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Italian National Accounts, 1861-2011

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Italian National Accounts, 1861-2011

A project of Banca d'Italia, Istat, University of Rome "Tor Vergata"

Alberto Baffigi*

Abstract

A great deal of new quantitative research has been produced over the last three decades which has radically changed the received interpretation of Italian economic development. Against this backdrop, the Bank of Italy, Istat and the University of Rome "Tor Vergata", together with academics from other institutions, developed a project to estimate new historical national accounts time series. Our reconstruction covers the 150 years following the political unification of Italy and is based on the most up-to-date results in the literature. It provides estimates of supply and uses at constant and at current prices. The documentation could not be reported fully in the following few pages. The details will be presented in full in a book to be published in the coming months, co-authored by all who contributed to the enterprise. In this paper I draw a general picture of the new time series. I focus on historically significant periods, using them as case studies in order to illustrate some features of the new data, both technical and substantial. A detailed, if incomplete, methodological account of our work is given in the appendices.

JEL Classification: C82, N13, N14
Keywords: Italy, National Accounts, Historical data reconstruction

Contents

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1. Introduction[1]

A great deal of new quantitative research has been produced over the last three decades which has radically changed the received interpretation of Italian economic development as described by the old national accounts reconstructions. Against this backdrop, The Bank of Italy, Istat and the University of Rome "Tor Vergata," together with academics from other institutions, developed a project to estimate new historical national accounts time series. Our reconstruction covers the 150 years period following the political unification of Italy and is consistent with the most up-to-date results. We obtained a new GDP series as well as supply and demand side estimates. For the supply side, value added at factor cost for eleven sectors and GDP at market prices have been estimated; for the demand side, public and private consumption and three categories of investment goods are provided. All the time series are at current and constant prices. Hence, sectoral and aggregated deflators are available for the whole of the 150 years.

This paper presents the new dataset. The statistical material is broad and it is based on a very large amount of methodological details that could not be reported fully in the following pages. They will be presented in detail in a book to be published in the coming months, co-authored by all who contributed to the enterprise.

It is worth recalling some of the advantages of organizing the whole corpus of Italy's quantitative economic history in a single framework, built on modern national accounts concepts.

First, it is a prerequisite for a thorough, complete and consistent interpretation of the whole of Italian economic history since Unification; international comparisons benefit from such a reconstruction, too. The quantitative sources used to reconstruct the time series are fragmentary by nature; their heterogeneous origins and quality could, in principle, prevent their use as sources for a consistent interpretation of the 150 years of Italy's economic history. The study of a country's economic evolution requires the availability of consistent statistical material over a long time span; many features of the economic system need to be cross-examined. In some ways an effort of translation is required to make all the available sources and results speak the same language, that of national accounts. Indeed, our work is an exercise in translation and, like all translators, we were faced with numerous options and we had to make many choices.

Second, ensuring transparency and accessibility to our data and calculations is a tenet of this project. A prerequisite for such a broad and complex exercise in connecting and

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[1] I have worked on the "150 anni" national accounts project both with my own research and as coordinator of the group. This explains the birth of this paper, which builds upon joint work with Alessandro Brunetti and, for investment estimates, with Massimiliano Iommi. As usual, the opinions expressed are my own. My thanks go to Gianni Toniolo, who encouraged me from the outset of the project, providing insightful comments and sound advice. I also wish to thank Alfredo Gigliobianco for his valuable suggestions and Giovanni Vecchi for his contribution as a "shareholder" in the enterprise. Luisa Picozzi and Susanna Mantegazza assisted with invaluable professional advice. Giovanni Federico provided stimulating comments; I am also grateful for providing me his unpublished agriculture data. Paolo Sestito has contributed with his penetrating questions. As of today, Claire Giordano and Francesco Zollino, have been the most challenging users of our data. Much of my work could benefit from Ivan Triglia's great help, and for the 1871 benchmark also from his co-authoring collaboration. I was also pleased to collaborate with Patrizia Battilani, Riccardo De Bonis, Fabio Farabullini, Emanuele Felice, Ferdinando Giugliano, Miria Rocchelli, Alessandra Salvio and Vera Zamagni. Finally, despite my longstanding work experience with "Biblioteca Paolo Baffi" staff, I keep on being impressed by their professional standing and kindness.

homogenizing various and assorted statistical material is a systematic inventory of all primary and secondary sources, and this is an important by-product of our efforts. Our methodological choices and all primary and secondary sources are documented in this paper, with additional details supplied in the forthcoming book. Our aim is to make all data and documentation easily accessible to scholars and students and we regard our work as an "open source" enterprise. Replicability and detailed documentation are important new features of the data presented and have not always been the objective of earlier reconstructions.

The quality of the data used in the national accounts reconstruction is generally very high according to international standards. Indeed, in building our project we stood "on the shoulders of giants" as many of the results we worked on were from studies published in major international journals by scholars such as Giovanni Federico, Stefano Fenoaltea and Vera Zamagni.

We followed a two-layer approach. The first layer contains the input of our work, the second is national accounts reconstruction in action. The first layer involved collecting and extending the results on different sectors obtained with different methodologies in different moments by different authors. More research was needed, however, before we could proceed to make national account estimates. Some of the results forming the overall picture are part of this project, namely the new estimates of value added in services from 1861 to 1951 by Battilani, Felice and Zamagni (2011); the bank sector value added (1861-2010) estimated by De Bonis, Farabullini, Rocchelli and Salvio (2011); industrial value added between 1928 and 1938 by Giugliano (2011) and the new benchmark for 1871 by Baffigi, Battilani, Felice, Triglia and Zamagni (2011). In the first part of Section 2, a very brief survey of the first layer is sketched (see also Figure 1). Appendix 1 provides short abstracts of the original "first layer" research included in the project.

This is mainly a paper about the second layer of the research which aimed to reconcile and connect all the available results within national accounts concepts and definitions.[2] All the inputs had to square in order to give shape to the national accounts time series. Some methodological details are provided in this paper only for the second layer of the project (Appendices 2 to 5, which should not be read before Section 2). Appendix 6 explains the methodology behind our estimates of GDP at Geary-Khamis 1990 international dollars in order to perform international comparisons along the lines traced by Angus Maddison. Section 3 is an overview of the new time series over the 150 years of Italian national life. Sections 4 and 5 are case studies: they show some historiographical implications of our data, respectively for the fifty years after Unification (the industrialization years) and for the interwar years. Some reflections are set out in the concluding section.

[2] Baffigi and Brunetti worked at the second layer. Massimiliano Iommi (Istat) joined the project to contribute to the demand side estimation.

2. Earlier studies and a sketch of our methodology

Earlier studies

The first complete system of national accounts conceived as a support for Italian economic history research was developed by Italy's National Statistical Agency (ISTAT) and published in 1957,[3] early by international standards. Istat's estimates were further developed during the 1960s by the Ancona group led by Giorgio Fuà, with a central contribution by the statistician Ornello Vitali. Though an important pioneering effort, these attempts unfortunately failed to fully meet some of the basic requirement for scientific work, such as transparency and replicability: a common feature of such early studies was their scanty documentation. Moreover, some historiographical inconsistencies sparked a mild scepticism about the data among scholars. Despite these reservations, however, the data were widely used by Italian and foreign scholars. A new edition of Fuà's book, containing only minor changes, was published at the end of the 1970s.[4] In the meantime a new empirical research strategy had been pursued for some years by Stefano Fenoaltea, who used a large array of new historical sources with acumen and originality. This work led him to produce new estimates of disaggregated industrial value added at constant prices for 1861-1913 (Fenoaltea 2006). Albert Carreras, in his PhD dissertation (1983), produced a new index of Italian industrial production from 1861 to 1980. Meanwhile, Giovanni Federico's research had produced more solid knowledge of agriculture during the first five decades of Italian life (see Federico 2003 and references therein). The production of more reliable long-term time series on Italian output was gaining momentum.

In 1990, Roberto Golinelli and Milena Monterastelli reconstructed national accounts from 1951 to 1990 in order to obtain data consistent with the most recent system of accounts (ESA 1979). In 1991, Angus Maddison reconstructed the GDP series at constant prices from 1861 to 1989, using Fenoaltea's data as well. In 1992, a team coordinated by Guido Rey and sponsored by the Bank of Italy for its centenary provided detailed national accounts for 1911: the year of the first Italian census of industry and commerce was taken as benchmark. The project involved a later estimation of other benchmark years to be used as constraint in a general reconstruction of annual national accounts time series from 1890: a 25x25 input-output matrix was estimated; supply and uses accounts at the same disaggregation level were calculated. This rather ambitious task was still far from accomplished when Nicola Rossi, Andrea Sorgato and Gianni Toniolo, searching for a measure of aggregate productivity, decided that a preliminary summing up was in order. They built upon the new and incomplete state of the art in Italian historical data and provided complete national accounts time series stretching from 1890 to 1990.

Fenoaltea was still working on his project, building other industrial production time series for other products. Moreover, between 2000 and 2002, three new benchmarks were produced by the Rey-Banca d'Italia group, namely for 1891, 1938 and 1951, while a couple of year later Fenoaltea achieved a first reconstruction of constant prices (1911) GDP for the period 1861-1913.

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[3] Istat, *Indagine statistica sullo sviluppo del reddito nazionale dell'Italia dal 1861 al 1956*, 1957. The following year Istat published *Sommario di statistiche storiche (1861-1955)*.

[4] The book by Fuà (1978) contains a statistical section prepared by Paolo Ercolani to which I refer in the following pages (Ercolani 1978).

The state of the art for Italian historical data at the time we began working on our project is summarized by the black items in Figure 1. The initial year in the new project was shifted back to the very origin of the Italian state, 1861.

Our supply side estimates

Our reconstruction strategy starts from the benchmarks, which are treated as cornerstones. We had four of them (1891, 1911, 1938 and 1951). They were conceived as the pillars of a bridge spanning from the industrialization years, at the end of the 19th century, to the much better known scene of post-World War II. After 1951, the path to the most recent national accounts was a much smoother and easier one. We wanted to extend our reconstruction to the earliest economic history of Italy so we built a new benchmark for 1871. We also wanted to get closer to the most recent years in our history so we included the new 1970 benchmark, built by Luisa Picozzi (2011).[5]

The year 1970 is the first year of the official national accounts data provided by the Italian statistical office (Istat). The data conform with the ESA 1995 standard, which is based on concepts, classifications and definitions that are quite different from the pre-ESA ones, on which the benchmarks are based. As a result, in order to obtain the 150 year-long series we had to adopt a two-step approach:

1) First, we looked for appropriate sources to interpolate the benchmarks in order to produce time series consistent with the pre-ESA standard, over the 1861-1970 period. This is the bearing structure of our project. The statistical material, the first layer of our project, is shown in Figure 1. It provides us with information about value added at current prices and/or value added at constant prices and/or implicit deflators for each sector we consider in our reconstruction. These three aggregates are obviously linked and, given two of them, the third is uniquely determined: in each case we let the least reliable be determined by the other two. For example, for the period 1861-1911 the level of Fenoaltea's industry data at 1911 prices was taken as a given, while Ercolani's (1978) implicit deflators were used to get information only about price changes and not about levels: in fact, we use them as proxies to get deflators that are consistent both with the benchmarks and with Fenoaltea's data. Thus, we can find ourselves in one of the four typical cases described in Table 6, where we explain our interpolating strategy as depending, for each sector and each between-benchmarks period, on the answer to two questions about 1) the reliability "in level" AND consistency with the benchmarks of a given current prices time series (where AND is to be understood in the Boolean sense: the answer is "yes" only if both conditions are satisfied); 2) the reliability "in level" of a constant prices time series. In this paper I treat the reliability as an open and simply intuitive concept. Full and detailed motivations will be provided in the forthcoming book. However, some specific information about our sources and methodology can be found in Appendix 2, while the simple method used for interpolating by means of proxy time series is described in Appendix 3.

2) Second, after the pre-ESA 1861-1970 reconstruction we had to connect those series with the official Istat 1970-2010 national accounts series. We decided to interpolate the 1951 benchmark with the 1970 official data (of course, not equal to the 1970 pre-ESA benchmark), using the pre-ESA estimates dynamics as a proxy. The implicit assumption was

[5] We thank Guido Rey, Sandro Clementi and Luisa Picozzi for providing us with their still unpublished work, in particular with the data concerning the new benchmark for 1970. The paper by Rey *et al.* will be published in the Bank of Italy's Working Paper series *Quaderni di storia economica*.

that the need for an update in the national accounts definitions disappeared from 1970 back to 1951. First, however, we had to solve a classification consistency problem: our eleven pre-ESA sectors were not consistent with the ESA 1995 classification on which the official Istat time series (1970-2010) are based. The definitions are very different and it is not a trivial task to homogenize such classifications. We therefore decided simply to refer to a higher level of sectoral aggregation that allowed us to find a common sector definition. Basically, we had to cope with a trade-off between the degree of sectoral detail and the length of the series: in order to obtain 150 years long series we had to lose some information concerning the 1861-1970 period.[6] Our solution is summarized in Table 3, where column 1 lists the 25 pre-ESA sectors used in the benchmarks, the second column reports the aggregated sectors used to connect the benchmarks, and the third column displays the four aggregated sectors used for the "long" series 1861-2010.[7] The main elements of our supply side reconstruction are reported in Appendix 2.

Our demand side estimates

We considered the results obtained for the supply side as constraints for the demand side estimates. In other words, we did not make independent demand side estimates reciprocally balanced with the supply side ones.[8] Given the GDP level at market prices, we obtained an estimate of total internal uses as the differences of total sources (GDP + imports of goods and services) minus external uses (exports of goods and services).[9] The various elements of internal uses, estimated independently, are then imposed to meet this constraint by consistently rescaling their sum. In the end, our demand side is made up of consumption (public and private) and some categories of investment goods (see below). For the demand side reconstruction we also moved from the estimates provided by the benchmarks, interpolated by using the indicators presented in Appendix 4. For investments, the benchmarks provide information about the amount of investment goods produced by each sector. Our aim, however, was to estimate investment series classified by categories of goods. Thus, we took the construction and mechanical engineering sectors as they evidently produce two identifiable and meaningful categories of investment goods: "construction" and

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[6] However, all results obtained and procedures used for the 1861-1970 period estimates are available for researchers, partially in the "NA150-1.0" dataset and fully in the "NA150-2.0" dataset to be released with the forthcoming book. In the last part of this section a brief description of the Excel file containing the former dataset is provided.

[7] A tedious but important technical note. The differences between the two blocks of estimates (i.e. 1861-1970 and 1861-2010) are not limited to the disaggregation levels. Other differences arise for two reasons. The first one, the most important, is related to the 1951-1970 period and is basically due to the difference between the pre-ESA and ESA 1995 values for 1970. The second reason is due to the different treatment of the "financial intermediaries services indirectly measured" (FISIM) in the two estimates. Consistently with the benchmarks, in the 1861-1970 estimates FISIM are assumed to be consumed by a conventional unit, in order to avoid double counting; in the 1861-2010, consistently with the ESA 1995 standard, they are allocated to each sector in proportion of the importance of financial services for its activity. In the 1861-1970 case, in order to obtain GDP, we have to deduct FISIM from the sum of sectoral values added; in the 1861-2010 case, GDP is exactly equal to the sum of sectoral values added. So, while the GDP level is the same in the two cases, sectoral values added are lower in the 1861-2010 estimates.

[8] In fact, in working on the demand side we could not rely on solid recent work as we had for the supply side. We therefore decided to be guided by the strongest.

[9] We estimated imports and exports of goods and services by interpolating the values of the benchmarks. Interpolations were achieved by using the data of imports and exports of goods reconstructed by Federico, Natoli, Tattara and Vasta (2011).

"plant, machinery and transport equipments," respectively. We aggregated all the other investments goods in a residual category (see Appendix 4, section 3). We ended up with three categories of investment goods: construction; plant, machinery and transport equipments; other investment goods.

As with the supply side, we started by estimating time series for the period 1861-1970, framed in the pre-ESA national accounts standard. We then interpolated the 1951 benchmark with the first (1970) official year using the growth rates of pre-ESA time series as proxies. In our main estimates, changes in inventories are not separated from fixed investments. In fact, an estimate of inventories has been made for practical reasons, but we regard it as a less robust result.[10] Similarly, we also provide a disaggregation of investment in construction.

As in the case of the supply side, we had to cope with different classifications of the series in the pre-ESA and ESA standards. In particular, while in the pre-ESA frame (1861-1970), investment in construction is divided into housing, public works and non-residential construction, in the ESA frame only housing and non-housing are reported (non-housing being the sum of public works plus non-residential construction). On the other hand, in the official (1970-2010) tables, investments are presented net of inventory variations; the total value of the latter is separately reported. Thus, in order to link our 1861-1970 estimates with the official 1970-2010 investment data, we had to use our fixed investments estimates, providing a separate series for inventories variation. Table 4, column 1, displays the investment classification used in our main estimates; columns 2 and 3 contain the more disaggregated items for 1861-1970 and 1861-2010 estimates, respectively.

Our main supply and uses estimates (1861-2010) are reported in Table 1 (current prices) and Table 2 (constant 2010 prices). In line with our "open source" philosophy, fourteen more tables are included in the accompanying Excel file (see Table 5), reporting our more important intermediate products and by-products. More information about calculations and intermediate procedures will be made available in the forthcoming book.

Our deflator estimates

Deflators were obtained for GDP and for both supply and demand side items. In our estimates, reference years vary across sub-periods and, in particular, 1861-1911 is based on 1911 prices, 1911-1951 on 1938 prices, 1951-1970 on 1963 prices, and 1970-2010 on 2010 prices. This means that, for each item (i.e. sectoral value added on the supply side; and consumption and investment items on the demand side) deflator time series are segmented by sub-period. This feature must be kept in mind when using our series at constant prices. In particular, when a base year for all 150 years is calculated, the resulting series at constant prices suffers from potentially serious non-additivity problems. On this issue see Appendix 5.

The Excel file

Our 1861-2010 supply and uses estimates are reported in Tables 1A and 1B (current prices) and Tables 2A and 2B (constant prices). All values are in million euros. Tables 1A and 1B, together, correspond to worksheet Tab_1 in the accompanying Excel file: Tab 2A and 2B to Tab_2. In line with our "open source" philosophy, the file contains 9 more tables

[10] We assumed pro-cyclicality of inventories, which were thus estimated with a common Baxter-King de-trending procedure.

(see Table 5); they report our more important intermediate elaborations and by-products. This is the "NA150-1.0" version of our dataset. Together with the forthcoming book, more information will be made available, and a "NA150-2.0" dataset version will be released.

3. The new series: an overview (1861-2010)

A broad picture of the main features of the new data is provided by the GDP time series. Figure 2 shows the log of GDP at constant prices, normalized to zero in 1861. It can be interpreted as an approximation of rates of change with respect to 1861. Given the deep trough of WWII and subsequent acceleration, the earlier events described by the series are obviously of a smaller order of magnitude. In particular, it took almost 80 years to double the initial per capita GDP: the highest GDP level since Unification was reached in 1939, one year before Italy entered the war. It doubled again in the early 1960s.

Some interesting general features of Italy's economic history can be deduced from Figure 3, which shows the growth rates of GDP at constant prices throughout our 150 years. Five broad periods are identifiable at a glance: first, from Unification to 1890 a rather erratic pattern emerges with growth rates showing alternating negative and positive signs; second, from 1890 to World War I the growth rate was sustained and always positive; third, from WWI to WWII there were very variable and sizeable variations; after WWII until the oil crisis of the 1970s, with regular and high growth rates (apart from the 1963 crisis); from the oil crisis to the present day.

These periods identify important steps in Italy's industrial development, with a different structural character and different dynamics. This character can be captured by the evolution of sectoral shares, a calculation that is now possible thanks to one of the new features introduced by our reconstruction, i.e. the estimates of sectoral value added current prices during the 150 years.[11] In Figures 4 to 6, the structure of the economy is shown for three periods: 1861-1911, 1911-1951 and 1951-1970.

In the first period, the structural change in the Italian economy, as broadly described by the shares of value added of the three large sectors, shows a basically stable share for industry, a slowly declining share for agriculture and a growth in the weight of the tertiary sector. This evolution hides an interestingly mixed contribution of changing quantities and relative prices. Again, our reconstruction of sectoral deflators (one of the new, characteristic elements of the "150 anni" national accounts database) allows us to identify quantity and price contributions to changes in shares. I will deal with the issue in the following section, referring to the period 1861-1911.

Turning to the demand side, Figure 7 shows the downward tendency of the share of total resources channelled to private consumption, with a fall during World War I and after 1929. More interestingly, Figure 8 shows the accumulation rate (investment/GDP ratio) which fluctuates around 5-6 per cent during the first decade after Unification, a value typical of a backward economy. It increases from the early 1870s until 1873 (the so-called "triennio febrile," the feverish triennium); after ups and downs around 10 per cent, it drops back to 7-8 per cent after 1887; investment activity begins to accelerate sharply at the end of the century

[11] Fenoaltea (2011) obtained reasonable estimates of the sectoral shares over the first five decades after Unification bu modifying his sectoral value added shares at 1911 prices, taking into account the 1891 and 1911 benchmarks of Rey-Bank of Italy. Estimates of the shares for the period 1861-1880 are obtained by assuming similar productivity growth in the three sectors. In fact, his ingenious estimates of the sectoral shares do not require estimates of price deflators.

until 1907. This was a year of world crisis, when Italy's accumulation rate reached a peak value that was only attained again during the "economic miracle" after World War II and then increasingly left behind until 1963, when Italy recorded a historical high.

The history of a medium-sized economy such as Italy, largely a price taker in the world economy, cannot be understood without considering its trade relations with other countries. Italy's openness to trade during the 150 years is shown in Figure 9, where the main phases of development are highlighted by waves of rising or falling the importance of external trade in economic activity.

4. Industrializing Italy (1861-1913)

Before Fenoaltea's reconstruction of industrial data for the period 1861-1913, the prevailing interpretations depicted Italian industrialization as a sudden and revolutionary structural break occurring at the end of the 19th century, the effects of which spanned the Giolitti period (1898-1913) with an interruption only during WWI. Fenoaltea's time series are the backbone of our reconstruction which thus largely shares the time profile of his time series. As shown in Figure 10, the time series of GDP at constant prices of Ercolani (1978), Rossi, Sorgato and Toniolo (1993), and Maddison (2010) show a sudden and sharp acceleration in growth around the end of the 18th century. Our new series, instead, closely follows Fenoaltea's, with a pattern of roughly regular growth along the five decades, although an acceleration occurs during the Giolitti period. This new pattern of growth introduces a completely new view in the commonly accepted historiographical perspective of Italy's industrialization. There are no more Rostowian or Gerschenkronian take-offs or big spurts. *Natura non facit saltus*, the industrialization of a country (in this case Italy) does not proceed by sudden and rapid changes.

Discontinuity seems to disappear from the picture. Is this a conclusive result? I will not try to give an answer in this paper. I would just like to point out that deflators for sectoral values added, which is one of the main novelties of our reconstruction, may widen the debate, which has so far been confined to 1911 prices time series.[12] If we assume that innovations pushed the prices of some industrial sectors down and that, for a given demand curve, growth in the output of those products is observed, then we can expect that aggregating sectoral values added with 1911 relative prices may underestimate the total growth in value added. Nothing new: we know that Alexander Gerschenkron taught economic historians about this index number problem as early as the 1950s.[13] In fact, the 1911 reference year, which is more or less located at the end of an important wave of industrialization, may bias downwards the Giolittian acceleration in the growth rate.

This intuition seems to be corroborated by using our new deflators. Deflators are weights we use to aggregate quantities, so I used different base years deflators to aggregate our eleven sectoral values added. The results of the exercise are summarized in Figure 11, where GDP estimates, from 1861 to 1911, are provided at 1871, 1881, 1891, 1901 and 1911 prices. The lines in the graph show that changes in base years produce observable effects only from the 1880s onwards; before then the change in base year does not seem to matter. If

[12] All Fenoaltea's reconstructions are at constant 1911 prices. In 1911 the first census for Italy's industry and commerce took place. See Fenoaltea (2011).

[13] Gerschenkron (1947). See also Ames and Carlson (1968), Jonas and Hardy (1970), and Scott (1952). Nicholas Crafts dedicates some important pages to this problem in his book about the British industrial revolution (Crafts 1985, pp. 17 ff.).

we take this index number bias as a measure of economic development (Ames and Carlson 1968), the preliminary analysis seems to indicate that some acceleration in the path towards industrialization already took place during the 1880s, while a second more robust wave occurred during the Giolitti period. On this point, a future line of research should aim to reconstruct deflators at a higher level of disaggregation, with special focus on the manufacturing sectors, of which we could estimate only an aggregate deflator.

Deflators can be also profitably used to get some more insight from the analysis of structural changes. In Figure 4 we note the stable share of industry over the fifty post-Unification years. Using sectoral deflators we can decompose the shares at current prices, considering both relative prices and quantity effects. Figure 12 shows that quantity tended to push up industry's share throughout almost the whole the period, while relative price movements offset the expansion in real production. Interestingly, the quantity effect is greatest in the 1880s and in the Giolitti period.

More subtly, historical time series may convey some information that is not immediately evident. Maria Elena Bontempi, Roberto Golinelli and I (2011) compare the new GDP time series at constant prices with earlier GDP reconstructions. More precisely, we focus on the possibly shared long-run properties of the different series by analysing their co-integrating relationship. Interestingly, a co-integrating relationship emerges between our GDP series and Ercolani's. Two features reconcile their undeniably different shape (Figure 10) with their sharing a common stochastic trend: first, in the co-integrating vector the long-run elasticity of our GDP to Ercolani's is significantly smaller than one (about 0.5); this means that, although the movement of the two series is propelled by the same engine, their reaction to a shock may be different and the process leading both series back to share their common long-run path is slow; second, the co-integrating relationship emerges only if we allow for a linear deterministic drift that captures the more stable growth rate of the new GDP series. In fact, if our results are confirmed, they point to old and new series sharing some common features that are worth investigating: it could turn out that the evidence conveyed by the new data are more subtly different from the old ones than would appear simply by inspecting their graphs. New research could lead to a less radical jump in the interpretation of Italy's industrializing pattern.

Some other interesting new features of our data emerge if we look at the demand side. In the old Ercolani series, private consumption per capita fell sharply during the third war of independence (1866) and then stagnated at those low levels until the end of century when a recovery led it back close to its initial level. By contrast, our new series, after a similar fall in 1866, shows a strong recovery from 1873 to 1887, when consumption per capita reached a level similar to the 1865 peak. It fluctuated around a slightly lower level until 1900, when a new strong recovery started, lasting until 1909, a new historical high (Figure 13). New features also characterize our investment series. In Figure 14 the new series of investments in plant and equipment at constant 1911 prices is compared with earlier estimates: it is interesting to note the faster pace of our series in important historical periods such the beginning of the 1870s, the 1880s and above all the Giolitti period until the 1907 crisis.

5. Two wars and a great depression (1911-1951)

Numerous studies populate the difficult interwar period in Italy, many of which tend to stress the inadequacy of available quantitative reconstructions. New national accounts reconstructions were eagerly awaited by many scholars and we have tried to fulfil their

expectations. Unlike our estimates for the period 1861-1911, the new time series for the four decades 1911-1951 are based on the use of hitherto little exploited statistics.

The two ovals in Figure 15 highlight the main changes introduced by our work. The one on the left refers to Italy's economic performance during World War I. Stephen Broadberry (2005) noted that available national accounts series "all show an extremely large increase in Italian GDP during World War I, which is hard to square with both the experience of other countries during World War I and the generally pessimistic tone of the literature on the Italian war economy" (Broadberry 2005, p. 305).

The new GDP series in the period examined by Broadberry follows a much more moderate path. The main innovation is based on the work of Patrizia Battilani, Emanuele Felice and Vera Zamagni, which is part of this project.[14] In particular, their estimate for general government value added at current prices is much lower than, for instance, that of Ercolani (1978): the new data imply a 200 per cent growth between 1913 and 1918, compared with 800 per cent in the earlier estimates. An even greater difference emerges if we consider constant price estimates: according to Baffigi and Brunetti's[15] calculations, the growth in general government value added at 1938 prices over the period 1913-1918 is a mere 13 per cent, whereas the growth rate calculated with Ercolani's data is 580 per cent.

The oval on the right in Figure 15 refers to Italy's performance during the Great Depression. The revision with respect to earlier estimates is entirely attributable to another member of our team, Ferdinando Giugliano, who revised recent estimates of industrial value added by Carreras and Felice (2010). He makes an interesting critical use of certain sources, such as labour market statistics and an industrial production index produced by the Ministero delle Corporazioni.[16] Overall, if we look at GDP movements, we notice a sharp fall in activity in the years immediately after 1929, not unlike earlier estimates. However, our data show a very different timing for the ensuing recovery: now it takes some years for the recovery to begin. Only in 1937, after an illusory blip in 1935, did GDP reach the same level as in 1929. The new total industrial value added time series at 1938 prices is shown in Figure 16.

Private consumption per capita seems to reflect this movement in economic activity: after 1929 it declines steadily until 1936 (the only partial exceptions being 1932 and 1935) when a recovery begins, which is suddenly broken off by the outbreak of World War II (Figure 17). Investment in plant and equipment followed a similar path, reaching a peak in 1929 and then falling sharply; it was only in 1938 that a higher level was reached (Figure 18).

6. Some final considerations

A GDP series covering the whole of Italy's history has been estimated, together with sectoral value added and, for the demand side, disaggregated consumption and investment. All the time series are available both at current prices and in volume. This is the output of the project I present in this paper. The importance of this update of sources for Italy's

[14] De Bonis *et al.* (2011) contributed to the estimates of value added of services with a study on the financial sector.

[15] Baffigi's and Brunetti's calculations of value added of services at constant prices are largely based on the previous indications of Vera Zamagni.

[16] These sources were not new in the literature (Mattesini and Quintieri 1997), but they had not been exploited for a new estimate of industrial value added.

economic history cannot be overstated. The period 1861-1951 has been dissected and heavily revised by our work; it was then connected with the ensuing years (1951-1970, less heavily revised) and, finally, with the official 1970-2010 Istat data to obtain a quantitative documentation of Italy's entire economic history. The Bank of Italy, Istat and the University of Rome "Tor Vergata," which jointly launched the project, can now deliver the new data to the international scientific community.

As I emphasized in the introduction, we did not work in a vacuum. The obsolescence of the old historical national accounts was caused by the results obtained by scholars during the last thirty years. New results have been added by studies forming part of our project, namely the new estimates of value added time series, at current and constant prices, for services (1861-1951), for industry for the period 1928-1938, as well as a new benchmark for 1871 of both supply and uses. Old and new results were the input of our reconstruction work, the first layer of the project.

Elaboration, homogenization and reconciliation of this corpus of quantitative research was the task of the second layer of the project. We brought all available data into a common conceptual space provided by the national accounts framework. We have constructed deflators, either revising old ones or estimating new ones *ex novo*, and we have estimated supply- and demand-side series covering 150 years of Italy's history. Important elements have been added to the economic historian's toolbox.

After this task has been accomplished, it is natural to think about possible refinements, or about new lines of research to build upon the results just obtained. A disaggregation of the manufacturing sector could bring some important new information, in particular about the first industrialization period, between Unification and World War I. Detailed sector value added data do exist (see Fenoaltea, 2006 and bibliography therein), but they are all at 1911 constant prices. No deflators are available for this period. An effort to construct more disaggregated deflators for the manufacturing sector would be extremely useful for a better understanding of the patterns of industrialization in Italy.

Another interesting research topic is related to demand-side estimates which, as emphasized in the previous pages, are not based on statistical material as robust as that available for value added estimates. Many archival sources are awaiting discovery and could be incorporated advantageously in our overall framework, similarly to the ones we have already used to estimate investment in means of transport for 1911-1951.

Notwithstanding potential refinements and improvements, which are encouraged by the transparency of our methodologies and assumptions, Italy too can now boast a complete and consistent historical national accounts framework which beckons new and more accurate interpretations of the country's 150 year-long history.

Tables and graphs

Table 1 A - Supply side (1861-2010; million euros, current prices)

Year	Value added: agriculture	Value added: industry			Value added: Services	Total Value Added	Net Indirect Taxes	GDP at market prices	Imports	Total supply
		Industry including energy	Constructions	Total Industry						
1861	2.056	0.896	0.089	0.985	1.181	4.222	0.218	4.441	0.618	5.059
1862	2.062	0.864	0.103	0.967	1.230	4.259	0.236	4.494	0.625	5.119
1863	1.995	0.844	0.102	0.946	1.254	4.195	0.236	4.430	0.677	5.107
1864	1.917	0.860	0.101	0.960	1.272	4.149	0.292	4.441	0.744	5.185
1865	2.107	0.852	0.100	0.951	1.325	4.383	0.361	4.744	0.727	5.471
1866	2.160	0.945	0.092	1.037	1.454	4.652	0.403	5.055	0.656	5.711
1867	2.199	0.968	0.088	1.055	1.334	4.588	0.264	4.852	0.607	5.460
1868	2.344	0.960	0.089	1.049	1.403	4.796	0.322	5.118	0.612	5.731
1869	2.197	0.975	0.079	1.054	1.374	4.625	0.305	4.930	0.639	5.569
1870	2.299	0.968	0.082	1.050	1.408	4.758	0.283	5.040	0.612	5.652
1871	2.259	1.005	0.095	1.100	1.416	4.774	0.308	5.082	0.628	5.710
1872	2.394	1.099	0.113	1.212	1.514	5.120	0.311	5.431	0.764	6.195
1873	2.802	1.187	0.131	1.318	1.619	5.738	0.316	6.054	0.815	6.869
1874	2.956	1.090	0.139	1.229	1.666	5.851	0.316	6.166	0.815	6.981
1875	2.289	1.038	0.107	1.144	1.525	4.958	0.344	5.301	0.753	6.054
1876	2.176	1.041	0.098	1.139	1.546	4.860	0.357	5.218	0.807	6.025
1877	2.599	1.165	0.106	1.271	1.621	5.490	0.387	5.877	0.695	6.573
1878	2.633	1.100	0.106	1.206	1.636	5.474	0.375	5.849	0.656	6.505
1879	2.477	0.995	0.104	1.099	1.657	5.232	0.383	5.615	0.777	6.392
1880	2.710	1.029	0.123	1.152	1.724	5.586	0.381	5.968	0.739	6.707
1881	2.562	1.047	0.127	1.174	1.734	5.470	0.408	5.878	0.797	6.675
1882	2.639	1.105	0.144	1.249	1.763	5.651	0.411	6.063	0.800	6.863
1883	2.422	1.056	0.150	1.206	1.776	5.404	0.415	5.819	0.796	6.615
1884	2.213	1.024	0.152	1.175	1.795	5.183	0.451	5.634	0.769	6.403
1885	2.397	1.119	0.165	1.284	1.878	5.559	0.470	6.028	0.874	6.902
1886	2.576	1.193	0.164	1.358	1.968	5.901	0.464	6.366	0.842	7.207

Table 1 A - Supply side (1861-2010; million euros, current prices) *(continued)*

Year	Value added: agriculture	Value added: industry			Value added: Services	Total Value Added	Net Indirect Taxes	GDP at market prices	Imports	Total supply
		Industry including energy	Constructions	Total Industry						
1887	2.357	1.110	0.152	1.262	2.038	5.657	0.487	6.144	0.925	7.069
1888	2.288	1.085	0.154	1.239	2.058	5.585	0.515	6.100	0.675	6.775
1889	2.443	1.140	0.152	1.292	2.103	5.838	0.512	6.350	0.786	7.136
1890	2.714	1.157	0.161	1.318	2.143	6.175	0.488	6.663	0.724	7.386
1891	2.758	1.134	0.161	1.296	2.139	6.192	0.476	6.669	0.597	7.266
1892	2.451	1.087	0.154	1.241	2.128	5.820	0.448	6.267	0.613	6.880
1893	2.394	1.098	0.146	1.245	2.117	5.755	0.452	6.206	0.623	6.829
1894	2.318	1.039	0.145	1.183	2.109	5.610	0.469	6.080	0.607	6.687
1895	2.566	1.095	0.125	1.221	2.185	5.971	0.475	6.446	0.606	7.052
1896	2.558	1.132	0.123	1.255	2.262	6.075	0.491	6.567	0.601	7.168
1897	2.576	1.118	0.128	1.245	2.295	6.116	0.478	6.594	0.608	7.202
1898	2.617	1.169	0.131	1.300	2.343	6.260	0.473	6.733	0.718	7.451
1899	2.694	1.292	0.133	1.425	2.387	6.506	0.483	6.989	0.769	7.758
1900	2.773	1.240	0.144	1.384	2.490	6.647	0.517	7.164	0.870	8.034
1901	2.829	1.292	0.159	1.451	2.521	6.802	0.521	7.323	0.884	8.207
1902	2.779	1.295	0.180	1.475	2.567	6.821	0.542	7.363	0.928	8.291
1903	2.937	1.317	0.195	1.512	2.688	7.137	0.544	7.682	1.036	8.718
1904	2.942	1.313	0.203	1.517	2.764	7.223	0.538	7.761	1.006	8.767
1905	3.011	1.447	0.213	1.660	2.886	7.557	0.586	8.143	1.152	9.294
1906	3.316	1.632	0.219	1.850	3.111	8.277	0.653	8.931	1.400	10.330
1907	3.579	1.892	0.241	2.133	3.268	8.980	0.617	9.597	1.609	11.206
1908	3.350	1.878	0.247	2.125	3.417	8.892	0.654	9.546	1.550	11.096
1909	3.425	1.975	0.305	2.280	3.536	9.240	0.689	9.929	1.653	11.582
1910	3.507	2.049	0.361	2.410	3.713	9.630	0.745	10.375	1.741	12.115
1911	4.113	2.181	0.362	2.542	4.035	10.690	0.834	11.524	1.815	13.339
1912	4.203	2.440	0.421	2.861	4.231	11.294	0.834	12.129	1.976	14.105

Table 1 A - Supply side (1861-2010; million euros, current prices) *(continued)*

Year	Value added: agriculture	Value added: industry			Value added: Services	Total Value Added	Net Indirect Taxes	GDP at market prices	Imports	Total supply
		Industry including energy	Constructions	Total Industry						
1913	4.484	2.465	0.446	2.912	4.416	11.812	0.861	12.673	1.945	14.619
1914	4.128	2.295	0.475	2.770	4.291	11.189	0.791	11.980	1.564	13.544
1915	4.622	2.353	0.410	2.764	5.052	12.438	0.882	13.320	2.487	15.806
1916	6.708	3.539	0.304	3.843	6.960	17.510	1.469	18.979	4.430	23.410
1917	9.374	5.548	0.317	5.865	9.897	25.136	1.991	27.127	7.339	34.467
1918	13.735	7.685	0.429	8.114	12.986	34.836	2.453	37.288	8.409	45.697
1919	14.979	7.165	1.030	8.194	14.220	37.394	3.010	40.404	8.601	49.005
1920	22.477	9.816	1.565	11.381	18.984	52.841	4.163	57.005	13.898	70.902
1921	22.185	9.326	2.076	11.403	19.679	53.267	4.215	57.482	10.764	68.247
1922	21.949	11.028	2.719	13.747	20.896	56.592	4.663	61.254	8.497	69.751
1923	22.695	12.592	2.971	15.563	22.915	61.173	5.095	66.268	8.995	75.264
1924	20.779	13.805	3.162	16.968	24.161	61.908	5.479	67.387	10.393	77.780
1925	27.739	17.378	4.052	21.430	28.795	77.965	5.526	83.491	13.644	97.135
1926	30.341	17.890	4.209	22.099	31.103	83.542	5.963	89.505	13.708	103.214
1927	23.707	15.931	3.660	19.591	28.391	71.690	6.922	78.612	10.878	89.490
1928	24.715	16.228	3.524	19.752	28.303	72.770	6.678	79.448	11.594	91.042
1929	24.204	16.709	4.571	21.280	29.035	74.519	6.575	81.094	11.302	92.396
1930	18.211	15.246	4.455	19.700	26.701	64.612	6.724	71.336	9.127	80.463
1931	15.998	12.601	3.352	15.954	24.679	56.631	6.934	63.565	6.162	69.727
1932	16.636	10.263	2.950	13.213	23.194	53.043	6.621	59.665	4.232	63.897
1933	13.368	10.484	3.333	13.817	21.140	48.325	6.249	54.574	4.434	59.009
1934	13.269	10.587	3.357	13.945	21.129	48.343	6.303	54.646	3.921	58.567
1935	16.184	11.979	3.125	15.104	22.779	54.067	6.482	60.549	3.953	64.502
1936	15.600	13.694	2.371	16.066	24.269	55.935	6.828	62.763	3.072	65.835
1937	20.679	18.734	2.318	21.052	29.593	71.324	7.691	79.014	7.035	86.050
1938	22.113	21.107	2.403	23.510	31.822	77.446	8.652	86.097	6.193	92.290

Table 1 A - Supply side (1861-2010; million euros, current prices) *(continued)*

Year	Value added: agriculture	Value added: industry			Value added: Services	Total Value Added	Net Indirect Taxes	GDP at market prices	Imports	Total supply
		Industry including energy	Constructions	Total Industry						
1939	24.225	22.980	2.801	25.781	35.219	85.224	9.854	95.078	5.664	100.742
1940	28.683	27.341	3.255	30.596	43.567	102.847	9.797	112.643	6.325	118.968
1941	39.365	28.122	2.975	31.097	52.011	122.473	12.023	134.495	7.968	142.463
1942	60.052	27.672	2.965	30.637	62.806	153.495	14.062	167.557	8.828	176.385
1943	92.922	35.423	3.626	39.049	82.059	214.031	14.428	228.458	4.443	232.902
1944	224.212	57.898	5.564	63.462	143.442	431.117	15.934	447.050	4.743	451.793
1945	380.662	115.176	16.188	131.363	274.529	786.554	42.436	828.990	4.741	833.731
1946	737.180	398.307	88.814	487.122	523.524	1747.827	111.899	1859.725	34.943	1894.668
1947	1230.290	932.423	144.726	1077.149	1030.704	3338.143	258.490	3596.633	4.773	3601.406
1948	1295.730	1074.655	172.296	1246.951	1267.639	3810.321	423.961	4234.282	320.637	4554.919
1949	1190.981	1145.549	171.657	1317.206	1430.552	3938.739	535.668	4474.407	357.107	4831.514
1950	1296.767	1271.600	208.557	1480.158	1658.224	4435.148	626.628	5061.777	203.879	5265.655
1951	1358.431	1605.698	268.195	1873.893	2023.503	5255.827	755.243	6011.070	758.918	6769.988
1952	1362.814	1655.182	328.362	1983.545	2303.654	5650.013	845.727	6495.740	821.852	7317.592
1953	1557.057	1772.423	391.938	2164.362	2546.965	6268.383	939.951	7208.334	867.893	8076.227
1954	1507.318	1902.592	453.300	2355.892	2775.563	6638.772	1065.153	7703.925	858.759	8562.684
1955	1617.274	2077.830	533.259	2611.089	3139.719	7368.082	1133.594	8501.677	954.872	9456.549
1956	1654.581	2243.102	578.804	2821.906	3548.873	8025.360	1254.605	9279.965	1116.987	10396.952
1957	1650.584	2440.844	663.481	3104.326	3920.852	8675.761	1310.434	9986.195	1302.030	11288.225
1958	1827.442	2590.336	732.794	3323.131	4260.273	9410.845	1348.822	10759.667	1183.119	11942.786
1959	1753.919	2831.244	791.863	3623.107	4671.419	10048.445	1400.893	11449.339	1236.950	12686.289
1960	1661.303	3228.872	874.802	4103.673	5194.928	10959.905	1503.951	12463.856	1686.601	14150.457
1961	1909.400	3643.272	979.479	4622.751	5745.782	12277.933	1728.396	14006.330	1883.937	15890.267
1962	2083.888	4099.459	1181.725	5281.184	6543.701	13908.773	1826.793	15735.566	2183.167	17918.733
1963	2203.123	4757.371	1389.279	6146.650	7729.904	16079.677	2019.101	18098.778	2704.037	20802.816
1964	2328.460	5104.243	1600.914	6705.156	8742.470	17776.086	2137.207	19913.294	2618.452	22531.745

Table 1 A - Supply side (1861-2010; million euros, current prices) *(continued)*

Year	Value added: agriculture	Value added: industry			Value added: Services	Total Value Added	Net Indirect Taxes	GDP at market prices	Imports	Total supply
		Industry including energy	Constructions	Total Industry						
1965	2453.545	5409.819	1656.653	7066.472	9742.978	19262.995	2212.399	21475.394	2674.924	24150.318
1966	2530.925	5993.553	1728.398	7721.952	10843.435	21096.312	2339.231	23435.543	3093.085	26528.628
1967	2755.039	6676.989	1946.824	8623.814	11997.059	23375.912	2636.799	26012.711	3503.969	29516.680
1968	2597.229	7376.327	2200.206	9576.533	13410.081	25583.843	2645.382	28229.225	3726.398	31955.623
1969	2856.663	8224.904	2604.146	10829.050	14764.747	28450.460	2755.866	31206.327	4503.348	35709.674
1970	2877.780	9664.850	2977.480	12642.330	16743.330	32263.440	3004.000	35267.440	5483.300	40750.740
1971	2970.100	10401.280	3112.790	13514.070	18871.290	35355.460	3131.000	38486.460	5936.000	44422.460
1972	2969.770	11305.150	3295.750	14600.900	21434.080	39004.750	3150.000	42154.750	6806.000	48960.750
1973	3831.180	14188.640	4080.110	18268.750	25155.290	47255.220	3656.000	50911.220	9518.200	60429.420
1974	4361.200	19058.460	5118.280	24176.740	31497.100	60035.040	4551.000	64586.040	14979.100	79565.140
1975	5296.260	21083.520	6138.280	27221.800	37912.440	70430.500	3545.000	73975.500	14376.200	88351.700
1976	6184.570	28196.420	6666.290	34862.710	46829.170	87876.450	5202.000	93078.450	20490.900	113569.350
1977	7264.230	33549.550	7848.160	41397.710	57565.420	106227.360	6873.000	113100.360	24053.800	137154.160
1978	8366.590	38615.460	9044.170	47659.630	69225.590	125251.810	7796.000	133047.810	27132.100	160179.910
1979	9979.870	47729.820	10693.700	58423.520	85892.220	154295.610	8463.000	162758.610	36131.900	198890.510
1980	11702.290	59345.690	13829.950	73175.640	107122.920	192000.850	11382.000	203382.850	48244.400	251627.250
1981	13189.990	68294.650	17434.720	85729.370	132004.070	230923.430	12709.000	243632.430	59897.400	303529.830
1982	14852.110	78856.480	19518.890	98375.370	158070.770	271298.250	16254.000	287552.250	67018.100	354570.350
1983	17513.840	88142.540	22006.790	110149.330	186001.730	313664.900	21168.000	334832.900	69213.500	404046.400
1984	18193.150	100822.570	24215.480	125038.050	215482.530	358713.730	24117.000	382830.730	85409.100	468239.830
1985	19216.940	111917.610	26265.820	138183.430	245191.430	402591.800	27057.000	429648.800	96272.400	525921.200
1986	20410.750	121085.710	27315.490	148401.200	275840.720	444652.670	30378.000	475030.670	86338.700	561369.370
1987	21456.750	131351.490	28665.280	160016.770	301481.070	482954.590	36696.000	519650.590	95093.000	614743.590
1988	21279.240	143202.440	31105.040	174307.480	335956.360	531543.080	45912.000	577455.080	105397.700	682852.780
1989	22804.080	158598.830	34661.290	193260.120	367471.010	583535.210	50486.000	634021.210	122342.200	756363.410
1990	23179.110	166291.700	39307.140	205598.840	411027.440	639805.390	61546.600	701351.990	133455.600	834807.590

Table 1 A - Supply side (1861-2010; million euros, current prices) *(continued)*

Year	Value added: agriculture	Value added: industry			Value added: Services	Total Value Added	Net Indirect Taxes	GDP at market prices	Imports	Total supply
		Industry including energy	Constructions	Total Industry						
1991	25745.150	173667.660	43147.650	216815.310	452673.630	695234.090	70572.000	765806.090	136349.600	902155.690
1992	26161.560	178527.930	45312.360	223840.290	479710.920	729712.770	75969.000	805681.770	148241.100	953922.870
1993	26095.860	181534.800	44823.230	226358.030	494526.180	746980.070	82778.000	829758.070	151161.300	980919.370
1994	27310.170	194581.070	44155.390	238736.460	522589.470	788636.100	89072.000	877708.100	170669.500	1048377.600
1995	29336.650	212671.680	45063.340	257735.020	559695.000	846766.670	100572.000	947338.670	207818.600	1155157.270
1996	31079.110	221790.710	47615.490	269406.200	599804.310	900289.620	103488.000	1003777.620	201381.600	1205159.220
1997	31213.650	229186.290	47739.400	276925.690	625256.150	933395.490	115371.000	1048766.490	224079.500	1272845.990
1998	30815.060	229974.180	46556.770	276530.950	632025.470	939371.480	151990.000	1091361.480	241285.400	1332646.880
1999	31484.710	232058.190	48007.270	280065.460	661226.910	972777.080	154314.000	1127091.080	254885.800	1381976.880
2000	31198.100	241052.420	51735.720	292788.140	705308.070	1029294.310	161763.000	1191057.310	311107.000	1502164.310
2001	31290.870	247035.370	57494.470	304529.840	749843.390	1085664.100	162984.000	1248648.100	321125.200	1569773.300
2002	31414.180	250165.220	61209.600	311374.820	782708.720	1125497.720	169728.000	1295225.720	320776.200	1616001.920
2003	31633.610	248522.430	65676.640	314199.070	818300.040	1164132.720	171221.000	1335353.720	320512.200	1655865.920
2004	32437.850	255623.190	70904.520	326527.710	852777.600	1211743.160	179787.000	1391530.160	342790.600	1734320.760
2005	30420.860	256370.500	74845.200	331215.700	879550.700	1241187.260	188292.000	1429479.260	371907.500	1801386.760
2006	31060.670	267481.630	77705.010	345186.640	903129.030	1279376.340	206001.000	1485377.340	424216.300	1909593.640
2007	31120.870	283201.680	81399.160	364600.840	938759.680	1334481.390	211696.000	1546177.390	451936.200	1998113.590
2008	31394.310	282706.120	83602.630	366308.750	969078.800	1366781.860	200979.500	1567761.360	461272.600	2029033.960
2009	30709.990	250130.190	82447.850	332578.040	968790.200	1332078.230	187624.000	1519702.230	368681.800	1888384.030
2010	29682.100	258162.050	80354.180	338516.230	980986.840	1349185.170	199631.000	1548816.170	442162.800	1990978.970

Table 1 B – Demand side (1861-2010; million euros, current prices)

		Consumption			Fixed investments								
Year	Exports	Public consumption	Private consumption	Total consumption	Housing	Non-housing	Constructions	Plant, machinery and transport equipments	Other investments	Total fixed investments	Inventory variations	Total investments	Total uses
1861	0.313	0.433	4.062	4.495	0.025	0.115	0.140	0.050	0.050	0.240	0.010	0.250	5.059
1862	0.378	0.480	3.973	4.453	0.039	0.135	0.174	0.052	0.052	0.277	0.011	0.288	5.119
1863	0.414	0.470	3.938	4.407	0.032	0.139	0.171	0.052	0.051	0.274	0.011	0.285	5.107
1864	0.374	0.483	4.016	4.499	0.037	0.137	0.173	0.064	0.062	0.299	0.013	0.312	5.185
1865	0.364	0.475	4.293	4.768	0.029	0.140	0.169	0.083	0.075	0.327	0.012	0.339	5.471
1866	0.402	0.696	4.292	4.988	0.024	0.121	0.145	0.088	0.080	0.313	0.009	0.322	5.711
1867	0.432	0.413	4.336	4.749	0.026	0.095	0.121	0.090	0.082	0.293	-0.014	0.279	5.460
1868	0.462	0.428	4.533	4.961	0.023	0.099	0.122	0.092	0.084	0.298	0.009	0.307	5.731
1869	0.472	0.426	4.388	4.814	0.025	0.085	0.110	0.086	0.079	0.274	0.009	0.283	5.569
1870	0.449	0.454	4.478	4.931	0.022	0.096	0.118	0.099	0.088	0.305	-0.034	0.271	5.652
1871	0.615	0.408	4.402	4.809	0.030	0.102	0.131	0.124	0.105	0.360	-0.075	0.285	5.710
1872	0.656	0.430	4.667	5.098	0.034	0.131	0.165	0.160	0.130	0.456	-0.013	0.442	6.195
1873	0.634	0.448	5.155	5.603	0.048	0.154	0.203	0.203	0.160	0.565	0.068	0.633	6.869
1874	0.547	0.434	5.279	5.713	0.058	0.165	0.223	0.241	0.185	0.648	0.072	0.721	6.981
1875	0.571	0.433	4.503	4.936	0.039	0.124	0.164	0.213	0.159	0.536	0.011	0.547	6.054
1876	0.667	0.444	4.422	4.866	0.035	0.114	0.150	0.202	0.147	0.499	-0.007	0.492	6.025
1877	0.521	0.490	5.027	5.517	0.038	0.124	0.162	0.213	0.153	0.528	0.007	0.535	6.573
1878	0.597	0.481	4.932	5.414	0.035	0.124	0.159	0.213	0.150	0.522	-0.027	0.495	6.505
1879	0.650	0.484	4.828	5.312	0.034	0.125	0.159	0.183	0.126	0.468	-0.038	0.430	6.392
1880	0.674	0.459	5.061	5.520	0.038	0.144	0.182	0.218	0.144	0.544	-0.032	0.513	6.707
1881	0.695	0.469	4.985	5.454	0.043	0.146	0.189	0.216	0.136	0.541	-0.015	0.527	6.675
1882	0.678	0.493	5.073	5.566	0.052	0.171	0.223	0.218	0.131	0.573	0.045	0.618	6.863
1883	0.673	0.510	4.874	5.385	0.049	0.186	0.235	0.208	0.120	0.562	-0.004	0.558	6.615
1884	0.616	0.532	4.681	5.213	0.050	0.189	0.239	0.218	0.121	0.577	-0.004	0.574	6.403
1885	0.621	0.549	5.131	5.679	0.058	0.196	0.254	0.212	0.113	0.579	0.023	0.602	6.902
1886	0.596	0.549	5.437	5.987	0.060	0.199	0.259	0.263	0.136	0.657	-0.033	0.624	7.207

Table 1 B – Demand side (1861-2010; million euros, current prices) *(continued)*

		Consumption			Fixed investments								
Year	Exports	Public consumption	Private consumption	Total consumption	Housing	Non-housing	Constructions	Plant, machinery and transport equipments	Other investments	Total fixed investments	Inventory variations	Total investments	Total uses
1887	0.618	0.578	5.239	5.817	0.044	0.197	0.240	0.229	0.115	0.584	0.051	0.635	7.069
1888	0.540	0.633	4.945	5.578	0.032	0.208	0.241	0.302	0.146	0.689	-0.031	0.657	6.775
1889	0.527	0.653	5.289	5.941	0.035	0.200	0.235	0.279	0.131	0.645	0.023	0.668	7.136
1890	0.502	0.644	5.575	6.219	0.048	0.202	0.251	0.258	0.119	0.627	0.038	0.665	7.386
1891	0.489	0.632	5.604	6.235	0.054	0.193	0.247	0.232	0.106	0.586	-0.044	0.542	7.266
1892	0.520	0.624	5.258	5.882	0.047	0.176	0.223	0.196	0.089	0.508	-0.030	0.478	6.880
1893	0.546	0.634	5.178	5.811	0.052	0.153	0.205	0.199	0.089	0.493	-0.020	0.472	6.829
1894	0.546	0.638	5.006	5.644	0.049	0.151	0.200	0.225	0.098	0.523	-0.027	0.496	6.687
1895	0.548	0.619	5.325	5.944	0.048	0.110	0.158	0.252	0.109	0.519	0.041	0.560	7.052
1896	0.557	0.624	5.389	6.013	0.049	0.097	0.147	0.289	0.124	0.560	0.038	0.598	7.168
1897	0.582	0.609	5.476	6.084	0.050	0.099	0.149	0.320	0.134	0.603	-0.068	0.535	7.202
1898	0.638	0.608	5.675	6.284	0.050	0.098	0.148	0.356	0.143	0.647	-0.118	0.530	7.451
1899	0.761	0.613	5.649	6.262	0.051	0.102	0.154	0.414	0.162	0.729	0.006	0.735	7.758
1900	0.714	0.634	5.650	6.284	0.054	0.114	0.168	0.460	0.177	0.806	0.231	1.037	8.034
1901	0.736	0.641	5.923	6.564	0.061	0.122	0.182	0.536	0.204	0.923	-0.017	0.906	8.207
1902	0.789	0.657	6.006	6.662	0.071	0.141	0.212	0.535	0.202	0.949	-0.109	0.840	8.291
1903	0.814	0.664	6.325	6.989	0.083	0.150	0.233	0.542	0.204	0.979	-0.063	0.915	8.718
1904	0.862	0.678	6.215	6.893	0.092	0.157	0.249	0.626	0.228	1.103	-0.092	1.011	8.767
1905	0.943	0.697	6.422	7.119	0.101	0.176	0.277	0.866	0.303	1.446	-0.214	1.232	9.294
1906	1.051	0.706	6.812	7.518	0.102	0.209	0.311	1.076	0.365	1.753	0.009	1.762	10.330
1907	1.073	0.715	7.323	8.038	0.115	0.245	0.360	1.096	0.366	1.821	0.273	2.095	11.206
1908	0.960	0.766	7.335	8.101	0.120	0.269	0.389	0.978	0.325	1.692	0.343	2.035	11.096
1909	1.053	0.828	8.044	8.872	0.151	0.353	0.503	0.955	0.318	1.776	-0.120	1.656	11.582
1910	1.184	0.971	8.300	9.270	0.175	0.410	0.586	0.892	0.301	1.778	-0.117	1.661	12.115
1911	1.254	1.096	9.277	10.373	0.181	0.453	0.634	0.842	0.294	1.770	-0.058	1.712	13.339
1912	1.370	1.190	9.829	11.020	0.191	0.476	0.667	0.783	0.245	1.695	0.020	1.715	14.105

Table 1 B – Demand side (1861-2010; million euros, current prices) *(continued)*

		Consumption			Fixed investments								
Year	Exports	Public consumption	Private consumption	Total consumption	Housing	Non-housing	Constructions	Plant, machinery and transport equipments	Other investments	Total fixed investments	Inventory variations	Total investments	Total uses
1913	1.463	1.227	10.262	11.489	0.188	0.470	0.658	0.729	0.238	1.626	0.041	1.667	14.619
1914	1.265	1.839	8.862	10.701	0.189	0.496	0.685	0.731	0.235	1.650	-0.073	1.577	13.544
1915	1.435	5.098	7.962	13.060	0.115	0.464	0.579	0.810	0.183	1.572	-0.260	1.312	15.806
1916	1.763	9.243	10.968	20.211	0.043	0.374	0.417	0.941	0.116	1.475	-0.039	1.435	23.410
1917	1.898	13.532	17.144	30.676	0.054	0.371	0.425	1.162	0.198	1.785	0.108	1.893	34.467
1918	1.918	17.441	24.326	41.767	0.081	0.479	0.560	1.708	0.169	2.437	-0.425	2.012	45.697
1919	3.446	14.312	28.044	42.356	0.227	1.085	1.312	2.210	0.214	3.736	-0.533	3.203	49.005
1920	6.585	10.336	47.775	58.111	0.347	1.649	1.996	2.616	0.446	5.058	1.149	6.207	70.902
1921	5.191	12.475	44.302	56.777	0.473	2.138	2.612	3.020	0.562	6.194	0.084	6.278	68.247
1922	5.264	9.967	47.393	57.360	0.722	2.570	3.292	3.391	0.880	7.563	-0.436	7.127	69.751
1923	6.316	7.362	53.730	61.092	0.931	2.558	3.489	3.839	1.079	8.407	-0.552	7.855	75.264
1924	8.219	7.065	53.907	60.973	1.228	2.384	3.613	4.575	0.849	9.036	-0.448	8.588	77.780
1925	10.592	7.035	67.898	74.933	1.812	2.699	4.511	5.108	0.975	10.593	1.016	11.610	97.135
1926	10.999	7.921	71.964	79.885	1.680	2.898	4.578	5.470	1.141	11.189	1.141	12.329	103.214
1927	9.260	7.725	62.883	70.609	1.214	2.675	3.889	5.806	0.990	10.685	-1.064	9.621	89.490
1928	8.764	7.382	65.097	72.479	1.216	2.446	3.662	5.859	0.851	10.373	-0.573	9.800	91.042
1929	9.006	7.541	63.307	70.848	1.865	2.866	4.731	5.673	0.800	11.204	1.337	12.542	92.396
1930	7.266	7.801	53.390	61.191	2.009	3.250	5.259	5.376	0.641	11.276	0.731	12.006	80.463
1931	6.128	8.458	45.543	54.001	1.743	2.786	4.530	4.799	0.617	9.946	-0.348	9.597	69.727
1932	4.107	8.613	43.211	51.825	1.329	2.548	3.877	4.051	0.703	8.631	-0.667	7.965	63.897
1933	3.666	8.891	38.632	47.523	1.157	2.713	3.870	3.639	0.676	8.185	-0.365	7.820	59.009
1934	3.286	8.731	38.282	47.014	1.486	2.789	4.275	3.569	0.628	8.471	-0.203	8.268	58.567
1935	3.176	10.275	41.413	51.688	2.176	2.817	4.992	3.930	0.736	9.658	-0.021	9.638	64.502
1936	3.382	14.167	38.650	52.817	2.171	2.673	4.844	4.660	1.081	10.584	-0.949	9.635	65.835
1937	6.399	15.372	53.907	69.279	1.654	2.430	4.084	5.645	0.820	10.549	-0.177	10.372	86.050
1938	6.463	15.270	58.899	74.169	1.340	2.188	3.528	6.800	0.987	11.315	0.344	11.659	92.290

Table 1 B – Demand side (1861-2010; million euros, current prices) *(continued)*

Year	Exports	Consumption			Fixed investments						Inventory variations	Total investments	Total uses
		Public consumption	Private consumption	Total consumption	Housing	Non-housing	Constructions	Plant, machinery and transport equipments	Other investments	Total fixed investments			
1939	6.843	17.882	62.631	80.513	1.338	2.823	4.161	7.917	1.142	13.220	0.166	13.386	100.742
1940	8.571	21.971	73.072	95.043	1.202	3.645	4.847	8.638	1.223	14.708	0.646	15.354	118.968
1941	7.603	26.897	92.796	119.693	0.913	3.553	4.466	9.118	1.449	15.033	0.134	15.167	142.463
1942	9.632	37.948	114.001	151.949	0.967	3.619	4.586	9.659	1.287	15.531	-0.727	14.804	176.385
1943	6.028	60.636	148.419	209.054	1.199	4.372	5.570	13.293	3.097	21.961	-4.141	17.819	232.902
1944	6.227	88.666	334.402	423.068	2.914	5.673	8.587	15.269	5.685	29.542	-7.043	22.498	451.793
1945	6.392	145.530	617.088	762.619	9.465	16.987	26.452	41.962	16.406	84.819	-20.099	64.721	833.731
1946	70.442	305.986	1187.761	1493.747	37.675	104.656	142.331	201.464	43.317	387.112	-56.633	330.479	1894.668
1947	6.787	438.879	2505.732	2944.611	40.826	184.651	225.477	312.362	49.664	587.504	62.505	650.009	3601.406
1948	6.969	567.404	3184.117	3751.521	69.557	195.737	265.294	421.435	51.062	737.791	58.637	796.429	4554.919
1949	794.319	510.702	2703.456	3214.157	83.265	196.012	279.276	517.117	49.419	845.812	-22.775	823.037	4831.514
1950	463.327	572.060	3219.710	3791.770	133.692	219.168	352.859	592.979	90.224	1036.062	-25.504	1010.558	5265.655
1951	659.066	677.075	4185.630	4862.705	182.146	277.849	459.995	664.290	109.782	1234.067	14.150	1248.217	6769.988
1952	607.281	766.767	4522.003	5288.770	230.615	331.122	561.737	727.493	108.075	1397.305	24.236	1421.542	7317.592
1953	703.796	823.423	4950.693	5774.116	283.700	396.299	679.999	802.947	106.749	1589.695	8.619	1598.315	8076.227
1954	760.013	928.496	5137.480	6065.976	359.567	437.527	797.093	869.703	100.777	1767.574	-30.878	1736.695	8562.684
1955	854.034	1030.642	5592.685	6623.327	459.473	509.960	969.433	961.849	99.287	2030.568	-51.381	1979.188	9456.549
1956	994.406	1133.350	6072.011	7205.361	529.305	517.302	1046.607	1018.686	95.441	2160.733	36.452	2197.185	10396.952
1957	1206.512	1205.643	6340.243	7545.886	624.690	581.808	1206.498	1067.876	92.707	2367.081	168.747	2535.827	11288.225
1958	1231.244	1376.080	6902.963	8279.043	673.845	687.236	1361.081	1185.231	94.273	2640.585	-208.086	2432.499	11942.786
1959	1361.752	1507.983	7260.192	8768.175	746.371	765.351	1511.721	1331.223	99.626	2942.570	-386.209	2556.362	12686.289
1960	1654.401	1638.893	7696.898	9335.791	780.605	862.787	1643.392	1487.076	101.224	3231.692	-71.427	3160.265	14150.457
1961	1885.112	1818.655	8395.883	10214.538	895.547	957.495	1853.042	1730.624	103.856	3687.522	103.095	3790.617	15890.267
1962	2106.989	2124.895	9316.060	11440.955	1125.148	1078.729	2203.876	1887.876	99.508	4191.260	179.528	4370.788	17918.733
1963	2314.775	2462.662	10191.365	12654.028	1315.575	1123.061	2438.636	1821.115	85.770	4345.522	1488.490	5834.012	20802.816
1964	2660.427	3022.210	11841.070	14863.280	1698.694	1315.235	3013.930	1948.489	82.986	5045.405	-37.366	5008.038	22531.745

Table 1 B – Demand side (1861-2010; million euros, current prices) *(continued)*

		Consumption			Fixed investments								
Year	Exports	Public consumption	Private consumption	Total consumption	Housing	Non-housing	Constructions	Plant, machinery and transport equipments	Other investments	Total fixed investments	Inventory variations	Total investments	Total uses
1965	3186.603	3707.705	13570.173	17277.878	1747.712	1449.246	3196.958	2102.688	80.567	5380.213	-1694.376	3685.837	24150.318
1966	3555.361	3925.154	14567.197	18492.351	1728.442	1505.044	3233.486	2117.114	73.459	5424.059	-943.144	4480.915	26528.628
1967	3813.682	4087.593	15526.385	19613.978	1852.950	1681.339	3534.290	2237.382	69.638	5841.310	247.710	6089.019	29516.680
1968	4347.708	4480.541	16394.927	20875.468	2159.212	1847.537	4006.749	2482.887	71.141	6560.777	171.670	6732.448	31955.623
1969	5006.269	4931.485	17947.977	22879.462	2620.731	2221.703	4842.435	2717.944	69.051	7629.430	194.513	7823.944	35709.674
1970	5573.600	5421.117	20596.645	26017.762	2951.932	2479.663	5431.595	3387.990	75.617	8895.202	264.176	9159.378	40750.740
1971	6249.400	6467.049	22545.471	29012.520	3039.495	2525.878	5565.373	3794.414	168.450	9528.237	-367.697	9160.540	44422.460
1972	7167.300	7334.117	24803.997	32138.114	3096.489	2807.976	5904.464	4076.120	223.733	10204.318	-548.982	9655.336	48960.750
1973	8545.700	8502.971	29979.398	38482.369	3796.829	3536.706	7333.535	5566.680	197.329	13097.544	303.807	13401.351	60429.420
1974	12469.100	10249.207	37644.761	47893.968	4946.679	4654.480	9601.159	7646.462	218.355	17465.976	1736.096	19202.072	79565.140
1975	14442.400	12075.068	44268.648	56343.715	5610.512	5543.465	11153.977	7779.162	260.602	19193.741	-1628.156	17565.585	88351.700
1976	19445.100	14641.187	54759.701	69400.889	6242.416	6322.796	12565.212	10220.101	301.804	23087.117	1636.245	24723.361	113569.350
1977	25201.500	18134.853	66211.764	84346.617	7404.995	7662.352	15067.348	12505.729	350.999	27924.076	-318.033	27606.043	137154.160
1978	30061.000	22123.948	76255.911	98379.859	8552.491	9016.824	17569.315	14012.059	427.547	32008.921	-269.870	31739.051	160179.910
1979	37972.300	27194.943	94029.703	121224.646	10397.724	10523.489	20921.213	17816.440	532.810	39270.462	423.102	39693.564	198890.510
1980	42788.600	34413.008	120058.927	154471.934	13542.021	13648.523	27190.543	24112.088	704.842	52007.473	2359.242	54366.716	251627.250
1981	55012.600	44506.131	143931.923	188438.053	16660.015	17790.399	34450.414	27193.929	940.281	62584.623	-2505.447	60079.177	303529.830
1982	63295.300	52746.083	170373.367	223119.450	18565.998	20147.717	38713.716	29764.529	1118.758	69597.002	-1441.402	68155.600	354570.350
1983	70956.000	62778.990	195918.468	258697.458	22170.090	21898.202	44068.292	31188.460	1276.618	76533.370	-2140.428	74392.942	404046.400
1984	83807.500	70981.049	224328.356	295309.405	24342.561	23689.496	48032.056	37211.521	1635.467	86879.045	2243.880	89122.925	468239.830
1985	94540.200	80312.919	251650.446	331963.365	25592.029	26615.986	52208.015	41515.129	1985.601	95708.745	3708.890	99417.635	525921.200
1986	92601.000	87313.219	278285.599	365598.818	25781.831	29409.200	55191.031	43832.674	3115.247	102138.952	1030.600	103169.552	561369.370
1987	97400.300	99383.241	303125.936	402509.177	26313.186	31362.147	57675.332	50263.237	3806.810	111745.379	3088.733	114834.113	614743.590
1988	105791.000	112774.233	334081.092	446855.325	28647.236	34716.462	63363.697	58347.444	4736.662	126447.803	3758.652	130206.455	682852.780
1989	122356.700	122587.008	370043.225	492630.233	31118.482	39002.665	70121.148	64098.856	4907.335	139127.338	2249.139	141376.477	756363.410
1990	134826.100	141215.958	402051.280	543267.238	35651.121	45010.386	80661.507	68859.983	5200.478	154721.969	1992.284	156714.252	834807.590

Table 1 B – Demand side (1861-2010; million euros, current prices) *(continued)*

		Consumption			Fixed investments								
Year	Exports	Public consumption	Private consumption	Total consumption	Housing	Non-housing	Constructions	Plant, machinery and transport equipments	Other investments	Total fixed investments	Inventory variations	Total investments	Total uses
1991	137099.300	154898.682	441526.493	596425.175	39881.860	48433.262	88315.122	71733.891	5824.137	165873.149	2758.066	168631.215	902155.690
1992	147408.900	161999.974	471886.940	633886.913	42333.080	48722.398	91055.477	72973.305	6030.163	170058.946	2568.111	172627.057	953922.870
1993	176846.600	165630.100	481889.898	647519.998	42919.383	44212.868	87132.251	63286.507	5891.797	156310.555	242.217	156552.772	980919.370
1994	200467.900	168996.896	514382.363	683379.259	43994.096	41705.010	85699.105	70308.894	6344.141	162352.140	2178.301	164530.441	1048377.600
1995	243803.800	170150.973	553298.610	723449.583	45331.574	45962.899	91294.474	82464.396	6827.167	180586.037	7317.850	187903.887	1155157.270
1996	248249.600	183261.190	581253.716	764514.906	45694.761	49388.318	95083.079	86737.104	8331.989	190152.172	2242.542	192394.714	1205159.220
1997	264523.700	192080.431	613224.152	805304.583	45868.252	50649.631	96517.883	93122.431	8738.809	198379.124	4638.583	203017.707	1272845.990
1998	274864.000	197669.353	645974.379	843643.732	46315.236	52176.101	98491.337	102397.863	9660.018	210549.218	3589.930	214139.148	1332646.880
1999	275840.800	205468.519	674557.733	880026.252	47573.882	54829.988	102403.870	108303.284	10591.385	221298.539	4811.289	226109.828	1381976.880
2000	322247.500	219728.160	713699.159	933427.319	51365.709	60750.276	112115.985	118422.688	11489.942	242028.615	4460.876	246489.491	1502164.310
2001	338263.500	236857.030	737679.777	974536.807	53051.743	66466.562	119518.306	122332.867	11926.911	253778.084	3194.909	256972.993	1569773.300
2002	333219.200	248782.942	760322.503	1009105.444	56300.784	74871.357	131172.141	126922.033	12794.643	270888.817	2788.458	273677.276	1616001.920
2003	327913.100	262942.018	789025.889	1051967.907	59632.262	78452.656	138084.919	121005.919	12685.364	271776.202	4208.711	275984.913	1655865.920
2004	352850.300	276237.996	815813.681	1092051.677	63608.078	83138.605	146746.684	126211.878	12509.268	285467.830	3950.953	289418.783	1734320.760
2005	370835.800	290817.958	843977.394	1134795.352	70297.177	84003.334	154300.511	129799.050	12275.777	296375.338	-619.729	295755.608	1801386.760
2006	411831.200	299260.007	877443.967	1176703.973	75529.124	85465.941	160995.065	139332.228	12997.904	313325.197	7733.270	321058.467	1909593.640
2007	448236.800	304180.982	907545.720	1211726.702	79066.510	88443.429	167509.939	146758.362	13639.629	327907.931	10242.157	338150.088	1998113.590
2008	450543.000	316570.908	928956.202	1245527.110	80698.519	87355.992	168054.511	143723.958	13728.594	325507.063	7456.787	332963.850	2029033.960
2009	362448.600	326247.956	912300.300	1238548.256	73790.995	81464.823	155255.818	121180.066	13243.610	289679.494	-2292.320	287387.174	1888384.030
2010	414728.400	328606.964	934901.945	1263508.909	73603.492	78943.057	152546.549	135046.932	13692.232	301285.713	11455.948	312741.661	1990978.970

Table 2A.1 Supply side (million euros; 1911 prices)

Year	Value added: agriculture	Value added: industry			Value added: Services	Total value added	Net indirect taxes	GDP at market prices	Imports	Total supply
		Industry including energy	Constructions	Total Industry						
1861	2.421	0.665	0.151	0.816	1.881	5.118	0.285	5.404	0.427	5.831
1862	2.494	0.658	0.172	0.829	1.911	5.234	0.277	5.511	0.430	5.941
1863	2.570	0.665	0.178	0.843	1.965	5.378	0.304	5.682	0.464	6.146
1864	2.509	0.669	0.175	0.844	2.001	5.354	0.380	5.734	0.512	6.246
1865	2.679	0.688	0.176	0.865	2.071	5.615	0.511	6.125	0.495	6.621
1866	2.759	0.694	0.151	0.845	2.091	5.695	0.469	6.164	0.467	6.631
1867	2.529	0.696	0.138	0.834	1.994	5.356	0.325	5.681	0.440	6.121
1868	2.570	0.692	0.136	0.828	2.024	5.423	0.386	5.809	0.439	6.248
1869	2.646	0.710	0.133	0.844	2.061	5.550	0.359	5.909	0.460	6.369
1870	2.807	0.729	0.140	0.869	2.091	5.768	0.340	6.108	0.441	6.549
1871	2.675	0.741	0.145	0.886	2.080	5.641	0.369	6.009	0.469	6.478
1872	2.601	0.759	0.155	0.914	2.098	5.612	0.300	5.913	0.523	6.436
1873	2.560	0.781	0.171	0.952	2.117	5.628	0.287	5.916	0.531	6.447
1874	2.793	0.792	0.177	0.969	2.177	5.938	0.316	6.255	0.567	6.821
1875	2.739	0.795	0.154	0.949	2.213	5.901	0.405	6.307	0.573	6.879
1876	2.603	0.809	0.150	0.959	2.229	5.791	0.396	6.186	0.595	6.781
1877	2.641	0.818	0.154	0.972	2.252	5.865	0.416	6.281	0.563	6.844
1878	2.822	0.834	0.157	0.991	2.277	6.090	0.394	6.484	0.592	7.076
1879	2.814	0.836	0.161	0.996	2.321	6.131	0.409	6.539	0.687	7.227
1880	2.875	0.863	0.173	1.035	2.364	6.275	0.408	6.683	0.628	7.311
1881	2.931	0.912	0.179	1.091	2.421	6.443	0.450	6.893	0.714	7.607
1882	2.983	0.937	0.203	1.140	2.458	6.582	0.452	7.034	0.744	7.778
1883	3.004	0.970	0.216	1.186	2.497	6.686	0.463	7.149	0.781	7.930
1884	2.828	1.001	0.222	1.223	2.523	6.574	0.517	7.092	0.795	7.886
1885	2.911	1.038	0.227	1.266	2.562	6.739	0.527	7.265	0.960	8.225
1886	3.062	1.081	0.232	1.313	2.622	6.998	0.491	7.488	0.943	8.432

Table 2A.1 Supply side (million euros; 1911 prices) *(continued)*

Year	Value added: agriculture	Value added: industry			Value added: Services	Total value added	Net indirect taxes	GDP at market prices	Imports	Total supply
		Industry including energy	Constructions	Total Industry						
1887	3.097	1.121	0.228	1.348	2.703	7.149	0.570	7.718	1.058	8.776
1888	3.039	1.132	0.229	1.360	2.706	7.105	0.629	7.734	0.746	8.480
1889	2.900	1.118	0.220	1.338	2.717	6.955	0.583	7.538	0.851	8.389
1890	3.019	1.125	0.218	1.344	2.724	7.086	0.525	7.611	0.774	8.385
1891	3.175	1.115	0.214	1.329	2.742	7.246	0.511	7.757	0.669	8.426
1892	3.177	1.105	0.203	1.308	2.811	7.296	0.519	7.815	0.706	8.521
1893	3.286	1.126	0.195	1.321	2.859	7.467	0.519	7.986	0.724	8.710
1894	3.300	1.160	0.195	1.355	2.873	7.527	0.561	8.088	0.750	8.837
1895	3.369	1.192	0.168	1.360	2.923	7.653	0.548	8.201	0.765	8.967
1896	3.414	1.217	0.160	1.377	2.995	7.786	0.579	8.365	0.749	9.114
1897	3.423	1.250	0.162	1.412	3.024	7.860	0.567	8.426	0.760	9.187
1898	3.425	1.294	0.161	1.455	3.052	7.932	0.523	8.455	0.860	9.315
1899	3.426	1.357	0.163	1.520	3.104	8.050	0.542	8.593	0.894	9.487
1900	3.532	1.381	0.168	1.549	3.206	8.287	0.594	8.881	0.903	9.784
1901	3.598	1.415	0.177	1.592	3.261	8.450	0.614	9.063	0.988	10.051
1902	3.657	1.460	0.191	1.651	3.321	8.629	0.654	9.283	1.078	10.361
1903	3.732	1.518	0.201	1.719	3.378	8.829	0.621	9.450	1.190	10.640
1904	3.857	1.577	0.210	1.787	3.419	9.064	0.619	9.683	1.098	10.781
1905	3.927	1.666	0.224	1.891	3.486	9.303	0.670	9.973	1.295	11.268
1906	4.009	1.790	0.239	2.029	3.622	9.660	0.730	10.391	1.458	11.849
1907	4.157	1.903	0.252	2.154	3.699	10.010	0.656	10.666	1.608	12.273
1908	4.145	2.019	0.267	2.286	3.814	10.245	0.737	10.982	1.609	12.590
1909	4.144	2.097	0.305	2.402	3.876	10.421	0.745	11.166	1.700	12.867
1910	4.053	2.160	0.343	2.502	3.935	10.491	0.784	11.275	1.746	13.021
1911	4.113	2.181	0.362	2.542	4.035	10.690	0.834	11.524	1.815	13.339

Table 2A.2 Supply side (million euros; 1938 prices)

Year	Value added: agriculture	Value added: industry			Value added: Services	Total value added	Net indirect taxes	GDP at market prices	Imports	Total supply
		Industry including energy	Constructions	Total Industry						
1911	18.101	12.016	1.505	13.522	21.108	52.730	4.183	56.914	7.636	64.550
1912	17.580	12.642	1.689	14.331	21.422	53.333	4.080	57.413	8.145	65.558
1913	19.768	12.577	1.768	14.345	22.006	56.118	4.287	60.405	8.001	68.406
1914	18.194	11.861	1.951	13.812	21.254	53.260	3.873	57.134	6.368	63.502
1915	16.658	11.473	1.477	12.950	21.572	51.180	3.873	55.053	7.305	62.358
1916	17.974	12.680	0.850	13.530	23.607	55.111	5.061	60.172	8.106	68.278
1917	17.992	12.531	0.571	13.102	24.022	55.117	5.165	60.281	7.428	67.710
1918	18.483	12.081	0.515	12.596	22.513	53.592	4.751	58.344	7.374	65.717
1919	16.828	10.429	1.148	11.577	22.040	50.445	4.596	55.041	7.425	62.466
1920	17.972	10.986	1.236	12.222	21.881	52.075	4.442	56.517	7.003	63.519
1921	17.682	10.368	1.484	11.852	21.098	50.631	4.235	54.866	6.499	61.366
1922	18.786	11.635	2.240	13.875	22.187	54.848	4.648	59.496	7.206	66.703
1923	20.626	12.991	2.700	15.691	23.649	59.967	5.061	65.028	7.371	72.399
1924	19.768	14.154	2.766	16.920	24.735	61.422	5.371	66.794	7.887	74.680
1925	21.102	16.511	2.751	19.261	26.447	66.810	4.596	71.406	9.014	80.420
1926	21.237	16.482	2.881	19.363	26.636	67.236	4.751	71.987	9.009	80.996
1927	19.368	15.811	2.807	18.618	26.356	64.342	6.301	70.643	8.730	79.373
1928	21.086	17.146	2.854	20.000	27.569	68.654	6.456	75.110	10.142	85.252
1929	21.967	18.291	3.780	22.071	28.273	72.310	6.559	78.869	10.247	89.116
1930	19.650	17.163	3.837	21.000	27.336	67.985	7.179	75.164	9.453	84.617
1931	20.477	15.325	3.102	18.426	27.272	66.176	8.212	74.388	8.072	82.460
1932	22.441	14.275	3.041	17.316	27.947	67.704	8.263	75.968	6.967	82.934
1933	20.368	15.314	3.778	19.092	27.241	66.701	8.367	75.068	8.071	83.139
1934	19.363	15.664	3.961	19.625	27.471	66.459	8.418	74.878	7.249	82.127
1935	21.181	17.416	3.627	21.043	28.456	70.681	8.263	78.944	7.117	86.061

Table 2A.2 Supply side (million euros; 1938 prices) *(continued)*

Year	Value added: agriculture	Value added: industry			Value added: Services	Total value added	Net indirect taxes	GDP at market prices	Imports	Total supply
		Industry including energy	Constructions	Total Industry						
1936	19.296	17.825	2.666	20.491	28.351	68.138	8.005	76.144	4.523	80.666
1937	21.841	20.488	2.422	22.910	30.802	75.553	8.160	83.713	6.663	90.376
1938	22.113	21.107	2.403	23.510	31.822	77.446	8.652	86.097	6.193	92.290
1939	23.276	22.961	2.600	25.561	33.117	81.953	9.530	91.483	5.851	97.335
1940	22.027	23.180	2.614	25.793	34.008	81.828	8.123	89.951	5.409	95.360
1941	21.325	21.694	2.399	24.093	34.585	80.002	8.505	88.508	5.840	94.347
1942	19.053	18.841	2.093	20.934	35.916	75.904	7.750	83.654	5.265	88.920
1943	16.597	14.690	1.635	16.325	32.696	65.618	5.312	70.931	1.835	72.766
1944	16.254	9.325	1.008	10.332	28.045	54.631	2.581	57.212	0.545	57.757
1945	15.399	6.889	0.946	7.835	25.084	48.318	3.015	51.333	0.246	51.579
1946	18.945	15.106	2.451	17.557	28.278	64.780	4.499	69.279	1.435	70.714
1947	20.160	19.280	2.901	22.181	34.028	76.369	6.199	82.568	0.110	82.678
1948	20.981	20.433	2.752	23.185	35.358	79.524	9.428	88.952	7.040	95.992
1949	22.212	21.860	2.758	24.618	37.557	84.387	12.204	96.592	7.785	104.377
1950	23.103	24.872	3.075	27.947	39.768	90.818	13.898	104.716	4.532	109.249
1951	24.699	28.329	3.375	31.704	42.814	99.217	15.636	114.853	14.248	129.102

Table 2A.3 Supply side (million euros; 1963 prices)

Year	Value added: agriculture	Value added: industry			Value added: Services	Total value added	Net indirect taxes	GDP at market prices	Imports	Total supply
		Industry including energy	Constructions	Total Industry						
1951	1768.039	1706.970	443.336	2150.306	3768.347	7686.692	1187.578	8874.270	603.433	9477.702
1952	1730.123	1796.988	524.447	2321.434	3989.732	8041.289	1238.162	9279.451	667.163	9946.614
1953	1910.933	1951.604	610.078	2561.681	4216.045	8688.660	1258.901	9947.561	756.396	10703.957
1954	1797.348	2158.914	683.488	2842.401	4395.327	9035.076	1286.174	10321.251	778.039	11099.290
1955	1880.036	2363.356	770.138	3133.494	4686.918	9700.448	1333.135	11033.583	850.215	11883.798
1956	1873.088	2566.650	800.584	3367.233	4946.622	10186.943	1388.075	11575.017	966.475	12541.492
1957	1891.627	2761.755	884.525	3646.279	5246.477	10784.383	1445.180	12229.563	1070.752	13300.315
1958	2093.133	2856.010	961.479	3817.490	5493.632	11404.255	1507.323	12911.578	1107.101	14018.679
1959	2153.576	3191.824	1039.162	4230.986	5863.082	12247.644	1577.845	13825.489	1231.367	15056.856
1960	2039.614	3640.099	1105.808	4745.907	6304.965	13090.486	1725.937	14816.423	1681.551	16497.974
1961	2199.898	4027.769	1189.039	5216.807	6775.863	14192.569	1809.228	16001.796	1918.099	17919.895
1962	2167.520	4443.139	1305.545	5748.684	7243.653	15159.858	1908.291	17068.149	2220.652	19288.801
1963	2203.123	4757.371	1389.279	6146.650	7729.904	16079.677	2019.101	18098.778	2704.037	20802.816
1964	2282.233	4871.820	1399.181	6271.000	8103.591	16656.825	2121.253	18778.078	2553.646	21331.723
1965	2336.034	5171.351	1339.564	6510.915	8549.663	17396.612	2214.005	19610.616	2588.302	22198.919
1966	2399.355	5683.941	1364.716	7048.657	9129.377	18577.388	2330.234	20907.622	2929.054	23836.676
1967	2564.646	6269.738	1456.321	7726.059	9747.875	20038.580	2477.713	22516.293	3295.962	25812.255
1968	2475.061	6910.979	1601.842	8512.821	10563.283	21551.166	2588.835	24140.001	3526.242	27666.243
1969	2531.130	7424.767	1739.255	9164.021	11278.618	22973.769	2744.062	25717.831	4231.411	29949.242
1970	2484.776	8070.990	1733.695	9804.685	12102.633	24392.093	2888.051	27280.145	4947.490	32227.635

Table 2A.4 Supply side (million euros; 2010 prices)

Year	Value added: agriculture	Value added: industry			Value added: Services	Total value added	Net indirect taxes	GDP at market prices	Imports	Total supply
		Industry including energy	Constructions	Total Industry						
1970	20302.564	115509.103	75568.365	176100.570	399687.033	605509.411	109024.383	700634.756	96592.268	797182.098
1971	20186.510	116641.982	71579.141	175231.512	415471.054	616438.947	111159.867	713373.050	99472.438	812923.892
1972	18072.639	124652.843	71716.652	184571.742	434860.359	638931.038	115786.972	739700.206	109366.058	849720.296
1973	19313.845	141847.319	72117.913	204517.661	455799.678	685025.281	122769.845	792410.058	119917.006	913248.380
1974	19767.706	152898.174	75492.162	219029.557	481608.278	725769.950	122417.587	835994.005	123599.608	959984.250
1975	20348.971	144264.185	73137.107	207833.082	479954.910	711072.277	118807.735	818520.043	106108.965	918121.256
1976	19204.397	165830.885	71321.631	230733.674	509386.874	761819.957	127004.295	876842.773	120501.675	993159.882
1977	19250.230	172893.002	70859.012	238394.681	522888.095	782743.184	126266.733	899294.471	122372.339	1016783.472
1978	19469.094	179532.543	72378.189	246783.010	540763.989	808586.500	129157.842	928432.861	129667.224	1054580.915
1979	20619.868	196325.598	74193.691	266660.743	567061.807	858294.590	132945.434	983759.518	145217.962	1128202.861
1980	21477.112	208199.742	76770.631	281532.095	580585.904	890121.917	130762.980	1017502.759	153308.022	1171288.570
1981	21917.912	204486.396	79180.116	279129.811	591406.881	897596.776	131965.489	1026092.777	152068.386	1177465.129
1982	21317.088	201712.020	80621.504	277146.259	600876.402	902039.060	130561.312	1030336.555	151985.875	1181247.890
1983	23220.986	202503.812	80573.756	277985.738	607620.196	913338.892	130268.364	1042383.283	147327.972	1185606.057
1984	22893.100	209423.412	77180.304	283247.713	635629.985	943656.690	132664.064	1076009.072	166218.674	1243341.731
1985	23035.871	215587.370	75867.261	289036.758	658122.639	970737.204	134962.210	1106116.748	173326.587	1281483.843
1986	23712.888	221183.804	74808.850	294347.222	679481.801	997408.211	141080.577	1137751.314	182541.455	1323896.372
1987	24734.886	230161.163	75167.126	304354.589	700294.251	1029650.939	144743.619	1174067.907	204507.649	1384157.477
1988	24369.236	245327.288	76980.953	322132.588	726738.860	1073173.900	150193.988	1223312.731	216700.084	1445998.619
1989	24814.048	256448.717	80283.495	336596.016	748665.516	1110223.927	154170.340	1264763.252	235226.496	1506513.248
1990	24506.528	259597.222	82104.097	341356.341	767086.382	1132088.732	158816.918	1290723.507	257879.088	1555900.521
1991	26754.259	259083.840	84026.216	342338.161	779228.100	1148408.545	162774.452	1310519.785	263598.759	1581465.829
1992	27469.569	258517.390	83348.400	341189.072	787899.536	1156664.425	164899.270	1320649.366	281878.860	1608417.721
1993	27290.985	251924.258	78616.404	330327.769	792659.346	1149693.587	158911.744	1308919.139	249053.451	1567244.304
1994	27621.363	268470.455	74250.632	344094.834	804174.594	1175757.082	160680.798	1337085.684	268398.094	1614531.690

Table 2A.4 Supply side (million euros; 2010 prices) *(continued)*

Year	Value added: agriculture	Value added: industry			Value added: Services	Total value added	Net indirect taxes	GDP at market prices	Imports	Total supply
		Industry including energy	Constructions	Total Industry						
1995	28012.935	280272.466	75155.773	357199.415	822936.323	1208066.543	166346.983	1374884.611	293381.191	1677209.006
1996	28433.138	279779.269	76576.122	357861.051	834898.162	1220982.221	168536.890	1389944.810	291931.074	1690784.212
1997	29216.975	282543.586	74926.283	359409.210	851756.456	1240150.276	176125.496	1415968.057	319259.566	1743598.632
1998	29910.275	285191.074	75095.348	362336.183	863330.013	1255418.800	181017.978	1435810.375	349310.467	1792623.278
1999	31707.888	285454.658	75528.547	362966.590	874352.148	1269320.734	187661.799	1456834.649	366408.751	1830006.873
2000	30959.933	295420.530	79078.386	376390.649	909626.392	1316675.264	194148.738	1510638.276	402224.219	1918118.787
2001	30207.601	294648.890	83603.377	379386.946	931095.019	1339981.108	198273.770	1538104.937	409263.695	1952723.873
2002	29285.015	293529.910	85488.298	379833.083	939091.517	1347191.955	198063.555	1545088.707	410204.890	1960695.115
2003	27844.759	285314.576	87509.137	373057.113	942359.332	1341953.935	202914.378	1544827.221	415139.351	1965110.914
2004	31496.618	288059.261	88834.232	377076.513	957312.454	1365606.750	202839.278	1568491.210	432459.523	2005255.862
2005	30105.820	287574.788	90731.480	378328.786	967512.837	1375454.941	203277.084	1578778.497	441462.699	2024059.514
2006	29737.999	296631.015	92333.270	389060.021	984933.059	1403003.862	207859.865	1610922.905	467699.939	2081597.459
2007	29740.230	302191.005	92790.379	395144.458	1001409.987	1425494.746	209381.130	1634800.510	485401.074	2123098.878
2008	30180.329	291820.527	90159.459	382110.194	997051.629	1408775.355	204626.100	1613168.311	463907.444	2080096.027
2009	29440.450	246305.727	83227.580	329409.872	970797.958	1329607.726	199546.416	1529002.303	400262.763	1931364.856
2010	29682.100	258162.050	80354.180	338516.230	980986.840	1349185.170	199631.000	1548816.170	442162.800	1990978.970

Table 2B.1 Demand side (millions euros, 1911 prices)

Year	Exports	Consumption			Fixed investments						Inventory variation	Total investments	Total uses
					Constructions			Plant. Machinery and transport equipments	Other investments	Total fixed investments			
		Public	Private	Total consumption	Housing	Non-housing	Total constructions						
1861	0.25317	0.636	4.644	5.280	0.035	0.148	0.183	0.045	0.060	0.288	0.010	0.298	5.831
1862	0.298	0.701	4.598	5.299	0.053	0.170	0.223	0.048	0.062	0.333	0.011	0.343	5.941
1863	0.337	0.698	4.761	5.459	0.045	0.182	0.227	0.047	0.065	0.339	0.011	0.349	6.146
1864	0.306	0.722	4.846	5.568	0.051	0.175	0.227	0.056	0.077	0.359	0.013	0.372	6.246
1865	0.296	0.718	5.203	5.921	0.042	0.184	0.226	0.072	0.093	0.391	0.013	0.403	6.621
1866	0.335	1.029	4.913	5.941	0.032	0.146	0.178	0.075	0.093	0.346	0.009	0.355	6.631
1867	0.338	0.599	4.881	5.479	0.032	0.109	0.142	0.082	0.094	0.318	-0.014	0.303	6.121
1868	0.361	0.613	4.948	5.560	0.027	0.110	0.137	0.087	0.094	0.317	0.009	0.326	6.248
1869	0.370	0.636	5.041	5.677	0.033	0.102	0.134	0.086	0.093	0.313	0.009	0.322	6.369
1870	0.351	0.669	5.225	5.894	0.028	0.114	0.142	0.091	0.106	0.339	-0.035	0.304	6.549
1871	0.474	0.591	5.092	5.682	0.035	0.111	0.146	0.136	0.125	0.406	-0.084	0.322	6.478
1872	0.417	0.541	5.010	5.551	0.036	0.126	0.161	0.177	0.144	0.483	-0.015	0.468	6.436
1873	0.402	0.546	4.891	5.437	0.049	0.145	0.194	0.195	0.155	0.543	0.065	0.608	6.447
1874	0.380	0.532	5.216	5.748	0.057	0.150	0.207	0.230	0.187	0.624	0.070	0.694	6.821
1875	0.436	0.542	5.334	5.875	0.043	0.125	0.168	0.197	0.192	0.557	0.011	0.568	6.879
1876	0.439	0.558	5.252	5.810	0.040	0.118	0.158	0.202	0.180	0.540	-0.008	0.532	6.781
1877	0.386	0.513	5.405	5.918	0.041	0.123	0.164	0.200	0.170	0.533	0.007	0.540	6.844
1878	0.484	0.498	5.565	6.063	0.039	0.127	0.166	0.217	0.174	0.557	-0.029	0.528	7.076
1879	0.506	0.512	5.725	6.236	0.037	0.133	0.170	0.204	0.154	0.528	-0.044	0.485	7.227
1880	0.545	0.487	5.709	6.196	0.040	0.149	0.189	0.250	0.167	0.606	-0.036	0.570	7.311
1881	0.597	0.481	5.921	6.402	0.046	0.157	0.203	0.257	0.165	0.625	-0.017	0.608	7.607
1882	0.596	0.504	5.958	6.462	0.057	0.188	0.245	0.264	0.158	0.666	0.054	0.720	7.778
1883	0.615	0.521	6.113	6.634	0.056	0.212	0.268	0.265	0.153	0.686	-0.005	0.681	7.930
1884	0.593	0.543	6.030	6.573	0.059	0.223	0.282	0.285	0.159	0.725	-0.005	0.720	7.886
1885	0.623	0.563	6.305	6.867	0.069	0.229	0.297	0.268	0.141	0.707	0.029	0.735	8.225
1886	0.600	0.563	6.496	7.059	0.070	0.235	0.305	0.344	0.165	0.814	-0.041	0.773	8.432

Table 2B.1 Demand side (millions euros, 1911 prices) *(continued)*

Year	Exports	Consumption			Fixed investments						Inventory variation	Total investments	Total uses
					Constructions			Plant. Machinery and transport equipments	Other investments	Total fixed investments			
		Public	Private	Total consumption	Housing	Non-housing	Total constructions						
1887	0.656	0.611	6.669	7.280	0.053	0.239	0.292	0.330	0.149	0.770	0.070	0.840	8.776
1888	0.609	0.652	6.335	6.987	0.038	0.249	0.287	0.451	0.191	0.929	-0.045	0.884	8.480
1889	0.558	0.667	6.328	6.995	0.040	0.234	0.274	0.372	0.160	0.806	0.030	0.836	8.389
1890	0.521	0.655	6.419	7.074	0.054	0.224	0.277	0.325	0.140	0.743	0.047	0.790	8.385
1891	0.543	0.642	6.589	7.232	0.060	0.213	0.273	0.305	0.128	0.707	-0.055	0.652	8.426
1892	0.583	0.640	6.687	7.327	0.053	0.198	0.252	0.283	0.118	0.653	-0.042	0.611	8.521
1893	0.620	0.655	6.815	7.470	0.061	0.182	0.243	0.282	0.123	0.648	-0.028	0.620	8.710
1894	0.662	0.714	6.787	7.501	0.059	0.183	0.242	0.331	0.140	0.713	-0.039	0.674	8.837
1895	0.647	0.739	6.838	7.577	0.058	0.134	0.192	0.350	0.146	0.687	0.056	0.743	8.967
1896	0.685	0.752	6.893	7.646	0.059	0.117	0.177	0.391	0.165	0.733	0.050	0.783	9.114
1897	0.741	0.734	7.021	7.755	0.059	0.119	0.179	0.423	0.178	0.780	-0.089	0.691	9.187
1898	0.812	0.730	7.117	7.847	0.060	0.117	0.176	0.441	0.184	0.802	-0.146	0.655	9.315
1899	0.891	0.740	6.985	7.725	0.061	0.121	0.181	0.477	0.204	0.863	0.007	0.870	9.487
1900	0.846	0.757	6.983	7.740	0.063	0.132	0.195	0.515	0.223	0.934	0.265	1.199	9.784
1901	0.896	0.770	7.312	8.081	0.071	0.143	0.215	0.621	0.257	1.093	-0.019	1.074	10.051
1902	0.954	0.766	7.601	8.366	0.083	0.164	0.247	0.668	0.262	1.178	-0.137	1.041	10.361
1903	0.952	0.749	7.794	8.543	0.097	0.174	0.270	0.697	0.257	1.225	-0.080	1.144	10.640
1904	1.025	0.769	7.701	8.470	0.108	0.184	0.292	0.824	0.289	1.405	-0.119	1.286	10.781
1905	1.096	0.787	7.875	8.662	0.119	0.206	0.325	1.071	0.378	1.774	-0.264	1.510	11.268
1906	1.156	0.797	7.882	8.679	0.117	0.239	0.355	1.221	0.428	2.004	0.010	2.014	11.849
1907	1.111	0.800	8.111	8.911	0.123	0.261	0.384	1.164	0.410	1.958	0.293	2.251	12.273
1908	1.079	0.838	8.456	9.294	0.129	0.290	0.418	1.046	0.380	1.844	0.373	2.218	12.590
1909	1.170	0.859	9.123	9.982	0.152	0.356	0.508	0.967	0.364	1.840	-0.125	1.714	12.867
1910	1.219	0.975	9.065	10.039	0.179	0.418	0.597	0.960	0.331	1.889	-0.126	1.762	13.021
1911	1.254	1.096	9.277	10.373	0.181	0.453	0.634	0.842	0.294	1.770	-0.058	1.712	13.339

Table 2B.2 Demand side (millions euros, 1938 prices)

Year	Exports	Consumption			Fixed investments						Inventory variation	Total investments	Total uses
					Constructions			Plant. Machinery and transport equipments	Other investments	Total fixed investments			
		Public	Private	Total consumption	Housing	Non-housing	Total constructions						
1911	5.200	4.455	46.721	51.176	0.760	2.158	2.917	4.066	1.472	8.455	-0.281	8.174	64.550
1912	5.652	4.801	47.178	51.979	0.772	2.186	2.958	3.709	1.163	7.830	0.097	7.927	65.558
1913	5.939	4.947	49.869	54.816	0.753	2.127	2.880	3.425	1.150	7.454	0.196	7.650	68.406
1914	5.122	7.475	43.594	51.069	0.804	2.244	3.048	3.464	1.147	7.659	-0.348	7.311	63.502
1915	5.009	19.530	32.920	52.450	0.423	1.821	2.245	2.852	0.742	5.838	-0.939	4.899	62.358
1916	4.380	32.557	27.880	60.437	0.122	1.127	1.249	2.003	0.293	3.545	-0.084	3.461	68.278
1917	3.019	41.801	20.061	61.862	0.100	0.723	0.824	1.618	0.240	2.681	0.147	2.829	67.710
1918	2.272	44.074	17.251	61.325	0.099	0.624	0.723	1.681	0.127	2.530	-0.410	2.120	65.717
1919	3.511	29.211	26.169	55.381	0.258	1.308	1.567	2.374	0.201	4.141	-0.567	3.575	62.466
1920	4.198	14.957	38.977	53.934	0.280	1.408	1.688	2.329	0.360	4.377	1.010	5.388	63.519
1921	3.754	16.114	36.335	52.449	0.347	1.663	2.009	2.614	0.467	5.091	0.071	5.162	61.366
1922	3.803	12.473	44.423	56.895	0.602	2.274	2.876	2.647	0.833	6.355	-0.351	6.004	66.703
1923	4.794	8.481	52.238	60.719	0.852	2.488	3.341	2.939	1.047	7.327	-0.441	6.886	72.399
1924	5.993	7.646	53.885	61.531	1.090	2.245	3.335	3.312	0.849	7.497	-0.340	7.157	74.680
1925	6.660	7.148	58.217	65.366	1.260	1.991	3.251	3.579	0.832	7.662	0.732	8.394	80.420
1926	6.401	7.787	58.265	66.052	1.167	2.136	3.304	3.549	0.926	7.779	0.764	8.543	80.996
1927	6.731	8.029	56.752	64.781	0.927	2.225	3.152	4.681	0.897	8.730	-0.869	7.861	79.373
1928	6.995	8.101	61.150	69.251	0.954	2.217	3.172	5.584	0.797	9.553	-0.546	9.007	85.252
1929	7.676	8.115	61.405	69.520	1.523	2.626	4.149	5.661	0.780	10.590	1.330	11.920	89.116
1930	6.996	8.016	57.559	65.575	1.730	3.017	4.747	5.811	0.700	11.257	0.789	12.046	84.617
1931	6.827	9.523	55.970	65.494	1.582	2.860	4.442	5.313	0.776	10.531	-0.392	10.139	82.460
1932	5.473	9.886	58.239	68.126	1.365	2.809	4.174	5.019	0.974	10.167	-0.831	9.336	82.934
1933	5.579	10.421	57.477	67.898	1.341	3.161	4.502	4.600	1.037	10.138	-0.477	9.662	83.139
1934	5.558	10.555	55.625	66.180	1.829	3.280	5.109	4.627	0.922	10.659	-0.270	10.389	82.127
1935	5.031	12.421	56.586	69.007	2.556	3.344	5.900	5.149	1.002	12.050	-0.026	12.024	86.061
1936	4.615	16.432	48.350	64.782	2.452	3.061	5.514	5.533	1.359	12.405	-1.136	11.269	80.666

Table 2B.2 Demand side (millions euros, 1938 prices) *(continued)*

Year	Exports	Consumption			Fixed investments						Inventory variation	Total investments	Total uses
					Constructions			Plant. Machinery and transport equipments	Other investments	Total fixed investments			
		Public	Private	Total consumption	Housing	Non-housing	Total constructions						
1937	6.380	16.111	56.819	72.931	1.735	2.550	4.285	6.116	0.856	11.257	-0.192	11.065	90.376
1938	6.463	15.270	58.899	74.169	1.340	2.188	3.528	6.800	0.987	11.315	0.344	11.659	92.290
1939	6.893	17.062	60.253	77.315	1.261	2.660	3.922	7.940	1.098	12.960	0.167	13.127	97.335
1940	7.075	18.715	57.162	75.878	0.938	2.841	3.779	7.139	0.957	11.875	0.533	12.408	95.360
1941	5.505	20.638	56.920	77.557	0.672	2.616	3.287	7.007	0.880	11.174	0.110	11.284	94.347
1942	5.622	27.304	45.961	73.266	0.648	2.424	3.072	6.930	0.511	10.513	-0.481	10.032	88.920
1943	2.377	36.796	25.533	62.329	0.507	1.851	2.358	7.056	0.590	10.004	-1.943	8.061	72.766
1944	0.568	28.097	23.589	51.686	0.334	1.146	1.480	4.885	0.593	6.958	-1.454	5.503	57.757
1945	0.279	17.823	28.103	45.926	0.346	1.313	1.659	4.280	0.925	6.863	-1.490	5.374	51.579
1946	3.096	17.107	37.725	54.832	0.874	3.694	4.567	9.218	1.457	15.242	-2.456	12.787	70.714
1947	0.175	12.923	53.735	66.659	0.644	3.953	4.597	8.483	1.107	14.188	1.657	15.845	82.678
1948	0.152	13.636	66.212	79.849	0.923	3.603	4.525	9.126	1.076	14.727	1.264	15.991	95.992
1949	17.333	11.476	58.765	70.241	1.142	3.597	4.739	11.484	1.084	17.307	-0.505	16.803	104.377
1950	9.462	12.518	67.098	79.616	1.809	3.950	5.759	13.084	1.886	20.729	-0.557	20.171	109.249
1951	12.980	13.846	80.037	93.883	2.092	4.527	6.618	13.217	2.119	21.955	0.283	22.238	129.102

Table 2B.3 Demand side (millions euros, 1963 prices)

Year	Exports	Consumption			Fixed investments						Inventory variation	Total investments	Total uses
					Constructions			Plant. Machinery and transport equipments	Other investments	Total fixed investments			
		Public	Private	Total consumption	Housing	Non-housing	Total constructions						
1951	518.643	1415.111	5988.229	7403.340	263.747	381.712	645.459	730.234	165.299	1540.992	14.727	1555.719	9477.702
1952	509.810	1478.312	6226.349	7704.661	328.042	445.501	773.543	777.103	155.388	1706.034	26.108	1732.143	9946.614
1953	623.507	1533.319	6605.486	8138.804	400.339	521.982	922.321	861.386	148.719	1932.426	9.220	1941.646	10703.957
1954	676.523	1617.856	6678.049	8295.905	486.879	572.765	1059.643	966.108	136.585	2162.336	-35.474	2126.862	11099.290
1955	750.240	1691.007	7041.088	8732.095	608.285	647.488	1255.773	1074.433	130.180	2460.386	-58.924	2401.462	11883.798
1956	878.007	1758.141	7300.552	9058.693	681.646	639.634	1321.280	1123.675	119.211	2564.165	40.626	2604.791	12541.492
1957	1070.124	1813.343	7489.022	9302.365	785.101	713.194	1498.295	1133.981	112.931	2745.206	182.620	2927.826	13300.315
1958	1202.888	1976.072	8023.725	9999.797	840.752	830.305	1671.057	1258.318	112.313	3041.688	-225.694	2815.994	14018.679
1959	1418.719	2118.363	8517.137	10635.500	933.931	920.065	1853.996	1461.120	118.787	3433.903	-431.266	3002.638	15056.856
1960	1679.064	2218.277	8956.705	11174.981	952.515	1019.667	1972.182	1632.448	119.241	3723.871	-79.943	3643.928	16497.974
1961	1943.561	2326.318	9443.230	11769.548	1046.242	1086.036	2132.277	1845.942	117.985	4096.205	110.582	4206.786	17919.895
1962	2173.994	2468.792	9966.685	12435.477	1223.457	1173.373	2396.830	1985.569	107.350	4489.750	189.580	4679.330	19288.801
1963	2314.775	2462.662	10191.365	12654.028	1315.575	1123.061	2438.636	1821.115	85.770	4345.522	1488.490	5834.012	20802.816
1964	2573.136	2787.136	11284.970	14072.105	1532.483	1188.523	2721.006	1923.579	78.719	4723.304	-36.822	4686.482	21331.723
1965	3076.504	3191.529	12564.038	15755.568	1585.420	1274.497	2859.917	2071.702	73.902	5005.521	-1638.674	3366.847	22198.919
1966	3467.367	3255.877	13057.082	16312.959	1551.021	1286.833	2837.854	2045.710	65.125	4948.690	-892.339	4056.351	23836.676
1967	3684.884	3308.122	13418.591	16726.714	1600.717	1379.124	2979.842	2128.486	59.609	5167.937	232.720	5400.658	25812.255
1968	4233.282	3493.143	14043.465	17536.608	1823.636	1484.736	3308.372	2355.512	60.230	5724.114	172.239	5896.352	27666.243
1969	4789.781	3684.497	14995.230	18679.727	2039.530	1659.899	3699.429	2530.227	57.029	6286.684	193.049	6479.733	29949.242
1970	5081.005	3871.246	16398.311	20269.557	1996.433	1661.599	3658.032	2920.196	59.544	6637.772	239.300	6877.072	32227.635

Table 2B.4 Demand side (millions euros, 2010 prices)

Year	Exports	Consumption			Fixed investments						Inventory variation	Total investments	Total uses
					Constructions			Plant. Machinery and transport equipments	Other investments	Total fixed investments			
		Public	Private	Total consumption	Housing	Non-housing	Total constructions						
1970	86101.411	146803.729	399953.339	546440.565	73124.360	64901.648	138476.149	43846.786	1461.538	166761.548	-	166299.139	797182.098
1971	92509.274	153584.702	415061.548	568040.522	72103.430	62383.547	134972.653	46743.592	2749.898	169631.188	-	154738.108	812923.892
1972	100342.971	161873.098	428799.544	589484.163	70074.891	66382.824	136825.919	49772.800	3219.351	175881.281	-	161313.051	849720.296
1973	106353.217	167084.203	453645.217	620176.314	69363.498	70259.698	139897.667	57596.603	2519.159	188370.832	-	187351.027	913248.380
1974	113952.276	172409.361	467918.786	639745.409	70357.608	73334.626	143888.461	59395.404	2468.069	193822.408	-	205056.444	959984.250
1975	115868.676	178953.145	469367.017	646497.913	67450.561	72886.295	140398.945	52640.084	2570.185	181687.942	-	160377.554	918121.256
1976	129720.865	186704.076	490406.807	675268.088	62152.750	69877.673	131971.786	57880.402	2538.982	182651.173	-	187659.508	993159.882
1977	143524.776	193194.915	505027.573	696105.655	62170.011	71489.316	133521.614	60993.153	2525.016	188153.765	-	176210.220	1016783.472
1978	159108.247	201344.576	518274.151	716751.894	61876.321	73316.650	134947.240	61750.599	2707.709	190455.313	-	175321.656	1054580.915
1979	171513.619	206206.231	553307.615	758198.165	63791.738	71566.471	135327.457	70798.531	2918.134	203163.638	-	192718.282	1128202.861
1980	157175.913	211620.140	586459.091	797900.387	66698.616	71305.268	138143.798	79626.359	3183.417	217159.654	-	214183.981	1171288.570
1981	167924.027	218728.874	595890.393	813844.562	66604.406	72972.391	139667.849	75664.579	3579.354	213768.911	-	195730.239	1177465.129
1982	165730.220	225162.076	601714.681	825573.857	63487.970	71753.007	135302.289	72622.749	3808.354	206562.216	-	192407.001	1181247.890
1983	172028.174	233426.471	600635.733	831606.949	66661.389	69487.894	136322.765	69424.522	3866.062	203588.725	-	184706.413	1185606.057
1984	185278.194	237140.978	618362.164	853405.420	67173.109	68785.232	136164.232	75842.980	4523.238	211700.004	-	203151.013	1243341.731
1985	191901.407	243886.271	636090.636	877826.273	65081.364	70609.820	135796.739	77653.541	4908.642	213888.300	-	209800.765	1281483.843
1986	195132.708	249886.785	661942.158	910096.263	62990.654	75275.920	138233.235	79222.978	7106.747	219843.858	-	217419.562	1323896.372
1987	203160.457	261746.770	686043.107	945634.531	61653.626	76557.529	138116.683	87365.765	8165.496	230439.755	-	233161.653	1384157.477
1988	213701.407	272044.606	714090.455	983935.121	62887.499	79064.744	141837.365	97679.608	9335.053	247004.695	-	245564.565	1445998.619
1989	231923.728	273450.976	742436.229	1014419.084	64560.483	83636.592	148036.892	102309.567	9353.265	257835.238	-	256339.584	1506513.248
1990	247829.015	279868.610	757765.748	1036076.612	67033.144	87872.329	154723.160	106679.352	9502.176	268923.103	-	267013.996	1555900.521
1991	242567.344	285187.889	778459.908	1062135.131	69092.582	87560.919	156518.165	108223.005	9604.855	272379.130	-	271981.690	1581465.829
1992	259094.740	287909.067	791330.940	1077767.629	69898.341	83741.900	153598.633	107422.589	9363.643	268562.661	-	267551.589	1608417.721
1993	281628.821	283495.140	766877.219	1048751.336	68977.654	73264.819	142375.324	89174.214	8689.236	237792.937	-	236283.906	1567244.304
1994	308680.518	278803.594	778708.432	1056353.112	68112.706	66808.920	135129.929	96118.793	8966.668	238831.276	-	248233.111	1614531.690

Table 2B.4 Demand side (millions euros, 2010 prices) *(continued)*

Year	Exports	Consumption			Fixed investments						Inventory variation	Total investments	Total uses
					Constructions			Plant. Machinery and transport equipments	Other investments	Total fixed investments			
		Public	Private	Total consumption	Housing	Non-housing	Total constructions						
1995	346957.641	269703.924	790123.111	1059482.221	68451.651	71363.005	139957.730	106918.906	9352.399	255358.378	-	269076.471	1677209.006
1996	352170.464	271831.109	797628.232	1069144.322	67065.843	74760.042	141904.985	108950.950	11229.277	261308.113	-	267772.263	1690784.212
1997	370288.581	273114.157	823101.858	1096314.085	65499.001	74391.586	139948.458	114262.709	11385.692	265477.238	-	275345.175	1743598.632
1998	379537.128	274145.012	851582.274	1126187.034	64854.218	74754.642	139652.160	123760.674	12354.019	276557.223	-	285158.285	1792623.278
1999	378071.389	277940.909	873472.566	1152006.888	65685.741	77727.465	143436.219	129696.964	13157.479	287339.262	-	297818.724	1830006.873
2000	423164.194	284130.027	894044.421	1178793.355	68707.121	83064.455	151774.624	138400.103	13953.407	305337.112	-	315172.112	1918118.787
2001	434184.539	295308.293	900265.488	1195981.874	69707.925	88725.286	158392.093	140091.514	14194.581	313580.475	-	321691.091	1952723.873
2002	421770.116	302428.423	901993.353	1204727.906	71223.216	96532.668	167671.454	142556.660	14592.701	325305.692	-	332898.929	1960695.115
2003	413329.377	308292.501	910863.327	1219413.201	73655.068	98123.113	171705.497	135600.850	14279.702	321328.994	-	330474.520	1965110.914
2004	433453.264	315131.212	918036.707	1233377.286	75806.502	99689.490	175428.722	139699.840	13685.591	328569.856	-	337438.851	2005255.862
2005	438197.108	321112.385	928660.802	1249961.685	79853.707	96406.140	176214.987	142063.143	13166.147	331237.897	-	334779.856	2024059.514
2006	465447.902	322585.802	940329.542	1263112.435	83114.055	94926.826	178020.719	149243.732	13753.306	340949.339	-	353125.952	2081597.459
2007	486651.754	325505.256	950502.417	1276209.284	83765.967	94877.157	178626.340	153836.875	14275.106	346748.107	-	360945.820	2123098.878
2008	465739.606	327293.482	943108.590	1270533.931	82877.874	90450.423	173332.040	146062.187	14103.893	333481.941	-	344056.492	2080096.027
2009	380060.691	330539.820	925946.892	1256493.399	75237.238	83090.313	158327.150	122200.727	13488.924	293909.499	-	294009.541	1931364.856
2010	414728.400	328607.000	934902.048	1263509.048	73603.500	78943.066	152546.566	135046.947	13692.233	301285.746	-	312741.695	1990978.970

Table 3

Sector classifications

Benchmarks	Between benchmarks (pre-ESA classifications): 1861-1970	1861-2010 series
Agriculture	Agriculture	Agriculture
Mining	Mining	Industry including energy
Foodstuffs Tobacco Textiles Clothing Leather Wood Metalmaking Engineering Minerals Chemical Coal and petroleum products Rubber Printing Other manufacturing	Manufacturing	
Utilities	Utilities	
Constructions	Constructions	Constructions
Commerce, hotels and restaurants	Commerce, hotels and restaurants	Services
Transportation Communications	Transportations and Communications	
Banks and insurance	Banks and insurance	
Miscellaneous services	Miscellaneous services	
Public administration	Public administration	
Location of buildings	Location of buildings	

Note: This table is described on page 9

Table 4

Investment classifications

1861-1970 aggregated estimates	1861-1970 disaggregated estimates	1861-2010
Constructions	Housing Public works Non-residential constructions	Housing Non-housing
Plants machinery and transport equipments	Plants machinery and transport equipments	Plants machinery and transport equipments
Other investment goods	Other investment goods	Other investment goods
	Inventory variations	Inventory variations

Note: This table is described on page 10

Table 5

The Excel worksheets

1861-2010

present frontiers	current prices	Tab_01
	constant prices	Tab_02

1861-1970

present frontiers	main time series	current prices	Tab_03
		constant prices	Tab_04
	disaggregated time series	current prices	Tab_05
		constant prices	Tab_06
current frontiers	main time series	current prices	Tab_07
		constant prices	Tab_08
	disaggregated time series	current prices	Tab_09
		constant prices	Tab_10

Note: This table is described on page 11.

Table 6

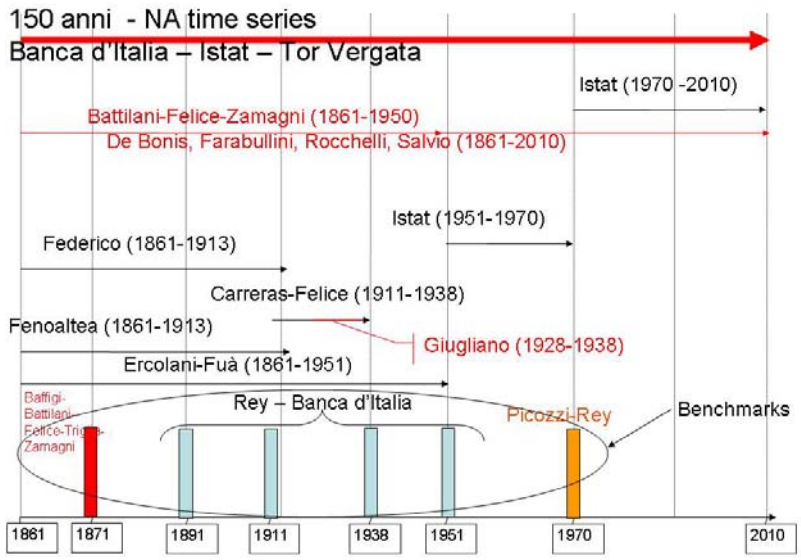
Proxies and benchmarks: our interpolating strategy

		Is the **current prices** time series reliable "in level" AND consistent with the benchmarks?	
		Yes	No
Is the **constant prices** time series reliable "in level"?	Yes	CASE 1 1) Use both current prices and constant time series; 2) Calculate the deflator time series as the ratio between current prices and constant prices value added time series	CASE 2 1) Calculate implicit deflators for benchmark years as the ratio between current prices values and constant prices; 2) Interpolate the "benchmark" deflators using available deflators as a proxy 3) Use the deflator in 2) to obtain a current prices time series.
	No	CASE 3 1) Use the current prices time series; 2) Use a reliable deflator to obtain constant prices time series.	CASE 4 1) Interpolate the benchmark values using the current prices time series as a proxy; 2) Use a reliable deflator to obtain constant prices time series.

Note: The table refers to a hypothetical sector and to a given period, limited by two benchmark current prices estimates. This table is described on pages 8 and 56.

Fig. 1

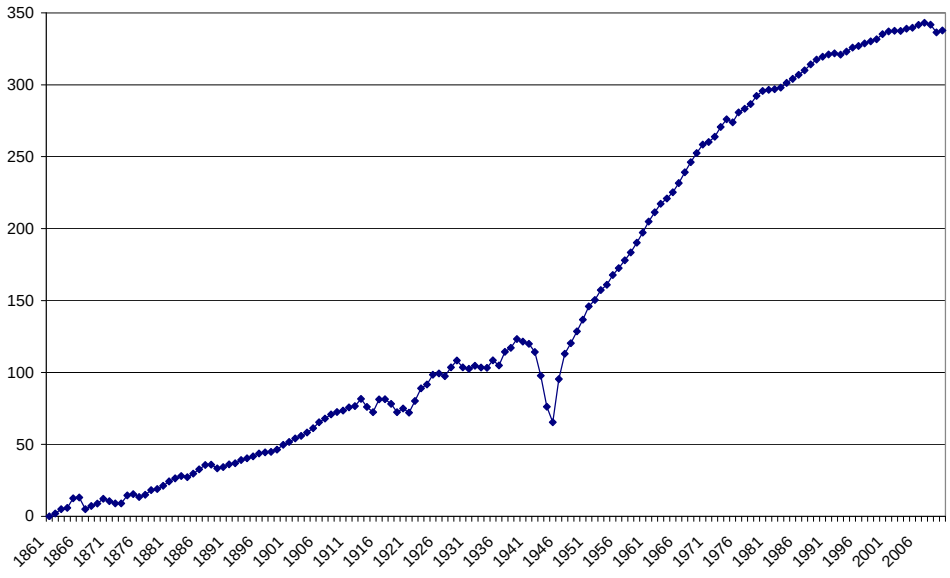
Information used in the reconstruction project



Note: This figure is described on pages 6 and 8

Fig. 2

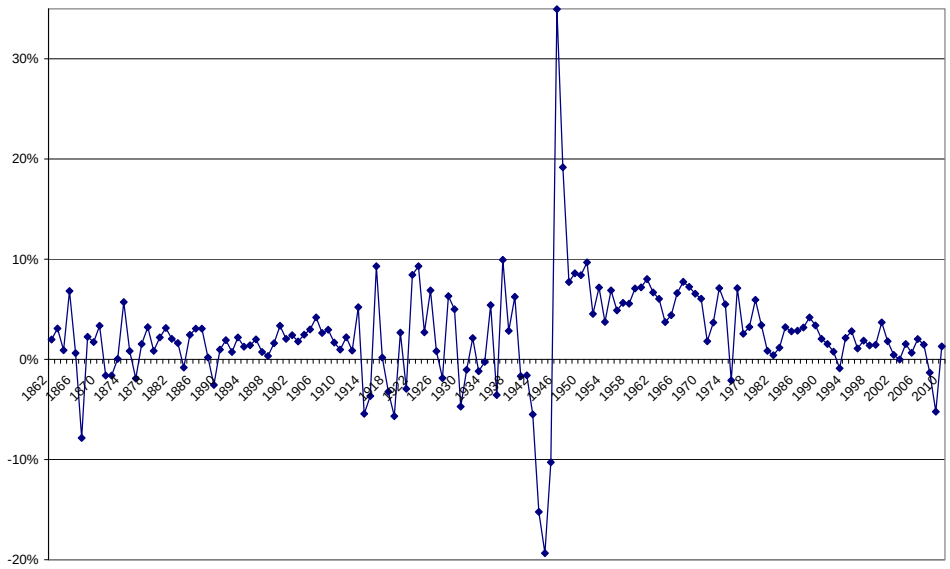
Constant prices GDP per capita (*semilog scale; 1861=0*)



Note: This figure is described on page 11.

Fig. 3

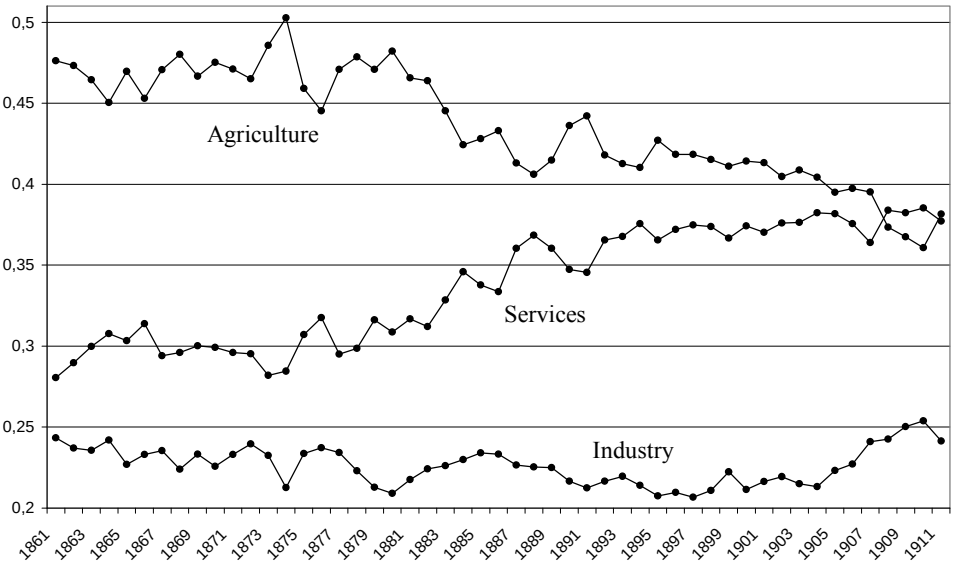
GDP at constant prices (rates of change)



Note: This figure is described on page 11

Fig. 4

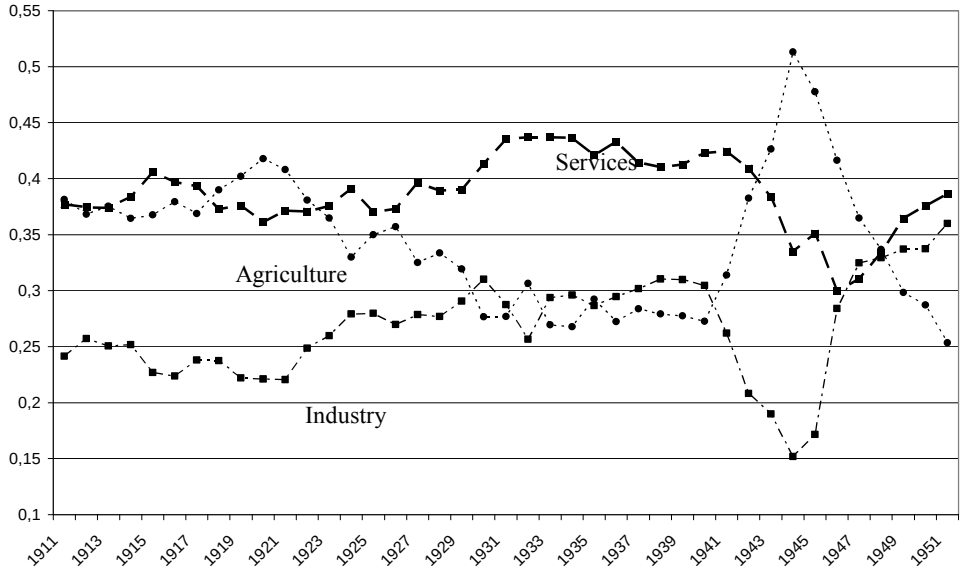
Sectoral values added (percentage shares, 1861-1911)



Note: This figure is described on pages 11 and 13.

Fig. 5

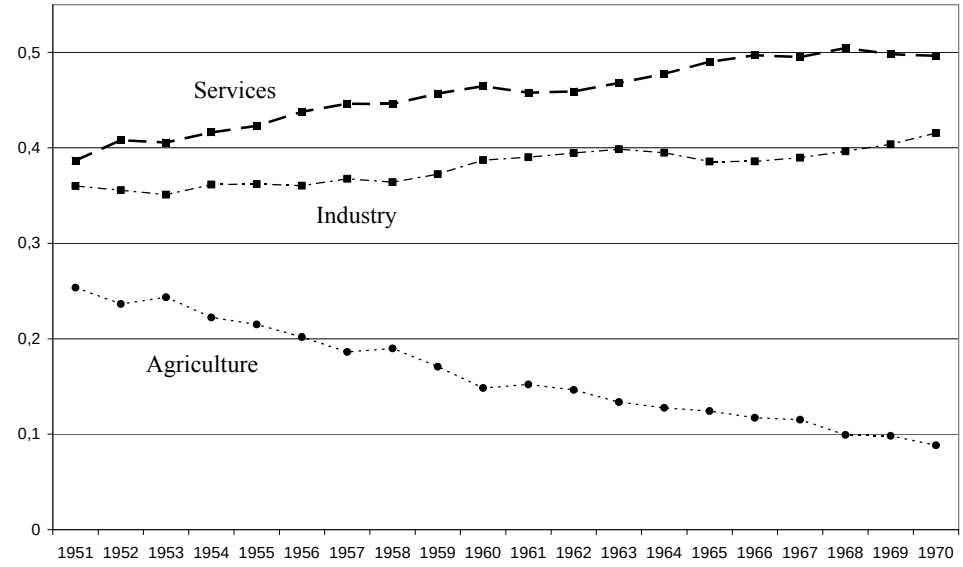
Sectoral values added (percentage shares, 1911-1951)



Note: This figure is described on page 11.

Fig. 6

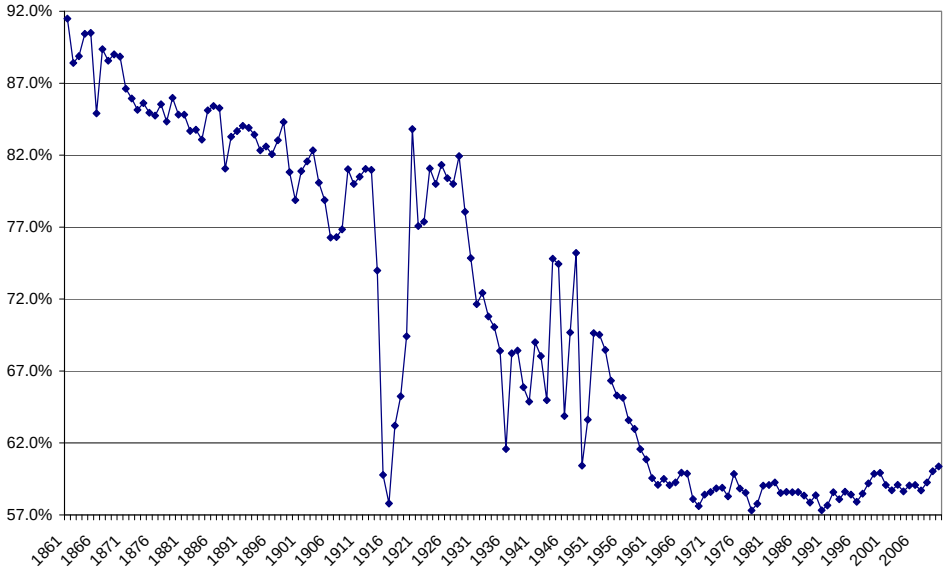
Sectoral values added (percentage shares, 1951-1970)



Note: This figure is described on page 11.

Fig. 7

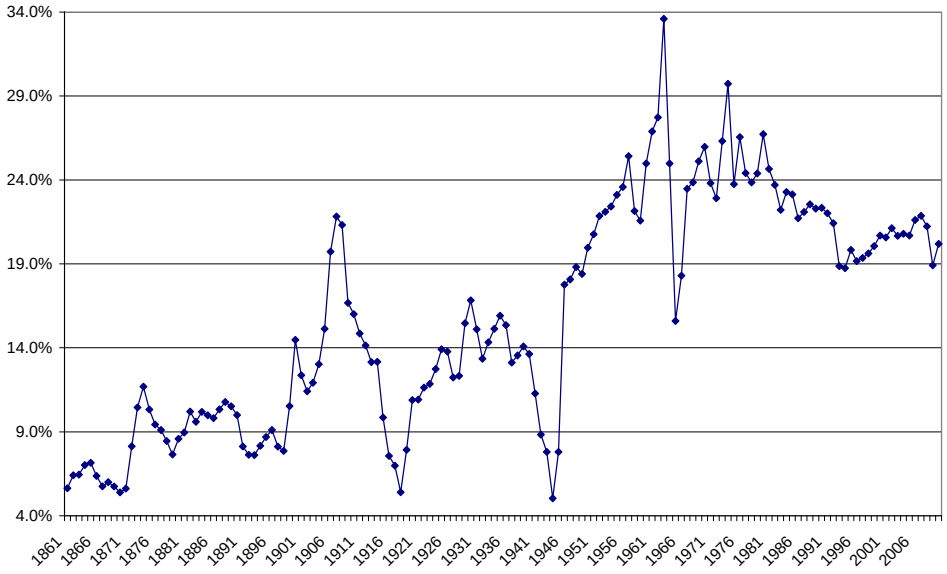
Private consumption/GDP ratio



Note: This figure is described on page 11.

Fig. 8

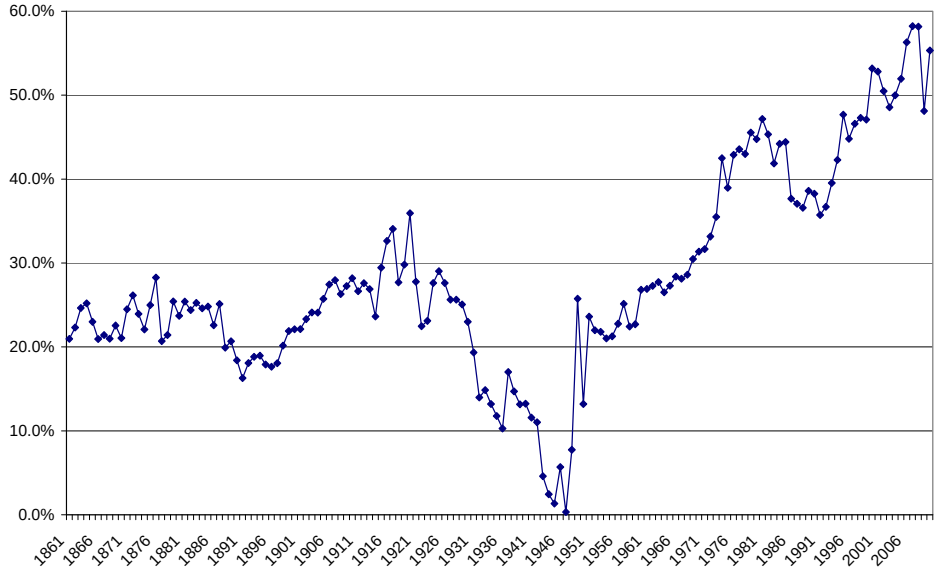
Accumulation rate (Investments/GDP; 1861-2010)



Note: This figure is described on page 11.

Fig. 9

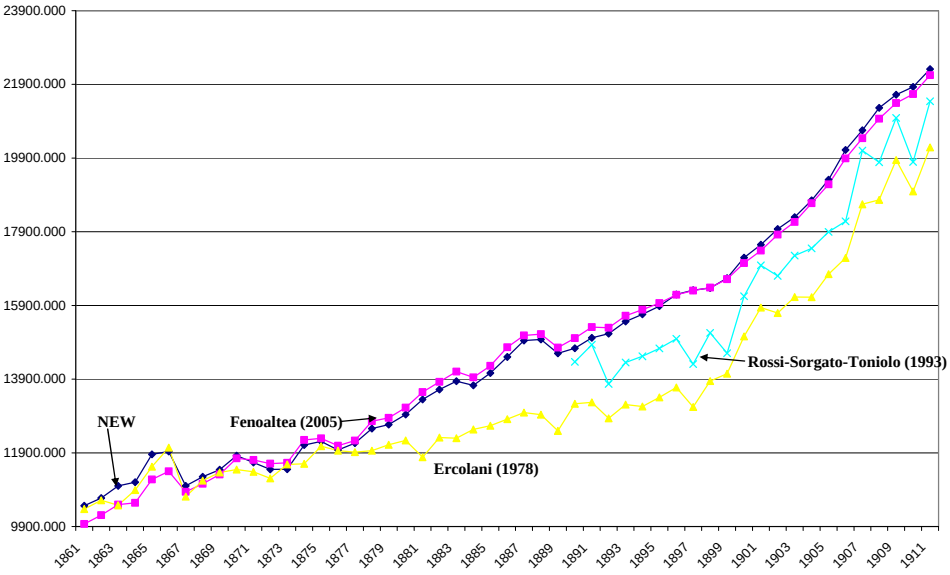
Trade openness (1861-2010; *percentage values*)[1]



[1] Trade openness is calculated as the ratio (Imports + exports)/GDP. This figure is described on page 12.

Fig. 10

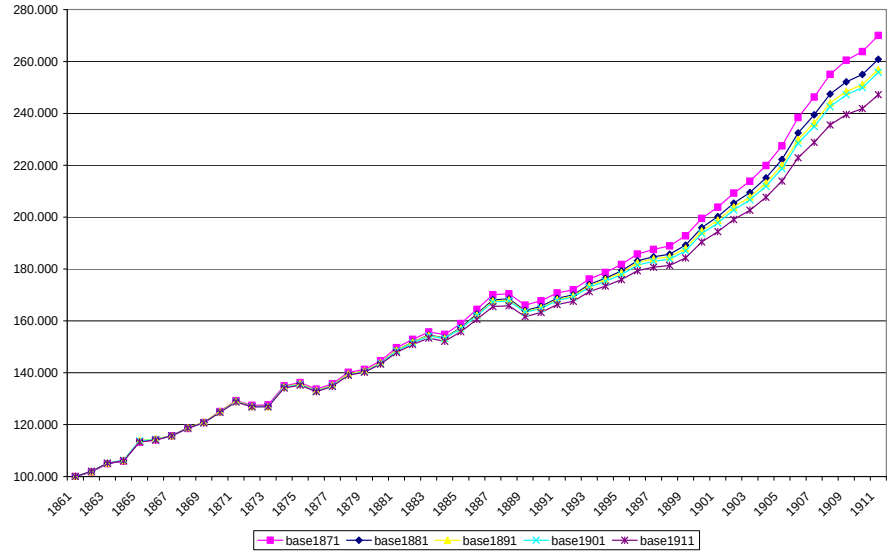
GDP levels (*millions of 1911 lire*)



Note: This figure is described on page 12 and 13.

Fig. 11

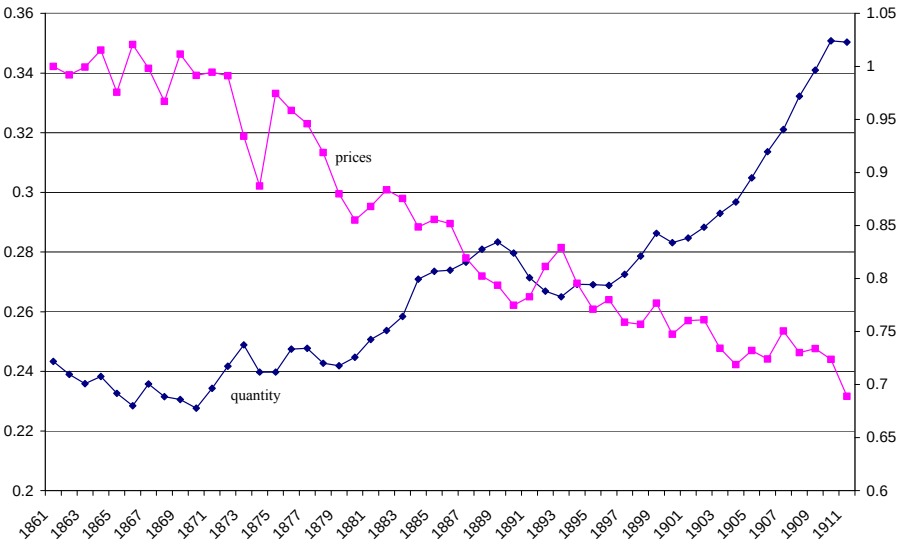
GDP levels (*1861=100*)



Note: the underlying series are calculated at the following base years: 1871, 1881, 1891, 1901, 1911. This figure is described on page 12.

Fig. 12

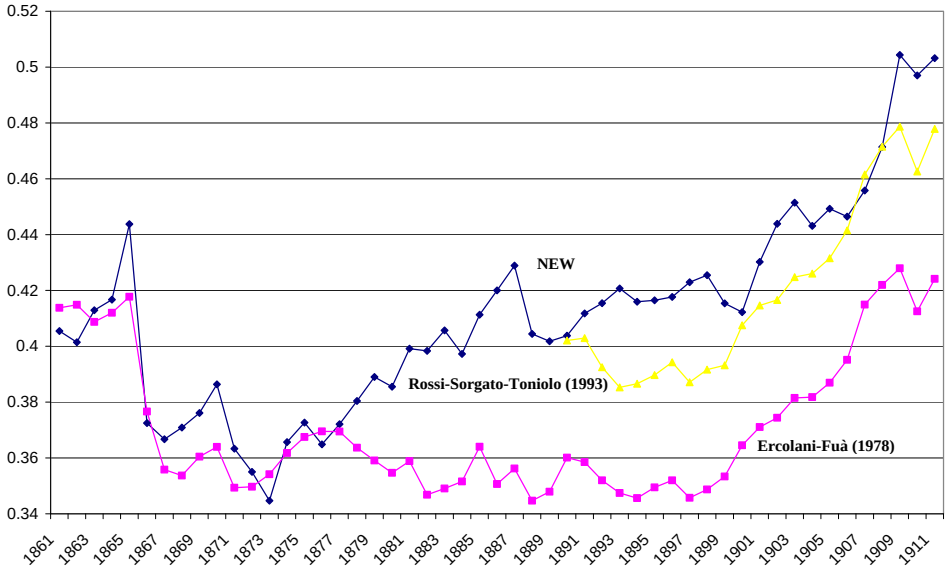
Prices and quantity contributions to industry's shares of total value added



Note: Industry's share of value added is equal to $\frac{d_{I,t}Q_{I,t}}{d_{TOT,t}Q_{TOT,t}}$, where d=deflator; Q=value added in volume; I=industry, TOT=whole economy. The lines in the graph represent, respectively, the factors $\frac{d_{I,t}}{d_{TOT,t}}$ and $\frac{Q_{I,t}}{Q_{TOT,t}}$. This figure is described on page 13.

Fig. 13

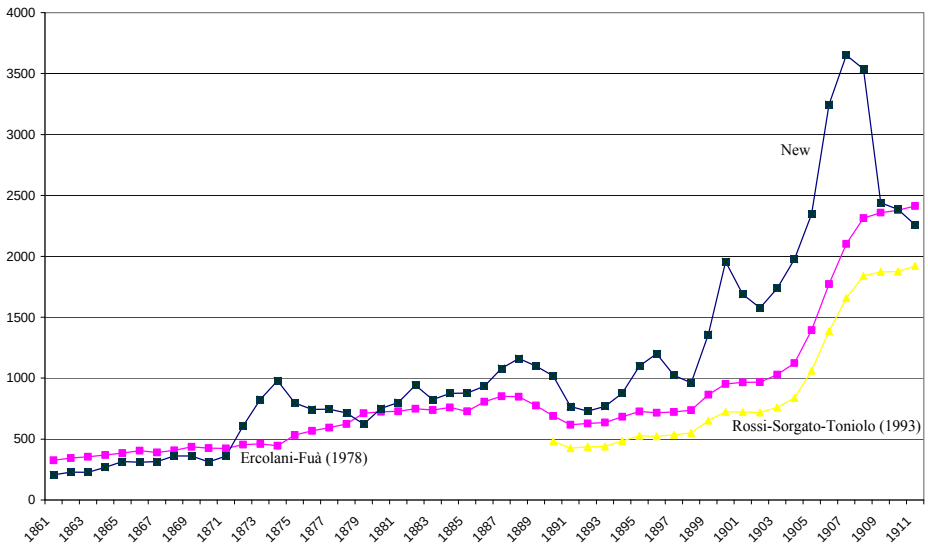
Private consumption per capita (*millions of 1911 lire*)



Note: this page is described on page 13

Fig. 14

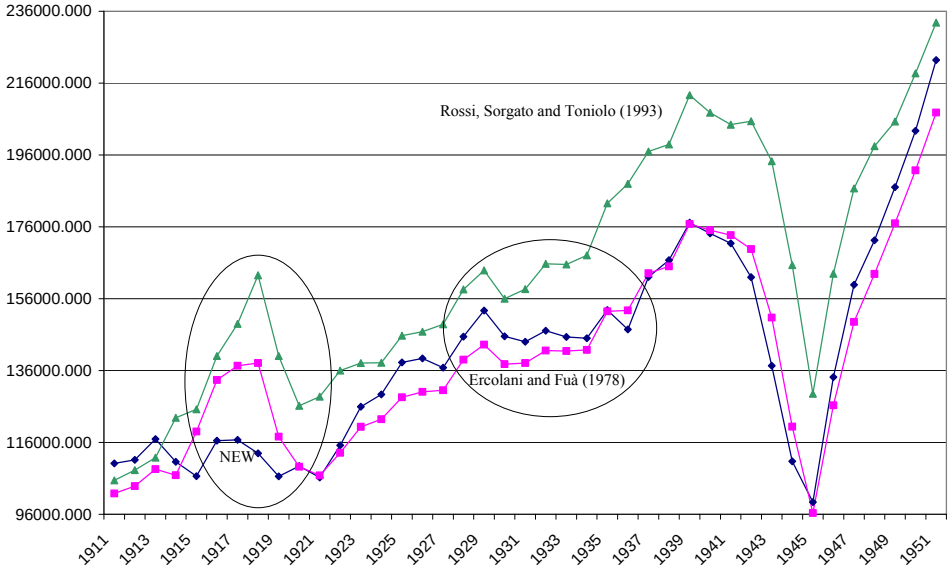
Investments in plant and equipments (*millions of 1911 lire*)



Note: this figure is described on page 13.

Fig. 15

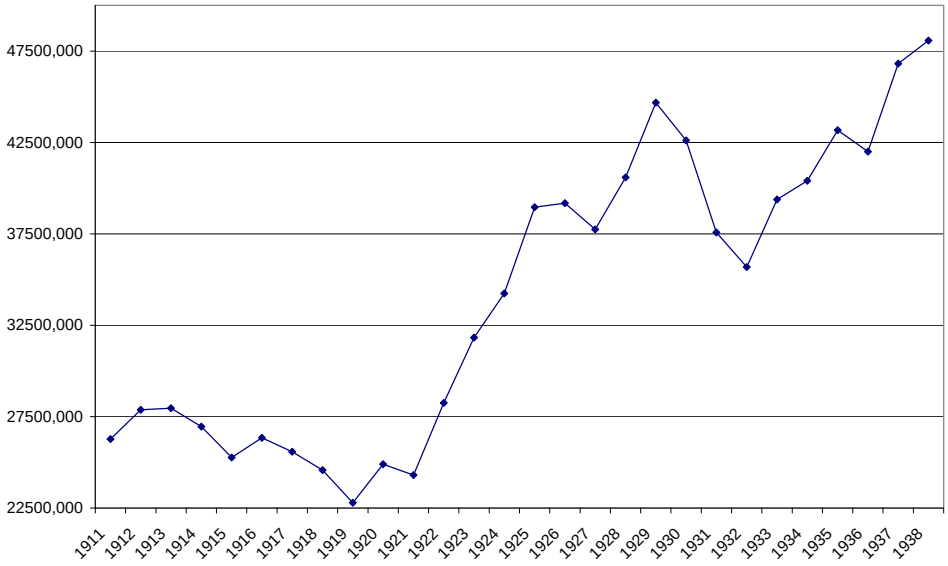
Market prices GDP levels *(millions of 1938 lire)*



Note: This figure is described on page 14.

Fig. 16

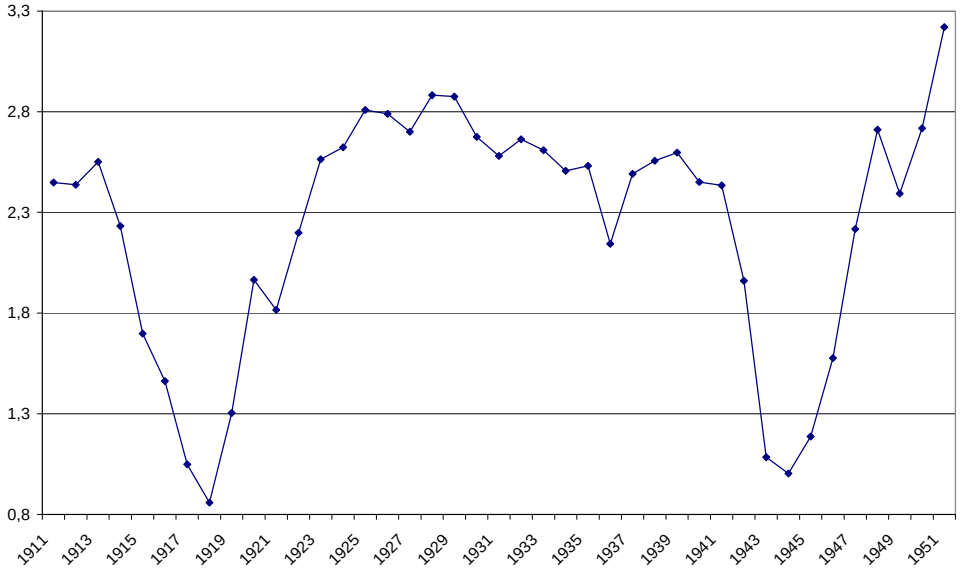
Industry value added 1911-1938 *(millions of 1938 lire)*



Note: This figure is described on page 14.

Fig. 17

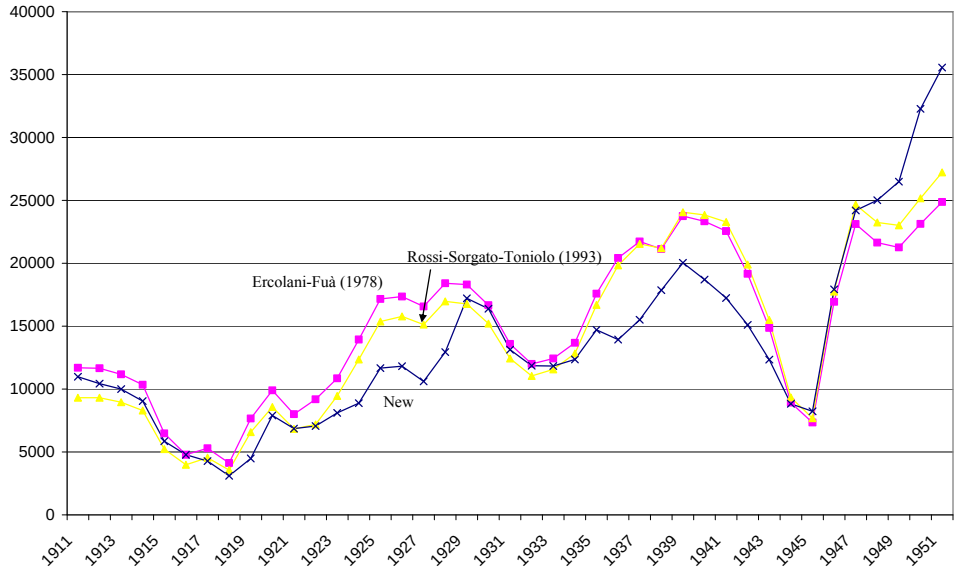
Household consumption per capita (1911-1951; *millions of 1938 lire*)



Note: This figure is described on page 14

Fig 18

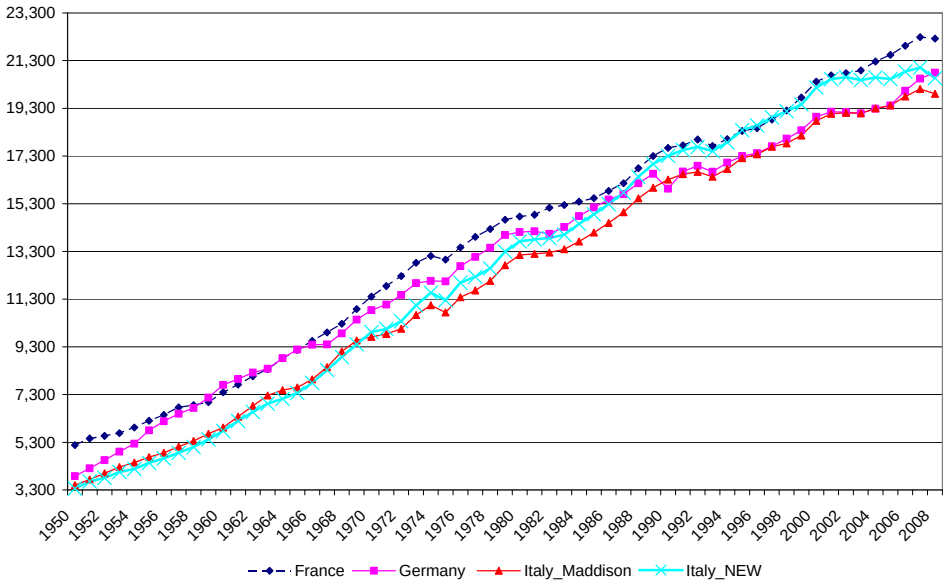
Fixed investments in plant, machinery and transport equipment *(millions of 1938 lire)*



Note: This figure is described on page 14.

Fig 19

Per capita GDP (*millions of Geary-Khamis international dollars*)



Note: This figure is described on page 65.

Appendix 1. Original work by the "150 anni" team

Besides already existing time series our project includes some new reconstruction work:

1) Patrizia Battilani (Università di Bologna), Emanuele Felice (Autonomous University of Barcelona and Università di Siena), and Vera Zamagni (Università di Bologna) produced a new current prices series for service sector value added from 1861 to 1951. New series have been produced sector by sector, i.e. for commerce, hotels and restaurants, inland transportation, maritime transportation, air transportation, communications, insurance, miscellaneous services, public administration, and buildings.

2) Notwithstanding the small weight of banks' value added in the whole tertiary sector, the importance of bank data for today's economies led us to pay particular attention to this sector. Riccardo De Bonis, Fabio Farabullini, Miria Rocchelli and Alessandra Salvio (all colleagues at the Bank of Italy) undertook this task and, besides estimating the financial sector value added, provided long time series (1861-2010) of the main items in the banks' balance sheet. Finally, based on the same set of quantity data used by Battilani et al., Baffigi and Brunetti constructed new series of services sector value added at constant prices.

3) Battilani et al. paid particular attention to 1871 value added, which is their contribution to the construction of the new benchmark for that year developed by Alberto Baffigi and Ivan Triglia: it is made up of a 25x25 input-output matrix and 25 "uses and sources" accounts at current prices.

4) Ferdinando Giugliano (University of Oxford), improving upon a recent paper by Albert Carreras and Emanuele Felice (2010), conducted research on value added in Italian industry during the Great Depression. His main result shows that, contrary to the indications of previous data, the recession was severe in Italy, as in other industrial countries.

Earlier and new time series are presented in the Figure 1, where the red items are new estimates, part of our project.

5) The forthcoming Picozzi-Rey 1970 benchmark (orange, in Figure 1) is not part of our project but the authors kindly shared their data with us.

Appendix 2. The supply side (1861-1970): methods and sources

Given the benchmark value added at current prices, the interpolating method, explained in Appendix 3, is applied for each sector to one of the three mutually interdependent time series (deflator, value added at constant prices, and value added at current prices), depending on the reliability and the availability of the existing series. In the remaining part of this appendix the various cases are listed by period and by sector with reference to the four cases presented in Table 6.

1861 - 1913

Agriculture (CASE 4): a) value added at current prices is estimated by imposing Giovanni Federico's (2003) data through the benchmarks levels, when actually minor differences occur;[1] b) the **price deflator** is Federico's (1911=100); c) **value added at 1911 prices** is obtained by applying b) to a).

Industry (CASE 2): a) value added at 1911 prices is given by Stefano Fenoaltea's (see Fenoaltea, 2006 and the articles cited therein) various sectoral estimates, which have been converted into today's borders from those of 1911; **b)** price deflators of value added of the different industrial sectors have been calculated for the benchmark years (1871, 1891 and 1911) as the ratio of the (current price) benchmark estimates and the corresponding constant prices estimates provided by Stefano Fenoaltea.[2] The time series of the price deflators was then completed by interpolating the benchmark values of the deflators on the basis of the Ercolani (1978) (henceforth EF) implicit price deflators. For the years to 1871, the set of new deflators was calculated by retropolating the benchmark price deflators on the basis of the dynamics of the EF deflators. c) **current price value added time series** are obtained by applying the price deflators to Fenoaltea's estimates of value added at constant prices.

Services (CASE 1): a) current prices value added series, seven tertiary sectors are given by the new work by Battilani et al. included in this project; b) **1911 prices value added series** have been estimated by Baffigi and Brunetti by retropolating 1911 value added, based on quantity data consistent with the work of Battilani et al.; c) price deflators have been obtained as a ratio of a) to b).

[1] The work by Federico (2003) explicitly focuses only on long-run variations in value added. The implication is that movements at cyclical frequencies are not captured by the series. Federico's series, however, are the best available reconstruction in line with the historiographical approach we have adopted in our project; not to mention the critical work on the sources behind that work. But see also Cerrito (2003) for a completely opposite view.

[2] Fenoaltea's estimates of value added at constant prices (1911) are basically quantity indices, weighted with 1911 value added per physical production unit. They are not obtained by deflating current price values.

1911 - 1938

Agriculture (CASE 4): estimates of value added at current and at constant prices

For the years from 1913 to 1938, the value added of agriculture at current prices has been estimated by interpolating the benchmark levels (the interpolation has been carried out on the basis of the EF series). As for the constant price series, it has been calculated on the basis of the EF deflator.

Industry: estimates of value added at current and at constant prices

First step **(CASE 2[3])**: Estimates of the current price value added for 1928-1938

The value added of industry at current prices for the years 1928-1938 has been estimated on the basis of Giugliano's 1938 price estimates and Carreras-Felice's 1938 price deflator.

Second step **(CASE 4)**: Estimate of the current price value added for 1911-1928

The value added at current prices for the period 1911-1928 has been estimated by interpolating benchmark years 1911 and 1928 using the Carreras-Felice's industry current price value added time series.

Third step **(CASE 4)**: Estimates of constant prices (1938) value added for 1911-1928

The value added of industry at constant prices for the years 1911-1928 has been estimated on the base of the current price value added of industry and the Carreras-Felice 1938 price deflator.

Services (CASE 1): as in 1861-1911 estimates.

1938 - 1951

Agriculture (CASE 4): estimates of value added at current and constant prices

The procedure used is the same as for the years from 1913 to 1938.

Industry (CASE 4): estimates of value added at current and constant prices

The procedure used is the same as for agriculture.

Services: as in the 1861-1911 estimates **(CASE 1)**; due to lack of data, the constant price value added of transport and communications has been estimated based on Ercolani data **(CASE 4)**.

[3] In fact, here point 2) of CASE 2 has been skipped as we could use Carreras and Felice's deflators with no further elaboration.

1951 - 1970

All estimates for this period are interpolations between the 1951 benchmark (Rey 2000; 2002) and the new 1970 benchmark by Luisa Picozzi. Interpolations have been performed based on Istat 1973 sectoral dynamics **(CASE 4).**

Appendix 3. The interpolating algorithm[4]

The set of benchmark values has been interpolated based on the information on the evolution of the annual rates of change of available proxy time series.

More precisely, let Z_0, Z_2,..., Z_T denote the time series of a variable of interest in years [0,T], and f_1, f_1,..., f_T, the corresponding rates of change:

$$f_t = (\frac{Z_t}{Z_{t-1}} - 1) = \pi_t - 1$$

If $\hat{Z}_0$ and $\hat{Z}_T$ are assumed to be the updated estimates of the variable Z in the first and in the last year of the time interval concerned (updated benchmark values), the problem arises as to how the in-between levels of Z can be recalculated in order to be coherent with the new information. Basically, the problem concerns the interpolation of the benchmark values $\hat{Z}_0$ and $\hat{Z}_T$, based on the information already available on Z. Notably, the reconstruction of the variable of interest, no matter how it is obtained, implies the revision of the series of its rates of change f_t . From this point of view, a possible solution to the problem at issue is to evaluate a constant correction coefficient to the growth factors π_t. Given,

$$\alpha^T = \frac{\hat{Z}_T}{\hat{Z}_0} \cdot \frac{Z_T}{Z_0}$$

Our correction coefficient is:

$$\alpha = (\frac{\hat{Z}_T}{\hat{Z}_0} / \frac{Z_T}{Z_0})^{\frac{1}{T}}$$

[4] This Appendix is a part of a more articulated methodological note written by Alessandro Brunetti.

Appendix 4. From supply to demand: reconstructing national account demand side. Italy, 1861-1970

1. The procedure at current prices

Our procedure follows four steps.

The first step consists in calculating aggregate $C_t + I_t$ at current prices and at current borders as $GDP_t + M_t - X_t$ (t = 1862, …1940), where GDP_t is our estimates at market prices; M_t = import (Federico-Natoli-Tattara-Vasta, 2011, dataset); X=export (ibidem).

In the second step, we estimated the following seven demand components (details on sources and methods are given in Section 3 of this appendix)

C^g_t = public consumption;

C^p_t = private consumption;

I^m_t = investment in machinery and transport equipments;

I^c_t = investment in construction;

I^c_t = investments in agricultural goods;

I^o_t = other investments (investment goods produced by other sectors)

I^i_t = investments in intangible goods.[5]

In the third step, the estimates obtained in step 2 are modified so that their sum complies with the following constraint:

(1) $C+I = C^g_t + C^p_t + I^m_t + I^c_t + I^a_t + I^o_t + I^i_t$.

Compliance with constraint (1) is imposed by multiplying the demand components by the following coefficients:

a) for t = 1861,...,1911

(2a)

$$C_t + I_t = C_t^g + \beta_t^{1861-1911} C_t^p + \beta_t^{1861-1911} I_t^m + I_t^c + \beta_t^{1861-1911} I_t^a + \beta_t^{1861-1911} I_t^o + \beta_t^{1861-1911} I_t^i$$

where

(2b) $$\beta_t^{1861-1911} = [(C_t + I_t) - C_t^g - I_t^c] / [C_t^p + I_t^m + I_t^a + I_t^o + I_t^i]$$

b) for t = 1912, ...,1951

(3a)

$$C_t + I_t = C_t^g + \beta_t^{1912-1951} C_t^p + I_t^m + \beta_t^{1912-1951} I_t^c + \beta_t^{1912-1951} I_t^a + \beta_t^{1912-1951} I_t^o + \beta_t^{1912-1951} I_t^i$$

where

[5] An estimate of investments in intangible goods was needed to link 1861-1970 with 1970-2010 time series.

(3b) $\beta_t^{1912-1951} = [(C_t + I_t) - C_t^g - I_t^c - I_t^m]/[C_t^p + I_t^a + I_t^o]$

c) for t = 1952,...., 1970

(4a)

$$C_t + I_t = \beta_t^{1952-1970} C_t^g + \beta_t^{1952-1970} C_t^p + \beta_t^{1952-1970} I_t^m + \beta_t^{1861-1911} I_t^c + \beta_t^{1861-1911} I_t^a + \beta_t^{1861-1911} I_t^o$$

where

(4b) $\beta_t^{1952-1970} = [C_t + I_t]/[C_t^g + C_t^p + I_t^m + I_t^c + I_t^a + I_t^o]$.

In the fourth step current borders estimates are tranfomed into today borders data by multiplying each series by appropriate coefficients of which detailed information will be provided in the forthcoming book.

2. The procedure at constant prices

The constant prices time series reflect those calculated in the supply side estimates, i.e.

1911 prices for 1861-1911

1938 prices for 1911-1951

1963 prices for 1951-1970

2010 prices for 1970-2010[6]

The procedure is symmetrical with the one at current prices:

1) Calculate $C_t + I_t$ at constant prices as $GDP_t + M_t - X_t$, deflated with appropriate deflators;

2) Apply a deflator to each single demand side series;

3) In this case, too, estimates must comply with a constraint formally identical to (1) we came across in treating the problem at current prices. In this case, coefficients such as (2b), (3b) and (4b) were applied to each series throughout the 150 years time span.

3. The current prices estimates of the demand components and their deflators

The six benchmark years – 1871: Baffigi-Triglia (Baffigi *et al.* 2011); 1891, 1911, 1938, 1951: Rey (2002); 1970: Picozzi (2011) – data are our starting point. In fact, we take time series or proxy time series for each of the six demand components and we constrain them through the benchmark year estimates. The time series we use to implement the procedure are listed in this section along with the associated deflators . For consistency with the supply side calculations, the base year of Ercolani's (1978) deflators, always 1938, has been changed to 1911 when used for the 1861-1911 period.

[6] For 1970-2010, strictly speaking, we do not have constant prices times series. The 2010 base year is obtained by elaborating upon the official Istat series at previous year prices.

Public consumption

- time series

1861-1951: in order to obtain a current price time series, apply Ercolani (1978) public consumption deflators (1938=100: Tav. XII.4.1.B, pp. 434-435) to the 1938 constant price public consumption series (Ercolani 1978, Tav.XII.4.1.A, pp. 432-433);

1951-1970: Istat (1973, Tav.37, p 96).

- deflators

1861-1951: Ercolani (1978, Tav. XII.4.1.B, pp. 434-435) (1938=100; the base year for the period 1861-1911 has been changed to 1911)

1951-1970: Istat (1973, Tav.37, p 96) (1963=100).

Private consumption

- time series

1861-1951: use consumption goods import data from Federico-Natoli-Tattara-Vasta database to interpolate benchmark data. Missing data for 1861, 1947 and 1951 have been recovered by extrapolation and interpolation.

1951-1970: Istat (1973, ACN, pp. 60-63).

- deflators

1861-1951: Istat (2009).

Investment in plant, machinery and transport equipment

- time series

1861-1911: net import data (1862-1880) of "Machinery and transport equipment" (Standard International Trade Code = 7), from the database of Federico et al. concatenated with Warglien (1985) quantity index;

1911-1951: new time series;[7]

1952-1970: Istat (1973)

- deflators

Ercolani (1978, Tav. XII.4.14.B, pp. 452-453) and Istat (1973)

[7] The new series for investment have been built using the following sources: Road Veichles: 1928-1951: Administrative register of road veichles (Pubblico Registro Automobilistico, data available from the website of UNRAE, table "Il mercato degli autoveicoli dal 1920 al 2010, elaborazioni UNRAE su dati ACI e Ministero delle Infrastrutture e Trasporti"); 1911-1927: Production of road vehicles (Rey 1991). Rolling stock: 1911-1951: Production of rolling stock (Rey 1991) integrated with data from Amministrazione delle Ferrovie dello Stato, Relazioni per l'anno finanziario – various years". Ships and boats: 1911-1951: Launch of new boats and ships ("Navi varate", Rey 1991). Airplanes: 1926-1951: Business air traffic of Italian airlines companies ("Traffico aereo commerciale delle società di navigazione aerea italiane", Istat, Sommario di statistiche storiche 1926-1985, tav. 14.13). Machinery and equipments: 1938-1951 Investimenti fissi in Impianti attrezzature ecc. (Istat 1986, tav. 8.28). 1911-1938: Imports of investment goods (imports of goods classified in the code 7 in the SITC classification, excluding codes 78 and 79).

Investment in construction

- time series

1861-1913: Fenoaltea (1987, Table 5, column 1, pp. 23-24); data are at 1911 prices: to obtain current prices time series Ercolani (1978)'s deflator (Table 12.IV.22, pp. 460-461) is applied;

1914-1970: Lupi and Mantegazza (1994) growth rate from 1914 to 1970 are used to extend Fenoaltea (1987) time series at current prices.

- deflators

Ercolani (1978, Table 12.IV.22, pp. 460-461).

Investment in agriculture goods

- time series

These are animals (mainly horses) for urban services. Until 1951 the benchmark fixed investment, was interpolated using the time series of transport and communications as a proxy. The 1951-1970 time series was obtained by interpolating the 1951 and 1970 benchmarks using a quantity index (inflated with the agriculture value added deflator) based on livestock data reported in Rey (1991, Table. 1.05, p. 116).

- deflators

Agriculture value added deflator

Other investments (investment goods produced by other sectors)

- time series

This is a broad and heterogeneous category including all branches not explicitly considered, namely, Mining, Tobacco, Textiles, Clothing, Leather, Wood, Metalmaking, Minerals, Chemical, Coal and petroleum products, Rubber, Printing, Other manufacturing, Utilities. The time series of this aggregate has been estimated as a percentage of the plant, machinery and transport equipments investments. In particular, such ratios have been first calculated for the benchmark years; then, they have been linearly interpolated; the 1861-1870 was set equal to the 1871 benchmark value.

- deflators

Istat (2009), Il valore della moneta in Italia dal 1861 al 2008.

Investment in intangible goods

- time series

we retropolated the 1970 official Istat estimate by using the growth rates of total services value added.

- deflators

deflator for total services value added.

Appendix 5. Non additivity of series in volume

Close attention must be paid in using our constant prices series due to the possible bias arising when deflators with different base years are linked. Linking deflators with different base years can, and normally does, imply non-additivity of the deflated series.

In our estimates, reference years vary across sub-periods and, in particular, 1861-1911 is based on 1911 prices, 1911-1951 on 1938, 1951-1970 on 1963, 1970-2010 on 2010 prices (in order to follow the example below, please keep in mind these sub-periods and the related base years). This means that, for each item (i.e. sectoral value added on the supply side and consumption and investment items on the demand side) deflator time series are segmented by sub-periods.

Now, within each sub-period, deflated total value added is always equal to the sum of deflated sectoral value added. This is not necessarily true if we calculate constant price series with the base year outside the sub-period considered in the analysis.

Suppose that we want to construct a total value added series at 2010 prices over the entire period 1861-2010. We need to link all sub-period deflators in order to obtain a deflator series valid over all 150 years, with 2010 as reference year. Now, as a first step, linking the deflator series for 1970-2010 with the deflator series for 1951-1970 requires the latter to be shifted up or down, depending on the relative level of the deflators in the common year (i.e. 1970). Similar operations are required going backwards in relation to the earlier sub-periods.

Suppose that we need to calculate also sectoral value added at 2010 prices. Obviously, a similar backward linking procedure should be applied for each sector. It is here that the non-additivity problem arises: to develop the 2010 prices example there is no guarantee that, given the modified levels of the sectoral deflators within the period 1951-1970, the total value added at 2010 prices will be equal to the sum of its components. A moment's reflection reveals that additivity would be preserved only if the ratios between the sectoral deflators in 1970 were the same at 1963 and 2010 base years, which could happen only by chance.

One important implication of the non-additivity problem is that sectoral comparisons in levels at constant prices are not meaningful if the deflator's base year is outside the sub-period considered in the analysis. Strictly speaking, the informational content of “long” series at constant prices is limited to their variations over time.

Appendix 6. The GDP series in Geary-Khamis 1990 international dollars

Economic historians are used to make international comparisons of GDP levels referring to Angus Maddison's time series (Maddison 2010). Maddison's estimates use the Geary-Khamis purchasing power parity (PPP) concept to obtain a common unit to make reasonable comparisons between different countries' GDP. The dollar is the pivotal currency and 1990 it is the benchmark year to calculate a multilateral PPP across countries. The PPP level of a foreign currency in terms of dollars in 1990 allows us to convert that currency into 1990 Geary-Khamis international dollars.

In order to convert liras into Geary-Khamis international dollars I used the PPP estimates reported in Maddison (1995, Table C-6, p. 172). The lira/dollar PPP in 1990 was estimated to be 1384.11 liras per dollar.

I constructed the GDP series at 1990 prices, 1861-2010, then I converted liras into Geary-Khamis international dollars, dividing all series by 1384.11.

Fig. 19 compares the GDP levels for France, Germany and Italy in 1990 international dollars, over the all post-WWII period, until 2008. For Italy, both Maddison's estimates and ours are shown. It turns out that our Italy's estimate is very close to those of Maddison's from 1950 to 1970. After then, our GDP series becomes increasingly higher. The gap between the two GDP series closes only in 2008.

In interpreting this result, it should be considered that from 1970 on our data do not derive from our reconstruction work; they have been taken from official tables. The difference between the two are probably attributable to the reduction applied by Maddison to the Italian official GDP in order to adjust the weight attributed to the underground economy, which was too high for international standard, according to Maddison. We did not apply any adjustment to official data. This comparison deserves further inquiry.

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