Explaining the Married Women's Participation Boom: Teleworking, Couples' Labor Supply, and the Flexibility Trap

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Abstract

Married women's labor force participation in the U.S. reached historic highs after the COVID-19 pandemic, despite declining real wages. I hypothesize that expansion of teleworking played a key role in this shift. I provide a set of novel facts to support this view. First, the participation boom of married women is driven by entry into teleworkable jobs. Second, married men in teleworkable jobs sharply increased home-production time, while women's home-work remained unchanged and disproportionately high. Third, married women experienced a pronounced compression of the wage distribution, largely driven by decreases in pay for teleworkable jobs and at the top, with no comparable decline for men. Together, these patterns suggest a "flexibility trap": teleworking relaxes time constraints and raises female labor supply, but also intensifies downward wage pressure when willingness-to-pay for flexibility is higher among women. I then develop and calibrate a joint-search model of household labor supply with job amenities. A realistic rise in teleworking availability accounts for the surge in married women's labor supply and generates higher equilibrium unemployment in the new steady state. The results highlight teleworking as a central driver of post-pandemic female participation and a potential source of gender inequality.

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1. Introduction

The COVID-19 pandemic triggered a significant and persistent shift toward teleworking arrangements. According to Barrero, Bloom, and Davis (2023), by June 2023 nearly 30% of paid workdays in the U.S. were performed from home. Evidence in Aksoy et al. (2025) further highlights the lasting nature of this reorganization of work. The option to work from home is a peculiar job amenity: it reduces commuting costs (Aksoy et al. 2022) and mitigates the tension between job commitments and private schedules (Bryan and Sevilla 2017). These features make teleworking particularly consequential for married couples, who must coordinate market hours with household responsibilities. However, because the burden of home production is often unevenly borne by women, teleworking is unevenly valued within the household. [1]

A growing literature indicates that remote working can create significant spillover effects within couples by increasing married women's labor supply and employment (e.g., Feuillade, Goux, and Maurin (2025); Di Filippo, Escobar, and Facal (2025)). Additionally, it can contribute to reducing the gender working-hours gap between spouses in favor of women(Pabilonia and Vernon 2024)). A separate line of research shows that the shift to remote work raised the amenity value of employment. As firms adjust compensation to share these gains, teleworking moderates real wage growth (Barrero et al. 2022; Davis 2024). Yet, the literature lacks a unified framework that jointly rationalizes how teleworking shapes couples' labor supply decisions and the wage dynamics spouses face. This paper fills that gap. In particular, I study how the recent rise in remote work, interacting with gender norms and a different evaluation of the amenity within the household, has shaped the US labor market for married couples and the labor supply of married women. In doing so, I make two contributions. Empirically, I use microdata to document new stylized facts on the post-pandemic labor supply, specialization, and wage outcomes of married couples. Theoretically, I develop a household labor supply model with job amenities and labor-market frictions. I then use the calibrated model to quantify the effects of expanded teleworking opportunities. Preliminary results reveal a dual effect of teleworking: it raises married women's participation and labor-force attachment, but it also places disproportionate downward pressure on their wages. This tension captures a form of "flexibility trap," in which wives' greater access to flexible work comes at the cost of lower pay.

[1] Mas and Pallais (2017) indicates that women's willingness to pay for teleworking arrangements is greater than men's. Goldin (2014) and Goldin and Katz (2016) emphasize that the ability to have flexible work hours is a crucial factor influencing women's participation and labor force attachment. Additionally, Le Barbanchon, Rathelot, and Roulet (2021) found that women are more likely than men to trade higher wages for shorter commutes. This finding, along with the commuting-saving effect of teleworking, further supports the idea that women place a greater emphasis on temporal flexibility as an important aspect of their jobs.

Empirical Evidence. Using the Current Population Survey (CPS) and the American Time Use Survey (ATUS) data, I document three novel facts characterizing the US economy in the post-pandemic period 2020–2024:

a. A surge in married women's labor supply, following decades of stagnation;
b. An increase in husbands' home production, while wives' remained stable;
c. A stronger compression of women's wage distribution compared to men.

Each of these facts points to a mechanism through which teleworking may have reshaped household labor markets. First, following the lessons outlined by Goldin (2014), job temporal flexibility is essential for women's labor supply. The increase in teleworking may have reduced the opportunity cost of participation for married women who typically handle a larger share of household responsibilities. I collect evidence that supports this view. Specifically, I document a post-pandemic surge in the participation of wives. Interestingly, this boom cannot be explained by real wages, which I show to have remained stagnant over the same period. These two pieces of evidence suggest that factors beyond wage incentives were at play. Using the panel dimension of the CPS, I then show that the wives' participation increase was driven largely by entries into non-routine cognitive (NRC) jobs. To assess whether these jobs are also more compatible with remote work, I rely on the teleworkability index developed by Hensvik, Le Barbanchon, and Rathelot (2020). I aggregate their occupation-level measure into my broader occupational groups and show that NRC jobs exhibit the highest teleworking potential. On the intensive margin, I find an unprecedented shift of married women from part-time to full-time work. Finally, I document a significant reallocation of married women towards remotable jobs. These findings suggest that the increase in teleworking, by lowering commuting costs and facilitating the balance between work and household schedules, may have made market work participation more attractive for married women who are particularly sensitive to flexible work options.

In addition, teleworking may alter the intra-household distribution of household responsibilities by inducing married men to spend more time at home. I, indeed, find an unprecedented increase in the average weekly time spent on home production by employed husbands during the post-pandemic period. This rise is exclusively concentrated among husbands employed in highly teleworkable occupations. This evidence suggests that remote work may have effectively eased schedule coordination, allowing men to increase home production. Yet, the average home production time of employed wives remained stable and disproportionately higher than that of their husbands in the pre-pandemic period. While teleworking seems to have expanded overall home production, it may not have significantly altered the gender distribution of domestic tasks, indicating that technological and economic adjustments were more significant than cultural changes in gender norms.

Third, because teleworking is an unevenly valued and distributed job amenity, it might have shaped wage outcomes differently across genders. Using the outgoing rotation group of CPS data, I document a compression of the husband's pay distribution, driven by faster growth at the bottom of the wage distribution. [2] I also report a significant compression of the wives' pay distribution. This squeeze on pay is greater than that of their husbands, and largely driven by a specific decline in top wages. Hence, I demonstrate that this downward pressure on top wages is particularly focused on highly teleworkable occupations. These are high-skill/high-wages jobs are indeed disproportionately located in the upper half of wives' wage distribution. Combined with evidence that employers used teleworoking options to moderate wage growth (Barrero, Bloom, and Davis 2023), these findings indicates that women's higher willingness to pay for teleworking options might have translated into disproportionate wage markdowns.

Taken together, the evidence suggests a double-edged nature of teleworking. By reducing the opportunity cost of participating in the market, remote work may significantly increase the labor supply of married women who remain disproportionately sensitive to job flexibility. Yet, it may also entrench household specialization, amplifying existing gender wage gaps, i.e., catching married women in a "flexibility trap". Teleworking may thus represent both an opportunity and a risk for the future of family labor markets.

Although these patterns highlight the importance of teleworking, the post-pandemic U.S. economy was also shaped by other forces. The 2021–2023 inflation surge created a negative wealth shock that may have boosted secondary-earner participation, while historically tight labor markets increased job-finding rates, potentially encouraging previously inactive women to enter the labor force. Untangling these channels is essential: the empirical patterns I document are correlations, not causal effects. The second contribution of this paper is therefore theoretical.

Environment. I develop a dynamic joint-search model of married couples that features labor market frictions and job amenities capturing teleworking opportunities. The purpose of this framework is twofold. First, it provides a unified mechanism to rationalize the key empirical patterns I document: (i) the sharp post-pandemic rise in married women's participation in the absence of real wage growth and (ii) the strong reallocation toward teleworkable jobs. Second, the model serves as a quantitative laboratory to study how different post-2020 forces such as the expansion of teleworking opportunities, the negative wealth shock associated with the inflation surge, and the unusually tight labor market—shape the labour supply, job allocation, and wage outcomes of married couples in the new equilibrium. I demonstrate that a realistic expansion of teleworking opportunities can

[2] This finding aligns with empirical evidence presented by Autor, Dube, and McGrew (2023), which shows that post-pandemic wage compression has been more pronounced for men. Higher labor demand for low-skill jobs led to higher wage growth at the bottom of the distribution than at higher percentiles.

account for the significant rise in labor supply among married women observed during the post-COVID recession period. This highlights the crucial role teleworking may have played in boosting married women's labor force participation after the pandemic.

The environment features opposite-sex couples who jointly decide how to allocate time between market work and home production in a frictional labor market. Spouses pool their income and make joint labor supply decisions to maximize a shared utility function. Labor market frictions arise because job offers arrive probabilistically and jobs may separate over time. The husband can be either employed or unemployed, while the wife faces a richer set of states—full-time employment, part-time employment, unemployment, or non-participation—reflecting her intensive and extensive labor supply margins. Labor market frictions shape how couples move across states: job offers arrive stochastically, separations occur with fixed probabilities, and non-employed spouses must search to secure a position. Jobs differ by their amenity content: a subset of positions is teleworkable, offering greater temporal flexibility, while the rest must be performed on-site. These amenities play a central role in the model. Holding a teleworkable job increases an individual's effective home time, facilitating the combination of market work with home tasks. Upon receiving an offer, each spouse chooses whether to accept it, and—if the offer includes a teleworking option—whether to work on-site or from home. The wife also selects her hours, choosing between a part-time and a full-time contract.

A key ingredient of the model is heterogeneity in the valuation of job amenities. Each spouse draws an idiosyncratic taste for flexibility every period, with women having a higher mean valuation on average. This feature captures the persistent gender asymmetry in caregiving responsibilities and in the willingness-to-pay for flexible work arrangements documented in the empirical literature. These taste shocks, together with job amenities, directly influence incentives to accept amenity-rich jobs, switch job types, or adjust hours, generating meaningful equilibrium differences across genders. Crucially, because women value amenities more than men, any increase in the availability of teleworkable jobs disproportionately raises the attractiveness of market work for married women. This asymmetry is the central mechanism through which higher teleworking opportunities amplify women's labor supply response in the model.

I then discipline the model to match the joint labour market behaviour of married couples in the pre-pandemic period. The calibration ensures that key stocks and flows—employment, participation, unemployment, part-time work, and transitions across states—are reproduced with high accuracy, allowing the model to serve as a reliable benchmark for evaluating post-2020 forces. Hence, I use the calibrated pre-pandemic model as a laboratory and conduct a counterfactual experiment that increases the probability that a job offer includes the option to adopt teleworking. The parameter is raised to match—within the model's resulting stationary equilibrium—the empirical share of full-time workers engaged in hybrid arrangements in 2024, which reached roughly 30 percent according to the Survey of Workplace Arrangements and Attitudes (SWAA). This adjustment isolates the effect of enhanced job flexibility while holding all other economic conditions fixed.

The model replicates a central empirical pattern: the diffusion of teleworking generates a rise in married women's employment and participation consistent with the post-pandemic experience: female employment increases by about one percentage point, and participation rises by roughly three percentage points. These effects emerge because the availability of teleworkable jobs relaxes couples' time constraints and increases the attractiveness of labour force entry for women who strongly value job flexibility.

A further insight concerns the unemployment rate of married women, which rises more sharply in the counterfactual equilibrium. In the model, higher participation meets a frictional labor market where job offers do not arrive immediately. As a result, a larger fraction of newly participating women spend more time unemployed before finding a suitable job. This interpretation is reinforced by the behaviour of flows: the unemployment-to-non-participation transition declines markedly in the counterfactual, signalling stronger attachment to the labour force and a reduced tendency to withdraw during job search spells. Taken together, the experiment highlights the central mechanism of the model: because married women value flexibility more than men, an expansion of teleworking opportunities disproportionately increases their incentives to work, shifting the long-run distribution of couples across labour market states. At the same time, frictions imply that greater participation manifests partly as higher steady-state unemployment—an outcome that may have implications for how labour market slack and the natural rate of unemployment are interpreted in economies with diffuse teleworking options. These observations naturally motivate the next steps of the project, in which I extend the framework to incorporate endogenous wages, occupational heterogeneity, and firm-side responses in order to accurately trace how teleworking interacts with labor market tightness, wealth shocks, and wage-setting mechanisms to shape both labor supply and wage dynamics across genders.

Related Literature. This paper contributes to several strands of the literature. First, it relates to the rapidly growing work documenting the rise of teleworking and its labor-market implications in the post-pandemic era. A series of influential papers by Barrero, Bloom, and Davis (2021); Barrero et al. (2022); Barrero, Bloom, and Davis (2023) use novel survey evidence to document the diffusion, persistence, and determinants of remote work in the United States. Davis (2024) shows that teleworking generates compensating wage differentials, exerting downward pressure on wages. A parallel empirical literature studies the effects of teleworking within households. Arntz, Yahmed, and Berlingieri (2022), Pabilonia and Vernon (2022, 2025), Feuillade, Goux, and Maurin (2025), and Di Filippo, Escobar, and Facal (2025) analyze how remote work affects spouses' labor supply, hours, wages, and intra-household time allocation. This paper complements these findings. In particular, I highlight wives' labor force entry as a central margin and connect household labor supply adjustments to wage dynamics in a unified quantitative framework.

Second, the paper connects to the extensive literature on the determinants of women's labor supply. Technological change, cultural shifts, and institutional reforms have been emphasized by Fernández, Fogli, and Olivetti (2004), Greenwood, Seshadri, and Yorukoglu (2005), Goldin (2014), Goldin and Katz (2016), and Heathcote, Storesletten, and Violante (2010, 2017), among many others. A central insight from Goldin (2014) is that job temporal flexibility is a key determinant of women's labor-market participation and hours. I build on this insight by interpreting the widespread diffusion of teleworking as a large, quasi-experimental increase in job flexibility and studying its effect on married women's labor supply.

Third, the analysis is related to the literature on joint search and household labor-market frictions. Models in Guler, Guvenen, and Violante (2012), Mankart and Oikonomou (2016, 2017); Mankart, Oikonomou, and Pascucci (2021), Flabbi and Mabli (2018), Ellieroth (2019), Birinci (2019), Pilossoph and Wee (2021), and Bacher, Grübener, and Nord (2025) study how couples search for jobs, insure each other against labor-market risk, and jointly choose participation and hours. Joint search frameworks have been used to examine unemployment durations, cross-spousal insurance, labor-force participation, sorting, and job mobility. My contribution is to extend this class of models by incorporating job amenities, specifically teleworking, as a choice margin interacting with household labor supply.

Finally, the paper contributes to the literature on job amenities and compensating differentials, pioneered by Rosen (1986). A large body of work shows that amenities shape wage dispersion, sorting, turnover, and gender gaps [e.g., Hwang, Mortensen, and Reed (1998), Nosal and Rupert (2007), Bonhomme and Jolivet (2009),Hall and Mueller (2018),Sorkin (2018), Albrecht, Carrillo-Tudela, and Vroman (2018),Le Barbanchon, Rathelot, and Roulet (2021), Lamadon et al. (2024)]. Most closely related is Bagga et al. (2025), which introduce aggregate shocks to the value of job amenities (teleworking options) in a frictional labor market with on-the-job search. Whereas their focus is on aggregate labor-market dynamics, my analysis centers on households: I study how increased opportunities to adopt teleworking affect the labor-supply behavior and wage dynamics of married women within a joint decision-making unit.

Outline. The remainder of the paper is organized as follows. Section 2 describes the data, the sample restrictions, and the construction of the key variables. Section 3 presents a set of novel facts on the post-pandemic labour market. Section 4 introduces the model and its calibration to pre-pandemic moments. Section 5 presents the main quantitative findings, and Section 6 concludes and discusses directions for future work.

2. Data

The empirical analysis draws on two main data sources which are both accesable trough the Integrated Public Use Microdata Series (IPUMS) digital archive: the Current Population Survey (CPS, Flood et al. 2025)), and the American Time Use Survey (ATUS, Hofferth et al. (2025)). [3]

The IPUMS CPS. The CPS is a nationally representative monthly survey of roughly 60,000 U.S. households conducted by the U.S. Census Bureau for the Bureau of Labor Statistics. It collects detailed information on employment, unemployment, hours, earnings, and demographic characteristics, and forms the basis for official U.S. labor market statistics. I use the basic monthly CPS files to compute labor market stocks and transition rates across demographic groups. The basic monthly CPS, indeed, follows a 4-8-4 rotation scheme: households are interviewed for four consecutive months, rotate out of the sample for eight months, and then return back in the survey for four additional months. This design implies that, in any given month, approximately 75% of respondents can be matched to their interview in the previous month. I exploit this panel dimension of the survey to track the same individual across consecutive months and subsequently calculate labor-market flow rates between employment, unemployment, and non-participation. Households in the fourth or eighth months of participation in the survey are asked additional questions on employment intensity (weekly hours worked) and earnings. This subset constitutes the CPS Outgoing Rotation Group (ORG). I relied on this particular sub-sample of the data when analyzing real hourly wages.

The IPUMS ATUS. The IPUMS ATUS provides a harmonized version of the American Time Use Survey, a nationally representative dataset in which respondents report how they allocate their time over a 24-hour period, together with detailed demographic information. I use this data to study how married couples allocate time to market work, home production, child care, and other major activities. The analysis relies on the ATUS activity coding structure, which aggregates respondents' time into broad activity categories defined in the ATUS lexicon. These categories allow me to construct consistent measures of spouses' time allocation decisions, and to document how these patterns evolve. The resulting evidence is presented in Section 3.2.

[3] The IPUMS portal provides harmonized and documentation-rich versions of major U.S. surveys data, facilitating consistent analysis across years and survey redesigns.

All empirical results focus on a subsample of the U.S. population consisting of prime-age individuals aged 25 to 55. I exclude individuals employed in the military, fishing, and farming industries. Unless stated otherwise, the analysis refers to married individuals. I use appropriate sample weights to compute aggregate statistics.

3. Facts

In this section, I describe a set of novel empirical facts that characterized the US labor market of married couples following the height of the COVID-19 pandemic, i.e., between 2020 Q3 and 2024 Q2 (henceforth, the post-pandemic period).

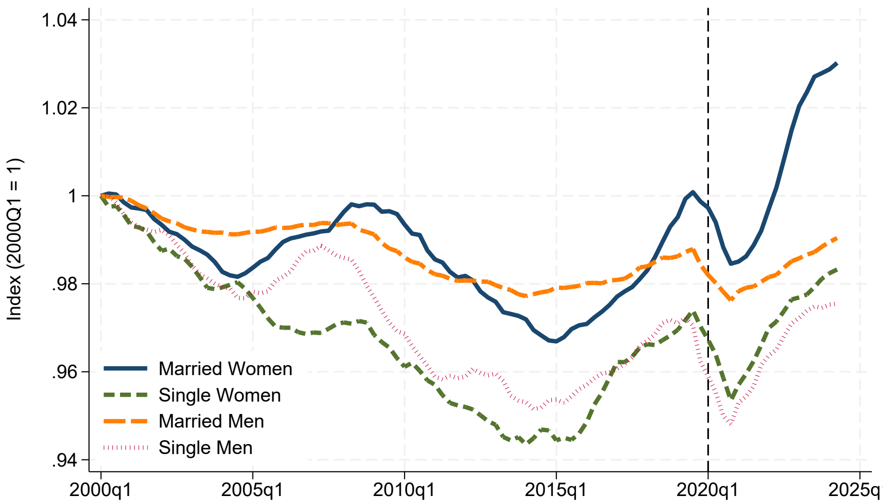
3.1. Fact 1: The Increase in Married Women's Labor Supply.

3.1.1. The wives' participation boom not explained by wage growth.

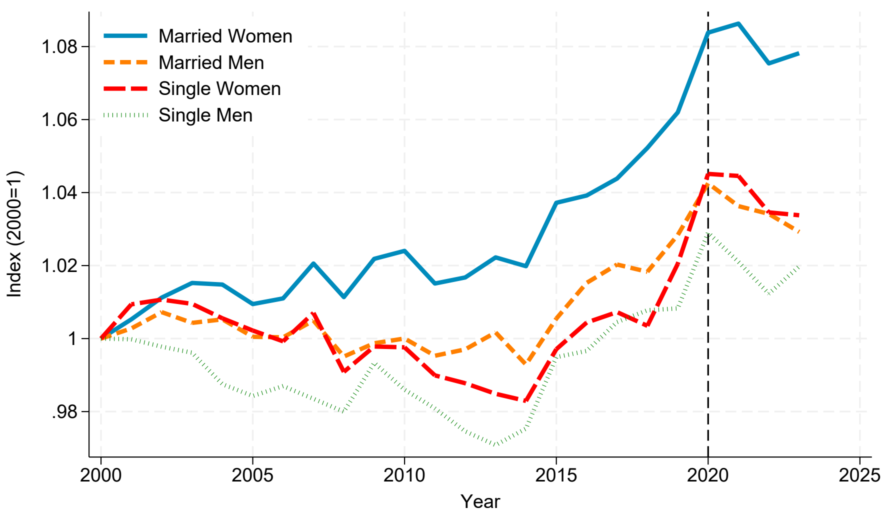
In the aftermath of the COVID19-recession, prime-age married women have experienced a surge in labor market participation. This surge, unmatched since the end of the "great convergence" in female labor force attachment, marks the starting point of the empirical analysis. Panel A of Figure 1 plots labor force participation rates by marital status and gender, expressed as deviations from their 2000Q1 value normalized to 1. [4]
The dashed vertical line indicates the onset of the pandemic. During the COVID-recession, labor force participation fell across all groups. However, the following recovery was largely uneven. Married women's participation (solid blue line), though, rebounded strongly and ultimately surpassed pre-pandemic levels. It peaked at nearly a 3 percentage point positive deviation from the 2000 baseline by mid-2024. This makes married women the only demographic group to exceed their long-term participation trend over the entire sample. Interestingly, standard labor supply responses to wage growth cannot explain this surge. The bottom panel of Figure 1 plots average real wages broken by different groups, expressed as deviations from their value in the first quarter of 2000. [5] Again, the vertical dashed line signals the onset of the pandemic, while the solid blue line represents married women. In the post-pandemic period, married women's real wages declined despite the increase in participation documented in Panel A. This evidence suggests that other forces drove married women's participation.

[4] The sustained upward trend in married women's labor force participation largely came to an end by the mid-1990s, as documented by Goldin (2006), and Goldin (2014). Starting the analysis in 2000 is, therefore, particularly convenient because it represents a period of relatively stable women's labor supply.

[5] Further details on the construction of hourly real wages are provided in section A.2 of the Appendix



A. Deviations of Labour Force Participation Rates



B. Deviations of Mean Real Wages

FIGURE 1. *Panel A* shows the index of labor force participation rates for prime-age individuals (25–55) across different demographic groups: married women, married men, single women, and single men. Values are normalized to 1 in the first quarter of 2000. Monthly series are seasonally adjusted using the X-13 ARIMA-SEATS procedure developed by the U.S. Census Bureau, aggregated to quarterly frequency, and smoothed with a five-quarter centered moving average. The vertical line marks 2020. *Panel B* plots the index of real hourly wages (2000=1) for the same prime-age sample as Panel A (married women/men, single women/men). Further details on the construction of real hourly wages are in Appendix A.2. Source: CPS ASEC (IPUMS).

3.1.2. The Married Women Surge in "flexible" Employment.

Figure 2 plots employment-to-population ratios for different demographic groups, normalized to 1 in the first quarter of 2000. The vertical dashed line marks the onset of the pandemic. The solid blue line shows the employment rate of married women, which rises sharply after the COVID-19 recession and stabilizes at a level roughly two percentage points above its pre-pandemic peak.

Before 2020, married and single women displayed nearly parallel employment trends. After the pandemic, however, the two series diverge: married women's employment surges, overtaking its pre-pandemic peak, while single women's does not. This pattern mirrors the participation dynamics documented earlier and confirms that the post-pandemic rise in married women's labor force participation translated into persistently higher employment.

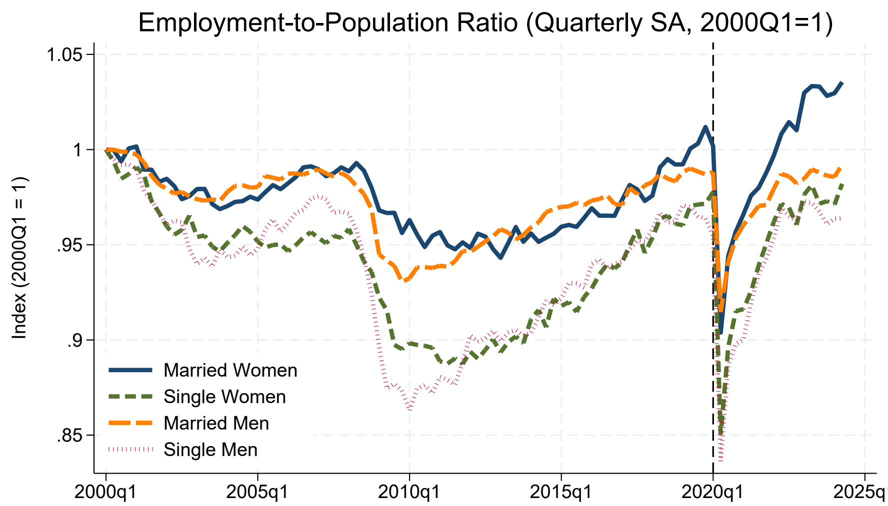


FIGURE 2. Employment-to-population rates by different groups.
Series are quarterly and seasonally adjusted sing the X-13 ARIMA-SEATS procedure developed by the U.S. Census Bureau. Values are normalized to 2000Q1 = 1. The vertical line marks the onset of the COVID-19 pandemic. Source: Basic Monthly Current Population Survey.

To understand the forces behind the surge in married women's participation and employment, it is essential to examine which types of jobs are driving this increase and whether the expansion of teleworking plays a role. In this paragraph, I describe a set of empirical exercises designed to explore the post-pandemic sorting patterns of married women. The results show that, during the post-pandemic period, married women increasingly transitioned into occupations offering high potential for remote work. Again, the magnitude and persistence of this shift are unprecedented.

The first empirical exercise analyzes the employment destination of married women entering the labor force. Specifically, I calculated the occupational shares of inactive married women transitioning into employment over two consecutive months. I divided employment into four categories. Following Cortes et al. (2020) I classified Professionals, Managerial, and Technical Occupations as *non-routine cognitive* (henceforth, NRC); Sales and Clerical Occupations are *routine cognitive* (RC); Production, Craft and Repair Occupations, and Transportation and Material Moving Occupations are *routine-manual* (RM); and Services Occupations are *non-routine-manual* (NRM) [6]. I then compute the number of married women who move from inactivity (O_t) to employment (E_t) over two consecutive months, specifically from period t to $t+1$. Hence, I define four different employment entry rates. Each rate represents the proportion of inactive married women at t who moved into employment of type o at $t+1$, with $o \in \{NRC, RC, RM, NRM\}$. The denominator is the pool of married women that can be tracked in the following month.

Figure 5 (A) plots these occupational entry shares. The red dashed vertical line marks the onset of the COVID-19 recession. Before the pandemic, the trends in entry shares were consistent with routine-biased technological change theory (henceforth, RBTC): NRC occupations (solid blue line) gradually absorbed a larger share of entrants, mainly at the expense of RC occupations. This shift is well-documented in the literature. However, what stands out is the sharp and unprecedented increase in the NRC entry share characterizing the post-pandemic period. This surge becomes even more striking in Panel B, which shows deviations from the 2015–2019 trend. Here, the NRC entry share deviates positively and persistently, peaking at nearly 10 share points more than the 2015-2019 average share level, a magnitude unseen in prior periods.

Although we cannot attribute this shift to any specific factor, its timing and persistence make it a central empirical fact. One potential explanation is the negative wealth shock induced by the post-COVID inflation surge, which significantly eroded households' real balances between 2021 and 2024. According to standard models of spousal labor supply and intra-household insurance, an adverse shock to household wealth or earnings increases the value of secondary-earner participation. In the classical added-worker effect (AWE), this mechanism operates when the primary earner—typically the husband—faces a heightened risk of job loss or an actual unemployment spell. The spouse's entry (or reentry) into the labor force serves as a form of income stabilization. In the post-pandemic U.S. context, the large inflation-induced wealth shock may have played a similar role: by eroding real household resources, it increased the marginal utility of additional earnings, especially among women close to the participation margin. Such wealth shocks operate analogously to the income-loss channel in the AWE framework, even in the absence of increased male unemployment risk. [7]

The main message of this figure is that the surge in married women's participation has

[6] Such a classification of the occupations, which have been widely adopted in recent macro-labour literature (e.g., Acemoglu and Autor (2011); Autor and Dorn (2013); Jaimovich and Siu (2020)), it allows to better isolate labour demand trends due to routine-biased technological change. Further details about the classification are in the A.2 section of the Appendix.

[7] In this sense, the observed reallocation into NRC occupations ais in line with recent empirical findings. For example, Casella (2022) and Bacher, Grübener, and Nord (2025) show that young, highly educated married women—profiles more commonly employed in NRC jobs—are especially likely to act as added workers.

been driven disproportionately by entry into NRC occupations. In Appendix X, I present evidence regarding prime-age married men. In contrast to married women, married men do not exhibit the same pattern. Although very volatile, NRC entries did not experience such an unprecedented, positive, and persistent jump during the post-pandemic era.

This post-pandemic reallocation pattern is not unique to entry shares; it also affects labor market stocks. Figure 4 analyzes employment-to-population (E/pop) ratios by gender and occupational group. Each panel represents an occupation-specific deviation in the employment-to-population ratio after the pandemic, compared to the share levels from 2015Q1 to 2019Q4, by different genders. In every panel, the red dashed line represents the employment trend of married women, whereas the blue solid line indicates that of married men. The vertical line marks the onset of the pandemic. The top-left panel focuses on NRC employment dynamics. While NRC employment for married women declined during the COVID-19 recession, it rebounded strongly in the following years, surpassing its pre-pandemic level by over 2 percentage points and rising more than 3 percentage points above its pandemic-induced trough. This sustained increase is unique: none of the other occupational groups—RC, RM, or NRM—experienced a comparable recovery, and NRC E/pop for married men, represented by the solid blue line, saw a milder increase.

Consistent with routine-biased technological change, employment in routine occupations (RC and RM) declined or stabilized at lower levels than their pre-recession average [8] while NRM occupations experienced the sharpest and most persistent drop. These dynamics suggest that the surge in married women's participation has not only been large in magnitude, but also contributed to reshaping the occupational composition of female employment. In particular, it accelerated a long-standing shift in their occupational sorting toward NRC jobs.

The comparison with men is particularly telling. Despite facing the same macroeconomic environment, married men did not experience a comparable reallocation toward NRC work. This points to forces specific to married women's labor market, possibly interacting with structural changes in job characteristics.

Of course, we cannot definitively say whether this accelerated shift was driven by labor supply or demand. On the one hand, rising employer demand for social and cognitive skills—where women may have a comparative advantage—could play a role. [9] On the other hand, the observed increase in married women's participation may reflect evolving preferences and constraints—particularly in response to the widespread adoption of remote work. To delve deeper into the reallocation dynamics observed in the post-pandemic labor market, I extend the analysis beyond entry from inactivity and examine transitions

[8] This evidence is in line with the finding of previous literature on RBTC and the business cycle. Specifically, Hershbein and Kahn (2018); Jaimovich and Siu (2020) find that recessions accelerate the replacement of routine jobs in favor of non-routine ones.

[9] See the work by Cortes, Jaimovich, and Siu (2018) on gender and the rising value of social skills.

into NRC occupations from a broader set of labor market states. The previous exercise focused exclusively on women transitioning from non-participation to employment over two consecutive months. To obtain a more comprehensive picture of occupational sorting, I now exploit the longest possible panel dimension of the CPS rotation structure and track married women over four consecutive months. [10] This broader approach allows me to identify transitions into NRC jobs not only from inactivity but also from other employment categories and unemployment. In this way, I can more accurately account for individuals who were misrecorded. Also, I can look at individuals who changed occupation and employment category. Hence, I estimate a linear probability model (LPM) where the dependent variable equals one if an individual who is not employed in an NRC occupation at time t enters NRC employment at some point between $t+1$ and $t+3$. I restrict the sample to married women aged 25–55 and control for key confounders through a rich set of fixed effects, including state, calendar month, and initial occupation group. [11] In particular, I estimate the following model:

$$\mathbb{1}\left\{\mathrm{E}^{\mathrm{NRC}}{}_{i,t+h} \,\middle|\, \mathrm{E}_{i,t}^{-NRC}\right\} = \beta_0 + \beta_1 I_t^{\text{Post}} + \beta_2 I_{i,t}^{\text{College}} + \beta_3 \left(I_t^{\text{Post}} \times I_{i,t}^{\text{College}}\right) \tag{1}$$

$$+ \mathbf{X}_{i,t}^{\top}\boldsymbol{\beta} + \underbrace{\gamma_s + \delta_m + \theta_o}_{\text{FE}} + \varepsilon_{i,t}\,, \tag{2}$$

The dependent variable of equation (1) is a binary indicator. It is equal to 1 if individual i, who is not employed in an NRC job at time t, transitions into NRC employment at any point between time t and $t+h$ where $h \in \{1,2,3\}$. It represents the probability that an individual will transition into NRC employment within the next h months, given that they are outside NRC at time t. This probability is projected on a set of regressors. $Post_t$ is a *post-pandemic* dummy which take value 1 for observation form Jan2021 to June2024. Therefore, β_1 captures the shift in transition probabilities following the COVID-19 recession. $College_{i,t}$ is an individual-level dummy which equals 1 if the woman has a college degree or higher (Bachelor's or above), and 0 otherwise. Its associated coefficient β_2 indicates how much more likely women holding a bachelor's degree are to move into an NRC occupation than those who do not. The interaction term $Post_t \times College_{i,t}$ captures the differential change in NRC transitions for college-educated married women in the post-pandemic period. The control vector $X_{i,t}$ includes a rich set of individual-level covariates: race (White vs non-White), presence of children in the household, presence of young children under age 5, age, and age squared. I also include state fixed effects (γ_s), calendar month fixed

[10] In the CPS rotating panel design, sampled households are interviewed for four consecutive months, exit the sample for eight months, and then re-enter for an additional four months. This implies that individuals can be followed for at most four consecutive months in the short panel used in this analysis.

[11] if the individual is non-employed the occupation, where available, corresponds to his latest recorded jobs.

effects (δ_m), and initial occupation group fixed effects (θ_o) to control for location-specific labor demand, seasonality, and occupation-specific employment trends. Finally, $\varepsilon_{i,t}$. The outcome is estimated separately for each horizon $h = 1, 2, 3$, and weights are constructed by averaging CPS person-weights over the observed window. Standard errors are clustered at the state level. [12].

The estimation results are summarized in Table 1, which seems to confirm that the reallocation into NRC occupations accelerated among highly educated married women after the pandemic. Let's first focus on the left section of the table, which is called "Actual," and it includes the estimate for the college dummy and the interaction term over the period 1996m1 to 2024m6. Looking at the estimates of the college dummy, we note that married women holding a bachelor's degree were 1.9, 3.0, and 4.2 percentage points more likely to transition into NRC occupations than their non-college counterparts at horizons $t + 1$, $t + 2$, and $t + 3$, respectively. This pattern reflects a well-established tendency for more educated women to be employed in high-skill occupations. However, the additional effect of being college-educated in the post-2020 period is not only statistically significant but grows with the horizon. Specifically, the interaction term coefficient rises from 0.5 % at t+1 to nearly 1% at t+3, suggesting an acceleration in the sorting of high-skilled married women into NRC jobs that cannot be explained solely by pre-existing education gradients.

TABLE 1. High Education and Interaction Effects: Actual vs Placebo

	Actual			**Placebo**		
	t+1	t+2	t+3	t+1	t+2	t+3
College	0.0194***	0.0309***	0.0417***	0.0183***	0.0296***	0.0409***
	(0.000719)	(0.00111)	(0.00150)	(0.000749)	(0.00123)	(0.00169)
College × Post	0.00482***	0.00702***	0.00996**	0.00482***	0.00558	0.00329
	(0.00160)	(0.00248)	(0.00399)	(0.00162)	(0.00343)	(0.00504)
Observations	1479964	915389	425460	1337360	831375	388241
R-squared	0.008	0.012	0.016	0.008	0.011	0.015

Robust standard errors in parentheses are clustered by states

* p<0.10, ** p<0.05, *** p<0.01

To assess whether the observed post-pandemic increase in transitions to NRC employment reflects a genuine structural change, I conduct a placebo exercise as a robustness check. Specifically, I replicate the analysis using data from 1996 to mid-2019, assigning a "fake" post-pandemic period beginning in January 2016. If the estimated interaction

[12] More details in the Appendix

between high education and the post-period dummy were capturing a secular trend unrelated to the pandemic, we would expect to observe similarly strong and statistically significant effects in this pre-pandemic sample.

The results suggest otherwise. While the placebo coefficient at t+1 is similar in magnitude to the actual estimate (reflecting possibly volatility, I have to think about it), the effects at $t+2$, and $t+3$ are smaller and no longer statistically significant. In summary, conditional of being highly educated, married women have been more likely to enter into NRC employment during the post-pandemic period. The comparison between the actual and the placebo estimates reinforces the conclusion that the recent reallocation into NRC jobs is not merely a continuation of past trends. These dynamics seem to reflect an acceleration in occupational sorting into NRC jobs among married women, likely driven by new factors arising from the COVID-19 shock and its aftermath.

In the previous paragraph, I provided further evidence of a post-pandemic increase in married women's labor supply, along with an accelerated sorting and reallocation into non-routine cognitive (NRC) employment. Both trends are unprecedented in magnitude and, notably, they begin only after the COVID-19 recession. It is now important to investigate the underlying forces driving these new dynamics. As previously discussed, the U.S. labor market has been shaped by a unique combination of macroeconomic phenomena during the post-pandemic period. Acknowledging that these may have influenced both labor demand and supply, I hypothesize that the widespread adoption of remote working arrangements played a prominent role in shaping the novel patterns I have documented so far. Indeed, the existing literature on women's labor supply, Goldin (2014); Goldin and Katz (2016) among others, has long emphasized the importance of job flexibility for women, who tend to value such arrangements more than men. The rapid rise of working from home (WFH) dramatically increased temporal job flexibility across many occupations. [13] This, in combination with other post-pandemic forces, may have boosted both the participation and the occupational reallocation of married women. In this context, then, it is crucial to analyze the extent to which NRC job occupations have likely adopted and integrated remote working arrangements as an additional non-wage characteristic. I address this question by constructing an occupational *remotability* index. In particular, based on pre-pandemic time-use data, I computed an aggregate share of hours worked from home for each occupational group as a proxy for job flexibility. I based my aggregate index on the share of working hours spent at home provided by Hensvik, Le Barbanchon, and Rathelot (2020). They use the American Time Use Survey (ATUS) from 2011-2018 to

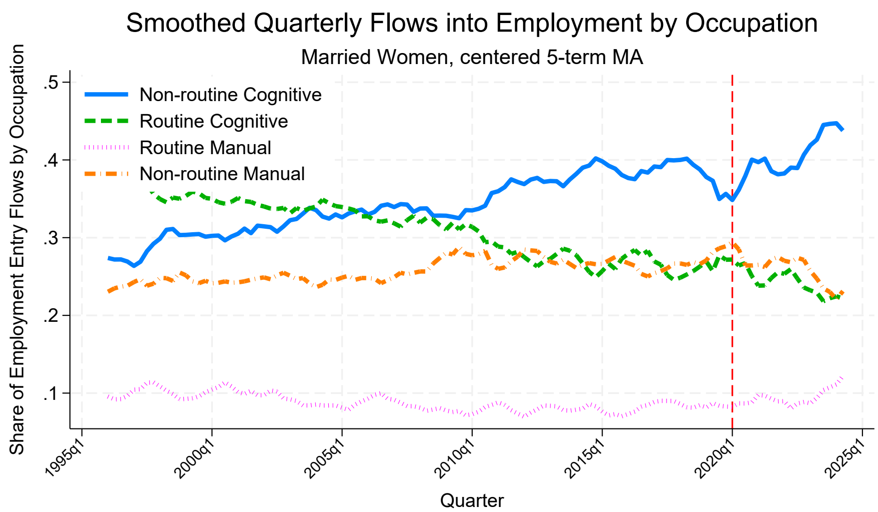
[13]Evidence from the Survey of Workplace Arrangements & Attitudes (SWAA, `https://wfhresearch.com/`) shows that the share of paid full workdays performed from home jumped from roughly 7% before the pandemic to over 60% during the spring of 2020, before stabilizing at around 30% in the subsequent years. See Barrero, Bloom, and Davis (2023)

calculate the share of hours worked at home (over home and workplace) at the 2010 Census Classification level. I then computed a weighted average based on the number of employed workers across all occupations within each broader occupational group. [14] Figure 5 plots the computed average *remotability index* by broad occupational category. Non-routine cognitive (NRC) occupations, represented by the blue bar, stand out as the most flexible group, with nearly 25% of total working hours conducted from home. This is more than double the average for routine cognitive (RC) jobs, indicated by the green bar, which is 11%. The *remotability index* associated with NRC occupations is also several times higher than the the one of routine manual (RM) occupations, represented by the red bar, and non-routine manual (NRM) occupations, represented by the orange bar, which are 5% and 8%, respectively.

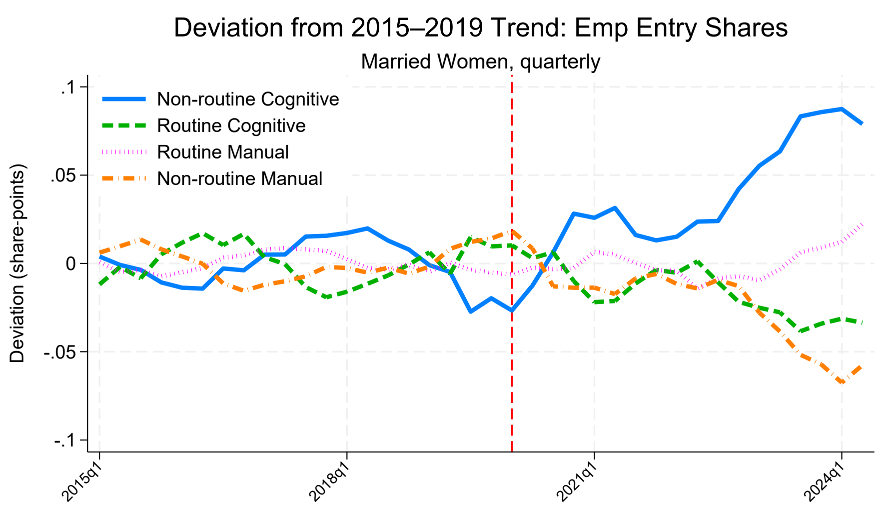
These findings indicate that NRC jobs, already been shown to drive the labor supply and reallocation patterns of married women, are also the most "remotable." The remotability index can serve as a lower-bound proxy for the potential flexibility of jobs in the post-pandemic era. This evidence supports a hypothesis I plan to test later: married women, who traditionally take on a larger share of household responsibilities and value job flexibility more than their husbands, experienced a positive revaluation of NRC jobs following the widespread adoption of remote work.

As I will discuss later in more detail, the possibility to work from home decreases barriers to participation by eliminating commuting time. Additionally, it alleviates the trade-off between market hours and private commitments, making NRC jobs particularly appealing to women who traditionally bear a higher share of caregiving and household responsibilities. This factor, along with evidence supporting the feasibility of remote work, indicates that the widespread adoption of remote work arrangements might have influenced the labor supply and reallocation trends among married women in the immediate aftermath of the COVID-19 pandemic.

[14] More details on the construction of the index are in the appendix.



A



B

FIGURE 3. Labor Force Entry Shares to Employment by Different Occupations
Panel A plots the shares of labor-force entries to employment by different occupational categories among married women. Panel B reports the deviations of the same shares from an estimated linear trend over 2015 Q1 – 2019 Q3. The series are seasonally adjusted with X-13-ARIMA-SEATS and smoothed using a five-month centered moving average. Notably, the NRC-occupation entry share, represented by the solid blue lines, experienced an unprecedented upward deviation. Source: IPUMS CPS Basic Monthly Sample.

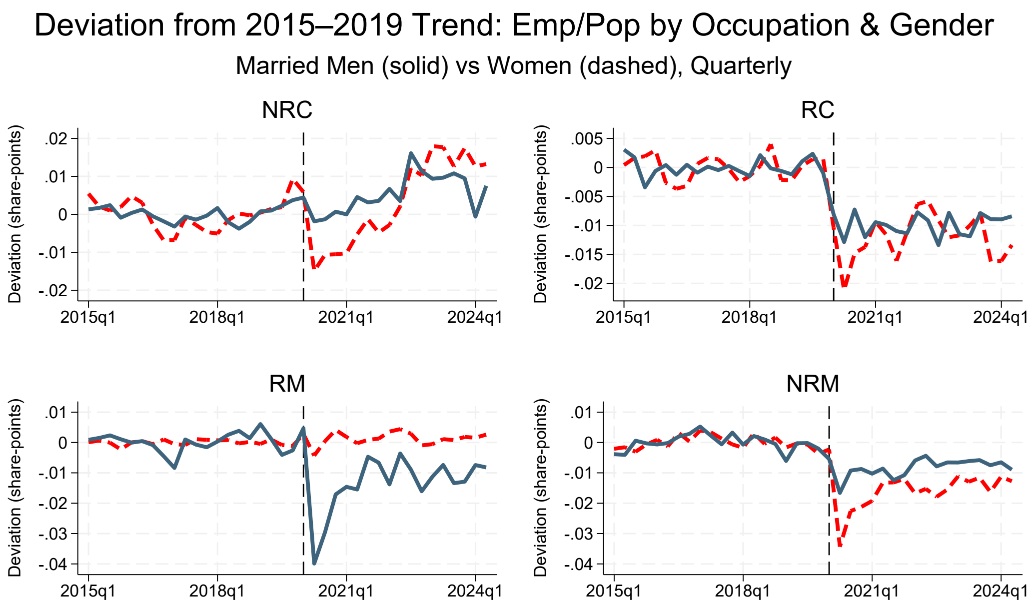


FIGURE 4. Employment-to-Population Shares by Occupation and Gender.
Married Men (solid) vs Married Women (dashed), Quarterly. Each panel shows deviations from pre-pandemic linear trends for four broad occupation groups: Non-Routine Cognitive (NRC), Routine Cognitive (RC), Routine Manual (RM), and Non-Routine Manual (NRM). The vertical dashed line marks the onset of the COVID-19 recession (2020Q1). Married women experienced a sharp and sustained positive deviation in NRC employment, contrasting with relatively modest changes among married men, while RC and RM shares declined for both genders. Sample restricted to prime-age individuals (25–55), excluding military, farm, and fishing occupations. Series are seasonally adjusted using X-13ARIMA-SEATS and aggregated to quarterly frequency. Source: IPUMS CPS Basic Monthly Sample.

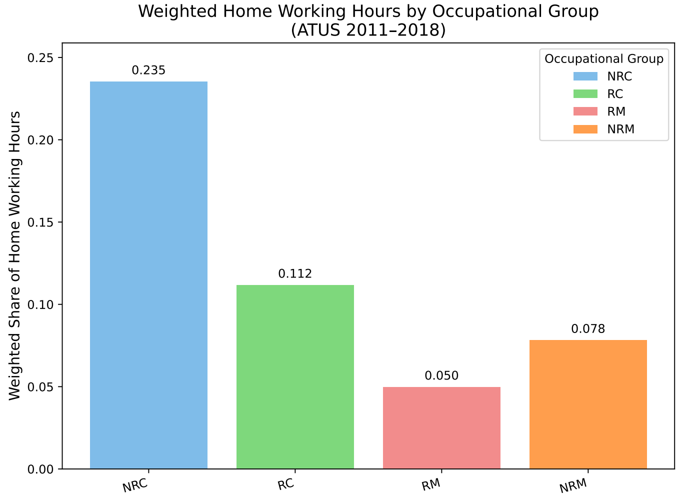


FIGURE 5. Share of Hours worked at home by different occupational groups Which occupational groups had the highest potential for remote work before the pandemic? I computed an aggregate share of hours worked from home for each occupational group as a proxy for job flexibility. This *remotability index* show the average share of working hours which were done at home during the 2011-2018 period. The figure plots the index broken down by different occupation categories. Source: USA ATUS (2011-2018)

3.1.3. The full-time shift of married women.

The previous subsections documented two key facts: a post-pandemic surge in married women's participation and employment, and an accelerated reallocation into NRC occupations, where teleworking opportunities are concentrated. Taken together, these patterns suggest that the spread of teleworking may have relaxed constraints on the extensive margin of married women's labor supply. In this subsection, I turn to the intensive margin and ask whether hours worked by employed married women also adjusted systematically.

I focus on transitions from part-time to full-time employment among prime-age married women. Using the CPS short panel, I construct monthly flow rates from part-time to full-time work and from part-time to part-time work. Part-time employment is defined as working fewer than 35 weekly hours, and full-time employment as working 35 or more hours. For each month, I restrict the sample to married women employed part-time in t and compute the shares who, between t and $t+1$, remain in part-time employment, move to full-time employment, become unemployed, or exit the labor force. I then seasonally adjust the resulting flow series, aggregate them to quarterly frequency, and smooth them with a centered moving average. Finally, I estimate a linear trend over 2015Q1–2019Q4 and express post-2015 observations as deviations from this pre-pandemic trend.

Figure 6 plots the deviations from trend for the two key flow rates: part-time to full-time (FT → FT, solid green line) and part-time to part-time (PT → PT, dashed orange line). The evidence shows a marked and unprecedented shift. The probability that a part-time employed married woman moves into full-time work rises sharply after the pandemic, peaking around 2022Q1 at roughly 4 percentage points above its 2015–2019 trend, and remaining persistently elevated, about 2 percentage points above trend, through 2024Q2. By contrast, the probability of remaining in part-time employment falls below its pre-pandemic trend, reaching a trough of about 3.5 percentage points in 2022Q1 before gradually returning toward its pre-2020 level.

These patterns indicate a substantial post-pandemic intensification of hours among married women who were already employed. This shift may partly reflect a labor supply response of secondary earners to the erosion of households' real incomes caused by the 2021–2023 inflation surge. However, the magnitude and persistence of the increase in part-time to full-time transitions, even after inflation had partially subsided, are consistent with an additional role for teleworking. By reducing commuting and coordination costs, the expansion of remote work likely made full-time schedules more compatible with married women's household responsibilities, encouraging a durable shift toward full-time employment on the intensive margin.

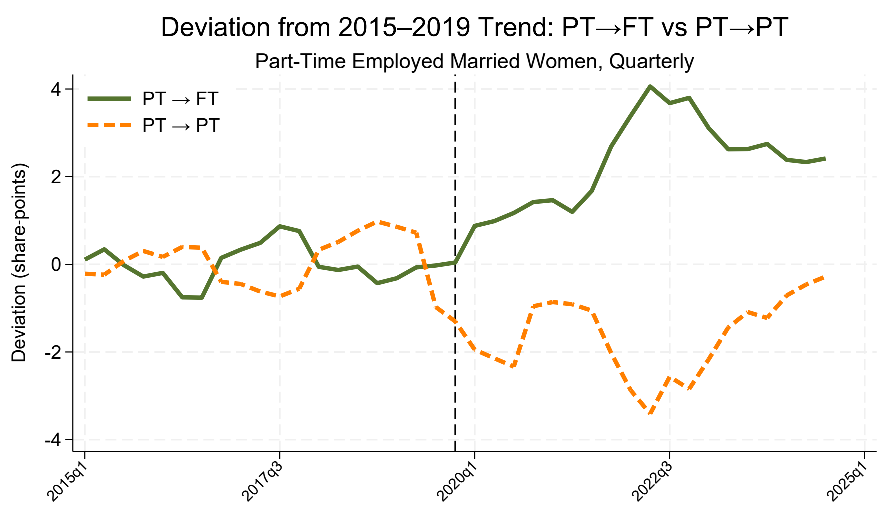


FIGURE 6. Deviation from pre-pandemic trend in transitions from part-time employment among married women.
The figure plots deviations from a linear trend estimated over 2015Q1–2019Q4 for quarterly transition rates among prime-age (25–55) married women employed part-time in period t. The solid green line shows the deviation of the flow rate from part-time to full-time employment; the dashed orange line shows the deviation of the flow rate from part-time to part-time employment. Series are constructed from CPS short panels, seasonally adjusted with X-13-ARIMA-SEATS, aggregated to quarterly frequency, and smoothed using a centered moving average. The vertical dashed line marks 2019Q4. Source: IPUMS CPS Basic Monthly Sample.

3.2. Fact 2: The Increase in Married Men Home-Production Time.

In the previous sections I showed a rise in married women's labour supply driven by highly-remotable NRC occupations. Given the potential time-saving effects of remote work arrangements, I explore whether this shift alters the total amount and distribution of non-market hours (home production) within households. I use ATUS data to examine whether post-pandemic changes led to a reallocation of home production between spouses. I found an unprecedented increase in the average time spent on home-production activities, specifically childcare and household services, among employed married men, which started in the aftermath of the COVID-19 recession. At the same time, home production hours for employed married women remained stable and were disproportionately higher than those of men. Again, and as expected under our main hypothesis, higher overall households' home production seems to be driven by "highly-remotable" NRC occupations. Figure 7 plots the evolution of time allocated to home production (childcare and household services) versus market work for employed married men (top panel) and married women (bottom panel). Specifically, the panels display the average daily time spent on home production (dashed orange line) alongside time devoted to market activities (solid blue line), both expressed as deviations from their 2003 values, normalized to one. Two patterns stand out. First, married men experienced an unprecedented rise in home production time beginning immediately after the pandemic recession (black vertical line), accompanied by a slight decline in time allocated to market activities during the post-pandemic period. Second, married women's time spent on home production remained remarkably stable throughout the sample. Despite the previously documented increase in married women's labor force participation, there is no clear evidence of a substantial change in their market work hours. The series appears too volatile to support a strong conclusion on this margin.

However, the combination of these trends indicates no traditional reallocation of tasks from women to men, but rather an overall increase in household production hours. A hypothetical explanation lies in the interaction between job flexibility and the inflation-driven cost-of-living shock. Remote work likely enabled men to perform more unpaid household tasks without sacrificing their paid work, while higher costs may have prompted families to internalize previously outsourced household services. At the same time, the rise in job flexibility allowed women to sustain their home responsibilities despite higher participation. This suggests that recent shifts in time allocation might reflect technological and economic forces, rather than cultural/social changes in gender norms.

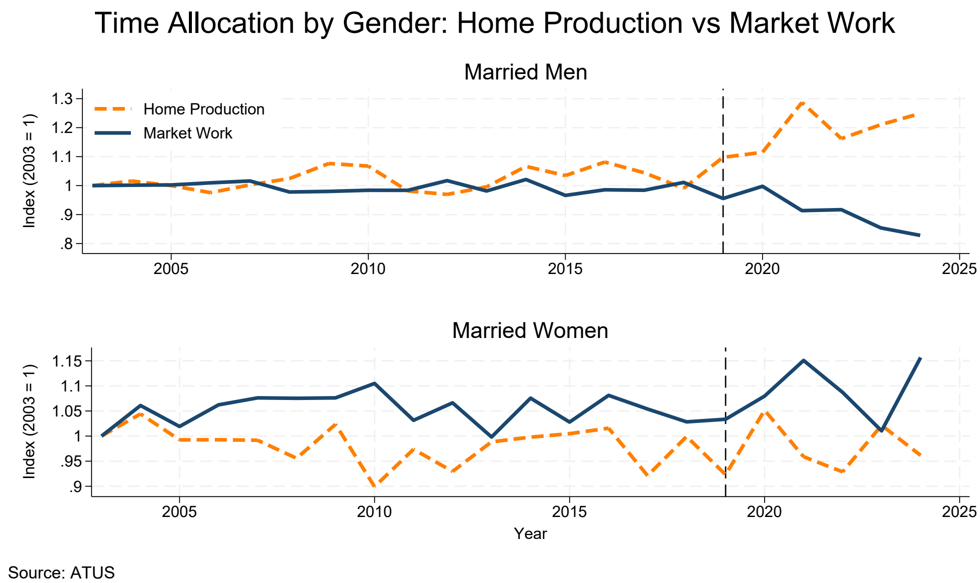


FIGURE 7. Evolution of time spent on home-production vs. work by gender.
The plot shows the evolution of the deviation of time spent on home-production, i.e. child care + household services, and work (and work related activities) by employed married men and women. Source: IPUMS ATUS.

Table 2 reports average weekly minutes spent in home production—defined as childcare and household services—by gender and broad occupational group, before and after the pandemic. The statistics are computed for prime-age employed married individuals. Two results are worth noting. First, women devote substantially more time to household production than men across all occupations and in both periods, confirming the persistence of a significant gender gap in domestic responsibilities. Second, men's home-production time increases systematically with the skill and education intensity of occupations, being highest in non-routine cognitive (NRC) jobs. The most striking evidence concerns married men in NRC occupations, whose home-production time rises by about 17% percent relative to the pre-pandemic period. Men in other occupation groups also increase their domestic time, but to a much smaller extent. By contrast, women's home-production time remains remarkably stable across occupations, with no comparable increase in any group. A natural interpretation is that higher teleworking opportunities in NRC jobs enabled men to spend more time at home. However, this shift does not correspond to a reallocation of home production within households. Instead, the evidence points to an overall increase in total household production driven largely by men, rather than a reduction in women's domestic burden. Overall, teleworking appears to improve schedule coordination within couples but does not substantially alter the gender division of household tasks.

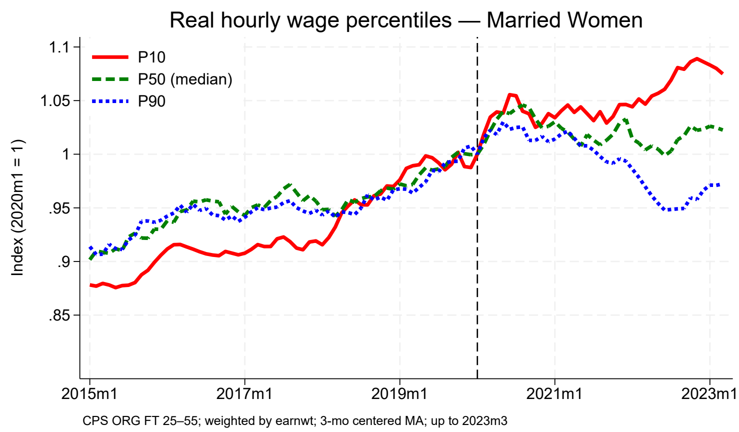
TABLE 2. Average Weekly Minutes in Home Production by Gender and Occupation

	Women			Men		
Occupation	Pre	Post	Δ%	Pre	Post	Δ%
Non-Routine Cognitive	180.7	181.2	+0.3	120.3	141.5	+17.6
Routine Cognitive	178.0	179.5	+0.8	111.6	120.3	+7.9
Routine Manual	169.6	163.4	−3.7	111.6	119.0	+6.6
Non-Routine Manual	197.1	212.4	+7.7	117.8	127.0	+7.8

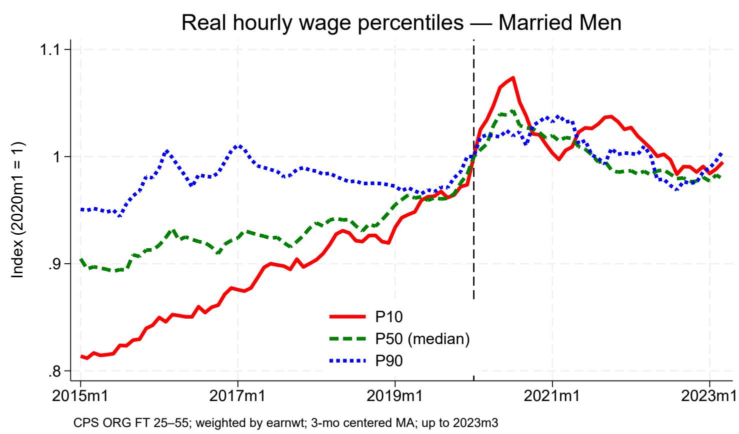
3.3. Fact 3: The gendered compression of the wage distribution

In the aftermath of the pandemic, married women experienced disproportionately stronger wage compression at the top of the distribution compared to married men. Autor, Dube, and McGrew (2023) document a significant wage compression in the US economy during the post-pandemic period. The real wage distribution squeezed due to faster growth in wages at the bottom. High post-pandemic competition in low-wage occupations boosted real wage growth, especially for young males in low-skilled occupations. Additionally, survey evidence from Barrero, Bloom, and Davis (2021) reported in Barrero, Bloom, and Davis (2023) show that . In this section I focus on the post-pandemic wage dynamics of prime age married couples.

The panels in Figure A4 illustrate the dynamics in the wage distribution of married women and men immediately before and after the pandemic. Specifically, Panel A plots the 10th, 50th, and 90th percentiles of the married women's real hourly wage distribution (red, green dashed, and blue lines, respectively), while Panel B reports the same statistics for married men. Values have been normalized to one as of January 2020, and the vertical line marks the onset of the pandemic. In both graphs, the jumps characterizing all percentiles in the two quarters immediately following the pandemic largely reflect compositional effects, as low-wage workers disproportionately exited employment during the recession. However, what stands out is the gendered nature of the wage distribution behavior that characterized the post-recession months. Focusing first on Panel A, we note that the real wages of married women at the 90th percentile (p90) declined persistently. This decline reached a minimum of 5% lower than their pre-pandemic value during the second half of 2022. Following this period, their wages increased slightly, yet they remained 3%-4% lower than their pre-pandemic level in March 2023, which is the end of the sample. Median wages (p50) remained steadily higher than their pre-COVID levels, while bottom wages rose significantly. Autor, Dube, and McGrew (2023) document that the high demand for low-skilled jobs has led to an increase in wages at the bottom of the distribution. The



A. Married Women Wage Distribution Dynamics



B. Married Men Wage Distribution Dynamics

FIGURE 8. Gendered Wage Compression.
The panels show real hourly wage percentiles for prime-age (25-55) married adults working full-time. P10, P50, and P90 represent the 10th, 50th, and 90th percentiles of real hourly wages, respectively. Panel A shows married women wage distribution and Panel B tracks that of married men. Series are 3-month centered moving averages of weighted percentiles, each indexed to 1 in January 2020. Vertical lines mark the onset of the pandemic. Further details on the sample selection are in the appendix. Source: CPS Basic Monthly, Outgoing Rotation Group (IPUMS).

decline in wages at the top of the distribution is a novel fact which, as I will show later in more detail, is peculiar to married women. This finding becomes even more striking when compared with the wage distribution dynamics for men, illustrated in panel B. Between 2021 and 2022, married men's wage distribution experienced a temporary compression, primarily due to rising wages at the bottom. However, by the end of the sample period, all wage percentiles had returned to their pre-pandemic levels. Figure 9 confirms these graphical intuitions. It plots the average change in the 50th over 10th (red bars), and 90th over 50th percentiles (blue bars) ratios over the post-pandemic period, broken by different demographic groups. These measures indicates the direction of the adjustments in each groups' observed wage compression. Since median wages have remained relatively stable, a greater decline in the 50/10 ratio indicates a greater increase in wages at the bottom, and therefore top-down induced wage compression. On the other hand, a higher 90/50 ratio decline represents top-down induced wage compression, mainly due to the decline in wages in the upper half of the distribution.

TABLE 3. Average remotability index (share_home) by wage quartile and demographic group

	Q1: 0–25%	**Q2: 25–50%**	**Q3: 50–75%**	**Q4: 75–100%**
Married Women	0.118	0.147	0.182	0.212
Married Men	0.100	0.121	0.169	0.221
Single Women	0.102	0.121	0.163	0.201
Single Men	0.084	0.095	0.139	0.197
TOTAL	0.101	0.121	0.163	0.208

The sample consists of full-time workers aged 25–55 from the CPS Outgoing Rotation Group (ORG). Wage quartiles are defined based on the distribution of real hourly wages, computed using individual probability weights.

Overall wage compression is mainly driven by prime age single men. These individuals experienced, on average, the most significant squeezing in the bottom half of the wage distribution due to exceptionally high wage growth at the 10th percentile. [15] However, it is worth noticing that married women are the ones who experienced the biggest drop in their 90/50 ratio. This evidence further suggests that high downward pressures in the upper half of the wage distributions explain a significant part of married women's wage compression.

Table 3 reports the average remotability index, based on Hensvik, Le Barbanchon, and Rathelot (2020)'s measure, by wage quartiles and demographic groups. In this case, it is important to note that the average teleworkability index increases monotonically across wage quartiles. Therefore, wages at the top of the distribution, which, especially in the

[15]This evidence is in line with Autor, Dube, and McGrew (2023)'s story of high post-pandemic tightness at the bottom, which induced greater wage compression for younger low-skilled males

case of married women, have seen a greater decline than wages at the bottom, are those with the highest degree of remotability.

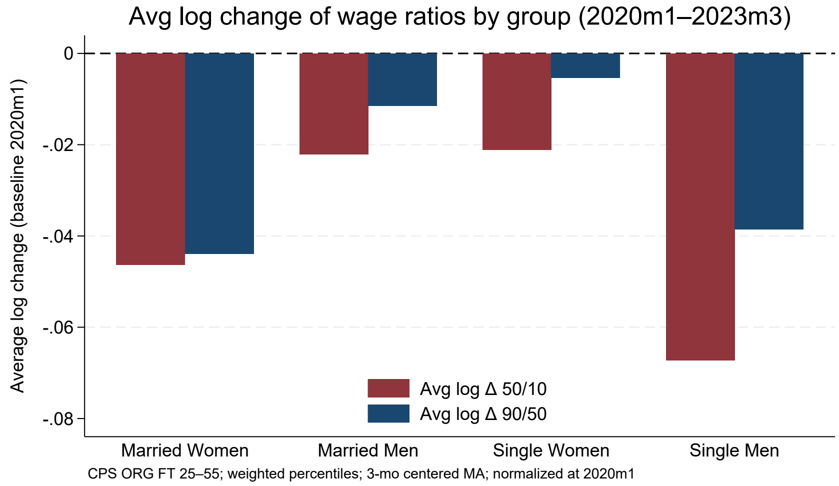


FIGURE 9. Average change in wage inequality by group
Bars show the average log change (relative to 2020m1) in two percentile ratios computed from 3-month centered moving-average wage distributions within each group: red = P50/P10 (lower-tail compression), blue = P90/P50 (upper-tail widening). Groups: Married Women, Married Men, Single Women, Single Men. A value above zero indicates the ratio increased on average over the period.

I ranked occupations according to their remotability index, and I then computed the average real wage in the top- and bottom-half remotability distribution for each demographic group. Figure 10 displays the evolution of average real wage growth by remotability across different occupational groups. Values are normalized to 1 as of January 2020. The vertical line marks the onset of the pandemic. Panel 1 shows the wage indexes evolution referred to married women. It can be seen that, starting in 2021, the wages of women employed in high-remotable jobs have seen a greater decline than those in less remotable jobs. This pattern is partly present in panel 3, which refers to single women. However, in panels 2 and 4, referring to married and single men respectively, the growth in real wages in high- and low-remotable occupations appears to have been of the same magnitude. The presence of higher downward pressure on women's wages, and especially those of married women, in the post-pandemic period suggests that the possibility of working from home has played an important role in shaping the wage dynamics of wives.

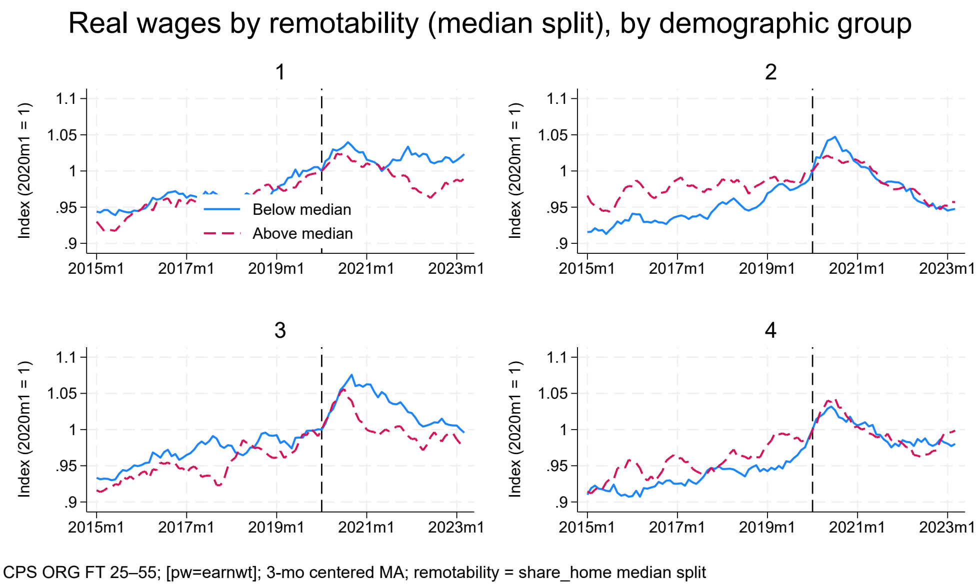


FIGURE 10. Real wage growth by teleworkability.
Each panel plots 3-month centered moving averages of real hourly wages, normalized to 1, for jobs below (solid) vs above (dashed) the median teleworkability. Panel 1: Married women; Panel 2: Married men; Panel 3: Single women; Panel 4: Single men. Sample of individuals aged 25 to 55, all of whom are working full-time. vertical line marks Jan 2020. Source: CPS Basic Monthly, ORG. Vertical line marks Jan 2020.

4. Model

I build a partial-equilibrium household labor supply model in the spirit of Mankart and Oikonomou (2016) and Flabbi and Mabli (2018).

4.1. Environment

Time is discrete. A unit measure of infinitely lived households populates the economy. Each household consists of two types, a female spouse ("wife") and a male spouse ("husband"). Spouses pool income and make a *joint intratemporal labor supply decision* in a frictional labor market. The household has no access to savings or assets, so choices are static in each period despite the infinite horizon. Preferences and technology parameters differ across types. I denote wife and husband parameters by subscripts f and m, respectively. The household discounts the future at a common factor β.

Labor market states. Men can be either employed (E) or unemployed (U). Unemployed men receive a job offer with probability $p_{U,m}$. Employed men separate from the job with probability s_m. Women can be in employment (E), unemployment (O), or non-participation (O). Unemployed women receive job offers with probability $p_{U,f}$, and women out of the labor force receive job offers with probability $p_{O,f}$. Employed women separate with probability s_f.

Job offers. A job offer is characterized by a triple

$$(w, a, h),$$

where w is the (exogenous) real wage, a is an amenity level, and h denotes the contracted hours. The amenity level takes two values,

$$a \in \{\underline{a}, \bar{a}\},$$

where $\bar{a} > \underline{a}$. Jobs with $a = \bar{a}$ are *teleworkable* (or NRC) jobs, while jobs with $a = \underline{a}$ are *non-teleworkable* jobs. The amenity a measures the contact intensity of the job's tasks. A high (low) amenity indicates that a job's tasks require low contact intensity, meaning that they can be performed more easily remotely.

Conditional on receiving a job offer, with probability ζ the worker can choose between the teleworkable and non-teleworkable version of the job (i.e., choose a); with complementary probability $1 - \zeta$, a low amenity level, $a = \underline{a}$, is exogenously assigned to the job offer. In addition, any employed individual in a non-teleworkable jobs ($S_g = E^a$), conditional on not incurring a separation, can switch to teleworking ($S_g = E^n$) with probability ζ each period.

Employed men can only work full-time:

$$h_m \in \{h^{FT}\}.$$

When accepting a job offer, women can choose the hours contract k:

$$h_f^k, \text{ where } k \in \{h^{PT}, h^{FT}\} \quad \text{and} \quad h^{PT} < h^{FT}.$$

This mechanism adds an intensive margin to women's labor supply.

Wages. Wages are exogenous and depend on the type of job, the hours contract, and the worker's Let $i \in \{t, n\}$ define the job type, where $i = t$ indicates a *teleworkable* job, and $i = n$ indicates a *non-teleworkable* job. I assume that teleworkable jobs pay lower wages than non-teleworkable jobs.

$$w_g^n > w_g^a \qquad \text{for each } g \in \{f, m\},$$

reflecting the idea that the higher amenity value of remote work puts downward pressure on wages through a compensating differential. Wages also differ systematically across genders. Specifically, for any job type $i \in \{a, n\}$, we have:

$$w_m^i > w_f^i,$$

the above inequality captures an exogenous gender wage gap consistent with discrimination or other structural barriers faced by women in the labor market. Finally, full-time positions always offer higher hourly pay than part-time positions,

$$w_g^{i,FT} > w_g^{i,PT} \qquad \text{for all } g, i,$$

so that workers improve their earnings by accepting full-time contracts whenever feasible.

Taken together, these assumptions imply that wages are decreasing in amenities, increasing in hours, and systematically higher for men than for women, holding job type and contract fixed.

Employment types. The husband's employment state set takes the following form

$$E_m^i \in \{E^a, E^n\}, \tag{3}$$

denoting employment in a non-teleworkable job (E_a) or in a teleworkable job (E_n). Now, recalling that, for women, each employment type also embeds a choice of hours $k \in \{PT, FT\}$, we can define the wife's employment set as follows:

$$E_f^{i,k} \in \{E^{a,PT}, E^{a,FT}, E^{n,PT}, E^{n,FT}\}, \tag{4}$$

Together with unemployment and non-participation for women, we define the sets of individual labor market states as follows:

$$S_f = \{ O, \ U, \ E_a^{PT}, \ E_a^{FT}, \ E_n^{PT}, \ E_n^{FT} \},$$

$$S_m = \{ U, \ E_a, \ E_n \}.$$

The household's labor market state is given by the Cartesian product $S = S_m \times S_f$ implying 18 discrete states in the model. Labor supply choices are made jointly by the spouses: the labor market status of one spouse affects the optimal decision of the other. Importantly, as will be clear below, household income is state-dependent.

Preferences and Income. The household combines market consumption and the home time of each spouse to produce a composite final good. In each period, the household utility function is defined as follows: [16]

$$U(c, Q_f, Q_m) = c \, Q_f^{\eta} \, Q_m^{1-\eta},$$

where c is market consumption and Q_f, Q_m denote the home time of the wife and husband, respectively. The parameter $\eta \in (0,1)$ captures gender norms within the household: higher values of η place more weight on the wife's home time, corresponding to more traditional gender roles. Consumption is equal to income, which depends on the household's labor-market state. Recalling that $i \in \{a, n\}$ denotes teleworkable (a) and non-teleworkable (n) jobs, and $k \in \{PT, FT\}$ the hours contract for women, c can be written as

$$c = \underbrace{\mathbb{1}\{S_m = E_m^i\} \, h_m w_m^i + \mathbb{1}\{S_m = U\} \, b_m}_{\text{husband earnings}} + \underbrace{\mathbb{1}\{S_f = E_f^{i,k}\} \, h_f^k w_f^{i,k} + \mathbb{1}\{S_f = U\} \, b_f}_{\text{wife earnings}} + y,$$

where $E_f^{i,k}$ and E_m^i represent the subsets of possible employment states for the wife and the husband defined in 4 and 3; $\mathbb{1}\{\cdot\}$ denotes an indicator function that takes the value 1 when the condition in braces is true and 0 otherwise, and y is non-labor income.

[16] This formulation follows the conceptual framework Blau, Ferber, and Winkler (2010), in which household consumption is a public good produced using market goods and home production as intermediate inputs.

Amenity taste shocks. Each spouse draws an idiosyncratic amenity preference

$$x_g \sim \mathcal{N}(\mu_g, \delta_g),$$

independently, each period. I assume $\mathbb{E}[x_f] > \mathbb{E}[x_m]$, meaning that women, on average, value job flexibility more than men. These shocks can be interpreted as capturing time-varying caregiving needs, motherhood, or other constraints that increase the relative attractiveness of high-amenity (teleworkable) jobs.

Time allocation and home production. Each individual has a unit time endowment. Home time is defined as:

$$Q_g = 1 - \underbrace{\mathbb{1}\{S_g = U\}\, \kappa_g(x_g)}_{\text{search cost}} - \underbrace{\mathbb{1}\{S_g = E\}\, \frac{h_g^k}{Y(x_g, a)}}_{\text{effective market work}}, \qquad g \in \{f, m\}.$$

The function $\kappa_g(x_g)$ is increasing in the amenity taste draw x_g: women or men with stronger preferences for job flexibility face higher search costs, consistent with caregiving shocks, maternity, or other life-cycle events that reduce available time.

When employed, effective market hours are scaled by the productivity term $Y(x_g, a)$, which depends positively on both the amenity level $a \in \{\underline{a}, \bar{a}\}$ and the amenity taste x_g:

$$Y_a'(x_g, a) > 0, \qquad Y_{x_g}'(x_g, a) > 0.$$

Higher amenity levels $\bar{a}$ (teleworkability) raise Y, which reduces the effective time cost of market work. This mechanism captures the idea that teleworking alleviates the tension between market hours and home production. Similarly, higher draws of x_g , conditional on having a high value of a, make market work less time-consuming relative to home responsibilities.

4.2. Value Functions

Household value functions are defined at the couple level. Let the household state S be denoted by a pair (S_m, S_f), where the first letter refers to the husband's labor market state and the second letter to the wife's state. Each value function $\mathcal{V}_{S_m S_f}(x_m, x_f)$ is defined conditional on the household's amenity preference draws (x_m, x_f) and incorporates the optimal choice over job type (teleworkable vs. non-teleworkable) and hours (for the wife). Table 4 summarizes the flow utility components: home-time of each spouse (Q_m, Q_f), and consumption c, as well as the relevant transition shocks (separation shocks, job offer probabilities, and amenity-option shocks) for each household state. Note that the value functions in Table 4, which involve at least one employment state of one of the spouses, are presented in a compact form. With the exception of the first two rows, the remaining value functions reported in Table 4 are presented in compact form. The two exceptions are the value functions $\mathcal{V}_{EE}$ and $\mathcal{V}_{E_aE_a}$, which are written explicitly. The former, $\mathcal{V}_{EE}$, collects all household states in which both spouses are employed in non-teleworkable jobs, and on the wife's side this includes both part-time and full-time contracts. The latter, $\mathcal{V}_{E_aE_a}$, corresponds to the case in which neither spouse holds a teleworkable job; in this state the amenity-switch option ζ is not available. All other value functions in the table—those labeled $\mathcal{V}_{UE}$, $\mathcal{V}_{EU}$, $\mathcal{V}_{UU}$, $\mathcal{V}_{EO}$, and $\mathcal{V}_{UO}$—represent the remaining set of feasible joint labor-market configurations. Each of these functions synthesizes the relevant variation in the spouse's employment type (teleworkable vs. non-teleworkable) and, for the wife, the associated hours choice.

TABLE 4

Value function	Flow utility (Q_m, Q_f, c)	Shocks
$\mathcal{V}_{E_aE_a}(x_m, x_f)$	$u\left(1-\frac{h_m}{Y(x_m,a_m)},\ 1-\frac{h_f^k}{Y(x_f,a_f)},\ y+w_m^a h_m+w_f^{a,k}h_f^k\right)$	$s_m,\ s_f$
$\mathcal{V}_{EE}(x_m, x_f)$	$u\left(1-\frac{h_m}{Y(x_m,a_m)},\ 1-\frac{h_f^k}{Y(x_f,a_f)},\ y+w_m^n h_m+w_f^{n,k}h_f^k\right)$	$s_m,\ s_f,\ \zeta$
$\mathcal{V}_{UE}(x_m, x_f)$	$u\left(1-\kappa_m(x_m),\ 1-\frac{h_f^k}{Y(x_f,a_f)},\ y+b_m+w_f^{i,k}h_f^k\right)$	$p_m^U,\ s_f,\ \zeta$
$\mathcal{V}_{EU}(x_m, x_f)$	$u\left(1-\frac{h_m}{Y(x_m,a_m)},\ 1-\kappa(x_f),\ y+w_m^i h_m+b_f\right)$	$s_m,\ p_f^U,\ \zeta$
$\mathcal{V}_{UU}(x_m, x_f)$	$u\left(1-\kappa_m(x_m),\ 1-\kappa_f(x_f),\ y+b_m+b_f\right)$	$p_m^U,\ p_f^U,\ \zeta$
$\mathcal{V}_{EO}(x_m, x_f)$	$u\left(1-\frac{h_m}{Y(x_m,a_m)},\ 1,\ y+w_m^i h_m\right)$	$s_m,\ p_f^O,\ \zeta$
$\mathcal{V}_{UO}(x_m, x_f)$	$u\left(1-\kappa(x_m),\ 1,\ y+b_m\right)$	$p_m^U,\ p_f^O,\ \zeta$

In each of these cases, the household's flow utility is determined by the corresponding home-time allocations (Q_m, Q_f) and by the income generated from wages, unemployment benefits, and non-labor income. The shocks associated with each value function depend on the spouses' labor-market status. Whenever a spouse is employed, the household faces the relevant separation shock; and if that spouse is in a non-teleworkable job, the household may also receive an amenity-switch shock ζ that allows the job to be converted into a remote position. When a spouse is unemployed or out of the labor force, the household receives job-offer shocks with probabilities p_g^U or p_f^O, respectively. Importantly, when receiving an offer, there is a probability ζ that the offer also includes the option for teleworking, which the matched individual can either accept or reject.

These shocks determine the set of feasible transitions out of each household state.

Because optimization takes place at the household level, shocks affecting one spouse may optimally trigger changes in the labor-market status of the other spouse. For example, a job offer received by the wife may be accepted only if the implied change in the husband's employment state—such as retaining or quitting a low-amenity job—improves the household's continuation value. Conversely, a separation shock for the husband may induce the wife to switch hours or accept a teleworkable job offer that was previously below her reservation value. Thus, the reservation values embedded in each $\mathcal{V}_{S_m S_f}$ are joint objects: they depend both on the spouse directly receiving the shock and on the partner's contemporaneous state. This interdependence, following the spirit of household search models such as Flabbi and Mabli (2018), is what distinguishes couples' dynamic choices from the standard individual search framework and generates rich cross-spousal interactions in job acceptance, labor supply, and amenity valuation.

Dynamic optimization. For any household state $S = (S_m, S_f) \in \mathcal{S}_m \times \mathcal{S}_f$, the value function $\mathcal{V}_S(x_m, x_f)$ solves

$$\mathcal{V}_S(x_m, x_f) = u_S(x_m, x_f) + \beta\, \mathbb{E}\big[\, \mathcal{W}_S(\omega, \alpha; x'_m, x'_f) \,\big],$$

where $u_S(\cdot)$ is the flow utility in state S, (x'_m, x'_f) are next-period amenity draws, and $\mathcal{W}_S(\omega, \alpha; x'_m, x'_f)$ is an envelope operator that maps current state S, job-offer shocks ω, and amenity-option shocks α into the optimal continuation value. The vector $\omega = (\omega_m, \omega_f)$ indicates whether each spouse receives a job offer, with $\omega_g \in \{0, 1\}$, and $\alpha = (\alpha_m, \alpha_f)$ indicates whether the offer (if any) comes with the amenity (teleworking) option, with $\alpha_g \in \{0, 1\}$. The joint distribution of (ω, α) is determined by the state-specific job-offer probabilities $(p_{U,g}, p_{O,f})$ and the amenity probability ζ.

Given (S, ω, α), let $\Gamma(S, \omega, \alpha)$ denote the set of all feasible next-period states S' that can be reached from S, taking into account (i) which spouse received an offer, (ii) whether the amenity option is available, and (iii) the admissible choices over job type and hours. Let $\Omega(S, S') \geq 0$ denote the participation cost incurred only when the wife moves from non-participation ($S = O$) into unemployment ($S' = U$) or into employment ($S' = E^k$) with hours $k \in \{PT, FT\}$. The corresponding costs are Ω^U, Ω^{PT}, and Ω^{FT}, respectively. For all other transitions $\Omega(S, S') = 0$. The envelope operator is then:

$$\mathcal{W}_S(\omega, \alpha; x'_m, x'_f) = \max_{S' \in \Gamma(S, \omega, \alpha)} \Big\{ \mathcal{V}_{S'}(x'_m, x'_f) - \Omega(S, S') \Big\}.$$

For instance, when $S = \{UO\}$ and only the wife receives a job offer without the amenity option, the set $\Gamma(UO, \omega, \alpha)$ contains the states $\{\mathcal{V}_{UO},\ \mathcal{V}^{PT}_{UE} - \Omega^{PT},\ \mathcal{V}^{FT}_{UE} - \Omega^{FT},\ \mathcal{V}_{UU} - \Omega^U\}$. The 18 household value functions in Table X are obtained by applying this Bellman operator to each state $S \in \mathcal{S}_m \times \mathcal{S}_f$. A fully expanded version of the Bellman equations for all states is provided in Appendix Y.

4.3. Equilibrium

Given exogenous wages, hours, job amenities, and labor market shocks, an equilibrium consists of (i) optimal household decision rules and (ii) a stationary distribution of couples across the 18 labor-market states.

Household optimization. Each household solves the dynamic program described in the section above. For every state $S = (S_m, S_f) \in \mathcal{S}_m \times \mathcal{S}_f$, the value function $\mathcal{V}_S(x_m, x_f)$ satisfies its Bellman equation, which incorporates the optimal acceptance or rejection of job offers, the choice of job type (teleworkable or non-teleworkable), and, for the wife, the choice between part-time and full-time hours. These optimal choices are encoded in the following policy functions:

$$g_m(S, x_m, x_f, \omega, \alpha), \qquad g_f(S, x_m, x_f, \omega, \alpha),$$

which map the current state, the amenity-taste draws, and the job-offer and amenity-option shocks (ω, α) into a next-period state S'. At the core of these policy rules is the comparison of the present discounted values of all feasible next-period states. For any given current state and shock realization, the household evaluates the present discounted value (PDV) associated with accepting a job with attributes (w, a, h), switching job types, changing hours, or remaining in the current state. Reservation values correspond to the values of (w, a, h) that make the household indifferent between two feasible states. A spouse adopts a teleworkable job, accepts a job offer, or changes hours whenever the PDV of the new state exceeds (or equals) the PDV of staying in the current one.

State-to-state transitions. Given the policy functions and the labor-market shock structure, we construct a transition matrix Π of dimension 18×18, where each entry satisfies

$$A_{SS'} = \Pr\big(S_{t+1} = S' \,\big|\, S_t = S,\ g_m, g_f, p_{U,g}, p_{O,f}, s_g, \zeta\big).$$

This matrix incorporates (i) job separations, (ii) job-offer arrival rates for each spouse, (iii) the amenity-option shock ζ, and (iv) all optimal accept/reject, switching, and hours decisions implied by g_m and g_f. Each row of A sums to one, and the matrix fully characterizes the flow of couples across labor-market states.

Stationary distribution. An equilibrium requires the cross-sectional distribution of households over states to be stationary. Let π be the 1×18 vector whose entries represent the mass of households in each state. In equilibrium,

$$\pi = \pi A.$$

This fixed-point condition determines the long-run participation rate, the share of teleworkable jobs, the distribution of hours among women, and all other steady-state quantities. The stationary distribution is obtained by iterating $\pi^{(n+1)} = \pi^{(n)} A$ until convergence.

DEFINITION 1 (Stationary Partial-Equilibrium). *Given wages, hours, job amenities, the distributions of amenity-taste shocks, and the labor-market shock processes* $(p_{U,g}, p_{O,f}, s_g, \zeta)$*, a stationary equilibrium is a collection*

$$\left\{\mathcal{V}_S(\cdot),\, g_m(\cdot),\, g_f(\cdot),\, A,\, \pi\right\}$$

such that:

a. *For every household state* $S \in S_m \times S_f$*,* $\mathcal{V}_S$ *solves the Bellman equation.*
b. *The policy functions* g_m *and* g_f *attain the maximization implied by the Bellman problem for all amenity-taste draws and all shock realizations.*
c. *The transition matrix* A *is generated by the optimal policy functions and the labor-market shock structure.*
d. *The cross-sectional distribution of households is stationary:*

$$\pi = \pi A.$$

4.4. Calibration

The model is calibrated to match a steady state that corresponds to the U.S. labor market for married couples in the pre-pandemic period (2015m1–2019m12). The calibration combines externally pinned parameters and internally disciplined moments from the data. The discount factor is set to $\beta = 0.96$, following Prescott (1986). Gender norms $\eta = 0.60$ match the ratio of married men's to married women's average weekly home production time in ATUS (2003–2019). Male wages in non-teleworkable jobs are normalized to one, and female wages are set to 0.8 to match a 20% gender wage gap. Teleworkable jobs pay 0.92 times the non-teleworkable wage, consistent with an 8% willingness to pay for telework amenities documented in Barrero, Bloom, and Davis (2023); Mas and Pallais (2017). Weekly full-time hours are set to $h^{FT} = 40/112 = 0.36$ and part-time hours to half that value, following Greenwood et al. (2016). Search costs (κ_f, κ_m) are chosen to match average unemployment rates of married women and men during 2015–2019. Participation costs $(\Omega^U, \Omega^{PT}, \Omega^{FT})$ are selected to reproduce female labor force participation, and the observed full-time / part-time composition of married women employment. The job-finding rates $(p_{U,m}, p_{U,f}, p_{O,f})$ and separation rates (s_m, s_f) are calibrated to match monthly

$U \to E$, $O \to E$, and $E \to U$ transitions in the CPS. Finally, the amenity-option probability ζ is set so that the model yields a 7% pre-pandemic share of workers in teleworkable (amenity) jobs, in line with Barrero, Bloom, and Davis (2023).

TABLE 5. Calibration of Model Parameters

Parameter	**Value**	**Target / Source**	**Type**
Preferences and Technology			
β	0.96	Prescott (1986)	External
η	0.60	ATUS 2003–2019 (married HP ratio)	External
$(\underline{a}, \bar{a})$	normalized	Teleworkability differential	External
Wages and Hours			
w_m^n	1.00	Normalization	External
w_f^n	0.80	20% gender wage gap	External
w_m^a	0.92	WTP for telework ≈ 8%	External
w_f^a	0.74	WTP for telework ≈ 8%	External
h^{FT}	0.36	40 / 112 weekly non sleeping hrs	External
h^{PT}	0.18	Half of FT	External
Labor Market Transition Rates			
s_m	0.01	$E \to U$ transitions (2015–2019)	Internal
s_f	0.03	$E \to U$ transitions (2015–2019)	Internal
$p_{U,m}$	0.30	$U \to E$ transitions (2015–2019)	Internal
$p_{U,f}$	0.27	$U \to E$ transitions (2015–2019)	Internal
$p_{O,f}$	0.06	$O \to E$ transitions (2015–2019)	Internal
ζ	0.01	≈ 7% telework adoption pre-2020	Internal
Search Costs and Participation Costs			
κ_f	0.5	Female unemployment rate (2015–2019)	Internal
κ_m	2.01	Male unemployment rate (2015–2019)	Internal
Ω^U	0.18	Female LFP $O \to U$ (2015–2019)	Internal
Ω^{PT}	1.27	Female part-time share (2015–2019)	Internal
Ω^{FT}	1.30	Female full-time share (2015–2019)	Internal

5. Results

In this section, I present the main quantitative results of the analysis. I proceed in two steps. First, I validate the model by showing that its pre-pandemic steady state provides a close fit to the key labor market stocks and flows observed in the data for the pre-pandemic period. Second, I use the calibrated model as a laboratory to study the effects of a realistic increase in the probability of accessing teleworking arrangements. I show that raising the teleworking opportunity parameter to match the post-pandemic empirical adoption rate generates a new steady state with higher female labor force participation and employment among married women, in line with the empirical evidence documented in Section 2.

TABLE 6. Labor Market Stocks and Flows: Data vs. Model

	Data (2015–2019)	**Model SS**
Labor Market Stocks		
Male employment rate	0.98	0.97
Female employment rate	0.70	0.70
Female part-time share (of emp.)	0.25	0.22
Female labor force participation	0.73	0.73
Female unemployment rate	0.03	0.04
Male unemployment rate	0.02	0.03
Teleworking adopters (all workers)	0.07	0.07
Labor Market Flows		
Women		
$E \to U$	0.01	0.02
$U \to E$	0.27	0.27
$O \to U$	0.02	0.01
$U \to O$	0.27	0.28
$O \to E$	0.06	0.06
$U \to U$	0.46	0.45
Men		
$E \to U$	0.01	0.01
$U \to E$	0.31	0.30

Using CPS monthly data, I compute gender-specific averages of labor market stocks and flows over the period 2015m1–2020m1, which I refer to as the pre-pandemic period. Table 6 compares these empirical moments with the model-implied steady state.

The first panel of Table 6 reports labor market stocks. The model closely matches the employment, unemployment, and labor force participation rates of both genders. It also reproduces the part-time share among employed married women, a central margin in the empirical labor supply of couples. Overall, the model generates a realistic quantitative representation of married couples' labor market behavior in the pre-pandemic environment.

The second panel of Table 6 shows labor market flows. The calibrated model reproduces the observed flow rates across employment, unemployment, and non-participation reasonably well, including female transitions across part-time/full-time employment and inactivity. These results confirm that the estimated parameters generate a stationary equilibrium that aligns closely with the empirical dynamics of couples' labor supply.

To assess the role of teleworking opportunities in shaping couples' labor supply, I conduct a counterfactual experiment in which I increase the parameter ζ the probability that a job offer or an on-the-job opportunity includes the option to adopt teleworking. Specifically, the parameter is raised to match, in the resulting steady state, the empirical share of full-time employees engaged in hybrid work arrangements in 2024. According to the Survey of Workplace Arrangements & Attitudes (SWAA), approximately 30% of full-time workers were in hybrid arrangements by that year. [17] The results of this quantitative exercise are reported in Table 7. The first panel, which displays labor market stocks, shows that the model reproduces a rise in both the employment rate and the labor force participation rate of married women. Female employment increases by roughly 1 percentage point, and participation by approximately 3 percentage points, closely mirroring the empirical patterns documented in Section 2.

A notable difference between the model and the data concerns the female unemployment rate, which rises more strongly in the model's new steady state—reaching around 6%, compared with a more modest increase observed in the data. This outcome can be understood through the lens of search frictions. Teleworking opportunities attract more married women into the labor force, raising participation; yet, given frictions in the job search process, not all newly participating women immediately receive job offers. As a result, a larger mass of women temporarily remains unemployed. The second panel of Table 7 corroborates this mechanism. The unemployment to out-of-the-labour-force flow for married women decreases sharply in the counterfactual—from about 28% in the pre-pandemic steady state to roughly 20%. This indicates stronger labor force attachment: fewer unemployed women exit the labor market during their job search. While consistent with a rise in participation, this mechanism also implies that teleworking may increase

[17] Source: Barrero, Bloom, and Davis (2024), Survey of Workplace Arrangements & Attitudes (SWAA), https://wfhresearch.com/.

the long-run unemployment rate among married women.

TABLE 7. Post-Pandemic Labor Market Stocks and Flows: Data vs. Model

	Data (2020–2024)	**Model SS (High ζ)**
	Labor Market Stocks	
Male employment rate	0.97	0.97
Female employment rate	0.72	0.71
Female part-time share (of emp.)	0.23	0.13
Female labor force participation	0.74	0.76
Female unemployment rate	0.03	0.06
Male unemployment rate	0.03	0.03
Teleworking adopters (all workers)	0.29	0.28
	Labor Market Flows	
Women		
$E \to U$	0.01	0.03
$U \to E$	0.29	0.27
$O \to U$	0.02	0.01
$U \to O$	0.26	0.20
$O \to E$	0.06	0.06
$U \to U$	0.55	0.53
Men		
$E \to U$	0.01	0.01
$U \to E$	0.33	0.30

These findings suggest that teleworking opportunities can meaningfully reshape the long-run allocation of married women across employment, unemployment, and non-participation. They also raise the possibility that widespread adoption of flexible work arrangements may affect the interpretation of labor market slack and the sustainable level of unemployment.

Despite its informative implications, this experiment has important limitations. First, increasing the teleworking-opportunity parameter ζ captures only one of the structural forces that shaped labor market dynamics after 2020. Several additional post-pandemic drivers are absent from this quantitative exercise. In particular, I identify two additional forces that, along with the widespread adoption of teleworking, might have contributed to boost married women's labour supply: (i) the unprecedented tightness of the labor market, and (ii) the negative wealth shock generated by the 2021-2023 inflation surge. The current framework, being partial equilibrium and featuring exogenous wages, does not incorporate vacancy creation, job-tightness feedback, or compensating-differential mechanisms that would allow wages in different occupations to adjust endogenously. More broadly, the exercise isolates the role of teleworking opportunities, holding all other forces constant. In reality, the post-pandemic rise in married women's labor supply likely reflects the joint influence of several channels. To help interpret and disentangle these mechanisms, section C.1 of the Appendix presents a tractable analytical version of the couples' labor supply model that illustrates how increases in job amenities, wealth shocks due to post-pandemic inflation, and changes in job-finding rates can each contribute to raising the secondary earner's market hours and participation. This analytical framework clarifies how the forces omitted here could operate alongside teleworking to generate the patterns observed in the data.

6. Conclusion

I document (i) a strong and persistent rise in married women's labor supply and (ii) a concurrent decline in their upper-tail wages in the post-pandemic U.S. economy. I hypothesize that these facts are attributable to the rapid expansion of teleworking. By reducing effective commuting costs, and allowing better reconciliation of market work with home responsibilities, teleworking has reshaped labour supply incentives within couples. At the same time, greater access to teleworking may also have unintended distributional consequences, catching women in what I call a "flexibility trap". Because married women value flexibility more on average, higher teleworking opportunities can place stronger downward wage pressure on those with a higher willingness to pay for the amenity. This mechanism implies that teleworking may widen gender wage differentials, particularly in occupations where amenity-rich jobs are concentrated and compensating differentials are substantial.

To quantify these forces, I develop and calibrate a couples' joint-search model with job amenities, intensive and extensive labor supply margins, and household decision-making. The model successfully replicates key pre-pandemic labor market stocks and flows for married men and women, offering a realistic representation of couples' behaviour in a frictional labor market. Using the calibrated model as a laboratory, I show that a rise in teleworking opportunities calibrated to match the post-pandemic hybrid-work share generates a new steady state that mirrors the empirical facts: female labor force participation and employment increase, and the incidence of telework among employed workers rises to levels consistent with the data.

A novel implication is that the expansion of teleworking raises the equilibrium unemployment rate among married women. Higher participation combined with job search frictions leads more women to spend time in unemployment rather than exiting the labor force, signalling stronger attachment but also suggesting that sustained teleworking adoption may shift the long-run "natural rate" of unemployment. This insight has potential implications for how we interpret labor market slack in economies with persistently high teleworking opportunities.

The quantitative experiment remains partial equilibrium and isolates only one post-pandemic driver. Other forces, aggregate demand conditions, a wealth shock due to the post-pandemic surge in inflation, and endogenous wage adjustments likely acted in parallel. The tractable analytical model presented in Appendix C.1 illustrates how these channels can jointly reinforce women's labor supply responses.

Future work will enrich the framework by introducing endogenous wage offers, occupational skill differences, and firm-side responses. This will allow the model to explore how teleworking interacts with sorting, compensating differentials, and bargaining to shape the gender wage gap dynamics observed in the post-2020 U.S. labor market that I uncover in the empirical section of this analysis.

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Appendix A. Data

A.1. Annual hours and real hourly wages from ASEC

I obtain real hourly wages from CPS ASEC data. The source is the IPUMS CPS ASEC (Annual Social and Economic Supplement), 1976–2023. I restrict the sample to prime-age individuals (25–55). I exclude: (i) observations with missing or inconsistent values in key variables (sex, marital status, education, employment status, and occupation); (ii) individuals with zero or missing annual wage income (`incwage`); (iii) individuals reporting multiple employers during the survey year (`numemps` $\neq 1$); and (iv) individuals with implausible annual hours worked (< 250 or $> 4{,}500$).

I use ASEC person weights (`asecwt`). I replace standard weights with adjusted weights (`asecwtcvd`) during years affected by pandemic nonresponse (2019–2021). I compute annual hours (`hrs`) as:

$$\text{hrs} = \text{weeks worked last year } (\texttt{wkswork1}) \times \text{usual weekly hours } (\texttt{uhrsworkly}).$$

I convert nominal wage income (`incwage`) into 1999 dollars using the CPI adjustment factor (`cpi99`):

$$\textit{incwage}^{\text{real}} = \textit{incwage} \times \text{cpi99}.$$

I then calculate real hourly wages as:

$$\text{wage} = \frac{\text{real annual wage income}}{\text{annual hours worked}} = \frac{\textit{incwage}^{\text{real}}}{\text{hrs}}.$$

I use weighted percentiles to trim observations below the 1th percentile or above the 99th percentile of real hourly wages.

I use natural logarithms for wages, hours, and earnings:

$$\text{ln\_wage} = \log(\text{wage}), \quad \text{ln\_hrs} = \log(\text{hrs}), \quad \text{ln\_earn} = \log(\textit{incwage}^{\text{real}}).$$

All statistics are weighted means using ASEC person weights. Aggregated by demographic group (gender, marital status), employment type (full/part-time), and occupation category. Real wage indices in Figure 1 (Panel B) are normalized to 1 in the baseline year 2000:

$$\text{Index}_{g,t} = \frac{\text{mean}(\ln \text{wage}_{g,t})}{\text{mean}(\ln \text{wage}_{g,2000})}.$$

A.2. Real hourly wages from CPS ORG

I construct real hourly wages from the CPS Outgoing Rotation Group (ORG), 1979–2023. The data source is the IPUMS-CPS ORG extracts. I restrict the sample to prime-age individuals (25–55). I further restrict to private and public wage/salary workers (`classwkr` = 21–28) who usually worked at least 35 hours per week in their main job (`uhrswork1` ≥ 35). I exclude individuals in the military, self-employed, or with missing demographic information.

Hourly wages are constructed as follows. For individuals directly reporting an hourly wage (`hourwage`), I use that value. For non-hourly workers, I calculate hourly pay as reported weekly earnings divided by usual weekly hours (`earnweek/uhrswork1`). Following Autor, Dube, and McGrew (2023), for hourly-paid workers, I floor extremely low reported wages at $2.13, the federal tipped minimum wage. To handle top-coded values, I replace reported wages above the Census top-code threshold ($50 pre-2003, $75 post-2003) with 1.5 times the top-code, following a Pareto-based adjustment.
I then deflate nominal hourly wages using the monthly CPI-U (not seasonally adjusted) to obtain real hourly wages. To reduce the influence of outliers, I trim the distribution at the 1st and 99th percentiles of the weighted real wage distribution, following.
Monthly wage percentiles (p10, p50, p90) are computed using CPS earnings weights. To smooth short-term noise, I use three-month centered moving averages of the percentile series. Each series is then indexed to one at January 2020, the pre-pandemic baseline. Figures **??** report these indices separately for married women and married men.

Appendix B. Occupation:

The 2010 Census occupation coding is harmonized and collapsed into four broad categories following Cortes et al. (2020):
- Non-routine Cognitive (NRC)
- Routine Cognitive (RC)
- Routine Manual (RM)
- Non-routine Manual (NRM)

Observations in military, farming, and fishing are excluded.

B.0.1. Construction of Demographic Groups

I classify individuals into mutually exclusive demographic categories based on gender and marital status:
- I define marital status using the CPS variable `marst`. Individuals with codes 1–2 (*married, spouse present or absent*) are classified as **married**. Codes 3–7 (*widowed, divorced, separated, never married*) are classified as **single**.

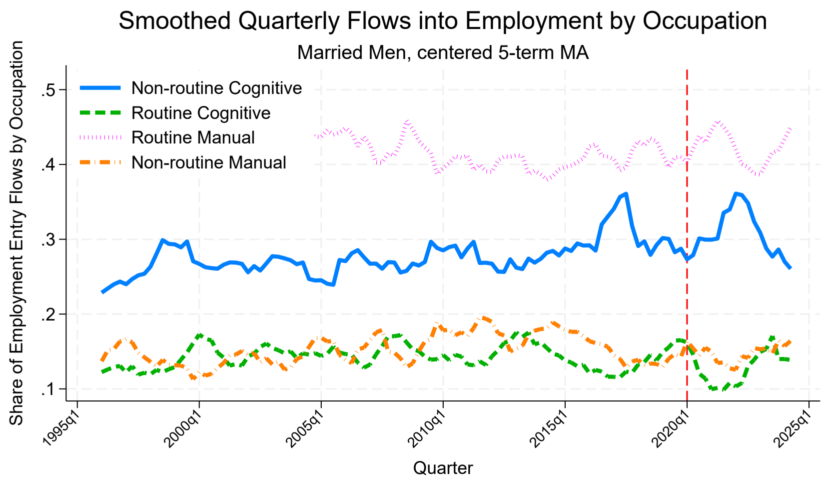
- Gender is defined using `sex` (1 = male, 2 = female).
- Combining these, we construct the following groups:
  a. Married Women (`sex = 2, marst ∈ {1, 2}`)
  b. Married Men (`sex = 1, marst ∈ {1, 2}`)
  c. Single Women (`sex = 2, marst ∈ {3, 4, 5, 6, 7}`)
  d. Single Men (`sex = 1, marst ∈ {3, 4, 5, 6, 7}`)

  Observations with unknown marital status are excluded.

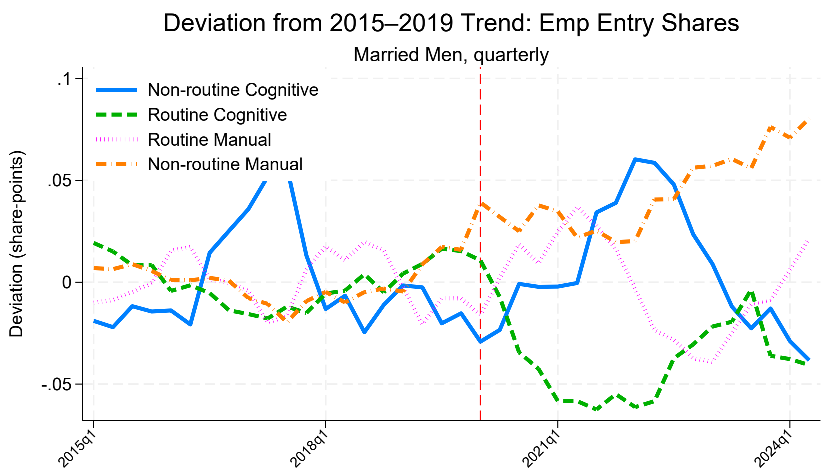
Appendix C. Robustness

C.1. Fact 1: The increase in married women's labor Supply.

Figure A4 plots the evolution of home working time by gender and occupational group. In particular, each graph tracks the trend in mean daily home working minutes for married men (dashed-blue lines) and married women (solid red lines). Dsahed vertical lines marks the start of the pandemic. The top-left panel, which refers to employed workers in "higly-remotable" NRC occupations, clearly displays a post-pandemic surge in daily home working time. In the rest of the panel, married men's home time remained stable. Across all occupations, married women do not experience any change in their daily time spent on home working activities. This result is in line with our previous hypothesis: married men are allocating more time on home production since the inset of the pandemic, while women are not. This dynamic is likely driven by the rapid spread of teleworking among NRC occupations and the negative income/ wealth schock brought by inflation surge, rather than change in gender norms. We, indeed, do not observe any reallocation of home production in favor of women, but only an overall increase brought by higher men's home production.



A



B

FIGURE A1. Labor Force Entry Shares to Employment by Different Occupations
Panel A plots the shares of labor-force entries to employment by different occupational categories among married men. Panel B reports the deviations of the same shares from an estimated linear trend over 2015 Q1 – 2019 Q3. The series are seasonally adjusted with X-13-ARIMA-SEATS and smoothed using a five-month centered moving average. Source: IPUMS CPS Basic Monthly Sample.

C.1.1. Construction of Part-Time → Full-Time Transition Rates

This appendix describes how I construct the transition rates from part-time to full-time employment used in Figure 6. The analysis exploits the short panel dimension of the CPS Basic Monthly sample from IPUMS. The CPS follows a 4–8–4 rotation pattern: sampled households are interviewed for four consecutive months, leave the sample for eight months, and then return for another four months. I use the short panel dimension that allows tracking individuals for up to four consecutive months. Individuals are matched across adjacent months using the IPUMS person identifier `cpsidp` and calendar month `mdate`, and I keep only valid forward matches (i.e. those with `match1ahead = 1` and $mdate_{t+1} = mdate_t + 1$).

The baseline sample is restricted to:

- prime-age individuals, $25 \leq \text{age} \leq 55$;
- opposite-sex married individuals ($\texttt{marst} \in \{1, 2\}$), using IPUMS CPS marital status;
- non-military, non-farm, non-fishing occupations, by excluding the corresponding broad occupation group;
- years 1996 onward.

I then focus on married women only for the construction of the part-time → full-time transition series. For employed individuals, I distinguish full-time (FT) and part-time (PT) using the hours worked last week variable`ahrsworkt`, which records actual weekly hours worked the week before the survey. I drop implausible or missing values (`ahrsworkt = 999` or $\texttt{ahrsworkt} > 120$) and define:

$$\begin{aligned} \text{Full-time}: &\quad \texttt{ahrsworkt} \in [35, 120], \\ \text{Part-time}: &\quad \texttt{ahrsworkt} < 35. \end{aligned}$$

To study the intensive margin for married women, I restrict attention to individuals with in part-time employemnt at month t. For each such woman, I define her status one month ahead:

$$\texttt{status\_t1} = \texttt{status}_{t+1},$$

for those observations with a valid month-ahead match.

I then construct a set of destination dummies indicating the labor market status in $t + 1$:

$$\begin{aligned} \texttt{goto1fulltime\_w} &= \mathbb{1}\{\texttt{status\_t1} = 1\} \quad (\text{PT} \to \text{FT}) \\ \texttt{goto1partime\_w} &= \mathbb{1}\{\texttt{status\_t1} = 2\} \quad (\text{PT} \to \text{PT}) \\ \texttt{goto1unemp\_w} &= \mathbb{1}\{\texttt{status\_t1} = 11\} \quad (\text{PT} \to \text{U}) \\ \texttt{goto1o\_w} &= \mathbb{1}\{\texttt{status\_t1} = 21\} \quad (\text{PT} \to \text{O}). \end{aligned}$$

Observations with missing `status_t1` (no valid forward match) are set to missing for all destination dummies.

For each month t, I then compute weighted counts of transitions by summing each dummy using the CPS sample weight `wtfinl`. The relevant "at-risk" population in month t is the set of part-time employed married women who can be tracked to $t + 1$. The denominator is defined as:

$$n_t = \texttt{goto1fulltime\_w}_t + \texttt{goto1partime\_w}_t + \texttt{goto1unemp\_w}_t + \texttt{goto1o\_w}_t,$$

where each component is the weighted sum over individuals in month t.

Monthly transition rates from part-time employment are then:

$$\begin{aligned}
\texttt{sh_goto1fulltime_w}_t &= \frac{\texttt{goto1fulltime_w}_t}{n_t} && \text{(PT} \rightarrow \text{FT rate)},\\
\texttt{sh_goto1partime_w}_t &= \frac{\texttt{goto1partime_w}_t}{n_t} && \text{(PT} \rightarrow \text{PT rate)},\\
\texttt{sh_goto1unemp_w}_t &= \frac{\texttt{goto1unemp_w}_t}{n_t} && \text{(PT} \rightarrow \text{U rate)},\\
\texttt{sh_goto1o_w}_t &= \frac{\texttt{goto1o_w}_t}{n_t} && \text{(PT} \rightarrow \text{O rate)}.
\end{aligned}$$

The monthly transition rates are seasonally adjusted using the X-13-ARIMA-SEATS procedure. For each rate of interest $z_t \in \{\texttt{sh\_goto1fulltime\_w}_t, \texttt{sh\_goto1partime\_w}_t\}$, I obtain a seasonally adjusted series z_t^{SA} using single-series seasonal adjustment. I then aggregate the monthly series to quarterly frequency. The resulting quarterly series are then smoothed using a centered moving average. I subsequently express in percentage terms by multiplying by 100. Fugure **??** show the evolution of the $PT \rightarrow PT$ and the $FT \rightarrow FT$ for married women. The dashed vertical line signals the start of the pandemic. We can note an unprecedented surge in $PT \rightarrow PT$ which goes far beyond historic trends.

To highlight the post-pandemic shift relative to pre-existing patterns, I compute deviations from a pre-pandemic linear trend estimated over 2015Q1–2019Q4. For each series $v_q \in \{\tilde{z}_q^{FT}, \tilde{z}_q^{PT}\}$, I estimate:

$$v_q = \alpha + \beta q + \varepsilon_q \quad \text{for } q \in [2015\text{Q1}, 2019\text{Q4}],$$

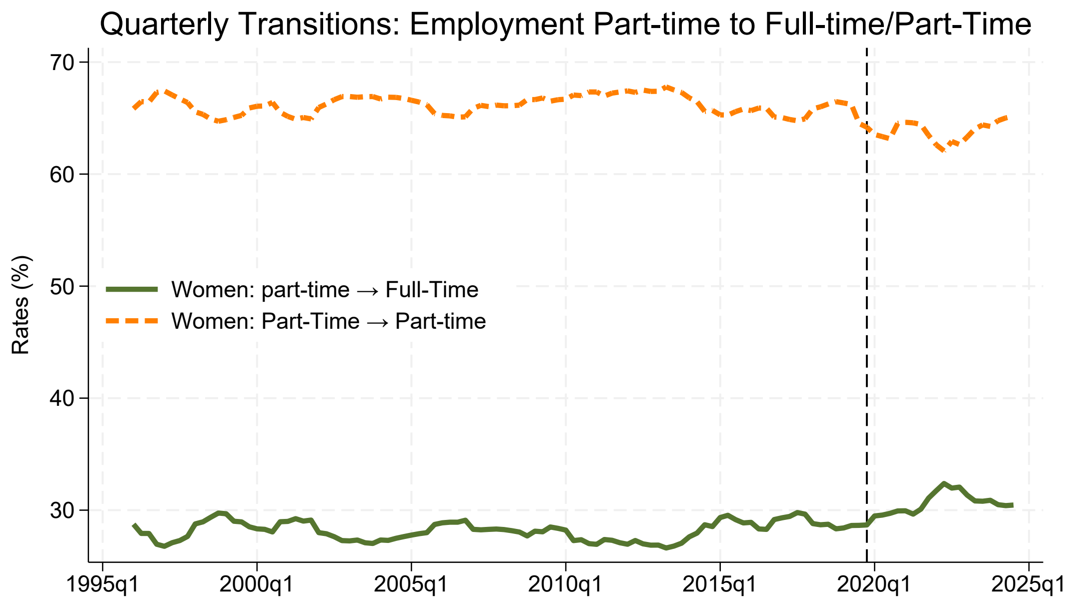
and construct the fitted trend

$$\widehat{v}_q = \hat{\alpha} + \hat{\beta} q.$$

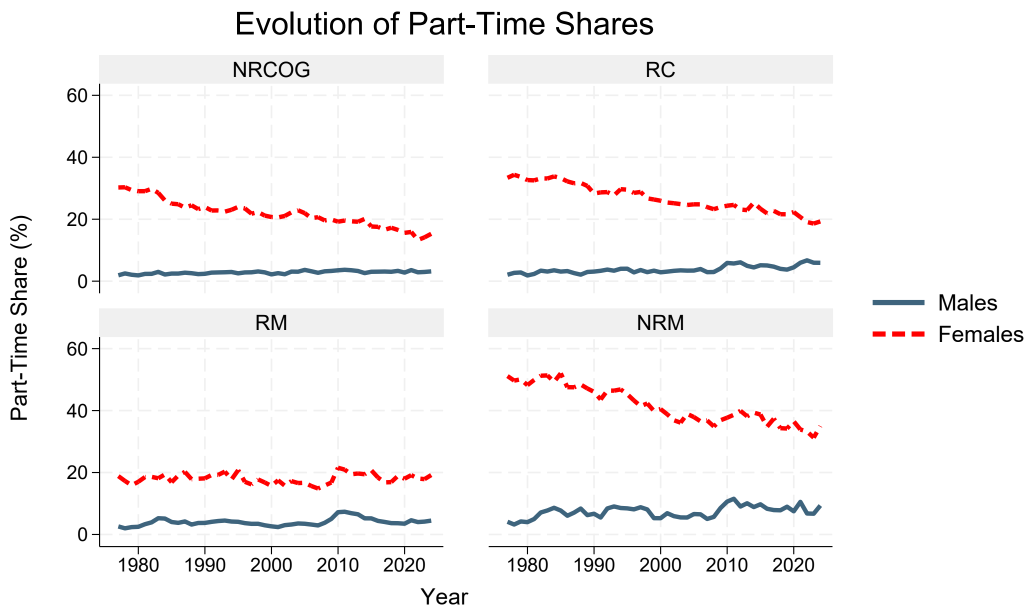
The deviation-from-trend series plotted in Figure 6 is then

$$\text{dev}_q^{FT} = \tilde{z}_q^{FT} - \widehat{\tilde{z}_q^{FT}}, \qquad \text{dev}_q^{PT} = \tilde{z}_q^{PT} - \widehat{\tilde{z}_q^{PT}},$$

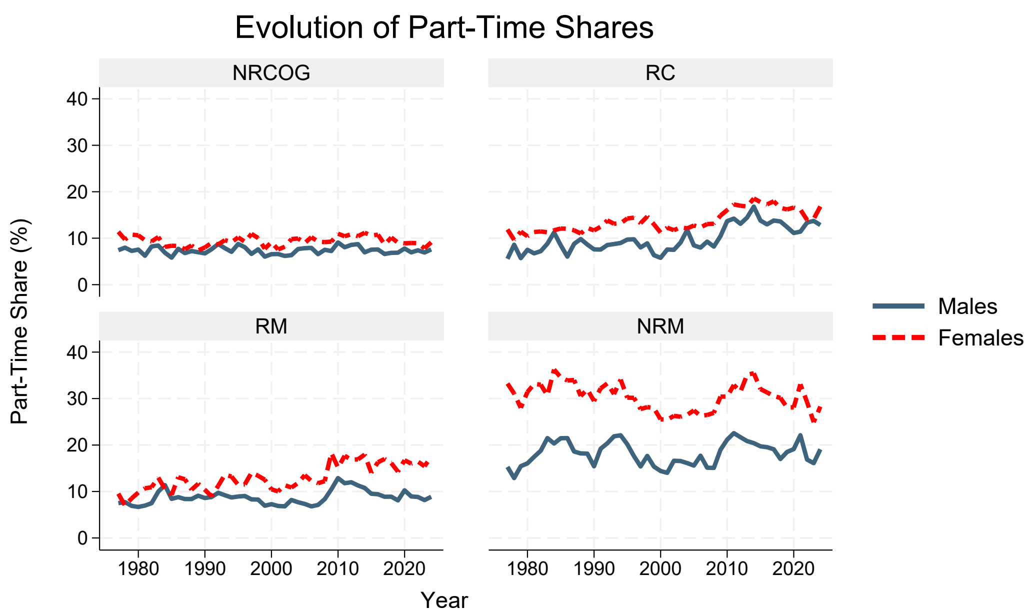
for $q \geq 2015$Q1. These deviations (in percentage points) show how post-pandemic flows from part-time employment compare to the extrapolated pre-pandemic trend.



Quarterly Transitions: Employment Part-time to Full-time/Part-Time
Rates (%)
70
60
50
40
30
Women: part-time → Full-Time
Women: Part-Time → Part-time
1995q1
2000q1
2005q1
2010q1
2015q1
2020q1
2025q1

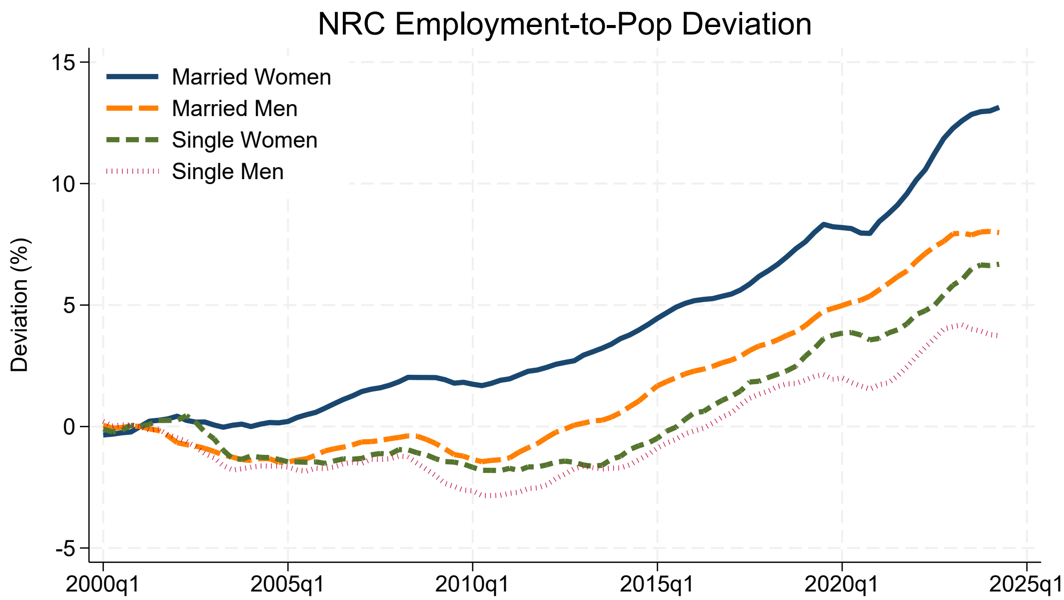


A. Married

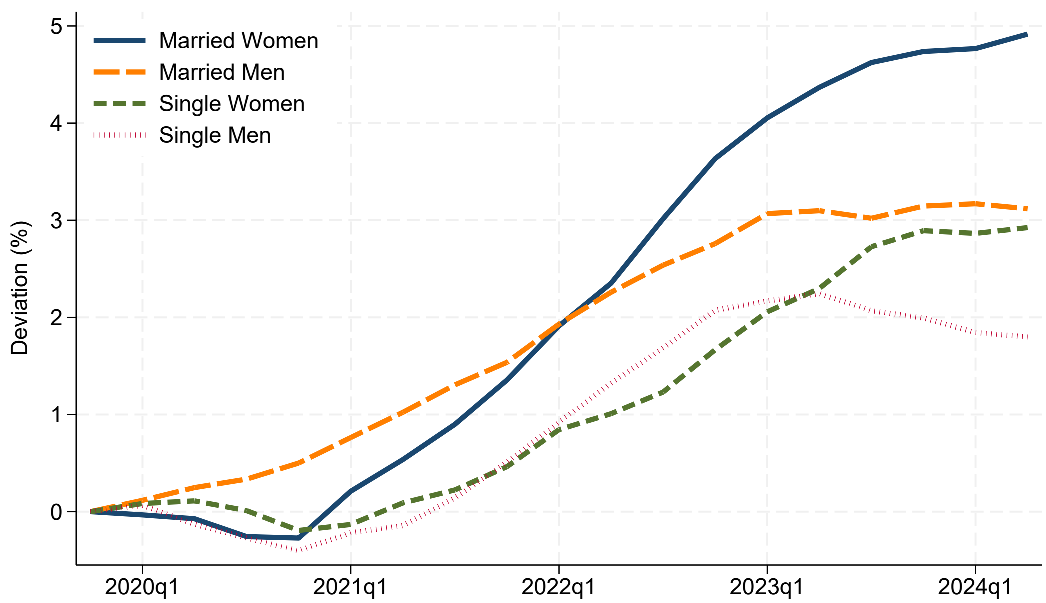


B. Single

FIGURE A2



A. Deviations from 2001



B. Deviations from 2019

FIGURE A3

C.2. Fact 2: The increase in married men's home-production.

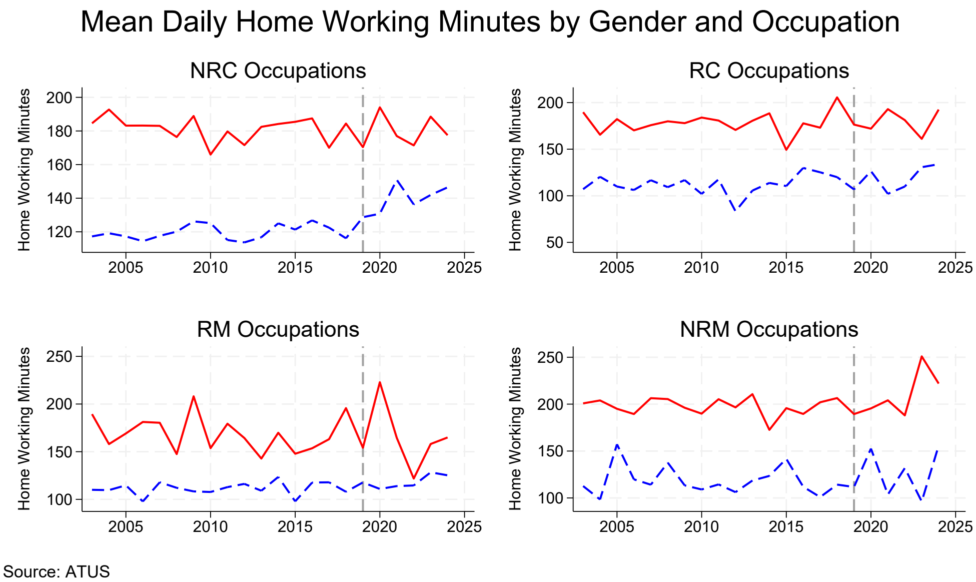


FIGURE A4. Mean daily minutes spent on home production by gender and occupation. Each panel compares married men (dashed blue) and married women (solid red). The vertical dashed line marks the onset of the pandemic. A sharp post-pandemic increase is evident for men in highly-remotable NRC occupations (top-left panel), while trends remain stable in other groups. Women's home-production time shows no significant change across occupations.

Figure A4 plots the evolution of time allocated to home production (childcare and household services) versus market work for employed married men (top panel) and married women (bottom panel). Specifically, the panels display the average daily time spent on home production (dashed orange line) alongside time devoted to market activities (solid blue line), both expressed as deviations from their 2003 values, normalized to one. Two patterns stand out. First, married men experienced an unprecedented rise in home production time beginning immediately after the pandemic recession (black vertical line), accompanied by a slight decline in time allocated to market activities during the post-pandemic period. Second, married women's time spent on home production remained remarkably stable throughout the sample. Despite the previously documented increase in married women's labor force participation, there is no clear evidence of a substantial change in their market work hours. The series appears too volatile to support a strong conclusion on this margin.

C.3. Fact 3: The gendered compression of the wage distribution

Appendix D. Model

D.1. A Tractable Model of Couple's Labor Supply

To interpret the novel patterns documented above, I develop a simple framework for household labor supply that serves as an analytical laboratory. The model clarifies how major post-pandemic shocks: (i) job flexibility improvements (spread of teleworking), (ii) a negative wealth shock (2021-23 inflation surge), and (iii) a tightening labor market contribute to the increase in married women's labor supply. This highlights the need to identify the role of remote working, isolating it from the other channels. Second, it rationalizes how increases in job temporal flexibility can rise men's home production (Fact 4). Finally, it highlights how improvements in job flexibility can also bring a hidden costs: increased household and gender inequality (Fact 5).

The model extends and adapts the household labor supply framework in Olivetti, Pan, and Petrongolo (2024). Households, composed of two opposite-sex spouses, maximize utility from commodities (goods and services) which represent the family's well-being. Three inputs contribute to the production of these commodities: (1) *market goods,* (2) *home production,* and (3) *job amenities*. Couples pool their income to purchase *market goods* which are combined with family members' unpaid house work (*home production*) to obtain final commodities. *Job Amenities* are nonwage job characteristics that measure the degree to which working partners can work from home. Job amenities serve a dual role. On the one hand, they directly enhance household utility. On the other hand, they act as a time-saving technology, reducing the effective cost of combining market work with domestic responsibilities. [18]

I assume each spouse has a $T^i = 1$ time endowment, where $i \in \{f, m\}$ indicates the female and male partners, respectively. The husband has a fixed labor supply of $\bar{h}^m$ market hours, which implies spending $1 - \bar{h}^m$ hours in home production. [19] The wife's labor supply h^f is jointly chosen by the couple. She allocates the remaining time $1 - h^f$ to home production.

Given the assumption of symmetrically pooled income, the household budget constraint is: $C = w_m \bar{h}_m + w_f h_f + \bar{y}$, where $\bar{y}$ is a fixed non-labor earnings component. Job

[18]For example, remote work eliminates commuting time, while easing the trade-off between preparing dinner and finishing work tasks.

[19]This is not an unrealistic assumption. In most American families, indeed, husbands are full-time in market work regardless of wives' labor market status.

amenities are $A = a_f^{x^f} a_m^{x^m}$, where $a_f, a_m \geq 1$ represent the level of the amenity for working spouses. x_f, x_m denote the spouse-specific taste for the job amenity. I assume $x_f > x_m$. This modelling choice reflects the idea that women are more likely to bear a higher share of household and caregiving responsibilities. [20]

Wages. Wages are exogenous. An individual's wage can be expressed as:

$$w^i = z \cdot \theta^i \cdot \frac{1}{\delta^i},$$

where z is the worker's marginal product of labor, assumed to be equal across spouses, and $\theta^i \in (0, 1]$ is the flexibility markdown. The parameter $\delta^i \geq 1$ is an additional discrimination wedge. For men, $\delta^m = 1$; for women, $\delta^f > 1$, implying an extra markdown beyond the amenity channel, which represents statistical, taste-based, or monopsonistic discrimination.

The flexibility markdown is defined as:

$$\theta^i = \frac{1}{x^i a_i},$$

where a_i denotes the level of job amenity (e.g., temporal flexibility) and x^i reflects the individual's willingness to pay (WTP) for the job amenity. A higher x^i means the worker values flexibility more and is willing to accept a lower wage in exchange for it. Because the wife has a stronger taste for flexibility ($x^f > x^m$), her markdown is larger. With the additional discrimination wedge, female wages are lower than male wages even after controlling for the amenity channel:

$$w_m = \frac{z}{\underbrace{x^m a_m}_{\text{flexibility markdown}}}, \qquad w_f = \frac{z}{\underbrace{x^f a_f}_{\text{flexibility markdown}}} \underbrace{\frac{1}{\delta^f}}_{\text{discrimination wedge}}, \quad \delta^f > 0.$$

Home Production. I define home production as follow:

$$H = Q_f^{\eta} Q_m^{1-\eta},$$

where:

$$Q_f = T^f - \frac{h^f}{a_f}, \qquad Q_m = T^m - \frac{\bar{h}^m}{a_m}.$$

[20]Women have higher willingness to pay/ assign a higher value to the amenity. Here Some paper which shows evidence of this Le Barbanchon, Rathelot, and Roulet (2021)

The inputs of H are Q_f and Q_m, which are the home-production time of female and male members, respectively are weighted by η which $\eta \in (0,1)$ captures gender norms. A higher η implies more weight on the wife's home production. I model a_i as a time-efficiency parameter that decreases the per-hour utility burden of additional work. [21] This modelling choice not only captures commuting time saving but also easier coordination between market work and private commitments brought by the possibility of working from home. In this setting, with a fixed husband's labor supply, a higher amenity automatically increases the man's time spent on home production.

For simplicity, I adopt a logarithmic version of the household utility function:

$$\text{(A1)}\quad U = \log(C) + \eta \log\left(1 - \frac{h_f}{a_f}\right) + (1-\eta)\log\left(1 - \frac{\bar{h}_m}{a_m}\right) + x_f \log(a_f) + x_m \log(a_m) - \mathbb{1}\{h_f > 0\}\,\omega$$

Here, the last term $-\mathbb{1}\{h_f > 0\}\,\omega$ represents wife's participation cost. Whenever the wife is employed, i.e. $h^f > 0$, the indicator function $\mathbb{1}$ equals one. So the household incurs the fixed cost ω only when she participates in the labor market. This cost captures time and pecuniary barriers to wives's participation. [22]

D.2. Post-pandemic Shocks and the rise in Wife Labor Supply.

Facts (1-3) document a post-pandemic increase in the labor supply of married women,both at the extensive margin (participation) and the intensive margin (hours worked). This boost, which followed a long-standing stagnation in female labor force participation, occurred during a period marked by three major macroeconomic shifts: *the spread of teleworking*, (2) *inflation-driven wealth shock*, and (3) *a tight labor market*. Below, I show how each of these shifts affects the wife's labor supply.

Extensive Margin. The wife faces two discrete choices:

$$h^f \in \{0, \bar{h}^f\}.$$

[21] This modeling mechanism aligns with survey evidence in Aksoy et al. (2023), which shows that a significant portion of the time saved from commuting due to working from home is devoted to additional work.

[22] Following Cogan (1980), I include a fixed cost for women's participation in the labor force. As discussed in Keane (2011), this introduces a threshold that enhances the model's ability to match the distribution of women's working hours. Many women do not participate at all, while a substantial number work only a few hours. However, very few women work extremely low hours.

where $h^f = 0$ indicates wife's full specialization in home production, and $\bar{h}^f > 0$ represents employment. Let $\mathbb{U}_0$ denote household utility when the wife does not work ($h_f = 0$):

$$U_0 = \log(w_m\bar{h}_m + \bar{y}) + (1-\eta)\log\left(1 - \frac{\bar{h}_m}{a_m}\right).$$

When she works ($h^f = \bar{h}^f$), utility becomes:

$$U_1 = \log(w_f\bar{h}_f + w_m\bar{h}_m + \bar{y}) + x_f\log(a_f) + \eta\log\left(1 - \frac{\bar{h}_f}{a_f}\right) + (1-\eta)\log\left(1 - \frac{\bar{h}_m}{a_m}\right) - \omega.$$

To capture labor-market tightness, let $p \in (0,1]$ be the probability of finding a job (receiving a job offer). In addition, the wife incurs an activation (search) cost $\kappa \geq 0$ when she decides to be active. Note that the participation cost ω is paid only if she works.

The expected utility from being active is:

$$\mathbb{U}_1 = (1-p)U_0 + pU_1 - \kappa,$$

let $\mathbb{U}_0 = U_0$ denote the houshehold's utility when the wife is out of the labor force. Therefore, she participates iff $\mathbb{U}_1 \geq \mathbb{U}_0$, that is:

$$p\,(U_1 - U_0) \;\geq\; \kappa.$$

Hence, the participation condition becomes:

(A2)

$$\underbrace{\log\left(1 + \frac{w_f\bar{h}_f}{w_m\bar{h}_m + \bar{y}}\right)}_{\text{Income gain}} + \underbrace{x_f\log(a_f)}_{\text{Amenity benefit}} + \underbrace{\eta\log\left(1 - \frac{\bar{h}_f}{a_f}\right)}_{\text{Home-production loss}} \geq \underbrace{\omega}_{\text{cost if employed}} + \underbrace{\frac{\kappa}{p}}_{\text{search cost}}.$$

The above inequality highlights three drivers of wife participation: (1) an *income gain* which expands the household budget set through the wife's labor earnings; (2) an *amenity benefit* resulting from the possibility to enjoy job temporal flexibility, and a *home-production loss* which represents the foregone utility from wife's reduced home time. [23] Participation occurs if the benefit from 1-3 exceeds the entry cost ω. The post-pandemic shocks operate through these terms. Greater job temporal flexibility (remote working spread) raises a_f, which boosts the amenity value and lowers the home-time loss. A negative wealth shock (2021-23 inflation surge) reduces $\bar{y}$, increasing the marginal utility of income, incentivizing

[23] It represents the opportunity cost of working in terms of the foregone utility from home production. This home production loss decreases with the job amenity level of the female spouse but increases with the degree of gender norms.

wife participation to stabilize household consumption. Finally, a tight labor market reduces search costs, facilitating participation.

To formalize these effects, we define the wife's reservation wage w_r as the minimum w_f such that $\mathbb{U}_1 = \mathbb{U}_0$:

$$\log\left(1 + \frac{w_r^f \bar{h}^f}{w_m \bar{h}_m + \bar{y}}\right) + x_f \log a_f + \eta \log\left(1 - \frac{\bar{h}^f}{a_f}\right) = \omega + \frac{\kappa}{p},$$

which gives:

$$w_r^f = \frac{w_m \bar{h}_m + \bar{y}}{\bar{h}_f}\left[\exp\left(\omega + \frac{\kappa}{p} - x_f \log a_f - \eta \log\left(1 - \frac{\bar{h}_f}{a_f}\right)\right) - 1\right].$$

Differentiating w_r^f yields:

$$\frac{\partial w_r^f}{\partial a_f} < 0, \qquad \frac{\partial w_r^f}{\partial \bar{y}} > 0, \qquad \frac{\partial w_r^f}{\partial \omega} > 0, \qquad \frac{\partial w_r^f}{\partial p} < 0, \qquad \frac{\partial w_r^f}{\partial \kappa} > 0.$$

Higher job amenities, such as the rise of teleworking, reduce the reservation wage, which in turn encourages greater participation in the labor force. A decrease in nonlabor income, due , for example, to the 2021-2023 inflation surge, increases can stimulate wife's participation to help stabilize the household's income. [24] Additionally, a higher probability of receiving job offers, indicative of tight labor markets, further motivates individuals to enter the workforce. Conversely, higher search costs can have the opposite effect, discouraging labor force participation.
[25]

Intensive Margin. Conditional on having a participating wife, we can derive the household's optimal choice of the woman market hours by maximizing utility with respect to h^f. This leads to a first-order condition that links job amenities and household preferences to hours supplied. Recalling the household utility function in Eq. (A1), the household solves:

[24] This mechanism resembles the added-worker effect (AWE), which has been widely described and documented in the literature (Lundberg 1985; Mankart and Oikonomou 2016, 2017; Casella 2022). However, unlike the AWE mechanisms that involve secondary earners participating in response to a spouse's unemployment or increased unemployment risk, this situation is a response to negative wealth and income shocks caused by high inflation, which erodes the real value of households' assets and their returns.

[25] **Notes/assumptions.** *Domain/feasibility:* $z > 0$, $x_i \geq 0$, $a_i \geq 1$, $p \in (0, 1]$, and $\omega, \kappa \geq 0$. Require $w_m \bar{h}_m + \bar{y} > 0$ and $\bar{h}_f < a_f$, $\bar{h}_m < a_m$ so that $\log(1 - \bar{h}_i / a_i)$ is well-defined.*Reservation wage and nonnegativity:* For the discrete choice $\bar{h}_f < a_f$,

$$w_r^f = \frac{w_m \bar{h}_m + \bar{y}}{\bar{h}_f}\left[\exp\left(\omega + \frac{\kappa}{p} - x_f \log a_f - \eta \log\left(1 - \frac{\bar{h}_f}{a_f}\right)\right) - 1\right],$$

and in estimation impose $w_r^f \geq 0$, i.e. truncate at zero if the bracketed term is negative.

$$\max_{h_f \in [0,1]} \log\left(w_f h_f + w_m \bar{h}_m + \bar{y}\right) + \eta \log\left(1 - \frac{h_f}{a_f}\right) + (1-\eta) \log\left(1 - \frac{\bar{h}_m}{a_m}\right) + x_f \log(a_f) + x_m \log(a_m),$$

The first-order condition is:

$$\frac{\partial U}{\partial h_f} = \frac{w_f}{w_f h_f + w_m \bar{h}_m + \bar{y}} = \frac{\eta}{a_f - h_f}$$

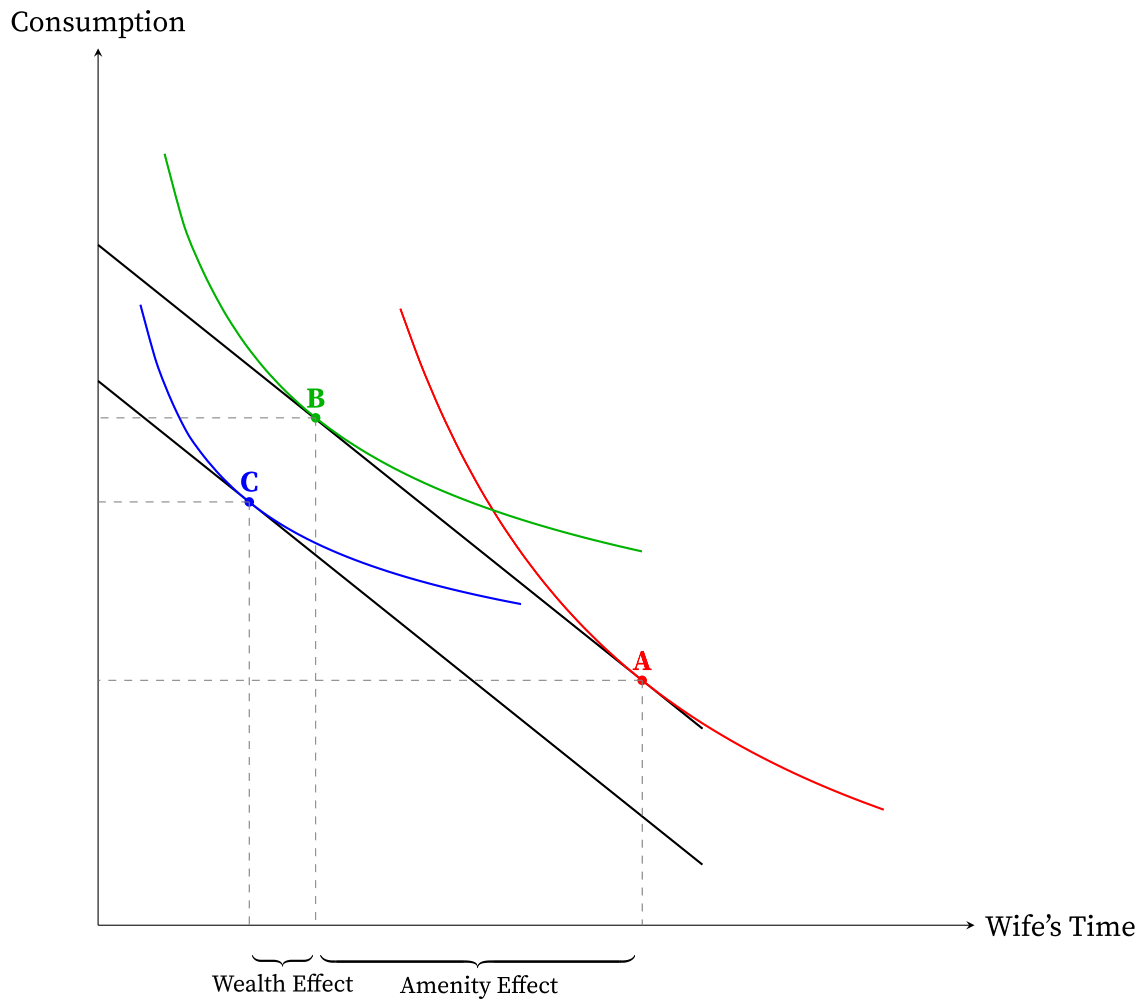
Rearranging the FOC above and and solving for h^f yields [26]:

$$h^{f*} = \frac{w_f a_f - \eta(w_m \bar{h}_m + \bar{y})}{w_f(1+\eta)}.$$

Now, we can use the optimality condition above to interpret how post-pandemic forces affects the wife's labor supply at the intensive margin. Differentiating h^{f*} shows that an increase in job amenities (a_f) raises optimal hours ($\frac{\partial h_f^*}{\partial a_f} > 0$). This captures the impact of the widespread adoption of remote work, which made market hours less costly and more compatible with home production.

Similarly, a negative income shock, such as that induced by the inflation surge of 2021–2023, lowers non-labor income ($\bar{y}$), which also increases h^{f*} ($\frac{\partial h_f^*}{\partial \bar{y}} < 0$). This effect is consistent with evidence in Cantore et al. (2022); Graves, Huckfeldt, and Swanson (2023), which shows that individuals' labor supply increases to smooth consumption in response to negative income effects induced by monetary tightening. This channel is amplified for women in flexible jobs, where high a_f further reduces the time cost of market work.

[26] If $w^f > w_r^f$ the household's maximization problem presents an interior solution. Otherwise, the wife does not participate.



⟶ Hours of Nonmarket Time
⟵ Hours of Market Time

FIGURE A5. Labor Supply Responses to Job Flexibility and Wealth. Point A: baseline. Point B: more flexible job. Point C: wealth shock. Wealth shocks shift the budget line in parallel, not by rotation.

Figure A5 graphically describes the wife's optimal allocation in response to (1) a job flexibility improvement and (2) a negative wealth shock. I assume that husband's labor earnings and gender norms to remain fixed.

(1) An increase in job amenities (a_f) flattens the indifference curve between consumption and the wife's market hours, raising her optimal labor supply. [27] Graphically, this corresponds to moving from the red indifference curve (low flexibility) to the green one

[27] From the household utility function, the slope of an indifference curve in (C, h_f) space is given by the

(high flexibility), shifting the optimum from point A to point B and increasing the wife's market hours.

(2) A negative wealth shock (a decrease in $\bar{y}$) increases the wife's market hours by reducing the household's non-labor income.

From the optimal hours condition:

$$h_f^* = \frac{w_f a_f - \eta(w_m \bar{h}_m + \bar{y})}{w_f(1+\eta)}.$$

Differentiating with respect to $\bar{y}$:

$$\frac{\partial h_f^*}{\partial \bar{y}} = -\frac{\eta}{w_f(1+\eta)} < 0.$$

Thus, a decrease in non-labor income $\bar{y}$ (a negative wealth shock) raises the wife's optimal market hours. In Figure A5, the shock shifts the budget constraint downward, moving the optimum from point B to point C.

D.3. Post-pandemic Shocks and Household Earnings

In this simplified model, increases in job amenities raise female participation probabilities (extensive margin) and, under interior solutions, increase hours; however, because wages feature a flexibility markdown and a discrimination wedge, the impact on married female labor earnings is not mechanically proportional to a_f at the intensive margin.

D.3.1. The Wife's Flexibility Trap and the Role of Gender Norms

To understand how job temporal flexibility interacts with gender norms and preferences to shape earnings inequality, we define the gender wage ratio as follows:

$$\frac{w_f}{w_m} = \frac{x^m a_m}{x^f a_f \delta^f}.$$

An increase in female job flexibility a_f narrows the wage gap. However, when the wife has a substantially higher willingness to pay for temporal flexibility ($x^f \gg x^m$), the markdown effect dominates, widening the wage gap. Now, we can combine the spouses' earning ratio with the wife's optimal working hours to define the following:

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marginal rate of substitution: $MRS_{h_f,C} = -\frac{\partial U/\partial h_f}{\partial U/\partial C} = -\frac{\eta/(a_f-h_f)}{1/C} = -\eta\frac{C}{a_f-h_f}$.

Differentiating with respect to a_f: $\frac{\partial|MRS|}{\partial a_f} = -\eta\frac{C}{(a_f-h_f)^2} < 0$.

Thus, a higher amenity level a_f decreases the absolute slope of the indifference curve, making it flatter. As already discussed, job flexibility reduces the effective time cost of market work, making additional market hours less costly in terms of home production.

$$\frac{w_f h_f^*}{w_m \bar{h}_m} = \frac{\frac{x^m a_m}{x^f \delta^f} - \eta\left(\bar{h}_m + \frac{\bar{y}}{w_m}\right)}{(1+\eta)\,\bar{h}_m}.$$

This expression shows that the earnings ratio increases with a_f only if the amenity effect (a_f) dominates the negative term driven by gender norms and relative willingness to pay. With $\eta = 0$, the term capturing the home production burden disappears, so greater flexibility strictly improves the wife's hours and earnings. When $\eta > 0$, high gender norms amplify the opportunity cost of market work. Even if a_f increases, women may remain specialized in home production. Moreover, because of wife higher willingness to pay for the amenity $x^f > x^m$, and because of gender discrimination δ^i women face higher wage markdown. Thus, even as flexibility expands participation and hours, a high willingness to pay for flexibility ($x^f > x^m$) can, ceteris paribus, sustain or widen within-couple earnings gaps. This mechanism highlights the possibility for women to fall into what I named *wife flexibility trap*. Although benefiting from higher participation, Wives can experience an increase in "dual-burden". Furthermore, a widening earnings gap may contribute to sustaining gender specialization within the household.

Agents derive utility from home production and disutility from market hours, which can be mitigated by the amenity. Each spouse has a time endowment $T^i = Q^i_t + h^i_t$ with $i \in \{m, f\}$, where Q^i is home-production/leisure time and h^i is market hours. Working in jobs with higher amenities reduces the effective time cost of market work. This captures time savings and improved alignment between market hours and household responsibilities implied by teleworking. The joint labor market status of the spouses determines the composition and the amount of total resources.

Appendix E. Bellman Equations Expanded

Consider the state in which the husband is unemployed and the wife is out of the labor force, $(S_m, S_f) = (U, O)$. The logarithmic version of the flow utility becomes:

$$u_{UO}(x_m, x_f) = \log\left(c_{UO}\right) + \eta \log\left(Q^O_f\right) + (1-\eta)\log\left(Q^U_m\right),$$

where

$$c_{UO} = y + b_m, \qquad Q^U_m = 1 - \kappa_g(x_m), \qquad Q^O_f = 1.$$

Let p^O_f be the wife's job-offer probability when out of the labor force, p^U_m the husband's job-offer probability when unemployed, and ζ the probability that a given offer comes with the amenity (teleworking) option. The value function can be written as

$$\begin{aligned} \mathcal{V}_{UO}(x_m, x_f) = u_{UO}(x_m, x_f) + \beta \Big[& (1-p^O_f)(1-p^U_m)\, W^{00}_{UO}(x'_m, x'_f) \\ & + p^O_f (1-p^U_m)\, W^{10}_{UO}(x'_m, x'_f) + (1-p^O_f)\, p^U_m\, W^{01}_{UO}(x'_m, x'_f) \\ & + p^O_f\, p^U_m\, W^{11}_{UO}(x'_m, x'_f) \Big], \end{aligned}$$

where x'_m, x'_f are next-period amenity draws and each $W^{\cdot}_{UO}$ is an envelope over the relevant set of future household states.

The envelope terms summarize the elementwise maxima over all feasible next-period value functions given the combination of job-offer and amenity shocks. For example:

$$\begin{aligned} W^{10}_{UO}(x'_m, x'_f) = (1-\zeta)\, & \max\{\mathcal{V}_{UO}, \mathcal{V}^{PT}_{UE} - \Omega^{PT}, \mathcal{V}^{FT}_{UE} - \Omega^{FT}, \mathcal{V}_{UU} - \Omega\} \\ & + \zeta \max\{\mathcal{V}_{UO}, \mathcal{V}^{PT}_{UE,a} - \Omega^{PT}, \mathcal{V}^{FT}_{UE,a} - \Omega^{FT}, \mathcal{V}_{UU} - \Omega\}, \end{aligned}$$

where superscripts PT, FT refer to the wife's hours choice, the subscript a indicates acceptance of the amenity (teleworking) option. Women entering the labor force incur a fixed cost that varies based on their labor market status. Therefore, $\Omega, \Omega^{PT}, \Omega^{FT}$ represent state-specific participation costs for women associated with unemployment, part-time, and full-time employment, respectively. Similarly,

$$W_{UO}^{00}(x_m', x_f') = \max\left\{\mathcal{V}_{UO}(x_m', x_f'),\ \mathcal{V}_{UU}(x_m', x_f') - \Omega\right\},$$

For the case in which the husband receives a job offer but the wife does not, the relevant envelope is

$$\begin{aligned} W_{UO}^{01}(x_m', x_f') = (1-\zeta)\ &\max\left\{\mathcal{V}_{UO},\ \mathcal{V}_{EU},\ \mathcal{V}_{EO},\ \mathcal{V}_{UU} - \Omega\right\} \\ &+ \zeta \max\left\{\mathcal{V}_{UO},\ \mathcal{V}_{EaU},\ \mathcal{V}_{EaO},\ \mathcal{V}_{UU} - \Omega\right\}. \end{aligned}$$

Finally, when both spouses receive job offers, the envelope W_{UO}^{11} must combine all feasible next-period value functions from both sides, with and without the amenity option:

$$\begin{aligned} W_{UO}^{11}(x_m', x_f') = (1-\zeta)\zeta \max&\left\{\mathcal{V}_{UO}, \mathcal{V}_{EU}, \mathcal{V}_{EO}, \mathcal{V}_{UEa}^{PT} - \Omega^{PT}, \mathcal{V}_{UEa}^{FT} - \Omega^{FT}, \mathcal{V}_{EaU}, \mathcal{V}_{EaO}, \mathcal{V}_{EE}^{PT} - \Omega^{PT}, \mathcal{V}_{EE}^{FT} - \Omega^{FT}\right\} \\ &+ \zeta(1-\zeta)\ \max\left\{\mathcal{V}_{UO},\ \mathcal{V}_{EUa},\ \mathcal{V}_{EOa},\ \mathcal{V}_{UE}^{PT} - \Omega^{PT},\ \mathcal{V}_{UE}^{FT} - \Omega^{FT},\ \mathcal{V}_{EEa}^{PT} - \Omega^{PT},\ \mathcal{V}_{EEa}^{FT} - \Omega^{FT}\right\} \\ &+ \zeta^2\ \max\left\{\mathcal{V}_{UO},\ \mathcal{V}_{EUa},\ \mathcal{V}_{EOa},\ \mathcal{V}_{UEa}^{PT} - \Omega^{PT},\ \mathcal{V}_{UEa}^{FT} - \Omega^{FT},\ \mathcal{V}_{EEa}^{PT} - \Omega^{PT},\ \mathcal{V}_{EEa}^{FT} - \Omega^{FT}\right\} \\ &+ (1-\zeta)^2\ \max\left\{\mathcal{V}_{UO},\ \mathcal{V}_{EU},\ \mathcal{V}_{EO},\ \mathcal{V}_{UE}^{PT} - \Omega^{PT},\ \mathcal{V}_{UE}^{FT} - \Omega^{FT},\ \mathcal{V}_{EE}^{PT} - \Omega^{PT},\ \mathcal{V}_{EE}^{FT} - \Omega^{FT}\right\}. \end{aligned}$$

In this way, each household value function $\mathcal{V}_{s_m s_f}(x_m, x_f)$ combines (i) a state-dependent flow utility given current employment statuses, hours, wages, and amenities, and (ii) an expected continuation value obtained as the envelope over all feasible transitions induced by offer and amenity shocks. The remaining value functions are defined analogously in the appendix.