

From invisible care to visible risks

The impact of policy gaps on gender inequality and vulnerability

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Unpaid care work, though often invisible, is a structural impediment to gender equality, shaping employment rates, segregation, and the pay gap. After a European overview on work-life balance, the article examines the Italian case, analyzing caregivers' profiles and the causal effects of unequal parental leave uptake. Findings reveal a vicious circle, stressing the need for targeted policies to redistribute care and reduce women's socio-economic and health vulnerabilities.

Il lavoro di cura non retribuito, sebbene spesso invisibile, costituisce una barriera strutturale all'uguaglianza di genere, incidendo su tassi di occupazione, modelli di segregazione e divario retributivo. Dopo una panoramica europea sul *work-life balance*, l'analisi si concentra sull'Italia, delineando i profili dei caregiver e valutando l'effetto causale della diseguale fruizione dei congedi parentali. I risultati evidenziano un circolo vizioso persistente, sottolineando la necessità di politiche per riequilibrare i carichi di cura e ridurre le vulnerabilità femminili.

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Introduction

The time dedicated to family care affects female employment rates, vertical and horizontal segregation in the labour market, and the gender pay gap. The pandemic wave significantly aggravated the labour market structural gap, particularly the correlation between the gender gap and family care work (Zucaro 2022a). This kind of work is often invisible, although it is very burdensome and one of the main obstacles to overcoming the glass ceiling and gender differences.

The need for specific policies on this issue is crucial also in the post-emergency if the real goal is inclusive, economic, and sustainable growth. Care

work is invisible and composed of a complex activity that articulates forms of assistance that are not only direct, personal, and relational, such as breastfeeding a child, but also indirect, like cooking for an elderly parent or doing house cleaning. Considering this, it is not surprising that the amount of time dedicated to these activities is high in Europe.

Empirical evidence shows that people use 179 million hours a day on care work, mainly women of working age (between the ages of 25 and 54), who carry out 76.2% of total family care, 3.2 times more than men (ILO 2017). On the other hand, two-thirds of the adult population of convergence target countries believe that women's principal social

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role is caring for the home and family (European Commission 2017).

In Europe, if we combine paid work time with unpaid care work, the average working day for women is almost forty minutes longer than for men. Moreover, that figure has increased in recent years in many European countries, including Italy (1.2 minutes per day) (ILO 2017).

So, the recent European and Italian regulatory impact on a very complex framework. Within the common European framework, a new directive dedicated to work-life balance that the Member States were required to transpose into their legislation by 2 August 2022¹.

Academics highlighted that unpaid care work translates into time poverty, which in turn translates into significant hidden poverty for women (Aloè 2023). As is well known, the gender imbalance in the reconciliation between work and private life represents one of the main elements that affect the participation of women and men in the labour market (Becker 1985; Saraceno 2003; Mussida and Patimo 2021 and 2023). The women underrepresentation in this and other public sphere, and the relative overload in the private one, negatively impacts their employment condition and income (Del Boca and Vuri 2007; Hegewisch and Gornick 2011; Wunder and Heineck 2013).

The asymmetry of family care burden and its critical effect on female employment is emphasized in the pioneering research of Claudia Goldin, awarded the Nobel Prize in Economics in 2023. Her earlier work (2006) also highlighted that the underrepresentation of women remains a major challenge in labor markets and the economic systems of modern societies.

In fact, apart from the individual impact, there is a more general economic impact of gender gap in the labour market (Cuberes and Teignier 2014). According to ILO (2017), reducing the employment gender gap by 25% by 2025, would increase global employment by 5.3% and thus increase income of women worldwide.

Gender differences in the share of family and care responsibilities roles have been proved to influence the employability but, also, health perception of women (Mussida and Patimo 2023 and 2021) and their health status (Miller *et al.* 1991; Hooyman and Gonyea 1995; Dinh *et al.* 2017; European Commission 2018). Moreover, the psycho-physical stress is proven to be also associated with higher economic costs (Pierret 2006; Suh 2016). Thus, the consequences affect everyone not only the women involved.

Dean and colleagues (2021) focus on the mental load, as a form of cognitive and emotional labor. The Authors stress that there is a lack of reliable measurement of the mental load and thus little understanding of it. Finally, they address governments to create caregiving infrastructures to reduce the demands known to contribute to the mental load.

Research on the impact of caregiving on health typically relies on indirect indicators, such as the presence of children, elderly, or disabled individuals in the household, whereas only a limited number of studies employ direct measures, such as the actual time devoted to caregiving activities.

To further deepen the knowledge on the effect of the burden of care on women's economic and health vulnerabilities, with a specific focus on children's care, in our analysis, we use a direct measure of the parental involvement in the children's care, namely the shared/unshared use of parental leaves. To the best of our knowledge, there are no other studies investigating the effect of the use of parental leaves on women's vulnerabilities and on perceived health status in Italy.

Thanks to the Inapp-PLUS survey data, we have information on the use of parental leaves, burden of care responsibilities, and declared needs in terms of work-life balance by gender. Moreover, the database contains several information on socio economic characteristic and vulnerability proxies (De Angelis and Van Wolleghem 2022). Thus, allow us to analyse the gender effects of the family care responsibilities on the risk of several form of vulnerabilities. To do that, we define as at risk of economic vulnerability people who have had to postpone medical care for economic reasons and people with a weak attachment at the labour market; moreover, we define as at risk of personal vulnerability people with a perceived bad health.

This paper, therefore, illustrates the most recent European regulatory framework adopted on the subject and its implementation in Italy, highlighting the gaps concerning the harmonisation between the European and Italian legal systems, and in terms of concrete effects on the gender gap, concerning the risk of vulnerability.

In what follows, the essay offers a concise reflection on the legal and policy implications of the transposition of the Work-Life Balance Directive (Section 1). We then present the European macroeconomic pre-COVID context through an analysis of the EU-LFS ad-hoc module on 'Reconciliation between Work and Family Life'

1 Except for the profiles relating to salary or allowances, corresponding to the last two weeks of parental leave, for which is envisaged the different deadline of 2 August 2024 (Article 20).

(Section 2). Next, using statistical and econometric analyses of the Italian Inapp-PLUS data, we identify the main characteristics of caregivers and assess their risk of economic and health vulnerability based on the distribution of parental leave usage among parents (Section 3). Finally, we discuss the results of the analysis and provide policy recommendations by addressing the following questions: Do work-life balance policies protect caregivers from vulnerability risks? What types of policies could more effectively address these risks?

1. Brief comments on the recent Italian regulatory framework in the transposition of EU Directive 1158/2019

In this context, the European Legislator adopted a new directive dedicated to work-life balance, which, although having a more limited impact than previous proposals, nonetheless contains elements capable of triggering an evolutionary process (Zucaro 2024).

This Directive has the merit of addressing more fully the question of obliging family care responsibilities through a reflection on the legal gaps present in the national systems of work-life balance, with particular attention not only to parental care but also to care of relatives, whose beneficiary may also be an elderly parent.

The Italian legal system has transposed the Directive with Legislative Decree 30 June 2022, n. 105. Although some innovative elements (Alessi *et al.* 2022; Scarponi 2022), the Italian Legislator intervened without total compliance and an overall reflection on the meaning of work-life balance, which the Directive would instead require (Zucaro 2022b).

Due to the brevity of this essay, we use two policies introduced about family care as examples of this thesis: one regarding measures for suspending work performance and the other regarding hourly and organisational flexibility.

In the first area, the legislature introduced the parental leave *take-it-or-lose-it* model. According to the literature, this measure encourages fathers to take parental leave (Van Belle 2018). However, while this policy presents improvements compared to the minimum European standard, it is not without critical points.

The rise of the minimum European standard provides that each working parent has the right to a non-transferable allowance of 30% of their salary for three months. However, the measure also establishes that the remaining three months of the paid abstention quota can be transferred from one parent to another.

Subsequently, with the Italian Budget Law 2023², the legislator increased the parental allowance to 80% of the salary for a maximum of one month, to be used alternatively by the two parents, and applicable until the child reaches six years of age.

The 2024 Budget Law confirmed this approach. Specifically, Article 1, paragraph 179, of Law No. 213 of 30 December 2023 amended Article 34 of the Consolidated Act on maternity and paternity, establishing that the allowance shall be increased, alternatively between parents, for a maximum total duration of two months until the child's sixth year of age, to 80% of the salary for up to one month and to 60% of the salary to an additional month, increased to 80% for the year 2024 only.

This progressive trajectory was further consolidated by the 2025 Budget Law, which introduced a structural reform of the parental leave scheme by raising the allowance to 80% of the salary for a total of three months, to be taken in turn by the parents within the child's first six years of life.

The fragmented technique adopted, which could be described as a pattern of stop-and-go interventions, confirms the absence of a coherent strategic vision and a systemic approach to the issue, an aspect that arguably also affects the effectiveness of the measures introduced (Zucaro 2024). Moreover, despite some improvements, the legislator did not follow the path outlined by the European Union's programmatic guidance, which called for the inclusion, within national welfare systems, of an allowance or income support mechanism truly capable of ensuring fair and effective access to parental leave for both parents. A more comprehensive and forward-looking policy design is urgently needed to overcome structural gender asymmetries. This issue requires financial investment and a cultural and institutional shift capable of embedding care as a shared social responsibility.

Concerning flexible hours, the legal action partially complies with the European level because it expanded only the category of beneficiaries of the right to priority in the case of Italian remote working requests. So now the priority also concerns parents with children up to twelve years of age, and without an age limit if the child is severely disabled, or if the applicants are severely disabled, or if they are caregivers.

However, it is a mere *mandatory preference*. The measure applies if the employers have decided to introduce remote working.

2 Law of 29 December 2022, n. 197.

Therefore, this policy does not establish a specific right to remote working like the one in force for fragile categories referred to by the Italian COVID-19 legislation.

Furthermore, to protect the priority beneficiaries, it is envisaged that if they proceed with the request for remote working, there cannot be the imposition by the employer of any sanction, demotion, dismissal, transfer, or subjection to another organisational measure that has an adverse direct or indirect effect on working conditions.

The legislator has also foreseen the retaliatory or discriminatory nature and, therefore, nothing of such employer conduct.

The category of subjects entitled to the transformation of the employment relationship from full-time to part-time includes now assisting family members suffering from oncological pathologies or serious worsening chronic-degenerative pathologies, also the part of a civil union or the de facto partner; also, in this event, the nullity of any retaliatory or discriminatory action taken in violation of this provision.

In addition, the refusal, opposition, or obstacle to remote working prevents the certification of gender equality and its benefits.

Thus, failing to fully transpose Article 9 of the Directive — the right to request flexible working arrangements for specific categories — could incentivise industrial relations initiatives to promote hourly and organisational flexibility measures in support of work-life balance. This momentum could mark the beginning of a new phase, in contrast with the trend emerging from data covering 2019-2021, which showed that measures specifically related to this domain were among the least negotiated (Fondazione Di Vittorio and CGIL 2022). A renewed commitment by social partners, supported by clear regulatory benchmarks, could help make work-life balance a structurally negotiated dimension within second-level bargaining frameworks.

2. European context: EU-LFS evidence on reconciliation between work and family life in 2018

The database of the European Labour Force Survey ad hoc module on “Reconciliation between work and family life”, submitted to respondent in 2018, allow us to draw a macro picture of the pre-covid European context. According to macro data analysis and the quality report (Eurostat 2019), we report here the main findings.

On average, in the EU Member States, only around the 40% of the 18-64 population, who have care responsibilities, had working time flexibility, namely it was possible for them to vary start and/or end of the working day in the main job to facilitate

care responsibilities. As expected, the northern-western countries (Finland, Denmark, and the Netherlands) seem to have more opportunities; for the Baltic and southern countries like Italy and Greece it is rarely or not possible to work in a more flexible way. For Slovakia, Cyprus, Lithuania, Hungary and Poland the evidence is even worse with over 45% till 60% of workers that have no flexibility at all. Asking to the same target group if it is possible to take whole days off in the main job to facilitate care responsibilities, we find that respondents in EU-28 countries had even less flexibility than regarding working time: only for 38% it is generally possible, for around 30% it is rarely to not possible. However, the difference among region is the same: northern and western countries seem to have more possibilities than southern and eastern ones: for over more than half of the respondents in Slovenia, Finland, Czechia and the Netherlands it is generally possible, while the data is around 8% in Hungary, Poland and Cyprus. In Italy it is possible only for less than a third of respondents (*Ibidem*, 29-30).

The majority of employed (64.5%) respondents in EU Member States, that have had childcare responsibilities, do not see any obstacle which makes reconciliation difficult. However, the distance among countries is high going from 39.5% in France to 93.8% in Latvia. Around 8% of the respondents state that “long working hours” and “unpredictable or difficult work schedules” is the main obstacle for reconciliation. Malta has mainly problems concerning the first (20.8%), the Netherlands concerning the last reason (14.6%). For Italy, 9.2% of workers point the first, while as up to 13.6% find the second the main problem. There is a part of the EU-28 respondents that mention that their “job is demanding or exhaustive” (6.3%) or they have a “long commute” (4.8%). France was at the highest range (13.6% and 9.8% respectively) (*Ibidem*, 31).

To people who do not use professional childcare services, or do use it but only for some children, it was also asked why they don't use the childcare services. In the 28 Member States, respondents mainly state that care is arranged alone or with the partner (46.0%), with Denmark (15.4%) and Latvia (71.6%) at the two extremes of the ranking. The second main reason was that children take care of themselves (20.4%); the United Kingdom and Finland are the most far away from the average with 9.2% and 65.8% respectively. Almost one sixth of respondents in the EU Member States mention that care is arranged using informal support (15.2%): from only 1.7% of Swedish respondents, against almost 30% of respondents in Cyprus. Costs

also represent an issue (6.2% at EU-28 level). Here, values vary across countries, which may reflect differences in support of professional childcare by national governments: from almost no respondents in Sweden to 15.6% of respondents in the United Kingdom that do see this as a problem with the result that they do not use it and also 13.6 in Ireland and 8.8 in Italy (*Ibidem*, 27).

One person out of three in Europe in the age group between 18 and 64 has a care responsibility and recent studies show that 29% are responsible for the care of minors under the age of 15 (ANPAL 2022). The gender breakdown of Europeans data on care shows that, as far as about care burden, Italy is placed in a disadvantage position for women (Zucaro 2022b), first in reference to that relating to the disabled (7.4%), preceded only by Greece (9.3%) and the Netherlands (9.5%) and where the average share for European women is 5.2%. Observing the burden of care relating to minors, it emerges that in relation to the female side the share (27.3%) is slightly lower than the EU average of 29.7%. Negative is the Italian double burden of care, of the disabled and children, where the share for women is at 1.9%, compared to 1.7% of European women. Comparing the gender share of care responsibility, we find a constant asymmetry. The most accentuated imbalance is still found on the front of the disabled, whose care affects only 4.4% of men, with a difference of three percentage points compared to women; follows the care of minors where male workers amount to 26.5%, with a difference of two percentage points, while the less evident asymmetry happens in the double load of care settling on a 0.3% (Zucaro 2022b).

3. The Italian case: the evidence of Inapp-PLUS survey data

Methodology and data

Moving on to the statistical analysis, we rely on the database collected from the Italian survey Inapp-PLUS 2018 e 2021. The Inapp-PLUS survey has been in the National Statistical Plan since 2005 and contributes to the production of Official Statistics in Italy. The survey includes only direct respondents (meaning it does not include proxy respondents, i.e., people answering for other family members), which contributes to improving the accuracy of detail and self-perception questions. Inapp-PLUS is a sample CATI (Computer assisted telephone interview) survey, and it is representative of the entire national territory³. The ninth round of the survey was conducted between March and July 2021 on a

sample of over 45,000 individuals aged 18-74 years.

In the Inapp-PLUS questionnaire there is a specific session devoted to work-life balance aiming at understanding how women and men share the family responsibilities and what kind of external help or difficulties they face. The survey collected information on:

- I) how often (usually, sometimes per week, rarely, never) the respondent and his/her partner does activities related to care or home responsibilities, such as, cooking, cleaning and tidying up the house, caring for relatives or friends, the elderly or the sick, playing with the child\children, caring of the child/children (preparing him, looking after him, putting him to sleep), bringing and picking up the child/children from school, sports or other activities, following the child/children in school activities (homework, teacher interviews), managing financial and administrative aspects.
- II) who took the parental leaves? The respondent, both parents, or only the partner.

A descriptive analysis of this section has already been undertaken in Inapp PLUS Report 2022 (Esposito and Rizzo 2022). It is there confirmed the weight that the burden of care play in determining the imbalances that historically characterize gender roles in the job market. Information about how often both home care and care and custody of minor or elderly family members are carried out show a strong prevalence of female commitment. According to the PLUS data 2021, women are confirmed to represent the subjects who deal with kitchen, cleaning and tidying up the house, care and custody activities both of subjects belonging to the family nucleus and of external ones but also of all the daily tasks related to children's school attendance. Some differences from this paradigm are detectable in terms of sharing between men and women for the care of children. If on the one hand it is possible to confirm a tendency to consolidate a new culture of paternity, this attitude does not also extend to the management of the so-called household tasks, confirming the stereotypes. In continuity with this perspective, also one of the stereotypical elements that binds men to financial activities also seems to be reflected in the generalized prevalence of male involvement in management of the administrative and financial aspects related to the house (Zucaro 2022b).

To summarize the information about the eight indicators, we have built an index of burden of care (Table 1). We have first given value zero to "rarely" and "never" option, 1 to "sometimes per week" and 2 to "usually". We have, then, summed all the eight

3 See <https://www.inapp.gov.it/rilevazioni/rilevazioni-periodiche/participation-labour-unemployment-survey-plus>.

answers and obtained an index of care which goes from zero (never or rarely to all the questions) to 16 (usually to all the questions). Finally, we have built four levels: low burden of care (values from 0 to 4), middle low (from 5 to 8), middle high (from 9 to 12), high burden (from 13 to 16). It emerges that more than 25% of people on average have a high care responsibility, which means that they do at least four tasks usually. However, the share of women having the highest level of the index is 32.3 and is almost double that the men share (17.2). We find almost the same percentage point (p.p.) of difference, but in the other way around, among male and female in the low level of the index where the share of male is 28.8% and that of women only 10.9%. While as the share of people at the middle levels are similar among genders.

Looking at the use of parental leaves in the last four waves, we find a positive trend in terms of

sharing the leaves among parents which, for sure, has been fastened by the covid pandemic. From 2016 to 2018 we see a first change in the trend: from a lonely use by women to a use of both parents of 3 p.p.

In 2021 the share of use of parental leaves by only one parent is around 40%. However, women are overrepresented (66.9%) compared to men (22.5%). But still the data is 14 p.p. lower than in 2018.

According to Inapp-PLUS data, it is also possible to deepen the main difficulties and, thus, the solutions for an easier conciliation of work and life. In Table 4 emerges that flexible working hours would be the main solution followed by more accessible cost for childcare services. For women also the part-time emerges as a solution while as the third option for men is regular working hours. These findings are still in line with what has emerged in Section 4 according to the EU- LFS ad hoc module collected in 2018.

Table 1. Index of burden of care by gender (%)

Burden of care index	Male	Female	Total
Low	28.28	10.95	18.81
Middle-low	34.26	34.63	34.46
Middle-high	20.26	22.08	21.25
High	17.20	32.34	25.47
Total	100.00	100.00	100.00

Source: Authors elaboration on Inapp-PLUS data 2021

Table 2. Use of parental leaves (women respondent) in the last four waves (%)

	2014	2016	2018	2021	Total
Only me	84.54	84.51	80.58	66.93	80.47
Both	8.22	7.03	10.15	25.12	11.31
Only my partner	7.24	8.46	9.27	7.95	8.23
Total	100.00	100.00	100.00	100.00	100.00

Source: Authors elaboration on Inapp-PLUS data 2014, 2016, 2018 and 2021

Table 3. Parental leaves by gender (women and men respondent), 2021 (%)

	Men	Women	Total
Only me	22.54	66.93	39.87
Both	30.36	25.12	28.32
Only my partner	47.10	7.95	31.81
Total	100	100	100

Source: Authors elaboration on Inapp-PLUS data 2021

Table 4. What would make it easier and more possible to combine work and childcare activities, by gender (%)

	Men	Women	Total
Flexible working hours	24.95	22.96	24.17
Regular working hours	12.01	10.85	11.55
Short-time work (part-time)	7.86	12.39	9.64
Shorter distance from the workplace	9.91	8.10	9.20
More places available in public kindergartens/nursery schools	11.65	9.91	10.97
More accessible costs and school fees	12.64	15.75	13.86
Corporate child care	10.27	9.29	9.88
Working from home in telecommuting or smart working	10.58	10.49	10.55
Other	0.14	0.26	0.19
Total	100	100	100

Source: Authors elaboration on Inapp-PLUS data 2021

Table 5. Descriptive statistics of the variables involved in the analysis of the determinants of economical and physical vulnerability

Variable	Mean	SD
Part time	30	46
Bad health	6	24
Post-pone medical care	10	30
Atypical	6	24
North	59	49
Centre	23	42
South and Islands	17	38
Parental leave use 2018 - Only me	84	37
Parental leave use 2018 - Both	10	31
Parental leave use 2018 - Only my partner	5	23
Gross annual income*	25.726	20.002
Legislators, Senior Officials and Managers	4	19
Professionals	31	47
Technicians and Associate Professionals	21	41
Clerical Support Workers	31	46
Service and Sales Workers	5	21
Skilled Agricultural, Forestry and Fishery Workers / Craft and Related Trades Workers	2	13
Elementary Occupations	2	13
Production of goods	18	39
Production of services	82	39

Note: *Data are in percentages, apart from gross annual income in units.

Source: Authors elaboration on Inapp-PLUS data 2018 and 2021

In order to estimate the effect of a not equal burden of family and care responsibilities, while also control for other relevant socio-economic variables, we have tested several probit models in the panel data 2018-2021 and, as a robustness check, in the cross-sectional database 2021⁴.

4 Those results are available under request.

Dependent variables of our models are three (dummies) proxy of vulnerability: the first one take value 1 if the respondent perceive an overall bad health and 0 otherwise; the second one take value 1 if the respondent had to postpone medical care for economic reasons and 0 otherwise; the third one take value 1 if the person have a part-time contract and 0 otherwise. Main predictor is a dummy taking value 1 if only the respondent as taken parental leaves and 0 otherwise. Control variables are personal socio-economic variables (age, income, atypical workers, professions, workers od goods or services) and location variables (area of residence).

Furthermore, in order to identify the main characteristics of a high care burden, and also to test that our data are robust and in line with the literature findings, we run a set of probit model where the two dependent variables are: a dummy

taking value 1 if the person has a high care burden and 0 otherwise and a dummy taking value 1 if the person has a low care burdens and 0 otherwise. Predictors are several socio-economic variables (age, education, presence of minors in family, income, atypical workers, professions, workers od goods or services) and location variables (area of residence).

The descriptive statistics of the variables are presented in the table 5.

Empirical results

The average marginal effects of the probit model are shown in table 6 and 7. In the first table we show the result of the probit models ran in the 2018-2021 panel data. The use of panel data allows us to use the parental leaves variable lagged at 2018 (only women answered to this question) in order to test their effect on our vulnerability proxy in a delayed point of time (2021).

Table 6. Determinants of economical and physical vulnerability. Average marginal effects of probit model

	Part-time	Bad health	Postpone medical care	Part-time	Bad health	Postpone medical care	Part-time	Bad health	Postpone medical care
Only me at 2018	0.0270***	0.0973***	0.0787***						
	(0.002)	(0.002)	(0.001)						
Both parents at 2018				-0.0166***	-0.0466***	-0.0393***			
				(0.002)	(0.002)	(0.002)			
Only partners at 2018							-0.0401***	-0.1459***	-0.1063*
							(0.003)	(0.002)	(0.002)
Atypical worker	-0.0965***	0.0178***	0.0861***	-0.1004***	0.0328***	0.0749***	-0.0971***	0.0114***	0.0902*
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Income	-0.0000***	-0.0000***	-0.0000***	-0.0000***	-0.0000***	-0.0000***	-0.0000***	-0.0000***	-0.0000*
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Macro Area (reference: North)									
Center	-0.0429***	0.0728***	0.0810***	-0.0448***	0.0693***	0.0799***	-0.0429***	0.0740***	0.0806*
	(0.002)	(0.001)	(0.001)	(0.002)	(0.001)	(0.001)	(0.002)	(0.001)	(0.001)
South and Islands	-0.0762***	0.1453***	0.0766***	-0.0830***	0.1119***	0.0448***	-0.0734***	0.1576***	0.0874*
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.001)	(0.002)	(0.002)	(0.002)
N. of observations	211	211	239	211	211	239	211	211	239

Note: Probit model on panel data. (+ 0.15 * 0.10 ** 0.05 *** 0.01) Standard errors in parenthesis. We also control for professions and sectors.

Source: Authors elaboration on Inapp-PLUS data 2021

Table 7. Multivariate analysis of the level of burden of care. Average marginal effects of probit model

	High level - total	High level - female	High level - male	Low level - total	Low level - female	Low level - male
Part-time	0.045***	0.035***	0.077***	-0.073***	-0.041***	-0.062***
	[0.000]	[0.000]	[0.001]	[0.000]	[0.000]	[0.001]
Woman	0.177***			-0.134***		
	[0.000]			[0.000]		
Atypical worker	-0.001***	-0.023***	0.000	-0.026***	0.017***	-0.071***
	[0.000]	[0.001]	[0.001]	[0.000]	[0.001]	[0.001]
Income	-0.000***	-0.000***	-0.000***	-0.000***	0.000***	-0.000***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Postpone medical care	0.047***	0.027***	0.058***	-0.012***	-0.029***	0.000
	[0.000]	[0.001]	[0.000]	[0.000]	[0.000]	[0.000]
Minor in family	0.167***	0.214***	0.136***	-0.111***	-0.014***	-0.205***
	[0.000]	[0.001]	[0.000]	[0.000]	[0.000]	[0.001]
Education level (reference: low secondary)						
Medium level (lyceum)	-0.046***	0.002***	-0.065***	-0.014***	-0.020***	-0.008***
	[0.000]	[0.001]	[0.000]	[0.000]	[0.000]	[0.000]
High level (univ. or above)	0.004***	0.041***	-0.019***	-0.048***	-0.038***	-0.058***
	[0.001]	[0.001]	[0.001]	[0.000]	[0.001]	[0.001]
Age (reference 18-29)						
30-49	-0.164***	-0.106***	-0.201***	0.061***	0.015***	0.107***
	[0.001]	[0.002]	[0.001]	[0.001]	[0.000]	[0.001]
50 and above	-0.289***	-0.315***	-0.253***	0.160***	0.109***	0.197***
	[0.001]	[0.002]	[0.001]	[0.001]	[0.001]	[0.001]
Macro Area (reference: North)						
Center	-0.015***	0.050***	-0.077***	0.016***	0.017***	0.008***
	[0.000]	[0.001]	[0.000]	[0.000]	[0.000]	[0.000]
South and Islands	0.015***	0.078***	-0.030***	0.031***	-0.014***	0.061***
	[0.000]	[0.001]	[0.000]	[0.000]	[0.000]	[0.000]
N. of observations	5357	2764	2593	5357	2764	2593

Note: Probit model (+ 0.15 * 0.10 ** 0.05 *** 0.01) Standard errors in parenthesis. We also control for professions.
Source: Authors elaboration on Inapp-PLUS data 2021

The results show a causal effect of the use of parental leaves in 2018 on our proxies of vulnerability in 2021⁵. Being a mother who did not share the use of the parental leaves with her partner increase the probability of being part-time in 2021 by 2 p.p., of having a bad health in 2021 by 9.7 p.p., and of having to postpone medical care in 2021 by 7.9 p.p. Otherwise, to share the use of parental

leaves or having a partner who take the parental leaves decreases the probability of being vulnerable: in the last scenario the probability of having bad health decreases by 14.6 p.p. Other variables have a causal effect on economic and physical vulnerability. As expected, an increase of income decreases the probability of being vulnerable, while as to be an atypical worker or to reside in central and, mainly,

5 The results are confirmed in the 2021 cross-sectional data where we relate the use of parental leave with the vulnerabilities proxy at the same year. However, we find a stronger effect on having a part-time and weaker on the perceived health status and, mainly, on having to postpone the medical care.

in southern regions, compared to northern regions in Italy increases the probability of being vulnerable (except for the part-time proxy).

Finally (Table 7), we present the main socio-economic characteristics of people having different level of burden of care. With the aim of detecting gender differences and following the principle that gender differences are not adequately captured using simple additive dummy variables (D'Ippoliti 2011), we run our models for the total population and for the subset of women and men.

Our results are in line with the main literature findings. Main drivers of a high level of burden of care are the following: being woman increases the probability of having a high level of care load by 18 p.p.; also, being a part-time worker does increase it, especially for men (8 p.p.); vulnerability proxy, such as having to postpone medical care, also increases the probability of having a high care load: having minors in the household, as expected, strongly increases the burden of care for women (21 p.p.) more than for men (14 p.p.)

Differences among gender are found in several variables: to reside in southern region increase the probability of having a high level of burden of care for women (8 p.p.) while as it decreases it for men (-3 p.p.); surprisingly, having reached a high level of education also increases the probability of having a high level of care load for women (4 p.p.) but not for men (-2 p.p.). Finally, as expected, aging has a negative effect on burden of care.

Conclusion and policy recommendations

The primary evidence of our analysis points out that despite enormous changes happening in everybody's lives and the new arrangement of working environments due to Covid-19, some stereotypes and evidence of the unequal burden of care between women and men have still not changed.

The EU-LFS findings about the share of care responsibility among parents in Italy in 2018 shown a constant asymmetry. After three years, according to PLUS data 2021, women are confirmed to represent the subjects who deal with kitchen, cleaning and tidying up the house, care, and custody activities both of subjects belonging to the family nucleus and of external ones but also of all the daily tasks related to children's school attendance. Some differences from this paradigm are detectable in terms of sharing between men and women for the care of children, showing a tendency to consolidate a new culture of paternity. However, this attitude does not also extend to the management of the so-called household tasks, confirming the stereotypes. In 2021 the share of family that had not shared the

use of parental leaves among the two parents in Italy was around 40%. Despite of the increase of the number and type of parental leaves due to the covid pandemic, women are still overrepresented (66.9%) compared to men (22.5%). Though, the data is much lower than in 2018 (80% for women).

Apart from the confirmation of the evidence that women still have the highest burden of care, the results of our empirical analysis show a causal effect of the use of parental leaves on different proxies of vulnerability. Being a mother who had not shared the use of parental leaves with her partner increases the probability of having a bad health, having to postpone medical care and being part-time in the future. At the same time main drivers of a high level of burden of care are a weak attachment to labour market, as well as a low income and other economic vulnerabilities and, finally, the cultural environment influence the different level of burden of care among gender (to live in southern Italian regions increase the women probability of having a high burden of care). It looks like a hard circle to break. However, policies to contrast the unbalanced burden of care among gender and the effect of this asymmetry on women economic and health vulnerabilities are necessary.

According to PLUS data, workers know which tools would help them in the conciliation of work and life, namely flexible working hours followed by more accessible cost for childcare services and, for man, more regular working hours. Three years later, those findings are still in line with what has emerged from the EU-LFS ad hoc module collected in 2018.

In conclusion, it emerges that the policies are currently issued in response to the European framework. However, they have met the required deadlines and introduced some innovations. They are not perfectly harmonised from a systemic legal point of view, especially regarding the aspects that empirical evidence identifies as most problematic, such as "long working hours" and "unpredictable or difficult work schedules". Therefore, policymakers and social partners must intervene with effective measures promoting flexible working arrangements, including remote work. Despite further regulatory developments on the critical issue of parental leave, there remains a lack of provisions addressing health-related vulnerability. As highlighted, significant support could also come from social partners, provided they can play a genuinely proactive role.

Another relevant issue concerns the insufficient policy response to the need for services at more affordable costs, as well as to the negative correlation between care burdens and health conditions—an impact that disproportionately affects women.

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