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Dissecting the Decline in Average Hours Worked in Europe

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Prepared by Diva Astinova, Romain Duval, Niels-Jakob H. Hansen, Ben Park, Ippei Shibata, and Frederik Toscani

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ABSTRACT: Three years after the COVID-19 crisis, employment and total hours worked in Europe fully recovered, but average hours per worker did not. We analyze the decline in average hours worked across European countries and find that (i) it is not cyclical but predominantly structural, extending a long-term trend that predates COVID-19, (ii) it mainly reflects reduced hours within worker groups, not a compositional shift towards lower-hours jobs and workers, (iii) men—particularly those with young children—and youth drive this drop, (iv) declines in actual hours match declines in desired hours. Policy reforms could help involuntary part-timers and women with young children raise their actual hours towards desired levels, but the aggregate impact on average hours would be limited to 0.5 to 1.5 percent. Overall, there is scant evidence of slack at the intensive margin in European labor markets, and the trend fall in average hours worked seems unlikely to reverse.

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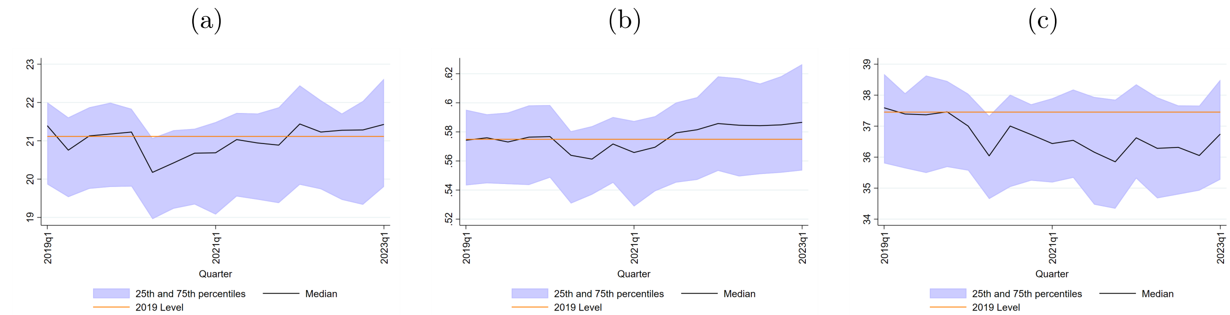
1 Introduction

European labor markets experienced a strong recovery after the COVID-19 pandemic. By 2022, total hours worked exceeded their pre-COVID-19 level (Figure 1a). This recovery was driven by a strong bounce back in the employment rate (the extensive margin) (Figure 1b). However, average hours worked (the intensive margin) remained below pre-pandemic levels (Figure 1c).

Figure 1: Total Hours Worked (a), Employment Rate (b), and Average Hours Worked (c)



Note: The figure shows the average hours worked of the median, 25th and 75th percentile countries of EU27 countries. The line shows the 2019 level of the median country.
Sources: Eurostat and authors' calculations.

Whether this decline in average hours worked is cyclical—related to the pandemic or other transitory forces—or instead structural matters for potential output and (the intensive margin of) labor market slack across Europe. Average working hours across developed economies have been on a long-term declining trend since the 19th century, roughly halving between 1870 and 2000 in Germany for example (Messenger, Lee and McCann, 2007a). More broadly, average working hours across OECD countries have decreased by roughly 0.5 percent per year between the 1870s and the early 2000s, with the postwar United States being an important exception (Boppart and Krusell, 2020). Nevertheless, since average hours weigh on total supply, it is important to understand why hours have not recovered after the pandemic, especially in the current environment where labor market shortages contribute to elevated inflation through added wage pressure.

After showing that the recent fall in working hours is predominantly structural rather than cyclical - with average hours back at their long-term pre-pandemic trend[1]- this paper then asks the following questions: Why are average working hours still on a downward trend in Europe? Is a changing demographic composition contributing, with an increasing share of workers or jobs with fewer working hours (a between group effect) or are workers across

[1]Nevertheless, sick leave does seem to be one important factor depressing hours specifically in the post-Covid period. See, for example, Arce et al. (2023) in an ECB blog.

different demographic groups or job types all working less (within group effect)? Which demographic groups have seen a faster decline? Do falling hours line up with workers' stated preferences, or is there a growing gap between desired and actual hours? In addition, we discuss whether these is potential scope for policy actions to close gaps between desired and actual hours, and, all things considered, how we might expect average hours to develop going forward. We address these questions using both aggregate labor market data on hours worked from OECD and Eurostat, and microdata from the EU Labor Force Survey (EU-LFS).

We first document that the decline in average hours worked since 2003 has been widespread across demographic groups, industries, and occupations. While compositional shifts towards workers or jobs with shorter hours have contributed, they are dwarfed by within group declines, which account for up to 80 percent of the aggregate decline in hours worked.

A closer look at the microdata, mainly through regression analysis, reveals important differences across the demographic groups. The decline in average hours worked has been most pronounced among the young, men, and men with young children. These groups also account for much of the overall decrease in average actual hours worked since 2003. For the young, an increased incidence of part-time workers also enrolled in education can explain the decline. For men in general, including those with young children, the decline cuts across full-time and part-time workers and stems from a broad downward shift in the distribution of hours worked. This finding is strikingly consistent across European countries.

Next, we shed light on the respective trends in three different concepts of hours worked–(i) actual hours worked, (ii) usual hours worked, and (iii) desired hours worked. While actual hours determine labor input, the concepts of usual hours and desired hours allow us to better understand *why* actual hours worked move. While *actual* weekly hours worked are affected by changes in annual leave, holidays, or other related exceptional changes in weekly hours, *usual* hours are only affected by changes in a typical work week. Therefore, greater use of parental leave, for example, can drive a wedge between actual and usual hours, leading to a decline in actual hours without changing usual hours. Finally, *desired* work hours better capture potentially available labor supply. The gap between desired hours and usual or actual hours can then inform the scope for raising hours worked, including through policy.

Focusing on the gaps between desired and actual or usual hours, rather than just actual hours, uncovers different trends, and suggests that the bulk of the trend decline in hours primarily reflects worker preferences. Specifically, while youth and men–including with young children–have reduced their *actual* hours worked since 2003, there has not been any increase in the gap between their desired and actual hours. In fact, the fall in actual hours has come alongside a fall in desired hours. While women with young children have been reporting a growing gap between their desired and actual hours, this is not true of the gap between their desired and usual hours. A slight increase in their hours worked during usual work weeks was offset by more (parental) leave that depressed their actual hours. This, again, suggests a key role for private and/or collective preferences in driving down actual hours.

Increased income and wealth is likely to be the main force behind the decline in desired and actual hours worked—and the trend growth slowdown in much of Europe may also explain why the trend decline in hours flattened out in recent decades. This is suggested by the strong negative cross-country correlation between GDP per capita and average hours, as well as by the cross-country convergence in average hours worked: hours have tended to fall more in those European countries where average hours were initially longest, and those that experienced the highest growth rates in GDP per capita. Both actual and desired hours dropped in these countries, again pointing to the role of preferences in driving down hours as incomes grew.

In light of these findings and Europe's modest projected GDP per capita growth rates over the medium term, the more likely scenario going forward is one of continued declines in average hours along a possibly flatter downward trend. This is all the more likely as average hours returned to their pre-pandemic trend level by mid-2023, suggesting little to no remaining short-term slack along that (intensive) margin.[2] This broad European outlook will likely mask heterogeneity across countries, as the scope for drops in average hours is larger for countries that are farther from the technological frontier and projected to keep growing faster in the future.

Should policy seek to boost working hours, and if so, which actions might make most sense? In the past, regulation has likely played a role in reducing hours worked, although these policy decisions may have reflected collective preferences.[3] Explicit changes to statutory working hours have not played such an important role in Europe in the last two decades, although there is renewed interest for policymakers in some countries such as Spain. Obviously, any policy measures to change hours worked should align with worker preferences. One possible gauge for preferences is the persistent positive gap between desired and usual hours, with some part-time workers consistently reporting working less than desired. In principle, fully eliminating this gap would increase total labor input by around 1.3 percent, although such a thought experiment arguably provides an upper bound. Critically, tax and

[2]Some recent studies suggest that long COVID could be still affecting some persistent decline in hours worked. See for instance speech by Banco de Espana governor Hernández de Cos (Hernández de Cos, 2023).

[3]Regulation is generally understood to have played an important role, with the 8-hour day, 48-hour work week norm, a long-term anchor in reducing weekly hours. In Europe, for the last two to three decades, the legal normal weekly hours have generally been set at 40 hours, with the last wave of legal normal working hour reforms taking place in the late 1990s and early 2000s (reductions in statutory benchmarks in Belgium, Italy, Portugal, Slovenia and most famously the introduction of France's 35 hour work week). Most research concludes that these reforms did indeed reduce hours worked (e.g. Batut et al. (2023a)).

benefit systems—including unemployment insurance, health and pension schemes—should avoid penalizing full-time vis-à-vis part-time workers, thereby disincentivizing full-time job take-up. Policies to narrow the hours gap may also include active labor market policies, such as retraining programs, for part-time workers to better qualify for (typically higher-skill) full-time jobs. In addition, targeted policies towards mothers with young children, such as expanded childcare and reducing the marginal taxation of second earners as needed, might help. So could mainstreaming flexible work arrangements, including teleworking.

Literature This paper contributes to the study of the time series dynamics of working hours, and more tangentially to the analysis of cross-country differences in working hours. Boppart and Krusell (2020), for instance, use historical data to document long historical trends in 14 OECD countries spanning from the 1870s until the early 2000s. They find that across countries, working hours decreased by approximately 0.5 percent per year, with the exception of the postwar US. They show that this finding is consistent with balanced growth path preferences where the income effect outweighs the substitution effect. Several OECD and ILO reports also study the decline of hours worked (OECD, 1998, 2021; Messenger et al., 2007a). Greenwood and Vandenbroucke (2005) conclude that technological progress has been the main force behind falling working hours in the labor market and at home in the last 200 years. They highlight the income effect of rising real wages, but also time-saving appliances as well as the increased value of leisure, as key mechanisms behind this trend.

While we focus on the trend decline, there also exists a large literature on the notable cross-country differences in hours worked. Rogerson (2006) documents large differences in hours worked across OECD countries from 1956-2003, building on earlier work (including (Maddison, 1995; Whaples, 1991).[4] Bick, Brüggemann and Fuchs-Schündeln (2019) find that Europeans worked 14 percent fewer hours than US Americans from 1983-2015. According to Rogerson (2006), cross-country differences in working hours can be explained by (1) technological change, (2) government taxes and transfers, and (3) reallocation of work from home production to the labor market. Velasquez (2023) finds that rise in trade explains about 7 percent of the total decline in hours worked in high-income countries between 1950 and 2014. Bick, Fuchs-Schündeln and Lagakos (2018) find that average hours worked are substantially higher in lower-income countries, also pointing to a dominant income effect which we corroborate in our analysis. Moreover, looking into differences across individuals within countries, they find that working hours fall with income, except in the richest countries. Bick et al. (2022) show that while average hours worked per worker (intensive margin) declined

[4]New datasets directly measuring hours worked in the United States and European countries (for example Cociuba et al., 2018; Bick et al., 2019) are reinvigorating the question with more accurate measurements of hours worked.

between 1999 and 2019 in all 19 countries (US and 18 European countries) in their sample, employment rates (extensive margin) have increased in most countries during the same period. They propose a theoretical model where the decline (increase) in hours (employment) is explained by a decrease in the fixed costs of heterogeneous preferences among workers.

An important focus of our paper is the role of parental leave and zero-hour weeks, especially for women. This speaks to the extensive literature on gender gaps in hours worked between (see for example Kleven, Landais and Søgaard (2019); Angelov, Johansson and Lindahl (2016) for the response of women's hours, employment and wages to birth of the first child).

Finally, we contribute to a growing literature on desired working hours and their role in explaining the decline of actual working hours. Böheim and Taylor (2004) use data on British desired hours supply and find that hours constraints are important determinants of leaving the labor market and of mobility within and between employers. More recently, Faberman et al. (2020) construct an "aggregate hours gap" to measure labor market under-utilization directly from desired and actual hours worked.

The remainder of the paper proceeds as follows. Section 2 briefly discusses the data while section 3 presents summary statistics. The core of the methodology and results are discussed in sections 4 and 5, which present the decomposition of changes in hours worked in between and within components and the microdata regression analysis, respectively. Section 6 provides concluding remarks, briefly touching on a conjecture on the outlook for average hours worked in Europe and the role for policies in helping to align workers' hours worked with their preferences.

2 Data

This paper uses three main data sources. First, we use publicly available data from Eurostat to conduct descriptive analysis at an aggregate (mainly country) level. For longer-term trends on average hours worked beyond the early 2000s we also rely on data from the Organization for Economic Cooperation and Development (OECD) for selected European countries. We then use microdata from the European Labour Force Survey to look more closely into the groups of workers that have been driving the decline in hours over the past two decades.

We use aggregate quarterly Eurostat data from 2003Q1 to 2023Q1. The data cover the EU27 countries.[5] An advantage of this data source is that it is up to date, making it possible

[5]**Eurostat sample countries**: Austria, Belgium, Bulgaria, Croatia, Republic of Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg,

to assess the most recent evolution of hours worked. A constraint is that there are limits to how granular the analysis can be, given that only certain cuts of the data are tabulated by Eurostat.

For our main analysis, we use the EU Labour Force Survey microdata to further investigate trends in actual, usual, and desired hours worked. The EU Labour Force Survey (henceforth EU-LFS) is a large cross-sectional survey of European households. It contains data for all EU countries as well as Iceland, Norway, Switzerland, and the United Kingdom. We cover 25 European countries over the 2003-2019 period in an annual cross-section to maximize country availability and sample length.[6] Our sample is selected based on the availability of basic demographic variables–gender, age, marital status and children. In our baseline specification, we do not include education, industry or occupations. While these are variables of interest in understanding labor supply, we focus on a more basic set of demographic variables to maximize sample period and country coverage. As shown later, our baseline results remain broadly robust to inclusions of these variables in a shorter sample.

We use information on actual hours, usual hours, and desired hours.[7] Actual hours measure the observed weekly labor supply in hours in the survey reference period. Usual hours worked are the number of hours per week usually worked in the main job.[8] They are the modal value of the actual hours worked per week over a long reference period, excluding weeks when an absence from work occurs (e.g. holidays, leaves, strikes). They provide an indication of how working time is organized. Finally, desired hours worked are recovered from a question asking about the "number of hours that the person would like to work in total [per week]".

Our sample covers employed workers aged 15 and up to focus on the intensive margin of labor supply, which results in 24 million individual observations over the baseline sample period. EU-LFS microdata contain a rich set of variables that enable us to study interactions

Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, and Sweden.

[6]**EU-LFS sample countries**: Austria, Belgium, Bulgaria, Switzerland, Cyprus, Czechia, Germany, Estonia, Spain, France, Greece, Croatia, Hungary, Ireland, Italy, Lithuania, Luxembourg, Latvia, Netherlands, Poland, Portugal, Romania, Slovenia, Slovakia, and United Kingdom.

[7]According to the European Union Labour Force Survey (EU-LFS) user guide, actual hours worked are defined as the "number of hours actually worked during the reference week in the main job." Usual hours worked represent the "number of hours per week usually worked in the main job", and desired hours worked refer to the "number of [weekly] hours that the person would like to work in total", taking into account potential income increases and decreases from working more or fewer hours. Desired hours worked reflect personal preferences and could include external factors such as commuting time, availability of childcare, economic uncertainty, family responsibilities, and health.

[8]For analysis in this paper, we only show results based on hours worked in the main job and do not consider hours worked on the second job, as we do not have a corresponding variable for usual hours worked. However, the share of workers with a second job has been low and stable around 4 percent and the actual hours worked for a second job has also been declining. Moreover, our main results remain robust to inclusion of hours worked on second job.

among variables beyond the publicly available tabulations. The hours gap, namely the gap between desired and actual hours, enables us to get some sense of potential labor supply, and thereby to identify which groups of workers may have the greatest scope to raise their labor supply towards its preferred level, including through policy actions. One drawback of using EU-LFS microdata is that it is available with a significant lag, which does not allow us to study the post-pandemic period–we use EU-LFS data until 2019. However, this is less of a concern in the context of this paper which is about long-term trends.

3 Descriptive Statistics

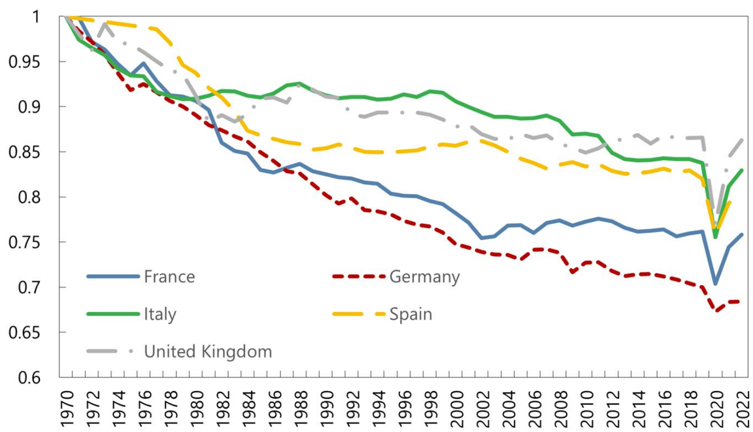
To set the stage, we inspect the long-run trend in average hours worked for a selection of large European economies. As alluded to in the introduction, and shown in Figure 2, average hours worked have trended down consistently over the past decades. Two observations are noteworthy. First, the slope of the decline seems to have flattened in several countries and second, there is a substantial degree of cross-country heterogeneity in the size of the decline in average hours worked between 1970 and 2022.

OECD (1998) already noted a flattening in the pace of reduction of hours worked as of the 1980s, pointing to, among other factors, a stop in the momentum of "statutory, or collectively agreed, working time reductions" in Europe. While working hour regulations are complex (see, e.g. OECD (2021)), statutory regular weekly hours are an important "anchor" for actual hours. The most recent changes in statutory regular working hours took place in a handful of countries in the late 1990s and early 2000s. Since then, the 40-hour work week has been dominant legal norm in Europe, with Belgium (38 hours) and France (35 hours) as exceptions (see Figure 3). At the time of writing, the Spanish government has announced plans to reduce the working week from 40 to 37.5 hours in the next two years.

If not regulation, what then, has driven the more recent decline in working hours since the early 2000s? As Figure 4 shows, this decline was widespread across countries; average hours worked for the median country in 2003 now correspond to the 75th percentile of hours worked in the 2020s.

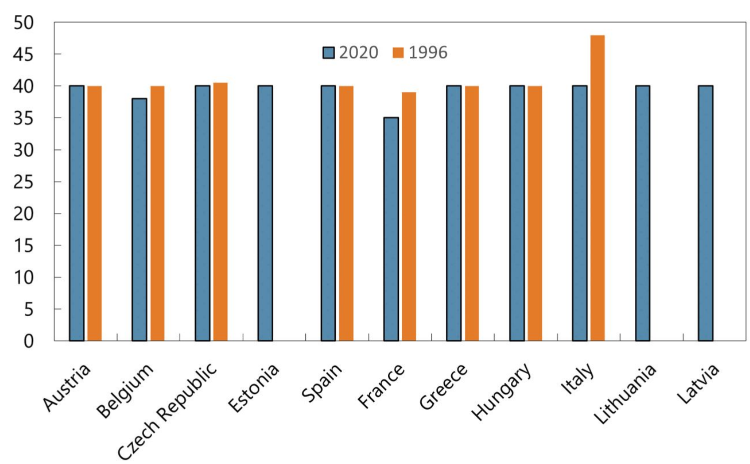
Figure 5 asks how much of a drag the reduction in hours has exerted on total labor input in the EU. Specifically it decomposes changes in total hours worked into changes in average hours worked, the unemployment rate and the labor force participation rate. For both the 2003-2019 and 2019-2023 periods, the drop in average hours corresponded to a reduction of about 0.2 percent per year in total hours worked. Aggregate labor input was still able to grow by around 0.4 percent per year due to a combination of falling unemployment and

Figure 2: Average Hours Worked: The Long-term Trend (Index, 1970=1)



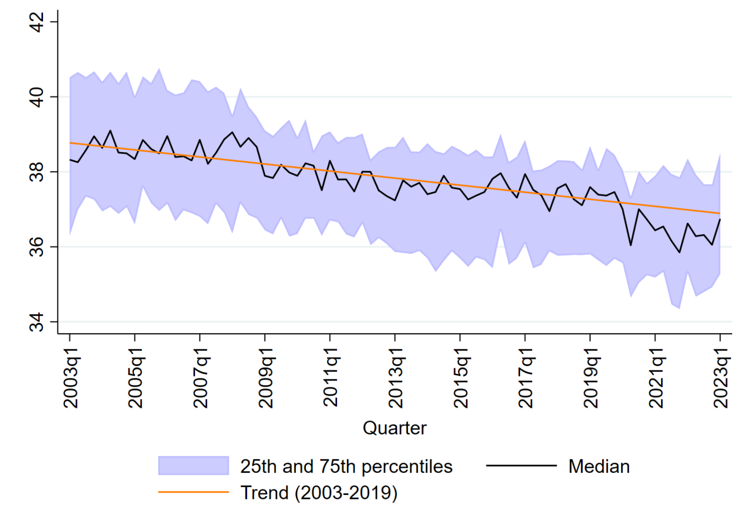
Source: OECD

Figure 3: Europe: Legal Normal Weekly Hours



Source: OECD (1997, 2021)

Figure 4: Average Actual Hours Worked



Note: Figure 4 shows the average hours worked of the median-, 25th- and 75th-percentile countries of EU27 countries. The line shows the trend of the median country for 2003-19.
Sources: Eurostat and authors' calculations.

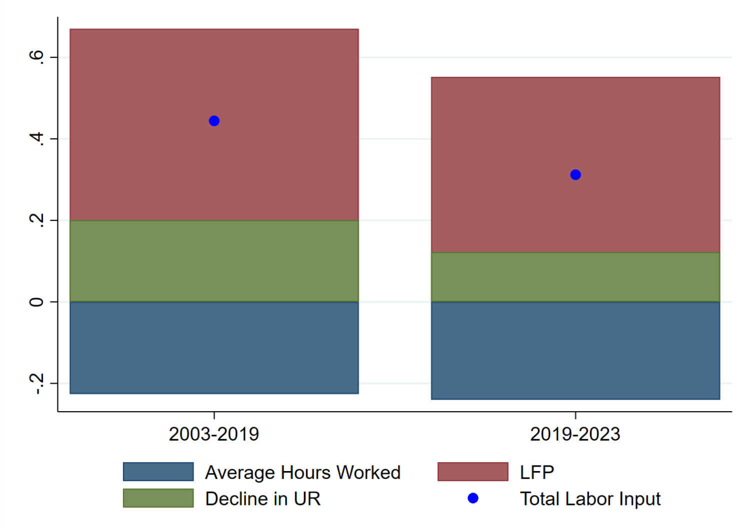
rising labor participation.[9] This growth rate would have been 50 percent higher had average hours remained stable.

The decline in average hours worked was ubiquitous across different groups, as shown in Table 1. This table provides details on average hours worked in 2003 and 2019, their change between these two years, employment shares in both years, and the contribution to the aggregate change in average hours worked of various demographic groups (by gender, age, marital status and whether a person has children). Aggregate average actual hours worked fell from 35.37 hours per week in 2003 to 32.88 hours per week by 2019, with declines observed for all groups.

At the same time, there was much heterogeneity across demographic groups in the magnitude of the decline and its contribution to the aggregate fall in hours, which the next section will investigate in greater detail. The decline was most pronounced for men–particularly with young children—and young workers, who also contributed most to the aggregate fall. Men work more than women on average, but this gender gap has shrunk over time—and

[9]The labor force participation rates of women and older workers (aged 55 to 64 years old) have been rising during this period. Since the early 2000s, older workers showed the largest increase in participation compared to other age groups in the Euro Area countries (Bodnár et al., 2020). This has been complemented by increased participation of women, especially prime-aged and older female workers (Grigoli et al., 2018). Pension reforms and increases in the statutory retirement ages incentivize workers to remain in the labor market for longer (Bodnár et al., 2020), while better access to childcare, longer maternity leave, and increasingly flexible work arrangements are associated with higher female labor force participation (see Olivetti and Petrongolo (2017)).

Figure 5: Total Hours Decomposition: Extensive vs Intensive Margin



Note: Figure 5 decomposes the change in total hours worked (“Total Labor Input”) into (i) average hours worked (intensive margin), (ii) labor force participation (“LFP”), and (iii) decline in unemployment rate (“Decline in UR”) for 2003-2019 and 2019-2023. Unites are annualized log changes.
Sources: EULFS and authors’ calculations.

so did the gender gap in the employment rate. Young workers (aged between 15 and 29 years) saw the biggest decline in hours over the sample period, alongside a decline in their employment rate (and rise in schooling). Older workers (aged between 55 and 64 years) and elderly workers (aged 65 years and above) have seen an increase in their employment shares as effective retirement ages rose across most European countries, but average hours dropped also for them. While men with young children under 5 years old saw a sharp decline in average hours worked, the corresponding fall for women with young children was much milder.

Much of the decline in actual hours worked reflects an increase in non-worked periods, as shown by the much smaller decline in usual hours.[10] While also negative for nearly all groups, the drop in usual hours is about one-hour-per-week smaller on average than the fall in actual hours, and it is not statistically significant for the overall population. The only significant negative changes are observed for men, and men with young children. For women with young children, usual hours in fact increased, despite the previously discussed drop in actual hours.

[10]see Appendix Table A.1.

Table 1: Summary Statistics: Actual Hours Worked

	$\bar{h}^{actual}_{2003}$	$\bar{h}^{actual}_{2019}$	$\Delta\bar{h}^{actual}_{'19-'03}$	E_{2003}	E_{2019}	Contr.
Total	35.37	32.88	-2.49**	.	.	.
	(.81)	(.71)	(1.06)			
Men	38.78	36.03	-2.75**	.56	.54	-2.35
	(.63)	(.56)	(.83)			
Women	31.01	29.21	-1.81	.44	.46	-.14
	(1.12)	(.89)	(1.42)			
Young: 15-29 yrs	34.41	31.67	-2.74**	.22	.18	-2.03
	(1.02)	(.8)	(1.28)			
Prime: 30-54 yrs	36	33.8	-2.2**	.66	.62	-2.75
	(.75)	(.64)	(.97)			
Older: 55-64 yrs	34.46	32.18	-2.28	.1	.17	2.1
	(.92)	(.76)	(1.18)			
Elderly: 65+ yrs	29.03	24.23	-4.8	.02	.03	.18
	(2.19)	(1.82)	(2.82)			
Married	35.61	33.09	-2.52**	.61	.54	-3.99
	(.81)	(.84)	(1.16)			
Child u5	34.21	31.57	-2.64**	.17	.16	-.78
	(.95)	(.73)	(1.19)			
Men w. Child u5	39.77	37.02	-2.75**	.1	.09	-.68
	(.72)	(.65)	(.96)			
Women w. Child u5	26.07	24.55	-1.52	.07	.07	-.09
	(1.86)	(1.26)	(2.22)			

Note: h^{actual}_t shows the average actual hours worked in year $t \in 2003, 2019$. $\Delta h_{'19-'03}$ shows the change in average actual hours worked between 2003 and 2019. E_t shows the employment share in year t. "Contr." shows the contribution of group-specific decline in average hours worked ot the aggregate decline in average hours worked in level (hours). "Child u5" means children under 5 years old. Values in parentheses show standard errors that are clustered at country-year level and significance levels are denoted by * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.
Sources: EULFS and authors' calculations.

4 Dissecting the Decline in Hours at the Worker Level: Between- vs. Within-Group Dynamics

The previous section highlighted that all demographic groups considered reduced their average actual hours worked, but it also raised the possibility of compositional effects playing an important role. For example, women and seniors, two groups with typically below-average hours worked, saw their employment shares increase.

To formally disentangle compositional effects, or the between-groups contribution to falling average hours, from the within-group contribution, we decompose the aggregate decline in average hours worked as follows:

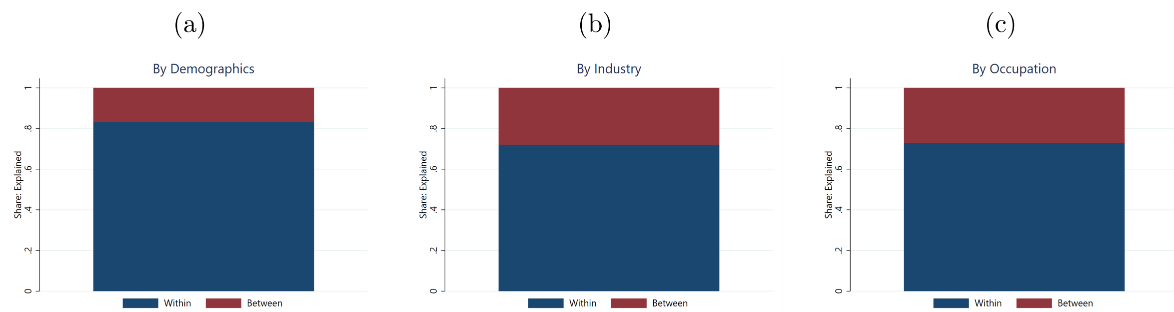
$$h_t - h_{t-1} = \underbrace{\sum_i (\omega_{it} - \omega_{i,t-1}) h_{i,t}}_{\text{between}} + \underbrace{\sum_i \omega_{i,t-1}(h_{i,t} - h_{i,t-1})}_{\text{within}} \tag{1}$$

where $h_{i,t}$ denotes aggregate average actual hours worked for group i at time t, and ω_{it} denotes the employment share of group i at time t. The first and second terms of the right-hand side of the equation capture the between and within effects, respectively. As baseline, we consider this decomposition of the changes in average hours worked between 2003 and 2019 using the cross-product of 32 groups–2 gender $\times$ 4 age groups $\times$ 2 marital status $\times$ young child dummy.

The within-component accounts for most–over four fifths–of the decline in average hours worked, as shown in Figure 6 panel (a) which plots the decomposition of the annual change in average hours worked between 2003 and 2019. Panel (b) and (c) in Figure 6 show the same exercise but exploiting the industry and occupation dimensions, respectively. Here the time period is limited to 2008-2019 for the industry-level exercise and to 2011-2019 for the occupation-level one due to data availability. This exercise allows the cross-product of 21 industry groups and 9 occupation groups. Again, while slightly smaller, the within-group component of the decline in average hours clearly dominates.

The dominant role of within-group declines in explaining the aggregate fall in average hours worked provides a strong case for investigating within-group dynamics rather than compositional shifts in the economy. We turn to this issue next, using micro-level EULFS data.

Figure 6: Between and Within Decomposition



Note: Figure 6 shows the between and within decomposition following equation (1). “By Demographics” shows the decomposition for 2003-2019 using the cross-product of 32 groups–2 gender $\times$ 4 age groups $\times$ 2 marital status $\times$ young child dummy. “By Industry” shows the decomposition for 2008-2019 using 21 industry categories. Lastly, “By Occupation” shows the decomposition for 2011-2019 using 9 occupation categories.
Sources: EULFS and authors’ calculations.

5 Dissecting the Decline in Hours at the Worker Level: Regression Analysis

5.1 Specification

In this section, we employ regression analysis to isolate the main groups that are driving the decline in average hours worked while simultaneously controlling for various demographic characteristics, country characteristics, and country-specific trends and fixed effects.

Our preferred empirical specification takes the following form:

$$h_{ict} = \beta_0 + X_{ict}\beta + \gamma Trend + X_{ict} \times \lambda Trend + \theta Z_{ct} + \epsilon_{it} \tag{2}$$

where h_{ict} denotes an hours worked variable (either actual hours, usual hours, or the hours gap between desired and actual or usual hours) for individual i in country c in year t, and X_{ict} is a vector of covariates that include gender, age group (15-29, 30-54, 55-64, and 65+), marital status (married and non-married), men having young children (under 5 years of age) in the household, and women having young children. The reference group is prime-aged working women who are unmarried and do not have young children. Trend is a yearly trend. We cluster standard errors by country and year. In some specifications, we also add macroeconomic controls (which include the output gap, GDP per capita and net exports) and finally, for a more robust specification, we include country fixed effects to control for unobserved country-wide factors behind cross-country differences in average hours worked, and country-specific trends to control for unobserved factors behind cross-country differences in hours trends.

In our main specification, the differential trends across demographic groups relative to our reference group are captured by λ, which is the main coefficient of interest. In further robustness checks, the outcome variable of interest includes usual instead of actual hours worked.

5.2 Results

Which groups have seen a sharper decline?

The regression results in Table 2 confirm the descriptive results from Section 3: men, particularly those with young children, and young workers have seen a sharper decline in hours worked than other groups. Column (1) in Table 2 shows the aggregate trend, column (2) introduces the level effects of demographic groups, column (3) further includes demographic-group-specific trends, column (4) adds macroeconomic controls, and finally column (5) introduces country fixed effects and country-specific time trends. The results show that hours worked have been declining annually by about 0.07 hours per week more for men without young children than for the reference group. Men with young children have experienced an additional 0.03-0.05 annual decline in their hours per week. By contrast, women with young children have seen a decline in average hours worked similar to that of the reference group. Young workers, who have lower average working hours than the reference group to begin with, also have seen an additional 0.07-0.11 hours decline.[11] To get a sense of the magnitude, the estimated effect for the young implies a decline in average actual hours of up to 2 hours compared to the reference group over 2003-2019.

As an aside, the coefficient on both the output gap and GDP per capita are highly significant, confirming the well-established results that hours are procyclical (negative output gap coefficient) and the income effect dominates the substitution effect in aggregate (negative GDP per capita coefficient).

These results hold true for both full-time and part-time workers, although they tend to be weaker among full-time workers, particularly for youth, with the exception of female workers with young children—for whom only full-time workers have reduced their hours. The regressions in Table A.2 restrict the sample to full-time workers, with the following noteworthy results: (i) the negative trend is somewhat less steep for full-time workers but still highly significant; (ii) for men and men with young children, the earlier results hold, but again with somewhat smaller coefficients; (iii) young full-time workers have not seen a trend decline in average hours worked; and, (iv) full-time mothers with young children have seen a trend decline in average hours vis-à-vis the reference group (while the average women has not).

How can we rationalize these results? We try to understand the role of leave, school and other reduced or "zero-hour" periods and investigate whether the reduction might be accounted for by preferences or not.[12]

Are zero hour weeks driving the results? Recalling the summary statistics on actual vs usual hours worked, one hypothesis is that zero-hour weeks might be driving a wedge between actual and usual hours, explaining the observed decline in the former. To explicitly test the importance of zero-hour weeks, we run two additional specifications. First, we restrict the sample to workers who worked non-zero hours during the reference week to see whether the results are driven by a change at the very bottom of the distribution. Second,

[11] Although our sample gets smaller once we include workers' education information, we confirm that there is no statistically significant difference in the downward trend of the actual hours worked between less-educated (less than college) and highly-educated (with college degree) young workers/men with young children.

[12] "Zero-hour" is when survey respondents have a job but worked zero hours in the reference week.

we reran our baseline regression using usual hours worked rather than actual hours worked as the dependent variable. The two exercises are related since the difference between usual and actual hours is largest for workers who for any given reason worked zero hours in the reference week–although zero-hour weeks are only one among several factors driving the difference.

For both exercises the main results are unchanged as shown in Appendix Tables A.3 and A.4, indicating a broad reduction in hours worked among the young, and especially men with children, that does just reflect an increase in (annual, parental, other exceptional) leave periods.

The trend decline in hours worked among women with young children does appear to reflect to a rise in zero-hour weeks rather than a fall in usual weekly hours, however. When excluding workers with zero actual hours worked, or when using usual hours as the dependent variable, the trend coefficient for women with a child under 5 years becomes positive and significant, while it was zero for the full sample using actual hours (and negative for full-time workers). Keeping in mind that women with young children work significantly less than the reference (and the average) worker, this result suggests that they have been closing some of the gap in usual hours, but not that in actual hours. This is because of a higher incidence of significantly reduced or zero-hour weeks: while in 2019, 8.8 percent of all workers reported zero actual hours in the reference week, 25.2 percent of women with children under 5 years old did. We will return to this below.

Why sharper declines for young (part-time) workers?

The decline in average hours worked among young people appears to reflect in part the rising share of young people in school. The share of respondents answering "in school" as a reason for working zero hours has increased from 7.3 percent in 2006 to 12.6 percent in 2019. Appendix Table A.5 shows actual hours worked and their evolution for young workers in school with breakdown by gender. Young workers in school work much less than average young workers (26.68 hours versus 34.41 hours per week in 2003). Moreover, the decline in average hours worked has been much more pronounced for young workers in school–their average hours worked declined by 3.49 hours to 23.18 hours per week between 2003 in 2019. This pattern of lower average hours worked and a sharper trend decline is observed for both men and women.[13]

[13] In the US, Aguiar et al. (2021) study leisure activities of men aged 21–30 and find that increased leisure time of video gaming and recreational computing have reduced their labor work hours since 2004.

Table 2: Actual Hours Worked

	(1) h^{actual}	(2) h^{actual}	(3) h^{actual}	(4) h^{actual}	(5) h^{actual}
Trend	-0.146***	-0.119***	-0.0659**	-0.00224	-0.230***
	(0.0154)	(0.0249)	(0.0268)	(0.0329)	(0.0201)
Men		6.819***	7.375***	7.456***	7.363***
		(0.655)	(0.732)	(0.682)	(0.707)
Young: 15-29 yrs		-3.719***	-2.811***	-3.123***	-2.998***
		(0.812)	(0.770)	(0.640)	(0.602)
Older: 55-64 yrs		-2.298***	-2.622***	-2.259***	-2.281***
		(0.332)	(0.479)	(0.383)	(0.371)
Elderly: 65+ yrs		-9.719***	-8.198***	-9.330***	-9.220***
		(1.481)	(1.740)	(1.258)	(1.270)
Married		0.177	0.228	-0.668*	-0.675*
		(0.526)	(0.527)	(0.349)	(0.339)
Men w. Child u5		0.382	0.634**	0.842***	0.928***
		(0.249)	(0.221)	(0.160)	(0.162)
Women w. Child u5		-5.400***	-5.517***	-5.274***	-5.147***
		(0.713)	(0.757)	(0.871)	(0.826)
Trend x Men			-0.0676***	-0.0763***	-0.0715***
			(0.0102)	(0.00669)	(0.00897)
Trend x Young			-0.118***	-0.0696**	-0.0708**
			(0.0373)	(0.0293)	(0.0257)
Trend x Older			0.0342	0.0182	0.0284
			(0.0212)	(0.0185)	(0.0172)
Trend x Elderly			-0.171**	-0.0744	-0.0839
			(0.0760)	(0.0649)	(0.0610)
Trend x Married			-0.00519	0.0372***	0.0270***
			(0.00894)	(0.0110)	(0.00814)
Trend x Men w. Child u5			-0.0325**	-0.0466***	-0.0515***
			(0.0124)	(0.00870)	(0.00855)
Trend x Women w. Child u5			0.0126	-0.00327	-0.00994
			(0.0333)	(0.0376)	(0.0335)
ln GDP per capita				-4.143***	-1.852***
				(0.358)	(0.455)
Output Gap				-0.00483	0.0524**
				(0.0604)	(0.0215)
Constant	34.86***	32.01***	31.57***	74.08***	50.88***
	(0.735)	(0.791)	(0.786)	(3.517)	(4.591)
Macro. Contrl	No	No	No	Yes	Yes
Country FEs	No	No	No	No	Yes
Country-Spec.Trend	No	No	No	No	Yes
R-squared	0.00205	0.0767	0.0771	0.0999	0.107
N.Obs	24,103,700	21,809,787	21,809,787	21,809,787	21,809,787

Note: Dependent variable h^{actual} is actual hours worked. The reference group is prime-aged women who are unmarried workers with no young children in the household. "Country FEs+spec.Trend" includes country fixed effects and country-specific time trends. The regression is run over the period 2003-2019 for 25 European countries mentioned in the data section. "Child u5" is a dummy equal to 1 if a child under 5 years is in household. Values in parentheses show standard errors that are clustered at country-year level and significance levels are denoted by * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.
Sources: EULFS and authors' calculations.

5.3 Does the decline in average hours worked reflect preferences or constraints?

Does this decline in average hours worked reflect worker preferences, or instead constraints? For instance, we have seen that among young workers, the drop in hours worked was more pronounced among those enrolled in school, which would seem desirable from an individual and societal perspective. To explore this question, we use the question on desired hours worked in the labor force survey to define several measures of hours gap, namely–the differences between: (i) desired and actual hours worked; (ii) desired and usual hours; and, (iii) desired and usual hours for full-time workers. A positive gap indicates that workers are working less than they would like.

Figure 7 plots the distribution of actual hours, usual hours, desired hours and the three gap measures described above. The distributions of all three types of hours definitions have a mode at 40 hours with significant mass, highlighting the important anchor role played by the legal normal work week. As would be expected given their definitions, the distribution of actual hours has substantially thicker tales, especially a thicker left tale, than both the usual and the desired hours distribution.

The distribution of the hours gaps always has a zero mode with a large mass, indicating that most people work just about their number of desired hours. However, the distribution of the gap between desired and actual hours also suggests that a sizable fraction of workers put in less hours than they would like to–resulting in a positive mean of about 4 hours.

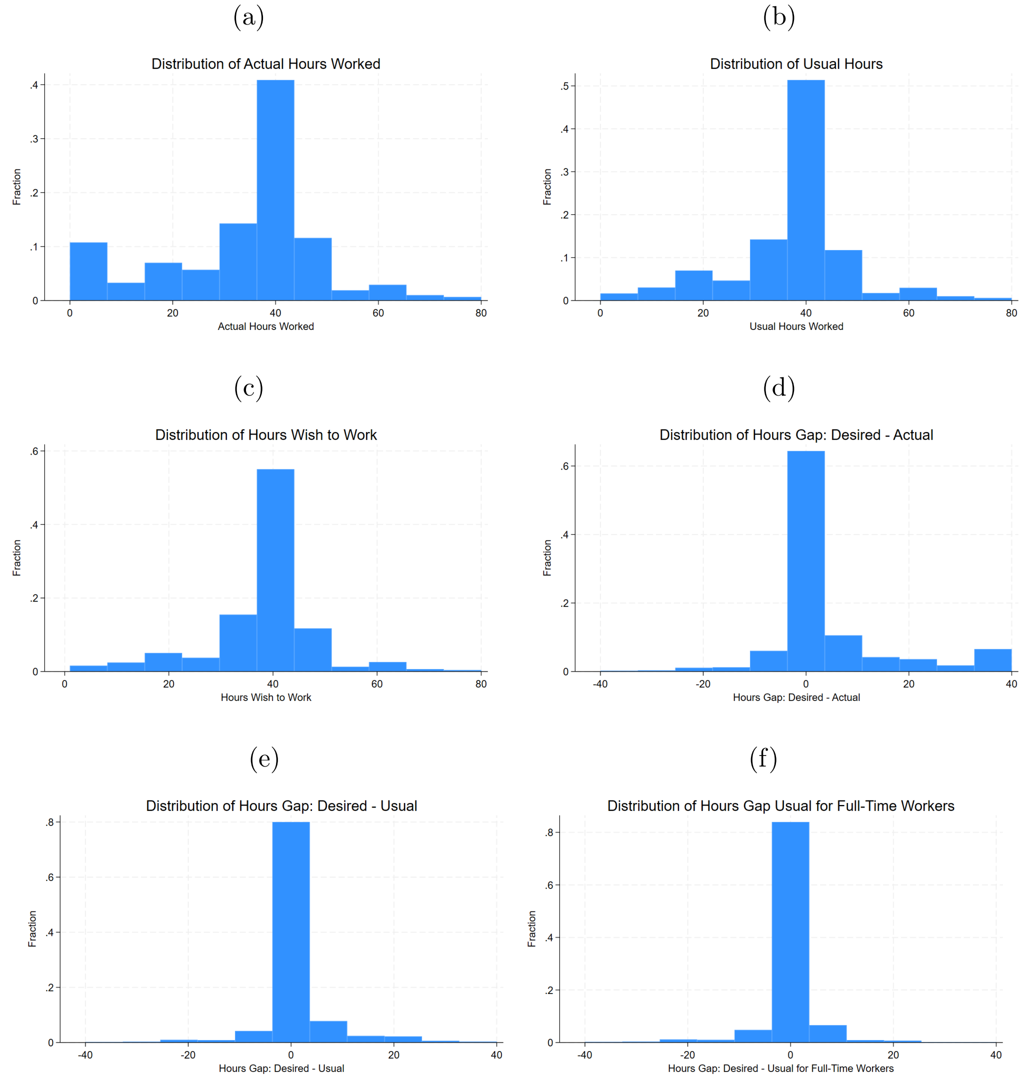
One reason why desired hours exceed actual hours might simply be that annual leave, parental leave and other exceptional leave periods impact the latter while they may not affect the former, at least insofar as survey respondents think of their desired hours as the number of hours they would like to work in a typical week. This is indeed what the data suggest. As Figure 8 shows, the gap between desired and usual hours is consistently much smaller than that between desired and usual hours.[14]

While the gap between desired and actual hours has grown over the sample period, that between desired and usual hours has barely risen, in line with the notion that the bulk of the fall in actual hours reflects preferences and a rise in leave periods (Figure 8, Panel (b)).

To explore theses issues more formally, we rerun our baseline econometric specification (equation (2)) but now using as the dependent variable the hours gap instead of actual hours worked. Appendix Tables A.6 and A.7 show the results obtained when defining the gap relative to actual hours and usual hours worked, respectively, while Table A.8 restricts the sample to full-time workers only and focuses on their usual hours gap.

[14] Figure A.1 plots the time series of desired hours worked across different age groups.

Figure 7: Distribution of actual, usual, and desired hours, level and gap

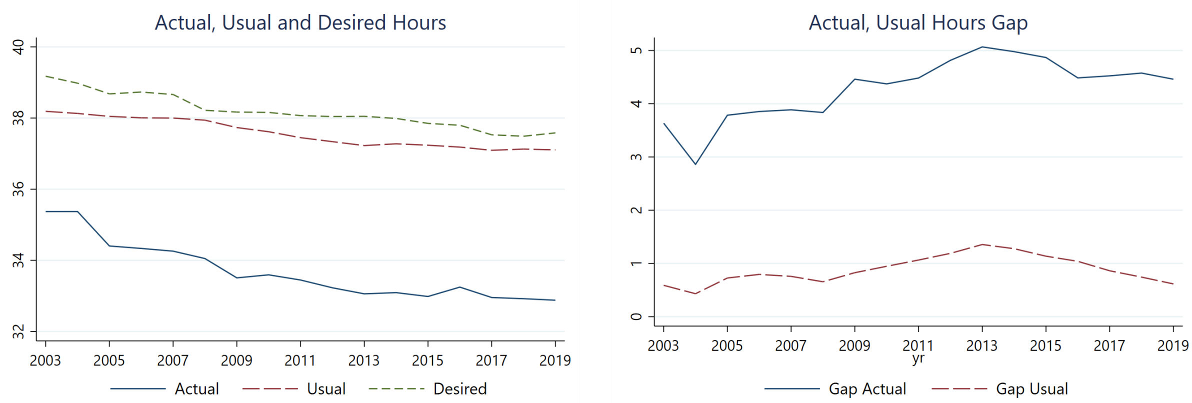


Note: Figure 7 shows distributions of various hours measures where hours are expressed per week. Panel (a) shows the distribution of actual hours worked, panel (b) shows usual hours worked, panel (c) shows desired hours worked (hours wish to work), panel (d) shows hours gap between desired and actual, panel (e) shows hours gap between desired and usual hours worked, panel (f) shows hours gap between desired and usual hours worked for full-time workers.
Sources: EULFS and authors' calculations.

The results in columns (1) and (2) of these tables confirm that (i) all groups of workers have a positive gap between desired and actual hours, (ii) the gap between desired and usual hours is much narrower and (iii) for full time workers, there is on average no gap between desired and usual hours, with most groups working slightly more than desired but the young working slightly less. These results confirm that the actual hours gap is likely to be somewhat misleading because of the thick left tail of the actual hours distribution driven by annual leave, parental leave and other exceptional changes in working hours such as sick leave. While sick leave is not desired, annual and parental leave are, making it hard

Figure 8: Time Series of Actual, Usual and Desired hours

(a) (b)



Note: Figure 8 shows aggregate time series of actual, usual, and desired hours worked (panel (a)) and hours gaps (panel (b)) in our sample between 2003 and 2019.
Sources: EULFS and authors' calculations.

to interpret the gap between desired and actual hours.

The gap between desired and usual hours thus appears to be a relevant gauge of how much more workers would like to work compared to their current situation, and it points to some room for increasing the hours of part-time workers. Comparing Appendix Tables A.7 and A.8 shows that the positive *level* of the usual hours gap is driven by part-time work for all groups except the young based on the change in results when we restrict the sample to full-time workers.

Focusing on the trend *decline* in actual hours worked, however, the drop observed for most demographic groups—including men, youth and men with young children, who were the main contributors as shown earlier—appears likely to be driven by preferences. We find at most very small and insignificant group-specific trend coefficients in columns (3), (4) and (5) for men, youth and men with children under 5 years, which suggests that their desired hours fell alongside their usual hours. Going beyond these particular groups, there is also not much evidence of a rising mismatch between desired and usual hours. Married full-time workers have been closing their negative hours gap, which may be seen as desirable.

As for women with young children, despite a growing gap between desired and actual hours, there has not been any increase in the gap between desired and usual hours. This is in line with the point made earlier that mothers of young children have a disproportionate share of zero-hour weeks, whose prevalence has also been rising. As shown in Appendix Table A.9, these zero-hour weeks, and their increase over time are mostly explained by parental leave, which is very unlikely to be involuntary.[15] When looking into reasons for working part-time, these do not appear to have changed much over time, and thereby not in any direction that would be suggestive of rising involuntary part-time (Appendix Table A.10).

5.4 Further Insights

5.4.1 The Roles of Education, Industry and Occupation

We have been largely silent about the roles of education, industry, and occupation thus far, except for the decomposition of average hours worked into compositional (between) and within components in Section 4. This is mainly due to limited consistent data availability for industry and occupation variables since 2003.

However, when we restrict our sample to 2011 to incorporate all the industry and occupation variables, we find that most of our key findings still hold. In particular, men and men with young children have seen a sharper decline in average hours worked than other groups. Young workers also continue to show a negative trend in this regression, although it is no longer statistically significant due to the change in sample (see Appendix Table A.11).

5.4.2 The Cross-Country Dimension

We also investigate the cross-country dimension of the data, for two purposes. First, we investigate how broadly the demographic group trends discussed above hold, and whether they might be driven by a subset of countries. Second, we compare the aggregate dynamics of hours worked across European countries to check its consistency with a role of basic labor supply theory as documented in the literature.

The declines in hours worked appear to share important common features across countries, pointing to broad-based shifts. Specifically, the insight that lower average hours have been driven by the young, men and men with young children holds in nearly every country, as country-by-country regressions show, even though magnitudes differ across countries (results available on request).

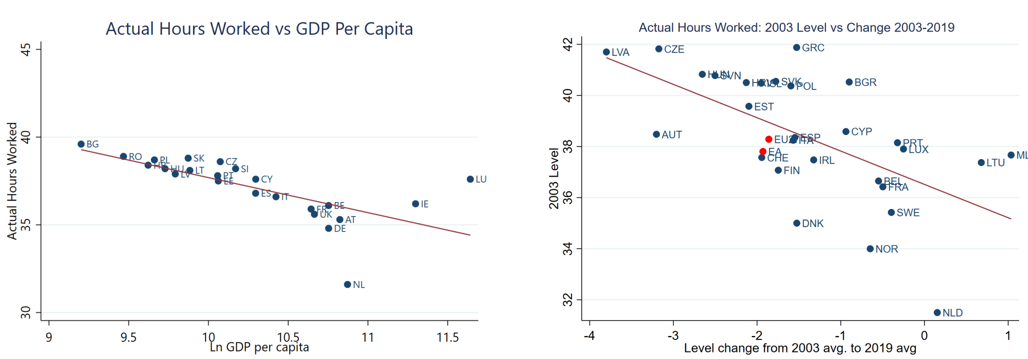
The cross-country picture is consistent with a dominant income effect in shaping average hours worked patterns, as widely documented in the literature. First, countries with higher GDP per capita tend to have fewer average working hours (Figure 9a). Second, there is convergence in average hours worked across countries over time, with larger declines in those

[15] The increase in due to parental leave for mothers is offset almost one-to-one with a decline in leave due to other reasons. This substitution is likely caused by increased access and generosity of parental leave during the period.

countries that had longer average hours worked and, for many of them, lower GDP-per-capita levels at the beginning of our sample (Figure 9b).

Figure 9: Cross Country Evidence on Hours Worked

(a) (b)



Note: Figure 9a plots the actual hours worked against log GDP per capita in 2019 in our sample in EULFS where actual hours worked are based on EULFS micro data, and GDP per capita is from IMF World Economic Outlook database. Figure 9b plots the average hours worked level in 2003 against its change between 2003 and 2019 by country based on Eurostat database. Sources: EULFS, Eurostat, IMF World Economic Outlook, and authors' calculations.

6 Concluding Remarks

The remarkable recovery of total hours worked in European labor markets after the COVID- 19 pandemic was primarily driven by an increase in the employment rate. Meanwhile, average hours worked extended their pre-COVID trend decline, with little evidence of remaining slack along this (intensive) margin by mid-2023. This paper sheds light on some of the patterns and the underlying drivers of the trend fall in working hours across Europe in the last two decades. It shows that this drop was driven by within-demographic-group declines in hours rather than by compositional effects. Looking within groups, men—particularly with young children—and youth drove much of the decline. The paper also shows that actual hours worked fell in line with desired hours worked. For those groups—most importantly, women with young children—for whom this was not the case, a rising gap between desired and actual hours was largely driven by increased leave periods (annual, parental or other type); meanwhile, the gap between actual and usual weekly hours was broadly stable. We infer from these findings that falling hours worked across Europe likely reflected preferences.

In line with this micro evidence, the macroeconomic picture shows lower hours worked in richer European countries, and larger declines over time in—typically lower GDP-per-capita—countries where working hours were comparatively high two decades ago. These results are all consistent with a dominant role of the income effect over the substitution effect in determining worker's labor supply at the intensive margin, as widely documented in the literature.

In light of these findings, the decline in average hours worked is likely to continue in European countries in the future, at an average pace that would depend on trend productivity and wage growth across the continent, and at varying speeds across countries depending on their economic convergence paths. At least over the medium term, most economic forecasts, including the IMF's, foresee modest productivity gains for economies that are close to the technological frontier, namely advanced Europe. These, all else equal, would be expected to lead to modest reductions in working hours. Over the longer term, key future sources of (e.g. artificial intelligence) and constraints (e.g. climate change) on growth will play a critical role. For emerging European countries that are farther away from the technological frontier, productivity growth prospects and the scope for falling hours appear to be larger as these economies continue to catch up to living standards in advanced Europe.

Does the predominant role of preferences in driving down working hours leave no role for policies? The answer is no, at least up to a point—policy actions could dampen, although they would be unlikely to reverse, the trend fall in hours. Desired hours typically exceed usual hours, which suggests some scope for welfare-enhancing increases in hours, and involuntary part-time should be reduced. For example, a simple back-of-the-envelope calculation suggests that fully closing the gap between desired and actual hours would increase total hours worked by around 0.5 hours, or 1.3 percent.[16] This is a material albeit ultimately modest figure, especially considering it is an upper bound for how much welfare-enhancing policy actions could realistically raise working hours—some gap between desired and usual hours is to be expected, if only for frictional motives with part-time workers searching for full-time jobs. Focusing more specifically on "involuntary" part-time workers, enabling all of them to switch to full-time jobs would bring about an average increase of 0.42 hours or 1.1 percent in working hours.[17] Nonetheless, the transition from part-time to full-time is difficult in practice, particularly for women who display lower transition rates compared to men (Causa et al., 2021).

Hours-increasing policy actions that also align with worker preferences include, among others, (i) neutral tax and benefit systems that are neutral with respect to workers' hours choices; (ii) more targeted measures to help part-time working mothers who would like to

[16] The aggregate gap of usual hours worked (37.11 hours) and desired working hours (37.58) in 2019 is 0.47 hours. This is around 1.3 percent of the aggregate usual hours worked in 2019.

[17] Usual hours worked gap for the involuntary part-time workers in 2019 is 9.6 hours, and its share in the total employment is around 4.4 percent in our sample. This translates into 1.1 percent of the total usual hours worked (37.11 hours) in 2019 ($= 9.6 \times 0.044/37.11$).

switch to full-time jobs to do so; and, (iii) active labor market policies to enhance matching involuntary part-time workers and available full-time jobs.

On the social benefit front, it is important that contributory pension and other social protection schemes, such as unemployment insurance, do not unduly incentivize part-time work through benefit formulas that excessively credit part-time work periods. Also, non-contributory benefits, such as housing allowances, for example, should be designed in ways that minimize threshold effects—income thresholds above which recipients become suddenly ineligible to any benefit, disincentivizing them from taking up full-time jobs even when they would like to. Slowly phasing out such benefits smoothly as income rises helps, although there is a trade-off between reducing part-time work incentives and containing the fiscal costs of the benefit. This trade-off also arises when reforming in-work tax credits.[18]

Regarding part-time working mothers more specifically, existing literature suggests that their working hours could be raised towards desired levels through more neutral tax treatment of second earners, higher child care subsidies or services, enhanced paid (pa)maternity leave, and more flexible work arrangements including teleworking (Jaumotte, 2004; Bastian and Lochner, 2022; Thévenon and Solaz, 2013; Lefebvre and Merrigan, 2008; Ji et al., Forthcoming). At the same time, the aggregate impact of such policies are likely to be limited, as the targeted group is relatively small and because some of these policies are likely to simply re-shuffle hours between workers.[19] The effect is certainly an upper bound given the potential for re-shuffling between mothers and fathers.

Active labor market policies should not only help the unemployed find jobs, but also be available for part-time workers in need of adequate support to find full-time jobs. For example, re-training programs could play some role in boosting hours worked by helping involuntary part-time workers find full-time jobs (OECD, 2010).

Finally, when considering policy actions to facilitate (desired) full-time work, it is critical to bear in mind the interaction between the intensive and extensive margins of labor supply, as well as the joint labor supply decisions of different household members. For example, more generous parental leave policies affect the hours of working mothers and fathers in complex ways—with possible partial substitution between them—but, critically, they can

[18]Further, recent research suggests that hours may not always be very responsive to reforms in this area. see e.g., Chetty et al. (2013) who study intensive margin responses to EITC subsidies in the United States. Tazhitdinova (2020) studies responses to a tax break in Germany. Cahuc et al. (2014) study detaxation of overtime pay in France.

[19]Our calculations suggest that bringing the trend decline in hours gap back to 2003 level for women with young children will only increase aggregate average hours worked by 0.13 hours or 0.38 percent increase in aggregate hours worked. The contribution by reversing the increasing trend of hours gap for women with young children was calculated as follows: the differential annual trend increase relative to the base group from Table A.6: (0.112 hrs) $\times$ 16 years $\times$ its employment share (0.07) / aggregate average hours in 2019 (32.88 hours) $\times$ 100%.

also incentivize labor force participation of young parents in the first place, particularly that of women. This may result in higher total hours across the economy even when average actual hours might decline.

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A Appendix

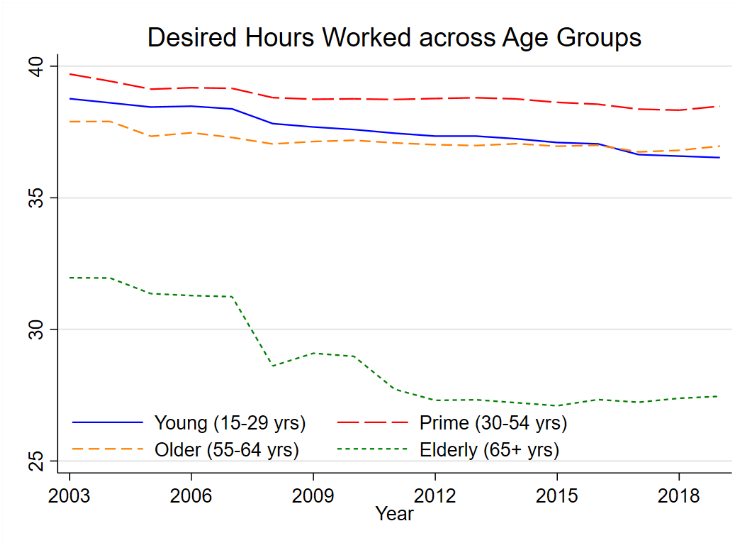
A.1 Additional Figures and Tables

Table A.1: Summary Statistics: Usual Hours Worked

	$\bar{h}^{usual}_{2003}$	$\bar{h}^{usual}_{2019}$	$\Delta\bar{h}^{usual}_{'19-'03}$	E_{2003}	E_{2019}	Contr.
Total	38.19	37.11	-1.08	.	.	
	(.66)	(.62)	(.9)	.	.	
Men	41.33	39.94	-1.4**	.56	.54	-1.63
	(.42)	(.41)	(.58)			
Women	34.17	33.81	-.36	.44	.46	0.56
	(1.06)	(.93)	(1.39)			
Young	37.23	35.38	-1.85	.11	.09	-1.11
	(.84)	(.84)	(1.18)			
Prime	38.77	38.08	-.69	.77	.71	-2.59
	(.66)	(.53)	(.84)			
Older	37.61	36.84	-.77	.11	.17	2.40
	(.73)	(.63)	(.96)			
Elderly	30.74	27.48	-3.26	.02	.03	0.28
	(2.13)	(2.02)	(2.9)			
Married	38.51	37.45	-1.05	.6	.53	-3.30
	(.77)	(.78)	(1.09)			
Child u5	38.21	37.29	-.91	.17	.16	-0.43
	(.75)	(.64)	(.97)			
Men w. Child u5	42.35	41.05	-1.3**	.1	.09	-0.51
	(.48)	(.36)	(.6)			
Women w. Child u5	32.14	32.46	.32	.07	.07	0.08
	(1.58)	(1.24)	(1.99)			

Note: h^{usual}_t shows the average usual hours worked in year $t \in 2003, 2019$. $\Delta h_{'19-'03}$ shows the change in average actual hours worked between 2003 and 2019. Values in parentheses show standard errors that are clustered at country-year level and significance levels are denoted by * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.
Source: EULFS and authors' calculations.

Figure A.1: Desired Hours Worked across Age Groups



Source: EULFS and authors' calculations.

A.2 Education, Industry and Occupation

We also study whether education, industry, and occupation variables change our main results. Specifically, we include additional variables whether a worker is highly educated (college degree or above), four industry categories (agriculture, industry, services, and other services (with other services being the base group), and non-routine occupations (with the routine occupation being the base group). Column (1) in Table A.11 shows the full regression from Column (5) in Table 2 including macro variables, country fixed effects, and country-specific time trends. Column (2) first restricts the sample to 2011-2019 to be consistent for Column (2)-(6). Column (2) already shows that the trend decline in average hours worked still remains but is flattening. Although highly educated workers tend to work longer hours ("Highly Educ.") and the sharper decline in hours worked by looking at column (3), once we control for industry and occupation in Column (6), the significance goes away. While workers in non-routine occupations work relatively more ("Non-Routine"), they do not see a sharper decline in average hours worked. Lastly, controlling for education, industry and occupation variables jointly in column (6), the average hours worked in service sector sees a sharper decline but and those in industry sector sees a slightly slower decline between 2011 and 2019.

Table A.2: Actual Hours Worked Full-Time

	(1)	(2)	(3)	(4)	(5)
	$h^{actual,ft}_{2003}$	$h^{actual,ft}_{2003}$	$h^{actual,ft}_{2003}$	$h^{actual,ft}_{2003}$	$h^{actual,ft}_{2003}$
Trend	-0.121***	-0.109***	-0.0727***	-0.0599*	-0.180***
	(0.0219)	(0.0265)	(0.0228)	(0.0294)	(0.0142)
Men		2.928***	3.163***	3.425***	3.371***
		(0.278)	(0.261)	(0.261)	(0.272)
Young: 15-29 yrs		-0.573*	-0.488	-0.699**	-0.933**
		(0.304)	(0.396)	(0.304)	(0.330)
Older: 55-64 yrs		-0.981***	-0.855**	-0.655*	-0.739**
		(0.200)	(0.308)	(0.338)	(0.323)
Elderly: 65+ yrs		1.169	1.500	0.860	0.650
		(0.950)	(1.210)	(1.543)	(1.418)
Married		0.737**	0.852**	0.374	0.255
		(0.322)	(0.342)	(0.216)	(0.151)
Men x Child u5		-0.00915	0.228	0.375**	0.578***
		(0.193)	(0.190)	(0.157)	(0.111)
Women x Child u5		-5.287***	-4.772***	-4.717***	-4.453***
		(0.704)	(0.829)	(0.874)	(0.798)
Trend x Men			-0.0290**	-0.0371***	-0.0364***
			(0.0126)	(0.0102)	(0.00817)
Trend x Young			-0.0100	0.0159	0.0178
			(0.0183)	(0.0133)	(0.0102)
Trend x Older			-0.0151	-0.0256	-0.0168
			(0.0184)	(0.0199)	(0.0183)
Trend x Elderly			-0.0384	0.00464	0.000910
			(0.0310)	(0.0567)	(0.0507)
Trend x Married			-0.0139*	0.00333	0.000725
			(0.00770)	(0.00784)	(0.00495)
Trend x Men x Child u5			-0.0298***	-0.0373***	-0.0485***
			(0.00853)	(0.00711)	(0.00660)
Trend x Women x Child u5			-0.0626*	-0.0698**	-0.0811**
			(0.0351)	(0.0317)	(0.0318)
Constant	38.39***	36.54***	36.24***	58.96***	51.42***
	(0.622)	(0.854)	(0.815)	(5.350)	(3.755)
Macro. Contrl	No	No	No	Yes	Yes
Country FEs	No	No	No	No	Yes
Country-Spec.Trend	No	No	No	No	Yes
R-squared	0.00168	0.0231	0.0231	0.0298	0.0373
N.Obs	20,071,743	18,075,620	18,075,620	18,075,620	18,075,620

Note: Dependent variable "$h_t^{actual,ft}$" is actual hours worked for full-time workers. The reference group is prime-aged women who are unmarried workers with no young children in the household. "Country FEs+spec.Trend" includes country fixed effects and country-specific time trends. The regression is run over the period 2003-2019 for 25 European countries mentioned in the data section. "Child u5" is a dummy equal to 1 if a child under 5 years is in household. Values in parentheses show standard errors that are clustered at country-year level and significance levels are denoted by * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Sources: EULFS and authors' calculations.

Table A.3: Actual Hours Worked Nonzero

	(1)	(2)	(3)	(4)	(5)
	$h^{actual,nonzero}$	$h^{actual,nonzero}$	$h^{actual,nonzero}$	$h^{actual,nonzero}$	$h^{actual,nonzero}$
Trend	-0.0930***	-0.0750***	-0.0257	0.0258	-0.214***
	(0.00212)	(0.0171)	(0.0159)	(0.0248)	(0.0126)
Men		6.822***	7.423***	7.482***	7.431***
		(0.768)	(0.798)	(0.766)	(0.778)
Young: 15-29 yrs		-4.502***	-3.632***	-3.819***	-3.635***
		(0.788)	(0.774)	(0.703)	(0.676)
Older: 55-64		-1.536***	-1.839***	-1.633***	-1.602***
		(0.346)	(0.484)	(0.419)	(0.397)
Elderly: 65+ yrs		-10.12***	-8.970***	-9.792***	-9.517***
		(1.355)	(1.447)	(1.199)	(1.238)
Married		0.00120	-0.0127	-0.609	-0.583
		(0.470)	(0.463)	(0.365)	(0.375)
Men w. Child u5		0.379**	0.636***	0.765***	0.788***
		(0.176)	(0.175)	(0.116)	(0.145)
Women w. Child u5		-2.757***	-3.255***	-3.153***	-3.068***
		(0.619)	(0.656)	(0.729)	(0.696)
Trend x Men			-0.0735***	-0.0792***	-0.0754***
			(0.00679)	(0.00811)	(0.00672)
Trend x Young			-0.114***	-0.0846**	-0.0899***
			(0.0350)	(0.0316)	(0.0295)
Trend x Older			0.0321	0.0232	0.0262
			(0.0185)	(0.0154)	(0.0154)
Trend x Elderly			-0.130*	-0.0638	-0.0798
			(0.0739)	(0.0749)	(0.0661)
Trend x Married			0.00253	0.0323***	0.0266**
			(0.00603)	(0.00785)	(0.00973)
Trend x Men w Child u5			-0.0330***	-0.0424***	-0.0459***
			(0.00452)	(0.00435)	(0.00495)
Trend x Women w Child u5			0.0593***	0.0524**	0.0462**
			(0.0195)	(0.0200)	(0.0167)
Constant	37.73***	34.78***	34.38***	59.07***	40.28***
	(0.505)	(0.596)	(0.604)	(3.101)	(3.045)
Macro. Contrl	No	No	No	Yes	Yes
Country FEs	No	No	No	No	Yes
Country-Spec.Trend	No	No	No	No	Yes
N.Obs	22,234,088	20,118,835	20,118,835	20,118,835	20,118,835

Note: Dependent variable "$h^{actual,nonzero}$" is actual hours worked greater than zero. The reference group is prime-aged women who are unmarried workers with no young children in the household. "Country FEs+spec.Trend" includes country fixed effects and country-specific time trends. The regression is run over the period 2003-2019 for 25 European countries mentioned in the data section. "Child u5" is a dummy equal to 1 if a child under 5 years is in household. Values in parentheses show standard errors that are clustered at country-year level and significance levels are denoted by * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.
Sources: EULFS and authors' calculations.

Table A.4: Usual Hours Worked

	(1) h^{usual}	(2) h^{usual}	(3) h^{usual}	(4) h^{usual}	(5) h^{usual}
trend	-0.0778***	-0.0577***	-0.00681	0.0625**	-0.141***
	(0.00794)	(0.0162)	(0.0121)	(0.0270)	(0.0163)
Men		6.909***	7.504***	7.553***	7.502***
		(0.750)	(0.748)	(0.719)	(0.737)
Young: 15-29 yrs.		-4.745***	-3.644***	-3.824***	-3.631***
		(0.975)	(0.901)	(0.845)	(0.842)
Older: 55-64 yrs.		-1.488***	-1.732***	-1.457***	-1.471***
		(0.368)	(0.518)	(0.456)	(0.485)
Elderly: 65+ yrs.		-10.85***	-9.606***	-10.25***	-9.975***
		(1.490)	(1.541)	(1.391)	(1.444)
married		-0.0886	-0.103	-0.760*	-0.640
		(0.467)	(0.442)	(0.363)	(0.381)
Men w. Child u5		0.490**	0.737***	0.858***	0.786***
		(0.190)	(0.202)	(0.132)	(0.167)
Women w. Childu5		-2.242***	-2.793***	-2.674***	-2.708***
		(0.553)	(0.549)	(0.600)	(0.588)
Trend x Men			-0.0725***	-0.0773***	-0.0728***
			(0.00983)	(0.00984)	(0.0134)
Trend x Young			-0.143***	-0.111***	-0.109***
			(0.0422)	(0.0336)	(0.0291)
Trend x Older			0.0249	0.0141	0.0233
			(0.0205)	(0.0156)	(0.0167)
Trend x Elderly			-0.138	-0.0782	-0.0877
			(0.0850)	(0.0822)	(0.0767)
Trend x Married			0.00282	0.0384***	0.0255**
			(0.00931)	(0.00875)	(0.00927)
Trend x Men w. Child u5			-0.0316***	-0.0442***	-0.0422***
			(0.00471)	(0.00530)	(0.00649)
Trend x Women w. Child u5			0.0645***	0.0524***	0.0546***
			(0.0174)	(0.0158)	(0.0156)
Constant	38.19***	35.28***	34.86***	59.30***	36.38***
	(0.578)	(0.623)	(0.667)	(4.430)	(1.588)
Macro. Contrl	No	No	No	Yes	Yes
Country FEs	No	No	No	No	Yes
Country-Spec.Trend	No	No	No	No	Yes
R-squared	0.00109	0.127	0.128	0.152	0.165
N.Obs	23,425,275	21,182,287	21,182,287	21,182,287	21,182,287

Note: Dependent variable h^{usual} is usual hours worked. The reference group is prime-aged women who are unmarried workers with no young children in the household. "Country FEs+spec.Trend" includes country fixed effects and country-specific time trends. The regression is run over the period 2003-2019 for 25 European countries mentioned in the data section. "Child u5" is a dummy equal to 1 if a child under 5 years is in household. Values in parentheses show standard errors that are clustered at country-year level and significance levels are denoted by * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.
Sources: EULFS and authors' calculations.

Table A.5: Actual Hours Worked of Young Workers

	h^{actual}_{2003}	h^{actual}_{2019}	$\Delta h^{actual}_{'19-'03}$
Total	35.37	32.88	-2.49**
	(.81)	(.71)	(1.06)
Young	34.41	31.67	-2.74**
	(1.02)	(.8)	(1.28)
of which in school	26.68	23.18	-3.49
	(3.29)	(1.47)	(3.53)
Young Women	31.37	28.88	-2.49
	(1.12)	(.75)	(1.33)
of which in school	25.19	21.49	-3.71
	(3.36)	(1.5)	(3.61)
Young Men	36.92	34.03	-2.89**
	(.89)	(.84)	(1.21)
of which in school	28.06	24.88	-3.18
	(3.23)	(1.44)	(3.47)

Note: h^{actual}_t shows the average actual hours worked in year $t \in 2003, 2019$. $\Delta h_{'19-'03}$ shows the change in average actual hours worked between 2003 and 2019. Values in parentheses show standard errors that are clustered at country-year level and significance levels are denoted by * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.
Sources: EULFS and authors' calculations.

Table A.6: Hours Gap (Desired - Actual Hours)

	(1) $hgap^{actual}$	(2) $hgap^{actual}$	(3) $hgap^{actual}$	(4) $hgap^{actual}$	(5) $hgap^{actual}$
Trend	0.0808***	0.0728***	0.0422*	0.0252	0.0171
	(0.00182)	(0.00788)	(0.0225)	(0.0310)	(0.0197)
Men		-0.774***	-0.872***	-0.937***	-0.607**
		(0.167)	(0.231)	(0.228)	(0.228)
Young: 15-29 yrs.		0.141	0.121	0.424	-0.0117
		(0.567)	(0.454)	(0.411)	(0.220)
Older: 55-64 yrs.		0.244	0.189	0.0368	0.0691
		(0.241)	(0.267)	(0.281)	(0.187)
Elderly: 65+ yrs.		-2.260***	-2.539***	-1.961***	-1.341***
		(0.641)	(0.865)	(0.637)	(0.341)
Married		-1.126***	-1.323***	-0.772***	-0.400***
		(0.299)	(0.291)	(0.176)	(0.0807)
Men w. Child u5		0.392	0.278	0.0881	0.00237
		(0.237)	(0.223)	(0.160)	(0.0927)
Women w. Child u5		2.622***	1.637***	1.365***	1.297***
		(0.448)	(0.362)	(0.263)	(0.276)
Trend x Men			0.0112	0.0183	0.0133
			(0.0311)	(0.0299)	(0.0217)
Trend x Young			0.00161	-0.0264	-0.0125
			(0.0251)	(0.0220)	(0.0166)
Trend x Older			0.00681	0.0171	0.0163
			(0.0110)	(0.0154)	(0.0109)
Trend x Elderly			0.0309	-0.00300	-0.0272
			(0.0300)	(0.0274)	(0.0184)
Trend x Married			0.0222**	-0.000380	-0.00273
			(0.00931)	(0.0124)	(0.00351)
Trend x Men w. Child u5			0.0139	0.0253**	0.0119
			(0.0136)	(0.00982)	(0.0102)
Trend x Women w. Child u5			0.115**	0.130***	0.112**
			(0.0407)	(0.0429)	(0.0446)
Constant	3.650***	4.534***	4.804***	-21.39*	-12.20
	(0.929)	(1.058)	(1.041)	(10.32)	(8.388)
Macro. Contrl	No	No	No	Yes	Yes
Country FEs	No	No	No	No	Yes
Country-Spec.Trend	No	No	No	No	Yes
R-squared	0.000948	0.00783	0.00797	0.0200	0.0627
N.Obs	20,328,560	18,384,104	18,384,104	18,384,104	18,384,104

Note: Dependent variable "$hgap^{actual}$" is hours gap which is the difference between desired and actual hours worked. The reference group is prime-aged women who are unmarried workers with no young children in the household. "Country FEs+spec.Trend" includes country fixed effects and country-specific time trends. The regression is run over the period 2003-2019 for 25 European countries mentioned in the data section. "Child u5" is a dummy equal to 1 if a child under 5 years is in household. Values in parentheses show standard errors that are clustered at country-year level and significance levels are denoted by * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.
Sources: EULFS and authors' calculations.

Table A.7: Hours Gap (Desired - Usual Hours Worked)

	(1) $hgap^{usual}$	(2) $hgap^{usual}$	(3) $hgap^{usual}$	(4) $hgap^{usual}$	(5) $hgap^{usual}$
Trend	0.0181	0.0173	-0.00139	-0.0108	-0.0225
	(0.0259)	(0.0262)	(0.0445)	(0.0438)	(0.0149)
Men		-0.791***	-0.911***	-0.933***	-0.724***
		(0.137)	(0.235)	(0.233)	(0.217)
Young 15-29 yrs		0.936**	0.904**	1.024**	0.563**
		(0.439)	(0.327)	(0.358)	(0.210)
Older: 55-64 yrs		-0.459***	-0.427***	-0.522***	-0.551***
		(0.112)	(0.120)	(0.135)	(0.136)
Elderly: 65+ yrs		-0.994***	-1.044***	-0.982***	-0.917**
		(0.203)	(0.317)	(0.263)	(0.314)
Married		-0.734***	-0.879***	-0.667***	-0.483***
		(0.158)	(0.183)	(0.119)	(0.0959)
Men w. Child u5		0.199*	0.139	0.0607	0.0844
		(0.0946)	(0.111)	(0.102)	(0.0686)
Women w. Child u5		-0.178	-0.239	-0.357*	-0.303**
		(0.113)	(0.196)	(0.187)	(0.115)
Trend x Men			0.0137	0.0157	0.0106
			(0.0206)	(0.0207)	(0.0154)
Trend x Young			0.00291	-0.00549	0.0127
			(0.0201)	(0.0198)	(0.0203)
Trend x Older			-0.00334	0.00499	0.0114
			(0.00652)	(0.00726)	(0.00994)
Trend x Elderly			0.00494	0.00454	0.00835
			(0.0286)	(0.0234)	(0.0312)
Trend x Married			0.0163	0.00778	0.00548
			(0.0125)	(0.00950)	(0.00509)
Trend x Men x Child u5			0.00738	0.0117	0.00211
			(0.00670)	(0.00785)	(0.00380)
Trend x Women x Child u5			0.00701	0.0132	-0.00233
			(0.0156)	(0.0171)	(0.0121)
Constant	0.741	1.549***	1.717***	-8.783*	-2.718
	(0.425)	(0.468)	(0.585)	(4.741)	(7.654)
Macro. Contrl	No	No	No	Yes	Yes
Country FEs	No	No	No	No	Yes
Country-Spec.Trend	No	No	No	No	Yes
R-squared	0.000168	0.0115	0.0115	0.0202	0.0966
N.Obs	19,827,882	17,922,429	17,922,429	17,922,429	17,922,429

Note: Dependent variable, $hgap^{usual}$ is the difference between desired and usual hours worked for full-time workers. The reference group is prime-aged women who are unmarried workers with no young children in the household. "Country FEs+spec.Trend" includes country fixed effects and country-specific time trends. The regression is run over the period 2003-2019 for 25 European countries mentioned in the data section. "Child u5" is a dummy equal to 1 if a child under 5 years is in household. Values in parentheses show standard errors that are clustered at country-year level and significance levels are denoted by * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.
Sources: EULFS and authors' calculations.

Table A.8: Hours Gap (Desired - Usual Hours Worked) among Full Time Workers

	(1) $hgap^{usual,ft}$	(2) $hgap^{usual,ft}$	(3) $hgap^{usual,ft}$	(4) $hgap^{usual,ft}$	(5) $hgap^{usual,ft}$
Trend	0.0153***	0.0170***	0.00838	0.0152	-0.0225**
	(0.0000569)	(0.00454)	(0.00560)	(0.00991)	(0.00784)
Men		0.120	0.150	0.129	0.143
		(0.0999)	(0.126)	(0.129)	(0.134)
Young: 15-29 yrs		0.405***	0.356***	0.401***	0.292**
		(0.132)	(0.118)	(0.133)	(0.114)
Older: 55-64 yrs		-0.394***	-0.454***	-0.487***	-0.484***
		(0.0967)	(0.116)	(0.132)	(0.119)
Elderly: 65+ yrs		-1.025***	-1.040**	-1.073***	-0.944***
		(0.254)	(0.378)	(0.318)	(0.260)
Married		-0.411***	-0.534***	-0.486***	-0.287***
		(0.138)	(0.153)	(0.102)	(0.0840)
Men x Child u5		0.213**	0.190	0.167	0.120
		(0.0985)	(0.111)	(0.0986)	(0.0752)
Women x Child u5		-0.281**	-0.333**	-0.381**	-0.371***
		(0.118)	(0.137)	(0.135)	(0.114)
Trend x Men			-0.00344	-0.00289	0.00126
			(0.00358)	(0.00426)	(0.00333)
Trend x young			0.00511	0.00253	0.00423
			(0.00502)	(0.00759)	(0.00719)
Trend x older			0.00633	0.00919	0.00952
			(0.00517)	(0.00593)	(0.00734)
Trend x Elderly			0.00159	0.00549	0.00113
			(0.0243)	(0.0213)	(0.0219)
Trend x Married			0.0140***	0.0137**	0.00612*
			(0.00408)	(0.00491)	(0.00316)
Trend x Men x Child u5			0.00286	0.00347	0.00254
			(0.00457)	(0.00559)	(0.00347)
Trend x Women x Child u5			0.00628	0.00882	0.00112
			(0.00434)	(0.00517)	(0.00618)
Constant	-0.273	-0.138	-0.0592	-4.231	-3.379
	(0.270)	(0.269)	(0.263)	(3.520)	(2.113)
Macro. Contrl	No	No	No	Yes	Yes
Country FEs	No	No	No	No	Yes
Country-Spec.Trend	No	No	No	No	Yes
R-squared	0.000188	0.00447	0.00451	0.00675	0.0584
N.Obs	16,647,454	14,984,032	14,984,032	14,984,032	14,984,032

Note: Dependent variable, $hgap^{usual}$ is the difference between desired and usual hours worked for full time workers. The reference group is prime-aged women who are unmarried workers with no young children in the household. "Country FEs+spec.Trend" includes country fixed effects and country-specific time trends. The regression is run over the period 2003-2019 for 25 European countries mentioned in the data section. "Child u5" is a dummy equal to 1 if a child under 5 years is in household. Values in parentheses show standard errors that are clustered at country-year level and significance levels are denoted by * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.
Sources: EULFS and authors' calculations.

Table A.9: Reasons for Not Working Despite Having a Job

Group	Others		Men with YC		Women w YC	
Year	2006	2019	2006	2019	2006	2019
	(1)	(2)	(3)	(4)	(5)	(6)
Bad weather	0.01	0	0.01	0	0	0
Slack work (tech./econ. reason)	0.02	0.02	0.02	0.01	0.01	0.01
Labour dispute	0	0	0	0	0	0
School/training	0.01	0.01	0.01	0.01	0	0
Own illness/injury	0.21	0.24	0.17	0.17	0.11	0.1
Parental leave	0.01	0.01	0.03	0.07	0.42	0.56
Holidays	0.63	0.61	0.69	0.67	0.3	0.28
Comp. leave	0.03	0.01	0.01	0.01	0.01	0.01
Other (e.g. personal) reason	0.08	0.08	0.05	0.06	0.14	0.04

Note: Table shows reasons for working part-time. “Men w. YC” and “Women w. YC. denote men and women with young children respectively. “Others” denotes the rest of the population.
Sources: EULFS and authors’ calculations.

Table A.10: Reasons for Working Part-Time

Group	Others		Men with YC		Women w YC	
Year	2006	2019	2006	2019	2006	2019
	(1)	(2)	(3)	(4)	(5)	(6)
Person in edu./training	0.13	0.12	0.09	0.07	0.02	0.02
Of own illness/disability	0.05	0.05	0.05	0.03	0.01	0.01
Looking after child/disabled	0.16	0.14	0.17	0.23	0.65	0.65
Family/personal reason	0.19	0.16	0.06	0.08	0.14	0.11
Could not find a FT job	0.23	0.23	0.41	0.38	0.11	0.13
Of other reasons	0.25	0.3	0.22	0.21	0.07	0.08

Note: Table shows reasons for working part-time. “Men w. YC” and “Women w. YC. denote men and women with young children respectively. “Others” denotes the rest of the population.
Sources: EULFS and authors’ calculations.

Table A.11: Hours Worked: Education, Industry, and Occupation

	(1) h^{actual}	(2) h^{actual}	(3) h^{actual}	(4) h^{actual}	(5) h^{actual}	(6) h^{actual}
Trend	-0.230***	-0.128***	-0.146***	-0.120***	-0.125***	-0.127***
	(0.0201)	(0.0252)	(0.0256)	(0.0241)	(0.0249)	(0.0265)
Men	7.363***	7.444***	7.461***	7.428***	7.490***	7.371***
	(0.707)	(0.526)	(0.509)	(0.515)	(0.527)	(0.502)
Young: 15-29 yrs	-2.998***	-2.832***	-2.539**	-2.302**	-2.843***	-2.293**
	(0.602)	(0.751)	(0.807)	(0.754)	(0.757)	(0.750)
Older: 55-64 yrs	-2.281***	-2.801***	-2.805***	-2.851***	-2.805***	-2.843***
	(0.371)	(0.365)	(0.381)	(0.372)	(0.362)	(0.390)
Elderly: 65+ yrs	-9.220***	-10.85***	-10.81***	-10.75***	-10.87***	-10.77***
	(1.270)	(0.791)	(0.838)	(0.823)	(0.758)	(0.832)
Married	-0.675*	-0.721**	-0.673**	-0.719**	-0.716**	-0.703**
	(0.339)	(0.256)	(0.239)	(0.245)	(0.256)	(0.240)
Men x Child u5	0.928***	0.788***	0.666***	0.687***	0.787***	0.651***
	(0.162)	(0.142)	(0.160)	(0.147)	(0.144)	(0.171)
Women x Child u5	-5.147***	-4.320***	-4.570***	-4.527***	-4.326***	-4.591***
	(0.826)	(0.515)	(0.553)	(0.521)	(0.514)	(0.589)
Trend x Men	-0.0715***	-0.0769***	-0.0746***	-0.0729***	-0.0879***	-0.0811***
	(0.00897)	(0.0193)	(0.0200)	(0.0200)	(0.0195)	(0.0193)
Trend x young	-0.0708**	-0.0367	-0.0413	-0.0511	-0.0365	-0.0492
	(0.0257)	(0.0521)	(0.0490)	(0.0515)	(0.0511)	(0.0465)
Trend x Older	0.0284	0.0669**	0.0724**	0.0734**	0.0680**	0.0756**
	(0.0172)	(0.0245)	(0.0263)	(0.0257)	(0.0241)	(0.0286)
Trend x Elderly	-0.0839	0.0360	0.0355	0.0321	0.0390	0.0362
	(0.0610)	(0.0860)	(0.106)	(0.0972)	(0.0876)	(0.101)
Trend x Married	0.0270***	0.0304	0.0267	0.0278	0.0297	0.0260
	(0.00814)	(0.0178)	(0.0204)	(0.0188)	(0.0180)	(0.0201)
Trend x Men x Child u5	-0.0515***	-0.0439**	-0.0391**	-0.0396**	-0.0443***	-0.0387*
	(0.00855)	(0.0132)	(0.0158)	(0.0150)	(0.0132)	(0.0191)
Trend x Women x Child u5	-0.00994	-0.0900*	-0.0841	-0.0845	-0.0893*	-0.0826
	(0.0335)	(0.0451)	(0.0480)	(0.0468)	(0.0444)	(0.0470)
Highly Educ.			1.685**			0.479
			(0.587)			(0.533)
Trend x High. Educ.			-0.0349*			-0.00904
			(0.0180)			(0.0128)
Non-Routine				2.347***		2.159***
				(0.502)		(0.411)
Trend x NonRout.				-0.0413		-0.0335
				(0.0237)		(0.0259)
Agric.					-1.761	-1.635
					(1.048)	(0.979)
Industry					-0.332	0.0402
					(0.480)	(0.508)
Service					0.0332	-0.478**
					(0.128)	(0.192)
Trend x Agr.					0.128	0.128
					(0.0982)	(0.101)
Trend x Ind.					0.0734*	0.0698*
					(0.0322)	(0.0334)
Trend x Serv.					-0.0223	-0.00953
					(0.0173)	(0.0197)
Constant	50.88***	38.16***	37.57***	37.05***	38.20***	37.13***
	(4.591)	(8.592)	(8.661)	(8.740)	(8.585)	(8.742)
Macro. Contrl	Yes	Yes	Yes	Yes	Yes	Yes
Country FEs	Yes	Yes	Yes	Yes	Yes	Yes
Country-Spec.Trend	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.107	0.0925	0.0938	0.0956	0.0926	0.0960
N.Obs	21,809,787	9,165,969	9,165,969	9,165,969	9,165,969	9,165,969

Note: Dependent variable h^{actual} is usual hours worked. The reference group is prime-aged women who are unmarried workers with no young children in the household. "Country FEs+spec.Trend" includes country fixed effects and country-specific time trends. The regression is run over the period 2003-2019 for 25 European countries mentioned in the data section. "Child u5" is a dummy equal to 1 if a child under 5 years is in household. Values in parentheses show standard errors that are clustered at country-year level and significance levels are denoted by * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.
Sources: EULFS and authors' calculations.