THE 7TH EDITION OF THE INTERNATIONAL CONFERENCE
EUROPEAN INTEGRATION
REALITIES AND PERSPECTIVES

Growth and Inequality in Italy
Over the Long Run (1871-2001): Trends, Patterns, Implications

Emanuele Felice[1]

Abstract: This article presents estimates of social and economic indicators for Italy and its regions, from 1871 to 2001: life expectancy, education (literacy and years of schooling), per capita Gdp, and the human development index. I discuss State intervention in promoting convergence and argue that this was more effective in life expectancy, important but inadequate in education, more expensive and less successful in Gdp. In human development, convergence took place from the late nineteenth century until the 1970s, then significantly slowed down. A broad interpretative hypothesis, based on the distinction between passive and active modernization, is proposed to account for the patterns.

Keywords: Italy; Regional development; Hdi; Gdp; State intervention

> *Les observations sont l'histoire de la physique, et les systèmes en sont la fable.*
>
> (Montesquieu, *Pensées*, no. 163)

1. Introduction

Italy's regional inequality has been vastly debated, but the reconstruction of the historical pattern is not satisfactory yet. In terms of Gdp, there is by now large consensus on some basic facts regarding the previous century, which can be summarized as follows:[2] North-South differentials increased in the first half, until the Second World War, whereas at the same time regional differences decreased within the three economic macro-regions (North-West, North-East and Center, South or *Mezzogiorno*); South's convergence took place in the economic boom of the 1950s and 1960s, but came to a halt in the 1970s and the *Mezzogiorno* remained far below the national average, unlike the north-eastern and central regions which converged toward the North-West in the last decades. Still there is uncertainty surrounding post-Unification Italy, the determinants over the short and the long run, as well as specific economic indicators and sometimes the exact figures and the pace of convergence and divergence; but not the general pattern mentioned above. This speaks about the failure of southern Italy to catch-up with the rest of the country over the long-run: all the more a dismal result, because the problem of the South (or *questione meridionale*) has been in the political agenda for over a century, the convergence of the economic boom had raised many hopes to bridge the economic divide, and since – not least – massive regional policies were pursued by the Italian state throughout the second half of the twentieth century. More recently, frustration left room to resignation, from which in the last decades a new approach to the 'Southern Question' has emerged: based on the category of 'diversity', rather than of 'backwardness', when it comes to compare the South with the rest of the country. With important exceptions,[3] many 'meridionalists'[4] got progressively involved in this reconsideration:[1] once it was

---

[1] Professor of Economics and Economic History, Autonomous University of Barcelona, Spain, Address: Plaça Cívica 08193 Bellaterra, Cerdanyola del Vallès, Tel.: +34 93 581 11 11, Corresponding author: emanuele.felice@gmail.com
[2] Felice, "Regional Development." With reference to Post-Unification Italy, see also Fenoaltea, "Peeking Backward."
[3] E.g. Galasso, *Il Mezzogiorno*.
[4] As scholars on southern Italy are usually called: such a label may be analogous to those (orientalists, africanists) proposed for researchers on countries with structural characteristics supposedly different from those of the western world, and which therefore may also obey different rules of historical and social inquiry. See Said, *Orientalism*.

realized that western progress was partly denied to the South, this turned out to be unworthy or undesirable. As efficaciously noted, these meridionalists looked like such a husband who, having been betrayed by his wife, would go around speaking against all the women in the world.[2]

This paper assumes that (western) progress – here called 'modernization' – is worthy and, after all, desirable; thus the lack of convergence in per capita Gdp should be regarded for what it is, a disappointing (and not at all inescapable) conclusion. But things are a bit more complicated and here we propose a more articulated picture to account for the inequality pattern in Italy's regions. First, progress or modernization has many facets and surely it should not be measured only in terms of per capita Gdp. Secondly, the South's performance could not be so gloomy, when considering other measures such as life expectancy or human development. Not least, so far very few research has been made in order to relate the different facets of modernization, and even less to build an interpretative framework which would allow for their different paths: scarce empirical work for southern Italy, few historical analysis for other regions and countries too.

The article aims to move some steps toward this goal, via reviewing and testing the hypothesis of 'passive modernization' first advanced by Luciano Cafagna more than twenty years ago, and thus by presenting and discussing the pattern of social indicators in Italy's regions over the long run (1871-2001) in view of this possible interpretative framework. In the following paragraph the basic concepts about active and passive modernization will be exposed and partly re-formulated with regard to regional analysis. The second, third, and fourth paragraph will focus on the historical evidence for Italy's regions, by examining the regional figures for life expectancy, education, and income and human development respectively, and by discussing their convergence and determinants. The last paragraph will propose a synthesis and a draft scheme to account for state intervention and passive modernization in Italy's regions, to be possibly tested in other contexts.

2. On Modernization

We define modernization in a way more inclusive than the strict economic approach. This latter is focused on technological progress, whose result – broadly speaking – is the rise in productivity and thus in per capita income: accordingly, per capita (or per worker) Gdp should be taken as the prime measure of modernization. To Gdp (or 'resources'), we add two more 'dimensions',[3] following the capability and human development approach as defined among the others by Sen.[4] One dimension is life expectancy, or 'longevity', which reflects a broad range of social characteristic and dynamics, such as the health systems and conditions, the spread of basic hygienic infrastructures, as well as in part the demographic transition. Many would agree that these are crucial aspects of modernity, not entirely neither properly incorporated in Gdp measures; moreover, we should assume that to live a long and healthy life is by itself a positive goal of every human being. The third dimension is 'knowledge', here measured through education (literacy, school attendance, per capita years of schooling): again, the spread of mass education, primary and later secondary and tertiary, is another remarkable feature of modernity, not directly included in Gdp accounts.

Resources, longevity, and knowledge are often correlated: education may be a determinant of Gdp growth – literature would be huge, from the early remarks by Cipolla[5] or Abramovitz[6] up to the bayeasian models[7] – but indeed it has been argued that longevity too may favour a rise in per capita Gdp, for example via increasing productivity, i.e. human capital accumulation.[8] In turn, per capita Gdp

---

[1] E.g. Cassano, *Il pensiero*.
[2] Cafagna, "Modernizzazione," p. 240.
[3] As the components of the human development index are usually referred to in theoretical literature.
[4] Sen, *Commodities and Capabilities*; Anand and Sen, "Human Development Index."
[5] Cipolla, *Literacy and Development*.
[6] Abramovitz, "Catching up."
[7] Sala-i-Martin et al., "Determinants."
[8] Acemoglu and Johnson, "Disease and Development," are probably the last ones; Barro and Lee, "Sources," the first ones, at least via econometric testing.

has a positive effect on both life expectancy and education: for example, via raising the amount of money to be spent on health and school services, both in absolute and as a share of the total income. However, empirical evidence indicates that this three-fold correlation is not always obvious,[1] although largely correct. No doubt, the inclusion of life expectancy and education reveals a major attention towards redistributive goals, but here this is not even the point. At a first instance, this paper limits itself to a clear-cut approach (and assumption): resources, longevity and knowledge are all basic and different components of modernity, at least in the way it spread over the nineteenth and twentieth centuries, and thus we should consider all of them to account for modernization in Italy's regions. For what regards possible correlation, we generally take for good the main findings of the vast literature on these topics, since apparently do not contrast with evidence for Italy's regions:[2] knowledge is a determinant of both longevity and resources, resources are a determinant of both longevity and knowledge, longevity can have some (weaker) effect on knowledge and resources. At a second instance, these assumptions allow us to summarize the historical experience of State intervention and modernization in Italy's regions into a draft scheme, which could be tested in (and extended to) other contexts.

How does State intervention promote modernization? This takes us to the distinction between active and passive modernization at the regional level. According to Cafagna, we have active modernization when one or more subjects – political or social actors – take up the challenge of and engage in 'modernizing' the country. These actors implement a coherent strategy and are usually organized in what Antonio Gramsci called 'historic bloc': they control key institutions (mainly the central State) and enjoy support from the prevailing ideology and cultural milieu.[3] Examples are not only liberal Italy, but also Prussia, Russia, or Japan; by this regard, active modernization may be regarded as a complement to the Gerschenkron's approach on economic backwardness and catching-up.[4] Conversely, we have passive modernization when a society embarks upon some sort of modernization without the presence and thus the role of a dominant modernizing 'bloc'; as a result, modernization is often partial and incomplete. If in this latter case modernization is somehow extraneous to the community, in the former we have 'identification', in Cafagna's very words,[5] between the elite which advocates modernization and the rest of the community which complies with it. The author points out that passive modernization can occur both at the national and the regional level, and that this latter was the one experienced by southern Italy over the last century. He adds that instead active modernization can be implemented only at the national level. We depart from Cafagna at this point.

As defined above, in fact, the distinction between active and passive modernization may be useful to account for the second industrial revolution and the coeval social improvements which, in Europe at least, spread under the umbrella of national states and policies. But it gets somehow problematic when we want to extend it to the long run, to the different waves of technological and social changes as well as to the institutional reorganization of the last decades: the growth of services and the ICT revolution from the 1970s, the new role of the region within the European Union and, more specifically to Italy, the rise of industrial districts in the northeastern and central regions over the second half of the twentieth century. In this case, for example, the role of local institutions and elites can hardly be dismissed and in fact it has been widely recognized by historians and economists.[6] Besides, in Italy the

---

[1] A few exceptions are well-know. In Cuba per capita Gdp is low, but the island can boast health and educational standards (almost) comparable to those of the most advanced world. Limitedly to market economies, in the last decades the US-Europe Gdp divide was on the riseg, but the US scored lower life expectancy: a discrepancy which may be due to higher household income inequality in the US, as well as to the role of public health services in Western Europe.

[2] Benchmark year figures and the limited number of cases, however, prevent us from running more serious econometric tests.

[3] Cafagna, "Modernizzazione."

[4] Gerschenkron, "Economic Backwardness."

[5] Cafagna, "Modernizzazione," p. 235.

[6] Again the literature would be huge: e.g. Bagnasco, *La costruzione*; Becattini, *Il calabrone*; Putnam, *Making Democracy Work*. See de Cecco, *L'economia di Lucignolo*, for a dissenting voice which emphasizes the role of the national State in releasing fiscal and legal checks and in currency depreciation.

the regions were officially created and became operative in the 1970s:[1] since then they have seen periodically enlarged their competences and duties, so much so that these may have significantly impacted upon crucial determinants of modernization, from the health and education systems to the industrial subsidies. In short, when it comes to the last decades of the twentieth century the political and social actors actively engaged in modernization must be searched out and found both at the national and local level; even though the role of different institutional players can make this approach more difficult to be tested on empirical grounds.

Since this paper takes a long term view, by assumption active modernization is not central, although important. Besides, it is outside our scope to compare the performance of local institutions, as well as to discuss the possible determinants of active modernization in the last decades – such as social capital, to quote probably the most popular one (at least for Italy).[2] As mentioned, the main goals are to present and discuss regional figures on the long run, then to sketch an interpretative hypothesis based on the evidence of passive modernization. The questions we are going to answer are the following:

1) in Italy's regions, what was the inequality pattern in social indicators (life expectancy, education, human development), and how different from that in per capita Gdp?

2) is the difference referable to the role played by passive modernization, as long as this can spread in some 'dimensions' more easily than in others? In other words, can modernization vary in time and pace accordingly to the different measures, and how this difference should be accounted for? Hopefully, this point may appeal also to those not fond of Italy's regional development.

Before we turn to empirical analysis, some general remarks are warranted, concerning the way inequality is measured. For all the dimensions, we employ the equation first introduced by Jeffrey Williamson:[3]

$$D = \sqrt{\sum_{i=1}^{n} \left(\frac{y_i}{y_m} - 1 \right)^2 \cdot \frac{p_i}{p_m}} \tag{1}$$

where y is the indicator (life expectancy, education, value added, human development), p stays for population and i and m refer to the i-region and to the national total respectively. Williamson's index must be regarded as a measure of sigma convergence, i.e. of the decrease of dispersion: it follows the same rational as the standard deviation, but looks more appropriate in measuring convergence across regions which are different in size, since it weights deviations with the corresponding share of population.

3. Life Expectancy

Table 1 reports life expectancy estimates for Italy's regions, in benchmark years from 1871 until 2001.[4] In the last rows, three measures of regional inequality are considered, all from Williamson (1) equation. The first one is drawn from the figures of the table. The second measure, called 'normal', incorporates the formula of the longevity component of the human development index (henceforth Hdi):

---

[1] Putnam, Leonardi, and Nanetti, *La pianta e le radici.*
[2] Which indeed was called into question also for post-Unification Italy, to explain economic growth, thus implicitly making an argument for regional active modernization also in the second industrial revolution: A'Hearn "Institutions;" id., "Southern Italians."
[3] Williamson, "Regional Inequality."
[4] Figures are from Felice, "I divari regionali in Italia," who, in turn, is based on the unpublished estimates by Conte, Della Torre, and Vasta, "The Human Development Index."

Life Exp – 25   (2)

  (85 – 25)

which is used to replace *y* in (1). The third one, the 'improved', is instead from the improved human development index (henceforth IHdi):

Log (85 – 25) – Log (85 – Life Exp)   (3)

          Log (85 – 25)

and implies a convex achievement function: at a higher level, an increase in the standard of living involves a greater increase in life expectancy, which makes convergence more difficult over the long run. Leandro Prados,[1] who pioneered the use of IHdi in economic history, lowered the maximum and minimum values to 80 and 20 years respectively, but here the original values (85 and 25 years) are maintained, not least because by 2001 some Italian regions have overcome the 80 years threshold. It goes without saying that, in both the 'normal' (2) and the 'improved' (3) equation, the minimum threshold increases differences and thus the resulting regional inequality index.

Table 1. Life expectancy at birth: regional Estimates (YEARS)

	1871	1891	1911	1938	1951	1961	1971	1981	1991	2001
Piedmont					66.32	69.95	71.48	73.91	76.88	79.68
Aosta Valley	37.10	43.90	47.65	60.51	62.13	67.82	69.93	72.83	75.75	78.51
Liguria	35.70	41.60	46.66	61.82	68.32	71.88	72.91	73.92	76.48	79.62
Lombardy	33.50	41.10	42.25	56.94	64.44	68.94	71.18	73.30	76.60	79.70
North-West	*34.90*	*41.50*	*44.48*	*58.77*	*65.50*	*69.62*	*71.48*	*73.55*	*76.66*	*79.68*
Trentino-Alto A.	-	-	-	60.57	64.16	68.90	71.15	73.41	77.08	80.63
Veneto	35.20	44.30	47.59	59.96	66.76	70.29	71.90	73.42	77.31	80.44
Friuli	-	-	-	60.57	70.65	70.43	71.17	72.83	76.38	79.92
Emilia	32.90	40.20	47.57	61.18	67.90	71.19	72.86	74.49	77.23	80.20
Tuscany	31.00	41.60	48.19	61.69	68.22	69.79	73.43	75.15	77.84	80.41
The Marches	34.20	41.20	48.92	60.57	67.36	71.83	74.06	75.51	78.41	81.29
Umbria	36.60	40.80	48.77	60.89	68.00	71.88	73.48	75.26	77.75	80.50
Latium	29.10	39.60	45.17	58.72	66.27	70.79	72.43	74.31	76.79	79.47
North-East, Center	*33.00*	*41.70*	*47.63*	*60.45*	*67.41*	*70.61*	*72.60*	*74.30*	*77.29*	*80.20*
Abruzzi	30.70	35.80	45.62	58.48	65.10	71.20	73.56	75.50	78.00	80.69
Campania	30.70	35.80	38.91	56.48	63.15	68.29	70.35	72.34	75.48	78.37
Apulia	30.70	35.80	40.33	54.20	62.73	69.36	72.28	74.49	77.51	79.98
Lucania	30.70	35.80	42.27	52.51	59.39	69.69	72.98	75.67	78.25	80.00
Calabria	30.70	35.80	44.10	56.85	64.03	70.78	73.22	75.34	77.34	80.00
Sicily	35.50	36.40	39.51	56.84	63.73	70.31	71.78	74.41	76.66	79.28
Sardinia	31.60	37.60	43.45	56.68	65.75	71.58	72.82	75.30	77.28	79.77
South and islands	*31.90*	*36.10*	*40.90*	*56.30*	*63.56*	*69.82*	*71.90*	*74.15*	*76.77*	*79.40*
Center-North	*33.83*	*41.61*	*46.24*	*59.79*	*66.66*	*70.20*	*72.13*	*73.99*	*77.03*	*79.99*
Italy	33.10	39.30	44.13	58.09	65.51	70.06	72.05	74.04	76.94	79.80
Index of regional inequality										
Simple	0.0721	0.0808	0.0799	0.0404	0.0320	0.0148	0.0135	0.0123	0.0089	0.0081
Normal	0.2947	0.2220	0.1844	0.0709	0.0518	0.0230	0.0206	0.0185	0.0131	0.0117
Improved	0.3199	0.2591	0.2247	0.1109	0.0975	0.0500	0.0491	0.0488	0.0420	0.0500

Sources and notes: See the text. Estimates are at the borders of the time and based on current population.

First, it is worth noticing the national rise in life expectancy throughout the period, from Unification, when it was less than 34 years average, to our days: by 2001, life expectancy has reached 80 years

---

[1] Prados, "Improving."

average, which makes of Italy a top-ranker in world comparisons; by this regard, this is no doubt a successful story. Looking at regions, ranks are not as one would expect. Although the Center-North is well ahead and the backward South is behind, in fact, within the former the north-eastern and central regions appear to be the most advanced, not the north-western ones which instead – historically and still at the present – are the richest ones in terms of Gdp: indeed, they lost their lead just when the industrial triangle (Piedmont-Liguria-Lombardy) was taking shape, around the end of the nineteenth century. This evidence supports the view that, at the early stages, industrialization was not so beneficial to the standard of living; it may also indicate that north-eastern and central regions were characterized by lower household income inequality, which involved higher longevity for the poor, as confirmed by data on birth mortality throughout the twentieth century.[1]

As a whole, at the second half of the nineteenth century the South ranked below the rest of the country, and its status did not improve substantially in the liberal age (here too, at 1911 the best positioned regions were the most agricultural ones: Abruzzi, Calabria, Sardinia, Lucania). Yet in the course of the twentieth century the North-South divide was completely bridged, so much so as to be overturned during the 1970s: by this regard, longevity is at odds with per capita Gdp, where as mentioned divergence grew in the first half of the century. In other words, in terms of life expectancy the South undertook modernization – and it was impressive indeed – as well as convergence throughout most of the century following Unification. It was in the last two decades (1981-2001) that the *Mezzogiorno* fell back relatively to the rest of the country, now similarly to what happened in per capita Gdp.

The indices of regional inequality add something more. To begin with, it should be noted that, if we did not consider the minimum threshold, the first decades after Unification would appear to be a period of divergence, as from the 'simple' measure; conversely, in these years the 'normal' and the 'improved' indices are very similar, in both their trends and values. As expected, however, in the second half of the twentieth century, when absolute differentials become modest, the improved measure seems to perform better in order to highlight differences. According to the improved index, convergence came to a halt in the 1980s,[2] and by 2001 regional dispersion had returned to the 1961 level. It goes without saying that, as long as the three indices testify of sigma convergence (a decrease in dispersion), they also implicitly indicate the presence of beta convergence (the most backward regions grow faster), which is its pre-condition.[3]

What determined the impressive convergence in life expectancy, which moreover took place for the most part (1891–1951) at times of Gdp divergence? Our answer is State intervention, which impacted also on the absolute (regional and national) figures. In this field, the starting-point was the 1888 law no. 5849, which created the national health service and harmonized and unified the codes of the pre-Unification states: the Mezzogiorno benefited by the new rues relatively more than the rest of the country, since the health code of the former southern Kingdom was the most backward.[4] The 1888 law introduced the obligatory vaccination against smallpox, which paved the way to the disease complete eradication in the course of the twentieth century. Admittedly, compulsory vaccination proved to be more difficult to implement in the South,[5] and some Southern regions (Sicilia, Puglia, Campania, Calabria, Basilicata) would have remained the most affected by the disease well ahead into the 1920s.[6] In the end, however, compulsory smallpox vaccination reached everyone in the country, by 1977 being declared as no longer necessary. This is indeed an exemplary case of passive modernization: progress came from outside (from the national State, in turn from Napoleonic France), backward South was less prone to accept it, but finally it did and thus converged towards the rest of country (since in all the regions deaths by smallpox equalled to zero).

---

[1] Felice, "I divari regionali in Italia," p. 378.
[2] Over the long run, we should regard the decrease between 1981 and 1991 as an increase, since by 1981 the South was more advanced.
[3] Not viceversa.
[4] Vicarelli, *Alle radici*.
[5] For Naples, see Tucci, "Il vaiolo," p. 425.
[6] Mortara, *La salute pubblica*.

Smallpox was not a unique case. The 1900 law no. 505 made possible the (almost) free delivery of quinine and thus reduced everywhere the malaria death toll,[1] which was higher in the *Mezzogiorno*, as well as in Latium and Tuscany;[2] to a minor degree also drainage works, extended to the *Mezzogiorno* in the liberal age, contributed to this result, although these would have been more efficacious if followed by a land reform which could replace extensive with intensive cultivation, as some meridionalists stigmatized.[3] At the same time, the construction of hygienic infrastructures from the second half of the nineteenth century, *in primis* aqueducts and sewerages, reduced deaths by typhus and cholera, particularly in small towns; cities in the South – Naples, Bari, Palermo, Catania – followed with more reluctance,[4] but in the end (i.e.: in the course of the twentieth century) here too typhus and cholera were practically eradicated[5].

Health policies had positive consequences on life expectancy whenever they could. Yet some death causes are overwhelmingly determined by exogenous factors – industrialization, urbanization, alimentation, or living conditions – public intervention can do very few against which: causes such as tumours, cardiovascular diseases, maybe even suicides, as well as, in the nineteenth century and still in the first half of the twentieth century, pellagra and wasting disease. In these cases, however, southern regions scored lower values than the rest of the country,[6] probably due to environmental and socio-economic conditions. On the other hand, economic 'resources' (and demographic transition) tend to have an heavier impact on birth mortality, which not by chance remained higher in the South throughout the twentieth century, and indeed it even increased relatively to the rest of the country:[7] here passive modernization was more difficult to implement, without an improvement in local economic and social conditions; i.e., birth mortality convergence could not be achieved, in the presence of economic divergence. Nowadays, Italy's main causes of death are tumours and cardiovascular diseases, which result higher in the northern and central regions; the South's lower rank is due to higher birth mortality.

4. Education

Concerning education, in order to illustrate the inequality pattern over the long run we make use of two indicators: from 1871 to 1951 literacy, the share of literate people out of population aged 6 years or more;[8] from 1951 onwards, per capita years of schooling.[9] The share of literate people is of paramount importance in pre-industrial societies, or whenever illiteracy is high: it is widely recognized as a pre-requisite to the start of modern growth and some authors have even proposed a

---

[1] Corti, "Malaria."

[2] Berlinguer, Conti, and Smargiasse, "L'intervento sanitario."

[3] E.g. Fortunato, *Il Mezzogiorno*. Land reform came only in the 1950s.

[4] Forti Messina, "L'Italia dell'Ottocento."

[5] The few and sporadic cases still recorded in our days have no impact on aggregate per capita life expectancy.

[6] Felice, *Divari regionali*, p. 109.

[7] Ibid., p. 115.

[8] From Zamagni, "Istruzione;" Ministero di agricoltura, industria e commercio, *Annuario 1892*; Istat, *Annuario 1939*, and *Annuario 1953*; see also Felice, *Divari regionali*, p. 147, and Vasta, "Capitale umano," pp. 1052–3.

[9] In 1950 official sources began to report, for each region, the numbers of five different 'literate' groups: holders of university degree (U), of tertiary school diploma (T), of secondary school certificate (S), of primary school certificate (P), and literates without certificate (L). Istat, *Censimento . . . 1951*, *Censimento . . . 1961*, *Censimento . . . 1971*, *Censimento . . . 1981*, *Censimento . . . 1991*, and *14° Censimento*.
In order to estimate per capita years of schooling, we employed the formula:

$$\frac{18*NU + 13*NT + 8*NS + 5*NP + 2*NL}{Pop}$$

where *N* is the number of people belonging to each group, and *Pop* is current population aged 6 years or more; i.e., we simply assign 18, 13, 8, 5 and 2 years of schooling to each group respectively. 'Real' average years of schooling are surely higher, since this procedure does not consider those who did not complete a school order and thus did not get a diploma: being impossible to quantify, they have been treated as equally distributed across regions. However, school abandonment was probably higher in the *Mezzogiorno*, which means that 'real' convergence in per capita years of schooling may have been a bit faster. On the other hand, qualitative standards were not equal across regions, as PISA data suggest, thus all considered southern regions were probably worse off than what per capita years of schooling may indicate.

minimum literacy rate (40%) as the threshold beyond which the industrial revolution can occur.[1] Once mass elementary education has firmly established, literacy is no longer so important, and what should be measured is rather the educational level of an overwhelmingly literate population. Although imperfect for the reasons we are going to discuss, in theory per capita years of schooling can serve this scope: at the regional level they are available only from 1951, but it is in indeed from then on that are more useful.

Both literacy and per capita years of schooling are 'stock' measures, thus better suited to express changes in benchmark years than 'flow' measures such as the enrolment ratio, which is drawn from the number of students enrolled in a year *t* (and usually expressed as a percentage of the population included in the age bracket relative to the levels of primary, secondary, tertiary school, and university attendance). The enrolment ratio is a widespread proxy of education nonetheless, also as a component of the human development index, but for Italy's regions its possible use would involve two critical problems: 1) in the elementary and secondary school orders (the compulsory ones), it would not consider school dispersion, hard to quantify indeed, especially in and for the past, but probably much higher in the Mezzogiorno; 2) with regard to university attendance it would not account for interregional mobility, which was on the rise during the last decades, usually from the South to the North, yet also from the smallest regions to the most populated ones. Per capita years of schooling may enable us to overcome both these shortcomings.

Table 2 reports the resulting figures, as well as the 'normal' and 'improved' measures of regional inequality. As for life expectancy, the Hdi and IHdi education component is used in place of *y* in Williamson (1) equation. For literacy (Lit), the 'normal' index draws on the figures of the table, the 'improved' one employs those from the formula:

$$\frac{\text{Log } 100 - \text{Log } (100 - \text{Lit})}{\text{Log } 100} \tag{4}$$

For per capita years of schooling (Year School), which in order to be included in the Hdi have been normalized on a 0-12 scale, again in the first case table figures are used, in the second one those from the formula:

$$\frac{\text{Log } 12 - \text{Log } (12 - \text{Year School})}{\text{Log } 12} \tag{5}$$

The improved formula is of course and again preferable, since it highlights differences: we are dealing with percentages (or with data treated as percentages), which *naturaliter* tend to converge as they increase.

Table 2. Literacy and per capita years of schooling: regional estimates

	Literate people (%)					Per capita years of schooling					
	1871	1891	1911	1938	1951	1951	1961	1971	1981	1991	2001
Piedmont					97.50	5.08	5.48	5.49	6.49	7.57	8.62
Aosta Valley	57.70	76.11	88.98	96.50	97.48	4.74	5.32	5.31	6.44	7.63	8.64
Liguria	43.70	65.64	82.99	94.12	95.86	5.12	5.71	5.86	6.86	7.99	9.02
Lombardy	54.80	71.74	86.57	96.10	97.36	5.17	5.55	5.62	6.73	7.86	8.90
North-West	*54.70*	*72.72*	*87.00*	*95.96*	*97.20*	*5.13*	*5.55*	*5.61*	*6.67*	*7.79*	*8.83*
Trentino-Alto A.	-	-	-	98.61	99.13	5.08	5.45	5.73	6.66	7.79	8.79
Veneto	35.30	56.25	74.84	90.83	93.61	4.60	4.98	5.28	6.32	7.49	8.58
Friuli	-	-	-	91.57	95.87	5.22	5.51	5.72	6.67	7.83	8.96
Emilia	28.10	45.77	67.27	87.75	91.94	4.62	5.10	5.23	6.39	7.60	8.72
Tuscany	31.90	45.36	62.59	84.85	89.21	4.38	4.94	5.16	6.29	7.44	8.57

---

[1] Bowman and Anderson, "The Role of Education;" Sandberg, "Ignorance;" Nuñez, "Alfabetización."

The Marches	21.00	31.96	49.25	79.14	86.18	4.24	4.73	4.82	6.12	7.31	8.52
Umbria	19.90	33.35	51.39	79.07	86.05	4.13	4.73	4.91	6.25	7.43	8.70
Latium	32.30	49.51	66.79	84.68	90.11	4.77	5.55	5.85	7.03	8.19	9.40
North-East, Center	*30.20*	*46.99*	*65.73*	*87.19*	*91.33*	*4.61*	*5.14*	*5.38*	*6.51*	*7.69*	*8.83*
Abruzzi	15.20	25.01	42.41	71.94	80.20	3.81	4.36	4.64	5.90	7.11	8.46
Campania	20.00	30.02	46.34	70.01	77.44	3.62	4.34	4.69	5.95	7.05	8.25
Apulia	15.50	25.38	40.61	67.22	76.39	3.44	4.17	4.49	5.68	6.81	8.00
Lucania	12.00	19.86	34.74	60.77	70.92	3.12	3.75	4.13	5.46	6.60	8.09
Calabria	13.00	18.23	30.38	58.24	67.90	2.97	3.69	4.23	5.59	6.69	8.14
Sicily	14.70	24.14	42.00	66.54	75.71	3.51	4.21	4.50	5.71	6.79	8.05
Sardinia	13.90	26.15	42.04	69.93	78.41	3.37	4.17	4.61	5.83	6.97	8.19
South and islands	*15.90*	*25.21*	*41.44*	*67.15*	*75.84*	*3.47*	*4.17*	*4.53*	*5.77*	*6.89*	*8.15*
Center-North	*40.97*	*58.34*	*75.14*	*90.61*	*93.65*	*4.82*	*5.31*	*5.48*	*6.58*	*7.73*	*8.83*
Italy	31.20	45.20	62.38	82.42	87.26	4.33	4.90	5.15	6.30	7.43	8.59
Indices of regional inequality											
Normal	0.5118	0.4364	0.3074	0.1492	0.1069	0.1651	0.1240	0.0995	0.0708	0.0620	0.0466
Improved	0.6936	0.7109	0.6599	0.5385	0.4744	0.2062	0.1618	0.1329	0.1055	0.1048	0.0965

Sources and notes: See the text. Estimates are at the borders of the time and based on current population.

At the time of Unification, Italy's regional disparities were remarkable high in literacy, much more than in life expectancy and (probably) in Gdp. The map of regional inequality was different too. If the South was again the most backward area, here the North-West was firmly the most advanced one: by 1871, the north-western regions – all of them – were the only ones which had already overcome the minimum 40% threshold supposedly required to start modern growth. Throughout the century following Unification, by this regard modernization was impressive, yet slower in the first decades. The South's catching-up, from a very low rank, began only in the twentieth century: although there was growth of the southern regions already in the 1871-1911 years, and it was probably unprecedented, this was not enough when compared to the rest of the country (in the 1891-1911 years, the decrease in the improved index was due to the convergence of the north-eastern and central regions). A brief survey of the reasons which can explain this partly disappointing performance is going to highlight another case of passive modernization.

The first law on compulsory education was issued already in 1859 (*Legge Casati*): it prescribed two years of free and compulsory elementary school, but left the burden of financing to municipalities. The poorest ones, especially in the most backward regions, could not carry it. The next law, issued in 1877 (*Legge Coppino*), added two more years of compulsory education; it also provided some financial aid to the most needy towns, but its amount was inadequate. The third law, issued in 1904 (*Legge Orlando*), extended to 6 years compulsory education, but did not change financing in a significant way. No wonder, from 1871 to 1911 the regions which improved less were Lucania and Calabria, although they were also the most illiterate ones and therefore those with more 'potential' for catching-up. The turning point came only with the forth law, issued in 1911 (*Legge Daneo-Credaro*), which increased funds and moreover prescribed the gradual transfer of costs and duties from municipalities to the State.[1] It is only from this year on that the South's convergence is undisputed: not because local administrations had become aware and capable of performing their duties, rather because these very duties were levied out from them.

---

[1] Scholars agree: Luzzati, "Introduzione;" Vigo, "Il contributo;" Checchi, "L'efficacia." For an outline of the history of the Italian education system over the long run, see also De Fort, *Scuola e analfabetismo*; Santamaita, *Storia della scuola*.

Southern Italy continued to converge in the second half of the twentieth century, in terms of per capita years of schooling. According to the improved index, however, convergence remarkably slowed down in the last two decades, as for life expectancy: it was when higher education became more important – both for economic growth and for what regards its relative weight on the school indicator – and it is here that the southern regions fell back in the very last decades.[1] Yet reasons are even more profound. School abandonment, also at the compulsory level, had always remained higher in the South than in the Center-North, with a possible resurgence in the last decades characterized by economic falling back and by rising illegal activities: in times of national hardships, the stimulus by external modernization tends to get weaker at the regional level, or – but the result is the same – 'resistance' to (passive) modernization may come up again or become stronger, while active modernization remains out of reach.

Moreover, it must be pointed out that 'real' differences in education are probably worse than what years of schooling may report. PISA (Programme for International Student Assessment) data, which measure the knowledge and skills of 15-years-old students around the world, indicate that in terms of learning southern students are still below the national average in all the main fields: on the whole around ten percentage points, a disparity greater than the one in per capita years of schooling.[2] Unfortunately, PISA data are available only from 2000, but for our sake they (as well as the evidence on school abandonment) confirm passive modernization in the South: major reluctance by the local communities to accept modernization from outside, which thus results slower.

For what regards university attendance, it may be added that still in 2007 the student-professor ratio was 1.4 times higher in the South than in the Centre-North. At the same time, graduates in scientific disciplines (as a percentage of population) were in the South barely 51.3% of the Centre-North.[3] Thus the South's backwardness in technical education is still impressive. It dates back to the nineteenth century, so much so that it has been called into question to explain the economic falling back of the liberal age.[4] Yet to our view at that time technical education was not decisive, the South's main problem being the lowest share of literate people. It got instead paramount importance in the second half of the twentieth century, when the failure of the Italian State to promote higher technical education is undisputable; all the more, because at that time massive regional policies were set up, but these did not care for education (see the next paragraph).

5. Value Added and Human Development

It is now time to turn to Gdp and human development. Table 3 shows Italy's regional inequality in per capita Gdp, in benchmark years from 1891 to 2001.[5] Regional inequality in human development is reported in tables 4 (Hdi) and 5 (IHdi), in the same benchmark years: for 1891 and 1911, both Hdi and IHdi estimates are new, since they make use of the available new estimates of regional Gdp.[6] Unlike with life expectancy and education, for the years prior to 1891 there are no regional Gdp estimates;[7] 1961 figures have been skipped over, because for this period the reliability of Gdp estimates is still under question.

---

[1] Felice, *Divari regionali*, p. 147.
[2] Nardi, "Il progetto nazionale."
[3] Novacco, *Per il Mezzogiorno*, p. 252.
[4] Fenoaltea, "The Economic History."
[5] From Felice, "Regional Development." 1991 figures are from Felice, *Divari regionali*, p. 125.
[6] Ibid. From 1938 to 2001, Hdi estimates are from Felice, *Divari regionali*, p. 152, IHdi ones from id., "I divari regionali in Italia," p. 394. It is worth adding that here the education component was estimated in a different way from the conventional one: the share of literacy decreases through time, to account for its supposed shrinking role, and from 1951 onwards (when they become available) per capita years of schooling are computed in place of the enrolment ratio. We accept this procedure, for the reasons exposed in the paragraph about education, when discussing the role of literacy and comparing the enrolment ratio with the years of schooling.
[7] The recent estimate by Vittorio Daniele and Paolo Malanima is limited to the South and the Centre-North, and still very preliminary. Daniele and Malanima, "Il prodotto delle regioni."

For human development, it is worth stressing that the improved indicator is better suited not only to highlight regional differentials in each social indicators, but also to restrict substitutability among the three components, by way of employing a geometric (rather then arithmetic) average to combine its dimensions. As a consequence, in fact, it performs better when all the three dimensions perform better, thus yielding a possible more faithful representation of the theoretical human development assumptions.[1]

Figures indicate that convergence took place also in human development, from Unification until the 1970s. Of course, Hdi and IHdi are affected not only by life expectancy and education, but also by Gdp, to which we now refer in some more detail. Around 1891, regional differences in per capita Gdp were not impressive indeed, the *Mezzogiorno* hovering short below 90% of the Italian average. Moreover, differences were high within southern Italy and even more within the North-East and Center: as a whole, this last was in the middle rank between the North-West and the South, and around the national average. In other words, ranks in per capita Gdp were partially different from those in social indicators, somehow in between life expectancy and education. Over the following decades, the inequality pattern would have diverged much more.

Between 1891 and 1911, the South fell back comparatively to the rest of the country, although at a relatively slow rate: some southern regions (the poorest ones) even improved. According to the available estimates, most of the North-South differential arose in the interwar period, that is when passive modernization in both education and life expectancy was more impressive. By 1951, per capita Gdp in the South had dropped to a mere 60% of the Italian average; meantime, differences had decreased across southern regions, as well as across the northeastern and central ones; as a whole, these last were still around the Italian average, whereas the North-West was at its peak. In view of this, we can conclude that, in terms of Gdp, the now common classification of Italy's regions into three macro-areas had truly formed only by the mid-twentieth century; as we have seen, in education it was already present at the time of Unification. As a consequence of enlarging differentials in Gdp, from 1891 to 1951 the South's convergence was less impressive in human development, than it was in longevity and education. But it was present nonetheless, as reported even by the IHdi, which by construction downsizes the rate of convergence in social indicators and is negatively affected by the fact that these follow a different path from Gdp; convergence took place, Gdp divergence notwithstanding.

From Unification until the end of the Second World War, the evidence that in terms of Gdp the South did not converge should not come as a surprise, given that in this period the national State was not engaged in promoting industrialization and economic change in the *Mezzogiorno*, with a partial exception for the Giolitti's years;[2] if ever, it favoured northern industries, especially (but not only) between the First World War and the Second one.[3] Things changed with the economic miracle, when the newborn Republic engaged into a massive regional policy in favour of the South, through the State agency called 'Cassa per il Mezzogiorno': for what regards both the amount of funds as a share of national Gdp, and the range of programs and works carried out, this 'extraordinary intervention' was probably without parallels in western Europe.[4] Scholars regard positively the infrastructural works of the first two decades,[5] and recent analyses from quantitative prospects suggest that the top-down industrial schemes carried out by the Cassa were of paramount importance in promoting the South's economic convergence in the 1950s and 1960s.[6] However, in most of the cases subsidized industrial plants remained extraneous to the South's society and economy, with very little spin off, so much so that the press labelled them 'cathedrals in the wilderness', *cattedrali nel deserto*. This evidence supports a strong argument in favour of passive modernization in order to explain convergence in per

---

[1] E.g. Prados, "Improving," pp. 3–4. Or at least, a partial different one.

[2] Barone, *Mezzogiorno e modernizzazione*, pp. 16–17; Galasso, *Il Mezzogiorno*, p. 64; Felice, *Divari regionali*, pp. 65–72.

[3] Zamagni, "La grande guerra."

[4] Felice, "Le politiche regionali."

[5] Barone, "Stato e Mezzogiorno;" D'Antone, "Straordinarietà." Concerning the mot successful case, Abruzzi and Molise, see Felice, "Cassa per il Mezzogiorno."

[6] Daniele and Malanima, "Il prodotto delle regioni." Felice, "Regional value added."

capita Gdp between 1951 and 1971.[1] As a consequence, the impressive convergence in human development must be entirely ascribed to passive modernization: in all the three dimensions (resources, longevity, education) reviewed in this article.

In the long run the 'Cassa', as well as the new agency ('Agensud') which followed it from 1984 to 1992, did not change the South society and indeed, more and more clearly from the 1970s onwards, even favoured a sort of 'vicious circle', which went from unproductive expenditure to market failure.[2] Southern Italy began to (slightly) fall back again in terms of Gdp since the 1970s, although it continued to receive massive State subsidies.[3] Passive modernization can explain as well the end of convergence: after the top-down industrialization subsidized by the State had collapsed, following the oil crisis in the mid 1970s, the *Mezzogiorno* was unable to progress on its own. The South's society and political actors, since were not actively engaged in modernization, showed a tendency to redirect State subsidies towards unproductive uses and even illegal activities, more 'efficaciously' once public intervention had no longer a modernizing strategy.

Although passive modernization had come to a halt in Gdp, during the 1970s it was still going on in education and life expectancy (and thus in human development as a whole). But in the last two decades, here too and as a consequence in human development, convergence considerably slowed down. As mentioned, in this period political power was partly and gradually transferred to regions and municipalities, which were entitled with new competencies and duties in education and (more) in health, as well as in the economic sphere.[4] It is worth adding that the determinants of longevity had changed, as to make more difficult passive modernization, whereas in education it was now all the country that probably fell back at the international level.[5] For all of these reasons, passive modernization in social indicators had become much more difficult. By 2001, differentials in human development across Italy's regions were still high, when compared to those across the most advanced countries;[6] of course, even higher according to the improved indicator.[7]

Table 3. Per capita GDP: REGIONAL ESTIMATES (2001 euros)

	1891	1911	1938	1951	1971	1981	1991	2001
Piedmont				4,322	12,133	15,047	18,941	22,917
Aosta Valley	1,418	2,374	3,608	4,645	13,536	17,159	19,435	24,711
Liguria	1,891	3,179	4,361	4,763	11,631	14,651	18,941	21,722
Lombardy	1,510	2,456	3,608	4,498	13,436	16,895	21,411	25,906
North-West	*1,523*	*2,518*	*3,712*	*4,469*	*12,835*	*16,103*	*20,423*	*24,711*
Trentino-Alto A.	-	-	2,466	3,116	10,127	14,783	18,117	25,707
Veneto	1,050	1,775	2,181	2,881	9,927	14,255	18,446	22,519
Friuli	-	-	3,089	3,263	10,027	14,387	18,776	22,319
Emilia	1,392	2,229	2,700	3,293	11,431	17,027	19,929	24,511
Tuscany	1,352	2,002	2,622	3,087	10,528	14,651	17,294	21,722
The Marches	1,155	1,672	2,051	2,528	9,125	13,859	16,305	19,729
Umbria	1,339	1,899	2,492	2,646	9,325	12,935	15,976	19,131
Latium	2,061	3,075	3,089	3,175	10,729	13,859	18,611	22,519
North-East, Center								
	1,326	*2,064*	*2,570*	*3,058*	*10,428*	*14,651*	*18,282*	*22,519*
Abruzzi	0,867	1,404	1,506	1,705	8,022	11,087	14,658	16,740

---

[1] It lasted indeed until 1973, that is until the oil shock.

[2] Bevilacqua, *Breve storia*, pp. 126–32; Trigilia, *Sviluppo senza autonomia*.

[3] Total expenditures from the 'Cassa' and then from Agensud were on the rise until the mid 1980s, topping 0.9 per cent of Italy's Gdp. Cafiero and Marciani, "Quarant'anni," pp. 271–73.

[4] For the regions, see Putnam, Leonardi, and Nanetti, *La pianta e le radici*.

[5] See Tinagli, *Talento*. According to Marcello de Cecco, the gloomy fate of Italy's economy may resemble that of Pinocchio, the wooden puppet who became a donkey after abandoning school and following Lucignolo to the Land of Play: de Cecco, *L'economia di Lucignolo*.

[6] Felice, *Divari regionali*, p. 154.

[7] For comparisons, see Prados, "Improving."

Campania	1,274	1,940	2,129	2,029	7,119	8,843	11,200	12,953
Apulia	1,339	1,754	1,869	1,911	7,520	9,503	12,023	13,352
Lucania	0,972	1,507	1,480	1,382	7,520	8,975	10,870	14,547
Calabria	0,880	1,445	1,272	1,382	6,718	8,579	9,717	12,754
Sicily	1,221	1,754	1,869	1,705	7,019	9,371	11,200	13,152
Sardinia	1,234	1,899	2,155	1,852	8,523	9,503	12,188	15,145
South and islands	*1,155*	*1,734*	*1,817*	*1,793*	*7,320*	*9,239*	*11,529*	*13,551*
Center-North	*1,405*	*2,270*	*3,011*	*3,616*	*11,431*	*15,311*	*19,105*	*23,316*
Italy	1,313	2,064	2,596	2,940	10,027	13,199	16,470	19,928
	Indices of regional inequality							
Simple	0.1936	0.2080	0.3018	0.3615	0.2258	0.2314	0.2377	0.2498
Improved	0.0772	0.0682	0.0984	0.1171	0.0518	0.0520	0.0514	0.0526

Notes: Estimates are at the borders of the time and based on current population. 2001 constant prices are obtained via deflating benchmark current prices by the official (Istat) index of consumer prices. The improved inequality index has been estimated from the same data used for Hdi and IHdi, i.e. after transforming per capita Gdp according to the formula:

Log (per capita Gdp) – Log (100)

     Log (40,000) – Log (100)

Where per capita Gdp is expressed in 1990 international dollars.

Sources: See the text.

Table 4. Regional inequality in Hdi, 1891-2001 (Italy=1)

	1891	1911	1938	1951	1971	1981	1991	2001
Piedmont				1.10	1.03	1.02	1.02	1.01
Aosta Valley	1.32	1.21	1.09	1.05	1.02	1.02	1.01	1.01
Liguria	1.25	1.21	1.15	1.12	1.05	1.03	1.03	1.02
Lombardy	1.25	1.13	1.07	1.09	1.04	1.03	1.03	1.03
North-West	*1.27*	*1.17*	*1.09*	*1.10*	*1.04*	*1.03*	*1.03*	*1.02*
Trentino-Alto A.	-	-	1.12	1.05	1.02	1.02	1.02	1.03
Veneto	1.13	1.10	1.04	1.04	1.01	1.01	1.02	1.02
Friuli	-	-	1.12	1.11	1.02	1.02	1.02	1.02
Emilia	1.03	1.09	1.05	1.06	1.02	1.03	1.02	1.02
Tuscany	1.04	1.05	1.06	1.04	1.02	1.02	1.01	1.01
The Marches	0.91	0.97	1.00	1.00	1.00	1.01	1.01	1.01
Umbria	0.94	0.99	1.02	1.01	1.00	1.01	1.01	1.01
Latium	1.11	1.09	1.05	1.04	1.04	1.03	1.03	1.03
North-East, Center	*1.05*	*1.07*	*1.05*	*1.05*	*1.02*	*1.02*	*1.02*	*1.02*
Abruzzi	0.73	0.86	0.92	0.92	0.97	0.99	0.99	0.99
Campania	0.83	0.83	0.93	0.90	0.94	0.95	0.95	0.96
Apulia	0.80	0.81	0.86	0.89	0.95	0.96	0.97	0.96
Lucania	0.71	0.78	0.81	0.80	0.94	0.95	0.95	0.97
Calabria	0.68	0.77	0.82	0.83	0.93	0.95	0.94	0.96
Sicily	0.79	0.80	0.90	0.89	0.94	0.96	0.95	0.96
Sardinia	0.82	0.87	0.93	0.91	0.97	0.97	0.97	0.97
South and islands	*0.78*	*0.82*	*0.89*	*0.89*	*0.95*	*0.96*	*0.96*	*0.96*
Center-North	*1.15*	*1.11*	*1.07*	*1.07*	*1.03*	*1.02*	*1.02*	*1.02*
Italy (abso.)	0.3294	0.4208	0.5719	0.6228	0.7415	0.7879	0.8379	0.8895

Index of regional inequality

Normal	0.2081	0.1541	0.0891	0.0922	0.0401	0.0326	0.0324	0.0298

Sources and notes: See the text. Estimates are at the borders of the time and based on current population.

Table 5. Regional inequality in IHdi, 1891-2001 (Italy=1)

	1891	1911	1938	1951	1971	1981	1991	2001
Piedmont				1.23	1.09	1.06	1.04	1.03
Aosta Valley	1.49	1.42	1.21	1.14	1.08	1.06	1.04	1.01
Liguria	1.33	1.34	1.25	1.25	1.13	1.08	1.06	1.05
Lombardy	1.35	1.24	1.15	1.21	1.11	1.09	1.07	1.06
North-West	*1.41*	*1.32*	*1.18*	*1.22*	*1.11*	*1.08*	*1.06*	*1.05*
Trentino-Alto A.	-	-	1.29	1.22	1.15	1.10	1.09	1.09
Veneto	1.21	1.18	1.08	1.10	1.06	1.04	1.05	1.05
Friuli	-	-	1.20	1.26	1.09	1.06	1.07	1.07
Emilia	1.04	1.13	1.09	1.12	1.07	1.06	1.05	1.05
Tuscany	1.06	1.08	1.10	1.07	1.04	1.04	1.04	1.04
The Marches	0.89	0.96	1.01	1.01	1.01	1.03	1.04	1.05
Umbria	0.92	0.99	1.03	1.01	1.00	1.02	1.02	1.03
Latium	1.11	1.11	1.07	1.08	1.08	1.07	1.07	1.07
North-East, Center	*1.08*	*1.11*	*1.09*	*1.09*	*1.06*	*1.05*	*1.05*	*1.05*
Abruzzi	0.67	0.82	0.90	0.86	0.95	0.97	0.98	1.00
Campania	0.76	0.76	0.91	0.83	0.88	0.90	0.91	0.91
Apulia	0.71	0.73	0.81	0.80	0.90	0.92	0.94	0.93
Lucania	0.63	0.71	0.75	0.68	0.86	0.90	0.91	0.93
Calabria	0.60	0.70	0.77	0.70	0.86	0.90	0.89	0.92
Sicily	0.71	0.73	0.86	0.80	0.89	0.92	0.91	0.91
Sardinia	0.76	0.81	0.90	0.83	0.93	0.95	0.95	0.95
South and islands	*0.71*	*0.75*	*0.86*	*0.80*	*0.89*	*0.92*	*0.92*	*0.93*
Center-North	*1.22*	*1.20*	*1.12*	*1.14*	*1.08*	*1.06*	*1.06*	*1.05*
Italy (abso.)	0.1377	0.1905	0.3633	0.4070	0.5307	0.5963	0.6703	0.7608

Index of regional inequality

Improved	0.2937	0.2436	0.1464	0.1823	0.0959	0.0729	0.0683	0.0634

Sources and notes: See the text. Estimates are at the borders of the time and based on current population.

6. Synthesis

In the previous paragraphs we have discussed passive modernization in social and economic indicators, via showing (a variant of sigma) convergence of regional figures and then briefly reviewing the main historical determinants. The Italian 'case' can be summarized in the following table (6).

Table 6. Growth, State intervention and convergence in Italy's regions

	1871-1891	1891-1911	1911-1938	1938-1951	1951-1961	1961-1971	1971-1981	1981-1991	1991-2001	*1871-2001**
				Life expectancy						
Growth rate (N)	**2.51**	1.27	**2.11**	**1.50**	0.93	0.24	0.24	0.44	0.42	*1.34*
Growth rate (I)	**3.20**	1.73	**2.76**	**2.64**	2.15	0.98	1.04	1.68	1.99	*2.20*

State Intervention	S/W	**S**	**S**	**S**	S/W	S/W	W	W	W	*S/W*
Converg. rate (N)	1.41	0.92	**3.48**	2.39	**7.80**	1.10	1.07	-3.39**	1.12	*2.45*
Converg. rate (I)	1.05	0.71	**2.58**	0.99	**6.46**	0.18	0.06	-1.49**	-1.76	*1.42*
Education										
Growth rate (N)	0.32	**1.53**	**1.31**	0.14	0.44	0.09	**0.85**	**0.84**	**0.90**	0.74
Growth rate (I)	0.75	**2.34**	**4.32**	-0.20	1.23	0.32	**1.90**	1.41	1.47	1.71
State Intervention	W	S/W	**S**	**S**	S/W	S/W	W	W	W	*W/S*
Converg. rate (N)	0.79	1.74	**2.64**	**2.53**	**2.82**	2.18	**3.35**	1.32	**2.82**	*1.83*
Converg. rate (I)	-0.12	0.37	0.75	0.97	**2.40**	1.95	2.28	0.07	0.82	*1.51*
Per capita Gdp										
Growth rate (N)	n.a.	2.29	0.85	0.96	**8.19**	**4.49**	**2.79**	2.24	1.92	*2.50**
Growth rate (I)	n.a.	**0.84**	0.22	0.25	**3.25**	0.12	0.59	0.45	0.37	*0.67**
State Intervention	W	W	W	W	S	S	S	S	W	*W/S*
Converg. rate (N)	n.a.	-0.36	-1.39	-1.40	**2.33**	**2.33**	-0.25	-0.27	-0.50	*-0.23*
Converg. rate (I)	n.a.	**0.62**	-1.37	-1.35	**4.00**	**4.00**	-0.04	0.12	-0.23	*0.35*
Human development										
Growth rate (N)	n.a.	**1.23**	**1.14**	0.66	**1.54**	0.22	0.61	0.62	0.60	*0.91**
Growth rate (I)	n.a.	**1.63**	**2.42**	0.88	**2.21**	0.47	1.17	1.18	1.27	*1.57**
State Intervention	W	S/W	**S**	**S**	S	S	S/W	W	W	*S/W*
Converg. rate (N)	n.a.	1.49	**2.01**	-0.26	**4.08**	**4.08**	2.05	0.06	0.83	*1.75**
Converg. rate (I)	n.a.	0.93	**1.87**	-1.70	**3.16**	**3.16**	2.70	0.65	0.74	*1.38**

Legend: **S** = Strong, W = Weak (see previous paragraphs); growth rates in bold font are above the 1871-2001 average. *Notes*: Rates in percentages; * 1891-2001; ** Convergence of the central and northern regions.

Sources: Elaboration from tables 1-5.

State intervention in favour of regional modernization began at the end of the nineteenth century in life expectancy, just before the First World War efficaciously in education, only after the Second World War in a significant way in the economic dimension. Conversely (and very approximately indeed) it passed its climax first in life expectancy and education, lastly in Gdp. This sequence was at least in part due to the characteristics of each and every dimension: these made easier and less expensive, or more convenient by many standards, to intervene in life expectancy, by far more complicated and demanding to do it in Gdp; education was in a middle position, maybe closer to life expectancy, its second ranking being referable to the financial constraints of the post-Unification years. The taxonomy is respected in terms of results: over the long run, convergence was higher in the case of life expectancy, slower in education (we must consider that here the 'real' results are probably worse than what our data may reflect), indeed it did not occur at all in the case of Gdp. The correlation between national growth rates and regional convergence (table 7) supports the view that State intervention and thus passive modernization were more problematic to implement in the economic dimension. Concerning per capita Gdp, in fact, convergence took place in the years of most intense growth. This correlation is weaker although present in life expectancy, and indeed is reverted in the case of education: here convergence was more intense in the periods of slower national growth, a result partly referable to the delay in State intervention, after the stronger rise of the liberal age (1891-1911). However, in the case of social indicators convergence has a weak correlation with the growth rate of per capita Gdp: suggesting not only that here passive modernization may have been less expensive, but

also that life expectancy and education were independent dimensions of modernization, obeying different rules.

Table 7. Correlation between growth rates and convergence rates, 1891-2001

	Life expectancy	Education	Per capita Gdp	Human development
	The growth rate of each dimension			
Normal				
Coeff.	0.344**	-0.262**	0.997**	0.256**
Sig (2-tailed)	0.000	0.006	0.000	0.007
Number obs.	110	110	110	110
Improved				
Coeff.	0.206*	-0.343**	0.989**	0.397**
Sig (2-tailed)	0.031	0.000	0.000	0.000
Number obs.	110	110	110	110
	The growth rate of per capita Gdp			
Normal				
Coeff.	0.238*	0.001	0.997**	0.758**
Sig (2-tailed)	0.012	0.988	0.000	0.000
Number obs.	110	110	110	110

Method: Pearson correlation.

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

In terms of regional rankings, table 8 indicates that over time life expectancy followed a separate path from the other indicators, and it confirms longevity as the most benefited dimension. Regional differences in life expectancy and education are somehow correlated in the first decades, yet by 1981 this correlation had reverted its sign; significantly, correlation seems to come up again in the very last years. On the other hand, life expectancy and Gdp rankings are practically uncorrelated. Conversely, correlation between education and value added increased through most of the period: incidentally, this result tells us that in education, although convergence occurred (the regions got closer), the rankings remained more or less the same, i.e. the most backward regions continued to lie behind the most advanced ones; so much so that we could search for a way to emphasize education differentials which would not result into convergence, as it is the case with per capita Gdp.[1] This is another good reason to suspect that passive modernization in education was not comparable to that in life expectancy, and less impressive than what may seem.

Table 8. Correlation of regional rankings

	1871	1891	1911	1938	1951	1971	1981	1991	2001
	Life expectancy *versus* Education								
Coeff.	0.467	0.827**	0.425	0.727**	0.546*	-0.355	-0.515*	-0.359	0.044
	Life expectancy *versus* Value added								
Coeff.	-	0.386	0.180	0.554*	0.361	-0.340	-0.389	-0.218	0.139
	Education *versus* Value added								
Coeff.	-	0.601*	0.747**	0.814**	0.891**	0.803**	0.821**	0.911**	0.806**
N	*16*	*16*	*16*	*18*	*19*	*19*	*19*	*19*	*19*

Method: Pearson correlation.

* Correlation is significant at the 0.05 level (2-tailed).

---

[1] To make profit of PISA data (or of some other measure of the skill and knowledge of educated people, not just of the number of years they spent at school) could be an efficacious way to emphasize these disparities, but unfortunately, as mentioned, these are available only for very recent years – and confirm higher education differentials.

** Correlation is significant at the 0.01 level (2-tailed).

In the first paragraph, we have argued that active modernization may have been possible also at the regional level, yet limitedly to the last decades of twentieth century: because regions had a growing power, and – more in general – because technology and institutions were evolving in such a way as to favour delocalization from the national State. As a consequence, from (approximately) the 1970s onwards the big issue in Italy's regional inequality is not only on whether (and how and when) passive modernization did take place, but also on whether some regions embarked upon active modernization. In other words: did southern regions modernize once they had the power to do it? From the above reconstruction our answer is not, in fact they fell back once passive modernization was over, or no longer effective; this failure was patent in life expectancy, but probably occurred also in education, as the limited evidence from PISA data (more dependent on local conditions than the average years of schooling) would suggest; and of course in per capita Gdp. But why did they fall back? This is the big question, maybe beyond the scope of this paper. However, we can partly reformulate it by asking: why did passive modernization not pave the way to active modernization?

A possible answer to this question is that in the South passive modernization was complete only in the case of life expectancy, where indeed by the 1970s the most backward regions had succeeded in reaching the most advanced ones. Out of the three dimensions we have considered, life expectancy seems to be the one more inclined to benefit from passive modernization, yet also, unfortunately, the one less correlated with the others: State intervention was more effective in a dimension which could hardly influence the other two, whereas on the other hand it could have been negatively affected by lower levels of education and per capita Gdp. In short, passive modernization did not lead to active modernization because the former was lacking.

A different answer would be that passive modernization is by itself unable to evolve into active modernization – an argument particularly appealing in the case of Gdp. We have not enough evidence to tell that this was the case, although the story of the 'extraordinary intervention' in the South seems to indicate that it could be: however, Gdp convergence came to a halt well before the North-South divide was bridged, thus, once again, it could simple have been insufficient.

From the Italian experience, we can sketch a draft scheme of passive modernization at the regional level (figure 1). State intervention would occur first in life expectancy, then in education, finally in value added, which all would impact on human development. These dimensions also have possible interconnections, weaker in the case of life expectancy, at least in terms of its contribution to the advancement of the other two (whereas it can strongly benefit from them). There are other ways through which State intervention may affect indirectly the main dimensions (think of the enforcement of the legal system, or more in general of social capital), but these and their possible ties have not been explored in this paper; they could be an efficacious policy instrument, although by assumption have only an indirect impact. Education is at the centre of the chart because it seems to be the most effective goal: compared with value added, in fact, this is a field where State intervention is relatively less expensive and holds a greater likelihood of success; compared with life expectancy, education may have a stronger impact on the other dimensions. Accordingly, the partial failure of passive modernization in southern Italy may be referable to the delay and faults of State intervention in this very field, both in the liberal age and in the second half of the twentieth century: but on this hypothesis more research is needed.
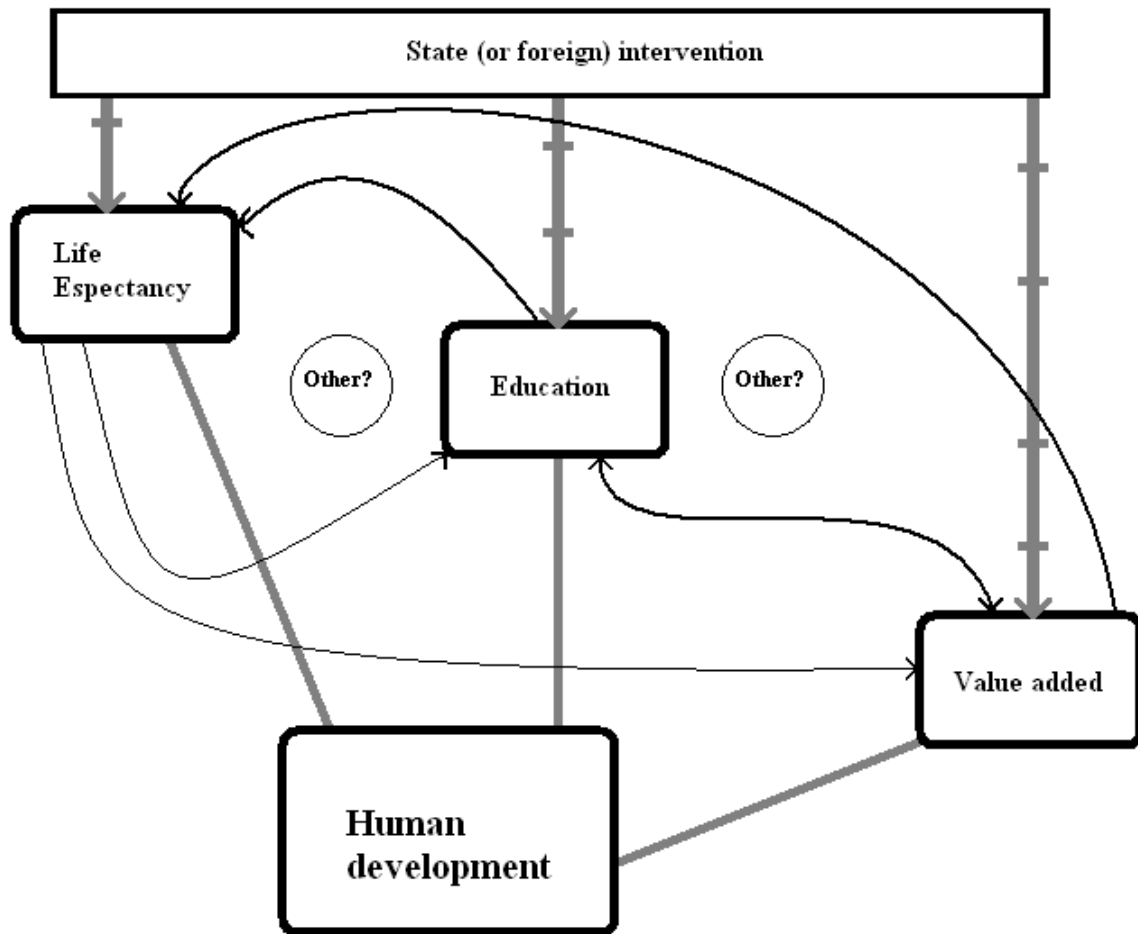
Figure 1. State intervention and modernization

7. Conclusion

This article presents regional estimates of social and economic indicators in Italy, in benchmark years from 1871 to 2001: regional figures and the inequality pattern are discussed with regard to life expectancy, education (literacy and years of schooling), per capita Gdp, and thus the normal and improved human development index. The article also advances an interpretative hypothesis to account for the different patterns and convergence rates, which is based on the distinction between passive and active modernization. At the regional level, passive modernization relies on State intervention, whereas active modernization involves the contribution of local institutions but is significant only from the 1970s onwards. Evidence from Italy's regions shows that passive modernization was implemented first in life expectancy (mostly during the liberal age), then in education (approximately during the interwar years), finally in Gdp (in the second half of the twentieth century). Results indicate high convergence in the case of life expectancy, middle one in education, yet divergence in value added (with convergence limited to the period of most intense national growth and intervention). Besides, in all these fields convergence came to a halt or was even reverted in the last decades, when for a number of reasons passive modernization was more difficult to implement. Accordingly, convergence in human development was significant until the 1970s, but later it slowed down: here the Italian North-South differential is still relatively high, especially if we consider the improved indicator.

Looking at the sequence and historical periods of State intervention, as well as at the changes in the correlation of regional rankings, it is argued that passive modernization was usually less expensive in education than in Gdp; at the same time, higher education was probably more helpful to the other dimensions, at least when compared to life expectancy. Thus State intervention had to be carefully calibrated on education, as it generally was not: we don't know if this fault may explain the unsatisfactory convergence of the whole period and in particular of the last decades, the hypothesis is worthy of more research. An attempt has been made at synthesizing the above evidence into a draft scheme of State intervention and modernization, in the hope that it may be useful for further comparisons and investigation.

8. References

Abramovitz, Moses. Catching up, forging ahead and falling behind. *This JOURNAL* 46, no. 2 (1986): 385–406.

Acemoglu, Daron and Simon Johnson (2007) Disease and Development: The Effect of Life Expectancy on Economic Growth. *Journal of Political Economy* 115, no. 6: 925–85.

A'Hearn, Brian (1998). Institutions, Externalities, and Economic Growth in Southern Italy: Evidence from the Cotton Textile Industry, 1861-1914. *Economic History Review* 51, no. 4: 734–62.

***(2000). Could Southern Italians Cooperate? *Banche Popolari* in the *Mezzogiorno*. *This JOURNAL* 60, no. 1: 67–93.

Anand, Sudir, and Amartya K. Sen. Human Development Index: Methodology and Measurement. *United Nation Development Programme Occasional Paper*, no. 8, 1993.

Bagnasco, Arnaldo. (1988). *La costruzione sociale del mercato. Studi sullo sviluppo di piccola impresa in Italia/The social construction of the market. Studies on the development of small business in Italy*. Bologna: il Mulino.

Barone, Giuseppe (1986). *Mezzogiorno e modernizzazione. Elettricità, irrigazione e bonifica nell'Italia contemporanea/ South and modernization. Electricity, irrigation and land reclamation in contemporary Italy*. Turin: Einaudi.

***"Stato e Mezzogiorno (1943-60). Il «primo tempo» dell'intervento straordinario/The "first time" of the extraordinary intervention. *La costruzione della democrazia. Dalla caduta del fascismo agli anni cinquanta/ The construction of democracy. Since the fall of fascism, the fifties*, vol. 1, edited by Francesco Barbagallo, 291–409. Storia dell'Italia repubblicana. Turin: Einaudi, 1994.

Barro, Robert, and Jong-Wha Lee (1994). Sources of Economic Growth (with Commentary). *Carnegie-Rochester Conference Series on Public Policy* 40, no. 1 1–57.

Becattini, Giacomo (2007). *Il calabrone Italia. Ricerche e ragionamenti sulla peculiarità economica italiana/ The Italy bumblebee. Research and reasoning on the Italian economic peculiarities*. Bologna: il Mulino.

Berlinguer, Giovanni, Paolo Conti, and Antonio Smargiasse. (1990). L'intervento sanitario dello Stato unitario nel Sud/ The intervention of the state health unit in South. *Salute e malattia nella cultura delle classi subalterne nel Mezzogiorno/Health and disease in the culture of the subaltern classes in the South*. Edited by Massimo Di Rosa, 161–93. Naples: Guida.
Bevilacqua, Piero. (1993). *Breve storia dell'Italia meridionale dall'Ottocento a oggi/Brief history of southern nineteenth century to today*. Rome: Donzelli.

Bowman, Mary Jean, and C. Arnold Anderson. (1963). Concerning the Role of Education in Development. *Old Societies and New States. The Quest for Modernity in Asia and Africa*, edited by Clifford C. Geertz, 247–79. London: The Free Press of Glencoe,.

Cafagna, Luciano. (1988). Modernizzazione attiva e modernizzazione passiva/Active and passive modernization. *Meridiana. Rivista di storia e scienze sociali* 2/ *Meridiana. Magazine of History and Social Science*, no. 2: 229–40.

Cafiero, Salvatore, and Giovanni E. Marciani (1991). Quarant'anni di intervento straordinario (1950-1989) Forty years of extraordinary intervention (1950-1989). *Rivista economica del Mezzogiorno/ Business magazine of the South* 5, no. 2, 249–74.

Cassano, Franco (1996). *Il pensiero meridiano/Meridian Thought*. Rome-Bari: Laterza.

Checchi, Daniele (1997). L'efficacia del sistema scolastico italiano in prospettiva storica/The effectiveness of the Italian school system in historical perspective. *L'istruzione in Italia: solo un pezzo di carta?/ Education in Italy: only a piece of paper?* edited by Nicola Rossi, 67–128. Bologna: il Mulino.

Cipolla, Carlo M. (1969). *Literacy and Development in the West*. London: Penguin.

Conte, Leandro, Giuseppe Della Torre, and Michelangelo Vasta (2001). The Human Development Index in Historical Perspective: Standard of living and Economic Growth in Italy (1871-1991). *University of Siena working paper*.

Corti, Paola (1984). Malaria e società contadina nel Mezzogiorno/ Malaria is peasant society in the South. *Malattia e medicina/ Disease and medicine*, edited by Franco Della Peruta, 633–78. Storia d'Italia. Turin: Einaudi.

Daniele, Vittorio and Paolo Malanima (2007). Il prodotto delle regioni e il divario Nord-Sud in Italia/The product of the Regions and the division of North-South in Italy (1861-2004). *Rivista di Politica Economica/ Journal of Political Economy*. third series 67, nos. 3–4, 267–315.

D'Antone, Leandra (1997). «Straordinarietà» e Stato ordinario/"Extraordinary" and the Ordinary State. *Storia del capitalismo italiano dal dopoguerra a oggi/ History of Italian capitalism since the war until today*, edited by Fabrizio Barca, 579–625. Rome: Donzelli.

De Cecco, Marcello (2000). *L'economia di Lucignolo. Opportunità e vincoli dello sviluppo italiano/The economy of Candlewick. Opportunities and constraints of Italian development.* Rome: Donzelli.

De Fort, Ester (1995). *Scuola e analfabetismo nell'Italia del '900/ School and illiteracy in the Italy of 900.* Bologna: il Mulino.

Felice, Emanuele (2002). Le politiche regionali in Italia e nel Regno Unito (1950-1989)/ Regional policies in Italy and the United Kingdom (1950-1989). *Rivista economica del Mezzogiorno/ Business magazine of the South* 16, nos. 1–2: 175–235.

*** *Divari regionali e intervento pubblico. Per una rilettura dello sviluppo in Italia/Regional disparities and public intervention. For a reinterpretation of the development in Italy*. Bologna: il Mulino, 2007.

***I divari regionali in Italia sulla base degli indicatori sociali (1871-2001)/The regional variations in Italy based on social indicators (1871-2001). *Rivista di Politica Economica/ Journal of Political Economy* 67, nos. 3–4 (2007): 359–405.

***The «Cassa per il Mezzogiorno» in the Abruzzi. A Successful Regional Economic Policy. *Global & Local Economic Review* 10 (2007): 9–33.

***Regional Value Added in Italy (1891-2001) and the Backbone of a Long Term Picture. *Paper presented at the XVth World Economic History Congress, Utrecht* (2009), accessible at http://www.wehc2009.org/programme.asp?day=1.

***Regional Development: Reviewing the Italian Mosaic." *Journal of Modern Italian Studies* (forthcoming).

Fenoaltea, Stefano (2003). Peeking Backward: Regional Aspects of Industrial Growth in Post-Unification Italy. *This JOURNAL* 63, no. 4, 1059–102.

*** I due fallimenti della storia economica: il periodo post-unitario/The two failures of economic history: the post-unification. *Rivista di Politica Economica/ Journal of Political Economy* third series, 67, nos. 3-4 (2007): 341–58.

Forti Messina, Anna L. (1984). L'Italia dell'Ottocento di fronte al colera/ Italy before the nineteenth century cholera. *Malattia e medicina/ Disease and medicine*, edited by Franco Della Peruta, 429–94. Storia d'Italia. Turin: Einaudi.

Fortunato, Giustino (1973) [1904]. *Il Mezzogiorno e lo stato italiano/The South and the Italian state*. Edited by Manlio Rossi-Doria. Florence: Vallecchi.

Galasso, Giuseppe (2005). *Il Mezzogiorno da «questione» a «problema aperto»*. Manduria (Ta): Piero Lacaita.

Gerschenkron, Alexander (1962). *Economic Backwardness in Historical Perspective: A Book of Essays*. Cambridge, MA: Harvard University Press.

Istat (Istituto centrale di statistica/ Central Institute of Statistics). *Annuario statistico italiano/Italian Statistical Yearbook, 1939*. Rome: 1939.

****Annuario statistico italiano/ Italian Statistical Yearbook, 1953*. Rome: 1954.

***IX Censimento generale della popolazione. 4 novembre 1951/ IX General Population Census. November 4, 1951, vol. V. *Istruzione/Education*. Rome: 1957.

***10° Censimento generale della popolazione. 15 ottobre 1961/10 ° General Census of Population. October 15, 1961, vol. VII. *Istruzione/Education*. Rome: 1968.

***11° Censimento generale della popolazione. 24 ottobre 1971/11 ° General Census of Population. October 24, 1971, vol. VII. *Istruzione/Education*. Rome: 1975.

***12° Censimento generale della popolazione. 25 ottobre 1981/12 ° General Census of Population. October 25, 1981, vol. VII. *Dati sulle caratteristiche strutturali della popolazione e delle abitazioni/* Data on the structural characteristics of the population and housing. Rome: 1985.

****13° Censimento generale della popolazione e delle abitazioni. 20 ottobre 1991. Fascicolo nazionale. Italia/13 ° General Census of Population and Housing. October 20, 1991. National file. Italy*. Rome: 1995.

****14° Censimento generale della popolazione e delle abitazioni/ General Census of Population and Housing.* Rome: 2005.

Luzzati, Enrico (1970). Introduzione allo studio delle spese pubbliche per l'istruzione in Italia 1867-1965/ Introduction to the study of public expenditure on education in Italy 1867-1965. *Annali della Fondazione Luigi Einaudi/ Annals of the Luigi Einaudi Foundation Vol.* 4: 75–160.

***(*1892*). Ministero di agricoltura, industria e commercio/ Ministry of Agriculture, Trade and Industry. *Annuario statistico italiano/* Italian Statistical Yearbook. Rome: 1893.

Mortara, Giorgio (1925). *La salute pubblica in Italia durante e dopo la guerra/ Public health in Italy during and after the war*. Bari: Laterza.

Nardi, Emma (2001). *Il progetto nazionale Ocse-Pisa 2000/ The national project OECD-PISA 2000*. Available at www.pisa.oecd.org (2001).

Novacco, Nino (edited by). *Per il Mezzogiorno e per l'Italia. Un sogno ed un impegno che dura da 60 anni/ To the south and Italy. A dream and a commitment that lasts for 60 years*. Bologna: il Mulino-Svimez, 2007.

Nuñez, Clara E. (1993). Alfabetización y desarrollo económico en España: una visión a largo plazo/ Literacy and economic development in Spain: a long-term vision. *La maldición divina. Ignorancia y atraso económico en perspectiva histórica/ The divine curse. Ignorance and economic backwardness in historical perspective*, edited by Clara E. Nuñez and Gabriel Tortella, 223–236. Madrid: Alianza Editorial.

Prados, Leandro. "Improving the Human Development Index. News Estimates for Europe and its Offshoots, 1850-1990." *Mimeo*, 2005.

Putnam, Robert D. (1993). *Making democracy work: civic traditions in modern Italy*, with Robert Leonardi and Raffaella Y. Nanetti. Princeton: Princeton University Press.

Putnam, Robert D., Robert Leonardi, and Raffaella Y. Nanetti (1985). *La pianta e le radici: l'istituzionalizzazione delle regioni nel sistema politico italiano/ The plant and roots: the institutionalization of regions in the Italian political system*. Bologna: il Mulino.

Said, Edward W. (1978). *Orientalism*. London: Routledge & Kegan Paul.

Sala-i-Martin, Xavier, Gernot Doppelhofer, and Ronald Miller. (2004) Determinants of Long-Term Growth: a Bayesian Averaging of Classical Estimates (BACE) Approach. *American Economic Review* 94, no. 4: 813–836.

Sandberg, Lars G. (1982). Ignorance, Poverty and Economic Backwardness in the Early Stages of European Industrialization: Variations on Alexander Gerschenkron's Grand Theme. *Journal of European Economic History* 11, no. 3: 675–97.

Santamaita, Saverio (1999). *Storia della scuola. Dalla scuola al sistema formativo/ School history. From school to the training system*. Milano: Bruno Mondatori.

Sen, Amartya K. (1985). *Commodities and Capabilities*. Amsterdam: North Holland.

Tinagli, Irene (2008). *Talento da svendere. Perché in Italia il talento non riesce a prendere il volo/ Talent to sell. Because in Italy the talent cannot take its flight.* Einaudi: Turin.

Trigilia, Carlo (1992). *Sviluppo senza autonomia. Effetti perversi delle politiche nel Mezzogiorno/Development without autonomy. Perverse effects of policies in the South*. Bologna: il Mulino.

Tucci, Ugo (1984). Il vaiolo, tra epidemia e prevenzione/ Smallpox between prevention and epidemic. *Malattia e medicina/ Disease and medicine*, edited by Franco Della Peruta, 389–428. Storia d'Italia. Turin: Einaudi.

Vasta, Michelangelo (1999). Capitale umano e ricerca scientifica e tecnologica/Human capital and scientific and technological research. *L'industria/ The industry*, edited by Franco Amatori, Duccio Bigazzi, Renato Giannetti, and Luciano Segreto, 1041–124. Storia d'Italia. Turin: Einaudi.

Vicarelli, Giovanna (1997). *Alle radici della politica sanitaria in Italia. Società e salute da Crispi al fascismo/* At the root of health policy in Italy. Society and Health by Crispi to Fascism. Bologna: il Mulino.

Vigo, Giovanni (1971). Il contributo della spesa pubblica all'investimento in capitale umano/ The contribution of public spending on investment in human capital (1870-1914). *Annales Cisalpines d'Histoire Sociale/* Cisalpine Journal of Social History 2, no. 2: 139–91.

Williamson, Jeffrey (1965). Regional Inequality and the Process of National Development: A Description of the Pattern. *Economic Development and Cultural Change* 13, no. 4: 3–84.

Zamagni, Vera (1978). Istruzione e sviluppo economico. Il caso italiano. 1861-1913/ Education and economic development. The Italian case. 1861-1913. *L'economia italiana 1861-1940/*The Italian economy 1861-1940, edited by Gianni Toniolo, 137–78. Rome-Bari: Laterza.

***(2002). La grande guerra come elemento di rottura della crescita equilibrata dell'economia italiana/ The great war as a rupture of the balanced growth of the Italian economy. *España e Italia en la Europa contemporánea: desde finales del siglo XIX a las dictaduras/* Spain and Italy in contemporary Europe: from the late nineteenth century dictatorships, edited by F. Garcia Sanz, 323–34. Madrid: Csic.