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## Italian Fertility, 1864 to 1951: An Analysis of Regional Trends

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**DRAFT**

## **Italian Fertility, 1864 to 1961: An Analysis of Regional Trends**

*Prepared for the 43<sup>rd</sup> European Congress of the Regional Science Association, August 27-30, 2003, Jyväskylä, Finland*

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**Abstract:** Below replacement level fertility rates in Italy have received much attention, with varying explanations offered for the protracted decline in fertility rates since the early 1970s. For a more complete understanding of Italian fertility dynamics, an analysis of historical fertility trends can be useful. This paper employs Italian regional fertility data generated by the Princeton European Fertility Project to evaluate regional patterns of Italian fertility from 1864 to 1961. Regional fertility trends, both temporal and spatial, are described and basic regional convergence methods are applied. The results show that the regional fertility variation seen in Italy since World War II was well established by the early 20<sup>th</sup> century and that a lack of convergence of fertility rates during the years of the demographic transition in Italy (late 1800s) helped emphasize regional differences. The impacts of experiences such as political unification, industrialization, the completion of the demographic transition, and mass emigration are cited as important clues to the change and persistence of regional fertility identities during this time period. This use of a rich historical dataset placed in a geographic context not only helps illuminate the past, but also assists in the explanation of patterns of regional fertility seen in today's Italy.

## **I. Introduction**

The several decades following the Second World War in Italy have brought enormous economic, social, and demographic change to that country, all of which has been characterized by a great deal of regional variation. Explanations for this persistent variation are often looked for within this time period; the fertility decline, for example, is usually linked to social and economic changes taking place at the same time at the regional level. An alternative view is that today's regional variation, here the focus is on fertility, is a historical legacy and that a more complete understanding of regional fertility today can be gained by looking back to the century following political unification. The Risorgimento, a social and political movement aimed towards stirring feelings of nationalism across Italy, and then political unification in 1860 (completed by 1870) might have brought uniformity to patterns of regional fertility. Where unification failed, the fascist government during the 1920s and 1930s with its strong emphasis on national pronatalist policies might also have encouraged national norms of fertility behavior. This did not occur. Instead, from the time of political unification through the 1950s, regional variation in fertility actually increased, leading to the regional fertility patterns still seen today.

This paper uses the event of political unification, by which the regional building blocks were unified under one government, as a basis for understanding subsequent regional fertility change that took place (see Figure 1 for map of Italian regions). Watkins (1990) argues that a shift in influence on fertility behavior occurred in the late 19<sup>th</sup> century from local to national. In particular, she cites the development of national markets, the increasing influence of national governments, and the process of "nation-building" as important driving forces in this shift. Italy's change from more or less individually governed regions to a unified state could have intensified this experience. A centralized national government and its attendant legislation might be expected to speed the process of convergence in regional fertility rates, leading to more uniform demographic behaviors, in terms of both fertility and mortality, across the nation. The encouragement of nationalistic feelings that originated in the Risorgimento would also have acted to bring the various regions together. Working against the national tide, region-specific characteristics, such as geography, industrialization, and emigration might slow or even reverse the process of

demographic integration. Applying basic measures of regional convergence to regional fertility rates shows the extent to which one possibility is more likely to have been the case than another.

**[Figure 1 about here]**

This paper hypothesizes that historical fertility rates and geographic patterns set the stage for post-war changes in regional fertility, and that historical fertility patterns are best understood within a context of tension between national and local factors. National factors are the two political phenomena of the Risorgimento/unification and fascism. Local factors are those that, through longstanding regional characteristics or contemporary economic or social change, affect fertility in one region but not another. These differences likely still influence the geographic pattern of fertility found in Italy today.

The format of this paper is as follows: in the next section I outline the historical data I use for regional comparisons. After that, I provide a brief overview of Italian fertility for both the historical and contemporary periods and provide a demographic context for them both, as well. In Section IV I use the historical data set to describe regional differences in fertility during the historical period, highlighting the increased regional differentiation in fertility behaviors during those years. In Section V I measure regional dispersion in fertility rates in order to hypothesize about the effect of political unification on fertility rates and offer some explanations for changing regional fertility patterns seen between 1864 and 1961. I conclude the paper in section VI.

## **II. Data**

The Princeton European Fertility Project, initiated in 1963 and concluded in 1979, collected fertility and related data for over 20 countries and 1,200 provinces in Europe. The stated goals of the project were to document the fertility transition in Europe and to ascertain the social changes that accompanied this decline (Coale and Watkins, 1979). Over the years, these data have been exhaustively analyzed for all of the countries involved. Massimo Livi-Bacci, the Italian demographer chiefly responsible for the compilation and analysis of the Italian data, covers the Italian case magnificently in his book, “A History of Italian Fertility During the Last Two Centuries” (1977). In this paper I make use of fertility and

marriage statistics compiled for 19 Italian regions and draw extensively, if narrowly, from Livi-Bacci's book. The data I use cover the years 1864 to 1961 and are available for 11 years within this period.

In order to develop statistics that could be compared across all European nations and provinces in a straightforward matter, the researchers for the European Fertility Project developed indices that related births to a predetermined fertility maximum. The maximum fertility used was that recorded by the Hutterites (who not only kept good birth statistics but also abjured contraception and abortion) from 1921 to 1930 (Coale and Watkins, 1986). According to Coale and Watkins (p.34), "women subject to Hutterite fertility from age 15 to age 50 would bear an average of 12.4 children." These indices, then, relate the level of fertility recorded in a place to the high natural level achieved by the Hutterites. This allowed the researchers to compare standardized fertility levels in one area to levels in others places, even if the nature of the original birth data was very different for the two locations.

The Fertility Project generated four fertility indices to describe changes in historical regional fertility in Italy<sup>i</sup>.  $I_f$  is a measure of overall fertility and  $I_g$  is a measure of marital fertility. The third measure is  $I_h$ , which accounts for fertility occurring outside of marriage. The fourth index,  $I_m$ , measures the proportion of women aged 15-50 who were married. When illegitimate births form a very small proportion of overall fertility, then  $I_f$  is simply the product of  $I_m$  and  $I_g$  (ibid.). The number of births out of wedlock was low for Italy during the entire period (Livi-Bacci, 1977). The product of  $I_f$  and 12.4, the Hutterite average fertility, generates a crude total fertility rate which can be used to compare historical and contemporary trends more directly (Coale and Watkins, 1986).<sup>ii</sup>

Helpfully, Livi-Bacci identified several levels for marital fertility ( $I_g$ ) that benchmark important social changes in fertility behavior (1977). For example, marital fertility above .5 is considered moderately high. When marital fertility has fallen below .6, the population has most likely adopted efficient means of fertility control. "Strongly controlled fertility" is

taken to exist when  $I_g$  falls below .4. Taken together, these benchmarks help identify when regions have passed certain momentous demographic landmarks.

### **III. Italian Fertility: A Short Background**

When the historical fertility data ( $I_f$ ) are converted to estimated Total Fertility Rates (TFRs), these numbers can then be directly compared to rates seen in post-war Italy. Figure 2 graphs the two data series side by side to present a continuous picture of Italian fertility over almost 150 years. The TFR for Italy as a whole was almost 5.0 at the time of Italian unification. This rate remained constant until the early 20<sup>th</sup> century, when it began to fall to just above replacement level in the early 1950s. The small increase in fertility during the 1960s represents the Italian baby boom, which was then followed by a prolonged decrease in fertility rates that continued through the mid-1990s.

**[Figure 2 about here]**

Italy completed the demographic transition later than many other Western European countries. For the Italian population as a whole, the permanent decline in fertility did not begin until about 1870, and proceeded from North to South and from West to East (Livi-Bacci and Breschi, 1990). Figure 3 shows the evolution of  $I_m$ ,  $I_g$ , and  $I_f$  from 1864 to 1961.  $I_m$ , the proportion of women who were married, remained nearly constant at approximately 50 percent throughout the entire period, with only a slight increase around the 1920s. The very slight decrease seen in the decades immediately prior to the 1920s could be an effect of mortality from World War I or from the depredations of emigration from Italy in the late 1800s and early 1900s – both of which might cause imbalances in the marriage market, leading to increases in unmarried women in the population. During the same period, marital fertility,  $I_g$ , decreased, leading to a decrease in overall fertility,  $I_f$ . Since the proportion of women marrying was increasing contemporaneously with decreasing marital fertility, the overall effect on  $I_f$  was muted.

**[Figure 3 about here]**

As in other European countries, the demographic transition began earlier for some social groups than for others. Members of the aristocracy and upper echelons of society limited their fertility much sooner than society as a whole. These groups showed a decrease in married fertility dating back to at least the 18<sup>th</sup> century (Livi-Bacci and Breschi, 1990). In

the late 1800s, agricultural workers had, on average, about 6.4 children, while members of the professional class tended to have about 3.3. In the South these averages tended to be higher, while in the Central-North part of the country, they were lower (ibid.).

Because most fertility in Italy throughout history, and even today, has taken place within marriage, the average age at marriage has played an important role in overall fertility outcomes. Rettaroli (1990) places Italian marriage trends in the 19<sup>th</sup> century somewhere between those of Northwest Europe and those of Eastern Europe. The average age at marriage for both genders over the past three centuries has tended to be relatively high (mid to late 20s) in most Western and Northern European countries, while Eastern European countries are typified by early age at marriage for both sexes. Within Italy, regional differences are apparent, with a higher age at marriage for both men and women in the Central-North part of the country and a lower age at marriage in the South. The range tends to be smaller for men, throughout the country, but noticeably different for women (ibid.). Many regional differences in average age at marriage can be attributed to variations in the legal treatment of women and inheritances at the turn of the 19<sup>th</sup> century (Barbagli and Kertzer, 1990).

#### **IV. Regional Historical Fertility**

The goal of this section is to give a brief description of fertility changes between 1864 and 1961 and to highlight those aspects of fertility most relevant to regional differentiation in fertility during that period. Each Italian region brought its own history and cultural background to a unified Italy, and so it is not surprising that regional fertility levels should have differed some from each other in 1864. Although in 1864 most regions had similar fertility levels – estimated TFRs were around 5.0 for most regions – the extent to which each region experienced a decline in fertility in subsequent years varied widely (Table1). Fertility levels seen in the southern regions in 1951 and 1961, for example, could be found in most northern and central regions between the turn of the century and World War II, about thirty years earlier. In general, northern and central regions also experienced higher declines in fertility than southern regions, as shown by the percent change in  $I_f$ . Regions such as Toscana and Liguria experienced declines in overall fertility of over 60 percent

between 1864 and 1961, while fertility in regions in the South such as Basilicata and Campania only declined by about a third. Calabria and Sicilia experienced much lower declines than that.

**[Table 1 about here]**

Regional differences are highlighted when trajectories in  $I_f$  are seen over time. Figure 4 shows trends over time in  $I_f$  for four selected regions: Liguria in the North, Toscana and Lazio in the Center, and Calabria in the South. All four regions began the period with approximately the same levels of fertility, although Toscana was the only one to have a measure of  $I_f$  over .4. Toscana also ended the period with the steepest decline in fertility, however. The strongest differences appear when Calabria is compared to the remaining three regions. In that region, fertility remained fairly constant and high until the early 1900s, when it began a shallow decline. Instead of an increase in fertility after WWII, as seen in the other regions, Calabria's overall fertility remained constant. This is consistent with research findings on regional fertility in post-war Italy, which showed that regions in the South experienced much less of a baby boom than regions in the Center and North, perhaps because of delays in post-war recovery or because fertility levels were already relatively high at that time, compared to fertility in the rest of the country (Franklin and Plane, 2002; Franklin, 2002). Lazio's fertility trajectory over time falls somewhere between that seen for the northern and southern regions. With the exception of Liguria, though, where the fertility decline had already begun by 1864, the main decline in fertility appears to have begun around the early 1900s.

**[Figure 4 about here]**

When fertility rates are mapped for selected years, a nice spatial picture of fertility trends in Italy is presented (Figure 5). Fertility levels across the newly unified peninsula in 1871 show no geographic pattern, with the highest fertility regions scattered across the entire country. In 1901, the higher fertility levels tend to be located along the eastern spine of the country and the lowest levels are seen in the Northwest. This follows Livi-Bacci and Breschi's (1990) description of the fertility transition in Italy as proceeding from North to South and from West to East. By 1936, the height of the fascist government, however, a clear regional differentiation in fertility levels is apparent and, in fact, is equivalent to geographic patterns still seen in Italy's fertility rates today. In both 1936 and 1961, the



highest fertility levels are found in the South, with regions in the Northeast also displaying higher fertility levels than the Northwest and Center.

**[Figure 5 about here]**

Overall fertility is a function of both the proportion of women who are married ( $I_m$ ) and therefore “at risk” of having children (since out of wedlock births were rare in Italy during this period) and the number of children those women are likely to have once they are married ( $I_g$ ). Societies can maintain a relatively high level of overall fertility even if a high proportion of its women are unmarried, if the married women then have a high fertility rate. Tables 2 and 3 show  $I_g$  and  $I_m$  for the Italian regions from 1864 to 1961, providing the details for regional changes seen in overall fertility ( $I_f$ ) during the same period.

Recollecting that a decrease in  $I_g$  below .40 is indicative of “highly controlled fertility,” Table 2 shows the vast amount of variation apparent in the entrenchment of controlled fertility behaviors across all the regions. Northern regions, with the exception of Veneto, were exercising a good deal of fertility control by the 1920s and 1930s. In the central regions, this transition was apparent by 1951 at the latest, although these regions had moved away from having “moderately high fertility” ( $I_g$  greater than .50) by 1921. Of the southern regions, only Abruzzi had even fallen below the level required for “highly controlled fertility” by 1961, and this event only occurred in 1951. All remaining southern regions had  $I_g$  greater than .40 in 1961, and indeed many surpassed the level for “moderately high fertility” in that year. Figure 6, which maps the regions with “highly controlled fertility” in 1936 and 1961, reinforces the geographical disparities apparent in the timing of the completion of the fertility transition. For both years, the South and Northeast remained entrenched in a higher fertility regime, while most central and northwestern regions exhibited strongly controlled fertility behaviors.

**[Table 2 about here]**

**[Figure 6 about here]**

In a few regions, Lazio for example, decreases in both the proportion of women who were married and marital fertility contributed to the declines in overall fertility seen between unification and the post-war years. Veneto and Sardegna, too, experienced declines between 1864 and 1961 in the proportion of women who were married, which contributed to the declines seen in overall fertility ( $I_f$ ) during the same period. Most other regions

across the entire country increased their proportions of women married, but since fertility within marriage was declining they still had decreases in overall fertility levels.

**[Table 3 about here]**

## **V. Discussion**

The evaluation of changes in regional fertility, both overall and within marriage, clearly demonstrate the existence of regional variations in fertility change from the time of Italian political unification through the early post-war years. Fertility levels began to decline later for southern and northeastern regions and were still relatively high after WWII. Many northwestern and central regions experienced early and steep transitions to controlled levels of fertility. One indication of the effectiveness of the newly unified government would be the extent to which, after 1864, regional fertility rates were harmonized. A direct reason for regional homogenization in fertility behaviors would be efforts at the national level to guide fertility expectations, whether for higher or lower fertility. These types of national directives were not unusual during the years between WWI and WWII, especially in countries such as Germany and Italy, when pronatalist policies were often enacted. A more reasonable reason for expectation of regional homogenization in the 1800s, though, would be the indirect effects of changing legislation, economic development, and the development of a sense national unity in the form of national media, for example.

A straightforward means of measuring regional dispersion or homogenization can be found in the regional economics literature, where regional convergence or divergence over time is considered. The closing of a gap between regional “haves” and “have nots” is often referred to as *sigma* convergence and can be evaluated by looking at the evolution of some measure of dispersion over time (Barro and Sala-i-Martin, 1992; Sala-i-Martin, 1996). This paper uses the coefficient of variation.<sup>iii</sup> When the variable under consideration is regional income, for example, the hope is that the gap will close over time, or that convergence in incomes will take place. Here, the expectation would be that convergence would take place as regional cohesion increased in newly unified Italy.

**[Figure 7 about here]**

Figure 7 shows the coefficient of variation (CV) and the mean of regional marital fertility ( $I_g$ ) from 1864 to 1961. The CV was near constant during the early years of unification and then increased markedly from about 1891 to 1951 before leveling off. These results indicate that unification, and also the years of strong central government under Mussolini in the 1920s and 1930s, did not lead to convergence in regional fertility rates. Indeed, these decades are characterized by increased *divergence* in regional fertility. In her analysis of European fertility 1860 to 1960, Watkins (1990) found that, although most European countries' provincial fertility became more homogenous during those years, Italy's did not. Delays across regions in the onset of the fertility transition and differences in the levels of decline that occurred, which together contributed to the divergent trend seen in Figure 7, also helped to solidify regional differences in fertility that persist today. Geographic differences evident in Figures 5 and 6 are still to be found in post-war maps of Italian regional fertility.

The divergent trend for the CV in Figure 7 can be at least partially explained by a few mitigating factors. Although the country was politically unified in 1864, there continued to be several important phenomena that affected some regions more than others. In his book, Livi-Bacci (1977) identifies several factors that help explain the regional variation in fertility that developed at the end of the 19<sup>th</sup> century. Many of these variables are precisely those that are likely to have affected fertility in the post-war years, as well. Chief among these were emigration, industrialization, and geography.

According to Livi-Bacci (1977), most emigration prior to 1870 came from the North and Center of the country, but these involved relatively small numbers of people. After 1870 the origin of Italy's emigrants shifted towards the South along with the northeastern region of Veneto, with the numbers increasing rapidly through the early decades of the 20<sup>th</sup> century. Emigration may have affected fertility change in the southern regions for a couple of reasons. First, emigration can be seen as a pressure valve that allowed regional societies to shed excess population without being forced to adopt different demographic behaviors, such as lower fertility, in order to meet changing societal needs. Second, because migration is a selective process, it can be supposed that individuals of childbearing age would be

among those most likely to emigrate. Also, as Livi-Bacci points out (ibid.), emigrants often represent that portion of the population most amenable to innovations and change; when they leave, the more traditional parts of society are left which reinforces the demographic *status quo* in terms of expectations and behaviors. The impacts of emigration on southern regions and the Veneto, then, can be seen as one phenomenon that might have slowed the process of fertility decline in the southern regions while the remainder of the country moved towards completion of the fertility transition.

The economic structure of a region – the extent to which it specializes in agriculture or industry, especially – are hypothesized to influence fertility behaviors, as well. In most European countries, the demographic transition was accompanied by the industrial revolution and, as people moved from a traditional agriculture-based society to an industrialized one the value of lots of having lots of children began to change (among other important developments). According to Livi-Bacci (ibid.), the South at the time of unification was to some extent more industrialized than the Center and North. 23.7 percent of the workforce in the South was employed in industry, compared to 20.4 in the Center and North. This changed in the late 19<sup>th</sup> century, as the North not only caught up but industry in the South experienced a decline. In 1911, 23 percent of the workforce was working in industry in the South, while the North and Center had increased its percentage to 29.9. It is also important to consider that the origins of the industrial revolution in Italy are truly to be found in the Northwest of the country and that it is likely here that the attendant societal changes brought on by the revolution also found their beginnings. As with emigration, the lack of economic development in southern regions likely contributed to the slow decline in fertility seen there.

Livi-Bacci does not specifically identify geography as a factor contributing to regional differentiation in fertility levels; however it is geographical factors that appear to have been the root of some other causes of regional difference over time in fertility behaviors and change. First, the northern regions' proximity to the rest of Europe meant that it was exposed to new attitudes and behaviors sooner and more frequently than the rest of the peninsula. This applies not only to fertility attitudes, which would directly affect fertility

levels, but also to industrial technology and new societal attitudes, as well. The southern regions, in contrast, were not only more distant from the rest of Europe, but were also surrounded on three sides by water. In the case of the southern island regions, isolation was much more complete. To exacerbate this isolation, there were many fewer roads and railroad lines in the South than in the remainder of the country (Livi-Bacci, 1977). This made the movement of people and ideas much more difficult and slowed the diffusion of new attitudes and innovations, such as those related to fertility control, that were transmitted much more easily in the North.

## **VI. Conclusions**

Political unification, which brought together all the regions of the peninsula of Italy, might have been thought to have created a nation of uniform values and behaviors. This might have occurred through governmental actions or through the development of national scale activities, such as newspapers or railroads. The highly centralized fascist government of the 1920s and 1930s, too, might have been expected to succeed where the previous governments had failed. However, what is seen in the several decades after unification is an actual increase in regional differentiation in terms of fertility levels and acceptance of new behaviors that led to the fertility decline. Fertility levels actually diverged rather than converged from 1964 through the post-war years. Although overall fertility and marital fertility both declined for all regions during this period, the decline started much later in southern and northeastern regions, and did not reach the same low levels as in the rest of the country.

This paper argues that the unifying forces of government during the years 1864 to 1961 had less of an effect on regional fertility than did region-specific forces such as emigration, industrialization, and geography. All three of these factors had a disproportionate effect on southern regions, and likely aided in the delayed onset of the fertility transition in those places. They also contributed to the development of the spatial patterns of fertility still evident across Italian regions today.

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<sup>i</sup> In the late 1800s the Italian government stated that civil marriage was required for a couple to be legally married. Because so many couples resisted this, and continued to marry in the church only, the measures for

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$I_m$  and  $I_h$  are misleading for this period. Livi-Bacci constructed adjusted series for these measures, and those are the ones used in this paper.

<sup>iii</sup> The Total Fertility Rate is the expected number of children a woman can be expected to have on average by the end of her childbearing years. A Total Fertility Rate of 2.1 is generally considered to be replacement level fertility.

<sup>iii</sup> The coefficient of variation is the standard deviation of regional fertility rates divided by the mean.

## References

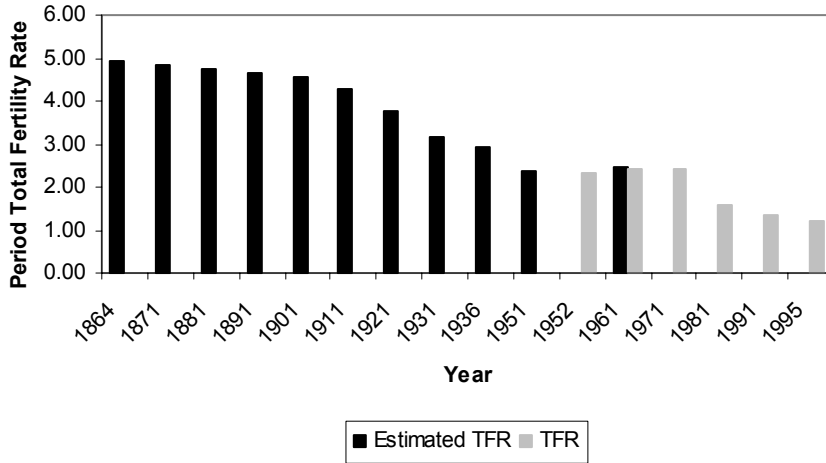
- Barbagli, Marzio and David Kertzer. 1990. "An Introduction to the History of Italian Family Life," *Journal of Family History*, 15, 369-383.
- Barro, Robert J. and Xavier Sala-i-Martin. 1992. "Convergence," *The Journal of Political Economy*, 100, 223-251.
- Coale, Ansley J. and Susan Cotts Watkins, eds. 1986. *The Decline of Fertility in Europe: The Revised Proceedings of a Conference on the Princeton European Fertility Project*. Princeton: Princeton University Press.
- Franklin, Rachel. 2002. "Fertility Convergence Across Italy's Regions, 1952-1995," Paper presented at the 41<sup>st</sup> Annual Meeting, Western Regional Science Association, Monterey, CA, February 2002.
- Franklin, Rachel and David A. Plane. 2002. "Using Shift-Share Analysis to Understand Fertility Variation Across Italy's Regions," paper presented at the 49<sup>th</sup> North American Meetings of the Regional Science Association International, San Juan, PR, November, 2002.
- Livi-Bacci, Massimo. 1977. *A History of Italian Fertility During the Last Two Centuries*. Princeton University Press, Princeton, New Jersey.
- Livi-Bacci, Massimo and Marco Breschi. 1990. "Italian Fertility: An Historical Account," *Journal of Family History*, 15, 385-408.
- Rettaroli, Rosella. 1990. "Age at Marriage in Nineteenth-Century Italy," *Journal of Family History*, 15, 409-425.
- Sala-i-Martin, Xavier X. 1996. "Regional Cohesion: Evidence and Theories of Regional Growth and Convergence," *European Economic Review*, 40, 1325-1352.
- Watkins, Susan Cotts. 1990. "From Local to National Communities: The Transformation of Demographic Regimes in Western Europe, 1870-1960," *Population and Development Review*, 16, 241-272.

Figure 1:

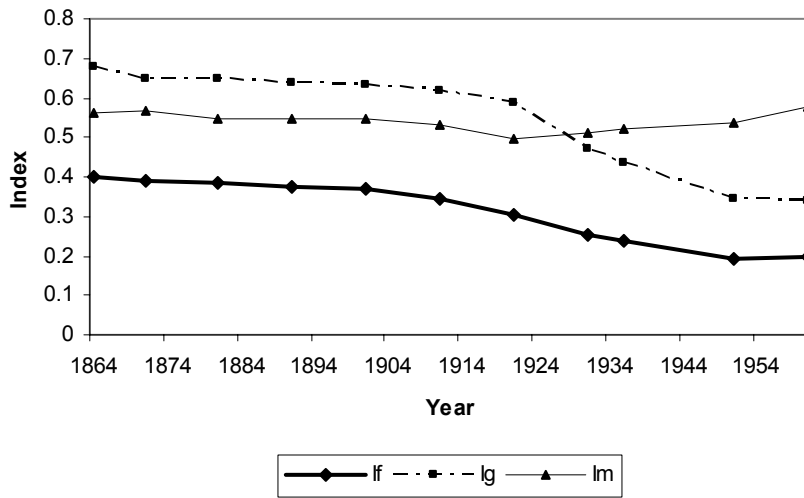




**Figure 2: Historical and Contemporary Fertility Trends, 1864 to 1995**



**Figure 3: Historical Fertility Measures for Italy, 1864 to 1961**



**Table 1: Italian Regional Fertility Index ( $I_t$ ), 1864 to 1961**

	1864	1871	1881	1891	1901	1911	1921	1931	1936	1951	1961	Percent Change, 1864- 1961
<b>North</b>												
Emilia-Romagna	0.40	0.38	0.37	0.38	0.38	0.39	0.30	0.22	0.19	0.14	0.15	-62.09
Liguria	0.38	0.37	0.34	0.31	0.29	0.25	0.18	0.15	0.13	0.11	0.14	-64.00
Lombardia	0.40	0.39	0.38	0.38	0.38	0.34	0.26	0.21	0.20	0.16	0.17	-57.58
Piemonte	0.38	0.37	0.37	0.34	0.32	0.25	0.18	0.16	0.15	0.12	0.15	-61.33
Trentino-Alto Adige							0.29	0.23	0.22	0.21	0.22	
Veneto		0.41	0.38	0.40	0.42	0.40	0.35	0.27	0.25	0.19	0.20	-52.18
Venezia Giulia							0.27	0.20	0.19	0.11	0.13	
<b>Center</b>												
Lazio		0.39	0.35	0.34	0.33	0.33	0.28	0.26	0.23	0.18	0.19	-49.87
Marche	0.38	0.35	0.37	0.37	0.37	0.38	0.32	0.26	0.24	0.17	0.17	-55.64
Toscana	0.43	0.41	0.37	0.36	0.35	0.31	0.26	0.19	0.17	0.14	0.15	-65.26
Umbria	0.37	0.36	0.36	0.36	0.36	0.32	0.33	0.27	0.24	0.16	0.16	-57.57
<b>South</b>												
Abruzzi	0.39	0.39	0.39	0.39	0.38	0.35	0.37	0.32	0.30	0.21	0.19	-50.64
Basilicata	0.42	0.40	0.43	0.42	0.40	0.42	0.42	0.39	0.37	0.28	0.27	-36.21
Calabria	0.38	0.39	0.37	0.37	0.37	0.37	0.39	0.35	0.33	0.28	0.28	-26.39
Campania	0.39	0.39	0.38	0.37	0.36	0.36	0.35	0.34	0.31	0.25	0.27	-30.77
Puglia	0.43	0.42	0.44	0.43	0.42	0.41	0.41	0.36	0.34	0.27	0.26	-38.60
Sardegna	0.38	0.39	0.39	0.37	0.35	0.35	0.34	0.32	0.31	0.29	0.27	-27.85
Sicilia	0.44	0.42	0.42	0.40	0.38	0.36	0.34	0.30	0.28	0.24	0.25	-43.54

Note: Percent change for Lazio and Veneto is computed for a base year of 1871.

**Table 2: Italian Regional Marital Fertility Index ( $I_g$ ), 1864 to 1961**

	1864	1871	1881	1891	1901	1911	1921	1931	1936	1951	1961	Percent Change, 1864- 1961
<b>North</b>												
Emilia-Romagna	0.65	0.63	0.66	0.67	0.67	0.65	0.54	0.39	0.35	0.24	0.24	-63.40
Liguria	0.70	0.65	0.64	0.60	0.57	0.49	0.37	0.40	0.27	0.23	0.22	-68.10
Lombardia	0.67	0.66	0.65	0.68	0.69	0.64	0.53	0.42	0.38	0.29	0.29	-57.25
Piemonte	0.66	0.64	0.66	0.63	0.61	0.49	0.38	0.30	0.27	0.23	0.23	-65.30
Trentino-Alto Adige							0.70	0.54	0.49	0.43	0.42	
Veneto		0.69	0.68	0.71	0.76	0.81	0.71	0.57	0.53	0.36	0.35	-49.71
Venezia Giulia							0.52	0.38	0.35	0.23	0.22	
<b>Center</b>												
Lazio		0.59	0.61	0.59	0.54	0.56	0.52	0.47	0.44	0.36	0.36	-39.39
Marche	0.71	0.71	0.76	0.73	0.69	0.70	0.62	0.49	0.46	0.30	0.28	-61.32
Toscana	0.74	0.69	0.68	0.65	0.61	0.57	0.48	0.35	0.32	0.24	0.24	-68.11
Umbria	0.63	0.64	0.69	0.66	0.60	0.64	0.56	0.44	0.40	0.26	0.24	-61.31
<b>South</b>												
Abruzzi	0.71	0.68	0.70	0.70	0.70	0.72	0.74	0.62	0.57	0.36	0.35	-51.05
Basilicata	0.69	0.66	0.68	0.68	0.68	0.72	0.75	0.65	0.63	0.47	0.46	-33.19
Calabria	0.65	0.65	0.63	0.65	0.67	0.73	0.77	0.67	0.65	0.52	0.52	-20.43
Campania	0.69	0.67	0.68	0.68	0.68	0.72	0.80	0.67	0.63	0.51	0.51	-26.12
Puglia	0.74	0.70	0.72	0.70	0.68	0.72	0.74	0.65	0.63	0.50	0.49	-34.14
Sardegna	0.64	0.63	0.65	0.65	0.65	0.67	0.71	0.66	0.63	0.59	0.55	-14.17
Sicilia	0.71	0.70	0.68	0.65	0.62	0.62	0.62	0.54	0.51	0.43	0.42	-40.14

Note: Percent change for Lazio and Veneto is computed for a base year of 1871.

**Table 3: Italian Regional Proportion Married ( $I_m$ ), 1864 to 1961**

	1864	1871	1881	1891	1901	1911	1921	1931	1936	1951	1961	Percent Change, 1864- 1961
<b>North</b>												
Emilia-Romagna	0.60	0.58	0.53	0.53	0.53	0.54	0.49	0.51	0.52	0.56	0.62	4.36
Liguria	0.55	0.56	0.52	0.51	0.50	0.49	0.46	0.47	0.48	0.54	0.59	8.04
Lombardia	0.56	0.57	0.56	0.55	0.55	0.54	0.48	0.50	0.50	0.53	0.58	2.49
Piemonte	0.56	0.57	0.56	0.54	0.52	0.51	0.48	0.51	0.54	0.57	0.62	11.49
Trentino-Alto Adige							0.39	0.40	0.41	0.45	0.51	
Veneto		0.59	0.55	0.54	0.53	0.51	0.46	0.47	0.48	0.52	0.57	-3.24
Venezia Giulia							0.42	0.47	0.51	0.54	0.59	
<b>Center</b>												
Lazio		0.58	0.50	0.50	0.50	0.51	0.51	0.52	0.52	0.54	0.52	-8.87
Marche	0.54	0.50	0.48	0.51	0.54	0.54	0.51	0.53	0.54	0.57	0.62	15.00
Toscana	0.55	0.56	0.53	0.53	0.54	0.54	0.52	0.54	0.55	0.57	0.62	13.69
Umbria	0.55	0.53	0.49	0.51	0.53	0.48	0.55	0.57	0.58	0.61	0.65	17.27
<b>South</b>												
Abruzzi	0.57	0.58	0.58	0.59	0.60	0.57	0.54	0.56	0.57	0.55	0.61	7.08
Basilicata	0.58	0.61	0.63	0.64	0.64	0.63	0.57	0.60	0.61	0.51	0.62	5.82
Calabria	0.55	0.57	0.56	0.58	0.60	0.58	0.53	0.55	0.55	0.54	0.59	7.33
Campania	0.54	0.56	0.55	0.55	0.55	0.52	0.48	0.50	0.49	0.49	0.54	-0.19
Puglia	0.55	0.58	0.59	0.59	0.60	0.56	0.54	0.54	0.53	0.53	0.55	0.36
Sardegna	0.57	0.57	0.54	0.52	0.50	0.49	0.47	0.47	0.47	0.48	0.44	-23.60
Sicilia	0.59	0.56	0.57	0.57	0.58	0.57	0.53	0.55	0.55	0.56	0.59	1.20

Note: Percent change for Lazio and Veneto is computed for a base year of 1871.

Figure 4: Fertility Trajectories ( $I_f$ ) for Selected Regions, 1864 to 1961

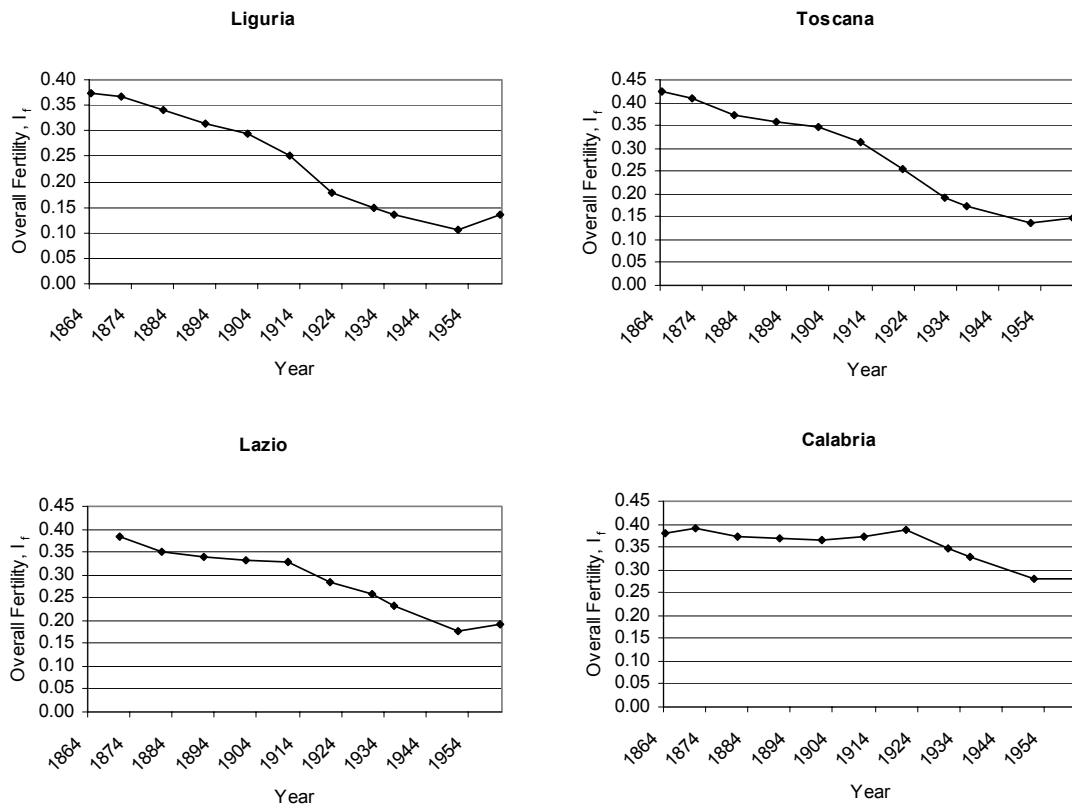


Figure 5:

Italian Regional Fertility (If) for Selected Years, 1864 to 1961

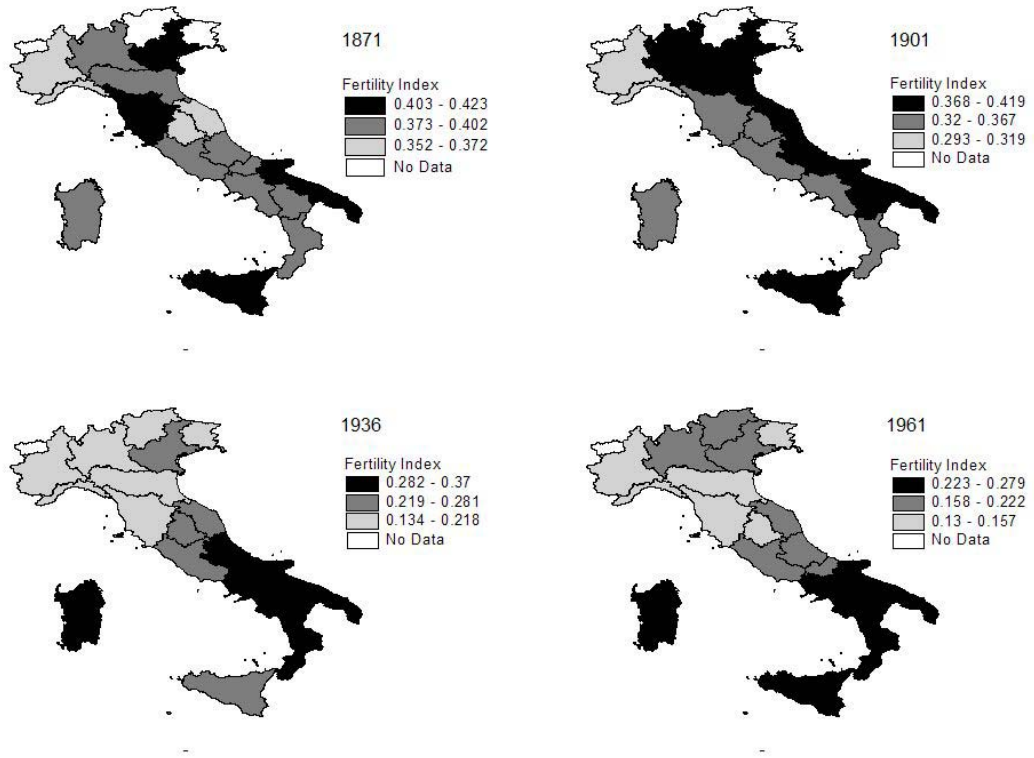
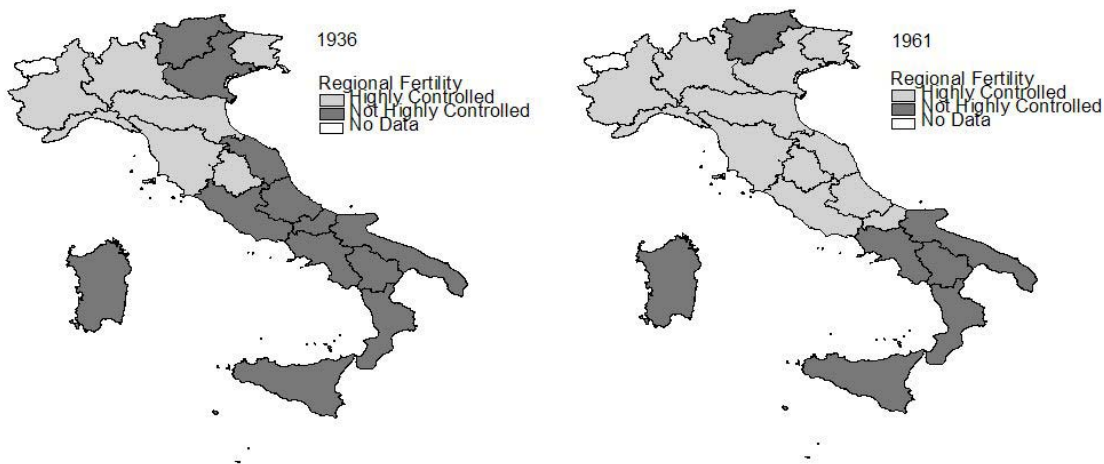


Figure 6:

**Regions with "Highly Controlled Fertility", 1936 and 1961**



**Figure 7: Coefficient of Variation for Marital Fertility ( $I_g$ ), 1864 to 1961**

