PASSIVE MODERNIZATION? THE NEW HUMAN DEVELOPMENT INDEX AND ITS COMPONENTS IN ITALY'S REGIONS (1871-2007)

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ABSTRACT: The article presents and discusses estimates of social and economic indicators for Italy and its regions in benchmark years roughly from Unification to the present day: life expectancy, education, GDP per capita at purchasing power parity, and the new Human Development Index (HDI). A broad interpretative hypothesis, based on the distinction between 'active' and 'passive' modernization is proposed to account for the evolution of regional imbalances. In the lack of active modernization, Southern Italy converged thanks to passive modernization. However, this was more effective in life expectancy, less successful in education, expensive and as a whole ineffective in GDP. As a consequence, convergence in the HDI occurred from the late nineteenth century to the 1970s, but came to a sudden halt in the last decades of the twentieth century.

1. Introduction

Italy's regional disparities have been vastly debated, but a full reconstruction of the historical pattern is not yet satisfactory. Still there is uncertainty about the North-South divide around the time of Unification (Daniele and Malanima 2007; Felice 2013),[1] the determinants of regional imbalances over the short and the long-run (Felice 2012), as well as inequality (Vecchi 2011). Some consensus has been reached for the trend of per capita GDP in the XX century: here the evidence shows the failure of Southern Italy to catch-up with the rest of the country (Daniele and Malanima 2007; Felice 2011). A major question, however, has been largely overlooked in the economic history debate but can no longer be eluded: is it possible that the performance of Southern Italy is not so bad, after considering indicators of well-being such as the Human Development Index (henceforth HDI)?

This article takes seriously the problem of the South (or *questione meridionale*). Its first goal is to go beyond the measurement of mere economic growth, by providing the new HDI introduced by United Nations (UN) in 2010 and its components in benchmark years from Unification until these days. Most of the estimates presented are completely new, while only few others have been previously published[2] (for a detailed discussion of sources and method, see the Appendix). This way we aim to contribute to two emergent branches of the economic history literature: on HDI and on the measurement of regional inequality. On HDI, the works by Crafts (1997, 2002) and Prados de la Escosura (2010, 2014) are focused on cross-country comparisons and do not present sub-national figures. As far as Italy is concerned, Brandolini and Vecchi (2013) offer long-run estimates of human development and other well-being indicators for the whole country, but not for single regions. These details are presented in a seminal book by Vecchi (2011), where a dashboard approach is preferred to the construction of composite indicators. On the measurement of regional inequality, several works have been published for a growing number of European countries including Italy (Crafts 2005; Schulze 2007; Buyst 2010; Rosés, Martínez-Galarraga and Tirado 2010; Combes et al. 2011; Felice 2011). Our article presents the most up-to-date estimates of regional GDP for Italy but for the first time extends coverage to other dimensions of well-being.

The second goal of the article is to discuss the difference between "active" and "passive" modernization, which, in our view, can explain the Italian historical regional patterns. We consider "modernization" as the process of catching-up not only for GDP but for a wider range of dimensions. In this sense, this work adopts a clear-cut approach because the three dimensions of HDI −

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[1] For the long-run evolution of GDP in Central and Northern Italy, see Malanima (2011).
[2] See Conte, Della Torre and Vasta (2007) for life expectancy and Brunetti, Felice and Vecchi (2011) for GDP 1938-2001.

longevity, knowledge and resources – are all basic and different components of modernity and thus we consider all of them and their interactions in discussing modernization in Italy.

How can a society modernize in these three dimensions? A possible answer leads us to the distinction between "active" and "passive" modernization. According to Cafagna (1988), there is an active modernization when one or more political or social actors take up the challenge and engage in "modernizing" a country. These actors implement a coherent strategy and are usually organized in a "historic bloc" (Gramsci 1957): they control key institutions and enjoy support from the prevailing ideology and cultural milieu. Examples are not only the Liberal Italy, but also Prussia, Russia, or Japan; by this regard, active modernization can be considered as a complement to the Gerschenkron's (1962) approach on economic backwardness and catching-up and on the Allen's (2011) "standard development model". Instead, we have passive modernization when a society embarks upon some sort of modernization without the role of a dominant "bloc": that is, without implementing a proper strategy, but rather as a result of an adaptive-sub optimal pattern. The two forms of modernization can be seen as the consequence of different kinds of institutions. Active modernization can be associated to the idea of "inclusive" political and economic institutions, as defined by Acemoglu and Robinson (2012, pp. 74-81), where the whole society pursues the declared goals, and we have "identification" between the elite which advocates modernization and the rest of the community. In their view, inclusive economic institutions facilitate the "engines of prosperity", that is, technology and education. Similarly, passive modernization can be related to "extractive" political and economic institutions, where the elites have the interest to pursue some modernization in order to grasp the resulting extra output, yet preventing the rest of the population from taking any advantage of it.

Differently from Cafagna (1988, p. 237), we think that modernization can be implemented not only at the national, but also at the regional and local level. We have *regional* active modernization when local elites actively participate to the modernizing process, by sharing common values and coherently implementing the views of the national "historic bloc". When Italy was unified, there were two different institutional settings: one in the South which was characterized by extractive political and economic institutions; another one in the Centre-North, where institutions were more inclusive (Felice 2013). Such a divide, which has a legacy with the Kingdom of the Two Sicilies, has remained until our days: for instance, organized crime in the South is an important economic institution severely altering market competition and enforcing economic rules different from those applicable in the rest of the country, raising entrepreneurial costs and creating monopolies that discourage innovation. Although political institutions were formally the same, at least until the creation of regions in the 1970s, they worked rather differently. Indeed, towards the end of the twentieth

century a part of local institutions in the Centre-North became paradigmatic of good administration (*buon governo*) and inclusiveness, just like in the South these institutions were frequently paradigmatic of inefficiency and nepotism (Putnam 1993). As a consequence, we point out that, while active modernization took place at the national level and in the Northern and Central regions, in Southern Italy passive modernization was dominant.[3]

Our analysis suggests that the effectiveness of passive modernization in promoting convergence significantly changed according to the different dimensions of human development. Indeed, extractive societies may accept modernization as long as its elites' vested interests are not undermined by the resulting change, because they do not want become "economic losers". An improvement in life expectancy does not modify the socio-institutional setting of Southern Italy. Things are considerably different in the case of education, for which we can rely upon an established international literature: the idea of a causal relation between unequal distribution of power and underinvestment in public goods was first put forward by Sokoloff and Engerman (2000), who looking at the New World economies stressed the link between inequality, concentration of political power and low investments in education; later on, among others, Galor, Moav and Vollrath (2009) argued as in agrarian contexts with extractive institutions − as Southern Italy was − elites have little interest in promoting education, since marginal returns are lower than in industrial contexts and, moreover, educated peasants would have more incentives to emigrate. Arguably, modernization in GDP is even more difficult, under extractive institutions, because extractive elites prefer to draw income from rentier activities rather than from competitive ones which would be more risky and would pose a serious challenge to their power. For these reasons, we hold that passive modernization is more difficult to be implemented in GDP than in education; and that in this latter it is, in turn, more difficult than in life expectancy. Indeed, in Italy passive modernization was enough to bridge the gap in longevity, but it turned out to be less effective in education and even less in GDP. At the same time, passive modernization also made the economic and social system of Southern Italy comparably weaker, and thus more fragile to exogenous shocks.

In Section 2 the origin and the characteristics of the new HDI are introduced. Sections 3 and 4 focus on the historical evidence. At the same time, we will discuss the inequality pattern in the light of the interpretative framework proposed. Did Southern Italy converge in some dimensions more easily than in others, and why? Is there something we can learn from the Italian experience which can be profitably extended also to other countries and regions? The article is intended to address these issues, and its main findings are summed up and discussed in Section 5, as well as in the con-

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[3] The very idea of a passive attitude of Southern Italy's towards modernization dates back to the age of the French Revolution: Cuoco (1861), in his seminal work written in 1800, called "passive" the Naples 1799 Revolution, which was brought there by the French army.

clusion. An extended Appendix provides detailed regional data and discusses sources and all technicalities.

2. HDI: proxies and procedures

The dream of having a synthetic proxy in order to measure the economic development of a country has a long story, with early attempts dating back to the 1970s (e.g., Morris 1978).[4] A turning point came in 1990 when the UN (UNDP 1990) proposed to capture the multidimensional nature of human development through three components of human life (longevity, knowledge and income), normalized to an index varying from 0 to 1, according to the formula:

$$\text{x-index} = \frac{\text{actual x value - minimum x value}}{\text{maximum x value - minimum x value}} \qquad (1)$$

and then weighted through an arithmetic mean. The HDI presented by UN had a significant success in the formula that was finally established with the 1995 Report:

$$1995\text{HDI} = 1/3(\text{Le}-\text{index}) + 1/3(\text{E}-\text{index}) + 1/3(\text{I}-\text{index}) \qquad (2)$$

Le-index is the life expectancy index, longevity: $(\text{Le}-25)/(85-25)$, measured in years. *E-index* is the education index, knowledge, in turn made up of two thirds of literacy rate (LR) and one third of gross enrolment ratio (GER); for both the indicators, the minimum and maximum thresholds are 0 and 100, respectively. *I-index* is the income index, resources: $[\ln(\text{GDP}_{pc})-\ln(100)/\ln(40,000)-\ln(100)]$, measured in PPP dollars (UNDP 1995, p. 134).

In 2010, on the occasion of the 20th Anniversary Edition, the UN introduced a new HDI which, also trying to respond to the criticisms, made various changes at the previous one. First of all, income is now measured by GNI instead of GDP; the former (the income of all residents, even of those living abroad including international remittances and foreign aids) seems more suitable to measure the standard of living. Secondly, proxies for education are now provided by combining, with same weight, the mean years of schooling and the expected years of schooling. Furthermore, all the maximum thresholds are now empirical, rather than theoretical, i.e., they correspond to the maximum value observed in the whole sample; some minimum values are revised too, for life ex-

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[4] For a complete cost-benefit analysis of using composite indices of development, and on the trade-off between "mashup indices" and dashboard of single components, see Ravallion (2012).

pectancy passing from 25 years to 20, for GNI being now empirical (the minimum value observed in the whole sample). However, arguably the most important change is the introduction of the geometric mean instead of the arithmetic mean. The change in the functional form accepts the criticism to the previous form, by reducing the perfect substitutability of the three different dimensions and penalizing unbalanced development. Accordingly, the formula of the new HDI is now:

$$2010 \text{ HDI} = (\text{Le}-\text{index})^{1/3} \cdot (\text{E}-\text{index})^{1/3} \cdot (\text{I}-\text{index})^{1/3} \qquad (3)$$

Now, *Le-index* is: $(\text{Le}-20)/(82.3-20)$, measured in years. *E-index* is: $[(\text{MYSI}*\text{EYSI})^{1/2}/0.951]$, where in turn MYSI is the mean years of schooling index $(\text{MYS}/13.2)$ and EYSI the expected years of schooling index $(\text{EYS}/20.6)$ (for the education index, all the minimum thresholds are still zero). *I-index* is: $[\ln(\text{GNI}_{pc})-\ln(100)/\ln(108,211)-\ln(163)]$, measured in PPP dollars (UNDP 2010, p. 216).

Although the 2010 HDI improved considerably the previous version, for its use in historical perspective an intermediate choice seems to be more adequate. Indeed, Gidwitz et al. (2010) suggested to use an hybrid version of the two methodologies. The "hybrid" HDI is well suited to provide a long-term view because it allows to better examining past progress and even because there is a large availability of data for old indicators. It combines the "old" indicators, the "new" maximum and minimum values or goalposts,[5] and the new functional form being calculated as a geometric average, not an arithmetic one:

$$\textit{Hybrid } \text{HDI} = \left(\frac{\text{Le - 20}}{83.2 - 20} \right)^{1/3} \cdot (\text{LR}^{2/3} \cdot \text{GER}^{1/3})^{1/3} \cdot \left(\frac{\ln(\text{GDPpc}) - \ln(163.3)}{\ln(106,769.7) - \ln(163.3)} \right)^{1/3} \qquad (4)$$

The debate is going on and Prados de la Escosura (2014) has proposed a different solution: the Historical Index of Human Development (HIHD), which combines the old indicators with the geometric average, but assumes increasing returns for the social dimensions of the index, thus transforming them with a convex achievement function. Although the author offers good reasons for his assumption, in this work we have chosen not to use his index, because we are interested in comparing our data with the new HDI of the United Nations.

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[5] Maximum and minimum values are, respectively: 83.2 and 20 for life expectancy; 115.82 and 0 for the gross enrolment ratio; 99 and 0 for literacy rate; 1 for the combined education index; 106,769.7 and 163.3 for GDP per capita (Gidwitz et al. 2010, p. 9).

3. HDI: putting Italy and its macro-areas in comparative perspective

Since we adopt a long-term perspective, we calculate the hybrid HDI employing our new estimates. Thus, Figure 1 compares our results with data for a large sample of countries, which we combined to produce estimates of the hybrid HDI.[6] Accordingly, we have drawn three lines which identify the different levels of HDI: the threshold of 0.5, the one at 0.8 and finally the threshold of 0.9, considering this latter the entrance in the sphere of the very high level of development.[7] A general convergence process emerges, being the less developed countries in the late XIX century, particularly the European South Periphery (ESP) countries and Japan, faster than the most advanced ones, i.e. European Core (E-core) countries and Western Offshoots (WO), for the entire period. However, the story is more complicated and part of this convergence is probably due to the upper limit of the index.

Figure 1. Hybrid Human Development Index: Italy vs. different groups of countries (1870-2007)
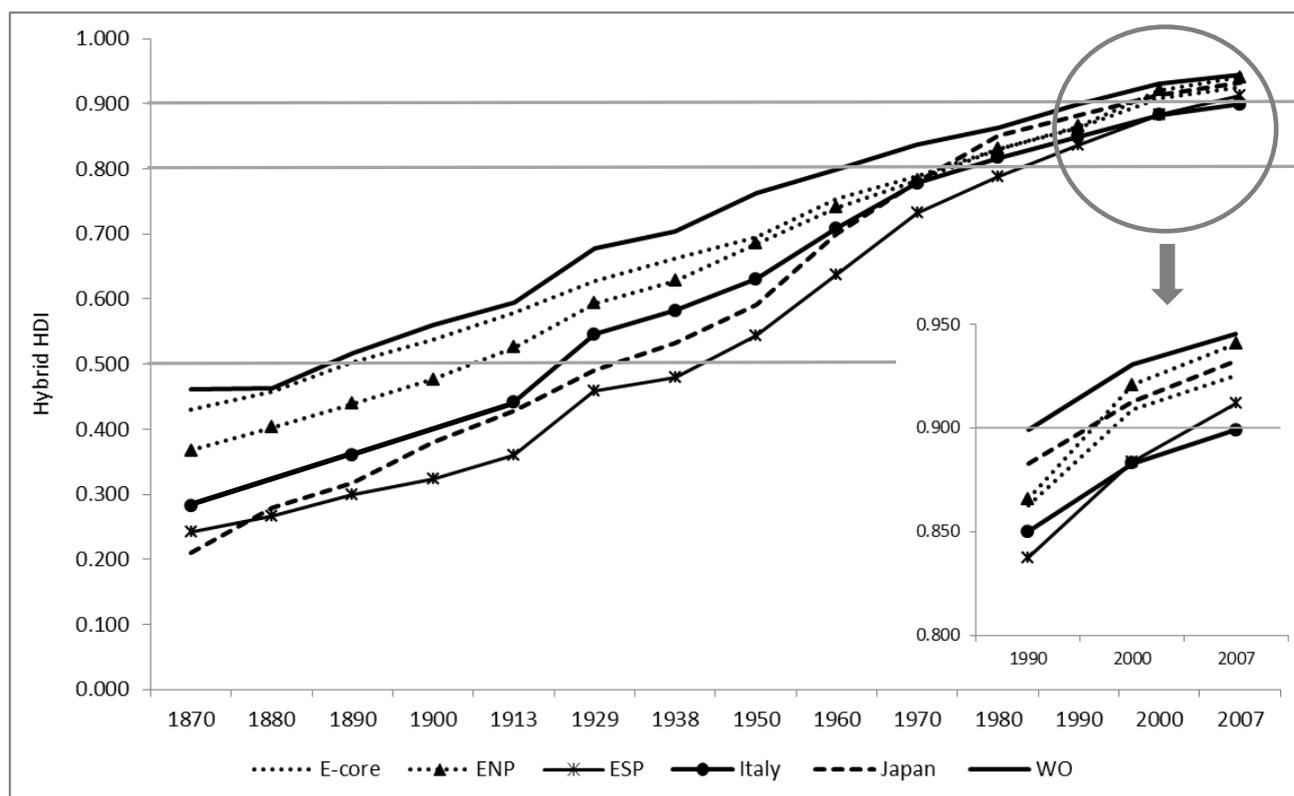
Sources: for HDI Prados de la Escosura (2010) and for Italy our own data, data for population are from Maddison (2009). *Note*: for Italy the benchmark are: 1871, 1891, 1911, 1931, 1938, 1951, 1961, 1971, 1981, 1991, 2001, and 2007. E-core: Belgium, Denmark, France, Germany, Netherlands, Switzerland, United Kingdom; ENP: Austria, Finland, Ireland, Norway, Sweden; ESP: Greece, Portugal, Spain; WO: Australia, Canada, New Zealand, United States.

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[6] We gratefully thank Leandro Prados de la Escosura for sharing with us his dataset.

[7] These thresholds have been used by the UN (UNDP 2009, p. 15). Since the 2010 Report, absolute thresholds have been substituted by relative ones (UNDP 2010, pp. 26-28). However, we prefer to maintain the old UNDP's criterion because, due to scarcity of data, the number of countries we consider is much smaller and the relative thresholds would be upward biased.

HDI for each group of countries is weighted for population. Data for single countries are presented in Felice and Vasta (2012, Table 1).

Looking at Figure 1 we can have interesting information on the Italian long-run performance. In 1871, Italy had a very large gap with most of the countries of the sample. This gap was large, although less wide, even in the 1930s, when Italy reached the 0.5 threshold. By 1981, the gap with other countries was reduced considerably. In particular, Italy reached the 1870 E-core countries level only in 1911. This interval reduced later on and Italy reached the 1929 E-core countries HDI level in 1951. During the Golden age, this gap decreased significantly and, in the 1970, the Italian HDI was very close to that of the E-core countries. Thus, by considering the absolute value of the index there is a general convergence towards the leading countries, although in the last years this process seems to proceed slower. However, this convergence must be regarded as spurious, given the nature of the index which has an upper bound and is based on a linear transformation of its components, as already emphasized by Sen (1981, p. 292). Indeed, the absolute change and even more the growth rate are seriously biased in favor of countries with a low HDI; consequently, when comparing HDI performances, the alternative Shortfall Reduction Method (henceforth SRM) is preferable (as shown in detail in the next section), while when comparing HDI absolute values a cardinal scale can be more informative than a nominal one.

Figure 2. Different measures of Human Development (Italy 1871-2007)
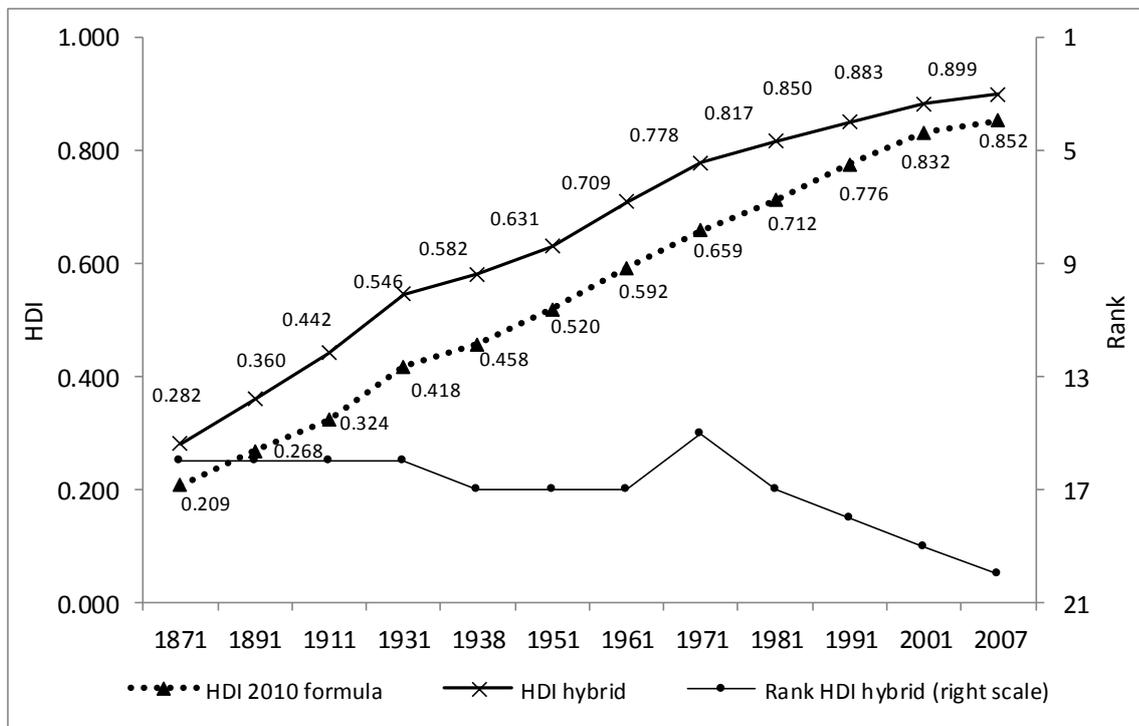

Sources: our own elaborations.

Figure 2 computes the 2010 HDI and the hybrid HDI in both nominal and cardinal terms, allowing us to better clarify the Italian performance in comparative perspective. If the growth of the values for both indices is clear, it does not allow Italy to improve its position in the ranking (the cardinal scale). Italy started as 16th in the ranking in 1871 and reached the highest position (15th) of her pattern in 1971 at the end of the Golden age, but at the beginning of the new century is placed 20th.

After presenting the Italian regions in Figure 3, we compare the rank of each of the five Italian macro-areas with the developed countries but Italy (Figure 4). The patterns show relevant differences. Firstly, the South and the Islands follow roughly the same path and they both remain at the bottom of the ranking for the entire period. Secondly, the other three macro-areas have a different pattern: they are in better position since the first years after Unification and they have reached a position close to the mid of the ranking by 1970. Finally, in the later years there is a convergence towards the bottom of the ranking of the various macro-areas: this decline is due not only to sluggish growth of GDP since the 1990s, but also to a remarkable falling back in the total enrolment ratio (Felice and Vasta 2012, Table A.5), which is part of a wider deterioration in Italy's human capital (Nuvolari and Vasta 2012).

Figure 3. Italy's regions and macro-areas
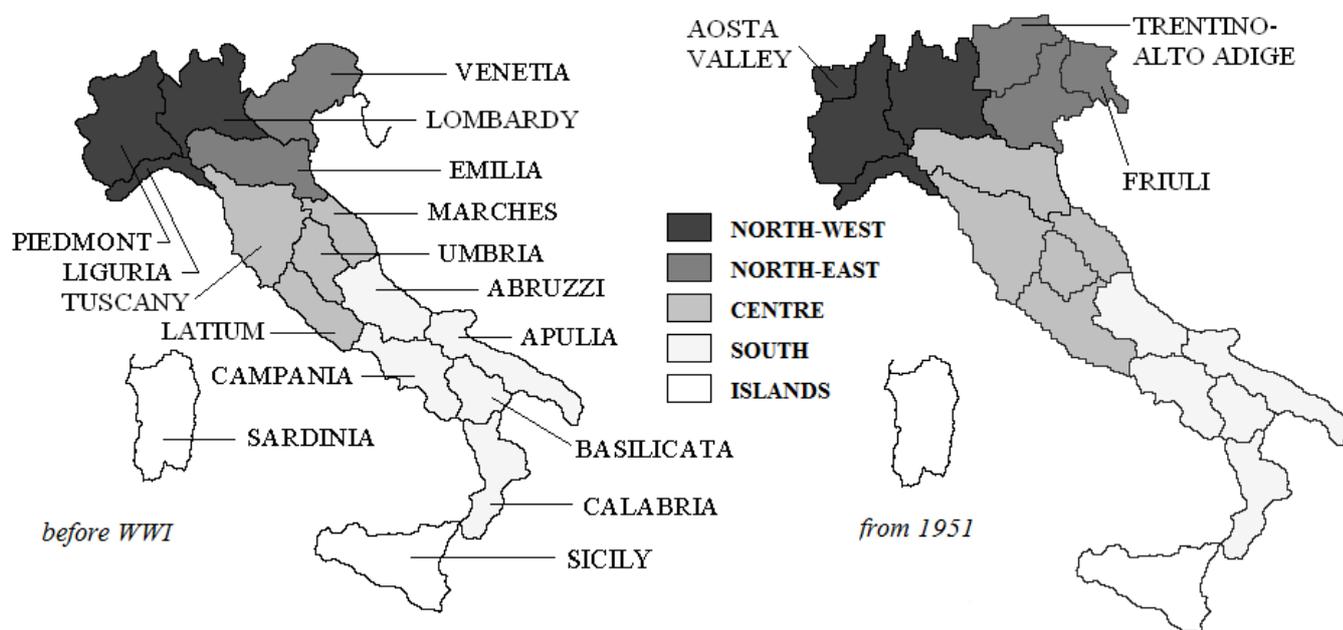
Notes: our estimates are at the historical borders; Molise was created in 1963 from Abruzzi's southernmost part; to have uniformity in the long run it was not reported. Trentino-Alto Adige and Friuli were assigned to Italy after WWI (the latter included Istria, lost after WWII).

Figure 4. Rank of hybrid HDI for Italian macro-areas (1870-2007)
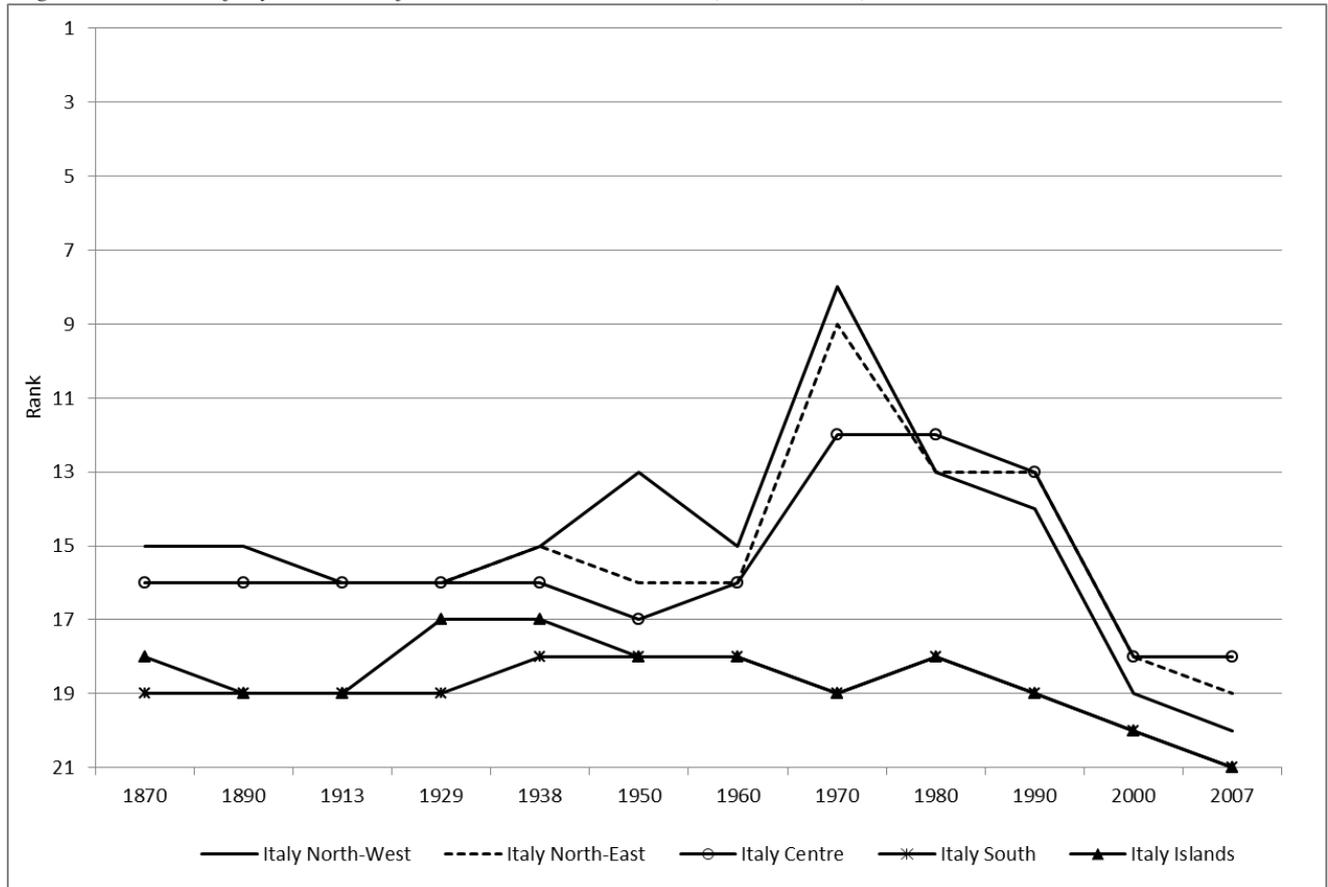
Sources: our own elaboration.

4. The hybrid HDI and its components: regional estimates

This section introduces and discusses the new estimates on hybrid HDI, presenting the series for all Italian regions and comparing them with those available for the main developed countries (Section 4.1). Moreover, it analyses the dynamic of each single component of the HDI for macro-areas (Sections 4.2-4.4), while regional data are presented in the Appendix.

4.1. The hybrid HDI

Table 1 presents regional estimates of the hybrid HDI for benchmark years from 1871 to 2007. In order to make clearer the results, we have colored the Table from a lighter to darker according to the different levels of HDI reached. Around 1871, the leading Italian region was Piedmont, with an HDI (0.380) relatively high by international standards: lower than E-core countries, but higher than ENP and considerably higher than ESP countries (see Figure 1). Conversely, around the time of Unification Southern Italy was considerably backward, scoring a HDI a bit lower than ESP.

Table 1. The hybrid HDI for Italy's regions, 1871-2007

Regions	1871	1891	1911	1931	1938	1951	1961	1971	1981	1991	2001	2007
Piedmont	0.380	0.457	0.517	0.582	0.625	0.677	0.734	0.793	0.828	0.855	0.888	0.900
Aosta Valley						0.651	0.732	0.781	0.817	0.833	0.867	0.898
Liguria	0.346	0.436	0.514	0.605	0.648	0.698	0.747	0.802	0.826	0.853	0.886	0.899
Lombardy	0.347	0.435	0.482	0.568	0.614	0.664	0.730	0.791	0.826	0.854	0.890	0.906
North-West	*0.359*	*0.439*	*0.498*	*0.578*	*0.623*	*0.672*	*0.734*	*0.793*	*0.827*	*0.854*	*0.889*	*0.904*
Trentino-Alto A.	n.a.	n.a.	n.a.	0.597	0.639	0.651	0.717	0.780	0.806	0.846	0.890	0.901
Veneto	0.318	0.412	0.488	0.561	0.603	0.650	0.722	0.789	0.823	0.860	0.891	0.907
Friuli	n.a.	n.a.	n.a.	0.596	0.622	0.676	0.718	0.787	0.821	0.857	0.896	0.910
Emilia	0.273	0.374	0.485	0.573	0.611	0.657	0.730	0.800	0.839	0.866	0.905	0.918
North-East	*0.298*	*0.397*	*0.487*	*0.572*	*0.611*	*0.655*	*0.724*	*0.792*	*0.827*	*0.861*	*0.897*	*0.911*
Tuscany	0.273	0.377	0.472	0.580	0.617	0.642	0.706	0.789	0.829	0.859	0.895	0.911
The Marches	0.256	0.338	0.434	0.533	0.582	0.622	0.706	0.783	0.834	0.871	0.903	0.914
Umbria	0.272	0.346	0.442	0.554	0.596	0.618	0.703	0.783	0.825	0.859	0.893	0.906
Latium	0.264	0.398	0.486	0.552	0.588	0.648	0.727	0.789	0.828	0.869	0.898	0.917
Centre	*0.271*	*0.372*	*0.472*	*0.562*	*0.600*	*0.640*	*0.715*	*0.788*	*0.830*	*0.865*	*0.897*	*0.914*
North-East-Centre	**0.285**	**0.385**	**0.480**	**0.567**	**0.606**	**0.648**	**0.720**	**0.790**	**0.829**	**0.863**	**0.898**	**0.913**
Abruzzi	0.217	0.277	0.385	0.504	0.543	0.572	0.679	0.767	0.813	0.853	0.888	0.901
Campania	0.241	0.306	0.375	0.504	0.545	0.590	0.677	0.748	0.789	0.827	0.857	0.874
Apulia	0.215	0.286	0.364	0.474	0.518	0.579	0.673	0.756	0.798	0.836	0.858	0.875
Basilicata	0.200	0.259	0.348	0.450	0.491	0.505	0.646	0.737	0.785	0.818	0.862	0.873
Calabria	0.195	0.249	0.348	0.460	0.507	0.545	0.653	0.733	0.784	0.813	0.855	0.871
South	*0.222*	*0.286*	*0.370*	*0.487*	*0.529*	*0.574*	*0.671*	*0.750*	*0.794*	*0.830*	*0.861*	*0.877*
Sicily	0.233	0.284	0.366	0.495	0.536	0.569	0.661	0.741	0.791	0.826	0.859	0.873
Sardinia	0.216	0.302	0.393	0.498	0.554	0.590	0.689	0.768	0.804	0.844	0.875	0.891
Islands	*0.231*	*0.287*	*0.372*	*0.495*	*0.540*	*0.573*	*0.668*	*0.748*	*0.794*	*0.831*	*0.863*	*0.878*
South and Islands	**0.226**	**0.286**	**0.370**	**0.490**	**0.533**	**0.574**	**0.671**	**0.749**	**0.794**	**0.831**	**0.862**	**0.877**
Centre-North	**0.319**	**0.411**	**0.490**	**0.572**	**0.614**	**0.659**	**0.726**	**0.792**	**0.828**	**0.860**	**0.894**	**0.909**
Italy	**0.282**	**0.360**	**0.442**	**0.546**	**0.582**	**0.631**	**0.709**	**0.778**	**0.817**	**0.850**	**0.883**	**0.899**

Sources: our elaborations from tables 2-4 and the methodology in Gidwitz et al. (2010). *Note*: the cells are emphasized in white up to the threshold of 0.5, light gray from 0.5 to 0.8 and dark gray over 0.8; moreover, the values which passed the threshold of 0.9 are in white color.

By the eve of WWI, only two Italian regions, Piedmont and Liguria, had been able to pass the 0.5 threshold: the lag to E-core was about twenty years. During the interwar years, all the Italian regions but Basilicata passed the 0.5 threshold. In 1938, the leading region was Liguria, which scored a HDI (0.648) close to the E-core countries. Southern Italy (0.533) was above all the ESP countries and still at the same level of Japan. This was by no means a success story. At the end of the economic miracle (1950-1973), two regions, Liguria and Emilia, were above any other European countries and also Japan. The North-Eastern and Central regions have reached the North-Western ones, but Southern Italy also had improved: the picture is still rosy, the less developed Italian regions (Basilicata and Calabria) still ranking at about the same level of the ESP countries. In the last decades, Italy and its regions failed to follow the improvements of other ESP countries. By 2007, although roughly half of the Italian regions have overcome the 0.9 threshold, Italy is still below that threshold, unlike all groups of countries, included the ESP one (Figure 1). As anticipated, given the very nature of the indicator, measuring performance in HDI in terms of absolute change or the growth rate could be misleading. In order to test for convergence, following Sen (1981) and the first

Human Development Report (UNDP 1990, pp. 13-14), we employ the alternative SRM, which measures the fall in the gap between a region's initial level and the upper limit, according to the formula:

$$SRM = \frac{\text{actual x value - past x value}}{\text{maximum x value - past x value}} \qquad (5)$$

The SRM reflects the effort to close the gap with the highest possible value by assuming that a given percentage of reduction is equally viable at different initial levels of development: for example, going from a value of 0.900 to a 0.950 means that there is a 50 per cent reduction of the shortfall, i.e., the same if the value passes from 0.500 to 0.750; conversely, if we used the growth rate method the two cases would be 5.5 per cent for the former versus a 50 per cent for the latter.

Figure 5 displays beta-convergence according to the SRM. Unlike with the growth rate method, which would display a remarkable convergence (Felice and Vasta 2012, p. 17), the picture is puzzling. The curve is slightly positive, which means a lack of convergence; furthermore the regional variance around the expected trend is remarkably high. And yet even with the SRM we record some convergence, limitedly to the North-Eastern and Central regions. Instead the Southern regions did not converge, with a couple of exceptions. In short, we could argue the existence of "three" Italies. One is made up of the North-Western regions, with a high initial HDI and a growth lower than what expected. The second Italy is the bulk of the Southern regions, scoring a low initial HDI but also a disappointing growth over the long-run. Finally, there are the North-Eastern and Central regions, with an average initial level of HDI and a growth rate much higher than what expected. This is true in particular for the Central regions plus Emilia, which are the big winners; two Southern regions, Sardinia and above all Abruzzi, are close to this group, whereas Veneto, lies in between the Central regions and the North-Western ones.

Figure 5. Regional convergence according to the SRM, over the long-run (1871-2009)
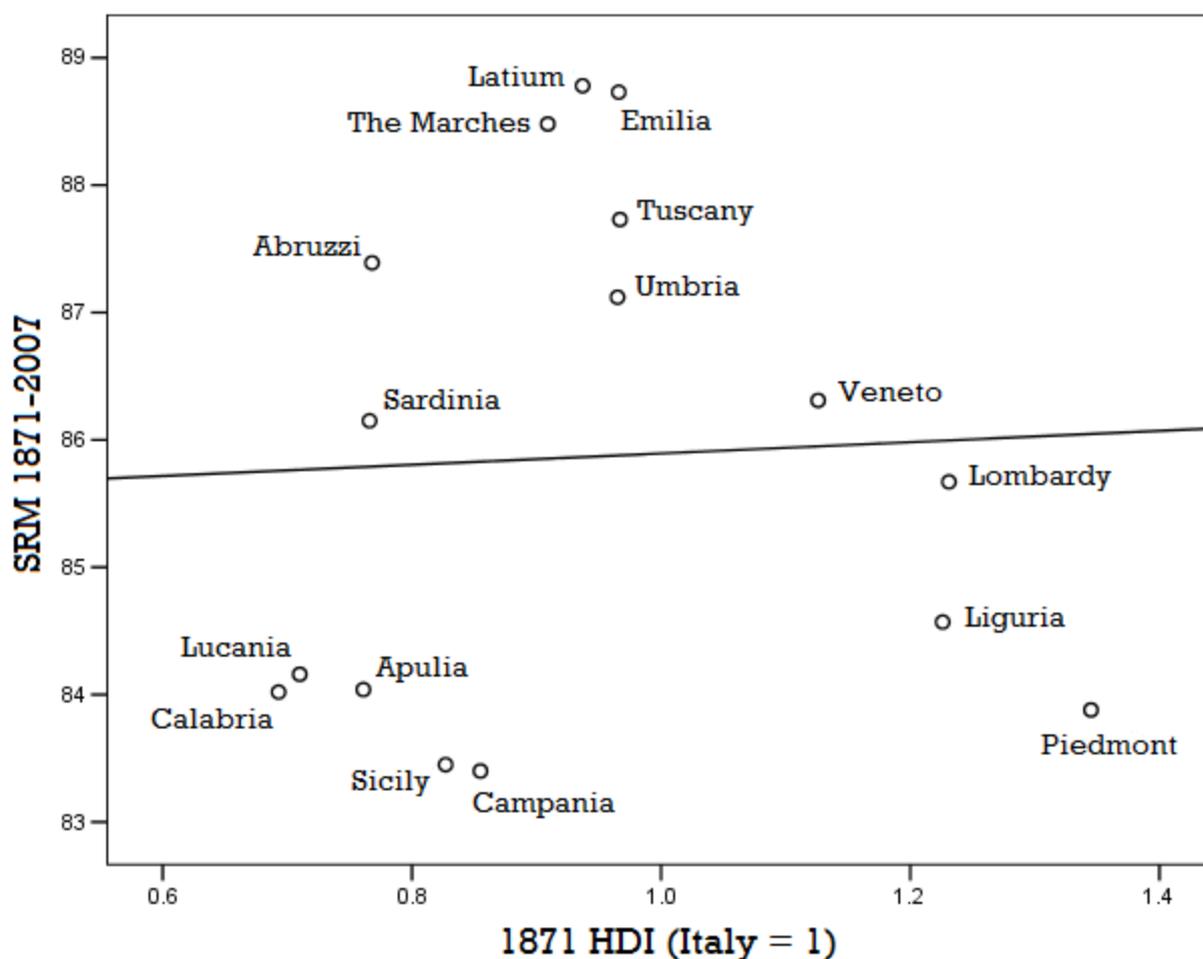
Sources: elaborations from Table 1.

When considering the sub-periods, the broad picture presented above is not always confirmed. In Figure 6, we can observe that there was indeed convergence during the economic miracle (1938-1971 for our benchmark) and, to a minor degree, in the previous interwar years (1911-1938); conversely, divergence was at work during the Liberal age (1871-1911 for our benchmark), and later on, even more strongly, in the last decades.

Figure 6. Regional convergence according to the SRM, by sub-periods
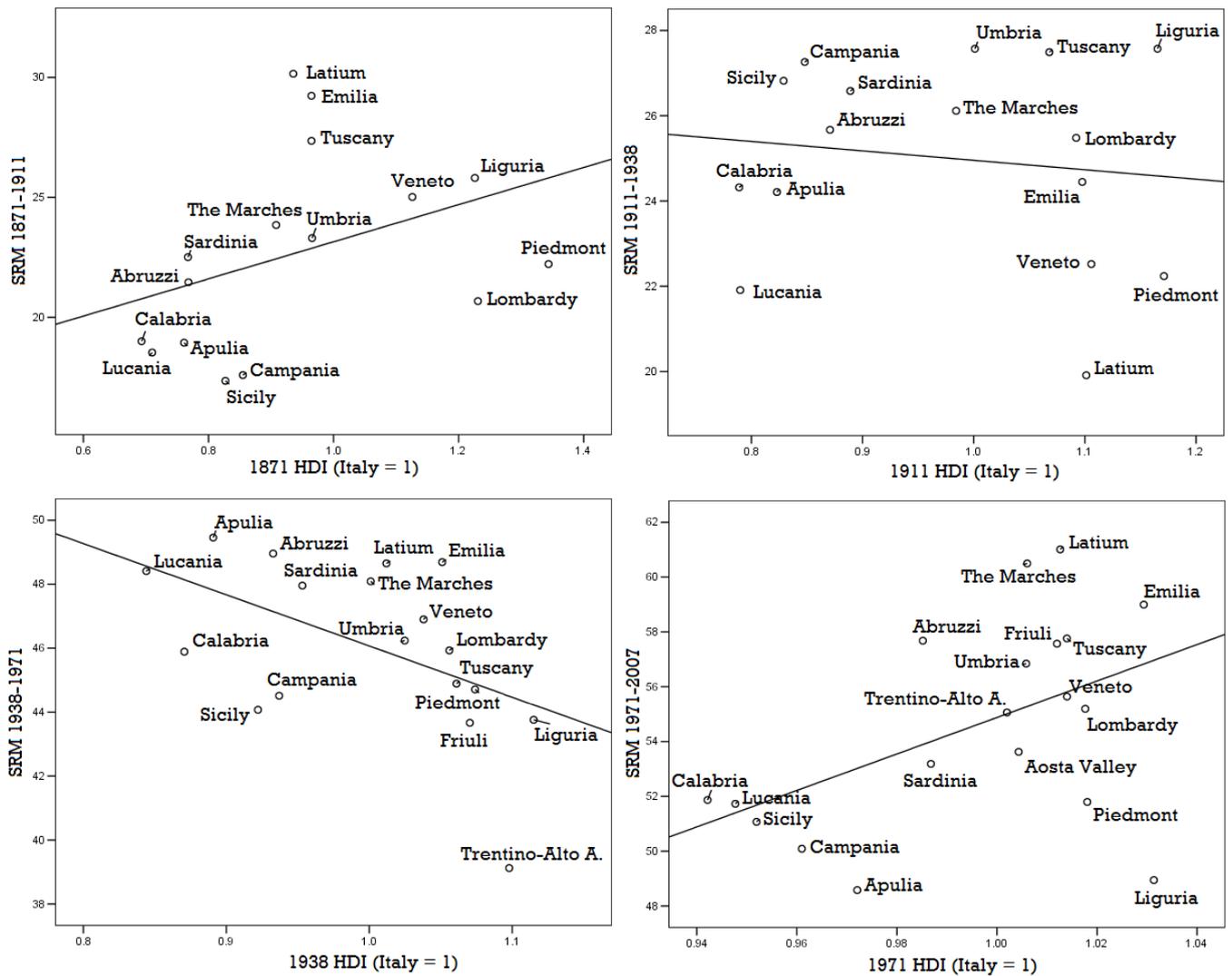
Sources: elaborations from Table 1.

To sum up, for the Italian *Mezzogiorno* we can talk of a half-success in terms of convergence − i.e., of a half failure: the growth of the Southern regions in human development could have been better, particularly in the first and in the last period; conversely, that of the North-Eastern and Central regions is satisfactory. In order to investigate the determinants of these patterns, we now turn to a more in-depth analysis of each single HDI component.

4.2. Life expectancy

Table 2 presents estimates of macro-area inequality in life expectancy, measured as a component of the new HDI.

Table 2. Macro-area inequality in life expectancy at birth, according to the hybrid HDI compo-nent, 1871-2007 (Italy=1)

Macro-areas	1871	1891	1911	1931	1938	1951	1961	1971	1981	1991	2001	2007
North-West	1.137	1.114	1.014	1.009	1.018	1.000	0.991	0.989	0.991	0.995	0.998	0.999
North-East	1.082	1.166	1.143	1.059	1.063	1.043	1.010	1.001	0.995	1.004	1.009	1.007
Centre	0.915	1.089	1.149	1.054	1.060	1.039	1.012	1.019	1.014	1.008	1.005	1.008
South	0.817	0.819	0.886	0.923	0.947	0.951	0.987	0.996	0.998	0.996	0.993	0.994
Islands	1.124	0.861	0.839	0.944	0.966	0.971	1.011	1.000	1.011	0.998	0.993	0.991
Years (Italy)	33.10	39.34	44.21	54.92	58.26	65.74	70.34	72.37	74.40	77.40	79.80	81.10

Sources: our elaborations from various sources; for full details see the Appendix, Table A1.

In the second half of the XIX century Southern Italy lagged behind the rest of the country. However, in the course of the XX century the North-South divide was completely bridged, it is only in the last two decades (1981-2007) that the *Mezzogiorno* fell back, although at a very slow rate. What determined such an impressive convergence in life expectancy? Firstly, the convergence in life expectancy was a world phenomenon (Prados de la Escosura 2014), as a consequence of the epidemiological or health transition, which mostly in the first half of the XX century marked the passage from infectious to chronic disease as the main cause of death (Cutler, Deaton and Lleras-Muney 2006). A brief historical overview highlights the fundamental role played by State intervention and suggests a strong case for passive modernization in Southern Italy. The first milestone was the 1888 Law, no. 5849, which instituted the national health service and unified the different codes of pre-Unification states, among which, the health code of the Southern Kingdom was the most backward (Vicarelli 1997). It may not be a coincidence that, according to our data, convergence began only after the 1888 Law. Among the others, the Law also introduced obligatory vaccination against smallpox, which paved the way to its complete eradication. Indeed, compulsory vaccination proved to be more difficult to be implemented in the South, where some regions remained the most affected by the disease still in the 1920s (Mortara 1925). However, compulsory smallpox vaccination reached everyone in the country, so much so that in 1977 could be declared as no longer necessary. This case may be taken as exemplary of passive modernization: progress came from abroad (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.

Health policies had positive consequences on life expectancy whenever they could. Yet there are some death causes overwhelmingly determined by "exogenous" factors – industrialization, urbanization or alimentation – against which public intervention can do few, or less: these causes are mainly chronic diseases such as tumours and cardiovascular diseases, but also, in the XIX and still in the first half of the XX century, pellagra and wasting disease; but here the Southern regions

scored lower values than the rest of the country, probably due to better environmental and cultural conditions.[8]

Finally, since its creation, in 1970, the regional polity was progressively entrusted with the health policy; after the establishment of the National Health Service (*Servizio Sanitario Nazionale*) in 1978 (Law no. 883), the role played by different local institutions increased. There was more room for active modernization, but this was dramatically lacking in Southern regions, where there is plenty of evidence for increasing costs and inefficiency. To put in the way Acemoglu and Robinson would, this difference is due to the fact that in the *Mezzogiorno* the extractive political institutions, emblematic of passive modernization, used their increased power to distribute funds to their factions, in nepotistic ways.[9]

4.3. Education

The new estimates for the Italian macro-areas are shown in Table 3. From the huge divide soon after Unification, convergence took place throughout hundred years. In the second half of the XIX century it proceeded at quite a slow rate, but then accelerated in the first half of the XX century, and continued in the 1950s and 1960s: as a consequence, by 1971 the North-South divide was practically filled. Since then, although differences tend to smooth down over time, as most of the population gets literate, convergence slowed down, and thus in the following three decades regional differences remained largely unchanged, very mild nonetheless.

Table 3. Macro-area inequality in education, according to the hybrid HDI component, 1871-2007 (Italy=1)

Macro-areas	1871	1891	1911	1931	1938	1951	1961	1971	1981	1991	2001	2007
North-West	1.765	1.572	1.339	1.131	1.124	1.089	1.036	1.024	1.011	0.996	0.995	0.996
North-East	1.104	1.183	1.189	1.101	1.101	1.043	1.016	1.030	1.011	1.005	1.011	1.003
Centre	0.951	0.976	1.052	1.018	1.033	1.029	1.027	1.036	1.035	1.040	1.039	1.036
South	0.609	0.639	0.699	0.808	0.859	0.884	0.931	0.938	0.961	0.974	0.975	0.980
Islands	0.499	0.607	0.745	0.802	0.862	0.906	0.943	0.951	0.973	0.985	0.987	0.986

Sources: our elaborations from various sources; for full details see the Appendix, Table A2.

The first Law on compulsory education, issued in 1859 (*Legge Casati*), prescribed two years of free and compulsory elementary school, but left to the municipalities the burden of financing primary school. During the Liberal age regional differences were reduced, thanks to State intervention, and yet with dramatic delays, due to the fact that to the local authorities some degree of active mod-

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[8] Felice (2007, p. 377). The diffusion in the Southern regions of the Mediterranean diet, which provides a wide use of olive oil, may have had positive effects. Conversely, in the Northern regions there was a large use of animal fats which have negative effects on cardiovascular diseases. However, the diffusion of the Mediterranean diet in the Southern region was not widespread to all social classes and geographical areas (Teti 1998).
[9] Such a falling back has continued and even increased in the last few years: if in 2007 there were 0.3 years of difference between Southern Italy and Centre-North (81.6 versus 81.9), in 2011 they are 0.9 (81.4 versus 82.3). Data for 2011 are from Istat (2014).

ernization was required. Indeed, the historical evidence indicates that Southern municipalities were much less keen to tax and spend for local basic services, including education (Vasta 1999; Battilani 2001). A'Hearn, Auria and Vecchi (2011, p. 166) suggest that lower investments in education during the liberal age were primarily a product of the lack of willingness, rather than a result of the scarcity of resources: through an analysis at the provincial level for 1881, the authors show that the revenues coming from surcharges on land taxes − in comparison with those coming from surcharges on consumption taxes − were in the South significantly lower than in the North, and in line with the differences in the expenditures for education. Since both the surcharges were decided at the municipal level, this means that local landowners (who ruled municipalities) taxed themselves much less in the South than in the North, and as a consequence of this the Southern areas had less resources to invest in education.[10] However, it is worth noticing that the land taxes were fixed at the national level, relying on the available cadastres of the pre-Unification states, and they resulted lower in the South also because the assessment of land values was less accurate being cadastres largely obsolete (Parravicini 1958). Lack of willingness and the inadequateness of cadastres, which made the Southern municipalities less able to collect resources, could be seen as two different, although related, mechanisms.[11]

Overall, these results point towards a passive attitude of local elites in the South, which contrasts with an active involvement in the North. In broad terms, they are in line with an established international literature which stresses the link, in agrarian contexts, between high wealth inequality and lower investments in public schools (Sokoloff and Engerman 2000; Galor, Moav and Vollrath 2009). Clear evidence emerges from many Ministerial inspections reported in the «Torraca» inquiry (Ministero della Pubblica Istruzione 1897). For example in Abruzzo, the inspector assigned to that area did not find a person who would have accompanied him on a school visit and, indeed, he reported that "nobody was interested in how the schools worked".[12] According to another inspector, as reported in the «Torraca», in Sicily the lower class liked education, while upper class are "not yet resigned to see their children sit at the same desks with peasant children".[13]

The decentralization of primary education appears to be a typical case of a failure to modernize the country because political actors have a cognitive deficit and were not fully conscious of the situ-

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[10] The creation of a new national cadastre was an extremely slow process and ended only in 1956. The issue of local taxes in the first decades after unification is widely discussed in Volpi (1962).

[11] This issue is really intriguing and deserves to be deepened by looking at local budgets.

[12] "…tutti hanno faccende più importanti a cui accudire, e le scuole vadano come vogliono" (Ministero della Pubblica Istruzione 1897, p. 20).

[13] "… i possidenti non [erano] ancora rasseganti a vedere di buon occhio i proprio figliuoli seduti agli stessi banchi coi figliuoli dei contadini" (Ministero della Pubblica Istruzione 1897, p. 20). From the inquiry there are plenty of cases which could be cited. One concerns the heating of the schoolrooms, which was made through cast-iron stoves in the Northern regions, through the "medieval brazier, which does not heat up and contaminates the air" in the Southern ones (Ministero della Pubblica Istruzione 1897, p. 19).

ation of Southern regions. Indeed, the *Legge Casati* was thought for the smaller and richer Kingdom of Sardinia and not for Italy as a whole. It was the «Corradini» inquiry (Ministero della Pubblica Istruzione 1910), which made failure patent to political actors, by showing that still there was a significant North-South gap: for example in per capita expenditures, in the number of schools per pupil, as well as in the amount of mortgages taken out by local municipalities in order to finance education. As a consequence, in 1911 a Law (*Legge Daneo-Credaro*), which largely changed the system, was issued: this increased funds and prescribed the gradual transfer of costs and duties from the municipalities to the State. A recent research by Cappelli (2013) sheds further light on these issues. Cappelli maintains that the decentralized system established by the *Legge Casati* of 1859 caused an "human capital trap" for the poorer areas of the country, particularly in the Southern regions. The escape from this trap, or at least its loosening, was possible only with the *Legge Daneo-Credaro* of the 1911, which constituted a step forward for the entire system.

Passive modernization was fully at work in Southern Italy. Indeed, in the interwar period the South's convergence finally included also the most backward areas: not because local administrations had become aware and capable of performing their duties, rather because these very duties were levied out from them and taken on by the State. The incomplete convergence is confirmed by other indicators such as the number of libraries, of book published, of newspapers. In these indicators the divide between Southern Italy and the rest of the country increased, from Unification until the last decades of the XX century (Raspadori 2011).

Southern Italy kept on converging in the second half of the XX century, but this process slowed down in the last decades, as happened for life expectancy. This was when higher education became more important and it is indeed in higher education that the Southern regions continued to lag behind. Not by chance, higher education was now more strongly entrusted to local authorities: for instance, for what regards university, from the 1970s autonomy was increasingly allowed to local administrations, but this hardly improved the Southern figures (Felice 2012). What is more important, "real" differences in education between Southern and other regions are probably worse than what the mean years of schooling or the enrolment rates may report, as indicated by PISA (Programme for International Student Assessment) data, which measure the knowledge and skills of 15-years-old students (OECD 2010).

4.4. Resources

Table 4 presents the resource component of HDI calculated by combining data of nominal GDP per capita with regional price deflators.[14] Around the time of Unification, regional differences in per capita GDP were not impressive, the *Mezzogiorno* hovering around 90% of the Italian average. During the Liberal age, the South fell back, although at a relatively slow rate. Most of the North-South differential arose in the interwar period, so much so that, by 1951, per capita GDP in the South had dropped to a mere two-third of the Italian average. Things changed with the "economic miracle", when Southern Italy experienced the only period of significant convergence.[15] In those years, the new Republic engaged into a massive regional policy in favour of the South, through the State agency called *Cassa per il Mezzogiorno*. Scholars regard positively the infrastructural works of the first two decades (D'Antone 1997), and quantitative reconstructions suggest that the top-down intervention in capital intensive sectors were of crucial importance in promoting the South's convergence,[16] not least thanks to the role played by state-owned enterprises (Toninelli and Vasta 2011). Subsidized industrial plants, however, remained extraneous to the South's economy, so much so that they were labelled as *cattedrali nel deserto* ("cathedrals in the wilderness"). This evidence further supports the thesis of the passive modernization in order to explain convergence in per capita GDP, which lasted until the oil shock in 1973.

Table 4. Macro-area inequality in real per capita GDP, 1871-2007 (Italy=1)

Macro-areas	1871	1891	1911	1931	1938	1951	1961	1971	1981	1991	2001	2007
North-West	1.063	1.127	1.189	1.155	1.284	1.491	1.374	1.233	1.184	1.127	1.152	1.128
North-East	0.966	0.922	0.966	0.955	0.971	1.113	1.156	1.113	1.172	1.167	1.163	1.174
Centre	1.065	1.117	1.041	1.057	1.010	0.910	0.943	0.918	0.982	1.033	1.027	1.043
South	0.946	0.884	0.864	0.851	0.775	0.685	0.729	0.824	0.801	0.815	0.793	0.782
Islands	0.942	0.927	0.864	0.962	0.880	0.591	0.601	0.734	0.718	0.773	0.773	0.782

Sources: our elaborations from various sources; for full details see the Appendix, Table A3.

The *Cassa* did not change the South society and indeed, ever more clearly from the 1970s onwards, even favoured a sort of "vicious circle", which went from unproductive expenditures to market failure (Trigilia 1992). Southern Italy began to (slightly) fall back again in terms of GDP since the 1970s, although it continued to receive massive State subsidies. Passive modernization can also explain this dismal end: once the top-down industrialization subsidized collapsed, the South's polit-

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[14] We are aware that, in the new HDI formula, GNI is used instead of GDP. However, GDP is still used in the hybrid index because reliable GNI historical estimates are very difficult to produce. For Italy, since GNI estimates would include remittances from emigrants, which became noteworthy from the 1890s and were more important in the South, GNI would probably reinforce the picture we are going to present.

[15] There is now a large consensus among scholars about this long-run picture (e.g. Iuzzolino, Pellegrini and Viesti 2013). For an explanation based on the role of geography and market potential, somewhat alternative to ours, see A'Hearn and Venables (2013).

[16] From 1951 to 1971, most of the convergence in GDP per capita was due to productivity (GDP per worker), particularly in the industrial sector (Felice 2011, pp. 937-940).

ical and economic players preferred to adapt to a survival strategy, characterized by the redirection of State subsidies towards unproductive uses, mostly allocated through nepotism, and even illegal activities (Bevilacqua 1993, pp. 126-132). There is a striking contrast between this story and the one experienced by the North-Eastern and Central regions, which instead in the last decades of the XX century accelerated their convergence towards the North-West. By now we have a vast literature emphasizing the role of local institutions and civic engagement − i.e., active modernization − in favouring the economic rise of this area (Putnam 1993).

5. On convergence, or the lack of it: determinants and counterfactuals

Convergence was really complete only in life expectancy, for which passive modernization was easier. Where instead passive modernization was less easy, as in education, results were poor: this is more true considering that in education there were huge regional disparities and the potential for convergence was higher. For GDP, results were even more disappointing up to the point that in this case we don't even record convergence in the absolute values, but divergence.

By using the SRM (Figure 5), over the long-run there was not even convergence in HDI. We hold that the reason of the disappointing performance of Southern Italy is the lack of active modernization. What instead if active modernization would have been at work also in the South and islands? We can test this with a counterfactual exercise by assigning to these areas the same growth rate (from the SRM method) of the Centre-North, where there was instead active modernization. We make three different scenarios, as from Table 5: we hypothesize the same growth rate only in life expectancy (weak), in both life expectancy and education (medium), in all the three components (strong). The last rows of the Table show the percentage changes in the HDI of South and islands according to the three scenarios. These changes have been measured using two criteria: the change in absolute value, which brings out the impact when the value is low, and the change to close the distance to 1 that brings out the impact when the value is high.[17]

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[17] Namely the change to close the distance to 1, which has the same formula as the SRM, is calculated as [(*counterfactual* value − *real* value) / (1 − *real* value)].

Table 5. Hybrid HDI for Italian macro areas, according to different hypotheses (1871-2007)

Area	1871	1891	1911	1931	1938	1951	1961	1971	1981	1991	2001	2007
Real values												
Centre-North	0.319	0.411	0.490	0.572	0.614	0.659	0.726	0.792	0.828	0.860	0.894	0.909
South and islands	0.226	0.286	0.370	0.490	0.533	0.574	0.671	0.749	0.794	0.831	0.862	0.877
Italy	0.282	0.360	0.442	0.546	0.582	0.631	0.709	0.778	0.817	0.850	0.883	0.899
I hypothesis (weak): active modernization in life expectancy												
South and islands	0.226	0.308	0.392	0.503	0.545	0.584	0.670	0.748	0.791	0.831	0.864	0.880
Italy	0.282	0.370	0.451	0.550	0.588	0.635	0.709	0.778	0.816	0.850	0.884	0.900
II hypothesis (medium): active modernization in life expectancy and education												
South and islands	0.226	0.335	0.430	0.521	0.561	0.585	0.664	0.754	0.791	0.827	0.864	0.881
Italy	0.282	0.379	0.465	0.551	0.593	0.631	0.703	0.778	0.815	0.847	0.883	0.900
III hypothesis (strong): active modernization in life expectancy, education, and resources												
South and islands	0.226	0.338	0.437	0.527	0.574	0.617	0.692	0.770	0.810	0.843	0.882	0.900
Italy	0.282	0.380	0.467	0.553	0.597	0.641	0.711	0.782	0.820	0.852	0.889	0.905
Changes in the index of South and Islands: I hypothesis												
% change in absolute value	-	7.7	5.9	2.7	2.3	1.7	-0.1	-0.1	-0.4	0.0	0.2	0.3
% change to close the distance to 1	-	3.1	3.5	2.5	2.6	2.3	-0.3	-0.4	-1.5	0.0	1.4	2.4
Changes in the index of South and Islands: II hypothesis												
% change in absolute value	-	17.1	16.2	6.3	5.3	1.9	-1.0	0.7	-0.4	-0.5	0.2	0.5
% change to close the distance to 1	-	6.9	9.5	6.1	6.0	2.6	-2.1	2.0	-1.5	-2.4	1.4	3.3
Changes in the index of South and Islands: III hypothesis												
% change in absolute value	-	18.2	18.1	7.6	7.7	7.5	3.1	2.8	2.0	1.4	2.3	2.6
% change to close the distance to 1	-	7.3	10.6	7.3	8.8	10.1	6.4	8.4	7.8	7.1	14.5	18.7

Sources: our own elaborations. *Note*: the cells are emphasized in white up to the threshold of 0.5, light gray from 0.5 to 0.8 and dark gray over 0.8; moreover, the values which passed the threshold of 0.9 are in white color.

This scheme follows our results that for Southern Italy convergence was more difficult in re-sources, but less in education and even less in life expectancy. Moreover, we are able to identify two different periods. The first one goes roughly from Unification up to the 1930s, when the highest improvements for Southern Italy come from incorporating the SRM growth of the Centre-North in the social dimensions: this means that, although in those decades Southern Italy experienced convergence in social indicators, much more could be done, and this is particularly true for education in the Liberal age. The second period goes from the 1930s to present, when the improvement for South and Islands comes mainly from the resource component. With active modernization only in the two social dimensions (II hypothesis), as early as by 1891 Southern Italy would have ranked, in terms of human development, above ESP and Japan, rather than below. In general, the improvements observed would have died away in the following decades. From 1981 onwards, the only noticeable change is produced by active modernization *also* in resources: by 2007, Southern Italy would have reached that longed-for threshold of 0.9, thus joining the very-high-development club, only with active modernization in all the three components.

However, it must be pointed out that there was a dynamic interaction between the three dimensions. They certainly have influenced each other and their causal linkages may also have changed along the period. For instance, there is a vast debate about the effects of improvements in life expectancy on GDP growth (Galor and Weil 2000), recently pointing towards a non-monotonic rela-

tionship: a negative, although insignificant, impact of life expectancy on GDP before the onset of the demographic transition, a positive and significant one afterwards (Cervellati and Sunde 2011). This non-monotonic relationship seems to fit quite well with the estimates presented. The case for the impact of education on GDP is more compelling, not only because of the huge international literature stressing the contribution of human capital to economic growth, but also because there is evidence for the Italian case: it has been argued (Vasta 1996; Felice 2012) that higher human capital played a crucial role in the forging ahead of the North-West of the peninsula, during the first half of the XX century. In this respect, it can be hold that if Southern Italy would have converged sooner and firmly in the education component of HDI during the liberal age, its falling back in GDP per capita in the interwar years could have been less severe: active modernization in education could have favoured active modernization in GDP as well; or, in other words, the human capital trap instigated a vicious cycle which was visible in the GDP component of HDI. The falling back of the last decades may have been reinforced by the fact that education and resources influenced each other, and that both in turn may have had an impact on life expectancy.

6. Conclusions

This article offers an interpretative hypothesis to account for the Italian different regional patterns: it is based on the distinction between passive and active modernization, which in turn can be respectively associated to the presence of extractive or inclusive institutions.

At the regional level, active modernization stems from the role of local actors, whereas passive modernization is due to State intervention with limited, or null, involvement of local elites. Evidence from Italy's regions shows that passive modernization in favour of the Southern regions 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 XX century). Overall, results indicate high convergence in the case of life expectancy, uncompleted convergence in education, divergence in GDP.

Convergence in HDI was more intense in the interwar years and during the Golden age. On this, the Italian *Mezzogiorno* seems to show a similar pattern than the world periphery: Prados de la Escosura (2014) has found analogous results for what concerns the convergence of Latin America, Asia, Africa and Eastern Europe towards OECD countries; furthermore, this was mainly due to the social components, as with Southern Italy.

In the case of Italy, this poor outcome may be due to two different reasons. Firstly, even passive modernization in Southern Italy was far from satisfactory: this is particularly true for the education

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component, where much more could have been done in the Liberal age, being State intervention fully at work only from 1911 onwards with the centralization of the system. Secondly, passive modernization made the economic and social system of Southern Italy more fragile, thus more subject to external shocks. The 1970s crisis was particularly harmful to the South, which since then stopped its convergence and never recovered. More in general, during the last decades, Italy as a whole lagged behind the rest of the advanced countries, which also means that the Italian state was in turn less capable of promoting passive modernization in the *Mezzogiorno*; at the same time, local authorities were entrusted with more autonomy and power, which only highlighted the persisting indifference of Southern elites towards modernization. By looking at the interaction amongst the three components, we have seen as improvements in life expectancy are not able to produce positive results in GDP, as suggested by the recent literature on economic growth; on the other hand, the weak convergence in education is confirmed to be one of the main causes of the divergent pattern on GDP of the Southern regions (if not of the entire country, for the last decades).

Some questions remain open. Why at a certain stage of its pattern Southern Italy was not capable of moving from passive to active modernization? Would really more investment in education have been the key for success, or something more and different was needed: such as much more social capital, i.e. some change in culture and values? Was and is it possible for the State to promote the conditions which favour active modernization at the regional level? Such issues fill the agenda for future research.

References

Acemoglu, D., and Robinson, J. A. (2012). *Why nations fail. The origins of power, prosperity and poverty*. London: Profile Books.

A'Hearn, B., Auria, C. and Vecchi, G. (2011). Istruzione. In G. Vecchi (ed.), *In ricchezza e in povertà. Il benessere degli italiani dall'Unità a oggi*. Bologna: Il Mulino, pp. 159−206.

A'Hearn, B., and Venables, A. J. (2013). Regional disparities: internal geography and external trade. In G. Toniolo (ed.), *The Oxford Handbook of the Italian Economy since Unification*. Oxford: Oxford University Press, pp. 599−630.

Allen, R. A. (2011). *Global Economic History: A Very Short Introduction*. Oxford: Oxford University Press.

Battilani, P. (2011). Decentramento o accentramento: obiettivi e limiti del sistema amministrativo locale scelto con l'Unità del paese. *Rivista di storia economica* **17**(3), pp. 313−57.

Bevilacqua, P. (1993). *Breve storia dell'Italia meridionale dall'Ottocento a oggi*. Rome: Donzelli.

Brandolini, A. and Vecchi, G. (2013). Standards of living. In G. Toniolo (ed.), *The Oxford Handbook of the Italian Economy since Unification*, Oxford: Oxford University Press, pp. 227−248.

Brunetti, A., Felice, E. and Vecchi, G. (2011). Reddito. In G. Vecchi (ed.), *In ricchezza e in povertà. Il benessere degli italiani dall'Unità a oggi*. Bologna: Il Mulino, pp. 209–234.

Buyst, E. (2010). Reversal of Fortune in a Small, Open Economy: Regional GDP in Belgium, 1896-2000. *Rivista di Storia Economica* **26**(1), pp. 75−92.

Cafagna, L. (1998). Modernizzazione attiva e modernizzazione passiva. *Meridiana. Rivista di storia e scienze sociali* **2**(2), pp. 229–40.

Cappelli, G. (2013). *Escaping from a human capital trap? Italy's regions and the move to centralized primary schooling, 1861-1936*. Mimeo.

Cervellati, M. and Sunde, U. (2011). Life expectancy and economic growth: the role of the demographic transition. *Journal of Economic Growth* **16**(2), pp. 99−133.

Combes, P. P., Lafourcade, M., Thisse, J. F. and Toutain, J. C. (2011). The rise and fall of spatial inequalities in France: A long-run perspective. *Explorations in Economic History* **48**(2), pp. 243−71.

Conte, L., Della Torre, G. and Vasta, M. (2007). The Human Development Index in Historical Perspective: Italy from Political Unification to the Present Day. *University of Siena working paper n. 491*.

Crafts, N. (1997). The human development index and changes in standards of living: some historical comparisons. *European Review of Economic History* **1**(3), pp. 299−322.

Crafts, N. (2002). The Human Development Index, 1870−1999: some revised estimates. *European Review of Economic History* **6**(3), pp. 395−405.

Crafts, N. (2005). Regional GDP in Britain, 1871-1911: some estimates. *Scottish Journal of Political Economy* **52**(1), pp. 54−64.

Cuoco, V. (1861). *Saggio storico sulla Rivoluzione di Napoli (1799). E sulla vita dell'autore per Mariano D'Ayala*. Naples: Tip. di Mariano Lombardi.

Cutler, D., Deaton, A., and Lleras-Muney, A. (2006). The Determinants of Mortality. *Journal of Economic Perspectives* **20**(3), pp. 97−120.

Daniele, V. and Malanima, P. (2007). Il prodotto delle regioni e il divario Nord-Sud in Italia (1861-2004). *Rivista di Politica Economica* **67**(3−4), pp. 267–315.

D'Antone, L. (1997). «Straordinarietà» e Stato ordinario. In F. Barca (ed.), *Storia del capitalismo italiano dal dopoguerra a oggi*. Rome: Donzelli, pp. 579–625.

Felice, E. (2007). I divari regionali in Italia sulla base degli indicatori sociali (1871-2001). *Rivista di Politica Economica* **67**(3–4), pp. 359–405.

Felice, E. (2011). Regional value added in Italy, 1891-2001, and the foundation of a long-term picture. *Economic History Review* **64**(3), pp. 929−50.

Felice, E. (2012). Regional convergence in Italy (1891-2001): testing human and social capital. *Cliometrica* **6**(3), pp. 267−306.

Felice, E. (2013). *Perché il Sud è rimasto indietro*. Bologna: Il Mulino.

Felice, E. and Vasta, M. (2012). Passive modernization? The New Human Development Index and Its Components in Italy's Regions (1871-2007). *Universitat Autònoma de Barcelona, UHE Working paper nr. 2012_10*.

Galor, O., Moav, O. and Vollrath, D. (2009). Inequality in Landownership, the Emergence of Human-Capital Promoting Institutions, and the Great Divergence. *Review of Economic Studies* **76**(1), pp. 143−79.

Galor, O. and Weil, N. D. (2000). Population, Technology, and Growth: From Malthusian Stagnation to the Demographic Transition and Beyond. *American Economic Review* **90**(4), pp. 806−28.

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

Gidwitz, Z., Heger, M. P., Pineda, J., and Rodríguez, F. (2010). Understanding Performance in Human Development: A Cross-National Study. *UNDP Human Development Research Papers 2010/42* (2010).

Gramsci, A. (1957). *La questione meridionale*. Rome: Editori Riuniti, 3rd edition.

Istat (2014). *Tavole di mortalità della popolazione per provincia e regione di residenza*. http://demo.istat.it/ (last access on April 2014).

Iuzzolino, G., Pellegrini, G., and Viesti, G. (2013). Regional Convergence. In G. Toniolo (ed.), *The Oxford Handbook of the Italian Economy since Unification*. Oxford: Oxford University Press, pp. 571−98.

Maddison, A. (2009). *Historical Statistics of the World Economy:1-2008 AD*, Paris.

Malanima, P. (2011). The long decline of a leading economy: GDP in central and northern Italy, 1300-1913. *European Review of Economic History* **15**(2), pp. 169−219.

Ministero della Pubblica Istruzione (1897). *L'Istruzione Elementare nell'Anno Scolastico 1895 – 1896. Relazione a S.E. il Ministro*. Roma.

Ministero della Pubblica Istruzione (1910). *L'Istruzione Primaria e Popolare in Italia, con Speciale Riguardo all'Anno Scolastico 1907 – 1908. Relazione Presentata a S.E. il Ministro della Pubblica Istruzione dal Direttore Generale per l'Istruzione Primaria e Popolare Dott. Camillo Corradini*. Voll. I and III. Roma.

Morris, D. M. (1978). A physical quality of life index. *Urban Ecology* **3**(3), pp. 225−40.

Mortara, G. (1925). *La salute pubblica in Italia durante e dopo la guerra*. Bari: Laterza.

Nuvolari, A. and Vasta, M. (2012). The Ghost in the Attic? The Italian National Innovation System in Historical Perspective, 1861-2011. *Quaderni del Dipartimento di Economia Politica e Statistica*, Università di Siena, no. 665.

OECD, Organisation for Economic Co-operation and Development (2010). *PISA 2009 Results: What Students Know and Can Do – Student Performance in Reading, Mathematics and Science (Volume I)*. Paris: OECD, 2010.

Parravicini, G. (1958). *La politica fiscale e le entrate effettive del Regno d'Italia, 1860-1890*. Torino: ILTE.

Prados de la Escosura, L. (2010). Improving Human Development: a long-run view. *Journal of Economic Surveys* **24**(5), pp. 841−94.

Prados de la Escosura, L. (2014). World Human Development: 1870−2007. *Review of Income and Wealth*. doi: 10.1111/roiw.12104.

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

Raspadori, P. (2011). Inequality and culture: geographical differences in the access to cultural enrichment in Italy (1863−1992). *Continuity and Change* **26**(2), pp. 219−41.

Ravallion, M. (2012). Troubling Tradeoffs in the Human Development Index. *Journal of Development Economics* **99**(2), pp. 201−9.

Rosés, J. R., Martínez-Galarraga, J. and Tirado, D. A. (2010). The upswing of regional income inequality in Spain (1860-1930). *Explorations in Economic History* **47**(2), pp. 244−57.

Schulze, M. S. (2007). Regional Income Dispersion and Market Potential in the Late Nineteenth Century Hapsburg Empire. *London School of Economics, Working Papers n. 106/07*.

Sen, A. (1981). Public Action and the Quality of Life in Developing Countries. *Oxford Bulletin of Economics and Statistics* **43**(4), pp. 287-319.

Sokoloff, K. L. and Engerman, S. L. (2000). History Lessons: Institutions, Factor Endowments, and Paths of Development in the New World. *Journal of Economic Perspectives* **14**(3), pp. 217−32.

Teti, M. (1998). Le culture alimentari nel Mezzogiorno continentale in età contemporanea. In A. Capatti, A. De Bernardi and A. Varni (eds), *Storia d'Italia. Annali 13. L'alimentazione*. Turin: Einaudi, pp. 65−165.

Toninelli, P.A. and Vasta, M. (2011). Size, Boundaries, and Distribution of Italian State-Owned Enterprise (1939-1983). In F. Amatori, R. Millward and P. A. Toninelli (eds), *Reappraising State-Owned Enterprise. A comparison of the UK and Italy*. New York: Routledge, pp. 68−99.

Trigilia, C. (1992). *Sviluppo senza autonomia. Effetti perversi delle politiche nel Mezzogiorno*. Bologna: il Mulino.

UNDP (United Nations Development Programme) (1990). *Human Development Report*. New York: Oxford University Press.

UNDP (1995). *Human Development Report 1995*. New York: Oxford University Press.

UNDP (2009). *Human Development Report 2009. Overcoming Barriers: Human mobility and development*. New York: Palgrave Macmillan for the UNDP.

UNDP (2010). *Human Development Report 2010. 20th Anniversary Edition. The Real Wealth of Nations: Pathways to Human Development*. New York: Palgrave Macmillan for the UNDP.

Vasta, M. (1996). *Innovative capabilities in the Italian take-off: the electrical and chemical industries (1880-1914)*. D.Phil Thesis. Oxford: University of Oxford.

Vasta, M. (1999). Capitale umano e ricerca scientifica e tecnologica. In F. Amatori, D. Bigazzi, R. Giannetti and L. Segreto (eds), *Storia d'Italia. Annali 15. L'industria*. Turin: Einaudi, pp. 1041−124.

Vecchi, G. (ed.) (2011), *In ricchezza e in povertà. Il benessere degli italiani dall'Unità a oggi*. Bologna: Il Mulino.

Vicarelli, G. (1997). *Alle radici della politica sanitaria in Italia. Società e salute da Crispi al fascismo*. Bologna: il Mulino.

Volpi, F. (1962). *Le finanze dei comuni e delle province del Regno d'Italia, 1860-1890*. Torino: ILTE.