No. 8
December 2017

# Women's labor force participation in Italy, 1861-2016

by
Giulia Mancini

HHB | WORKING PAPER SERIES

hhbproject.com

**HISTORICAL HOUSEHOLD BUDGETS**
**WORKING PAPER SERIES**

HHB working papers are circulated for discussion purposes. They have not been peer-reviewed by external referees or been subject to the review by the HHB Advisory Board.



Comments are welcome and may be sent to info@hhbproject.com.

---

*Please cite this paper as:*

Mancini, G. (2017), 'Women's labor force participation in Italy, 1861-2016', *HHB Working Paper Series*, No. 8, December 2017, Rome.

---

HHB Project
Via Columbia, 2
00133 Rome
Italy
http://hhbproject.com/

# Women's labor force participation in Italy, 1861-2016

Giulia Mancini[1]
PhD candidate
University of Rome 'Tor Vergata'

December 2017

**Abstract**

The economic history of women in Italy is still very much in its infancy. Not only there are few quantitative historical interpretations that explicitly include women, but there is also close to no evidence on many key variables describing women's evolving economic role, wellbeing, and inequality relative to men throughout the country's history. This paper takes the first step toward filling this gap: it builds a new time series of female labor force participation for post-Unification Italy, that adjusts census-based estimates using both aggregate and micro-data from alternative sources, including historical household budget surveys. Women's work before the Second World War was more pervasive than previously thought, and female labor supply has a decidedly asymmetric U-shape throughout Italy's history. These findings prompt new questions on the consequences of economic development on women's wellbeing in Italy.

**Keywords:** gender; female work; labor force participation; Italy; marriage records; INEA; historical household budgets.
**JEL classification:** J16, J22, N34.

[1] **Acknowledgements:** I am grateful to Leandro Conte, Giovanni Federico, Stefano Fenoaltea, Massimiliano Spina and Giovanni Vecchi for their helpful suggestions and precious insight. I also wish to thank Stefano Chianese for sharing his data and suggestions.

## 1 Introduction

Italy's female labor force participation rate, 51%, is currently the third lowest among OECD countries, after those of Turkey and Mexico (OECD 2017a). The gap between men and women's participation is, at 20 percentage points, among the largest in high-income countries. A gendered division of tasks among work and family responsibility is apparent in market working hours (one-third of Italian working women works part-time compared to 8% of men, against the OECD average of 20% and 10%; OECD 2017b) and time use (according to time use survey data, the average Italian woman spends about 200 minutes per day doing paid work, and 320 doing unpaid work – an aggregate which includes a range of activities such as cleaning, cooking, washing, doing repair work, but not time spent caring for children and other family members – while the same breakdown for men is 350 versus 100; OECD 2017c). Available estimates of "adjusted" wage gaps[2] show that the work of women in Italy is among the most poorly remunerated in the European Union, relative to the work of men (Pissarides et al. 2005: 76; Olivetti and Petrongolo 2008: 650; Zizza 2013).

These statistics paint a grim picture of women's social and economic role in Italy. However, the remarkable developments that brought Italian women closer to their male counterparts in recent decades cannot be ignored. Progress in gender equality has been marked by legislative milestones in the 1960s and 70s – divorce and abortion laws are the most cited (Willson 2009), but the reform of family law ("diritto di famiglia"), the abolition of protective employment legislation penalizing married women in the workplace, the introduction of public childcare, are also important – and has appeared in many aspects of women's lives. Gender gaps in secondary and tertiary education have closed, and today women in Italy, as in most OECD countries, are more educated than men: in 2015, educational attainment among women was 8 percentage points higher

[2] International comparisons based on the so-called "raw" gender wage gap (computed by the OECD as the difference between median earnings of men and women, as a percentage of median earnings of men, across the sample of all full-time workers) are biased by two phenomena: first, women and men tend to have different job-relevant skills (such as work experience or education) and perform different jobs, a fact that is ignored by a comparison of raw means or medians; second, the way women self-select into employment matters: in countries with low female labor force participation, it is typically women with greater potential for high wages that end up joining the labor force, while women who would earn lower wages simply do not "show up" in computed averages, because they are not active (Gronau 1974; Heckman 1974, 1979). The so-called "adjusted" wage gap is obtained after correcting for such biases. The effect of the correction can be considerable: the raw gender wage gap in Italy was among the lowest in the European Union, 5.6%, in 2014; for comparison, raw gaps in Sweden and Iceland were both close to 15% in the same year (OECD 2017d).

than among men for tertiary education, and 4 percentage points higher for secondary education – and the scales are likely to tip even more in favor of women in the future, as the same gap reaches 7 percentage points among 25-34 year olds. According to OECD's Programme for International Student Assessment (PISA) tests, Italian girls outperform boys in reading ability, while they are still slightly behind in mathematics performance (OECD 2016).

There is no lack of attention to questions about advances and delays on the path toward gender equality, in Italy and elsewhere. After a surge of interest among economists in modelling gender-specific choices and outcomes, pioneered by Jacob Mincer and Gary Becker in the 1960s (Mincer 1962; Becker 1965), a rich economic literature has studied innumerable aspects of women's lives and of gender inequality.[3] As a result, the last 50 or 60 years of Italian women's setbacks and achievements have been analyzed at length. The roles played by cultural norms and social policy in shaping Italian women's slow-growing employment and hours worked have been highlighted by, for instance, Del Boca (1988), Saraceno (2003), Del Boca and Giraldo (2013); particular attention has been devoted to the role of childcare policies (Del Boca and Vuri, 2007; Knijn and Saraceno, 2010). Extensive work has been done on gender wage gaps in Italy, their evolution over recent decades (Mussida and Picchio 2014a) and their determinants, such as job mobility (Del Bono and Vuri 2011) and education (Addabbo and Favaro 2011; Mussida and Picchio 2014b). Other aspects of gender inequality, such as the presence of women in Italian politics, have been explored through the lens of gender quotas (Baltrunaite et al. 2014). Patterns of family formation and their impact on the lives of Italian women have also received attention (see, among many contributions, Saraceno 2015). Alesina and Ichino (2010), among others, have addressed gender differences in time allocation and unpaid work, and their consequences on measuring the living standards of Italians.

[3] A few of the contributions that take stock of this literature are Pollak (2002), and Heckman (2015), who offer a survey of theoretical critiques and extensions of Becker and Mincer's work; part III of the textbook by Blau, Ferber and Winkler (2016) gives a comprehensive overview of the evidence on gender gaps in labor market outcomes and their drivers; Croson and Gneezy (2009) review findings on gender differences in preferences from the experimental literature; Duflo (2012) surveys the literature on the two-sided relationship between women's empowerment and economic development; Olivetti and Petrongolo (2017) draw on cross-country studies and the impact evaluation literature to review the evidence on the effect of family policies on gender outcomes in high-income countries.

The many interconnected phenomena mentioned above are part of a rich and complex history. The impression that rapid change has been limited to recent decades, and that time trends of women's outcomes have been *monotonic* – as suggested by the economic literature and its focus on the recent past – is dispelled by the complexities of the long-run, apparent in the work of economic historians. Many scholars have explored the historical roots of the changes that radically transformed women's lives in Europe and the US after World War II. Claudia Goldin's economic history of American women (Goldin 1990) paints a uniquely comprehensive picture of the long-run changes in women's economic role over more than two centuries, and remains enormously influential, having inspired much of the subsequent work on women and economic development. The works of Joyce Burnett, Jane Humphries, Sara Horrell, Deborah Oxley, and many others have enriched the long-standing debate on the consequences of industrialization on the living standards of the working class, putting questions about British women's experiences during and after the industrial revolution front and center (Horrell and Humpries 1995, Horrell and Oxley 2012, 2013). France can count on the detailed overview of historical statistics, curated by Claude Diebolt and Faustine Perrin (2016), which recounts the evolution of countless dimensions of the gender gap since the beginning of the 19$^{th}$ century.

What is the state of our long-run knowledge in the case of Italy? Contributions in the field of women's economic history in Italy remain few and far between, and most of the available information, valuable as it is, comes from research efforts for which women are not the main focus, but rather a digression, or an obligatory stepping stone toward the construction of a population aggregate. This is the case for the literature touching on women's work in Italy, which is discussed in section 2 of this paper; for the most recent compendium of historical statistics compiled by the Italian Statistical Office (Istat 2011a); for wide-ranging syntheses of Italian economic history (Ciocca and Toniolo 2004, Toniolo 2013); for extensive works on dimensions of the wellbeing of Italians (Vecchi 2017). Recent research has reconstructed and examined new quantitative evidence that adds to our knowledge of Italian women's history. Bertocchi and Bozzano (2015) investigate the determinants of gender gaps in education in Italian regions since Unification, focusing on family structure as a proxy for gender roles; Ciccarelli and Weisdorf (2016) reach further back in time, and construct a series of literacy rates for men and women at the province level that covers the period from 1821 to 1911;

Martinelli and Federico (2016) present new evidence on the prevalence of female work in different types of agricultural production in 1930s Italy, contributing to the debate on the agricultural origins of gender roles (Alesina et al. 2013). Despite the precious insight gained from this research, our knowledge remains incomplete, in terms of both *facts* (quantitative long-run evidence on the most relevant aspects of women's experience within Italian society) and *interpretations* (readings of long-run trends that are informed by economic theory, and connected to the wider context of Italy's economic development).

This state of affairs is due, in part, to the complexity of the task at hand. The economic history of women "is tied, as is each woman, to the home, the family, the process of socialization" (Goldin 1990: vii): its interdisciplinary nature requires the examination of a variety of dimensions and quantitative indicators – a challenge that is only heightened by a scarcity of data for the less recent past.

In this paper, I focus on one of the most fundamental and informative indicators of women's position in the economy and in society, of their distance relative to men, and of their emancipation: their participation to the labor force. This paper revisits what is known about the long-run dynamics of female labor force participation, by offering a first-time empirical assessment of existing corrections of estimates from population censuses; and it constructs a new, adjusted series for post-Unification Italy, drawing from an eclectic collection of sources that includes historical household-level data.

The paper is organized as follows: Section 2 discusses the problematic nature of historical measures of women's work, offering a summary and a critique of the available evidence on women's labor force participation in Italy since 1861. Section 3 builds a new long-run series of female labor force participation for Italy. Section 4 concludes.

## 2 Women's labor force participation in Italy since 1861: what we know

### 2.1 "Off the record": A critique of historical measures of women's work

Labor force participation is among the most relevant measures of women's economic position, and, indirectly, women's wellbeing. It describes transforming gender roles as

families shift away from the "male breadwinner" model, it is a measure of economic opportunity, and comparing it across genders gives important insight into the difference between the social and economic roles of men and women. The challenge faced by economic historians in many countries is that of reconstructing long-run series of female labor force participation that are comparable across time and space, with the ultimate goal of "evaluating the impact that economic development has had over long periods on the economic and social roles of women" (Goldin 1990: 14).

Such a reconstruction exercise is fraught with measurement challenges. In Italy, as in most countries, population censuses are the main source for nationally representative figures of labor force participation going back to the 19th century. Census-based labor force estimates – virtually all of them, not only Italian ones – need to be handled with care, for at least two main reasons.

First, the very concept of "labor force" has a history of its own, and its modern incarnation, now the standard for economists, social scientists and statistical offices around the world, is only the latest in a succession of definitions changing across countries and over time. Modern labor force statistics are constructed on the basis of the standard set by the International Labour Organization (ILO).[4] The ILO defines the labor force as comprising all persons of working age[5] who, over the course of a specified brief period, such as one week, are either employed or unemployed. The employed population comprises persons employed, at work (*i.e.* who worked for at least one hour *for pay or profit* in the short reference period) and persons employed, not at work (*i.e.* who had a job but did not work in the short reference period due to temporary absence from the job); the unemployed population comprises all those of working age who were not in employment, carried out activities to seek employment in a recent period (such as the previous 4 weeks or month) and were currently available to take up employment (in the reference period or within a short subsequent period not exceeding two weeks in total). In turn, the labor force participation rate is the proportion of persons in the labor force over the total working age population. The labor force participation rate is, therefore, a measure of labor supply, designed to capture whether individuals choose to

[4] The most recent standard has been set by the 19th International Conference of Labor Statisticians, Geneva, October 2013 (ILO 2013).

[5] The working age population includes all persons in the population above a specified age threshold, conventionally set at 15 years of age. An additional upper threshold of 64 years of age is also common for modern labor force statistics. Country-specific definitions may differ.

engage with a specific and well-defined set of "productive activities", irrespective of whether they ultimately are employed or not.

The earliest version of the modern labor force concept was introduced as an international standard in 1947 by the 6th International Conference of Labour Statisticians (ICLS). Before the Second World War, statistical offices used some version of what was ultimately called, by the 1938 Committee of Statistical Experts of the League of Nations, the "gainfully occupied population": "The Committee defined the concept of gainful occupation as any 'occupation for which the person engaged therein is remunerated, directly or indirectly, in cash or in kind.' (…) The concept captured persons who reported having a particular occupation, trade or profession from which they generated income in cash or in kind, regardless of whether they were actually engaged in that activity" (ILO 2017). The gainful occupation concept – or "gainful worker construct", in the context of the pre-1940s US censuses (Goldin 1990: 14) – was consistent with the way population censuses collected data on people's work, that is, by merely asking individuals to declare their occupation. The active population was therefore quite naturally defined as the proportion of individuals who stated to have an occupation at the date of the interview, after excluding categories that respondents cited as their occupation, but that were not considered "gainful", such as, for instance, "housewife".

Clearly, the two concepts defined above – labor force and gainful work – intersect, but are different. If the census-based series are to be spliced to modern data, the extent to which the two definitions are comparable matters a great deal. Gainful worker estimates potentially overstate or understate the size of the labor force: the direction and size of the bias depend on several conditions. An understatement of the labor force may stem from the treatment of unemployed individuals: someone who was not working, and seeking employment – part of the labor force, by the current definition – would only have been included in the "gainful worker construct" if they claimed to have an occupation, which they may have not. On the other hand, the labor force would be overstated by gainful worker estimates if not all individuals who claimed to have an occupation would be considered "active" by modern standards: that is, they declared their (maybe habitual, or last) occupation, but had not actually performed any work in the recent past, and were not looking to. The direction and size of the net effect is not

predictable, a priori: it depends on the specific context of the labor market at the time of interest, and is, ultimately, an empirical question. In her work on the US censuses, Claudia Goldin concludes, on the basis of alternative sources on the distribution of days worked per year, that the gainful worker and labor force definitions do not produce very different results for the female labor force around the beginning of the 20th century (Goldin 1990: 219-221).

The second, and perhaps most relevant, source of bias of census labor force figures is specific to women. It has to do with the fact that women's work has been systematically undercounted in population censuses and other statistical sources, in many countries and for long periods of time, as documented extensively by historians, archivists, economists and economic historians: Humphries and Sarasùa (2012), from which I borrowed the phrase "off the record" for the title of this section, offer a comprehensive overview.[6]

Why was women's work left "off the record"? One recurring explanation points to the specific types of jobs women typically held, and the fact that those activities soon came to be interpreted as "non-work" by the nascent labor statistics. Women were often employed as "unpaid farmwives, boardinghouse-keepers, industrial homeworkers" (Costa 2000); women's work was frequently comprised of activities performed at home as part of a pre-industrial "domestic economy", often for family gain or in-kind compensation rather than a wage, with irregular working hours. Timing and specific mechanisms differ across countries, but those overwhelmingly female activities seem to have disappeared from population censuses (and, *a fortiori*, industrial censuses) around the turn of the century, with the spread of a different and "modern" concept of work, borne by industrialization, that involved a separation between the home and the locus of production; at the same time, an ideology of domesticity, that cast women's proper place within the "domestic sphere" of the home and the family, was taking hold (Abel and Folbre 1990, Mokyr 2000). These shifts influenced the statistical notions of occupation and work embedded in the census design, in the enumerators' interpretation of responses, as well as people's perceptions of their own roles and activities; and ultimately resulted in the systematic exclusion of some (overwhelmingly female)

[6] See in particular Benerìa 1981 for a pioneering contribution on modern developing countries; Abel and Folbre (1990) and Goldin (1990) for US historical population censuses; Higgs (1987, 1995, 2005), and Horrell and Humphries (1995, 1997) for the British ones.

productive activities from labor force counts, and to the under-reporting of women's work relative to what would qualify as employment today.[7]

The modern concept of employment – which is embedded in the ILO definition of labor force – is closely linked with the System of National Accounts (SNA) production boundary (ILO 2013); such a link ensures consistency between estimates of total labor input and total value of production. The SNA production boundary includes all production of goods and services actually destined for the market (whether for sale or barter), and all production of goods for the household's own use – but excludes all production of *services* for own final consumption within households (except for the services produced by employing paid domestic staff)[8] (2008 SNA: 6).

This implies that, for the modern definition of employment, full-time waged work is, as undisputedly as ever, classified as work; but so is a wide range of unpaid, informal, and occasional activities, which may have been previously excluded.[9] Women contributing to work on the family farm, occasionally producing goods for sale or barter, taking in boarders and lodgers, and so on, would, by the modern standard definition of labor force, (mostly) be counted as workers – although even today, compliance with these guidelines is not easy, given the challenges of collecting data about subsistence, intermittent and informal work (Benerìa 1992).

The phenomenon of underreporting of women's work is a compelling example of how culturally determined ideas on what society ought to be impress themselves onto data

[7] The idea that the women's activities were inherently different with respect to men's, and that this separation was primarily responsible for the underreporting of women's work around the turn of the century, has been challenged, in part, by evidence showing that men's and women's jobs and employment histories may have not been, in fact, so different. Seasonality, irregular hours, and blurred lines between work and home production were also features of men's work in pre-industrial societies (Atkinson 2012; Schmidt and van Nederveen Meerkerk 2012). According to this view, gendered assumptions about "proper" economic roles within the family contributed to adult men being systematically counted as "workers", while women were not, even when the activities performed were in fact quite similar (Humphries and Sarasùa 2012); for instance, some of the nineteenth-century British censuses purposefully omitted to report occupations of married women or young daughters, deeming the information irrelevant (Horrell and Humphries 1995).

[8] Unpaid care and domestic work performed within the family, mostly by women (production of services for the household's own consumption) has never been part of official labor force counts or national accounting statistics, "because it was defined as falling outside of the economic realm, unless performed as some form of remunerated activity" (Benerìa 1992). Whether it *should* be excluded from the definition of those statistics is another, very relevant matter, which will not, however, be tackled here.

[9] The nature of activities related to the production of goods *primarily* for the household's own consumption is somewhat disputed. The most recent ILO guidelines suggest that "own-use production work" (*i.e.* activities performed to produce goods or provide services intended for final use by the producer, their household and/or family) should not be included in employment counts, although it should be recorded and monitored as a separate indicator (ILO 2013).

and statistics. The concepts and ideas of what "real" work was, and what the "proper" roles of men and women were, ended up shaping the evidence that has been passed on to us, that we now interrogate in search of an objective picture of what life was like for men and women in the past. If the biases outlined in this section – one due to a definition of activity based on "gainful occupation", the other due to a narrow and gendered definition of work – are sizable, any analysis relying on census-based estimates of the female active population runs the risk of being based on a measure that is not comparable to the modern concept of labor force. Analyses of the female labor force in a single country at a given moment in time may thus be incorrect, and, to the extent to which biases are not identical over time and across space, both cross-country and over-time comparisons may be distorted. Therefore, it is important to assess and, if possible, correct distortions in census-based estimates of the female labor force.

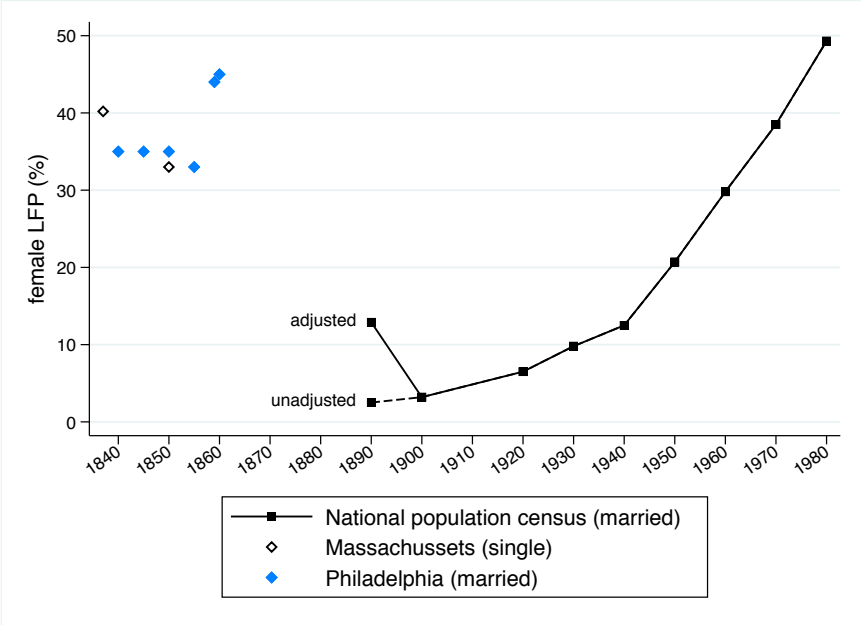
Several attempts have been made in this direction. For the UK, Higgs's (1987) seminal work adjusted census figures from 1851 to 1901, attempting to remedy a few biases, including the undercounting of female agricultural workers; in a more detailed study of women's work in agriculture, Higgs suggested (on the basis of admittedly "heroic assumptions") that the level of the shortfall may be considerable, prompting an inflation of the size of the female workforce in agriculture by as much as a factor of 5 in 1871 (Higgs 1995). More recently, Higgs revisited these findings, largely toning down earlier assertions on the unreliability of the census as a source for studying women's work in 19$^{th}$ century England (Higgs and Wilkinson, 2016). Horrell and Humphries (1995), based their analysis of women's labor force participation on family budgets found in the works of contemporary social commentators, Parliamentary Papers, working-class autobiographies, and similar sources, but focused on a period that predates the British population census. The limited overlap between their estimates and those from the census, in the years between 1850 and 1865, imply that the bias might have been small – compare with Mitchell (2007).

For the French population censuses, the principal source for a homogeneous series of labor force participation is the work by Marchand and Thélot (1997). Among the proposed adjustments is a revision of worker counts before 1896 to correct for over-estimation of some activities and under-estimation in others, especially for women, although the revision ultimately deflates the participation rate for women, due to the

peculiarities of data collection for early French censuses (Diebolt and Perrin 2015). In Spain, the undercounting of women's work in population censuses and other official statistics has been remarked by many (Camps 1995; Pérez-Fuentes 1995; Arbaiza, 2000; Gàlvez-Muñoz 2000; Borderìas 2003; Sarasùa and Gàlvez-Muñoz 2003), and has prompted several attempts at revising official figures in selected municipalities or regions in the late 19th century, taking advantage of surviving census enumerator books (see for instance Borderìas 2013; Muñoz-Abeledo 2012).

In perhaps the most notable contribution, Goldin's work on American women, the correction of census estimates, together with the recovery of a few pre-census snapshots of women's work in limited parts of the country, were integral to her "discovery" and discussion of a U-shaped relationship of female labor supply and economic development in American economic history (further developed in Goldin 1995). Figure 1 illustrates this finding. Goldin focused on adjusting the 1890 census figure for married women, taking advantage of extra-census nationally representative surveys, as well as an in-depth study on unpaid family workers included in the 1910 census (Goldin 1990: 219). Supplementing existing census figures with estimates of the number of working women in three omitted categories – boardinghouse keepers, unpaid family farm laborers, and manufacturing workers not included in the population census – led to an increase in labor force participation of non-single women from less than 3% to about 12%, which would constitute a lower bound to the total figure (Goldin 1990: 227).

**Figure 1. US labor force participation rate (%), white women 15+**




Source: Author's elaboration from Goldin (1990: 17) (unadjusted figures), Goldin (1990: 44) (adjusted figure), Goldin (1990: 46-54) (pre-1890 figures). Pre-1890 figures refer to sources external to the national US population census: city and business directories for the city of Philadelphia, from 1791 to 1860, and manuscripts of the US censuses of population for 1790, 1820, 1860, also for Philadelphia (see also Goldin 1986); and the Massachussets manufacturing censuses (Goldin 1990: 50).

What is most remarkable about the adjustment of the 1890 census estimate is that it allowed the non-monotonic shape of female labor supply over time, of which there was no nationally representative long-run evidence up until then, to emerge. This was a new historical pattern, that changed the way quantitative history of women ought to be told, and a testimony to the importance of correctly measuring women's labor supply. Goldin found it not viable to try to reconstruct a nationally representative series of female participation going further back, but the validity of the U-shape was corroborated by smaller scale studies, based on the Massachussets manufacturing censuses (1840-1850) and the Philadelphia population censuses (1840-1860), which both implied female labor force participation rates several times higher than those at the nadir of the U (Goldin 1990: 46).

Why is female labor force participation U-shaped across the process of economic development? Goldin built her explanation upon observations by development economists (citing, among others, the seminal work by Ester Boserup, 1970), and formalized it with a choice theoretic model of time allocation. Her reasoning can be

summarized as follows: at low levels of national income and when the economy is predominantly agricultural, women's labor force participation rate is high; their work may be salaried, but most often they are "unpaid workers on family farms and in household businesses, often doing home workshop production" (Goldin 1995). At the onset of industrialization, as incomes rise, the combined effect of sectoral transformation (the home-based pre-industrial and agricultural economy giving way to factory-based industrial production), social norms stigmatizing married women who work outside the home in nascent blue-collar jobs, and women's limited education opportunities (that make it difficult for them to keep up with more skilled jobs), drive women out of the labor force. Their time is employed in the production of services for the family (the range of care and housework activities which are outside the definition of labor), as men make the transition to blue-collar jobs and higher wages. This is the decreasing portion of the U. This process is associated with a low wage elasticity of female labor supply, as the income effect dominates the substitution effect in women's time allocation choice. Women then move back into the labor force at a considerably more advanced stage in economic development, responding to, again, a combination of sectoral transformation, shifting social norms, and changing education opportunities. As the process of development unfolds, an increasingly prevalent service sector brings about non-stigmatized, white collar jobs that, thanks to the rise of mass education, are accessible to women: this is the increasing portion of the U.[10] The wage elasticity of female labor supply increases, as the substitution effect comes to dominate the income effect.

Evidence that aggregate female labor supply is non-monotonic throughout history, if not decidedly U-shaped, is available for countries other than the US, even in the absence of any correction for the underreporting of women's work: Luci (2009), Lundberg (2010), Olivetti (2014) and Olivetti and Petrongolo (2016) document patterns in long-run series of female labor force participation for large panels of countries.

In contrast to the changing nature of the female workforce, men's labor force participation rates exhibit a mild long-term declining trend throughout history (Juhn and Potter, 2006; Blau, Ferber and Winkler, 2016). The non-monotonic shape of female

[10] Other factors, like changes in fertility and the introduction of labor-saving home production technologies (the "engines of liberation" of Greenwood, Seshadri, and Yorukoglu, 2005) work in the same direction, but do not take center stage in Goldin's model.

participation depicts the massive changes that have transformed women's lives in the last century and a half, and does away with the assumption that their history is but a delayed and accelerated version of men's experiences. It is evidence for the idea that economic development has complex consequences, and may temporarily reduce women's economic opportunities rather than unequivocally improve their position – a facet of the long-standing debate on the consequences of what is variously described as industrialization, modernization, transition to capitalism, or development, on women's emancipation – see Thomas (1988) for a review.

To the extent that corrections of the underreporting of women's work in demographic censuses help recover the true shape of the female labor force participation series, they contribute to our understanding of the timing and magnitude of the abovementioned transformations. In fact, correcting for underreporting does not necessarily accentuate the U-shape of female LFP, as is the case for the US. The effect of the correction depends on the magnitude of underreporting, but also on its timing, relative to the timing of industrialization.

Female labor force participation in the US hit its minimum early, relative to other countries, just at the onset of nationally representative censuses, so that most of decline of female labor supply – the decreasing portion of the U – remains undocumented by censuses. It is the rising portion of the U that appears in census figures, so that underreporting issues are less relevant, except at the very beginning of the series, when Goldin's correction inverts the trend of the series. In most other countries, the decline of female labor supply happened later, was documented by population censuses, and coincided with the time that underreporting of women's economic activities became rampant. In this case, the underreporting bias acts in the same direction as the true trend, and compounded it: in other words, the *apparent* decrease of the female workforce, due to the undercounting of female workers, piled onto the *genuine* one, due to economic phenomena. Correcting the census figures would, in this case, flatten the U rather than accentuate it: the effects are not, a priori, predictable.[11]

[11] Humphries and Sarasùa (2012) raise the doubt that the U-shape might even turn out to be a "statistical artifact". However, both pioneering work on the British censuses (Davidoff 1979, Walton and P. McGloin 1979, Higgs's 1987) and more recent small-scale studies on England and other countries, that the authors review in the same paper (Atkinson 2012, Borderìas 2013, Grantham 2012, Munoz Abeledo 2012, Pérez-Fuentes 2013, Schmidt and van Nederveen Meerkerk 2012, Zucca Micheletto, 2013…), lead them to

## 2.2 Women's work in the Italian population censuses

Estimates of women's labor force based on the Italian demographic censuses do not escape the two main measurement challenges detailed in the previous section: the changing definition of labor force over time, and the underreporting of women's work. This section is devoted to summarizing the available information on these two types of bias in the Italian case, before the rest of the paper goes on to focus on ways to overcome them.

First, the changing definition of labor force. A survey that measures the labor force based on a modern definition (one akin to the current ILO standard) exists in Italy starting from 1952, when the Italian Statistical Office launched the first nationally representative labor force survey, or *Rilevazione sulle Forze di Lavoro* (Istat 2011a). Before then, Italian demographic censuses did not have a fixed conceptual framework for reported labor force counts: nomenclatures and definitions for the notion of the "total number of workers" continually changed, although even the *Rilevazione* went through several changes, reflecting the transformations of Italian society (Gnesutta, 2000). However, the enumeration of people who declared to have an occupation was always the foundation of whatever aggregate was presented, similarly to the "gainful worker construct" of US censuses. The extent to which these varying definitions undercount or overcount workers with respect to the modern concept of labor force has not been directly investigated with reference to female workers in Italy. A fair amount of attention has been devoted to the issue of how the early censuses may have categorized the unemployed: as the very concepts of "unemployment", "activity" and "inactivity" were solidifying around the turn of the century, unemployed individuals may have been variously categorized in the early censuses, either among those having, but temporarily not exercising, an occupation, or among different types of "non-professional conditions" (Alberti 2015). Given the information available, it is close to impossible to exactly quantify the extent to which the unemployed have been excluded from labor force counts, except for specific categories, such as individuals in search of first occupation, who do not appear in Italian census-based figures as a separate category until 1961 (Istat 2011a).

---

ultimately concede that the U most likely exists, even when corrections "mute" the concavity of the curve.

The first thorough examination of how the definition of labor force has changed throughout the history of Italian censuses can be found in the pioneering work of statistician Ornello Vitali, who implemented numerous adjustments to the census labor force series, in order to make its definition consistent over time (Vitali 1968, 1970); an updated account of these changes can be found in the Labor Market chapter of the 2011 *Sommario di Statistiche Storiche* (Istat 2011a). Up to 1931, censuses report counts of the so-called "population holding a professional position" (*popolazione in condizione professionale*). It is the number of people that indicate activities seen as a "profession", "actual" work, as their occupation (even though both the occupational designations used and their inclusion or exclusion from the concept of *condizione professionale* are based on criteria that vary over time and are not explicitly stated).

The definition of active population (*popolazione attiva*), is explicitly formulated for the first time in the census of 1936, [12] and does not stray from the "gainful worker" concept. The definition changes in the next census, carried out in 1951:[13] most notably, the first mention of the unemployed as part of the active population appears. The definition is even more precisely stated in 1961, without changing conceptually;[14] the same could be said for the census of 1971.[15] With the census of 1981, there is an increased effort to

[12] "La popolazione attiva comprende i censiti presenti in età di dieci anni e più esercitanti una professione, arte o mestiere, compresi, quindi, i coadiuvanti del capofamiglia, o qualsiasi altro membro della famiglia. Sono pure compresi i militari di leva secondo la professione esercitata prima della chiamata alle armi. Sono esclusi i censiti di condizione non professionale (compresi in questi anche i pensionati, possidenti, benestanti) o senza indicazione di professione o in attesa di prima occupazione". See Vitali (1968, p. 11): the definition appears in ISTAT, VIII Censimento Generale della Popolazione, 21 aprile 1936 – fascicoli provinciali.

[13] "La popolazione attiva è costituita dai censiti in età da 10 anni in poi esercitanti una professione, arte o mestiere. Sono compresi nella popolazione attiva anche i disoccupati, i militari (di leva, volontari e richiamati), i ricoverati temporaneamente in luoghi di cura o di assistenza, i detenuti in attesa di giudizio o condannati a pena inferiore a 5 anni e i confinati, per tutti i quali è stata considerata l'ultima attività professionale esercitata, rispettivamente, prima della disoccupazione, del servizio militare, del ricovero, della detenzione, del confino". See Vitali (1968, p. 11): the definition appears in ISTAT (1951), Dati sommari per Comune.

[14] "La popolazione attiva è costituita: *a)* dai censiti in età di 10 anni in poi che alla data del censimento risultavano esercitare una professione, arte o mestiere, in proprio o alle dipendenze altrui, ivi compresi i coadiuvanti; *b)* dai censiti in età di 10 anni in poi che alla data del censimento risultavano disoccupati, cioè coloro che, avendo perduto una precedente occupazione, erano alla ricerca di una nuova occupazione; *c)* da altre categorie di censiti in età di 10 anni in poi temporaneamente impediti a esercitare una precedente professione, arte o mestiere. A quest'ultimo tipo appartengono i militari (di leva, volontari e richiamati), i ricoverati temporaneamente in luoghi di cura o assistenza, i detenuti in attesa di giudizio o condannati a pena inferiore a 5 anni, *d)* dai censiti in età dai 14 anni in poi in attesa di prima occupazione. Le categorie dei censiti di cui alle lettere *a)*, *b)* e *c)* costituiscono la popolazione attiva in condizione professionale". See Vitali (1968, p. 11): the definition appears in ISTAT (1961), Dati sommari per Comune. Dati riassuntivi nazionali.

[15] "La popolazione attiva è costituita: *a)* dai censiti in età da 14 anni in poi che alla data del censimento risultavano esercitare una professione, arte o mestiere, in proprio o alle dipendenze altrui, ivi compresi i

enhance comparability between census and labor force surveys: for the first time in the history of the Italian censuses, an individual's labor market activity status, rather than being inferred from their reported occupation, is decided on the basis of the response to a dedicated question with a set choice of answers (which includes unemployment and various categorizations for inactivity); the questions related to labor force and occupational status also make explicit reference to the week prior to the interview, rather that implicitly referring to people's "habitual" status, as they did up to that point. After marginal changes in 1991, the 2001 census makes the next significant step in the direction of comparability: both the census and the labor force survey introduce the same refinements to the definitions of employment and unemployment, in keeping with international guidelines for labor force statistics[16]. The same framework has been maintained by the 2011 census (Istat 2011a).

Much of Vitali's fundamental work on Italian censuses aimed at constructing, for each census since 1881, a consistently defined labor force aggregate, harmonized to the 1961 definition and classification of activities, and to modern national and regional boundaries. For the purposes of this paper, Vitali's work resolves the issue of consistency of the definition of labor force in Italian censuses, up to 1961. Differences among the census and the *Rilevazione sulle Forze di Lavoro* will be addressed in more detail in Section 4.

In what follows, the main focus will be on biases and corrections specific to women's work, and their being "off the record" for much of Italian history. Italian population censuses are no exception to the underreporting phenomenon described in the previous section. The problem has been remarked by economic historians for decades. A detailed account of the peculiar issues of each of the censuses carried out during the first 50

---

coadiuvanti; *b)* dai censiti in età da 14 anni in poi che alla data del censimento risultavano disoccupati. cioè da coloro che, avendo perduto una precedente occupazione, erano alla ricerca di una nuova occupazione; *c)* da altre categorie di censiti in età da 14 anni in poi temporaneamente impediti alla data del censimento di esercitare la professione, arte o mestiere, già in precedenza
esercitata. A queste ultime categorie appartengono i militari (di leva, volontari o richiamati), i ricoverati da meno di 2 anni in luoghi di cura o assistenza, i detenuti in attesa di giudizio o condannati a pena inferiore a 5 anni, i quali a seguito del sopravvenuto impedimento hanno interrotto l'esercizio di una attività professionale; *d)* dai censiti in età da 14 anni in poi in cerca di prima occupazione. Le categorie dei censiti di cui alle lettere *a)*, *b)*, *c)* costituiscono la popolazione attiva in condizione professionale". The definition appears in ISTAT (1971), vol. II – Dati per comune.

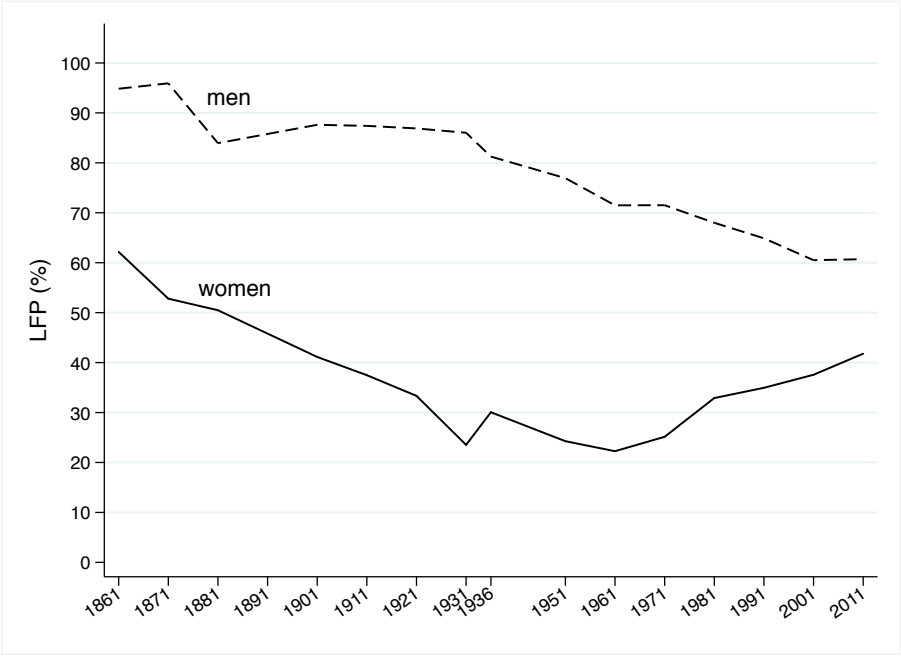
[16] For instance, respondents were considered employed if they worked for pay or as part of a family enterprise during at least one hour in the previous week; they were considered unemployed if they actively looked for work during the previous four weeks and were available for work within the next two weeks. See Istat (2011, p. 452).

years of the Kingdom of Italy, with particular focus on women's work, is given by Patriarca (1998). In her reconstruction, she argues that in the first three post-Unification censuses (conducted in 1861, 1871 and 1881) female activities were not necessarily overlooked: "statisticians operated with a fairly comprehensive notion of the economy, and were concerned to identify all those who participated, no matter in what role or to what extent" (Patriarca 1998: 151). For example, in the 1881 census, if respondents indicated both an "occupation" and a "condition" (such as "spinner" and "housewife"), only the former was to be counted, which allowed for higher visibility of activities that, in the case of women, may have otherwise been interpreted as secondary or occasional. This does not negate the flaws of the first censuses, which even contemporaries did not fail to remark: large regional discrepancies in the percentages of women employed in agriculture, and a dubiously larger manufacturing sector in Southern regions with respect to the North (due in large part to female textile workers engaged in home production) led the writer of the 1861 census summary report to speculate that enumerators had probably failed to use uniform criteria when attributing occupations to female workers, being more "conservative" in Northern regions and more "lenient" in the South.

In Patriarca's telling, at the beginning of the 20$^{th}$ century "the path toward greater accuracy" (the Italian statistical service felt the need to conform to nascent international standards for occupational classifications), and the tension to depict the "modern" economy and its modes of production accurately (rooted in a changing concept of what "modern" meant), triggered an acceleration of the tendency to undercount women's work. In the 1901 census (no census was conducted in 1891), women indicating both an "occupation" and a "condition" were no longer classified according to the former, while men still were; in general, there was a desire to single out industrial occupations, seen as "real" work (in contrast to more informal or home-based work activities), which operated in parallel with presumptions about the prevalence of each type of work across genders. Patriarca remarks that, for the censuses carried out in the 1930s, the Fascist rhetoric about the importance of women's role as mothers and homemakers did not seem to have a significant impact – in either direction – on the classification of women's economic activities, as recorded female labor force participation continued its descending trend.

Figure 2 shows the series of the female and male active population, as reported by the Italian demographic censuses since 1861, *without any adjustments*.

**Figure 2. Unadjusted active population (%) - population censuses, 1861-2011**




Notes: Activity rates are defined as 100*(number of active individuals in age range)/(total population in the same age range). The age range for each point in the series is determined by the census of that year. Censuses of 1861 and 1871 do not indicate any specific age range for the questions on professional condition, but we use the resident population aged 9+ as the denominator; age range for 1881 and 1901 is 9+; age range for 1911-1961 is 10+; age range for 1971-1991 is 14+; age range for 2001 and 2011 is 15+. Regional boundaries have changed throughout the period considered.

Sources: For 1881-1961, we use unadjusted census counts of the active population as reported by Vitali (1970). For the remaining years, we take figures directly from the census reports: for 1861, we define as "active" all individuals except those listed as "possidenti" (rentiers) or "senza professione" (without profession) (MAIC 1861, vol. III); for 1871, we define as "active" all individuals except those listed as "senza professione" (MAIC 1871, vol. III). For 1971-2011, the categorization of the population into "active" and "inactive" is supplied by published tabulations (ISTAT 1971, vol. II; ISTAT 1981, vol. V; ISTAT 1991, vol. I; ISTAT 2001; ISTAT 2011b).

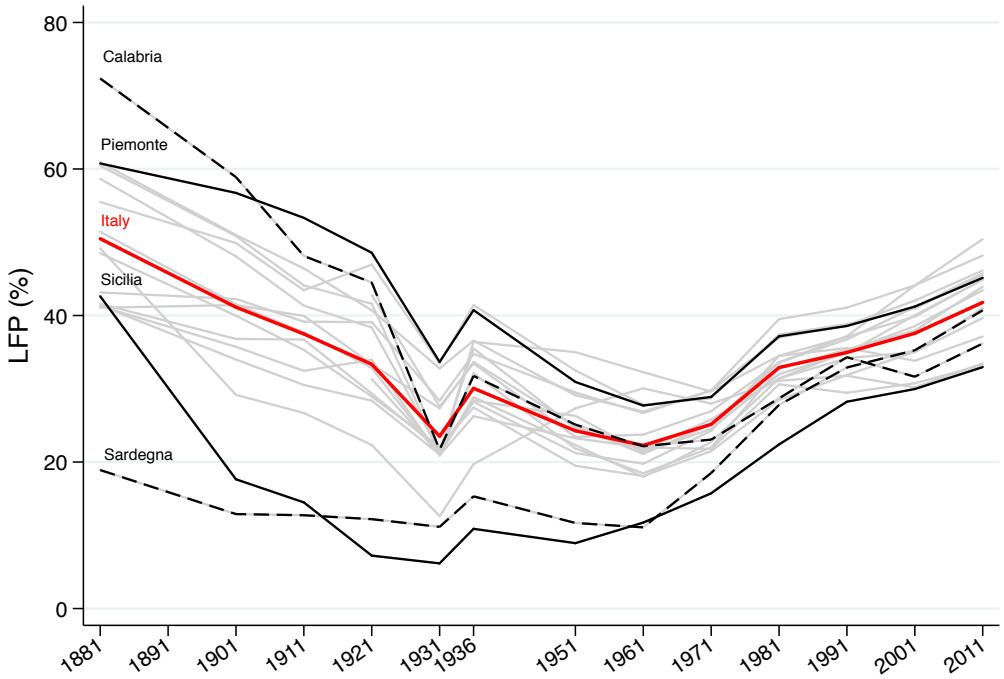
The unadjusted series incorporates all sorts of inconsistencies, not only those discussed in this section, but also a myriad other issues stemming from changes undergone by censuses in their 150-year history: variations of national boundaries, changing age limits for the questions on professional condition, changing criteria for the inclusion of specific categories of the population in the labor force counts (religious and military personnel, individuals in search of first occupation), and so forth (Vitali 1970). On this account, some points in the series are quite visibly anomalous. The first two censuses were not included in the seminal work on the harmonization of census-based labor force

counts, due to "their dubious reliability and scarce detail, at both the sector and the regional level" (Vitali 1970: 3); moreover, the questions on occupational status did not include an age limit for those years, so that comparisons with the rest of the series are inevitably uncertain. The census of 1931 is also clearly problematic for the women's series: Patriarca (1998) notes how "the [1931 census] report (…) put forward a number of possible reasons: factors of a psychological nature (…), fear of taxation and of having to pay dues to the state syndicates or to the mandatory system of social security, and the current economic crisis, which, by creating more unemployment among women, could have induced some of them to describe themselves as housewives. They also suggested that it might have been in part the result of the actual wording of the question about occupation" (p. 157).

Despite the various flaws and inconsistencies that plague the unadjusted census data, and surely generate a distorted measure of labor force participation, the male and female series shown in Figure 2 are not at odds with known stylized facts about secular trends of women's and men's work. Men's participation exhibits a slow secular decline, similarly to the trend described for the US and explained as the result of increased school enrollment, earlier retirement, and, for more recent years, increased unemployment of prime-age men (Juhn and Potter, 2006). The female series, on the other hand, displays a clear U-shape pattern: the level of female labor force participation recorded by the most recent census equals that of 1901. Female LFP hit its minimum in 1961, when it was estimated at 22.3%, while, if we are to believe the first censuses, more than half the female working-age population was active before the beginning of the 20$^{th}$ century. The gap separating the two curves remains large throughout the period, and peaks between the two Wars. These patterns are consistent with the timing of structural transformation of the Italian economy (the reallocation of production among the three major sectors, agriculture, industry and services), which Goldin (1990) points to as one of the main driving forces behind the dynamics of female LFP. Historical reconstructions of sectoral shares of Italian value added show that the service sector began a steady growth after the Second World War, reaching 50% of total value added toward the end of the 1960s, as the share of agriculture sped up its secular decline (Baffigi 2013).

Figure 3 offers a bird's-eye view of the regional variation of unadjusted female activity rates, which is considerable, as is to be expected in a country as internally diverse as Italy.

**Figure 3. Unadjusted female active population in Italian regions (%) - population censuses, 1861-2011**




Notes and Sources: see Figure 2. See the Appendix for the census-based unadjusted female active population by region.

Italian regions seem to have travelled on very different U-shaped paths, in terms of both levels and growth rates. The variance of the series is mostly driven by Southern regions: their LFP rates span from 20% (Sardinia) to 70% (Calabria) at the beginning of the period. Convergence occurs after World War II, when most regional series invert their course, and accelerates after 1971. These considerations should once again be discounted in light of the biases of the unadjusted series. The case of Calabria has been singled out by both contemporary and modern commentators as an example of the unreliability of the early census figures: it seemed incorrect that one of the poorest Southern regions would turn out to be the most "industrial", largely because of the inclusion of women working in the domestic textile industry in census-based labor force

counts, whereas different criteria were likely applied to other Italian regions (Zamagni 1987, Patriarca 1998).[17]

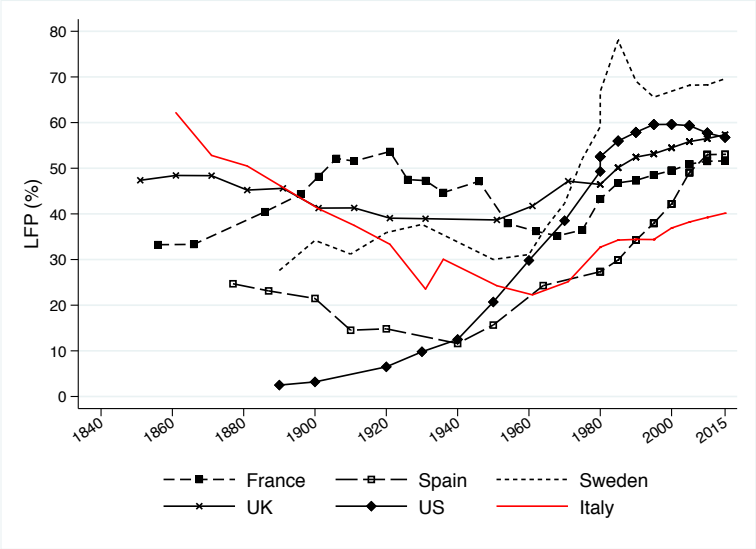
As tentative as they might be at this stage, comments on the long-term trends of female labor force participation cannot be of much use without a yardstick. How does Italy's history compare to that of other countries, in terms of this metric? Figure 4 uses available repositories of international statistics to compare Italy's unadjusted series with data for the US, UK, France and Spain.[18] These comparisons must be approached with caution, as full cross-country and time comparability is practically impossible to reach. Olivetti and Petrongolo (2016), who use the same data to compare long-run trends of the female active population in a large number of countries, note that the rise in female participation is a markedly postwar phenomenon, and in virtually all countries, it did not happen monotonically (the descending part of the U for the US is "hidden"). The U-shape is visible in most countries, with some exceptions, like the more irregular path followed by France.

What is striking about placing Italy in comparative perspective is how relatively quick and drastic the fall of female participation appears, and how weak its recovery. Female LFP is comparatively high in Italy at the start of the period considered, before reaching the bottom of the rank around the early 1960s. Granted, each country is at a different stage of its own U-shape at any given point in time, and rates as high as the one displayed by Italy in 1861 may well have prevailed in earlier periods for other countries. But, while elsewhere in the world the transition from widespread female employment, to women's retreat from the labor market, to regained participation on different terms, seems to have spanned more than one century, the process looks more rushed in the case of Italy. And Italy's position relative to other countries never recovers: its poor record in terms of gendered labor market outcomes has been recalled in the Introduction to this paper.

[17] "Calabria was (and is) the poorest of all the Italian regions, with some tradition in the production of raw silk that in the second half of the XIX century was, however, dying away. Notwithstanding, the population census of 1881 registered 224,002 employees in textiles, of which 99% were women. This raised the share of employment in manufacturing on total to an incredible 36.8%, much more than the 25.6% of Lombardia, and the activity rates to 62.9% (against an Italian average of 52.1%)! (...) The inexplicable fall in industrial activity between the 1881 and 1901 censuses (…) was practically completely due to the behaviour of textiles and, being concentrated in the south, had induced some writers to talk of 'deindustrialization' of the South." (Zamagni, 1987).

[18] Because the source behind Mitchell's (2007) data is, before the 1960s, almost always population censuses, and no adjustment is made for measurement errors related to the underreporting of women's work, we can treat the comparison as one among unadjusted census-based series.

**Figure 4. Unadjusted female active population (%) across countries**

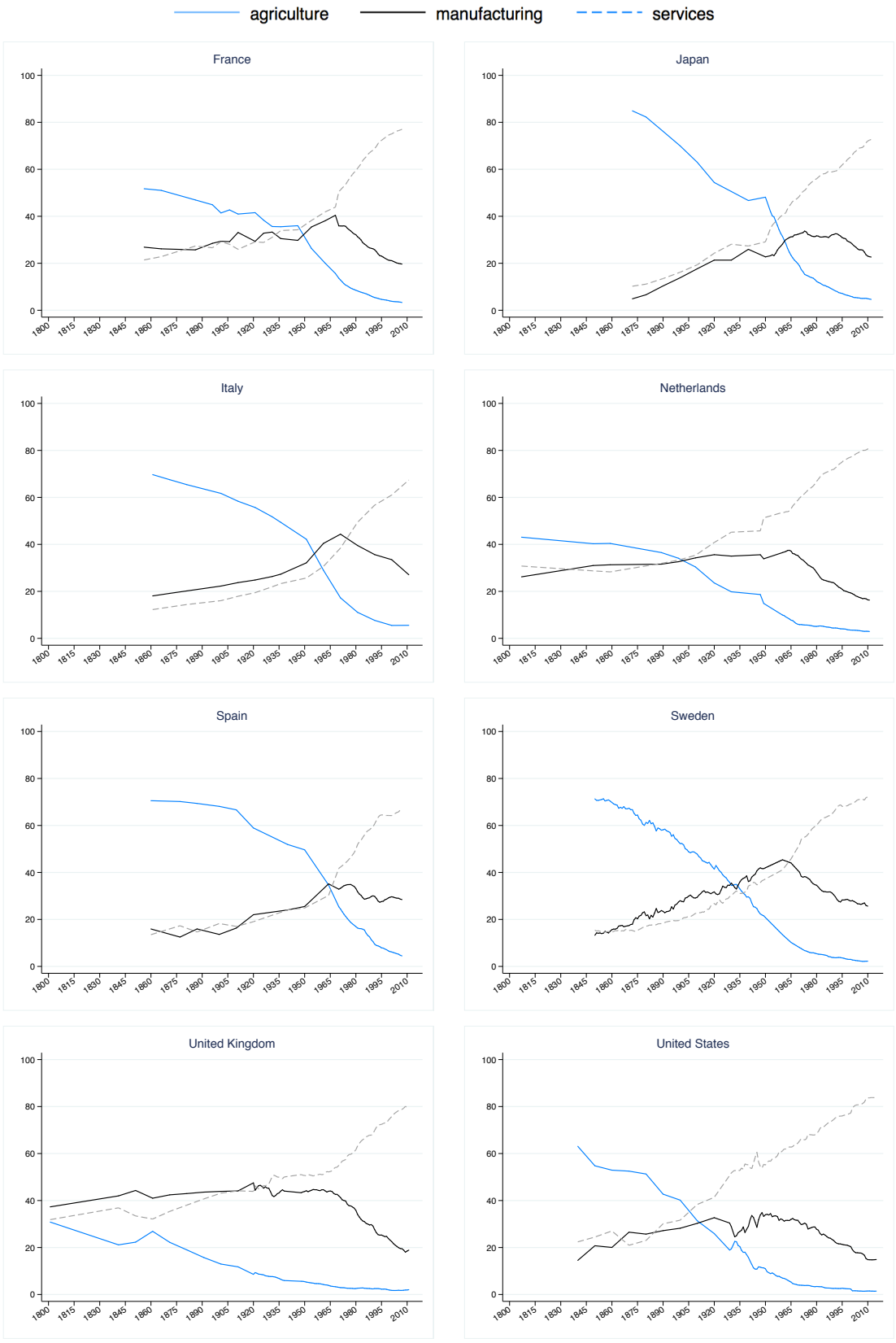



Sources: before 1980: Mitchell (2007), except for Italy, which uses census records (see notes to Figure 2), and the US, which uses unadjusted figures in Goldin (1990). After 1980: 5-year averages of ILO female labor force participation rates (15+).

Could these observations point to an "Italian peculiarity" in the way women's roles and positions in society shifted during the country's economic development? Did Italian women experience an especially gender-biased transition through industrialization, relative to other countries? Another proxy of the process of structural transformation of the world's economies, the evolution of shares of employment by sector in total employment, shown in Figure 5, seems to bolster this conjecture. Italy's pattern of reallocation of workers across the three main sectors does not particularly stand out, when compared to other countries: Spain, Japan, even Sweden display similar developments, in terms of the initial share of agriculture and the takeover of services (save for differences in timing). One is tempted to conclude that the "Italian peculiarity" seen in Figure 4 does not stem from an unusually quick shift away from agriculture, or from a small service sector, as much as from differences in the role that Italian women played within what is, by the metric considered here, a rather typical process of structural transformation.

These considerations are worth investigating further, but considering the flimsy evidentiary basis on which they stand, they are, for now, merely speculative. The Italian labor force series is flawed, perhaps severely. Our picture of the reallocation of the labor force across sectors, of course, underlies the same series. The extent to which the bias in

**Figure 5. Structural transformation (share of employment by sector in total employment)**




Source: Herrendorf et al. (2014).

the census-based measure of female participation is responsible for Italy's place in comparative perspective is unknown. Without an assessment of the direction and size of the bias, based on solid empirical grounds, it is impossible to move forward in the historical analysis of women's work; and reliable estimates of women's labor force participation are necessary to understand the pace and extent of the change of women's role in the economy and in the family in Italian history, and the country's place in international perspective. The following section reviews studies that have attempted to overcome these issues.

## 2.3 A review of adjustments to the census-based series of female labor force participation

During the last few decades, Italian economic history has seen several attempts at correcting the many defects of census-based labor force estimates. The inaccuracies affecting women's recorded participation rates have been addressed as part of the broader problem of arriving at reliable estimates of the total labor force aggregate throughout the history of the country. In what follows, I review what has been produced so far, and compare the different adjusted estimates of female labor force participation to the unadjusted census series.

A preliminary remark should be made about the one of the most well-known compendia of international historical statistics: Mitchell's (2007) collection of indicators includes estimates of labor force participation by gender and sector, which, for years up to the 1960s, are almost entirely derived by Bairoch (1969), whose work is based, in turn, on population censuses. Italy is included in the compendium, and, for what concerns the labor force, counts of the "active population" by gender and by a few main economic sectors are reported. Totals match unadjusted census figures, save for small discrepancies, on which we are not given much information. Mitchell's (2007) International Historical Statistics are therefore a precious source for international comparisons among unadjusted figures, but, if the focus is on Italy, they do not add to what can be gathered from the census reports themselves.

One of the earliest reconstructions of the long-run dynamics of the active population in Italy is proposed by D'Agata (1968), a high-level official at Istat, involved in the debates on the measurement of the labor force around the time the *Rilevazione sulle*

*Forze di Lavoro* was started (Gnesutta, 2000). His work is mainly aimed at creating a series of labor force participation consistent with the 1951 census's definition of "active population", and at interpolating it for inter-census years. His reconstruction does not address the particular measurement issues related to women's activities, but deserves to be mentioned in this review, because it does provide a breakdown of the active population by gender for all census years up to 1961, and, most importantly, because it is the series that Istat relies on in its most recent compilation of long-run statistics (Istat 2011a). The author includes a very limited discussion of the methodology at the basis of the reconstruction: "All pieces of information needed to classify the population in the two groups, active and inactive, have been gathered from the Italian demographic censuses conducted between 1861 and 1961. For the sake of comparability, the number of active and inactive individuals has been determined based on the criteria adopted by the 1951 census" (D'Agata 1968: 219). By modern standards, this description is insufficiently detailed. In fact, D'Agata's series has not been assembled for the purpose of being used as the reference series of labor force participation in Italy, and is not often referenced in the economic history literature.

The work of statistician Ornello Vitali, published only slightly later, is a milestone in this line of study. Italian economic history has relied time and time again on his painstaking work, which harmonized Italian census-based labor force estimates, carefully adjusting for a number of large and small inconsistencies, and offering a consistent series of the labor force aggregate by sector of activity, region and gender (Vitali 1968; 1970). His analysis excludes the first two censuses of Italy's history, carried out in 1861 and 1871, for a lack of the kind of information needed to harmonize them to the rest of the series. In 1968, Vitali published a book dedicated to the adjustment of the census-based counts of the active population in agriculture, which leads the author to address the issue of the undercounting of women workers. Vitali argues that the work of women contributing to productive activities in agriculture was severely underreported by population censuses. Women were engaged in what would qualify them as "contributing family workers" by today's standards, but the work they did was seen as mostly undeserving of the qualification of "occupation", and they were instead listed disproportionally as *casalinghe* (homemakers). His strategy is to proceed by informed assumptions: a very rough description of his methodology would be that he attributes agricultural employment to all women in households whose head is employed

in agriculture, assuming that they must have participated to the work on the farm, at least to a certain extent. In fact, he proceeds more cautiously than that: first, he divides Italy in two regions (North and South, by and large) on account of the (perceived) different extent to which women in agricultural households tended to be involved in the family's work – lower in the South than in the North, for reasons both cultural and related to characteristics of the land[19] (Vitali 1968). He also takes into account the agricultural professions of the heads of agricultural households, according to the type of land ownership: he posits that most members of "land-holder" families (*conduttori*, a definition he uses to indicate families that own the land they farm, as well as those involved in different types of sharecropping, as opposed to families of salaried and seasonal workers) would be in some way involved in agricultural production. After extrapolating the number of heads of household employed in agriculture from the census reports, and estimating the number of females living in these households, he assigns "active" status to women aged 10 to 65 living in families of *conduttori* in the North; for the South, he again restricts the correction to *conduttori* families, but is more conservative, and applies a multiplier adjust the census estimate of the number of active women.[20] The adjustment ends up increasing overall female participation rates by at least 5, at most 15 percentage points, depending on the year, repairing, most notably, the excessive decline of the reported female active population in the 1931 census.

For her study of regional differences in the process of industrialization in Italy, Zamagni (1982) is interested in an accurate measure of the distribution of the labor force across Italian regions around the turn of the century. As mentioned in section 3.2, inconsistencies in the enumeration of women working in the domestic textile industry were responsible for large regional differences in census-based estimates of the labor force aggregate, and of the distribution of workers among sectors. This leads Zamagni to adjust Vitali's figures for 1881 and 1911, based on the comparison with industrial censuses. The result of her adjustments is a series in which *less* women are counted as active, because the harmonization does away with domestic workers in the textile

[19] "[Nelle regioni del Sud Italia] la donna del conduttore non lavora che in misura relativa, prevalentemente per motivi di costume, come in Sicilia o in Sardegna, o a causa della lontananza dei fondi da coltivare, come nelle Puglie, o, infine, perché la regione presenta aspetti particolari, come è il caso del Lazio, nel quale, almeno sino al 1921, si riscontravano specie di coltivazione e maniere di coltivare simili a quelle delle regioni precedentemente citate" (Vitali 1968, p. 141).

[20] Vitali computes the percent adjustment to the number of active women in agriculture implied by his method for Northern regions; he then applies this percentage adjustment to the census estimate of the number of active women in *conduttori* families in the South (Vitali 1968, p. 142).

sector. While that is consistent with Zamagni's purpose, from the point of view of the history of women's work, the high numbers of female employment due to domestic manufacturing might well be genuine. The problem is rather opposite: determining whether low numbers in other regions are due to undercounting or to a true difference in the configuration of women's work. As Zamagni notes, it is not possible to derive an implicit estimate of the extent of domestic work from her correction, because the extent of undercounting is likely to be different by region and over time.

In their work on Italy's North-South divide, Daniele and Malanima (2011) comment on the evolution of the labor force and its distribution by region, and include some considerations on the specifics of men's and women's participation. They do not address the measurement issues related to women's work, beyond incorporating corrections by Vitali and Zamagni; they also extend the series using both the early censuses (1861 and 1871) and modern estimates of the labor force aggregate (1971 onwards), taken from the *Rilevazione sulle Forze di Lavoro*. Again, their methodology is not described in great detail, and does not allow for a thorough assessment of choices and assumptions that must have been made, both for the early and for the most recent years of the series. However, theirs is the most recent example of a harmonized series of the labor force that covers the length of Italy's post-Unification history, and is disaggregated by gender.

Lastly, Federico and Martinelli (2015) propose a refinement of the available figures of women's labor force participation in agriculture in the 1930s, as part of a recent study on the agricultural origins of gender norms, in which they test the causal link between the prevailing crop mix and the ratio of female to male agricultural workers. Well aware of the underreporting issues that affect those years, and interested in a level of disaggregation finer than the region, they embark on an innovative and challenging route, and recover some of the results of the first Census of Agriculture, which was conducted in 1930 and left incomplete for the part related to the elaboration and publication of labor force data. Sidestepping the population census altogether allows the authors to derive more accurate, and more detailed (their figures go down to the "agrarian zone", of which there are 700 in Italy), estimates of the number of females active in the agricultural sector. Their primary interest is not the correction of labor force estimates based on the population census, although they do touch on the

differences between the "traditional" measure of the labor force and the new numbers implied by the Census of Agriculture; their work is, however, immensely valuable for the purposes of this paper. Section 4.2 is dedicated to following this lead. For now, the estimates presented in Federico and Martinelli (2015) are not shown side by side with other available adjustments of census-based measures of the female labor force, because their figures only cover the agricultural sector, and cannot be directly compared to estimates of the total labor force.

This review does not include a few important works that deal with estimating long-run series of total labor input, but do not report a breakdown of these series by gender, and do not mention issues of measurement related to women's work (although they implicitly rely on, mostly, Vitali and Zamagni as a starting point of their elaborations). Most notably, Fuà and Scuppa (1988), Sorgato and Toniolo (1993), and a recent contribution by Giordano and Zollino (2016).

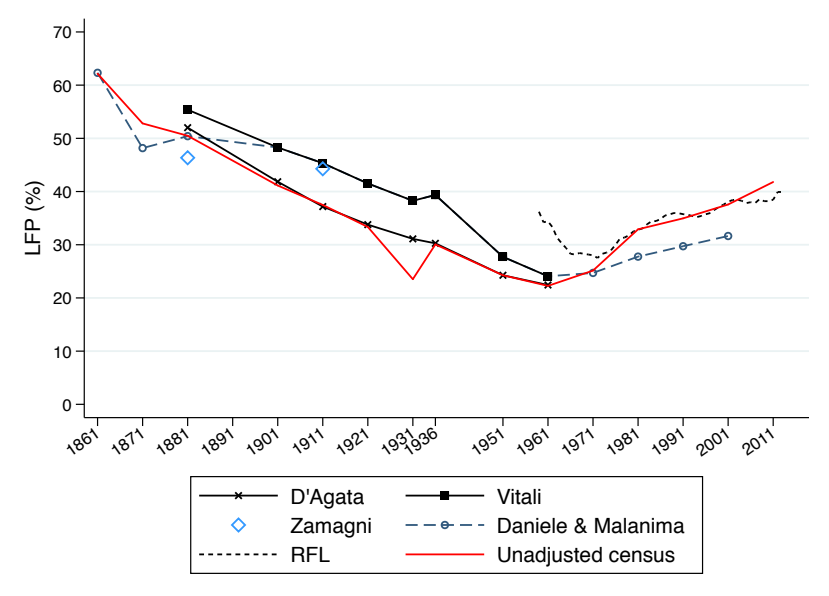
Table 2 compares the available adjustments of census-based estimates of the female labor force, showing the figures produced by each author as ratios to the unadjusted census figure. Figure 6 shows the resulting unadjusted and adjusted series of the female labor force participation rate.

Most of the available adjustments revise raw census figures upwards, with the exception of Zamagni (1982) – the reason for the downward revision being the exclusion of home-based production of textiles – and Daniele and Malanima (2011), whose figures after 1971 do not coincide with official numbers based on the *Rilevazione sulle Forze di Lavoro*. Vitali certainly emerges as the main pillar of the available knowledge of long-run trends of the labor force, thanks to both comprehensiveness and thorough documentation. None of the available reconstructions challenge the core of the story that would emerge from the unadjusted series; overall, however, the picture emerging from Figure 6 is confused, and leaves some questions unanswered. Vitali's correction to the size of the female labor force in agriculture has gone unchallenged for decades, yet it is not based on empirical evidence. The link between the modern series of the labor force and the census-based ones, whether adjusted or not, seems problematic. These and other issues are addressed in the following section.

**Table 2. Adjusted female active population, different authors (ratios to unadjusted figures**

| Year | Unadjusted census (000s) | D'Agata | Vitali | Zamagni | Daniele & Malanima | Rilevazione Forze Lavoro (RFL) |
|---|---|---|---|---|---|---|
| 1861 | 5,292.40 | 1.19 | - | - | 1.00 | - |
| 1871 | 5,398.16 | 1.15 | - | - | 0.91 | - |
| 1881 | 5,701.28 | 1.04 | 1.10 | 0.92 | 1.00 | - |
| 1901 | 5,284.06 | 1.02 | 1.18 | - | 1.18 | - |
| 1911 | 5,127.73 | 1.02 | 1.24 | 1.22 | 1.24 | - |
| 1921 | 5,276.60 | 0.98 | 1.20 | - | 1.20 | - |
| 1931 | 3,903.64 | 1.30 | 1.60 | - | 1.60 | - |
| 1936 | 5,279.21 | 0.99 | 1.29 | - | 1.29 | - |
| 1951 | 4,913.85 | 1.00 | 1.14 | - | 1.14 | - |
| 1961 | 4,864.13 | 1.01 | 1.08 | - | 1.08 | 1.38 |
| 1971 | 5,431.18 | - | - | - | 0.98 | 1.09 |
| 1981 | 7,757.20 | - | - | - | 0.84 | 0.97 |
| 1991 | 8,808.99 | - | - | - | 0.85 | 1.00 |
| 2001 | 9,566.33 | - | - | - | 0.84 | 1.01 |
| 2011 | 11,136.05 | - | - | - | - | 0.92 |

**Figure 6. Adjusted female labor force participation rate (%), different authors**




Sources: the female population estimated by Vitali (1970) has been used as the denominator for all adjusted LFP rates, except for that based on the RFL (Rilevazione sulle Forze di Lavoro), which uses female population (15+) from the Human Mortality Database.
Unadjusted census: for 1881-1861, we use unadjusted census counts of the active population as reported by Vitali (1970). For the remaining years, we take figures directly from the census reports: for 1861, we

define as “active” all individuals except those listed as “possidenti” (rentiers) or “senza professione” (without profession) (MAIC 1861, vol. III); for 1871, we define as “active” all individuals except those listed as “senza professione” (MAIC 1871, vol. III). For 1971-2011, the categorization of the population into “active” and “inactive” is supplied by published tabulations (ISTAT 1971, vol. II; ISTAT 1981, vol. V; ISTAT 1991, vol. I; ISTAT 2001; ISTAT 2011b). Population totals in the appropriate age ranges are taken from the census reports as well.
Other authors: D’Agata (1968); Vitali (1970); Zamagni (1982); Daniele and Malanima (2011); Federico and Martinelli (2015). RFL (Rilevazione sulle Forze di Lavoro): active population from Istat (2011), ch. 10, tab. 10.5.

## 3 A new series of female labor force participation in Italy, 1861 to the present day

In this section, I construct a new series of female labor force participation for post-Unification Italy, using an eclectic collection of sources: aggregate data from surveys other than the population census, historical microdata from non-probabilistic inquiries of household living conditions, and marriage records.

The common feature of these alternative sources of information is that they are likely to record women’s activities more accurately than the population census, either because they are explicitly focused on measuring economic activities and labor market outcomes in detail, or because they are not breadwinner-centered, and are less likely to overlook income and labor market information related to household members other than the (usually male) head of household. They can therefore be used to estimate the size of the bias affecting census-based estimates of female labor force participation, and adjust the available series.

The end goal of this operation is to obtain – or to approach as closely as possible – an “accurate” picture of the long-run evolution of female labor force participation in Italy. Accurate, in this case, means consistent with the modern definition of participation, and consistent over time. The adjustment is performed at the regional level, or, when detailed information is lacking, by macro-areas, to allow for some geographical disaggregation.

The use of historical microdata on a nationally representative scale for the purpose of producing alternative estimates of female labor force participation is new for Italy. Zamagni (1987) and Federico and Martinelli (2015) use aggregate information (from industrial and agricultural censuses, respectively) to correct and enrich estimates of labor input based on the population census, targeting the incorrect reporting of women’s

economic activities; this paper takes advantage of these important contributions, while also trying to extend them. The methodology adopted here is very much in the vein of Horrell and Humphries (1995), who reconstruct estimates of female labor force participation in England prior to 1841 based on a large collection of household budgets from a variety of sources, and Humphries and Sarasùa (2012) and the studies connected to that paper, which mine sources of various kinds (from "occasional or nonstandard censuses", to population census enumerator books, to poor relief applications and studies of working families' budgets) to come up with alternative estimates of female participation and to investigate determinants of women's choices. Yet, what I propose is different from both: Horrell and Humphries (1995) focus on a period in which census estimates were not yet available, so that their work does not provide a direct indication of the bias in census figures; studies gathered around Humphries and Sarasùa (2012), including Zucca Micheletto (2012) on eighteenth-century Turin, are local, due to the exceptional nature of the sources used, and do not presume to adjust national census figures.

More generally, the idea of relying on collections of historical micro-data to push the limits of our knowledge about the past – in fields as varied as inequality and poverty, nutrition, intra-household dynamics, child well-being, child labor – is still relatively new, but has already delivered precious insight, and is gaining traction (A'Hearn, Amendola and Vecchi 2016).

Different approaches and sources are required for the adjustment of census-based estimates of female labor force participation at different times during Italy's history, with information being more readily available, as is to be expected, in more recent decades. The rest of this section presents results "backwards", following a canonical periodization in Italian historiography: Republican Italy (1964-today), the Interwar years (1920-1940), and Liberal Italy (1861-1913). Within each period, evidence from different sources of information is presented and critiqued; then, corrections to the census-based series are proposed, based on that evidence.

### 3.1 Republican Italy (1951-today)

Istat has conducted a nationally representative labor force survey, the *Rilevazione sulle Forze di Lavoro* (RFL for short), starting in 1952. The fact that the target of the survey

is precisely the measurement of labor market outcomes makes it extremely valuable as a source of labor force estimates alternative to the Census. More importantly, the RFL is currently the source of the official Italian labor force statistics, which are compliant with international ILO standards. If our guiding principle is to recover a time series for labor market participation that is as comparable as possible to modern estimates, the RFL figures provide an obvious "pillar" on which to rest the series for the postwar period.

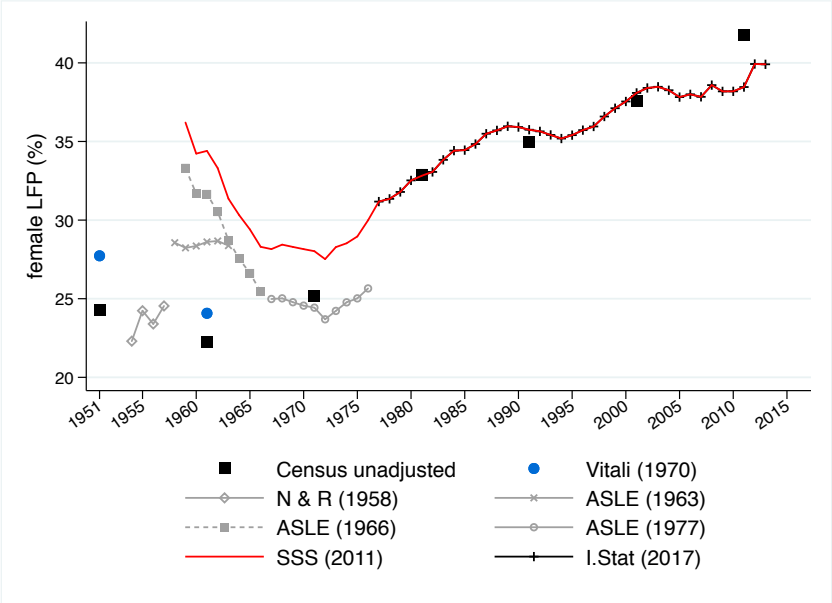
Picking the RFL as the first-best source for estimates of the female labor force after 1952 may be an obvious choice, but making use of the available figures is not straightforward. Since its inception, and before reaching its current form, the survey has been restructured more than once; the changes have led Istat to offer time series "back-recalculations" of the main labor market indicators based on the RFL, that allow comparisons between early figures and modern ones.[21] Unfortunately, a single reconstructed time series of the labor force that goes back to 1952 is not available. A geographical macro-area and gender breakdown of the labor force is available starting in 1977 in the Istat online data warehouse; Istat's 2011 Compendium of Historical Statistics (*Sommario di Statistiche Storiche*), reports the series for the national aggregate labor force estimates by gender, going back to 1959.

RFL-based figures for years prior to 1959 (and the regional breakdown prior to 1977) must be recovered from earlier official publications. To the best of my knowledge, the earliest year for which a gender and regional breakdown of the labor force is available is 1954 (Istat 1958). Istat's Annual Reports of Labor and Migration Statistics (*Annuari di Statistiche del Lavoro e dell'Emigrazione*) contain "summary tables" with labor force estimates by gender and region, covering the previous few years (Istat 1963, 1966, 1977). Throughout the time that the *Annuari* were published, the brief time series presented in these summary tables were revised multiple times, presumably to ensure comparability between early and current figures, although the details of the back-recalculations are not reported. This effectively leaves us with competing estimates of female labor force participation based on the RFL for the period 1954-1977. Figure 7

[21] Some major changes that took place over the years were about timing – the RFL was conducted at regular 1-year intervals starting in 1954, then it became quarterly in 1959 (Istat 2011a) – and about the questionnaire itself – in 1977, the questionnaire was profoundly restructured, with the aim to obtain more accurate measures of social phenomena perceived as especially relevant during those years, such as "discouraged" unemployment and "irregular" employment (Favero and Trivellato 2000).

compares these alternative estimates, reporting them together with both the unadjusted census-based female labor force participation rates and those adjusted by Vitali (1970).

**Figure 7. Alternative RFL-based estimates of female labor force participation**




N&R = Note e Relazioni (Istat); ASLE = Annuari di Statistiche del Lavoro e dell'Emigrazione (Istat); SSS = Sommario di Statistiche Storiche (Istat); I.Stat = Istat online data warehouse. See References for details.
Note: Estimates of the Italian female population in the 14+ and 15+ age groups, used to obtain labor force participation rates, are from the Human Mortality Database.

This comparison shows how, in the case of Italy (which is fairly representative in this regard), the ground of statistical evidence becomes shaky as soon as the analysis ventures further than a mere three decades back in time. Let us start with the earliest available figures: the RFL-based estimates retrieved for years 1954-1957 present irregular dynamics, which perhaps detracts from their credibility; on the other hand, their magnitude is in line with the census-based figures, whether adjusted or not, suggesting that female labor force participation was around 23-25% in the mid-1950s. The next decade or so – roughly, the 1960s – is the period where available estimates are most discordant. The *Annuari* of the first part of the decade put total female labor force at around 5,600,000 units, and the corresponding participation rate at around 28%, with essentially flat dynamics. The reconstructed series that appears in the 1966 *Annuario* tells a different story: female labor force participation acquires a steep downward trend,

as a consequence of the significant inflation of the size of the female labor force in the late 1950s and early 1960s, with respect to the previous reconstruction (about 1 million more workers in 1959, and a 10-percentage point increase of the corresponding rate). The series presented by the 1966 *Annuario* is taken on board by the 2011 *Sommario di Statistiche Storiche*, which however inflates participation further, in an effort to splice it to the modern series beginning in 1977. Meanwhile, the census-based estimates for 1961 show a decrease with respect to the previous decade, although not as dramatic as the one implied by the 1966 and 2011 reconstructions. Finally, after 1977, the distance between RFL-based and census-based female labor force participation estimates becomes remarkably small, likely as a consequence of the efforts to harmonize definition and measurement of labor force status across the two instruments (see Section 3.2).

This uncertainty in available estimates calls for a choice. Although the minutiae of the issue may seem inconsequential, such a choice matters a great deal from the perspective of economic historians: the decades following the Second World War are a crucial time for Italy, whose economy finally entered the *miracolo economico*, as those years came to be defined, and experiences a structural shift away from agriculture and toward the tertiary sector (Pellegrini 2003). These decades of change have seen a historical transformation of the position occupied by women in the labor market as well: it is around this time that the secular U-shape of female labor force participation inverts its slope, indicating a change in women's preferences and a structural break in the way the majority of them approached the labor market, and, ultimately, spent their lives. However, as Figure 6 shows, available sources do not agree on the timing and speed of this change. Modern observers must select one among the few available paths of women's work during these decades, to be able to characterize these transformations.

Ultimately, the choice boils down to whether or not one should accept the 1966 reconstruction, subsequently repreated by more recent Istat publications, that displays a steep decline of female participation in the late 1950s and early 1960s. This reconstruction implies a very large differential between RFL-based and census-based measures of the female labor force in 1961, about 10-percentage points, or an implicit multiplier of 1.3. This is approximately the size of the difference between the unadjusted census figures and Vitali's adjustments at the beginning of the 20$^{th}$ century,

when the underreporting of female work is thought to be at its peak (see sections 3.2 and 3.3). The discrepancy is much smaller in 1971, although no changes to either the RFL or the census, that would justify such an improvement in consistency, occurred during those years (changes in both instruments take place later on).

Without details on the methodology at the basis of the 1966 reconstruction, it is difficult to weigh these considerations against Istat's apparent faith in the reconstructed figures. My conclusion, for the purposes of this work, is that both the dynamics and the level of female labor force participation implied by the 1966 reconstruction appear dubious when superimposed with the long-run trend of the census-based figures, and with other RFL-based figures. I therefore select Vitali's estimates for 1951 and 1961, bearing in mind that they represent, in all likelihood, a lower bound for the actual figure; for 1971 onwards, I select the RFL-based estimates.[22]

### 3.2 The Interwar years (1921-1936)

As we move away from the most recent decades, sources of information available for recovering a representation of women's experiences in the labor market that is consistent with modern concepts of work become scarcer. For the Interwar period, we can rely on the censuses of 1921, 1931 and 1936, on Vitali's adjustments to those figures (Vitali 1968, 1970), and, thanks to the recent work by Federico and Martinelli (2015), to a reconstruction of the agricultural labor force, based on the Agricultural Census of 1930. Despite the economic and political turmoil of these decades (the aftermath of a world war and the beginnings of another, the Great Depression, the Fascist regime and its autarchic policies) female labor force participation continued the secular decline that is visible throughout most of Italy's history, before responding, as was mentioned previously, to the sectoral shifts that accompanied the *miracolo* after World War II. The question, for these decades, remains that of quantifying the extent to which census-based estimates of female labor market attachment underestimate actual participation, in a context where agriculture is still prevalent, and a "modern" tertiary sector has yet to develop.

[22] For 1971, I use figures from the 1977 *Annuario*, inflated to match the level of the series presented in the 2011 *Sommario*. See Secton 4.4 for a detailed explanation.

While largely accepted by scholarship and undeniably valuable, Vitali's reworking of the original census figures has not settled the issue of women's work. Vitali's adjustments to the number of active women in agriculture are based on a detailed critical examination of the census-based series, on thoroughly documented estimates of the size of specific demographic aggregates, and on plausible assumptions (a detailed description of the methodology is in Vitali, 1968; Section 3.3 of this paper offers a summary). These assumptions are at the very core of the methodology: they represent prior knowledge on the likelihood of women's involvement in work on the family farm, and are ultimately used to replace the dubious picture that emerges from the censuses. Inevitably, Vitali's work incorporates a degree of arbitrariness, as any other exercise of this sort would. In addition to that, when explaining his methodology, Vitali states more than once that his goal is to obtain a *conservative* plausible approximation of the true female active population: the adjusted figures should repair the most apparent flaws of the raw census estimates, without straying too far from them, and without overstating the level of women's involvement in productive activities (Vitali 1968). Finally, Vitali never addressed the biases affecting the measurement of women working in sectors other than agriculture, and in fact, there is no research that gives us an idea of the likely size of that bias for the non-agricultural female labor force at the national level.

Validating Vitali's assumptions on the basis of empirical evidence is important, as is assessing the magnitude of the undercounting of non-agricultural female workers: both of these operations could change what we know about the history of women's work in Italy. Is the size of Vitali's adjustment confirmed by empirical evidence that, arguably, escapes many of the biases affecting the census? If not, what should be done to further correct the series we rely on for long-run economic analysis? And what are the implications for our interpretations of the evolution of women's work? This section carries out such a validation for the Interwar period, bringing together alternative sources – aggregate data from the census of agriculture, historical microdata. In what follows, I will review the evidence that emerges from these sources; then, I will put these pieces of information together, and propose a correction of the series of female labor force participation in the Interwar period.

The first piece of evidence comes from a recent paper by Federico and Martinelli (2015). The paper estimates the causal relationship between prevailing crop mix and

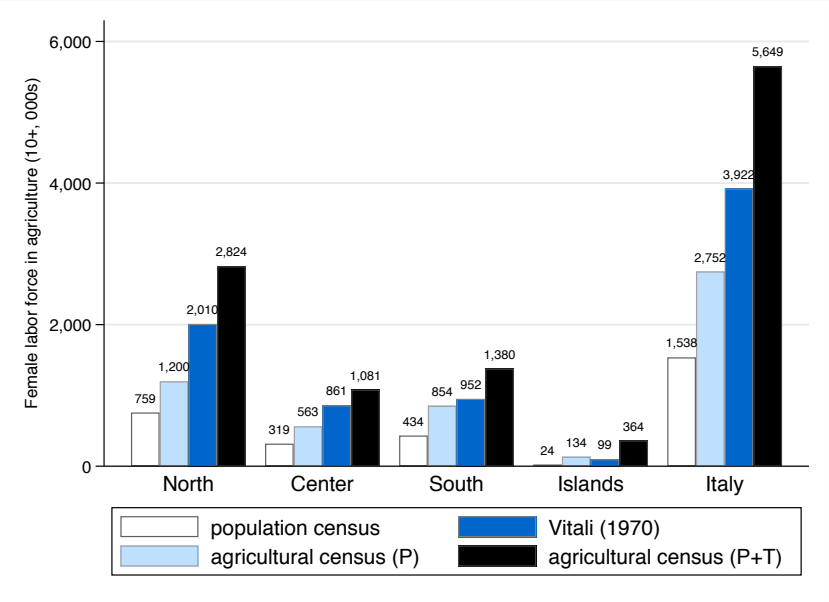
ratio of female to male agricultural workers in Italy during the 1930s. This causal link is a fundamental step in the reasoning that justifies using features of traditional agriculture, such as plough use, as instruments for gender norms, in the stream of literature epitomized by Alesina et al. (2013). In order to test the link for Italy, Federico and Martinelli need historical data on female and male agricultural employment that are not only accurate, but also highly disaggregated: both these reasons lead them away from the demographic census, and toward recovering some of the results of the 1930 Census of Agriculture.[23] Their primary interest is not the correction of census-based labor force estimates, and they do not discuss the issue in detail; yet, their dataset offers precious insight in that direction. What is most interesting about the agricultural census is that one of its main purposes was "to specifically deal with the long-lived problem of mismeasurement of female employment, and (…) to take into account the part-time nature of a relevant share of the labor inputs to agriculture" (Federico and Martinelli 2015: 24). This is reason to believe that, at least to a certain degree, estimates from the agricultural census may be less biased than those from the demographic census in terms of measurement of the female labor force.

Figure 8 compares available estimates of the female labor force in agriculture for the years 1930-1931. First, a caveat: the year in question is a peculiar one in the history of the population censuses. The 1931 population census delivered a particularly low estimate of the female labor force, which seemed dubious even at the time (Vitali 1968), and definitely looks out of place in the series when we examine it today. For this reason, one should keep in mind that the difference between the unadjusted census figures and Vitali's adjustment is especially large. Moving on to the agricultural census, two estimates of the labor force are available: one includes individuals "permanently employed", the other adds individuals "temporarily employed" to the first aggregate (the distinction is based on tabulations that indicate the number of males and females having agriculture as a "principal occupation" and as a "secondary occupation", which can be roughly assimilated to full-time and part-time workers, according to Federico and Martinelli). The difference between the two measures is, in the case of women, remarkable: the size of the total female labor force in agriculture doubles with the

[23] The authors explain that the part of the census that was supposed to estimate the agricultural labor force faced unexpected financial cuts, so that elaboration and publication of the final results were only partially completed. However, the authors piece together preliminary results published by Istat during the 1930s, and other partial elaborations, and are able to compile the rich database that is the basis of their analysis.

inclusion of temporary employment, which speaks to the ubiquity of seasonal and intermittent employment for female workers. The comparison between the different available measures also highlights the fact that Vitali's adjustment places the size of the female labor force in the center of the range delimited by the two measures from the agricultural census (except for the South and Islands). This warrants two observations. First, when checked against evidence from a different, reliable source, Vitali's assumptions on women's participation in agriculture are confirmed to be plausible: his approximation falls in between a lower and upper bound fixed by a stricter and a broader definition of what it means to be a "worker". Second, if one believes the upper bound to be closer to the modern definition of labor force (anyone performing at least "some" work is a worker[24]), then there is evidence to conclude that Vitali's adjustment still falls short of the true size of the female labor force.

**Figure 8. Alternative estimates of the female labor force in agriculture, 1930-31**




P = permanently employed, P+T = permanently and temporarily employed.
Sources: Population census figures are from the 1931 census reports. Figures from Vitali (1970) refer to the 1931 adjusted female agricultural labor force. Agricultural census figures are from Federico and Martinelli (2015), and refer to 1930.

[24] This is an oversimplification, of course. Modern labor force surveys measure employment with reference to a brief, recent period (typically one week before the interview). It is likely that many of the individuals that listed agriculture as their "secondary occupation" in the 1930 agricultural census were seasonal workers, or people who worked sporadically. Not all of them would necessarily be counted as workers by a modern labor force survey.

If we keep everything in Vitali's reconstruction unchanged, and simply scale up the size of the female agricultural labor force to match the estimate from the agricultural census (permanent and temporary employment), we obtain a total female labor force participation rate of 49% for 1931, while Vitali's original estimate is 39%. The 10 percentage points that separate the two rates are due to the underestimation of female work in agriculture by the population census, only partially offset by Vitali's correction.

The next piece of evidence in our set of validations of Vitali's adjustments is derived from the analysis of historical microdata. The source I am going to explore was produced by the Istituto Nazionale di Economia Agraria (INEA), a research institute founded in 1928, whose mission was fostering knowledge of Italy's agricultural sector. INEA carried out several large-scale surveys, the most well-known of which was published with the title *Monografie di famiglie agricole* (Monographs of agricultural families).[25] It contains over 100 monographs – detailed descriptions of the lifestyle of individual families, intended as case-studies for the whole population – collected all over Italy between 1931 and 1938, making it "the most important source for the study of the economic conditions of farmers in the 1930s" (Chianese and Vecchi 2017).

The INEA monographs are especially valuable as an alternative source of information on women's work, because they describe the work and home production activities of each household member at length; these descriptions possess an almost narrative quality, and are, in many cases, exceptionally detailed. They generally contain enough information to allow the modern analyst to overcome her reliance on concepts and categorizations of economic activity belonging to the time of origin of the source – something one cannot easily escape in the case of census tabulations, unless the taxonomy of activity and inactivity is unusually detailed – and instead determine activity status based on modern criteria (or on a good approximation of those criteria). In addition to the "narration", the monographs include a wealth of quantitative information, in the form of tables or measures cited within the text. Putting together these various elements produces a uniquely detailed picture of women's work in Italy's agricultural sector in the 1930s.

[25] The use of the family monograph as a tool for gathering information on living conditions and social issues can be traced back to French engineer and sociologist Frédéric Le Play (1806-1882), and his work *Les Ouvriers Européens*, first published in 1855, which spurred a whole tradition of studies based on the same approach (Vecchi 1994).

There are downsides to all of this, of course, the most relevant being representativeness. The monograph form resolves the trade-off between detail and coverage, faced by all attempts to measure complex social phenomena, by greatly favoring the first. INEA's monographs are a collection rather than a sample, and certainly do not come anywhere close to the census in terms of coverage: "the distribution of households studied by the INEA from a territorial perspective appears skewed in favor of the central and northern regions, and the distribution of the occupation of the head of the household shows that some of the poorer categories are underrepresented: tenants and day-workers. The selection criterion used by the INEA to select the households to be studied is an example of 'judgmental' or 'expert choice' sampling: this is, naturally, the main reason for the unbalanced distribution of the INEA sample" (Chianese and Vecchi, 2017). A viable strategy to tackle these issues is post-stratification (Holt and Smith, 1979): using information from the census on the size of the population in Italian regions, I construct weights that allow me to correct – at least to a certain extent – the defects in the representativeness of the INEA sample.

Another difficulty stems from the lack of standardization of the information presented: groups of monographs are compiled by different authors, and although certain pieces of information are always collected, and there is a good deal of homogeneity in the way the contents of the essays are organized, idiosyncrasies are inescapable. This requires caution in interpreting the terminology used throughout the monographs, in harmonizing variables extracted from each one, and implies some missing information for certain subsamples of households.

The final sample extracted from the 16 volumes of the INEA survey is comprised of 741 individuals, of which 257 are women of working age (10 or more years old, for comparability with Vitali). 49% of all individuals reside in the North of Italy, 32% in the Center, and 19% in the South and islands. The qualitative and quantitative information available in each monograph has been parsed to compile, for each individual of working age, a binary labor force status variable – is the individual active or inactive? – which is our variable of interest.

The criterion that guided the compilation of the variable was that of closest approximation of the modern ILO definition of labor force.[26] In general, any activity performed for profit or family gain (self-employment in families of small landowners or sharecroppers is the most common type of work in the dataset), or for a salary, was considered work. Activities related to the production of goods primarily for the household's own consumption (such as small domestic manufacturing, typically textile work, and small-scale keeping of farm animals) deserve a special mention, because they appear to have been almost ubiquitous, and largely reserved to women. These are "borderline" cases for the ILO definition of work: current guidelines suggest that "own-use production work" (*i.e.* activities performed to produce goods or provide services intended for final use by the producer, their household and/or family) should not be included in employment counts (ILO 2013). I treated them as constituting work when the source made it reasonably clear that output from these activities was not exclusively reserved to the family's own use, but was intended for the market as well, even occasionally.

Classifying activities as work or non-work is not all there is to measuring the labor force according to the modern definition. Ascertaining compliance with each and every criterion that makes up the ILO definition is often impossible, given the way information is collected and presented by INEA. It is therefore necessary to make some assumptions. The most important difficulty concerns referring the available information to a recent and short reference period (one week, for modern labor force surveys). INEA's monographs describe the family's lifestyle, habits and activities over the span of one year or more, and, in many cases, there is no way to restrict this time period. This is a problem, especially in the case of seasonal and intermittent employment, which, again, was more common for women: if someone's work is concentrated in a very specific period of the year, they would not automatically be classified as "active" by a

[26] The ILO defines the labor force as comprising all persons of working age who, over the course of a specified brief period, such as one week, are either employed or unemployed. The employed population, in turn, comprises persons employed, at work (*i.e.* who worked for at least one hour for pay or profit in the short reference period) and persons employed, not at work (*i.e.* who had a job but did not work in the short reference period due to temporary absence from the job, for example due to sick leave, annual leave, maternity leave, etcetera, or due the nature of their working time arrangement, such as shift work). The unemployed population comprises all those of working age who were not in employment, carried out activities to seek employment in a recent period (such as the previous 4 weeks or month) and were currently available to take up employment (in the reference period or within a short subsequent period not exceeding two weeks in total) (ILO 2013).

modern survey: their measured activity status would depend on the interview date. Labelling individuals as active if they performed any work during the previous year is an overstatement of the modern concept of labor force. For this reason, I constructed two measures of participation, aided by the fact that, for most women in the sample, I have information on hours worked over the year. One measure disregards any consideration of seasonality, and counts as active all women that were described as having carried out any work activity; this can be considered an upper bound. The other measure counts as inactive those women that work less than one-fourth of the year, on account that their work is most likely seasonal; this is a lower bound.[27]

The results of this exercise are presented in Table 3. As expected, the measure of participation is extremely sensitive to the imposition of a limit on hours worked, which reinforces the notion that seasonal, intermittent and occasional work was common among women. It should be stressed that the labor force participation rates computed using the two binary variables that describe labor force status in the INEA sample do not have the usual interpretation. They are *specific to agriculture*, because they are computed as the number of active women divided by the number of working-age women, conditional on the fact that these women are part of agricultural households (*i.e.* households whose head is employed in agriculture).

**Table 3. Agriculture-specific female labor force participation (LFP) rates from INEA**

| | **> 0 hours worked per year** | | **> 900 hours worked per year** | |
|---|---|---|---|---|
| | LFP (%) | N | LFP (%) | N |
| 1929-1933 | 88.81 | 129 | 60.49 | 104 |
| 1934-1937 | 73.57 | 125 | 55.93 | 104 |
| *All years* | *81.34* | *254* | *58.22* | *208* |

Note: Females aged 10 years or more. Rates are weighted using regional population derived from population censuses, as reported by Vitali (1970). Missing information on hours worked shrinks the sample size once the minimum of 900 hours worked per year is introduced.
Source: Author's calculations based on INEA (1931-1939).

[27] These measures are not directly comparable with the lower and upper bound from the 1931 Census of Agriculture, which are constructed by Federico and Martinelli (2015) using a different criterion (self-reported primary and secondary occupation).

How can these rates be compared with results from the population and agricultural censuses? One way is to compute the same measure of participation – an "agriculture-specific" female labor force participation rate – using those sources, provided all the necessary information is available. Once again, we can rely on the meticulous work of Vitali: among the wealth of information that documents the various steps of his process, Vitali includes the estimated number of women aged 10 years or more living in agricultural families, for census years (Vitali 1968: 210). This estimate, which is 7,914,304 for 1931, can be used as the denominator of the "agriculture-specific" labor force participation rate, while numerators coincide with the estimated size of the female labor force according to different sources. Following this procedure, I derive the female labor force participation rate in agriculture implied by Vitali's correction, which is 49.6%; the estimated female labor force according to the census of agriculture (permanent and temporary employment), on the other hand, implies a rate of 71.4%. These are directly comparable to the rates displayed in Table 3, which are, if we consider the pooled sample, 81.3% and 58.2%, depending on the limitations imposed to the definition of work.

The conclusions to be drawn from this comparison are clear-cut. Evidence from historical microdata compiled using INEA family monographs confirms, in essence, the results of the agricultural census, if one discounts discrepancies by the limited comparability between the two sources, and the inevitable level of approximation embedded in this type of exercise. Both sources suggest that Vitali's correction to the raw census estimates of the female labor force in agriculture is still considerably lower than the true figure.

In addition to that, one should keep in mind that Vitali did not in any way adjust census-based estimates of the non-agricultural female labor force to correct for underreporting. There is reason to believe that, to the extent that women were involved in productive activities outside of agriculture, population censuses still might have measured their work inaccurately. Unfortunately, in the 1930s there are no large-scale surveys focused on non-agricultural workers that may be used to benchmark Vitali's figures, similarly to what was done with the Census of Agriculture or the INEA monographs.

What are the implications of the evidence presented in this section for the series of female labor force participation in the Interwar years? I believe that fundamentally

similar results coming from different sources make a strong enough case for revising Vitali's estimates upward, to obtain labor force participation rates that are more closely comparable to modern ones. Microdata from INEA are not suitable to produce a correction that can be disaggregated at the regional or even macro-area level, due to incomplete coverage. Therefore, the revision can only hinge on the 1930 agricultural census. The female labor force in agriculture during the Interwar years will be inflated according to the multiplier we obtain when comparing the agricultural census and Vitali's estimates for 1931. Results are presented in section 4.4.

### 3.3 Liberal Italy (1861-1911)

The underreporting of women's work in population censuses most likely peaked in the decades around the turn of the 20th century (Patriarca 1998, Humphries and Sarasùa 2012). However, the lack of suitable alternatives to the population census during the first 50 years after Italy's Unification make it difficult to replicate the sort of validations that were attempted for the Interwar years. This period is not covered by sectoral censuses suitable for the purposes of this work: the only such census available for these years, the 1911 Industrial Census, excludes precisely the types of activities that are more likely to have been also ignored by the population census (such as small-scale and domestic production; Fenoaltea 2015). The three most important large-scale enquiries on families' living conditions during this time – the Jacini enquiry (1881), the Montemartini enquiry (1909), and the Faina enquiry (1911) (Chianese and Vecchi, 2017) – are similarly unsuitable for our purposes, either because they cover limited parts of the Italian territory, or because they lack the information necessary to compute a satisfactory indicator of women's activity status.

If the aim is to produce an alternative estimate of the female labor force, based on empirical evidence with sufficient coverage to produce a nationally representative figure that can be disaggregated at least at the macro-area level, it seems that the only option left would be that of amassing a plethora of scattered, heterogeneous sources containing information on individual activities of household members. Such an endeavor has been successfully undertaken before, by Horrell and Humphries (1995) for measuring labor market outcomes of British women, and by Vecchi (2015, 2017) for measuring the

wellbeing of Italians. However, this is without a doubt a monumental task, one that cannot be undertaken as part of this paper.

However, before abdicating the task of assessing the bias of census-based figures during the first decades of Italy's history, I propose the exploration of a different route, which also relies on historical microdata, but, on the other hand, is slightly less demanding, because the source of information it uses is abundant across the national territory, and mostly standardized. This source is marriage records: they are ubiquitous, accessible, and record a small set of characteristics of the couple, including the occupations of both spouses.

A major drawback of this source is that, by its very nature, it only covers just-married women, and therefore cannot directly supply a measure of participation that is representative of the whole female population. However, the participation rate among unmarried women would still identify the level and dynamics of an important component of female labor force participation in the general population.

A second, potentially disqualifying shortcoming of marriage records in this context is the process by which the data are generated. Individuals state their occupation to a public official, who then interprets and notes them on a registry. This effectively produces a sorting of the population into occupational designations, which the modern analyst then labels as "work" or "not work". It is essentially the same process that generates the information displayed in population census reports – with one less layer of "expert judgment", because occupational designations are not reclassified into the standardized categories we find in census tabulations. This can lead us to believe that marriage records would be affected by the same types of biases found in the population censuses, and that the resulting estimates would still underreport women's work, due to the notion of work ("modern", "regular", "proper" work) prevailing at the time among both respondents and interviewers.

These defects certainly make marriage records a less-than-ideal source for the purposes of this paper. However, I believe the accessibility, coverage, and abundance of the data contained in this source warrant an attempt, on a reduced scale. I have experimented with the approach by focusing on the city of Naples, producing a marriage record-based estimate of the female labor force participation rate, and comparing it with the corresponding unadjusted census-based estimate.

The Neapolitan marriage records I examined are from 1912. They contain information on 1,218 couples, and report the couple's names, ages, occupations, place of residence, and the names, ages and places of residence of the couple's parents. The distribution of occupations of women in the sample is shown in Table 4.

**Table 4. Distribution of occupations among women in Naples' marriage records (1912)**

| Occupation | N | % total |
|---|---|---|
| Housewife | 529 | 43.4 |
| Civil | 303 | 24.9 |
| Property owner | 127 | 10.4 |
| Tailor | 99 | 8.1 |
| Ironer | 29 | 2.4 |
| Hem sower | 22 | 1.8 |
| Hairdresser | 13 | 1.1 |
| Laundress | 11 | 0.9 |
| Maid | 8 | 0.7 |
| Teacher | 8 | 0.7 |
| Other | 69 | 5.6 |
| *Total* | *1,218* | *100.0* |

Source: Anagrafe del Comune di Napoli, Atti di stato civile, matrimoni (1912)

The most frequently reported activity is that of "homemaker" (*casalinga* or *donna di casa*). It is immediately followed by the denomination of "civil" (*civile*), a regional term that, similar to "bourgeois", denotes a woman who does not work, but does not identify as a "housewife" either, because the latter definition is charged with a "working class" connotation.[28] The same goes for the third most frequent designation, here translated as "property owner" (*possidente* or *proprietaria*): it is a generic term that indicates affluence, and, almost certainly, living off of capital income rather than a wage. The remaining activities listed by women correspond to disparate job descriptions; only the

[28] According to the Hoepli Italian Dictionary, a rare meaning of *civile* (literally "civilian", as in, not part of military or ecclesiastic personnel) is that of "noble or affluent bourgeois". This meaning of the word is indicated as specific to the South of Italy.

most frequent are reported in Table 4, while the others are grouped in a residual category.

The cumulated percentage of the three "inactivity" designations (housewife, civil and property owner) over the whole sample is 78.7%. This implies an estimated 21.3% labor force participation rate for just-married women in the area of Naples in 1912. Turning to the 1911 population census, we find that the total female labor force participation rate for the province of Naples is estimated at 22.2%.[29] Despite the difference in the definitions of the two measures (one is limited to just-married women, the other is not), the comparison among the two numbers is still meaningful. In case large differences in their orders of magnitude were to emerge, they would point to something interesting: our priors on the comparability between the total participation rate and that of unmarried women were wrong, or, despite their similar genesis, data from marriage records and from the population census are not actually affected by identical biases, and disagree significantly on the measure of women's work. The census-based estimate of female labor force participation and the marriage records-based rate are, instead, remarkably close.

I believe that this finding does not count as a confirmation of the validity of census-based estimates, but rather, that a preliminary exploration of marriage records has confirmed that this source is indeed, as posited earlier, affected by the same type of measurement error that underlies census based estimates of female labor force participation. More evidence would be required to definitively prove such a claim; however, it seems sufficiently clear that, in the case of Liberal Italy, the long, arduous, yet feasible enterprise of collecting historical microdata from a multiplicity of heterogeneous sources remains the most promising path toward reconstructing a reliable picture of women's work.

### 3.4 The reconstructed series (1861-today)

Before reviewing findings from the previous sections, and consolidating them into a reconstruction of the series of female labor force participation that covers Italy's post-Unification history, it should be stressed that the new series does not aspire to perfect

[29] Unfortunately, the 1911 census does not report the breakdown of the labor force by marital status, so it is not possible to work out a census-based participation rate for married women.

accuracy. The main goal of the reconstruction is to allow the study of the 150-year trend of a particularly significant indicator of women's changing role in society, minimizing the possibility that its biased measurement leads to distorted interpretations. The only available long-run estimates of the female labor force that include a correction for the underreporting of female work are those produced by Vitali (1968, 1970). That adjustment is, by the author's own admission, an approximation. The new series proposed here is also an approximation, but one that is bolstered by empirical evidence, and one that comes closer to an accurate depiction of women's involvement in productive activities during Italy's history – where "accurate" indicates consistency with the modern definition of participation.

The first finding that emerges from the investigation carried out in the previous sections is that the availability of the first Italian Labor Force Survey (Rilevazione sulle Forze di Lavoro, RFL), started in 1952, does not settle questions on the "true" size of the female labor force during the postwar period (1946-today). Careful analysis of labor force statistics published in the *Annuari* Istat has revealed substantial inconsistencies among Istat's official estimates, for decades as pivotal as the 1950s, 1960s and 1970s. The only large discrepancies between RFL- and census-based estimates, in 1961 and 1971, are due to back-recalculations of the RFL series. In the absence of detailed information about the back-recalculations, and given that RFL and census largely agree for the remaining years in the period, the choice made here is to discard Istat's reconstruction. Vitali's series is used for the early years in the period (1951 and 1961), and the "raw" (non-reconstructed) RFL estimate is used for 1971. More recent years are uncontroversial.

For the Interwar period (1920-1940), the focus has been on validating Vitali's adjustments to the female labor force in agriculture. The extent to which Vitali's assumptions on women's involvement in family agricultural enterprises produce accurate estimates has never been empirically verified; moreover, it is not clear whether using a definition of "work" that is as close as possible to the modern standard would yield different results. The 1930 Census of Agriculture and INEA's Monographs of Agricultural Families have been examined to tackle these questions. Results are clear-cut: the agricultural census and the INEA dataset are in agreement, and indicate that Vitali's adjustment underestimates the true female labor force participation rate in the

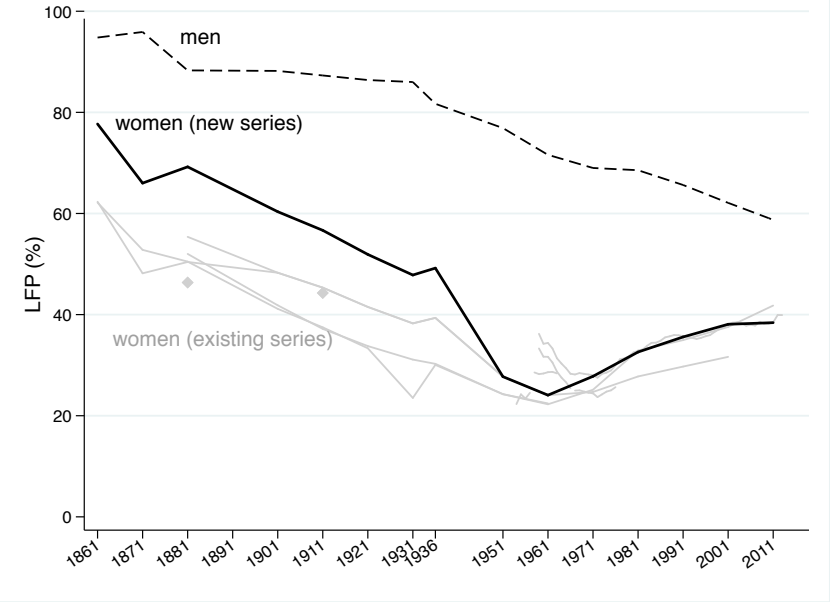
agricultural sector during the 1930s, by amounts ranging from 8.6 percentage points (if we consider the most conservative estimate pulled from the INEA sample), to 21.8 percentage points (agricultural census), or 31.7 percentage points (least conservative INEA estimate). The problem with using the INEA sample – which allows for the most precision in applying the modern definition of employment – to further inflate the female agricultural labor force is its incomplete coverage of the national territory. Because it is important for the adjusted national figure to be disaggregated at least at the macro-area level, my preference goes to the agricultural census, which is used to compute national and macro-area multipliers of the female agricultural labor force estimated by Vitali for 1931. These multipliers are then used to inflate the agricultural labor force in 1921 and 1936.

One final consideration about the Interwar period focuses on the adjustment of the female labor force in sectors other than agriculture. In the absence of reliable and comprehensive information on women's work outside of agriculture, and rather than introducing an arbitrary or a-historical correction, the adjustment of the non-agricultural labor force has been abandoned. The reconstructed series proposed here incorporates a correction for the agricultural labor force only.

Finally, for Liberal Italy (1861-1913), attempts at a correction have faced arduous challenges. Experimenting with the use of marriage records as a potential source of information on women's work has not given satisfactory results. Sources that would allow for an adequate adjustment are scattered and heterogeneous. Attempts to collect them and to create a nationally representative database have already been made, although for different purposes (Vecchi, 2017), which is promising in terms of further research on women's work. Evidence from other countries, comments made by contemporaries on the Italian population censuses (Patriarca 1998), and the judgment of experts like Vitali (1968), all point to the conviction that underestimation of the female labor force had indeed been an issue even before the First World War. The solution, for the purposes of this paper, is to connect the 1911 census with the adjusted estimate for 1921, and back-project the dynamics of the series all the way to 1861.The result of these adjustments is shown in figure 9. The unadjusted series and all other available adjusted estimates of female labor force participation are shown, unlabeled, in the background.

The new adjustment accomplishes three goals. First, it confirms the non-monotonicity of the long-run trend of female labor force participation in Italy; in fact, it accentuates it. The peak of underreporting of women's work in population censuses predates the height of Italy's economic development and structural transformation, rather than being almost synchronous, as for the UK; thus, the U-shape of Italian women's participation is actually emphasized by a correction focused on a more accurate, and more consistent with modern standards, measure of women's work. Second, the new series settles inconsistencies among available data sources for the postwar period, and establishes that women's labor force participation hit its minimum around the beginning of the 1960s, rather than a decade or more later, as suggested by recent Istat reconstructions. This brings the series of the female labor force back in line with the timing of structural transformation – the rise and gradual overtaking of the service sector – of the Italian economy. Third, if we compare the level of the new series with that of all other existing estimates in the years, the new correction suggests a new interpretation of the male/female gap in employment along Italy's path to economic development. If we believe the actual level of female participation to have been close to the new series during the pre-World War 2 era, then we conclude that the gender gap in participation after Italy's Unification was considerably smaller than what previously thought. Although men and women's occupations, tasks, and work attachment were likely very different, involvement in productive activities was widespread across both genders. The gap widened as Italy began its industrialization, but was highest just after the Second World War, hinting at the fact that these might be the decades in which the impact of economic development was most differentiated among gender lines, as male workers transitioned to more "modern" sectors, while women abandoned the labor force.

**Figure 9. A new series of female labor force participation (1861-today)**




Note: All existing series shown in the background have been reviewed in section 3.3 and 4.1.
Sources: New women's series: author's elaborations. Existing women's series: see notes to figures 6 and 7.
Men's series: 1861-1871, unadjusted census figures. For 1861, we define as "active" all individuals except those listed as "possidenti" (rentiers) or "senza professione" (without profession) (MAIC 1861, vol. III); for 1871, we define as "active" all individuals except those listed as "senza professione" (MAIC 1871, vol. III). 1881-1961: adjusted participation rates by Vitali(1970). 1971-2011: figures from Istat (2011).

## 4 Conclusions

The first paragraphs of this paper offer a rather dismal summary of Italy's record, relative to other OECD countries, in terms of indicators of gender equality. The topic is relevant in the current public discourse, but it seems that few scholars are seeking answers in the past – at least, not through the lens of quantitative evidence and rigorous statistical analysis. In fact, Italian women are largely forgotten by economic historians. That this is not exceptional is proven by the abundance of images and analogies that describe this very state of affairs, both in the historiography of other countries and in popular culture: the idea of women being "off the record" (Humphries and Sarasùa, 2012) has been used in this paper; women were "lurking in the wings" (Humphries, 1991) of British economic history three decades ago; and they are still struggling to

escape the "dustbin of history" in the words of Jacky Fleming, an illustrator, rather than a historian. [30] All of these phrases ring true for Italian economic history today.

This paper begins the exploration of this neglected topic by focusing on one specific indicator: women's participation in the labor force. It is one of the first statistics cited in current discussions about gender equality, and one of the fundamental components of a historical reconstruction of women's evolving position in society, yet we do not possess a sound empirical basis for assessing its development throughout Italy's post-Unification history – let alone for studying its determinants and implications. Historical measures of women's work are plagued by biases and inconsistencies which have the potential to seriously distort historical reconstructions, and Italy is no exception. This paper builds a new series of female labor force participation covering Italy's post-Unification period; it does so by adjusting census-based estimates using, for the first time, empirical evidence (in the form of both aggregate and individual-level data); and by resolving inconsistencies among the more "modern" available estimates.

The new series finds that Italian women's labor supply function is U-shaped, and it accentuates its dynamic: the U is more pronounced and asymmetric than previously thought, with a dramatic decline of female involvement in the labor force during the first 100 years of Italy's history, followed by a slow increase. The timing of the inversion of the trend is also placed by the new series around the beginning of the 1960s, and not a decade later, like official reconstructions of labor force statistics from the postwar period suggest.

These findings have relevant implications for the economic history of Italian women. First, even the simple fact that women's labor supply function is U-shaped is not trivial: in other countries, adjustments of the series have muted its non-monotonicity, rather than confirming it (Humphries and Sarasùa, 2012). Women's massive entrance into the labor force in recent decades is often celebrated as one of the milestones of their emancipation, a driver of equality via access to an independent source of income, and a sign that men's and women's preferences and roles in society are getting closer; then the often ignored, but even more massive, exit from the labor market that preceded it could perhaps be interpreted in the same way, with an opposite sign. Things are more complex than that, of course, not least because the nature of women's work in pre-industrial

[30] Jacky Fleming (2016), *The trouble with women*.

societies was very different than that of jobs that are accessible to them today. Still, the question of the non-neutral impact of economic development – or "modern economic growth" (Kuznets, 1966) – on gender roles, and on its possible, albeit temporary, isolating and disempowering consequences on women, connects to Boserup's (1970) pioneering work on *Woman's role in economic development*, and to the literature, particularly developed in British historiography, investigating the gendered consequences of industrialization (Horrell and Humphries, 1995). These topics have not been approached by Italian economic historians: the new series raises these very questions.

The second implication relates to the speed and timing of the changes of Italian women's participation in the labor force. The new series aligns the trough of the U (the time in which women began re-entering the labor force) with the timing of Italy's structural transformation (the transition to a service-based economy), which is seen as one of the main determinants of the trend inversion of women's labor force participation series (Goldin, 1990; 1995): in this way, Italian women's experience does not seem to stand out in international perspective. On the other hand, the pace of both the descending and the ascending traits of the U do seem exceptional when compared to the series available for other countries. To the extent that labor force participation matters for the study of gender inequality and women's wellbeing, these peculiarities warrant an explanation.

By establishing the likely facts about the evolution of female participation in Italy, this paper has only laid down a first building block for an economic history of Italian women. The next challenge lies with understanding the *causes* and *consequences* of these facts. This is no small task: empirical evidence on a number of crucial dimensions that are needed to arrive at such an understanding is simply absent. Details on the composition of the female labor force – in terms of age, marital status, occupations – would add more nuance to the crude aggregate series. Studying the evolution of female work in Italian regions, and relating it to variations in labor demand, in the level of education of the population, in the institutional environment, would help shed light onto some of the determinants of the peculiar path followed by Italian women's participation. And recovering long-run historical evidence on some of the crucial variables influenced by the size and composition of the female labor force – like working hours and wages –

is crucial if we want to truly comprehend the impact of the long-run changes that emerge from the new series.

**References**


Abel, M., & Folbre, N. (1990). A methodology for revising estimates: Female market participation in the US before 1940. *Historical Methods: A Journal of Quantitative and Interdisciplinary History*, *23*(4), 167-176.

Abramitzky, R. (2015). Economics and the Modern Economic Historian. *The Journal of Economic History,75*(4), 1240-1251.

Addabbo, T., & Favaro, D. (2011). Gender wage differentials by education in Italy. *Applied Economics*, *43*(29), 4589-4605.

Alberti, M. (2013). *La scoperta dei disoccupati: alle origini dell'indagine statistica sulla disoccupazione nell'Italia liberale (1893-1915)*. Firenze: Firenze University Press.

Alesina, A., Giuliano, P., & Nunn, N. (2013). On the origins of gender roles: Women and the plough. *The Quarterly Journal of Economics*, *128*(2), 469-530.

Alesina, A., & Ichino, A. (2010). *L'Italia fatta in casa: indagine sulla vera ricchezza degli italiani*. Mondadori.

Arbaiza, M. 2000. ‘‘La ‘cuestiòn social’ como cuestiòn de género: Feminidad y trabajo en España (1860–1930)’’ [The ‘social question’ as a question of gender: Femininity and work in Spain (1860–1930)]. Historia Contemporànea 21(1): 395–458.

Atkinson, P. (2012). ‘Isn’t it time you were finishing?’: Women’s Labor Force Participation and Childbearing in England, 1860–1920. *Feminist Economics 18(4)*, 145–164.

Bairoch, P., & Deldycke, T. (1968). *La population active et sa structure: The working population and its structure*. Centre d'Économie Politique, Institut de Sociologie, Université Libre de Bruxelles.

Baltrunaite, A., Bello, P., Casarico, A., & Profeta, P. (2014). Gender quotas and the quality of politicians. *Journal of Public Economics*, *118*, 62-74.

Becker, G. S. (1965). A Theory of the Allocation of Time. *The Economic Journal*, 493-517.

Benerìa, L. (1981). Conceptualizing the labor force: The underestimation of women's economic activities. *The Journal of Development Studies*, *17(3)*, 10-28.

Benerìa, L. (1992). Accounting for Women’s Work: The Progress of Two Decades. *World Development* 20(11): 1547–60.

Bertocchi, G., & Bozzano, M. (2015). Family structure and the education gender gap: evidence from Italian provinces. *CESifo Economic Studies*, *61(1)*, 263-300.

Blau, F. D. (1997). *Trends in the well-being of American women, 1970-1995* (No. w6206). National Bureau of Economic Research.

Blau, F. D., Ferber, M. A., & Winkler, A. E. (2016). *The economics of women, men, and work*. *7th Edition.* New York-Oxford: Oxford University Press.

Borderías, C. (2003). La transición de la actividad femenina en el mercado de trabajo Barcelonés (1856–1930): Teoría social y realidad histórica en el sistema estadístico moderno [The transition from women's participation in the Barcelonian labor market (1856–1930): Social theory and historical reality in the modern statistical system], in Sarasúa, C., and Gàlvez-Muñoz, L., eds. Privilegios o eficiencia? Mujeres y hombres en los mercados de trabajo [Privileges or efficiency? Women and men in labor markets]. pp. 241–76. Alicante: Universidad de Alicante.

Borderías, C. (2013). Revisiting Women's Labor Force Participation in Catalonia (1920–36). *Feminist Economics*, *19*(4), 224-242.

Boserup, E. (1970). *Woman's Role in Economic Development*. London: Allen & Unwin.

Caselli, G. (1991). Health Transition and Cause- Specific Mortality. In R. Schofield, D. Reher, and A. Bideau (eds.), *The Decline of Mortality in Europe*. Oxford: Clarendon Press, 68–96.

Caselli, G., and Lipsi, R. M. (2002). *Evoluzione della geografia della mortalità in Italia, Tavole provinciali e probabilità di morte per causa. Anni 1971– 73, 1981– 83, 1991– 93*, "Fonti e Strumenti," 4. Rome, University of Rome "La Sapienza," Department of Demographic Sciences.

Camps, E. (1995). La formaciòn del mercado de trabajo industrial en la Cataluna del siglo XIX. [The formation of the industrial labor market in nineteenth century Catalonia]. Madrid: Ministerio de Trabajo y Seguridad Social.

Chianese, S. and Vecchi, G. (2017). Household budgets. In G. Vecchi, *Measuring Wellbeing*. New York-Oxford: Oxford University Press: 492-523.

Ciccarelli, C., & Weisdorf, J. L. (2016). The Effect of the Italian Unification on the Comparative Regional Development in Literacy, 1821-1911. No 392, CEIS Research Paper, Tor Vergata University, CEIS.

Ciocca, P., & Toniolo, G. (2004). *Storia economica d'Italia*. Laterza.

Croson, R., & Gneezy, U. (2009). Gender differences in preferences. *Journal of Economic literature*, *47(2),* 448-474.

D'Agata, C. (1965). Composizione della popolazione secondo l'attività lavorativa. *Annali di statistica, VIII, vol. 17,* 217-234.

Daniele, V., & Malanima, P. (2011). Il divario nord-sud in Italia, 1861-2011 (Vol. 273). Rubbettino Editore.

Davidoff, L. (1979). The separation of home and work? Landladies and lodgers in nineteenth-and twentieth-century England. *Fit work for women*, 64-97.

Del Boca, D. (1988). Women in a changing workplace: the case of Italy. In J. Jenson, E. Hagen, & C. Reddy (Eds.), *Feminization of the labour force: paradoxes and promises* (pp. 120–36). New York-Oxford: Oxford University Press.

Del Boca, D., & Vuri, D. (2007). The mismatch between employment and child care in Italy: the impact of rationing. *Journal of Population Economics*, *20*(4), 805-832.

Del Boca, D., Pasqua, S., & Pronzato, C. (2009). Motherhood and market work decisions in institutional context: a European perspective. *Oxford Economic Papers*, *61*(suppl 1), i147-i171.

Del Boca, D., & Giraldo, A. (2013). Why has the growth of female employment in Italy been so slow?. *Journal of Modern Italian Studies*, *18*(4), 485-499.

Del Bono, E., & Vuri, D. (2011). Job mobility and the gender wage gap in Italy. *Labour Economics*, *18*(1), 130-142.

Del Panta, L. (1996). La popolazione italiana dal Medioevo a oggi. Rome-Bari: Laterza.

Dijkstra, A. G., & Hanmer, L. C. (2000). Measuring socio-economic gender inequality: Toward an alternative to the UNDP gender-related development index. *Feminist economics*, *6*(2), 41-75.

Donni, O., & Chiappori, P. A. (2011). Nonunitary models of household behavior: a survey of the literature. In *Household economic behaviors* (pp. 1-40). Springer New York.

Duflo, E. (2012). Women empowerment and economic development. *Journal of Economic Literature*, *50*(4), 1051-1079.

Favero G. and U. Trivellato. 2000. Il lavoro attraverso gli 'Annali'. Dalle preoccupazioni sociali alla misura della partecipazione e dei comportamenti nel mercato del lavoro. In *Statistica ufficiale e storia d'Italia: gli "Annali di statistica" dal 1871 al 1997*. Roma: Istat. (Annali di statistica, serie X, vol. 21).

Federico, G., and Martinelli, P. (2015). The Role of Women in Traditional Agriculture: Evidence from Italy. CEPR Discussion Papers 10881, C.E.P.R. Discussion Papers.

Fenoaltea, S. (2003). Peeking backward: regional aspects of industrial growth in post-unification Italy. *The Journal of Economic History*, *63*(4), 1059-1102.

Fenoaltea, S. (2015). Industrial employment in Italy, 1911: the burden of the census data. *Rivista di storia economica*, *31*(2), 225-246.

Fuà, G., and Scuppa, S. Industrializzazione e deindustrializzazione delle regioni italiane secondo i censimenti demografici 1881-1981. *Economia Marche 7*, no. 3 (1988): 307-27.

Gàlvez-Muñoz, L. (2000). Compañía arrendataria de tabacos: Cambio tecnológico y empleo femenino, 1887–1945 [Lessee tobacco company: Technological change and women's employment, 1887–1945]. Madrid: Lid.

Giordano, C., & Zollino, F. (2015). A Historical Reconstruction of Capital and Labour in Italy, 1861-2013. *Rivista di storia economica*, *31*(2), 155-224.

Gnesutta, C. (2000). Prospettive di sviluppo nazionale e rappresentazione della realtà economica negli "Annali di statistica" 1871–1996. In *Statistica ufficiale e storia d'Italia: gli "Annali di statistica" dal 1871 al 1997.* Roma: Istat. (Annali di statistica, serie X, vol. 21)

Goldin, C. (1986). The economic status of women in the early republic: Quantitative evidence. *The Journal of Interdisciplinary History*, *16*(3), 375-404.

Goldin, C. (1990). Understanding the gender gap: an economic history of American women. New York: Oxford University Press.

Goldin, C. (1995). The U-Shaped Female Labor Force Function in Economic Development and Economic History. In T. P. Schultz, ed., *Investment in Women's Human Capital and Economic Development*, pp. 61-90.

Goldin, C. (2006). The Quiet Revolution That Transformed Women's Employment, Education, and Family, Ely Lecture, in *American Economic Review, Papers and Proceedings* 96: 1-21.

Grantham, G. (2012). Determinants of Women's Labor Force Participation in Mid Nineteenth-Century Rural France. *Feminist Economics* 18(4): 97–119.

Greenwood, J., Seshadri, A., & Yorukoglu, M. (2005). Engines of liberation. *The Review of Economic Studies*, *72*(1), 109-133.

Gronau, R. (1974). Wage comparisons: A selectivity bias. *Journal of political Economy*, *82*(6), 1119-1143.

Juhn, C., & Potter, S. (2006). Changes in labor force participation in the United States. *The Journal of Economic Perspectives*, *20*(3), 27-46.

King, Elizabeth M.; Hill, M. Anne [editors]. 1993. *Women's education in developing countries: barriers, benefits, and policies*. Baltimore, MD: The Johns Hopkins University Press.

Heckman, J. (1974). Shadow prices, market wages, and labor supply. *Econometrica, 42*(4), 679-694.

Heckman, J. (1979). Sample selection bias as a specification error. *Econometrica, 47*(1), 153-161.

Heckman, J. (2015). Introduction to a Theory of the Allocation of Time by Gary Becker. *The Economic Journal*, *125*(583), 403-409.

Herrendorf, B., R. Rogerson, and A. Valentinyi (2014). Growth and Structural Transformation. In *Handbook of Economic Growth*, edition 1, volume 2, chapter 6, pages 855-941. Elsevier.

Higgs, E. (1987). Women, Occupations and Work in the Nineteenth-Century Censuses. History Workshop 23: 59–80.

Higgs, E. (1995). ‘‘Occupational Censuses and the Agricultural Workforce in Victorian England and Wales. *Economic History Review* 48(4): 700–16.

Higgs, E. (2005). Making Sense of the Census Revisited: Census Records for England and Wales, 1801–1901: A Handbook for Historical Researchers. London: Institute for Historical Research.

Higgs, E., & Wilkinson, A. (2016). Women, Occupations and Work in the Victorian Censuses Revisited. In *History Workshop Journal* (Vol. 81, No. 1, pp. 17-38). Oxford University Press.

Holt, D., and Smith, T. M. F. (1979). Post Stratification. *Journal of the Royal Statistical Society* 142: 33– 46.

Horrell, S., & Humphries, J. (1995). Women's labour force participation and the transition to the male-breadwinner family, 1790-1865. *The Economic History Review*, *48*(1), 89-117.

Horrell, S., & Humphries, J. (1997). ‘The Origins and Expansion of the Male Breadwinner Family: The Case of Nineteenth-Century Britain. *International Review of Social History* 42 (supplement S5): 25–64.

Horrell, S., & Oxley, D. (2013). Bargaining for basics? Inferring decision making in nineteenth-century British households from expenditure, diet, stature, and death. *European Review of Economic History*, *17*(2), 147-170.

Humphries, J. (1991). “Lurking in the Wings...”: Women in the Historiography of the Industrial Revolution. *Business and Economic History*, 32-44.

Humphries, J., & Sarasúa, C. (2012). Off the record: Reconstructing women's labor force participation in the European past. *Feminist Economics*, *18*(4), 39-67.

Humphries, J., & Weisdorf, J. (2015). The wages of women in England, 1260–1850. *The Journal of Economic History*, *75*(02), 405-447.

ILO (2013). Resolution I: Resolution concerning statistics of work, employment and labour underutilization. *19th International Conference of Labor Statisticians*, 2-11 October 2013, Geneva, Switzerland.

ILO (2017). A little bit of history. Retrieved on 06/11/2017 from http://www.ilo.org/global/statistics-and-databases/statistics-overview-and-topics/WCMS_470310/lang--en/index.htm

Istat (Istituto centrale di statistica) (1934), VII Censimento Generale della Popolazione 21 Aprile 1931, Volume IV, Parte Seconda-Tavole, Rome.

Istat (Istituto centrale di statistica) (1939), VIII Censimento Generale della Popolazione 21 Aprile 1936, Volume IV – Professioni, Parte Seconda – Tavole, A) Agricoltura, Rome.

Istat (Istituto centrale di statistica) (1971). *XI Censimento Generale della Popolazione 24 ottobre 1971, Volume II – Dati per Comune sulle caratteristiche generali della popolazione e delle abitazioni*. Roma 1974.

Istat (Istituto centrale di statistica) (1958). Note e Relazioni, N. 1. Roma.

Istat (Istituto centrale di statistica) (1963). Annuario di Statistiche del Lavoro e dell'Emigrazione. Roma.

Istat (Istituto centrale di statistica) (1966). Annuario di Statistiche del Lavoro e dell'Emigrazione. Roma.

Istat (Istituto centrale di statistica) (1977). Annuario di Statistiche del Lavoro e dell'Emigrazione. Roma.

Istat (Istituto centrale di statistica) (2011a). L'Italia in 150 anni. Sommario di statistiche storiche 1861– 2010, Roma.

Istat (Istituto centrale di statistica) (2011b). Censimento, dati online http://dati-censimentopopolazione.istat.it/Index.aspx#

Knijn, T., & Saraceno, C. (2010). Changes in the regulation of responsibilities towards childcare needs in Italy and the Netherlands: different timing, increasingly different approaches. *Journal of European Social Policy*, *20*(5), 444-455.

Luci, A. (2009). Female Labour Market Participation and Economic Growth. *International Journal of Innovation and Sustainable Development* 4 (2/ 3).

Lundberg, S. (2010). The Sexual Division of Labour." In *The Shape of the Division of Labour: Nations, Industries and Households*, edited by Robert M. Solow and Jean- Philippe Touffut, 122– 48. Cheltenham, UK: Edward Elgar.

MAIC (1861) Ministero di agricultura, industria e commercio, *Popolazione. Censimento generale 31 dicembre 1861, vol. III*. Tipografia Letteraria, Firenze 1867.

MAIC (1871) Ministero di agricultura, industria e commercio, *Popolazione classificata per professioni, culti e infermità principali. Censimento 31 dicembre 1871, vol. III*. Stamperia Reale, Roma 1874-1876

Mammen, K., & Paxson, C. (2000). Women's work and economic development. The Journal of Economic Perspectives, 14(4), 141-164.

Marchand, O., & Thélot, C. (1997, Février). Formation de la main d'oeuvre et capital humain en France depuis deux siècles. Les Dossiers d'éducation et formation, No. 80, ministère de l'Education Nationale, Direction de l'évaluation de la prospective (DEP).

Mincer, J. (1962). Labor force participation of married women: A study of labor supply. In *Aspects of labor economics* (pp. 63-105). Princeton University Press.

Mitchell, B. (2007). International Historical Statistics; Europe 1750-2005. 5th edition. Macmillan; Stockton, London : New York.

Mokyr, J. (2000). Why "more work for mother?" Knowledge and household behavior, 1870–1945. *The Journal of Economic History*, *60*(01), 1-41.

Mussida, C., & Picchio, M. (2014a). The trend over time of the gender wage gap in Italy. *Empirical Economics*, *46*(3), 1081-1110.

Mussida, C., & Picchio, M. (2014b). The gender wage gap by education in Italy. *The Journal of Economic Inequality*, Springer; Society for the Study of Economic Inequality, vol. 12(1), pages 117-147, March.

Muñoz Abeledo, L. (2012). Women in the rural and industrial labor force in nineteenth-century Spain. *Feminist Economics*, *18*(4), 121-144.

Neale, R. S. (1985). *Writing marxist history: British society, economy & culture since 1700*. Oxford: Blackwell.

Nussbaum, M. C., & Glover, J. (Eds.). (1995). *Women, culture, and development: A study of human capabilities*. Oxford University Press.

Nussbaum, M. (2000). Women's capabilities and social justice. *Journal of Human Development*, *1*(2), 219-247.

Nussbaum, M. (2003). Capabilities as fundamental entitlements: Sen and social justice. *Feminist economics*, *9*(2-3), 33-59.

OECD (2016), Education at a Glance 2016: OECD Indicators, OECD Publishing, Paris.

OECD (2017a), LFS by sex and age (indicators). *OECD.Stat.*

OECD (2017b), Share of employed in part-time employment, by sex and age group (indicator). *OECD.Stat.*

OECD (2017c), Time spent in paid and unpaid work, by sex (indicator). *OECD.Stat.*

OECD (2017d), Gender wage gap (indicator). *OECD.Stat.*

Olivetti, C., & Petrongolo, B. (2008). Unequal pay or unequal employment? A cross-country analysis of gender gaps. *Journal of Labor Economics*, *26*(4), 621-654.

Olivetti, C. (2014). The Female Labor Force and Long-Run Development: The American Experience in Comparative Perspective. In Human Capital in History: The American Record (pp. 161-197). University of Chicago Press.

Olivetti, C., & Petrongolo, B. (2016). The evolution of gender gaps in industrialized countries. *Annual Review of Economics*, *8*, 405-434.

Patriarca, S. (1998). Gender trouble: Women and the making of Italy's 'active population', 1861-1936. *Journal of Modern Italian Studies*, 3:2, 144-163.

Pellegrini, G. (2003). Lo sviluppo strutturale dell'economia italiana dal dopoguerra al nuovo secolo, in P. Ciocca and G. Toniolo (eds), *Storia economica d'Italia*, vol. III: *Industrie, mercati, istituzioni*, t. I: *Le strutture dell'economia*, Rome-Bari, Laterza: 195-224.

Pérez-Fuentes, P. (1995). ‘‘El trabajo de las mujeres en la España de los siglos XIX y XX: Consideraciones metodològicas’’ [Women’s work in nineteenth and twentieth-century Spain: Methodological considerations]. Arenal: Revista de historia de las mujeres 2(2): 219–45.

Pérez-Fuentes, P. (2013). Women's Economic Participation on the Eve of Industrialization: Bizkaia, Spain, 1825. *Feminist Economics*, *19*(4), 160-180.

Pissarides, C., Garibaldi, P., Olivetti, C., Petrongolo, B., & Wasmer, E. (2005). Women in the labor force: How well is Europe doing? In T. Boeri, D. Del Boca e C. Pissarides (Eds.), *Women at Work. An Economic Perspective* (pp. 9-120). New York-Oxford: Oxford University Press.

Pollak, R. A. (2003). Gary Becker's contributions to family and household economics. *Review of Economics of the Household*, *1*(1), 111-141.

Ponthieux, S. & Meurs, D: (2015). Gender Inequality. In Atkinson, A. B., & Bourguignon, F. (Eds.). (2014). *Handbook of income distribution* (pp. 983-1146). Elsevier.

Robeyns, I. (2005). Sen’s capability approach and gender inequality: Selecting relevant capabilities. In B. Agarwal, H. Humphries, & I. Robeyns (Eds.), *Amartya Sen’s Work and Ideas: A Gender Perspective*. Routledge Taylor & Francis Group London and New York.

Robeyns, I. (2016). The Capability Approach. Stanford Encyclopedia of Philosophy. Retrieved on 05/09/2017. https://plato.stanford.edu/entries/capability-approach/

Saraceno, C. (2003). La conciliazione di responsabilità familiari e attività lavorative in Italia: paradossi ed equilibri imperfetti. *Polis*, *17*(2), 199-228.

Saraceno, C. (2011). Beyond Care. The Persistent Invisibility of Unpaid Family Work. *Sociologica*, (1).

Saraceno, C. (2015). Trends and Tensions within the Italian Family. In E. Jones & G. Pasquino (Eds.), *The Oxford Handbook of Italian Politics* (pp. 465-477). New York-Oxford: Oxford University Press.

Sarasúa, C., and Gàlvez-Muñoz, L., eds. (2003). Privilegios o eficiencia? Mujeres y hombres en los mercados de trabajo [Privileges or efficiency? Women and men in labor markets]. Alicante: Universidad de Alicante.

Sharpe, P. (1995). Continuity and change: Women's history and economic history in Britain. *The Economic History Review*, *48*(2), 353-369.

Schmidt, A. and van Nederveen Meerkerk, E. (2012). Reconsidering the ‘First Male Breadwinner Economy’: Women’s Labor Force Participation in the Netherlands, 1600–1900.’’ *Feminist Economics 18(4)*: 69–96.

Sen, A., (1980). Equality of What? In McMurrin (ed.), *Tanner Lectures on Human Values*, Cambridge: Cambridge University Press.

Sen, A., (1985). Commodities and Capabilities. Amsterdam: North-Holland.

SNA 2008, European Commission, International Monetary Fund, Organisation for Economic Co-operation and Development, United Nations, World Bank, New York, 2009, System of National Accounts 2008, *https://unstats.un.org/unsd/nationalaccount/sna2008.asp*

Thomas, J. (1988). Women and capitalism: oppression or emancipation? A review article. *Comparative studies in society and history*, *30*(3), 534-549.

Toniolo, G. (Ed.). (2013). *The Oxford handbook of the Italian economy since unification*. New York-Oxford: Oxford University Press.

Vecchi, G. (1994). I bilanci familiari in Italia: 1860-1960. *Rivista di storia economica*, *11*, 9-95.

Vecchi, G. (2017). *Measuring Wellbeing: A History of Italian Living Standards*. New York-Oxford: Oxford University Press.

Vitali O. 1968. La popolazione attiva in agricoltura attraverso i censimenti italiani. Collana dell'Istituto di demografia, Università di Roma. Roma: Università "La Sapienza" di Roma.

Vitali O. 1970. Aspetti dello sviluppo economico italiano alla luce della ricostruzione della popolazione attiva. Roma: Università "La Sapienza".

Walton, J. K., & McGloin, P. R. (1979). Holiday resorts and their visitors: some sources for the local historian. *The Local Historian*, *13*(6), 323-31.

Willson, P. (2009). *Women in twentieth-century Italy*. Palgrave Macmillan.

Zizza, R. (2013). The gender wage gap in Italy. *Questioni di Economia e Finanza (Occasional Papers)* 172. Bank of Italy, Economic Research and International Relations Area.

Zucca Micheletto, B. (2013). Reconsidering women's labor force participation rates in eighteenth-century Turin. *Feminist Economics*, *19*(4), 200-223.

## Appendix – Unadjusted census-based female labor force participation rates in Italian regions, 1861-2011

1881

| age | Region | Active (000) | Total (000) | LFP (%) |
|---|---|---|---|---|
| 9+ | Piemonte e Valle d'Aosta | 739,637 | 1,217,358 | 60.8 |
| 9+ | Liguria | 176,077 | 362,974 | 48.5 |
| 9+ | Lombardia | 871,255 | 1,430,432 | 60.9 |
| 9+ | Veneto | 452,505 | 1,101,953 | 41.1 |
| 9+ | Emilia-Romagna | 370,948 | 859,683 | 43.1 |
| 9+ | Marche | 217,091 | 391,182 | 55.5 |
| 9+ | Toscana | 361,952 | 870,012 | 41.6 |
| 9+ | Umbria | 93,041 | 225,441 | 41.3 |
| 9+ | Lazio | 141,875 | 342,878 | 41.4 |
| 9+ | Campania | 609,817 | 1,185,604 | 51.4 |
| 9+ | Abruzzi e Molise | 320,322 | 546,064 | 58.7 |
| 9+ | Puglia | 307,990 | 626,385 | 49.2 |
| 9+ | Basilicata | 130,936 | 216,650 | 60.4 |
| 9+ | Calabria | 371,800 | 513,909 | 72.3 |
| 9+ | Sicilia | 487,153 | 1,143,078 | 42.6 |
| 9+ | Sardegna | 48,876 | 258,555 | 18.9 |
| **9+** | **Italia** | **5,701,275** | **11,292,158** | **50.5** |

1901

| age | Region | Active (000) | Total (000) | LFP (%) |
|---|---|---|---|---|
| 9+ | Piemonte e Valle d'Aosta | 761,254 | 1,341,800 | 56.7 |
| 9+ | Liguria | 173,196 | 433,325 | 40.0 |
| 9+ | Lombardia | 856,591 | 1,679,769 | 51.0 |
| 9+ | Veneto | 502,971 | 1,214,041 | 41.4 |
| 9+ | Emilia-Romagna | 401,106 | 949,248 | 42.3 |
| 9+ | Marche | 212,963 | 426,872 | 49.9 |
| 9+ | Toscana | 367,557 | 998,697 | 36.8 |
| 9+ | Umbria | 90,968 | 254,639 | 35.7 |
| 9+ | Lazio | 154,733 | 455,217 | 34.0 |
| 9+ | Campania | 537,277 | 1,293,744 | 41.5 |
| 9+ | Abruzzi e Molise | 287,179 | 597,386 | 48.1 |
| 9+ | Puglia | 221,306 | 758,507 | 29.2 |
| 9+ | Basilicata | 103,582 | 203,715 | 50.8 |
| 9+ | Calabria | 332,616 | 564,775 | 58.9 |
| 9+ | Sicilia | 241,638 | 1,369,582 | 17.6 |
| 9+ | Sardegna | 39,127 | 303,382 | 12.9 |
| **9+** | **Italia** | **5,284,064** | **12,844,699** | **41.1** |

## 1911

| age | Region | Active (000) | Total (000) | LFP (%) |
|---|---|---|---|---|
| 10+ | Piemonte e Valle d'Aosta | 746,763 | 1,400,295 | 53.3 |
| 10+ | Liguria | 169,124 | 479,134 | 35.3 |
| 10+ | Lombardia | 867,492 | 1,868,656 | 46.4 |
| 10+ | Veneto | 536,984 | 1,344,329 | 39.9 |
| 10+ | Emilia-Romagna | 395,273 | 1,009,430 | 39.2 |
| 10+ | Marche | 191,290 | 440,268 | 43.4 |
| 10+ | Toscana | 387,614 | 1,055,588 | 36.7 |
| 10+ | Umbria | 85,882 | 264,654 | 32.5 |
| 10+ | Lazio | 156,068 | 511,318 | 30.5 |
| 10+ | Campania | 506,864 | 1,345,166 | 37.7 |
| 10+ | Abruzzi e Molise | 249,079 | 602,320 | 41.4 |
| 10+ | Puglia | 221,971 | 831,554 | 26.7 |
| 10+ | Basilicata | 84,994 | 192,702 | 44.1 |
| 10+ | Calabria | 279,942 | 581,653 | 48.1 |
| 10+ | Sicilia | 207,141 | 1,429,443 | 14.5 |
| 10+ | Sardegna | 41,244 | 323,691 | 12.7 |
| **10+** | **Italia** | **5,127,725** | **13,680,201** | **37.5** |

## 1921

| age | Region | Active (000) | Total (000) | LFP (%) |
|---|---|---|---|---|
| 10+ | Piemonte e Valle d'Aosta | 714,289 | 1,470,811 | 48.6 |
| 10+ | Liguria | 162,760 | 562,514 | 28.9 |
| 10+ | Lombardia | 864,346 | 2,122,922 | 40.7 |
| 10+ | Venezia Tridentina | 114,621 | 267,770 | 42.8 |
| 10+ | Veneto | 522,922 | 1,567,513 | 33.4 |
| 10+ | Venezia Giulia | 116,808 | 372,805 | 31.3 |
| 10+ | Emilia-Romagna | 457,547 | 1,170,466 | 39.1 |
| 10+ | Marche | 221,520 | 471,787 | 47.0 |
| 10+ | Toscana | 342,134 | 1,165,276 | 29.4 |
| 10+ | Umbria | 98,612 | 290,411 | 34.0 |
| 10+ | Lazio | 172,527 | 608,020 | 28.4 |
| 10+ | Campania | 476,791 | 1,451,626 | 32.8 |
| 10+ | Abruzzi e Molise | 231,545 | 603,566 | 38.4 |
| 10+ | Puglia | 203,554 | 911,695 | 22.3 |
| 10+ | Basilicata | 80,105 | 192,519 | 41.6 |
| 10+ | Calabria | 276,802 | 621,902 | 44.5 |
| 10+ | Sicilia | 117,553 | 1,626,452 | 7.2 |
| 10+ | Sardegna | 42,167 | 345,551 | 12.2 |
| **10+** | **Italia** | **5,276,603** | **15,823,606** | **33.3** |

## 1931

| age | Region | Active (000) | Total (000) | LFP (%) |
|---|---|---|---|---|
| 10+ | Piemonte e Valle d'Aosta | 508,551 | 1,510,661 | 33.7 |
| 10+ | Liguria | 136,627 | 617,055 | 22.1 |
| 10+ | Lombardia | 758,128 | 2,313,441 | 32.8 |
| 10+ | Venezia Tridentina | 73,219 | 265,460 | 27.6 |
| 10+ | Veneto | 445,680 | 1,630,812 | 27.3 |
| 10+ | Venezia Giulia | 82,873 | 393,200 | 21.1 |
| 10+ | Emilia-Romagna | 364,381 | 1,283,420 | 28.4 |
| 10+ | Marche | 163,767 | 489,083 | 33.5 |
| 10+ | Toscana | 259,325 | 1,193,853 | 21.7 |
| 10+ | Umbria | 55,612 | 265,852 | 20.9 |
| 10+ | Lazio | 196,551 | 933,588 | 21.1 |
| 10+ | Campania | 286,565 | 1,369,627 | 20.9 |
| 10+ | Abruzzi e Molise | 130,308 | 606,392 | 21.5 |
| 10+ | Puglia | 120,586 | 956,144 | 12.6 |
| 10+ | Basilicata | 41,430 | 195,716 | 21.2 |
| 10+ | Calabria | 144,130 | 664,713 | 21.7 |
| 10+ | Sicilia | 94,421 | 1,531,444 | 6.2 |
| 10+ | Sardegna | 41,483 | 371,977 | 11.2 |
| **10+** | **Italia** | **3,903,637** | **16,592,438** | **23.5** |

## 1936

| age | Region | Active (000) | Total (000) | LFP (%) |
|---|---|---|---|---|
| 10+ | Piemonte e Valle d'Aosta | 627,107 | 1,539,373 | 40.7 |
| 10+ | Liguria | 179,847 | 655,303 | 27.4 |
| 10+ | Lombardia | 900,126 | 2,460,805 | 36.6 |
| 10+ | Venezia Tridentina | 92,411 | 276,233 | 33.5 |
| 10+ | Veneto | 574,443 | 1,706,895 | 33.7 |
| 10+ | Venezia Giulia | 117,697 | 414,452 | 28.4 |
| 10+ | Emilia-Romagna | 474,135 | 1,363,711 | 34.8 |
| 10+ | Marche | 214,402 | 517,550 | 41.4 |
| 10+ | Toscana | 354,850 | 1,258,176 | 28.2 |
| 10+ | Umbria | 91,751 | 285,699 | 32.1 |
| 10+ | Lazio | 311,164 | 1,078,390 | 28.9 |
| 10+ | Campania | 384,613 | 1,465,219 | 26.2 |
| 10+ | Abruzzi e Molise | 225,969 | 636,457 | 35.5 |
| 10+ | Puglia | 201,239 | 1,020,923 | 19.7 |
| 10+ | Basilicata | 75,329 | 206,932 | 36.4 |
| 10+ | Calabria | 221,163 | 696,406 | 31.8 |
| 10+ | Sicilia | 172,343 | 1,583,579 | 10.9 |
| 10+ | Sardegna | 60,616 | 395,682 | 15.3 |
| **10+** | **Italia** | **5,279,205** | **17,561,785** | **30.1** |

## 1951

| age | Region | Active (000) | Total (000) | LFP (%) |
|---|---|---|---|---|
| 10+ | Piemonte e Valle d'Aosta | 513,669 | 1,660,509 | 30.9 |
| 10+ | Liguria | 140,941 | 723,319 | 19.5 |
| 10+ | Lombardia | 844,596 | 2,900,657 | 29.1 |
| 10+ | Trentino-Alto Adige | 71,450 | 304,994 | 23.4 |
| 10+ | Veneto | 408,909 | 1,641,473 | 24.9 |
| 10+ | Friuli-Venezia Giulia | 143,147 | 544,271 | 26.3 |
| 10+ | Emilia-Romagna | 455,157 | 1,542,745 | 29.5 |
| 10+ | Marche | 191,452 | 589,026 | 32.5 |
| 10+ | Toscana | 295,692 | 1,392,312 | 21.2 |
| 10+ | Umbria | 74,011 | 338,695 | 21.9 |
| 10+ | Lazio | 317,246 | 1,420,438 | 22.3 |
| 10+ | Campania | 412,483 | 1,774,335 | 23.2 |
| 10+ | Abruzzi e Molise | 176,470 | 716,992 | 24.6 |
| 10+ | Puglia | 349,963 | 1,280,630 | 27.3 |
| 10+ | Basilicata | 88,482 | 252,783 | 35.0 |
| 10+ | Calabria | 207,557 | 826,566 | 25.1 |
| 10+ | Sicilia | 164,759 | 1,845,554 | 8.9 |
| 10+ | Sardegna | 57,839 | 495,165 | 11.7 |
| **10+** | **Italia** | **4,913,853** | **20,250,494** | **24.3** |

## 1961

| age | Region | Active (000) | Total (000) | LFP (%) |
|---|---|---|---|---|
| 10+ | Piemonte e Valle d'Aosta | 503,729 | 2,047,534 | 24.6 |
| 10+ | Liguria | 144,486 | 891,508 | 16.2 |
| 10+ | Lombardia | 882,012 | 3,787,900 | 23.3 |
| 10+ | Trentino-Alto Adige | 78,403 | 395,333 | 19.8 |
| 10+ | Veneto | 346,951 | 1,947,021 | 17.8 |
| 10+ | Friuli-Venezia Giulia | 116,444 | 616,853 | 18.9 |
| 10+ | Emilia-Romagna | 431,858 | 1,845,725 | 23.4 |
| 10+ | Marche | 163,058 | 682,195 | 23.9 |
| 10+ | Toscana | 289,812 | 1,663,743 | 17.4 |
| 10+ | Umbria | 63,261 | 394,849 | 16.0 |
| 10+ | Lazio | 303,449 | 2,006,106 | 15.1 |
| 10+ | Campania | 425,705 | 2,421,239 | 17.6 |
| 10+ | Abruzzi e Molise | 144,942 | 795,625 | 18.2 |
| 10+ | Puglia | 415,964 | 1,730,050 | 24.0 |
| 10+ | Basilicata | 82,614 | 322,493 | 25.6 |
| 10+ | Calabria | 182,292 | 1,041,103 | 17.5 |
| 10+ | Sicilia | 227,325 | 2,383,975 | 9.5 |
| 10+ | Sardegna | 61,826 | 703,001 | 8.8 |
| **10+** | **Italia** | **4,864,131** | **25,676,253** | **18.9** |

| age | Region | Active (000) | Total (000) | LFP (%) |
|---|---|---|---|---|
| 14+ | Piemonte | 536,599 | 1,854,791 | 28.9 |
| 14+ | Valle D'Aosta | 11,853 | 43,944 | 27.0 |
| 14+ | Lombardia | 1,037,486 | 3,486,519 | 29.8 |
| 14+ | Trentino-Alto Adige | 88,180 | 327,229 | 26.9 |
| 14+ | Veneto | 410,871 | 1,634,465 | 25.1 |
| 14+ | Friuli-Venezia Giulia | 127,504 | 519,865 | 24.5 |
| 14+ | Liguria | 173,428 | 807,509 | 21.5 |
| 14+ | Emilia-Romagna | 480,622 | 1,615,672 | 29.7 |
| 14+ | Toscana | 356,491 | 1,469,766 | 24.3 |
| 14+ | Umbria | 70,392 | 320,347 | 22.0 |
| 14+ | Marche | 160,951 | 560,547 | 28.7 |
| 14+ | Lazio | 422,422 | 1,858,506 | 22.7 |
| 14+ | Abruzzi | 107,558 | 468,860 | 22.9 |
| 14+ | Molise | 46,609 | 128,744 | 36.2 |
| 14+ | Campania | 407,551 | 1,869,534 | 21.8 |
| 14+ | Puglia | 373,589 | 1,335,426 | 28.0 |
| 14+ | Basilicata | 66,707 | 225,190 | 29.6 |
| 14+ | Calabria | 170,031 | 737,393 | 23.1 |
| 14+ | Sicilia | 281,604 | 1,790,424 | 15.7 |
| 14+ | Sardegna | 100,735 | 544,455 | 18.5 |
| **14+** | **Italia** | **5,431,183** | **21,599,186** | **25.1** |

| age | Region | Active (000) | Total (000) | LFP (%) |
|---|---|---|---|---|
| 14+ | Piemonte | 723,444 | 2,308,938 | 31.3 |
| 14+ | Valle D'Aosta | 16,844 | 56,540 | 29.8 |
| 14+ | Lombardia | 1,404,856 | 4,599,607 | 30.5 |
| 14+ | Trentino-Alto Adige | 121,641 | 446,601 | 27.2 |
| 14+ | Veneto | 613,134 | 2,234,027 | 27.4 |
| 14+ | Friuli-Venezia Giulia | 174,891 | 643,905 | 27.2 |
| 14+ | Liguria | 235,194 | 950,605 | 24.7 |
| 14+ | Emilia-Romagna | 686,008 | 2,039,746 | 33.6 |
| 14+ | Toscana | 542,239 | 1,852,461 | 29.3 |
| 14+ | Umbria | 113,779 | 411,988 | 27.6 |
| 14+ | Marche | 226,047 | 725,112 | 31.2 |
| 14+ | Lazio | 655,948 | 2,573,552 | 25.5 |
| 14+ | Abruzzi | 156,714 | 623,315 | 25.1 |
| 14+ | Molise | 45,941 | 167,607 | 27.4 |
| 14+ | Campania | 643,809 | 2,766,141 | 23.3 |
| 14+ | Puglia | 471,496 | 1,983,436 | 23.8 |
| 14+ | Basilicata | 83,259 | 308,184 | 27.0 |
| 14+ | Calabria | 230,840 | 1,043,483 | 22.1 |
| 14+ | Sicilia | 438,289 | 2,508,638 | 17.5 |
| 14+ | Sardegna | 172,824 | 806,671 | 21.4 |
| **14+** | **Italia** | **7,757,197** | **29,050,557** | **26.7** |

| age | Region | Active (000) | Total (000) | LFP (%) |
|---|---|---|---|---|
| 15+ | Piemonte | 794,501 | 1,933,007 | 41.1 |
| 15+ | Valle d'Aosta | 24,216 | 53,478 | 45.3 |
| 15+ | Lombardia | 1,715,473 | 4,081,383 | 42.0 |
| 15+ | Trentino-Alto Adige | 179,113 | 406,167 | 44.1 |
| 15+ | Veneto | 833,692 | 2,026,513 | 41.1 |
| 15+ | Friuli-Venezia Giulia | 219,627 | 548,734 | 40.0 |
| 15+ | Liguria | 262,759 | 749,991 | 35.0 |
| 15+ | Emilia-Romagna | 808,624 | 1,833,075 | 44.1 |
| 15+ | Toscana | 644,681 | 1,617,854 | 39.8 |
| 15+ | Umbria | 143,262 | 377,648 | 37.9 |
| 15+ | Marche | 272,136 | 664,557 | 40.9 |
| 15+ | Lazio | 893,309 | 2,317,220 | 38.6 |
| 15+ | Abruzzo | 199,830 | 564,201 | 35.4 |
| 15+ | Molise | 47,620 | 142,416 | 33.4 |
| 15+ | Campania | 740,779 | 2,408,518 | 30.8 |
| 15+ | Puglia | 526,087 | 1,743,583 | 30.2 |
| 15+ | Basilicata | 87,526 | 258,782 | 33.8 |
| 15+ | Calabria | 273,291 | 863,573 | 31.6 |
| 15+ | Sicilia | 644,932 | 2,152,266 | 30.0 |
| 15+ | Sardegna | 254,873 | 722,965 | 35.3 |
| **15+** | **Italia** | **9,566,331** | **25,465,931** | **37.6** |

| age | Region | Active (000) | Total (000) | LFP (%) |
|---|---|---|---|---|
| 15+ | Piemonte | 894,118 | 1,985,318 | 45.0 |
| 15+ | Valle d'Aosta / Vallée d'Aoste | 27,494 | 56,338 | 48.8 |
| 15+ | Liguria | 303,777 | 740,691 | 41.0 |
| 15+ | Lombardia | 1,993,976 | 4,320,964 | 46.1 |
| 15+ | Trentino Alto Adige / Südtirol | 224,860 | 445,901 | 50.4 |
| 15+ | Provincia Autonoma Bolzano / Bozen | 115,217 | 215,970 | 53.3 |
| 15+ | Provincia Autonoma Trento | 109,643 | 229,931 | 47.7 |
| 15+ | Veneto | 986,262 | 2,156,294 | 45.7 |
| 15+ | Friuli-Venezia Giulia | 249,734 | 556,343 | 44.9 |
| 15+ | Emilia-Romagna | 946,864 | 1,964,800 | 48.2 |
| 15+ | Toscana | 756,181 | 1,683,437 | 44.9 |
| 15+ | Umbria | 177,701 | 404,475 | 43.9 |
| 15+ | Marche | 316,402 | 695,580 | 45.5 |
| 15+ | Lazio | 1,084,828 | 2,496,925 | 43.4 |
| 15+ | Abruzzo | 237,991 | 590,675 | 40.3 |
| 15+ | Molise | 52,731 | 142,060 | 37.1 |
| 15+ | Campania | 836,654 | 2,517,673 | 33.2 |
| 15+ | Puglia | 602,458 | 1,800,102 | 33.5 |
| 15+ | Basilicata | 95,907 | 258,269 | 37.1 |
| 15+ | Calabria | 314,537 | 869,535 | 36.2 |
| 15+ | Sicilia | 731,761 | 2,220,477 | 33.0 |
| 15+ | Sardegna | 301,813 | 741,370 | 40.7 |
| **15+** | **Italia** | **11,136,049** | **26,647,227** | **41.8** |