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The reconstruction of historical national accounts: the case of Italy

STEFANO FENOALTEA*

A number of us are toiling at the reconstruction of historical national accounts: typically in relative isolation, wrapped up in our own sources and problems, writing too in our own national tongues. There is much we could, but fail to, learn from each other.

The Italian accounts were among the very first to be compiled; they have also been more thoroughly critiqued and revised than perhaps any other, and the process has yet to reach closure. This paper considers the Italian real product series for the period between Unification and World War I. After briefly reviewing the available sources and the evolution of the estimates themselves, it moves on to methodological issues; and these are of general import, for Italy's historical accounts were initially compiled with the standard methodology that also informed, and largely continues to inform, their counterparts for other countries. The revision of the Italian accounts highlights the pitfalls of that methodology, and, correspondingly, the weakness of the extant world-wide corpus of historical national accounts.

1. The Italian data environment

Italy was unified in 1861. The State did not of course systematically

* Facoltà di Economia, Università di Roma "Tor Vergata" – stefano.fenoaltea@uniroma2.it
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monitor the economy then as it does now, and on the real side of interest here the data environment is not exactly lush. The oldest, most continuous sources are those that reflect specific interests of the State, indeed of the fisc. There are, obviously, statistics on foreign trade: these are increasingly detailed, in part because protection took the form of specific duties, and by all accounts relatively reliable. The railway sector, at once taxed, subsidized, and heavily regulated, was closely monitored; shipping too was the object of special legislation, and extensively documented. Commodity production was instead monitored only in exceptional cases. The richest data refer to the mining sector, as the sub-soil belonged to the Crown; salt and tobacco were State monopolies; ships were registered, and shipbuilding correspondingly tracked; and a few minor industries were monitored because they were subject to production taxes.

The State was of course not uninterested in the wealth of the nation, and generated a growing corpus of production figures. Agriculture in particular was subjected to an initial survey, which provided loosely synchronic cross-section estimates, in the 1870s. Annual production figures were then produced for a few major crops (grain, wine, silk), but the estimation procedures were amateurish and the results were unreliable; a serious statistical service appeared only in the early 1900s.

Industrial statistics also became more abundant. On the one hand, the mine inspectors gradually extended their inquiries to related sectors, and generated production figures for metalmaking, chemicals, quarrying, and non-metallic mineral processing. On the other hand, industry too was surveyed. An initial survey proceeded slowly, province by province, and finally yielded a cross-section updated to 1903. A first industrial census was taken in 1911; but inexperience told, and the census failed to pick up "domestic" activity (including large plants, like the Pirelli works, at the owner's residential address). The surveys provided employment and horsepower data; comprehensive information on value added, outputs and inputs would come only with the industrial census of the 1930s.

Finally, the State counted its citizens, at decadal intervals, from 1861 (skipping 1891, a crisis year, in an effort to save money). From 1871, detailed labor force figures are also included, by sector of activity; the distinction between housewives and domestic textile workers took a long

time to settle down, but the figures for males seem relatively reliable.

By the standards of today, these pickings are slim indeed; but the standards of the time were very different. Economic measurement was then aborning, and the Italian school was in fact among the world's best: the data on which we can base Italy's historical national accounts are very incomplete, but not exceptionally so.

2. The evolution of the Italian national accounts

The centenary of national unification was an obvious time to take stock, and in the mid-1950s Istat (the Istituto centrale di statistica) constructed the first set of historical national accounts from Unification right on to the then present (Istat, 1957). This initial effort included a complete reconstruction of the expenditure accounts at both current and constant (1938) prices; the corresponding production accounts included constant-price series for core agriculture (cultivation and herding) and industry (manufacturing), but were otherwise presented at current prices alone.

A few years later, under the auspices of the Kuznets-Abramowitz S.S.R.C./Ford Foundation project on the economic growth of the industrialized economies, Giorgio Fuà organized the "Ancona group." The statistician of the group, Ornello Vitali, completed the constant-price production accounts using Istat's own partial or related series (Fuà, 1966, 1969).

This early statistical harvest proved a mixed blessing. As was soon pointed out, the Istat-Vitali estimates for the decades to World War I seemed very seriously to distort the path of both agriculture and industry (Fenoaltea, 1969, 1972). Tragically, both Istat and Vitali described the derivation of their estimates only in very general terms; the underlying research was held back, and finally lost. The published results could not therefore be subjected to detailed scrutiny, much less to piecemeal revision: they had to be accepted as they stood, or rejected outright. In the circumstances, most scholars have taken the Istat-Vitali reconstruction at face value; a few have tried to improve it by rearranging Istat's own materials; and fewer still have made the effort to replace it altogether.

The task of reestimating industrial production was taken on – in the mid-1960s, just as Vitali was completing his own effort – by the present author; the starting point was the Gerschenkron index, the construction of which was documented in detail (Gerschenkron, 1962). In the early 1980s, the task of reestimating agricultural production was taken on by Giovanni Federico, with whom the present author would work closely; and a few years later still, with an eye to its own centenary in 1993, the Bank of Italy commissioned a revision of the entire national accounts.[1]

As these efforts were progressing a revision of the GDP series was proposed by Angus Maddison, who had found the initial levels of the Istat-Vitali GDP series impossibly high. Working from the production side, he recombined the Istat-Vitali series for agriculture and the services with some partial, rapidly-growing industrial series estimated by the present author, using early Istat weights that favored the faster-growing sectors. He thus raised the growth rate of GDP from 1861 to the more solid pre-War end-point, and thus reduced, as he wished to do, the series' initial level (albeit with the paradoxical implication that by 1913 Italy was among the most heavily industrialized nations in the world); but at the aggregate level he changed little beyond the series' trend, and its short and medium-term movements remained essentially those of the original (Maddison, 1991; Bardini, Carreras and Lains, 1995).[2]

An alternative revision of the GDP series from the expenditure side was proposed shortly thereafter by Nicola Rossi, Andrea Sorgato, and Gianni Toniolo. Their series began in 1890; it reweighted the original Istat-Vitali series using the new benchmark for 1911 published under the auspices of the Bank of Italy, and over the period of interest here it differed from the Istat-Vitali original even less than Maddison's (Rey, 1992; Rossi, Sorgato, and Toniolo, 1993; Bardini, Carreras, and Lains, 1995).

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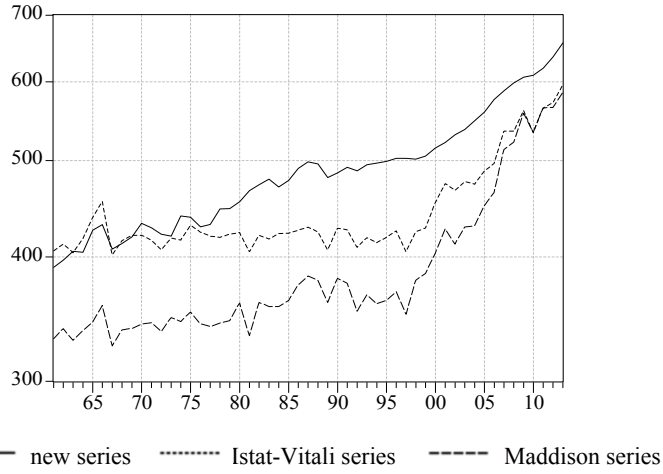
[1] Industrial production was also estimated by Albert Carreras, who calculated a much improved – and fully documented – index (Carreras, 1983, 1992, 1999); but it seems never to have been used to recalculate the national accounts.

[2] The awkward implication of Maddison's estimates is the direct result of using the backcast Istat sector weights for 1870, as these are logically consistent with the low average industrial growth rate to 1913 estimated by Istat (and by the present author, Fenoaltea, 1972), but not of course with the much higher growth rate of the unrepresentative sample Maddison chose to use.

The first revision that was not a mere variation on the original theme has come very recently. A few years ago, Federico and the present author published preliminary 1911-price estimates of aggregate agricultural and industrial production; and these were then combined with new 1911-price estimates for the services to produce the first entirely new GDP series since the pioneering Istat-Vitali effort of now long ago (Federico, 2003; Fenoaltea, 2002a, 2003, 2005).[3]

The new series differ sharply from the old (Figure 1). In per-capita terms, the Istat-Vitali series display zero growth until the late 1890s, and then a sharp acceleration; Maddison's series is essentially that same series, rotated to yield a higher trend growth rate. The new series suggest much steadier progress: there are alternating periods of above-trend and below-trend growth, but the dramatic break that characterized the preceding corpus has vanished altogether.

Figure 1- *Old and new estimates of per capita gross domestic product (lire at 1911 prices)*



Sources : see text

[3] An intermediate GDP series that combined the new Federico and Fenoaltea series for agriculture and industry with the extant Istat-Vitali estimates for the services was immediately calculated by Gianni Toniolo (Toniolo, 2003); but it has now been superseded.

The differences between the old estimates and the new are due in good measure to differences in the underlying methodologies. The Istat-Vitali series were constructed in the traditional way, like those of earlier individual scholars (e.g., Gerschenkron, 1955). The new series are simple sums of physical series, weighted by unit value added at 1911 prices; but they emerge from a rather different – and, arguably, altogether sounder – approach. This methodology can be summarized in a few maxims; it is on the latter that this paper dwells.

3. Rule 1: "the data" must be vetted.

The Istat-Vitali series were constructed in the traditional way: as with the earlier efforts, their basic building-blocks were the national figures, often the ready-made series, available in the statistical compilations of the period in question. The present author scrutinized the series in the sources, and his mistrust of the data was soon justified.

One example is provided by the data for processed minerals. The Corpo delle miniere provided annual estimates of the output of Italy's mines, and, increasingly, of related industries. Data on quarries and processed non-metallic minerals were provided in 1890, again in 1901, and then annually; simply by reconstructing the local-level figures for the various mining districts one discovers that most of these remained unchanged from year to year, and only a very minor subset was actually revised. The "latest available estimate" published every year was increasingly out of date, as much of it simply repeated the results obtained from the special effort made in 1901: the years from 1901 to 1913 were marked by a construction boom, but "the data" fail to track it, and seriously underestimate output growth. The solution here was of course to replace bad data by reasonable estimates, about which more below.

Another example is provided by the output series for reeled silk. Silk was then Italy's major export; but if one compares production and net exports, one finds that year in, year out Italy exported more than it supposedly produced. There was in fact an entire literature on this

problem, which had been noticed at the time; the present author simply dropped that series as unreliable, and later reestimated it, adding net exports to estimates of domestic consumption based on periodic loom counts and productivity data (Fenoaltea, 1988a).

Yet another is provided by the construction series. In the Istat-Vitali estimates, the series' all-time minimum is a relative outlier in 1871, due to the apparent collapse of public works. The latter figures were derived from government budgets; an examination of their accounting rules revealed that the low figure for 1871 stemmed from an accounting change, which produced a low figure in the transition year. The apparent outlier in 1871 was altogether bogus, and in the new estimates that year is entirely normal (Fenoaltea, 1986, 1987).

There are other examples, but let us move directly to the prize piece of this particular collection. Following Gerschenkron's example, the present author's initial effort indexed the milling industry by the human consumption of wheat and corn (Fenoaltea, 1967, 1969). The corresponding Istat series, which incorporate the historical data used by Gerschenkron and extend them back to the 1860s and '70s, yielded the graph here reproduced as Figure 2. The Istat figures for the 1870s were confirmed by the grist tax, those for the 1900s were based on the crop estimates generated by an entirely new statistical service; and these point to very similar per capita figures. The data for the 1880s and early 1890s were also derived from current crop estimates, but these were so notoriously unreliable that their publication was suspended in 1896 (Istat, 1958, p. 73). In per capita terms, the decline around 1880 is of the order of a fifth, the increase at the turn of the century of the order of a half (Barberi, 1961): both swings are impossibly large, both are tied to a change in the underlying sources; both are, as far as one can tell, statistical fictions. The present author's early estimate was a simple trend that interpolated the better data, and implied virtually constant per-capita consumption (Figure 2).

The series for all agriculture appear in Figure 3. The Istat-Vitali series displays a below-trend sequence in the 1880s and early 1890s, just as the original grain series does. The new Federico series covers 10 major products, and back-casts the better data of the early 1900s using reasonable

Figure 2 – *Wheat and corn for human consumption (million quintals)*

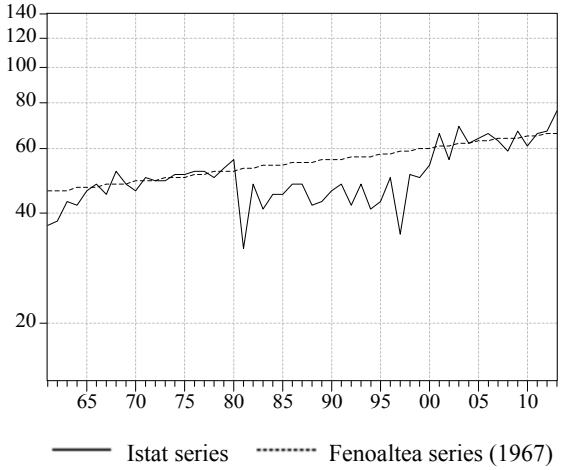


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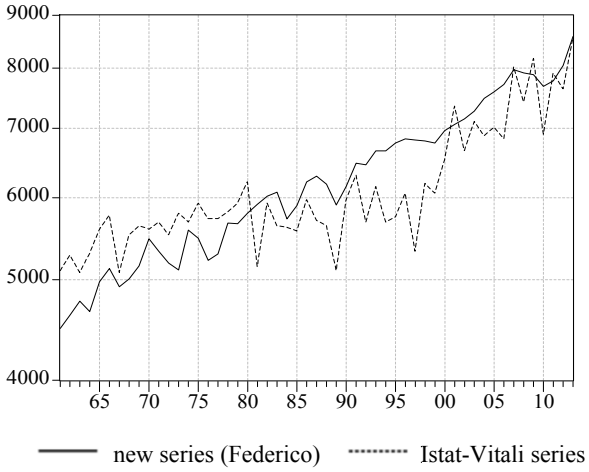
Figure 3 – *Old and new estimates of value added: agriculture (million lire at 1911 prices)*



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supply and demand functions: it incorporates short-term variations (as the simple grain-only trend did not), but these are minor deviations from what is again an unbroken trend (Federico, 2003). In short, and not by chance, Figure 3 resembles Figure 2. The production and processing of grain were significant parts of the Italian economy, and even greater parts of its "measured" subset; in the 1880s and 1890s the Istat series increasingly underestimate both agricultural and industrial production, and the turn-of-the-century discontinuity in the Istat-Vitali GDP series is essentially the removal of that error (Fenoaltea, 1969, 1972, 2003).

4. Rule 2: the elementary series must be homogeneous.

This rule is almost self-evident: if we wish to use an output series as an intertemporal measure of production (the transformation of commodities into other commodities), each output unit must correspond, as closely as possible, to an equal transformation.

In practice, as is common knowledge, this means that our estimates can be improved by measuring not only final products, but traded intermediate goods. In the Italian case, for example, Gerschenkron's index tracks the cotton industry by the imports of raw cotton; the index implicitly assumes that all of that, and only that, underwent the full transformation from crude fiber to cloth. Second-generation indices use raw cotton imports to estimate yarn production alone; cloth production is estimated in turn from yarn production and international trade in yarn. Ideally, each production process would be broken down as far as the trade statistics allow; in practice, at least the major trade flows are certainly to be allowed for.

But there is more. Moving on for example to another textile industry, it would be helpful to distinguish the carded-wool sequence from the combed-wool sequence. In the Italian case this can be done, as there are occasional figures on the number of spindles devoted to each. Allowing for the different branches of the industry and for trade in intermediate goods, the industry is now represented by ten separate series (Fenoaltea, 2000).

Even homogeneous goods are usefully distinguished, if obtained by different processes: the new series for the chemical industry thus

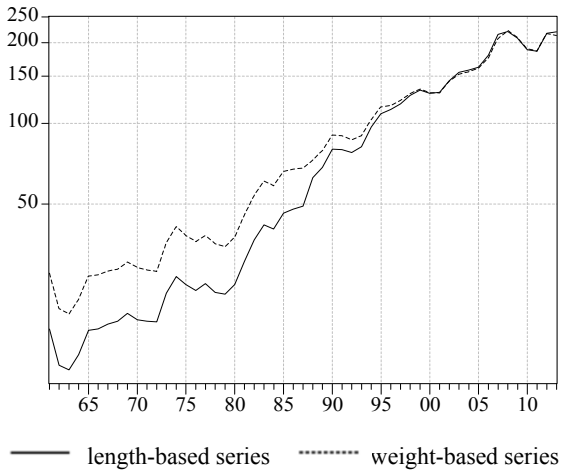
distinguish Leblanc hydrochloric acid, and soda nitric acid, from their electrochemical counterparts (synthetic hydrochloric acid, arc nitric acid).

The practical maxim, therefore, is: disaggregate! disaggregate! that is Moses and the prophets!

But there may be exceptions, where qualitative differences can be captured by altering the dimension of measurement. The obvious precedent is provided by the statistics on aircraft production in World War II. Merely counting airplanes gave equal weight to a PT-13 and a B-29; different types could be counted separately, but this disaggregation was avoided by turning to a synthetic index – airframe tons – that automatically captured composition effects.

In the Italian case, this was in fact done for the cotton industry. The second-generation indices measured yarn and cloth production in tons; the new series measure yarn output by the length of the yarn produced, and cloth output by the length of yarn woven. The new series diverge from the old in the wake of tariff hikes, incidentally demonstrating that, contrary to the prevailing view, the tariffs indeed provided effective protection (Figure 4; Fenoaltea, 2001).

Figure 4 – *Old and new estimates of value added: the cotton industry (million lire at 1911 prices)*



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5. Rule 3: indexation must be thought out.

If we wish to estimate an aggregate, as we do, and the available documentation is only partial, as it too often is, the pieces we lack must somehow be represented: to complement, at least implicitly, the pieces we have.

The Istat-Vitali series were constructed in the traditional way: the available components of an aggregate were simply taken to represent the whole, and therefore, together, its missing pieces. So it had always been done, and so it continued to be done; Charles Feinstein himself would later assert that it could be done in no other way (Feinstein, 1972).

One begs to differ. The practice is mindless, and palpably suboptimal. In the first place, it injects an element of arbitrariness into the results, which come to depend on the industrial classification one happens to use. Imagine that our only series are for milling, cotton goods, and sulfuric acid. Scholar X uses a classification that includes rubber-processing in the chemical industry, and therefore indexes it by sulfuric acid production alone (which represents all chemicals); scholar Y uses a classification that considers rubber-processing as a separate industry, and therefore indexes it, like the other undocumented industries, with a weighted sum of milling, cotton goods, and sulfuric acid (which represent all industry). Our estimates are inevitably uncertain, but what reason can there be to inject this random element?

Second, the procedure is simply illogical. Consider the textile industry (Fenoaltea, 2002b). In Italy, as elsewhere, the growth of the cotton industry can be tracked thanks to the import data for the raw material: but how can one take its growth as representative of that of other textiles? Cotton lent itself to machine processing, the traditional vegetable fibers (hemp and linen) did not. Before the technical problems of the latter were resolved, early in the twentieth century, relative prices changed dramatically: linen became a luxury, hemp lost its traditional consumer market and became a niche industrial good (ropes, hoses, sails). Would the guess that hemp and linen grew as cotton did be anyone's best guess?

Third, the procedure tends to overstate aggregate growth rates, for

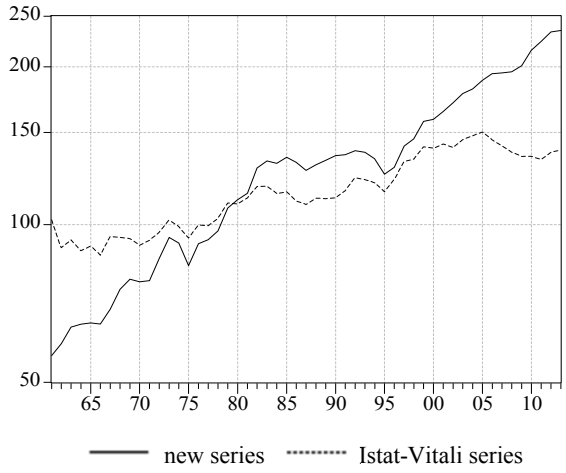
the good and simple reason that the things that were more likely to be measured were those that were interesting, exciting, modern, developing: the dull, traditional, declining sectors tend to be systematically underrepresented.[4]

The author's first (1967) index of industrial production was, by design, an index of measured production (which served to identify the more significant documented industries, selected for further study). His subsequent index of aggregate production (1972) combined that index with a simple, slow-growing trend, precisely because measured production seemed to include all the new industries, all (or most) of the cyclical industries, but relatively few, if any, traditional sectors. The execution was crude, but the guiding principle was the right one: all industry (or all GDP, as the case may be) must be represented directly, with each component explicitly estimated as best one can. If that is done, of course, the path attributed to industry x is the same whether one considers it part of sector A or sector B, and the classification-dependent randomness decried above disappears.

Two of the smaller major industry groups illustrate the effects of the change in methodology. Figure 5 illustrates the estimates for the extractive industries. Mining data are abundant, as mineral rights belonged to the Crown, quarrying data are not; the Istat-Vitali series essentially tracks mining output alone, but following the traditional methodology that component of the extractive group is taken to represent the whole. Quarrying is thus attributed the time path of mining; but these industries served very different markets. Italy's ores were high-grade metallurgical or chemical materials, and largely exported; its quarry products were overwhelmingly low-grade construction materials. The new estimates simply assume that quarrying moved with construction rather than with mining (Fenoaltea, 1988b); and surely that is the more reasonable guess.

[4] The Istat index appears to underestimate aggregate growth, for reasons that remain unclear, but it seems altogether exceptional. One suspects that the Istat estimates for the early years appear troublingly high, next to those of more advanced countries, not only because the Istat series understates growth and overstates the back-cast initial level, but because the other countries' (also traditional) indices overstate growth and *understate* the back-cast initial levels.

Figure 5 – *Old and new estimates of value added: the extractive industries (million lire at 1911 prices)*

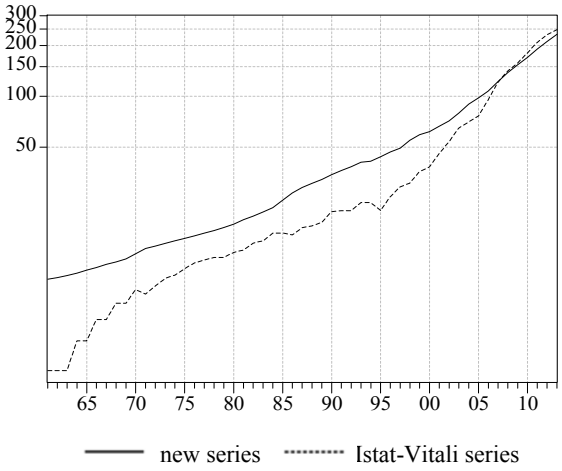


Sources: see text.

Figure 6 refers to the utilities. The Istat-Vitali series represent the whole by the sum of gas and electricity alone, as those of other countries did; but the distribution of water was a much older industry, as every Roman knows, and the assumption that it grew as fast as its younger cousins is surely unwarranted. The new estimates include a separate series for the water-distribution industry; its product is the sum of the product of each aqueduct, itself calculated by multiplying the length of the aqueduct by its daily yield (to the power 0.5, to capture economies of scale). As expected, the growth of the utilities group is much reduced: from 1861 to 1913 the new series grows by a factor of 27, the Istat-Vitali series by a factor of 104 (Fenoaltea, 1982).

All too often, however, the main difficulty is an apparent vacuum: there are no micro-data to be exploited (as in the case of the aqueducts), and there is no obvious technical relationship to a known series (as that which links quarrying to construction). In such cases, an exploitable bridge is typically provided by price data. For example, the domestic wool clip can be directly calculated only in the animal-

Figure 6 – *Old and new estimates of value added: the utilities industries (million lire at 1911 prices)*



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census years 1881 and 1908. For reasons best known to itself (and never, never revealed), Istat interpolated the herd benchmarks with a sinusoid, with a sharp decline to a minimum in the mid-1890s. The author used price data to calculate the relative yield to herding and cultivation, and essentially assumed that raw wool production moved along a stable supply curve. The tricky part was understanding that in Italy wool is not a product, but a by-product (of *pecorino* cheese); once that fell into place the rest was easy, and Istat's long cycle simply disappeared. When all else fails, finally, one can look to demand functions: a consumption series can be extrapolated from the consumption series for a related good, allowing for relative-price movements, and from there it is easy to correct for international trade and estimate production.

And so it has gone. Industry was once represented by a few dozen series; thanks to the disaggregation of the known and the direct estimation of the unknown, it is now represented by a few hundred – and the road ahead is yet long.

6. Rule 4: deflation must be general and not activity-specific.

The author proclaims this further rule, but honors it mainly in the breach. He has devoted his efforts to improving, and multiplying, physical production series. The higher-level series are simply the physical series combined with 1911-price weights (very close to the end of the period at hand, but the first year with both an industrial census and a demographic census with a matching labor-force count). The weights are built up from census employment data, or calculated from prices and technical coefficients from roughly appropriate technical manuals; it is altogether easier to reweight the series than to reconstruct them, and it seemed wiser to give priority to the more challenging part of the work.

The physical series are combined with value added weights because there is nothing else to work with. This is done, as Dennis Robertson once wrote, with a bad conscience but with good precedent: all sorts of scholars, similarly constrained, have done the same. The issue here is the bad conscience: different people may eat the same bacon cheeseburger, but some worry about cholesterol, others about religious restrictions.

The traditional way – Gerschenkron's, Istat's, Vitali's – is to aim for double deflation, equivalent to deflating the current-price value added of each industry by an index of the prices of its own specific material inputs and output. Unless relative prices don't change at all – in which case all deflators, however constructed, yield the same results – this traditional measure yields interindustry relatives that vary with the choice of base year, and typically do not coincide with the current-price relatives which we recognize, in the intratemporal context, as entirely real. We know this: in year t, at current prices, industry A may be twice as big as industry B, really twice as big, but if we get to that year by intertemporal (double) deflation it may appear three times, or only half again, as big. Our intertemporal real measure fails to reproduce the intratemporal real measure: and that, surely, is not as it should be.

As the author argued now decades ago, the root confusion seems to

be semantic (Fenoaltea, 1976). We associate "real" measures with things because the need for deflation was felt in the context of inflation, the debasement of the currency, when things keep their value but money does not. But when relative prices change things are no more real, in our technical sense ("of constant worth"), than money: a glass of water in the desert is truly not the same thing as a glass of water in a downtown restaurant. Physical sameness is neither here nor there: an industry that consumes exactly the same primary factors of production becomes larger if these become relatively scarce, and shrinks if they become relatively abundant: as it would, measured by current-price value added, with a stable general price level.

The upshot is that we have been misled into thinking that the "real value added" we wish to measure is the real (constant-price) counterpart of (current-price) value added. What we truly want to measure is the real value (value in units that do not vary) added by production: not "real" value added, as it were, but "real value" added. Changes in relative prices must be allowed for, our intertemporal measures must return the (already "real") intratemporal current-price relatives: industry *A* must always come out twice as big as industry *B* in year *t*, whatever our deflator, whatever our base year.

The solution, of course, is to deflate the value added of each and every activity by one and the same price index, the index of the monetary cost of our standard of constant ("real") worth. That standard is admittedly not obvious: historians have looked to the price of an hour of common labor, economists may favor the price of a broad basket of goods, a male-chauvinist colleague suggested the price of commercial coition; Gertrude Stein notoriously suggested a rose. Over that standard we may argue; but we should agree that whatever that elusive standard may be the appropriate technique is not double-deflation, or indeed any deflation by activity-specific price indices – in fact, any aggregation at "base year" prices (even if these are used only for two periods, as in chain indices) – but the deflation of the *current-price value added* of each and every activity by a *common* price index. Giorgio Fuà himself came to the same conclusion (Fuà, 1993); let us not be alone.

7. Rule 5: four rules are enough.

Four rules are enough: enough, if observed, to alter quite radically the estimates one obtains from the surviving sources. This paper illustrates their effect in the Italian case; how far an analogous revision would alter other countries' historical accounts is anybody's guess.

The revision of the Italian estimates themselves is itself still in progress. The detailed reconstruction of the industrial series needs to be completed, for a number of sectors are still represented only by relatively crude preliminary indices; and the constant-price estimates for agriculture and the services must similarly be improved.

The calculation of the current-price value added series required by rule 4 also remains to be done, and will take much time; but an interim approximation to the desired "real" series might be obtained by supplementing the extant 1911-price unit value added estimates with parallel estimates for an early year (probably 1871, year of the first demographic census with detailed labor-force information), and possibly another (1891 has already been largely done, for the Bank of Italy). From these one can obtain benchmark activity and sector shares that differ from those at 1911 prices precisely because they reflect the long-term evolution of relative prices and technical coefficients; and it is then a simple matter to redistribute constant-price GDP, year by year, to interpolate those current-price shares. The result would be a preliminary "best estimate" of real product, activity by activity, conceptually equivalent to the deflation of all the (missing) disaggregated current-price series by the GDP deflator itself. The best estimate itself requires, to repeat, that true current-price series be obtained; and only then could one deflate them all with *alternative* deflators that imply alternative standards of "real value."

The reconstruction of the historical national accounts, the backcasting of GDP, would then be complete. But this paper must add a *coda*, and the scorpion's sting is in the tail.

If we reflect at all not on *how* to measure, as we have done above, but on *what* to measure, the backcasting of GDP appears quixotic. The "national accounts" were designed to serve as quick and dirty indices of paid-employment-generating production, dirty because quick, and quick

because they were to inform contra-cyclical employment-stabilizing policies. Their essential purpose was and is to track certain variables, to *forecast* their path, and thus to identify the policy measures that will keep them on the straight and narrow. To backcast GDP is essentially to engage in retrospective forecasting: the very notion is, to say the least, alarming.

To capture what interests us as economic historians, to track the path of material welfare, to make meaningful international comparisons, we need statistics designed to measure, as GDP does not, the actual net aggregate product of the economy, and the corresponding level of consumption – including leisure, for example, and the unpaid output of women's work (a.k.a. "family production"), and excluding such social intermediate goods as weapons.

We have mindlessly parroted the current national accounts, without regard to what they actually are; it's enough to put Oscar Wilde's own parrot in good light – ordinally speaking, as is our wont – and to warrant a separate paper.

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