in GDP remained a poorly researched field[15]. The new millennium heralded new studies enabling, at last, an outline of long-term per-capita GDP development for each of the country's regions. The summary picture we offer in this section is a useful, if not indeed essential, premise for understanding the origins of territorial imbalances today.

---

[15] Official statistics on regional GDP only started to be published in 1970 [Svimez 1993]. Esposto (1997) produced estimates for 1971 (macro-regions), 1891 and 1911; Svimez [1961] for 1938 and 1951; Daniele and Malanima [2007, 2011] produced annual estimates from 1861 to 1951, by bringing together estimates made by Federico [2003b], Fenoaltea [2003b] and Felice [2005a, 2005b], in the assumption that, for each sector of economic activity (agriculture, industry or the services), the regional cycles would be the same as the national cycle. This section is based on Felice (2011) and on hitherto unpublished estimates for 1871 and 1931.

The trend of regional differences in per-capita GDP for the five large macro-areas of the country is summarized in figure 5. There are three very interesting results and they deserve a brief comment. The first concerns the so-called baseline conditions. In our baseline year (1871), Italy showed non-negligible per-capita GDP differences: the richest area of the country, the North-West, had around a 25% advantage over the poorest area, the South (about 2,000 Euros per person a year in the North-West versus 1,600 Euros in the South). This is a significant difference, consistent with what emerges in other chapters of this book, considering other social indicators, and with what we know about the distribution of transport and credit infrastructure, which point to a clear advantage for the northern regions [Zamagni 1993: 42; Giuntini 1999b: 597]. In order to interpret these differences properly, we must also not overlook the fact that, in 1871, Italy as a whole still had to face the great industrial transformation – the only change that could decisively raise income levels. The situation in other countries was rather similar: new data for Spain [Rosés, Martínez-Galarraga and Tirado 2011] or for the Austria-Hungarian empire [Schulze 2007] indicate a gap in favor of regions with an industrial or services base – Madrid and Catalonia, in the former case, and Vienna, in the latter – but, on the whole, also a relatively modest dispersion of average incomes compared to what would happen as industrialization progressed.

Figure 5. The great Italian divide, 1871-date.
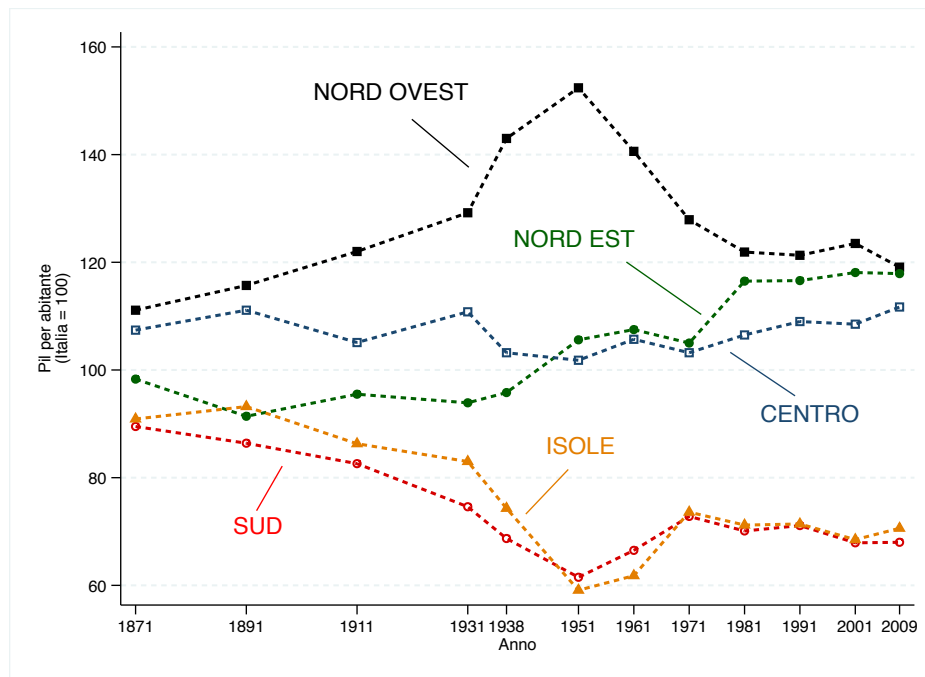
The graph shows the per-capita GDP trend (measured along the vertical axis, with Italy = 100) for each macro-region of the country. The long-term trend shows a process of divergence which is interrupted only in the years 1951-1971. The definition of the macro-regions is provided in map X on page Y.

A second comment concerns the spectacular long-term *divergence* process: the North-West regions start from slightly more advantageous baseline conditions, but then proceed at such a pace that in the aftermath of World War II they are a "world apart": in 1951 the citizens of the north-western regions would enjoy a 50% higher GDP than the national average. The southern regions, instead, show a diametrically opposite trend, falling behind the rest of the country, such that in the aftermath of World War II they become a sort of second Italy: per-capita GDP in the south is less than half the one of the central-northern regions.

Once again, if figure 5 would not surprise historians – the southern question has been on the scholars' table since the last century – what remains striking is the sheer

scale of these differences. It is the actual *amounts* emerging in figure 4 that are stunning: in 1951, after 90 years of post-unification history, the southern regions had a per-capita GDP of 2,860 Euros a year at today's purchasing power parity (table X in the statistical appendix), a value accounting for barely 40% of the north-western regions (where per-capita GDP was 7,180 Euros a year). The average income in Calabria was less than a third (29%) of the one in Liguria.

The third result deserving particular attention concerns what occurred in the interwar years: regional differences increased conspicuously. In this period the North-West progressed along the path of industrialization and modernization, while the *Mezzogiorno* remained dramatically still[16]. A factor favoring development in the North-West was the country's great effort in World War I (1915-1918) which steered public procurement towards enterprises of the so-called "industrial triangle" (Lombardy, Piedmont and Liguria), the only ones that could deal with the production demands of the war. The north also benefited from deflationary measures and an autarchic policy (section 5.2) which meant an intensification of industrial production towards advanced sectors, mostly located in the north. Instead, the Mezzogiorno suffered from the demographic policies of the Fascist regime, with restrictions to emigration (chapter Z *Migration*), and this increased the demographic pressure on the poorest regions. To this must be added the effect of the so-called "wheat battle" (in 1925 Mussolini proclaimed the need for Italy to achieve self-sufficiency in food, starting with wheat), which favored cereal growing at the expense of more profitable crops of Puglia and Sicily (wine, grapes and citrus fruits),

---

[16] This can be illustrated by the following data: between 1911 and 1951, the percentage of agricultural labor in southern Italy did not decrease (remaining at around 60%), while in the north-west of the country, in the same period, it fell by almost 20 points from 47% to 28% [Felice 2011].

and the immobilism of the social order that guaranteed the rents of great landowners even when the land itself was not productive, thereby hindering modernization in southern agriculture [Bevilacqua 1980; Felice 2007a].

Regional differences greatly decreased from 1951 to 1971. Convergence of the south during the 1950s and 1960s was exceptional and made possible both by the start-up of considerable inter-regional migration from south to north of the country as well as by a *deus ex machina* – the great public sector intervention. The *Cassa per il Mezzogiorno* (the Southern Italy Development Fund), set up in 1950, was the instrument through which the State promoted the creation of great infrastructural works in the southern regions – from aqueducts to roads and industrial plants. As well as direct intervention for creating the necessary infrastructure, the *Cassa* also provided for indirect funding of production activities. The initiatives involved public enterprises, which were obliged by law to devote a considerable amount of their investment to the *Mezzogiorno*, but also private ones: both kinds of enterprises received lower interest rate loans and free contributions. It was a top-down action focusing on "heavy", higher added value sectors such as the chemical, steel and advanced mechanical industries[17]. In terms of resources allocated in relation to GDP, the investment was on a scale unparalleled in any other western European country [Felice 2002].

This convergence of the *Mezzogiorno* turned out to be short-lived, however: the economic policy was not enough to trigger a continuous self-generating process in the south. With the oil crisis of the 1970s, the Ford model based on large energy-intensive factories suffered a setback, and in Italy this was particularly felt by the weaker links of the chain, that is, the plants in southern Italy that had been located there not for market

---

[17] See Felice (2007a), La Spina (2003) and Lepore (2011).

convenience, but because of State incentives or dispositions. At this point, public intervention showed itself to be incapable of reinventing itself and indeed became entangled in a great many welfare or income support trickles, bloating the staff of public administrations and even benefiting organized crime[18].

Figure 5 clearly shows that from the 1970s onwards, albeit slowly, the southern regions started to fall behind again. The north-eastern regions instead started to pick up pace in their convergence with the north-western ones, followed by the central regions of the country. The driving force of the north-east was a growing capillary network of export-geared manufacturing firms [Bagnasco 1977; Becattini 1979]. The most recent data, of 2009, confirm broad gaps – broader than the ones estimated for the time of Italy's unification. As we shall see better in the next section, economic integration made no real progress[19].

7. Divided at the middle

Exactly ten years after Simon Kuznets hypothesized an upside-down U-shaped curve for the relation between income inequality and economic growth (Chapter 10, *Inequality*), the economic historian Jeffrey Williamson proposed another upside-down U-shaped curve, this time to describe the trend in the regional income inequalities within the same country [Kuznets 1955; Williamson 1965]. Kuznets had concerned himself with the

---

[18] See Bevilacqua (1993: 126-7, 132) and Trigilia (1992). The *Cassa per il Mezzogiorno* was dissolved in 1984.

[19] Per-capita GDP differences between the various geographical macro-regions concerned could be explained by the price differences found in these areas (Chapter 11 *Cost of Living*). This is not the case here. Brunetti, Felice and Vecchi (2011) showed that by correcting GDP to allow for differences in purchasing power does not change the key features of the historical picture described in figure 5.

distribution of benefits of economic growth in the population while Williamson was interested in the sequence with which the various areas of the country managed to bridge the gap with the most successful regions. "Economists have long recognized the existence and stubborn persistence of regional dualism at all levels of national development and throughout the historical experience of almost all presently developed countries", observed Williamson (1965: 3). Despite this awareness, however, a convincing explanation for this empirical regularity had still not been found; on the contrary, "one only needs to observe that Frenchmen, Italians, Brazilians, and Americans still tend to treat their North-South problems as unique to their own national experience with economic growth" [Williamson 1965: 3]. What must we expect, then, in the course of economic development? The income convergence of regions? If so, in what way and at what pace? If not, why not? Williamson answered by hypothesizing an upside-down U-shaped curve: *(a)* regional inequalities increase in the first stages of industrialization, when the nascent industries tend to concentrate in certain regions rather than in others, and *(b)* they decrease over the following decades owing to a series of mechanisms (labor and capital flows as well as the national government's economic policy actions) which favor the spreading of industrialization in the country thereby redressing income disparities between regions. The analysis made in this section shows that, in the Italian case, Williamson was right. At least, up to a point.

The empirical exercise we shall now illustrate consists of dividing the country into two parts: the centre-north and the *Mezzogiorno* (which we shall refer to as North and South for the sake of brevity). The territorial inequality observed at national level in a given year may be considered as the result of two very different phenomena: 1) on the one hand, there may be great inequality in per-capita GDP *within* each area (for example,

the southern regions could be very different from one another); 2) on the other, it may be that there is a good degree of homogeneity of regional GDPs within the areas concerned, but with a great imbalance *between* the average GDP of the two macro-areas (North and South are homogeneous within themselves, but the North is richer than the South, on average). Both kinds of inequality go to determine total, national, inequality, but typically to varying degrees over time. By basing our calculations on the new estimates of regional GDP (section 6), we get the results reported in Figure 6, in which we reconstruct how the relative importance of the two components varies over time.

The results emerging in Figure 6 are crystal clear. In the period going from the country's unification to World War II, total inequality (measured by the height of the bars) increases, in full agreement with Williamson's position. In this phase, the effect of the component within the two macro-areas is dominant (the green portion of the bar): in the latter decades of the 19th century, over 80% of total inequality is explained by the inequality *inside* the North and the South. However, over time, total inequality increases, above all, because it is nurtured by the inequality found between the two macro-areas (the gray portion of the bar). Inequality between North and South proceeds at a fast pace and takes on greater weight from one decade to the next: on the eve of World War I, this component explains about 30% of total inequality, while on the eve of World War II, almost 50%. Between 1931 and 1951 there is a huge break: the North-South divide in terms of per-capita GDP increases and becomes responsible for almost three-quarters of total regional inequality. It is this result that depicts a country which is literally divided at the middle, in terms of per-capita GDP. On the basis of the calculations shown in the figure, this break would never be made good again.

Figure 6. The great polarization
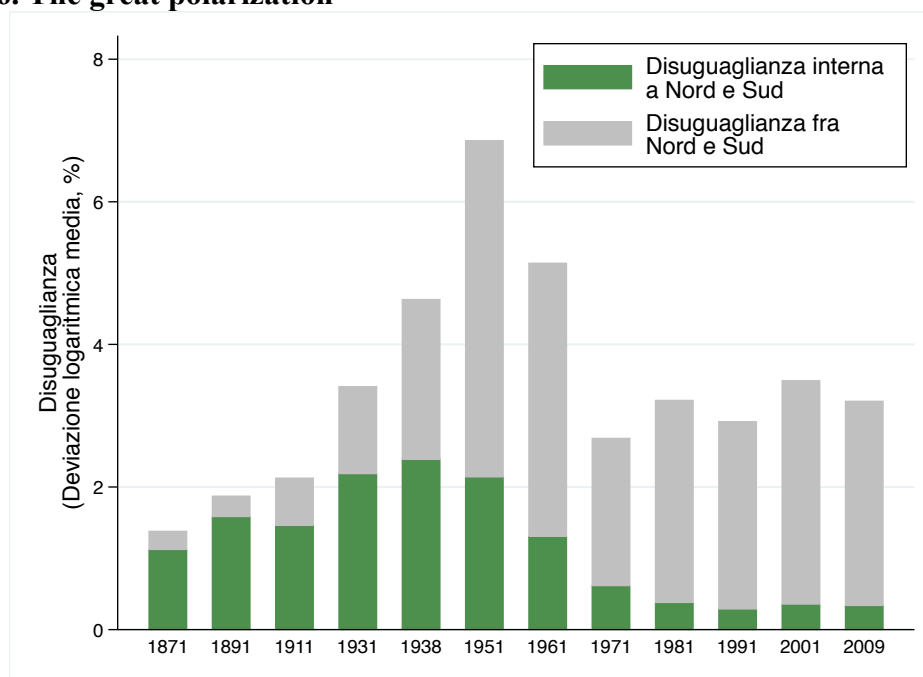
The graph shows the trend in per-capita GDP inequality of the regions (measured by the height of each bar) over time (horizontal axis). The higher values of the index (the mean log deviation) correspond to greater inequality. The two colors in each bar stand for the two components of total inequality: the gray portion measures inequality resulting from the average difference in per-capita GDP *between* Centre-North and South of the country, while the green portion measures the inequality found *inside* each macro-area.

As of 1951, inequality *between* the two macro-areas becomes the key factor – the one explaining the trend in total territorial inequality. Figure 6 shows that North and South become relatively homogeneous areas within themselves (the green portion of the bar decreases in absolute terms) and what counts in the dynamics of the North-South divide is the *average* gap that there is between the two macro-areas (the gray portion of the bar increases). The years between 1951 and 1971 are the only ones in which the two extremes of the country come closer, also thanks to the regional development policies we recalled in section 5.

Since 1971 the word which sums up the whole story of regional GDP is "polarization": as of 1971, the territorial inequality *between* North and South shows high levels and growth over time (which also indicates the simultaneous distancing of the two macro-areas, increasingly more cohesive within themselves, but ever more distant from one another), while inequality inside the two macro-areas shows low levels and a decreasing trend (indicating a great and growing homogeneity of the regions belonging to each macro-area).

To answer the question posed at the start of this section, we can say that Williamson was right, but only up to a point. In Italy's case, during the initial stages of industrialization we note a growing disparity in average regional incomes. Once industrialization begins to spread, we do indeed find the convergence predicted by the model, but this is a singular episode found only in the twenty-year period 1951-1971[20]. This convergence soon disappears, never to return, and it does not even appear on the horizon, judging by the trend over the last forty years: since 1971, regional disparities have increased, albeit in a fluctuating manner.

8. The GDP of the Italians compared to the rest of the world

According to the estimates found in the Total Economy Database (TED), between 1870 and 2011 Italy's GDP per head increased twelve-fold – a result that is better than the average figure for the twelve countries making up western Europe (whose per-capita GDP increased eleven-fold over the same period). Italy managed to do better than the

---

[20] We must not forget that our analysis here refers to the North-South divide. As we saw in section 6, convergence, instead, continued within the centre-north macro-area with regard to the north-eastern and central regions.

United Kingdom (7-fold), kept up with France and Germany (12-fold), but increased its gap with the United States (13-fold). It fared worse than Spain and Greece (14- and 16-fold, respectively), and with regard to some Scandinavian countries (Norway and Finland increased their incomes 21-fold in the same period, while Sweden 19-fold), not to mention Japan and South Korea (whose per-capita GDP rose 30- and 37-fold, respectively). If we look at the long-term picture, Italy has good reason to feel satisfied with its own performance. Rossi, Toniolo and Vecchi (2011) wondered whether post-unification Italy could have done better, but concluded that, at least with regard to GDP, Italy positively surprised many observers, of those times and of today, both Italian and foreign.

Figure 7 focuses on the post World War II years: these are the years in which the Italians, in the space of two generations, completed the country's reconstruction and their road to wellbeing. The question we now ask ourselves is the following: how does Italy's post-war economic growth compare with that of other countries? For example, if we compare Italy's performance with that of the United States, how does our view of the Italian GDP trend change? We can ask the same question if, instead of a single country, we refer to the European Union of 15 countries (EU15), or the 34 countries belonging to the OECD, or even the whole world economy.

The features of Italy's "relative growth" are given in Figure 7. Let's start by examining the starting conditions. In 1950 the gap between the average income of the Italians and that of the Americans was huge: per-capita GDP in Italy was a little over a third of the US figure, more or less the same gap separating Italy's current figure with that of, say, Peru or Tunisia. Italy was also significantly poorer than the average of the European countries making up EU15: by equating the latter's per-capita GDP to 100,

Italy's GDP per head did not go beyond 75. Compared to the world average, the Italians instead had a considerable income advantage estimated at 67% (in this case, we need to look at the right-hand vertical axis of the figure). The years going from 1950 to 1973 are the "golden years" of western Europe since a general stability of macroeconomic indicators (acceptable inflation and limited cyclical fluctuations) went hand in hand with extraordinarily high growth rates [Toniolo 1998: 252]. The reconstruction in Figure 7 shows that while Europe grew rapidly on the whole, in the same years Italy managed to grow at an even faster rate (this is how to interpret the upward section of the black curve in Figure 7). The twenty years concerned, not surprisingly, have gone down in history as the miracle years[21].

Figure 7. The rise and fall of per-capita GDP, 1950-2011.

---
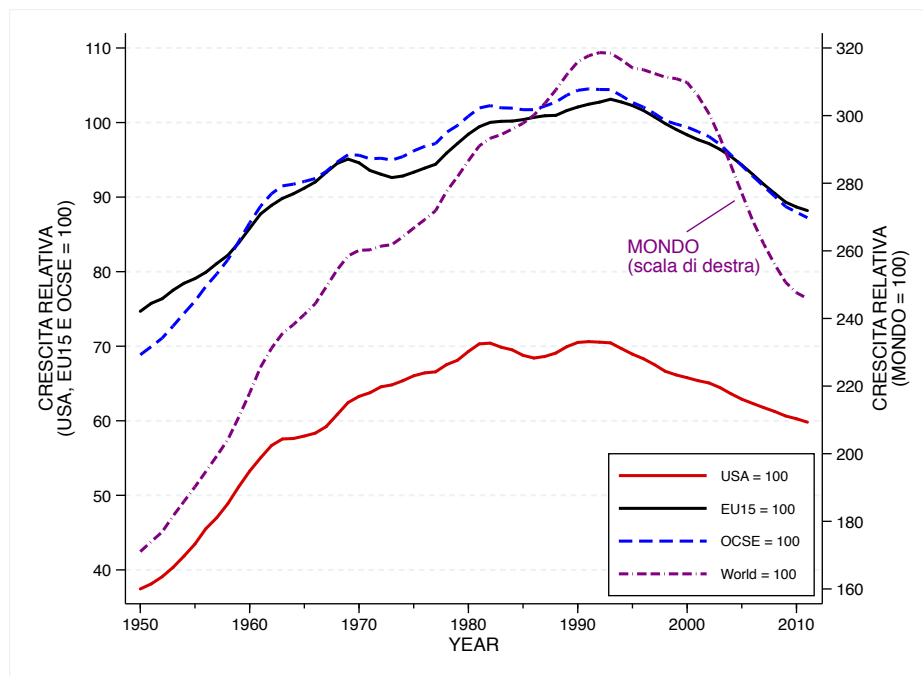
[21] According to the calculations made by Crafts and Toniolo (2010: 301), Italy's growth rate in 1950-1973 was significantly higher than that of any other European country except Portugal, Greece and Spain. For an economic history of the "Italian miracle", see Crainz (2005) and Crafts and Magnani (2013).

The graph compares Italian per-capita GDP growth with that of the United States (red line), with the average figure for the European Union of 15 countries (EU, black line), with the OECD average (blue line) and with the world average (purple line). The curves are interpreted as follows: a value of 100 means that the Italian per-capita GDP is the same as the one of the country or group of countries of reference (for example, this is the case with the EU15 and OECD countries around 1980); values below 100 mean that Italian per-capita GDP is lower than the country or group of countries of reference (this is the case with the United States throughout the period concerned); Similarly, values above 100 mean that Italian per-capita GDP is higher than the one of the other country or group of countries considered (this is the case when compared to the world average per-capita GDP).

The capacity to catch up with the EU15 (and even more so with the USA) slackened in the latter half of the 1970s, but did not halt: with the start of the 1980s, Italy finally caught up with the EU15 average (the average income of the Italians equaled the EU15 average in 1980). Throughout the 1980s, Italy proceeded at a pace only slightly above that of other countries (European ones and the US), but starting in 1992 it started to fall behind, firstly imperceptibly so but then at an increasing rate. If we equate the average income of the EU15 countries to 100 in 2011, then the income of the Italians in the same year stood at 87: the Italy-EU15 gap in 2011 was the same as the one recorded in 1961. In just a couple of decades (1992-2011), Italy jumped back fifty years compared to the rest of Europe.

A final remark concerns the growth of the countries making up the "world" group (purple curve, measured along the right-hand axis in figure 7). Figure 7 shows an upward trend with a turning point around the years 1991-1992: this means that during the first 40 years (1950-1992), Italian growth was systematically faster than that of the whole world (Italy grew at an average annual rate 3.5% faster than the average of the other countries). In the following two decades (1992-2011) not only was there an inverse trend, with Italy

growing less rapidly than the rest of the world, but this happened at an increasing rate (every year, on average, Italy grew at a 4.4% lower rate than the other countries).[22] Technically, the diagnosis seems to be that of a country in decline.

9. From the centre to the periphery

Over the one hundred and fifty years or so since the country's unification, Italy managed to bridge the gap – in terms of average national income – with the most advanced European countries of the time of unification (1861) – Britain, France and Germany. From the periphery, the Italians reached the centre, accomplishing a feat that few would have betted on, and on which nobody had ever harbored any expectations. In 1916 Louis Bonnefon Craponne, a brilliant French industrialist and first president of *Confindustria*, published *L'Italie au travail,* a wonderful little book whose very existence was recalled to our attention by Marcello De Cecco (2013). Craponne tells of French incredulity in learning that the Italians had not only started to produce automobiles, but had even begun taking part in the first car races of the times: "La première apparition de ces machines inconnues avait été accueillie par des sourires passablement ironiques. Quoi? on construisait des autos en Italie? Et ces fabriques – sans importance certainement osaient se mesurer avec nos Renault, nos Panhard nos de Dion? Passe encore l'Allemagne et ses Mercedes, mais l'Italie!..." (Craponne 1916: 114). Over fifty years had gone by since the birth of the new Kingdom of Italy and the observers of the day were still unable to update

---

[22] This pattern is *not* the consequence of the "China effect". If we compare Italy's relative growth with the rest of the world, after excluding the most dynamic and demographically important countries from the latter (Brazil, India and China), the conclusions reported in the text do not change: between 1950 and 1992 Italy grew faster than the rest of the world (+2.4% a year, on average), while between 1992 and 2011 it grew less rapidly (-0.9% a year).

the country's image from the European champion of backwardness to one of a country well on its way to modern economic development.

The GDP estimates presented in this chapter have reconstructed the process with which the country accomplished its transition from a pre-industrial rural economy to an advanced economy belonging to G8, the organization of the eight major industrial powers of the world. Stagnation gradually gave way to growth. The population increased from about 26 million in 1861 to 60 million in 2011; the country's total GDP increased almost 30-fold. Generation after generation, the children have managed to enjoy better living conditions than those of their parents: today, average per-capita income is almost 13 times what it was at the time of Italian unification.

The process has been a discontinuous one, however, and the country has remained deeply unequal inside its borders. During the first century of its existence, the economic system grew slowly, to then accelerate after World War II, when it literally leaped ahead. Not surprisingly, there was talk of an "economic miracle". The miracle did not, however, cancel the line dividing the north and south of the country, an original feature of the Kingdom of Italy. The empirical evidence presented in this chapter shows that integration (or convergence, if preferred) has been the exception rather than the rule, and was only seen in the space of two decades (1951-1971); the remaining one hundred and seventy years were marked by divergence or immobility. The last twenty years have seen Italy's per-capita GDP stop growing, while economic inequalities and the poverty indicators have started to rise. This has naturally nurtured fears of failure, of decline [Toniolo and Visco 2004; Tremonti 2008].

Not all analysts share these apprehensions. Some defend irreducibly optimistic theses: "On what principle is it that, when we see nothing but improvement behind us, we

are to expect nothing but deterioration before us?" [cited in Supple 1994: 442]. The point

was made in another context (the British one) and in another time (early 19th century), but

it expresses a very topical view: is it not, perhaps, the habit of generations of every epoch

to look back on the past with nostalgia, to complain about how things are going in their

own times, and to paint a black picture of the future? If contemplating the past in order to

find comfort with regard to the future is an old and licit activity, it is also an exercise that

is quite groundless, scientifically speaking. History does not lend itself to mere

extrapolation. The question we thus ask ourselves, as a sort of conclusion, is whether, by

analyzing the ultra-centennial historical series of Italian GDP, Italy can be considered a

country in (relative) decline. The answer which emerges from Figure 8 is – without any

reasonable doubt – a yes.

Figure 8 – From the periphery to the center, and back again.
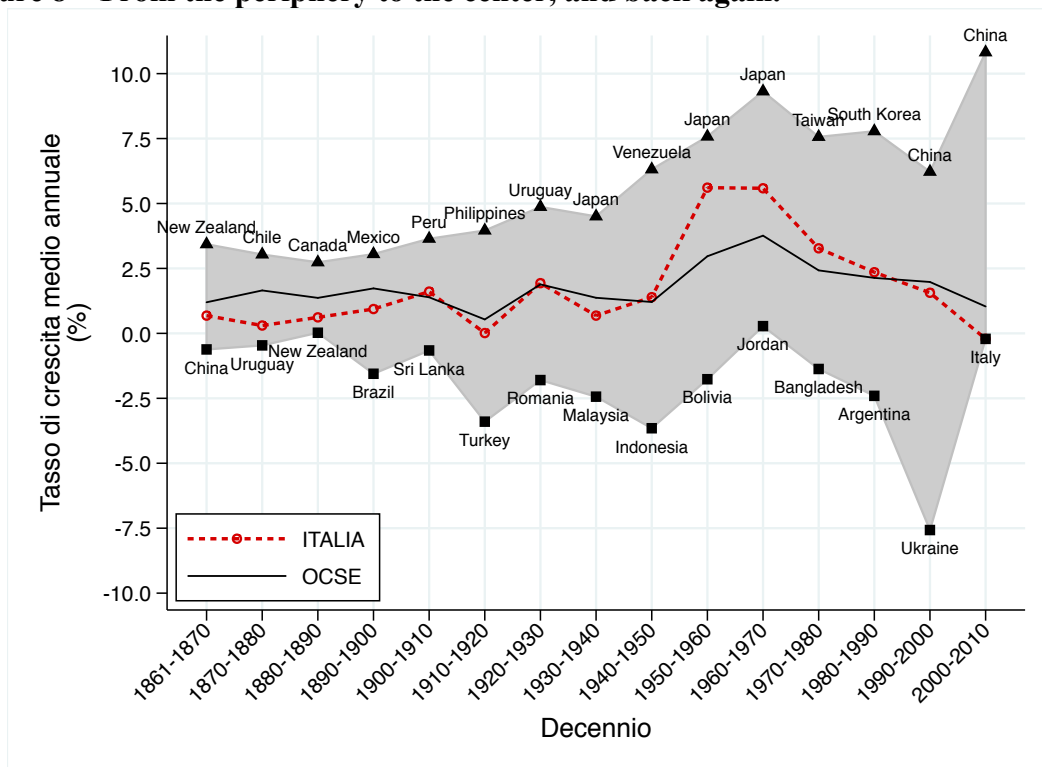
The graph compares per-capita GDP growth rates (average rates in the decades shown on the horizontal axis) for the countries of the whole world (excluding countries of sub-Saharan Africa and the oil-based Middle-Eastern economies). Italy's relative economic decline started in the 1990s, but came out with all its drama in the following decade.

Figure 8 has the ambitious task of comparing Italy's economic performance with that of *all* the other countries of the world (or, rather, all those countries for which we have reliable per capita GDP figures) over the 150 years since the country's unification. The figure is rather complex and needs some explanation. Let's start with the first decade considered on the horizontal axis of the graph (1861-1870): after working out the (average annual) growth rate of per-capita GDP for all the countries in the decade concerned, we have indicated *(a)* the growth rate of the country which grew *more* quickly (on average, over the decade) and *(b)* the growth rate of the country which instead wins the wooden spoon for the slowest growth in the same decade. Specifically, the two countries concerned are New Zealand (the best) and China (the worst). Between these two extremes we have shown Italy's position (the small red circle). By repeating this procedure for all the decades, from first (1861-1870) to last (2000-2010), we get a corridor (the gray band) with a floor which represents the frontier of those countries which grew more slowly in each decade (the "laggards' frontier") and a ceiling representing the frontier of those countries which grew the fastest (the "front-runners' frontier"). The red line shows the trend for Italy over the period concerned, which can be compared with the OECD average (black line).

Analyzing Italy through the lens of growth rates gives us all the information we need in order to take a perspective in the debate on the country's relative decline. The main "facts" can be quickly summarized. Firstly, the new Kingdom of Italy, which was

born poor in 1861, grew below the OECD average over the following forty years since it was unable to fully exploit the advantages of its own backwardness [Abramovitz and David 1996; Toniolo 2013]. Secondly, during the first decade of the 1900s, Italy managed to align its own growth rate with the OECD *average*: growth in the Giolitti years (1900-1910), which was considered "exceptional" according to domestic standards, was nothing of the kind once we compare the country at an international level. Thirdly, once having reached the growth rate of the OECD countries, for many decades Italy managed to do little more than "grow with the average". This was the case for the whole first half of the 20th century. Fourthly, we find a real leap in the years 1950-1970: this marks an extraordinary phase in which the country comes closer, albeit not too much, to the front-runners' frontier. For as many as two decades, the country would keep up an annual average growth rate of 5%, but would then have to slow down its pace and fall behind. Part of this slowdown is quite normal: it is not easy to "stay at the forefront", while it is easier to grow by starting from a position behind the frontline, having the advantage of being able to emulate the frontrunners. However, figure 8 does not seem to convey Italy's difficulty in staying close to the frontier of the virtuous countries, but rather its inability to avoid slipping behind towards the frontier of those countries incapable of growing. This is the fifth and final "fact" to emerge from Figure 8. Since the 1980s the country has embarked on a phase of relative decline: the red line cuts the black line "from above" and enters negative territory: this means that Italy has not only slowed down its GDP pace more markedly than that of the OECD country average, but has actually embarked on a regression process (the per-capita GDP growth rates become negative) – something not found at all with the OECD countries. The decline consolidated in the following decades (in the 1990s the red line continued to diverge from

the black one and headed towards the laggards' frontier) until it shamed the country by coming last in the world ranking: it is Italy that has the worst average growth rate *in the world* for the years 2001-2010.

Although a relative decline is a necessary, but not sufficient, condition for achieving an absolute decline, an analysis of the trend in the per-capita GDP series makes us feel that Italy has embarked on its return journey towards the periphery. Caution is the watchword, here, since we lack a suitable temporal perspective in order to judge whether the malaise is temporary, albeit prolonged, reversible or irreparable. There is also the hope that the Italians can be capable of an admirable "burst of pride": it has happened before and we cannot exclude it happening again [Toniolo 2013]. If, however, the evidence concerning GDP that we have discussed in this chapter is interpreted along with the trend seen in other socioeconomic indicators, and with the whole political system and civil freedoms, then what comes to light is the country's structural weakness which does away with our many hesitations. It does not take much more to conclude that the Italian institutions, by not adjusting to the changing reality, are responsible for the current decline – a decline that is only a relative one, for now.

Appendix – Sources and Methods

Figure 1 – Italy's GDP, 1861-2011. These are the sources*: Industry*: Fenoaltea [2005] for the years 1861-1913, along with estimates by Fenoaltea [1992] for 1911, by Fenoaltea and Bardini [2000] for 1891, 1938 and 1951, by Felice and Carreras [2012] for the years 1911-1951. *Agriculture*: Federico [1992] for 1911, [2000] for 1891, 1938 and 1951, [2003b] 1861-1911. *Services:* Zamagni [1992] for 1911, Zamagni and Battilani [2000] for 1891, 1938 and 1951, Battilani, Felice and Zamagni [2011] for 1861-1951. *Credit*, De Bonis et al. [2011]. For 1970 we used estimates by Picozzi [2012] concerning resource accounting and allocation.

With regard to method, reconstruction of the GDP series was carried out by means of two consecutive steps. Firstly, we calculated the series of the added value of the various economic sectors for the years 1861-1970, on the basis of estimates already available for the benchmark years 1891, 1911, 1938 and 1951, to which we added the new estimates for 1970 produced by Picozzi and those for 1871 worked out by the joint Bank of Italy, Istat and Tor Vergata research group (BIT, see section 4). The years between the various benchmarks were obtained via interpolation by means of several Istat-Fuà series contained in Vitali [1969] and Istat [1973]. The interpolation method is based on correcting the growth factor of existing series in order to guarantee satisfaction of the initial and final condition on the levels of the variables considered: the interpolated series must thus be manipulated so that it can pass through the benchmark years. In more rigorous terms, let $X_0, \ldots, X_T$ be the series relating to the variable concerned X in the interval [0, *T*]. If $\hat{X}_0$ $\hat{X}_T$ stand for more updated estimates for years 0 and *T*, the problem is one of reconstructing the trend of X along the entire interval considered, in order for it to be consistent with the new information available. This reconstruction, however it is carried out, involves changing the growth profile of the variable concerned compared to the implicit one of the series $X_0, \ldots, X_T$. A possible solution consists of applying a time invariant correction coefficient to the growth factor

$$f_t = \frac{X_t}{X_{t-1}}$$ (con $t = 1, \ldots, T$) of the original series X. In this case, the new series is given by the

expression $\hat{X}_t = \hat{X}_{t-1} \cdot f_t \cdot \alpha,$ with $\alpha = \left(\frac{\hat{X}_T}{\hat{X}_0} \cdot \frac{X_0}{X_T} \right)^{\frac{1}{T}}$, and keeps the cyclical trend of the variables used

for the interpolation. The method described is applied each time to the reconstruction of the series at current prices, constants and/or of the implicit deflators, according to the needs posed by the availability and reliability of existing series in the various time intervals lying between the benchmark years. Once the various series of the added value of agriculture, industry and services are obtained, these will then constitute the basis for calculating GDP for the period 1861-1970. However, since this calculation is based on statistics constructed according to previous accounting rules and conventions to the ones in use since 1974, with the introduction of the European System of Accounts (ESA, the European version of the System of National Accounts), it requires a further step in order to be compatible with the GDP series calculated by the Italian institute of statistics, Istat, for the years 1970-2011. This second step is carried out by interpolation of the benchmark relative to 1951 with official data of 1970 (ESA), by using the cycle of the pre-ESA series from 1951 to 1970. Baffigi [2011] provides greater details on the whole procedure.

Figure in Box 3 – A very long-term look, Italy 1300-2011. The series is obtained by bringing together estimates by Malanima (2006) with data from the Conference Board Total Economy Database (2012).

Figure 2 – Italy's relative growth, 1950-2011. Our calculations based on data from the Conference Board Total Economy Database (2012).

Figure 3 – GDP, institutions and technology. Our calculations based on the series of Italian GDP 1861-2011, according to the sources and methods described at the foot of Figure 1.

Figure 4 – The great Italian divergence: GDP and the regions, since 1871. For the years 1871-1951, the regional estimates are obtained by dividing the new estimates of national GDP by regional employment and then correcting the results with the nominal wages per region that approximate the differences in productivity per worker. This procedure, formalized by Geary and Stark (2002), is widely used also internationally and is based on the assumption that capital gains are distributed along the lines of incomes from labor, that is to say, that the elasticity of substitution between capital and labor is equal to one. The method is all the more effective the higher the degree of sector decomposition . In our case, for the four original benchmark years of 1891, 1911, 1938 and 1951, we can refer to an exceptionally high level of detail unparalleled in other countries: the workforce separately considers also data on women and child labor, and is divided by quite a broad number of sectors (for industry and the services, about 130 sectors in 1891, 160 in 1911, 400 in 1938 and 100 in 1951); the wage data have an identical sector decomposition in 1938 and 1951, less detailed but still high in 1891 (30 sectors) and 1911 (34) – Felice (2005a, 2005b).

The estimates for 1871 and 1931are less detailed, a little over twenty sectors in both cases (Felice 2009a). For 1871, given the lack of data on wages for the tertiary sector, the productivity of services is estimated by assuming that in every region the ratio between the productivity of individual branches of the services and industry as a whole were similar to that of 1891. In all the benchmarks, a different procedure was used with regard to agriculture. This was based on the direct reconstruction of saleable gross production: worked out by Federico (2003) for the years 1891, 1911, 1938 and 1951, or reconstructed from scratch by means of official sources for 1871 (Felice 2009a) and 1931. With regard to a part of the industrial sectors from 1871 to 1911, we used the new estimates produced by Ciccarelli and Fenoaltea (2009), based on employment and wages, but in some cases also on industrial plants and direct production data (for the results of the revision of the estimates of 1891 and 1911, and a comparison of the various hypotheses, see Felice (2009b, 2011): the latter estimates were also used for revising regional production by sector in 1891, necessary for the 1871 estimate.

Figure 5 – The great polarization. North and South of Italy do not converge. The decomposition of regional income inequality follows the method described in Shorrocks (1980).

Figure 6 – From the periphery to the centre and back again. The countries considered are the ones found in the Conference Board Total Economy Database (consulted in October 2012), except for sub-Saharan African countries, the oil-based economies (mostly in the Middle East) and countries with a population below one million people. For certain countries and certain years it became necessary to reconstruct the GDP trend by log-linear interpolation. The title of the graph is an expression taken from Marcello De Cecco (2000: 119).

Statistical Appendix

Table A1. Per-capita GDP, Italy 1861-2011.

year	Per capita GDP current prices (Euros)	constant prices 2010 (Euros)		Per capita GDP current prices (Euros)	constant prices 2010 (Euros)		Per capita GDP current prices (Euros)	constant prices 2010 (Euros)		Per capita GDP current prices (Euros)	constant prices 2010 (Euros)
1861	0.170	2022	1901	0.217	2629	1941	3.018	3936	1981	4313.660	18168
1862	0.171	2048	1902	0.216	2671	1942	3.733	3693	1982	5087.254	18228
1863	0.167	2097	1903	0.224	2695	1943	5.063	3115	1983	5919.642	18429
1864	0.166	2100	1904	0.225	2742	1944	9.883	2506	1984	6767.965	19022
1865	0.177	2227	1905	0.233	2798	1945	18.282	2243	1985	7592.535	19547
1866	0.187	2223	1906	0.254	2893	1946	40.837	3014	1986	8393.091	20102
1867	0.177	2030	1907	0.271	2945	1947	78.341	3564	1987	9182.000	20745
1868	0.187	2071	1908	0.267	3007	1948	91.631	3814	1988	10200.697	21610
1869	0.179	2098	1909	0.275	3031	1949	96.116	4111	1989	11192.059	22326
1870	0.181	2150	1910	0.285	3034	1950	107.895	4423	1990	12370.755	22766
1871	0.182	2102	1911	0.313	3067	1951	127.097	4812	1991	13495.779	23095
1872	0.193	2055	1912	0.327	3070	1952	136.653	5005	1992	14191.303	23262
1873	0.214	2044	1913	0.340	3214	1953	150.860	5336	1993	14602.954	23036
1874	0.217	2150	1914	0.322	3039	1954	160.146	5498	1994	15441.083	23523
1875	0.186	2161	1915	0.352	2886	1955	175.446	5835	1995	16665.468	24187
1876	0.182	2109	1916	0.497	3124	1956	190.270	6082	1996	17658.401	24452
1877	0.203	2122	1917	0.712	3134	1957	203.650	6391	1997	18439.408	24896
1878	0.201	2175	1918	0.985	3055	1958	218.263	6712	1998	19178.867	25232
1879	0.192	2181	1919	1.086	2932	1959	230.717	7141	1999	19805.109	25599
1880	0.202	2216	1920	1.528	3002	1960	249.267	7596	2000	20923.816	26538
1881	0.199	2283	1921	1.533	2900	1961	278.251	8149	2001	21921.224	27003
1882	0.204	2310	1922	1.617	3111	1962	310.627	8639	2002	22725.753	27110
1883	0.194	2332	1923	1.731	3366	1963	354.709	9097	2003	23296.036	26950
1884	0.187	2296	1924	1.744	3426	1964	387.213	9365	2004	24038.216	27095
1885	0.198	2330	1925	2.141	3629	1965	413.553	9692	2005	24451.269	27005
1886	0.207	2381	1926	2.275	3626	1966	447.597	10253	2006	25282.282	27419
1887	0.199	2442	1927	1.982	3529	1967	493.104	10963	2007	26148.211	27647
1888	0.196	2429	1928	1.985	3718	1968	531.343	11677	2008	26296.210	27058
1889	0.203	2355	1929	2.010	3874	1969	584.212	12371	2009	25309.360	25464
1890	0.211	2356	1930	1.757	3669	1970	656.929	13051	2010	25668.011	25668
1891	0.210	2388	1931	1.551	3596	1971	713.262	13221			
1892	0.196	2390	1932	1.445	3647	1972	777.927	13650			
1893	0.193	2428	1933	1.312	3577	1973	932.882	14520			
1894	0.188	2442	1934	1.304	3539	1974	1175.816	15220			
1895	0.198	2461	1935	1.433	3701	1975	1337.881	14803			
1896	0.200	2498	1936	1.474	3542	1976	1674.405	15774			
1897	0.200	2502	1937	1.841	3866	1977	2025.162	16103			
1898	0.203	2492	1938	1.992	3947	1978	2373.172	16560			
1899	0.209	2520	1939	2.180	4157	1979	2893.640	17490			
1900	0.213	2586	1940	2.553	4040	1980	3606.815	18045			

Source: our estimates. The per-capita figure was calculated by using the *resident* population within today's borders. To calculate total GDP, just multiply per-capita GDP by the resident population according to Istat (2012) data.