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FEMALE LABOUR SUPPLY IN ITALY: THE ROLE OF PARENTAL LEAVE AND CHILD CARE POLICIES

by Francesca Carta*

Abstract

Parental leave and child care policies are the two main programmes adopted in developed countries to provide parents with a satisfactory work-family balance. An important goal is to foster the labour supply of mothers, who are usually the primary caregivers in the family. In Italy, the female and maternal labour supply has been historically low, and the inadequacy of the parental leave and child care systems is often cited as one of the causes. Based on the features of existing public policies in this area and on international empirical evidence, we conclude that there is scope to foster quality child care support to further increase the female labour supply in Italy. Moreover, increasing the length of paternity leave may help to rebalance the domestic workload between genders and overcome stereotypes.

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1 Introduction[1]

Despite the secular increase of women's involvement in the labour market, gender inequality in labour outcomes still persists even in developed countries. Early explanations of gender gaps focused on the role of human capital and discrimination. Nowadays, in developed countries women are educated at least as much as men and anti-discrimination policies are widely adopted. This suggests the remaining gender participation and pay gaps are explained by other factors.

Most of the recent literature has focused on the role of motherhood and on the existence of a child penalty. Establishing the relationship between fertility and maternal employment is very complicated, since they are jointly determined and affected by common factors, like culture and social norms. Once taking into account the endogeneity of fertility decisions,[2] motherhood can affect female employment in two ways. First, realized motherhood may affect mother's employment, working hours, occupation etc. as a consequence of the new household chores linked to child-rearing (post-child effect). Second, in anticipation of these new household chores, women may prefer family-friendly career paths (pre-child effect). Several papers study the former effect, providing estimates of the child penalty for different countries. The size of the penalty strongly depends on the existence and on the generosity of family-friendly policies (Kleven et al., 2019).

Parental leave and child care policies are the two family-friendly programs mainly adopted in developed countries, with the aim of helping mothers combining work and family responsibilities. Policy makers and researchers consider them as valuable tools to boost maternal and female labour supply. However, the available empirical evidence, which mostly looks at how family-friendly policies help mothers going back to work and favouring their career, finds mixed effects on maternal labour supply. These effects depend on the program design, on the country-specific pre-reform female employment and on child care arrangements alternative to parental care.

In this article, we explore the existing parental leave and child care policies in Italy, a country which has been historically characterized by low female labour supply and rather poor family-friendly policies. We provide some recommendations on how to reform the Italian welfare system in the family area with the aim of increasing the labour market participation of mothers of very young children. Interventions for very young children are likely to be effective in sustaining female participation not only in the short run, providing mothers with the tools for a satisfactory work-family balance, but also in the long run. Indeed, by reducing the length of inactivity spells due to care duties, they limit mothers' human capital depreciation and favour their attachment to the labour market. From the policy perspective, bringing more women, and mothers, to work is crucial in

[1] *The views expressed in the article are those of the author only and do not involve the responsibility of the Bank of Italy.* I thank Francesco D'Amuri, Paolo Sestito, Luigi Federico Signorini and Eliana Viviano for useful comments and suggestions. All the remaining errors are mine.

[2] The ideal experiment for studying the effects of children on maternal employment would be to randomize fertility. Since such experiment does not exist, researchers adopt instrumental variables (twin births or sibling sex mix) or event study approach (birth of the first child).

order to meet the Europe 2020 headline target of 75 per cent of the 20-64 population to be employed.

The structure of the paper is the following. Section 2 describes the labour market condition of women in Italy. Section 3 describes the parental leave and child care systems in place in Italy, providing also cross-country comparisons. In Section 4 we illustrate the main empirical evidence on the impact of these specific family policies on female labour supply and draw some policy lessons. Section 5 concludes.

2 Women's condition in the Italian labour market

Over the past decades, there has been a growing involvement of women in the labour market all over the world. The labour force participation rate (LFPR)[3] of women has increased since the early '80s until today by about 10 percentage points in the US[4] and more than 20 p.p. in the EU,[5] reaching comparable levels in 2018, of around 68 per cent.[6] In Italy, over the same period, the increase has been more modest than the European average - of about 18 p.p. - considering also the low starting levels (less than 40 per cent); in 2018 the female LFPR was only 56.2 per cent, the lowest value in the EU (Table 1). Despite these progresses, we are far from gender equality. The difference between male and female LFPR is currently around 10 p.p. in the US and in the EU; the gap is twice as large in Italy. With respect to the other main European economies, in Italy the participation gap has only slowly declined over time, remaining rather constant in the most recent years (see Figure 2). The gap is larger only in Malta, where the female participation rate is however at a higher level.[7]

Italian women are less involved in the labour market than their European counterparts but devote much more time to household chores. According to the latest release of the Harmonized European Time Use Survey 2010,[8] Italian women aged 20-74 spend more than five hours per day for home and family care, the largest amount among those countries participating to the Survey. Looking instead at men, we observe the opposite figure: Italian men are those who spend the smallest amount of time in household chores, about one hour and half. As a consequence, in Italy there is the biggest gap between men

[3] An individual is defined active in the labour market when registered either employed or unemployed according to the ILO definition, which requires to have looked for a job in the last two weeks before the interview and being promptly available to work.

[4] In the US the increase in female labour market attachment started to markedly grow well before the '80s.

[5] The aggregate refers to the European Union with 28 countries.

[6] The secular increase has been explained by several factors: technological progress that has reduced the time required for unpaid household work; structural changes that required less intense and physical work; greater availability of flexible working arrangements; increased supply of affordable child care services and more sharing of household work between men and women (for a review, see among others Jaumotte (2003); Goldin (2006)).

[7] Women are more likely to be unemployed than men. Despite this figure is observed in most European countries, in Italy the gap is more pronounced, since women are more likely to be unemployed than men of about 2.1 p.p., while the EU28 average is 0.5 p.p..

[8] This was carried out by 18 European countries between 2008 and 2015; the next one will be available at the end of 2019.

and women in time spent in domestic work, with a clear specialization of work within the family and the male breadwinner model prevailing. This large gap in the domestic workload, which may also reflects the existence of gender norms and stereotypes, is still present when women work and, to a less extent, for younger cohorts.

The gender pay gap in Italy is only apparently low, since it depends on the characteristics of those women who are employed, typically highly educated. According to Eurostat estimates, the raw (or unadjusted) gender pay gap is 5.0 per cent in 2017 (one of the lowest value in the EU) against 16.0 per cent on average in the EU28. The unadjusted pay gap is simply the difference between the average gross hourly earnings of men and women (expressed as a percentage of the average gross hourly earnings of men);[9] it does not take into account that the sample of men and women over which average wages are computed is different. If, for example, only highly educated women tend to be employed while this is not observed as for men, the raw gap is downward bias by the sample selection of employed women. This means that the wage gap might be attenuated by the low female employment rates: women who would be offered, on the basis of their characteristics, relatively low pay are not employed and hence their wages cannot be observed. According to Olivetti and Petrongolo (2008) this pattern holds in the data: unadjusted gender wage gaps tend to be negatively correlated with gender employment gaps across countries.[10] That is, the gender pay gaps tend to be smaller where relatively fewer women participate in the labor force. This is the case for Italy. Indeed the authors, using alternative imputation techniques to recover wages for the non-employed, find much higher measures of the wage gap with respect to the unadjusted ones (in 1999 the raw difference was 7.0 per cent while the adjusted measure 16.0 per cent). More updated estimates, which exploit different data sources, show that the corrected wage gap persists at much higher levels than the raw measure and it increased during and after the Great Recession (Zizza, 2013; Piazzalunga and Di Tommaso, 2019).[11]

3 Family policies

Among the several explanations for the low involvement of women in the labour market, it is often claimed that the Italian welfare system is rather poor towards family and children and not sufficient to help mothers to reconcile work and family responsibilities. Indeed, despite the high level of public expenditure, which is comparable to the one registered in Nordic countries (see Table 2), the amount of resources addressed to families is rather small, not only in comparison with the Nordic countries but also with respect to the European average. Moreover, the Italian Social Security expenditure (42.1 per cent of total expenditure, against 38.5 in the EU28) is disproportionately devoted to pay old age pensions (65.1 per cent of the social security expenditure; 57.4 per cent at the European level), than supporting families (only 7.6 per cent of the social security expenditure; about 10.0 per cent for the EU28). Following Esping-Andersen (1990)'s classification of

[9] This is calculated for enterprises with 10 or more employees.

[10] The different impact of the selection effect among countries may descend from differences in labour supply behaviour (household composition and social norms); from mechanisms of labour demand (e.g. attitudes towards female employment); from institutional differences (e.g. maternity protection laws).

[11] See Bianco et al. (2013) for a broader discussion on gender gaps and their determinants in Italy.

modern welfare systems, the Italian one belongs to the group of Conservative regimes, typically shaped by traditional family values which tend to encourage family-based assistance dynamics. In this model, state assistance will typically only step in when the family's capacity to aid its members is exhausted. Thus, the public intervention in family support is rather limited and residual.[12]

Family and children support in Italy is mainly provided through monetary transfers or tax breaks rather than services (OECD, 2019), which are instead more typical of Nordic countries. In 2015, the latest available year, in Italy the expenditure for family services (for example direct financing or subsidisation of child care) was only 26.6 per cent of total family expenditure; it was about 36 per cent for the European average and 62.0 in Sweden. Distinguishing the nature of public intervention is crucial, since there is a substantial difference between cash and in-kind benefits (such as services): in-kind transfers constrain the recipients' behaviour, while cash transfers do not. For example, providing public child care pushes parents to use it, differently from a generic child-related income transfer that is not constrained to a specific use. Paternalism[13] is the traditional justification for in-kind transfers (see Currie and Gahvari (2008) for a review of the other theoretical explanations). Always referring to the child care example, incentivizing the use of formal child care may eradicate the belief that child care should be mainly provided by parents, especially by mothers. According to the Eurobarometer on the Gender Equality issue, in Italy 51.0 per cent of respondents to the survey believe that the most important role of a woman is to take care of her family and children, against only 11.0 per cent in Sweden. While cross-country correlation does not reveal any clear-cut association between the use of child care and gender stereotypes, countries with more conservative views on gender roles in society tend to spend less on child care and mainly prefer monetary transfers than the provision of child care services.

It is difficult to establish whether demand or supply factors have been more important in shaping the characteristics of the Italian welfare system, but it is very likely that these features have affected family behaviour and contributed to the low female labour supply in Italy.

In this paper we focus on parental leave and child care policies, explicitly aimed at helping mothers to reconcile work and family responsibilities.

[12]The other welfare regimes are classified either as social-democratic, typical of Nordic countries and characterized by universal provision of services, or liberal, like the UK, characterized by modest means-tested assistance and targeted at low-income, usually working-class recipients; the latter regime encourages market solutions to social problems.

[13]Paternalism has different formulations in the literature. One example involves inter-dependent preferences, which give raise to the existence of negative externalities from the unconstrained individual behaviour (i.e. the society cares about the poor's consumption of given goods not simply their utility). Imperfect altruism - parents may not take full account of the utility of their children when making decisions - the presence of externalities, or time-inconsistent (i.e. myopic) private behaviour generate similar paternalistic arguments in favour of in-kind transfers.

3.1 Parental leaves

Parental leaves are employment-protected leaves of absence for employed parents. There exist different types of entitlements.

First, *maternity leave* is the most known and well-established leave period recognized to mothers at around the time of childbirth (or adoption in some countries). Maternity leave mainly aims at protecting mothers and children's health, preserving women's jobs; this is a compulsory leave period. According to the ILO Convention adopted in 2000,[14] all employed mothers are entitled to a period of leave of about 14 weeks in which employment is protected and to some income support - of about two-thirds of previous or insured earnings. Following the ILO recommendations, at present almost all the OECD countries - with the exception of the US[15] - have in place paid maternity leave rights, of about 18 weeks on average (OECD, 2019). Since duration and replacement rate (the percentage of earnings paid during the leave) differ across countries, in order to assess the generosity of different maternal leave systems the OECD Family database provides an indicator, the Full Rate Equivalent (FRE) number of weeks, which is the length of the paid leave in weeks if it were paid at 100 per cent of previous earnings. Italy is rather generous: in 2018 the FRE number of weeks was 17.4,[16] while the OECD average 13.2; the FRE duration is 16 weeks in Spain, 14.5 in France and 14 in Germany.

The second kind of absence-leave available for both employed parents is *parental leave*, which is taken on a voluntary basis. Parental leave is typically paid less than maternity leave but with a longer duration. Entitlement to the parental leave period is often individual (i.e. each parent has their own entitlement) and in most of the schemes, in order to encourage fathers to take leave and to share the responsibility of household chores, the length of the absence is prolonged when both parents take advantage of it or a quota of the leave is parent-specific. The availability and generosity of paid parental leave vary considerably across countries. The OECD average entitlement available to mothers (or fathers, excluding periods specifically reserved to them) is just over 37 weeks, with most of those countries that offer at least one week providing somewhere between 26 and 52 weeks.[17] Most countries provide benefits that replace somewhere around 30 to 60 per cent of previous earnings. The lowest payment rates tend to be found in countries with the longest entitlements. In Italy parental leave for each parent - working as employee - is up to 26 weeks (six months); the sum of the two periods cannot exceed ten months

[14] The first ILO Convention on maternity protection was adopted in 1919. It was stated that the mother could have refrained from work six weeks after childbirth (also before by providing a medical certificate); this period should have been adequately paid. This Convention was addressed only to women employed in public or private industrial or commercial undertakings. The following two Conventions, that took place in 1952 and 2000, have progressively expanded the scope and entitlements of maternity protection at work (in terms of coverage, minimum replacement rate and minimum length of the leave period) and provided detailed guidance orienting national policy and action (International Labour Organization, 2012).

[15] Unpaid maternity leave is of 12 weeks at federal level; at state level the leave has been expanded.

[16] In Italy the duration of maternity leave is 22 weeks paid at 80 per cent of average earnings. There is a minimum requirement of 4 weeks-leave before childbirth, and the current Government is evaluating if abolishing this requirement leaving the opportunity to choose to women.

[17] Twelve of the OECD countries offer no entitlement to paid parental leave at all.

(eleven if the father enjoys the leave for at least three months) and the leave expires at the child 's 12th birthday. The total leave is paid at 30 per cent of average earnings for the first six month,[18] while the rest of the leave is unpaid. According to the OECD data, the use of parental leave in Italy is rather low with respect to the OECD average and recipients are mainly women (83.0 per cent).

The third and more recently introduced type of leave is *paternity leave*, addressed to employed fathers in the first few months after childbirth. Paternity leave is not stipulated by any international convention and scarcely adopted (less than half of the OECD countries have introduced it). Periods of paternity leave are much shorter than periods of maternity leave and, for this reason, they are usually fully paid. Italy introduced paternity leave in 2012 on an experimental basis initially for three years; the leave was mainly symbolic since it envisaged only one day of compulsory leave and two days of voluntary leave (to take advantage of the latter the mother has to reduce by the same number of days her maternity leave) to be used by the child's 5th month; leaves are fully paid. The compulsory leave has been gradually increased over time, reaching five days in 2019, while the voluntary one has been reduced to one day only.[19] The Italian paternity leave is not generous in comparison to those in place in Nordic countries (11 weeks in Sweden, 9.4 in Norway and around 6 in Finland) or in France and Germany (approximately 6 weeks), and it is also lower than the one in place in Spain (it increased in 2018 from 4 to 5 weeks). On June 2019 the European Council approved the establishment of a minimum compulsory paternity leave of 10 days, remunerated on the same basis as maternity leave and not less than the sick leave (*Directive on work-life balance*). Member States will then have three years to adopt laws, regulations and administrative provisions necessary to comply with the EU directive.

3.2 Child care

In Italy public expenditure for young children is rather low: in 2013, the latest available year, the total per capita expenditure for children from 0 to 3 was 19,400 USD dollars (PPP), less than half of what spent in Germany (two-thirds in comparison with France). Relatively, Italy devotes more resources to later ages: looking at the distribution of per capita public social expenditure by age of the child, only 26.0 per cent is for children between 0 and 5, 36.0 per cent to those of 6-11 years old, and 38.0 per cent to children aged 12-17. In Germany and France the resources are more evenly distributed across the child's age (OECD, 2019).[20] Around half of the resources for 0-5 children are invested in providing in-kind benefits like child care services, but they are mainly devoted to older children. Looking at the usage rate[21] of child care services, this was around 95 per cent among children aged 3-5 in 2016, while much lower for younger children (0-2 y.o.), of about 29 per cent.[22] The corresponding figure at European level are 85 and 35 per cent,

[18] The replacement rate varies with the child's age. Between 8 and 12 years old the payment is zero.

[19] Both types of leave are not permanent but still experimental and conditional to budgetary approval.

[20] In Germany the distribution of public social expenditure is 30, 33 and 37 per cent for 0-5, 6-11 and 12-17; in France it is 32, 30 and 38, respectively.

[21] A measure of coverage rather than use of child care services is not available for European comparisons.

[22] We consider both public and private centres.

respectively (EU-SILC data).[23] According to Istat (2019), there is large geographical heterogeneity in the supply and use of child care services: the coverage rate in Northern and Central regions is more than double than the one registered in the Southern regions (Figure 3).

Child care services[24] for 0-2 year olds in Italy are mainly represented by nurseries, only around 10 per cent is represented by complementary daycare services, which are more flexible than nurseries - for example, they can be organized by families in private houses. In addition to nurseries, two other options are available. First, the so called *Sezioni Primavera* which are classes for 2-3 y.o. children in kindergartens; second, children who turn 3 years old by April 30 of the school year can have access directly to kindergarten (this option is named *Early Kindergarten*). The coverage rate reported by Istat includes seats in *Sezioni Primavera* but not in *Early Kindergarten*; the latter is quite used among eligible children since kindergartens are much cheaper than nurseries. According to some recent estimates, in Italy an average family composed of two working adults and one child less than 3 pays 300 euros per month for a full time seat in a public nursery (Cittadinanzattiva, 2018); the cost in private nurseries is higher, around 500 euros per month (Istituto Degli Innocenti, 2011). Kindergartens, being considered the first level of the school system and regulated by the Ministry of Education, are instead almost free (there is only a meal fee, on average 130 euros per month in case of full-time attendance). For this reason, around half of those children who could enroll to early kindergarten effectively exploit this opportunity (Istituto Degli Innocenti, 2016). Finally, despite the high fees, the demand for child care services seems to be high, and increased after the Great Recession. According to data provided by Cittadinanzattiva (2018), waiting lists for accessing public nurseries are very long even in those Italian regions where the supply of services and their use is rather high.

Recently, several policies have been adopted in Italy in order to financially support families in the use of child care services. First, in 2012 a voucher for child care services or baby-sitting was introduced for the period 2013-2015 for employed mothers. More precisely, the mother was entitled to replace her parental leave after the maternity period (within 11 months after the end of the compulsory entitlement) with a voucher up to 600 euro per month for maximum six months (300 euros for self-employed). The voucher was re-financed in the following years and abolished at the end of 2018. Second, in 2016 a yearly bonus of 1000 euros was introduced for children less than 3 years of age to be spent for child care services. Then, at the end of 2018, the amount was increased up to 1500 euros, which corresponds to 136.37 euros per month - rather than 90 - over 11 months.

The lack of affordable child care services for 0-2 years old children in Italy seems to constrain the labour market status of their mothers. According to the latest data of the Italian Labour Force Survey, run by Istat, in 2018 around 15 per cent of non-employed

[23] We look at children that attended child care services for at least one hour per week in the last school year.

[24] With the term kindergarten, we refer to formal child care for 3,Äì5 year-olds, often called pre-school in the US. With the term nursery we refer to formal child care services (for example day-care) for 0,Äì2 year-old children.

mothers do not look for a job since child care services are scarce, inadequate or too expensive. Among mothers of older children (3-17) this percentage is halved.

4 The empirical evidence and policy implications

The empirical literature has well established the existence of a child penalty for mothers[25] who do not go back to work after pregnancy or earn significantly less for long periods, or even for the entire working period (Angelov et al., 2016; Kleven et al., 2019). Policy solutions such as extending parental leaves or providing highly subsidized child care are often suggested in order to foster maternal and female labour supply. Given their large costs for public budgets, understanding their impact on female labour supply is then crucial. Despite the positive cross-country correlation between the duration of leave (or publicly provided child care) and female participation and employment rates,[26] empirical works aimed at estimating the causal effect of similar policies on female labour supply has found mixed and non-conclusive results. Moreover, these policies are highly debated not only because of their cost, but also because there are arguments against their expansion: long leaves may reduce mothers' labour market attachment and depreciate their human capital and working experience, or increase employers' costs when hiring women of child-bearing age; formal child care may be detrimental for children's development, especially if it replaces high quality maternal care. In this section we review the empirical literature aimed at estimating the causal impact of family policies on female labour supply. We also provide evidence on the main arguments against these policies.

4.1 Parental leaves

A priori the impact of maternity/parental leaves on female labour supply is ambiguous. On one side, women who would have otherwise quit working stay in the labour market, with positive consequences for their career continuity and future prospects. On the other side, these policies increase mothers' time away from work among those who would have kept working anyway, with possible harmful effects on their working experience and earnings. In general, the impact of leave policies on maternal labour supply mainly depends on the characteristics of the policy: the length of the leave; the replacement rate paid; the degree of job protection. Most of the empirical works which assess the causal impact of paid leaves exploits policy changes in the leave duration.

Lalive and Zweimüller (2009) study the effects of changes in paid (job protected) leave duration implemented in Austria in the '90s: in 1990 it was increased by one year,

[25] The previous literature, see for example Lundberg and Rose (2002), finds that for fathers there exist a premium, mainly due to the higher specialization within the family of market and domestic work among partners.

[26] Ruhm (1998); Olivetti and Petrongolo (2017) find that there exist a nonmonotonic relationship between the duration of parental leave and female outcomes: short or intermediate leaves are associated with higher female employment rates and no wage effects, while longer entitlements lead to negligible effect on employment but negative on wages. Employment effects are stronger for less educated women, whose labour supply is typically more elastic. According to Olivetti and Petrongolo (2017) child care expenditure is more positively correlated with smaller gender gaps since, allowing mothers to go back to work earlier, subsidized childcare avoids losses of human capital or of working experience.

while in 1996 the previous one-year increase was reduced to six months. The authors find that leave duration negatively affects maternal employment and earnings in the short run (during the first three years after birth) since mothers delay return to work even after the benefits are exhausted; however, effects are limited in the long run (when the child is more than 3 y.o.). Different implicit replacement rates and the degree of job protection generate heterogeneous effects across the population. Similar employment effects are also found by Schönberg and Ludsteck (2014) looking at five changes of the paid leave policy implemented in Germany between 1979 and 1993. Leave duration had limited negative effects on employment only in the short run; however, extensions of cash benefits beyond the job-protection period significantly reduced employment and earnings in the long run. Another reform implemented in Germany in 2007 which increased parental leave duration while reducing the replacement rate brought to positive employment effects in the medium term (Kluve and Tamm, 2013; Bergemann and Riphahn, 2010), but negative effects during the leave period - as expected. Employment effects are stronger when the parental leave extensions are shorter to begin with (Baker and Milligan, 2008; Baum and Ruhm, 2016).

The evidence on the effects of paternity leave on maternal labour supply and the allocation of household's chores is rather limited given that similar policies have been introduced only recently. Cools et al. (2015) show that a specific paternal quota of parental leave of 4 weeks introduced in Norway in 1993 did not affect maternal labour supply; the authors claim that the length of the leave was too small to generate a reallocation of labour supply within the family.[27]

Finally, leave policies may also affect labour demand: even if employers do not directly finance paid leave they may face, especially small firms, higher costs due to the need of temporarily replacing on leave workers; this can reinforce employers' discrimination against women of child-bearing age. Alternatively, employers may benefit from a reduction of the turnover rate if on leave workers would have quit their jobs in the absence of the policy. The empirical evidence on the effects of leave policies on employers is rather limited (Rossin-Slater, 2018); the current evidence suggests that employers are only minimally affected. To our knowledge there is no evidence for Italy where, given the small size of firms, the cost of replacing on-leave workers might be sizable and significant.

Overall, causal estimates confirm the results found at the macro level, according to which leave policies of short-moderate length increase female employment with no wage effects, which are instead negatively affected by long leave periods. Expansions of the current parental leave system in Italy may not be effective in increasing maternal labour supply, unless they bring to a re-balance of care duties among genders. Moreover, these expansions might introduce significant costs on firms, especially those of small size, when replacing on-leave workers.

4.2 Child care

The literature looking at the causal effect of subsidized child care on female participation and employment is vast and reaches different results, varying not only across countries,

[27] The authors find no effects on fathers' earnings in the short run. Instead, Rege and Solli (2013) show the existence of a penalty associated to the same leave policy in the medium and long run.

but also across individuals within the same country. The heterogeneity of the estimates can also depend on the age of the targeted children. On the one hand, according to most US studies the availability of public kindergarten for 4-year-olds (Fitzpatrick, 2010) and 5-year-olds (Cascio, 2009; Barua, 2014; Fitzpatrick, 2012) generates only small increases in maternal employment (typically limited to single mothers), mainly because publicly provided care replace market care.[28] Similar results are found for European countries such as Norway (Havnes and Mogstad, 2011) and France (Goux and Maurin, 2010) where, unlike the US, services to families are generally publicly provided, and Spain (Nollenberger and Rodriguez-Planas, 2015), where instead welfare is mainly familistic and market solutions are not typically available. Most of these studies conclude that the provision of universal childcare ends up crowding out other non-parental (formal and informal) care arrangements rather than inducing mothers to work. On the other hand, the introduction of highly subsidized childcare did prove successful in boosting the female labor supply in Quebec (where it addressed 0-4 year-olds (Baker et al., 2008)) and Argentina (Berlinski and Galiani, 2007), even if, at least in the case Quebec, it also significantly crowded out informal childcare arrangements. Also Carta and Rizzica (2018) find that access to Early Kindergarten (see Subsection 3.2), a much cheaper option to nurseries for 2-year-old children implemented in Italy, significantly increased maternal participation and employment, through a reduction of reported reservation wages.

Providing child care services to younger children seems to have positive effects on maternal employment if it is at very low levels and a few alternatives to maternal care exist, like in the case of Italy.

The main concern with respect to subsidized child care is related to the possible adverse effects on children's development, especially if the care provided is of poorer quality relatively to the alternative mode of care (either parental, informal or market care) used in the absence of the publicly provided one. While there is a general consensus that access to quality child care at an early age improves cognitive and non-cognitive skills for children from low socio-economic backgrounds, for whom the alternative care arrangements are generally of lower quality (Gormley and Gayer, 2005; Fitzpatrick, 2008; Felfe and Lalive, 2018; Drange and Havnes, 2015), the evidence regarding the effects on children from more affluent backgrounds is, instead, mixed and sometimes negative (Baker, 2011; Baker et al., 2008; Lefebvre and Merrigan, 2008). However, negative results appear to hold in the short run only.[29] Carta and Rizzica (2018) show that early access to kindergarten for 2-year-olds does not negatively affect children's medium-term cognitive outcomes. On the other hand, there is no clear evidence of positive effects of longer leave periods on children's outcomes (Dustmann and Schönberg, 2012; Dahl et al., 2016; Danzer and Lavy, 2018). Carneiro et al. (2015) find positive effects in the very long run only for children of mothers who, in the absence of the reform that extended the paid

[28] Exceptions are given by Gelbach (2002), who finds large effects on married mothers too, and by Herbst (2017), who, nevertheless, focuses on a very peculiar setting, i.e. the provision of childcare during World War II.

[29] Several recent works found negligible (Datta Gupta and Simonsen, 2010) or negative (Fort et al., 2016) effects on children's outcomes in the medium term, and large positive effects on very long term outcomes such as educational attainment, earnings and criminal behavior (Heckman and Masterov, 2007; Heckman et al., 2013; Havnes and Mogstad, 2015).

leave, would have taken very low levels of unpaid leave.

Overall, providing quality formal child care is unambiguously beneficial for the development of children coming from disadvantaged backgrounds. For children from affluent families the evidence is less clear; however, in the medium and long term the effects of attending child care services do not seem to be adverse.

5 Conclusion

Overall, empirical works and the international evidence seem to suggest that the extension of affordable and good-quality early child care provision maybe a good policy tool for boosting female labour supply in countries that currently have low coverage and are characterized by low female labour supply, like the case of Italy. The bonus recently introduced to buy child care services might be too small to afford the prices of nurseries, especially of private ones, which represent almost half of the supply of child care services. Given the rather generous parental leave system in place in Italy, it is rather unlikely that its expansion could significantly increase maternal employment rates. Also child-related transfers do not seem to be the right policy response. Italy, in accordance with the recently approved EU Directive on work-life balance, needs to double the compulsory paternity leave, from five to ten days. The actual leave is too short and inadequate to re-balance the domestic workload among genders; improvements in this direction may help eradicating gender stereotypes and free women's time to be dedicated to work. Finally, other policies, not discussed in this paper, can also significantly contribute to female employment increases: for instance, the promotion of the adoption of flexible work arrangements or the removal of the disincentives to work for second earners implicit in the Italian personal income tax system (Colonna and Marcassa, 2015; Marino et al., 2016).

In this paper we have adopted a partial equilibrium perspective, focusing only on maternal labour supply and its causal link with parental leave and child care policies. However, significant achievements in boosting female employment can be obtained only if there is adequate labour demand - also of women. Moreover, firm culture needs to be more open towards women and their economic contribution; efforts in fighting discrimination and stereotypes are needed.

Furthermore, given the fast aging population that developed countries are facing - and Italy is one of the most affected - an urgent area of future development for policy intervention should be long term care. Women, being the main care providers in families, might be oppressed by care duties towards old and disabled parents that live longer than before. With respect to this area of intervention, Italy is lagging behind: the urgency of the problem would call for a more serious reflection (Hohnerlein, 2018).

Finally, family policies, by providing financial support and job protection to households with children, may also affect fertility decisions. Indeed, there is a large literature that aims at quantifying these effects. Female labour supply and fertility are highly interconnected; a serious rethinking of the Italian public intervention in the family area

needs to consider also fertility as a priority, as well as female employment, since Italy is actually among those OECD countries with the lowest fertility rates. The combination of low fertility and low labour market participation may significantly reduce potential growth prospects.

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Tables and Figures

Table 1: Labour market statistics in some European countries by gender, 2018

Country	Activity rate		Employment rate		Unemployment rate		Activity	Employment	Unemployment
	Men	Women	Men	Women	Men	Women	gap	gap	gap
EU28	79.2	68.3	73.9	63.4	6.6	7.1	10.9	10.5	-0.5
Euro area 19	78.8	68.1	72.6	62.2	7.9	8.6	10.7	10.4	-0.7
Belgium	72.8	64.3	68.2	60.7	6.3	5.6	8.5	7.5	0.7
Denmark	82.1	76.6	78.0	72.6	4.8	5.2	5.5	5.4	-0.4
Germany	82.9	74.3	79.7	72.1	3.8	2.9	8.6	7.6	0.9
Greece	76.6	59.9	64.7	45.3	15.4	24.2	16.7	19.4	-8.8
Spain	78.8	68.6	67.9	56.9	13.7	17.0	10.2	11.0	-3.3
France	76.1	68.5	69.4	62.5	9.0	9.1	7.6	6.9	-0.1
Italy	75.1	56.2	67.6	49.5	9.7	11.8	18.9	18.1	-2.1
Lithuania	78.9	75.8	73.3	71.6	6.9	5.4	3.1	1.7	1.5
Malta	84.5	63.1	81.2	60.8	3.8	3.6	21.4	20.4	0.2
Netherlands	84.7	75.8	81.6	72.8	3.7	4.0	8.9	8.8	-0.3
Austria	81.6	72.0	77.4	68.6	5.0	4.7	9.6	8.8	0.3
Poland	77.0	63.3	74.0	60.8	3.9	3.9	13.7	13.2	0.0
Portugal	78.1	72.4	72.7	66.9	6.6	7.4	5.7	5.8	-0.8
Finland	79.5	76.3	73.5	70.6	7.4	7.3	3.2	2.9	0.1
Sweden	84.6	81.2	79.0	76.0	6.4	6.3	3.4	3.0	0.1
United Kingdom	82.6	73.2	79.1	70.3	4.1	4.0	9.4	8.8	0.1
Norway	80.2	75.4	76.9	72.6	4.1	3.6	4.8	4.3	0.5

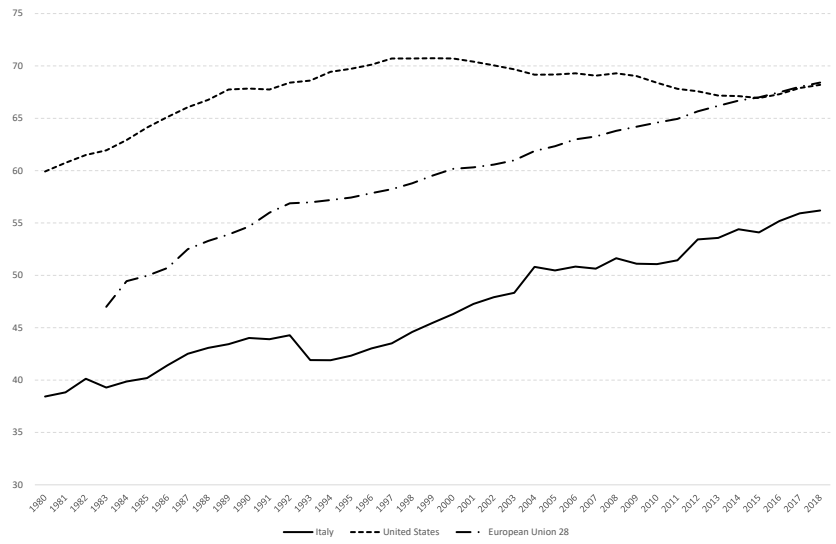
Notes: Eurostat data. The gap measure is computed as the difference between the corresponding rate registered for men and that of women. Positive values mean that men record a higher rate; the contrary holds for negative values.

Table 2: Government expenditure in some European countries, 2017
Percentage of total expenditure

Country	Health	Education	Sickness and disability	Old age	Survivors	Family	Unemployment	Housing	Other expenditures	*Tot. exp. % of GDP*
EU28	15.3	10.2	6.0	22.1	2.9	3.8	2.7	1.0	36.0	*45.8*
Euro area 19	15.0	9.6	5.9	22.7	3.6	3.6	3.3	0.8	35.5	*47.0*
Germany	16.2	9.3	7.3	21.3	4.2	3.7	3.7	0.7	33.6	*43.9*
Greece	11.1	8.2	3.2	29.1	4.5	1.4	1.0	0.0	41.5	*47.3*
Spain	14.5	9.7	5.8	22.2	5.4	1.7	3.9	0.1	36.7	*41.0*
France	14.2	9.6	5.2	23.7	2.7	4.2	3.4	1.7	35.3	*56.5*
Italy	14.0	7.9	3.7	27.4	5.4	3.2	2.3	0.1	36.0	*48.8*
Portugal	13.1	10.9	2.8	25.7	3.8	2.4	1.8	0.1	39.4	*45.7*
Finland	13.1	10.5	5.8	25.5	1.2	5.6	4.2	1.0	33.1	*54.2*
Sweden	14.0	13.7	8.3	20.9	0.5	5.0	2.6	0.6	34.4	*49.4*
Norway	17.1	11.2	13.4	14.6	0.4	7.0	1.0	0.2	35.1	*49.9*

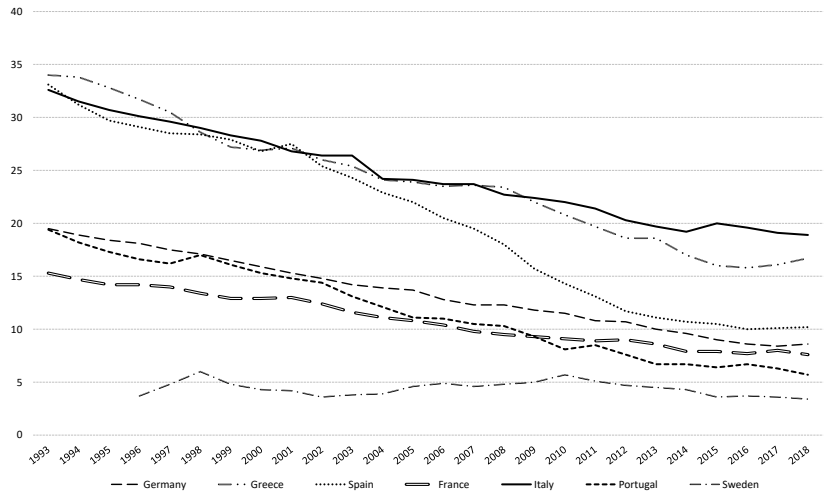
Notes: Eurostat data, COFOG classification. The latest year available is 2017. The set of expenditures for sickness and disability, old age, survivors, family and children, unemployment and housing represents the expenditure for Social Security. The item *Other expenditures* includes expenditures for general public services, defense, public order and safety, economic affairs, environmental protection, housing and community amenities, recreation, culture and religion. The last column reports total public expenditure as percentage of the GDP.

Figure 1: Evolution over time of the female LFPR



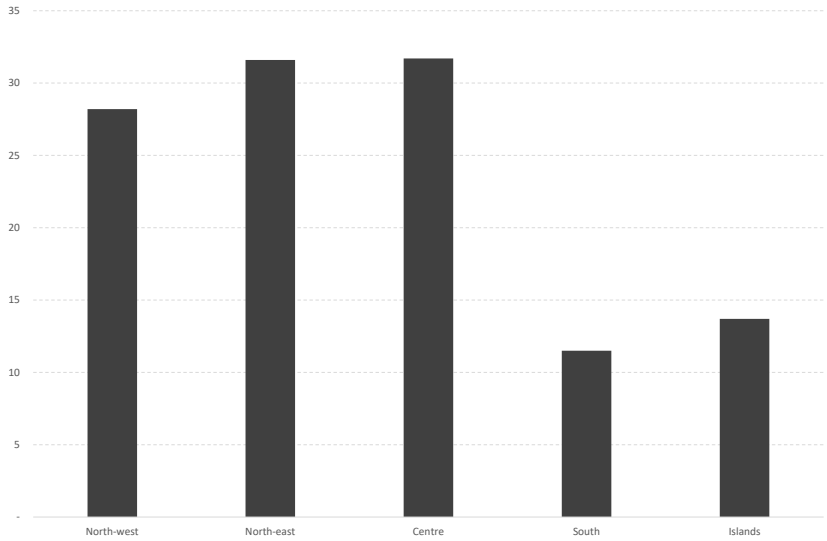
Notes: Eurostat data. LFPR is the labour force participation rate.

Figure 2: Evolution over time of the gender activity gap in selected European countries



Notes: Eurostat data. The gender activity gap is the difference between the labour force participation rate of men and that of women.

Figure 3: Coverage rage of child care services by macro-area, school year 2016/2017



Notes: Istat (2019). The coverage rate is the ratio between the total number of seats in child care services and the pool of 0-2 years old children.