Understanding Women: the Preference for the Skilled Non-Market Services Sector

Fernando Sánchez-Losada
University of Barcelona
Cynthia Carolina Armas Romero
carmas21bsc@gmail.com

University of Barcelona

Article

Keywords: Structural transformation, comparative advantage, empowerment, skilled labor force

Posted Date: August 5th, 2026

DOI: https://doi.org/10.21203/rs.3.rs-9581026/v1

Additional Declarations: No competing interests reported.

Understanding Women: the Preference for the Skilled Non-Market Services Sector

No Author Given

No Institute Given

Abstract

It is a known fact that skilled female participation in labor markets has increased over time but skilled men share is still higher than skilled women share in all economic sectors, except in the Skilled Non-Market Services sector. Why do skilled women end up working mostly in this sector during structural transformation? Our main hypothesis is that specific characteristics of this sector match empowered women's preferences and, then, this phenomenon is explained. Using data from the U.S. Labor Input File and the U.S. ASEC supplement to the CPS we identify three relevant characteristics of this sector: a small gender wage gap, low number of hours to work with a relatively high compensation, and better demographic indicators. A theoretical model that focuses on the preferences of an empowered woman is built. The first relevant characteristic of this sector matches the fact that as gender wage gap increases the fraction of her wage mass devoted to satisfy family consumption decreases in the theoretical model. The largest weight of "own" leisure and family consumption on utility matches the second relevant characteristic. The third characteristic matches the fact that in order for the fraction of her wage mass devoted to satisfy family consumption to increase, she has to work more hours and, then, she faces a high cost: a lower number of children. Then, the trade-off between marriage, having children and participating in the labor market is more favorable for those women in the Skilled Non-Market Services sector since it offers them lower hours to work and a relatively high compensation per hour worked. In order to support these findings a microdata approach is developed. Using data from U.S. ASEC supplement to the CPS the probability to end up working in the Skilled Non-Market Services sector is estimated. Other relevant characteristics that strength skilled women's preferences towards this sector are identified, i.e. a long run stability and job flexibility. Then, skilled women find a balanced trade-off between family and working life in this sector.

JEL classification: E24, J13, J21, J22.

Keywords: Structural transformation, comparative advantage, empowerment, skilled labor force.

1 Introduction

The gender composition of labor markets has changed over time. In the U.S., women constituted 35.86% and men 64.14% of the total labor force in 1970, while in 2010 this number increased for women to 47.33% and decreased for men to 52.67%[1]. Additionally, human capital investment has increased over time due to an increase in the college premium; see Acemoglu (1998). As a consequence, more women have acquired tertiary education and decided to participate in the labor market. In the U.S., 10.44% of the female workers had completed tertiary education in 1970 while in 2010 this number increased to 33.80%. This increase in skilled female participation has come together with a smaller gender wage gap. In 1970, skilled men had on average an hourly compensation 1.65 times higher than skilled women while in 2010 this number decreased to 1.30 in the U.S. In spite of the rise in skilled female workforce and the decrease of the skilled gender wage gap, the gender composition within economic sectors has not reversed yet. Skilled men share is still higher than skilled women share in all economic sectors, except in the Skilled Non-Market Services sector —education, health, public administration, and defense—[2]. Hence, it is essential to understand how skilled women are allocated among sectors during structural transformation and why they end up working mostly in the Skilled Non-Market Services sector. In order to do this we identify important factors that explain this phenomenon.

First, structural transformation has been accompanied by both an increase in skilled labor supply and an increase in the college premium of skilled versus unskilled workers; see Acemoglu (1998, 2002). This path of structural transformation has inspired to a vast number of studies that analyze the impact of education on the labor force participation, specially for women; see Guvenen and Rendall (2015), Zhang (2018) and Chiappori et al. (2017). What these studies suggest is that the increase in college premium has motivated women to complete tertiary education and participate in the labor market since the opportunity cost of not going to the university —and staying at home—became very high. In point of fact the Skilled Non-Market Services sector not only shows the highest increase in labor participation of skilled women —the number of skilled women in the Skilled Non-Market Services sector represented 39.94% of total skilled labor force in 1970 while in 2010 it was 61.82% —but also shows the lowest and decreasing skilled gender wage gap: in 1970 a skilled man earned on average 1.17 times more than a skilled woman in this sector in the U.S. while in 2010 this number decreased to 1.13. This important fact certainly shapes the preference of skilled women to end up working in a sector with less gender inequality and, therefore, it encourages women to choose a career that leads them to end up working in the Skilled Non-Market Services sector.

The second factor is the provision of government services. It has replaced household work and has motivated women to participate in the labor market; see Rogerson (2007) and Cavalcanti and Tavares (2011). What is more

[1] Introduction and Section 2 present evidence on the evolution of labor force using data from the U.S. Labor Input File published by the WORLD KLEMS consortium.

[2] We consider a wider division of the economy within six sectors: Agriculture, Low-Tech Industry, High-Tech Industry, Unskilled Services, Skilled Market Services, and Skilled Non-Market Services; see Armas and Sánchez-Losada (2021) for this classification. As the Agriculture sector has become very small, we make little references to this sector.

important, government is not only a provider of those services but also has become an important employer for women; see Chassamboulli and Gomes (2018). In fact, in 1970, in the U.S. 37.29% of women participating in the labor market was allocated in the Skilled Non-Market Services sector while in 2010 this number increased to 48.72%. Then, the allocation of women in services would be explained by the existence of a government and the services it provides.

Third, the increase in female participation has come together with some demographic issues: the decrease in the number of children and marriages and fecundity rates; see Greenwood et al. (2016), Greenwood et al. (2017) and Goussé et al. (2017). However, in 2010 skilled women had more children on average than in 1971 in the Skilled Non-Market Services sector —from 0.88 in 1971 to 1.10 in 2010—. Also, the percentage of married skilled women increased in this sector —from 58.44% in 1971 to 68.27% in 2010—. We then see increasing demographic indicators for those women that have tertiary education and work in the Skilled Non-Market services sector.

Finally, on the one hand, as we refer to a sector within services, previous findings about the creation of jobs where women have a comparative advantage might explain why skilled women end up working in this sector. Previous literature suggests that differences in skill intensities within sectors have favored women to participate in the labor market. The shift in the demand of physical ("brawn") skills for intellectual ("brain") skills has characterized the structural transformation of economies from industry to services; see Rendall (2013), Olivetti and Petrongolo (2014), Kucera and Tejani (2014), Rendall (2017) and Ngai and Petrongolo (2017). In fact, in 1970 28.75% of the total labor force were women working in services while in 2010 this number rose to 44.03%, in the U.S. Moreover, in 1970 13.37% of the total labor force were women working in the Skilled Non-Market Services while in 2010 this number rose to 23.05%[3], which explains 63.35% of the total increase in services. On the other hand, Armas and Sánchez-Losada (2021) argue that the increase in the supply of skilled labor force and the existence of a directed technical change have induced a skilled-biased structural transformation towards high TFP sectors—High-Tech Industry, Skilled Market Services and Skilled Non-Market Services —. They argue that it is the existence of directed technical change what determines where skilled labor force ends up working. Following this analysis, we argue that technological advances have overcome the comparative advantage in "brawn" tasks for men over women. Then, there are similar opportunities for both a skilled woman and a skilled man to be hired in any sector. In other words, skilled women might end up working in industry during structural transformation and not necessarily in services as well as skilled men might end up working in services and not necessarily in industry. In point of fact, the number of skilled women relative to the number of skilled men has increased over time in all sectors, being the High-Tech Industry sector the one with the highest increase—in 2010 the number of skilled women relative to the number of skilled men was around 5 times higher than in 1970 in this sector—. Additionally, the share of skilled men relative to total skilled labor force is still higher than the share of skilled women in almost all sectors, although it is decreasing over time. The Skilled Non-Market Services sector is the

[3] In 1970 4.06% of the total labor force were women working in the Skilled Market Services and 11.32% in the Unskilled Services. In 2010 these numbers rose to 9.05% and 11.93%, respectively.

only sector where the number of skilled women is higher than the number of skilled men—the number of skilled women in the Skilled Non-Market Services sector represented 39.94% of total skilled labor force in this sector in 1970 while in 2010 it was 61.82%—.

In this paper, we study the allocation of skilled women during structural transformation. We suggest there are forces, different from the "brain" versus "brawn" comparative advantage, that drive their allocation specially in the Skilled Non-Market Services sector. The increase in college premium and the subsequent decrease in skilled gender wage gap, the existence of directed technical change during structural transformation, the huge importance of government as employer of women, and the balanced trade-off between marriage, having children and participating in the labor market are main drivers of the allocation of skilled women during structural transformation, specially in the Skilled Non-Market Services sector. We propose a "new" comparative advantage defined as the opportunity cost of staying working in other sectors different from the analyzed one. We show that a skilled woman has a higher opportunity cost than a skilled man when she stays working in any sector different from the Skilled Non-Market Services sector. In other words, a skilled woman has a comparative advantage over a skilled man in the Skilled Non-Market Services sector since she faces higher losses than him when she works in any other sector. As a consequence, skilled women end up working mainly in the Skilled Non-Market Services sector during structural transformation.

We build a theoretical model that is not based on the "brain" versus "brawn" assumption but focuses on the preferences of an empowered woman[4]. She decides whether to acquire tertiary education or not—and, therefore, where to work—, how much to consume —personal consumption and family consumption—, how many hours to devote to leisure and whether and how many children to have. We find that "own" leisure and family consumption account for the largest weight on our empowered woman utility. We show that as gender wage gap increases the fraction of her wage mass devoted to satisfy family consumption decreases while it increases if she decides to be tertiary educated. We also find that this fraction increases when she works more hours, however, it comes together with a high cost: a lower number of children. As Skilled Non-Market Services sector offers skilled women the smallest gender wage gap, requires the smallest hours to work per, offers a compensation per hour worked as large as the average compensation among sectors, and shows higher demographic indicators for skilled women we conclude that our empowered woman's optimal decisions lead her to work in this sector.

[4] We want to emphasize on the empowerment of women because they have earned different rights over time that allow them to participate in activities that only men were supposed to do before, such as voting and participating in any sector of the labor market. They also have been liberated from the strings of religion that forced them to get married before sex, to stay married even when they faced violence or betrayal at home —no divorce—, and to have their children even when they could not afford them—no abortion—. In this sense, they now have more available tools to make decisions regarding work and family based on their own preferences. They can decide now whether to study or not, where to work, how much to consume, whether to get married, and also, through the power of contraceptives and the pill, whether and how many children to have; see Goldin and Katz (2002), Barham et al. (2009), and Greenwood et al. (2017). Moreover, as women are the ones who can carry a baby biologically, we assume that the family's decision about whether and how many children to have is determined only by them not their husband.

Additionally, we present a microdata approach using data from Current Population Survey where we identify relevant characteristics of the Skilled Non-Market Services sector. These characteristics are work stability in the older ages, job flexibility or less hours worked, a small gender wage gap, and better family indicators. We then confirm women have strong preferences to end up working in this sector. First, we perform a logit estimation of the probability of an individual to end up working in the Skilled Non-Market Services sector. We find that this probability is higher for those with tertiary education. Moreover, it is higher for individuals in the older ages—work stability in the older ages—. Furthermore, it decreases when hours worked increases and increases when the individual has a full-time type of contract—job flexibility or less hours worked —. We find that as income of the individual increases, this probability increases if the individual is a female, while it decreases for males. Finally, we find that it increases as the number of own children increases, for females —better family indicators —. Second, we emphasize the role of tertiary education in the allocation of females in this sector. Then, we estimate the probability of a woman to end up working in the Skilled Non-Market Services sector. We find that this probability is higher for women with tertiary education in every group of age —work stability in the older ages—. It also increases regardless the type of contract when she has tertiary education —job flexibility—. Finally, we find that it increases when she has tertiary education and decides to have babies—better family indicators —. These findings support our claims about strong preferences of skilled women to end up working in the Skilled Non-Market Services sector.

The paper is organized as follows. Section 2 reports historical gender composition of labor markets and defines a "new" comparative advantage. Section 3 reports a theoretical model based on the preferences of an empowered woman and not on the usual "brain" versus "brawn" comparative advantage. The calibration for this model is also included in this section. Section 4 reports a microdata approach that supports our findings about strong preferences of women to end up working in the Skilled Non-Market Services sector. Finally, Section 5 concludes.

2 Skilled Female Labor Participation and Comparative Advantage

Gender composition of labor markets has changed over time. This change has been characterized by the increase in female participation across countries. Previous literature suggests that working women are mainly allocated in services due to their "brain" versus "brawn" comparative advantage. However, we argue that when we consider more economic sectors rather than the three usual —agriculture, industry, and services—it is possible to identify even wider reasons for the labor allocation of skilled women. In this section, we show the evolution of the labor market for skilled women and skilled men considering six economic sectors: Agriculture, Low-Tech Industry, High-Tech Industry, Unskilled Services, Skilled Market Services, and Skilled Non-Market Services.

2.1 Evolution of the Labor Force

In the U.S., women represented the 35.86% of labor force in 1970 while in 2010 this number increased to 47.33%. Additionally, in the U.S., 10.44% of female workers and 14.18% of male workers had completed tertiary education

in 1970 while in 2010 these numbers rose to 33.80% and 31.81%, respectively. When we analyze this evolution considering a wider division of economic sectors rather than the three usual —agriculture, industry, and services—, we can observe remarkable facts. In Figure 1 we plot the evolution of the labor force by gender in the U.S. The top of this figure plots the share of women and the share of men relative to the total labor force in each sector and the bottom of this figure plots the share of skilled labor force by gender relative to the total labor force in each sector.

First, on the one hand, we see in the top of Figure 1 that female workforce has been mainly allocated in services, as previous literature suggests. We see an increase in the female labor share in the Unskilled Services, Skilled Market Services, and Skilled Non-Market Services sectors. In 1970 41.03% of the total labor force in the Unskilled Services sector were women while in 2010 this number increased to 43.46%. In the Skilled Market Services sector this number was 41.63% in 1970 and 46.80% in 2010. While in the Skilled Non-Market Services sector this number was 43.62% in 1970 and 61.28% in 2010.

On the other hand, it is important to note that the share of women in industry remains constant due to the increase in female labor share in the High-Tech Industry and the decrease in the Low-Tech Industry —see Kucera and Tejani (2014) for references about the defeminization experienced in the Low-Tech Industry—. In 1970 23.64% of the total labor force in the Low-Tech Industry were women while in 2010 this number decreased to 19.14%. While in the High-Tech Industry this number was 24.24% in 1970 and increase to 27.94% in 2010.

Second, we see in the bottom of Figure 1 that skilled labor force —female and male —has been allocated mainly in high TFP sectors —High-Tech Industry, Skilled Market Services, and Skilled Non-Market Services—, as shown in Armas and Sánchez-Losada (2021). They argue it is the existence of directed technical change during structural transformation that allows to allocate skilled workers into high TFP sectors and they reveal it is the case for the U.S. We indeed see that in 1970 the share of skilled female share relative to the total labor force was 0.67% in High-Tech Industry, 2.83% in Skilled Market Services and 9.78% in Skilled Non-Market Services while in 2010 these numbers rose to 9.33%, 17.85% and 25.61%, respectively [5].

From Figure 1 we then identify relevant facts for women. First, the increase in college premium has motivated women to complete tertiary education and participate in the labor market. Remarkably, when we consider a wider division of the economy we see that Skilled Non-Market Services sector shows the highest participation of skilled women over time —government is the most important employer of women—. Second, their allocation during structural transformation has happened not only towards services but also towards industry, more specifically, into high TFP sectors—High-Tech Industry, Skilled Market Services, and Skilled Non-Market Services—.

[5] In 1970 the share of skilled male share relative to the total labor force was 9.66% in High-Tech Industry, 15.44% in Skilled Market Services and 14.70% in Skilled Non-Market Services while in 2010 these numbers rose to 27.11%, 26.60% and 15.82%, respectively.

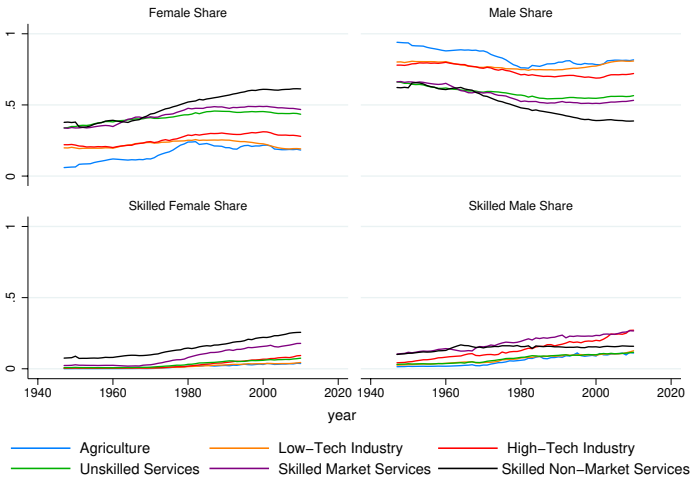


Fig. 1: Evolution of the Labor Force
Source: WORLD KLEMS Database.

Moreover, in Figure 2 we analyze the share of skilled men and skilled women relative to total skilled labor force within sectors. We see that the gap between these shares has reduced over time in all sectors. More importantly, the share of skilled women has become higher than the share of skilled men in the Skilled Non-Market Services sector —it was 39.94% in 1970 while it was 61.82% in 2010—. It is the only sector that shows this phenomenon, although the share of skilled men has decreased over time in all sectors. From this figure we emphasize the role of the Skilled Non-Market Services sector regarding allocation of skilled women during structural transformation but more importantly we highlight the fact that it is the only sector where skilled women outnumber skilled men.

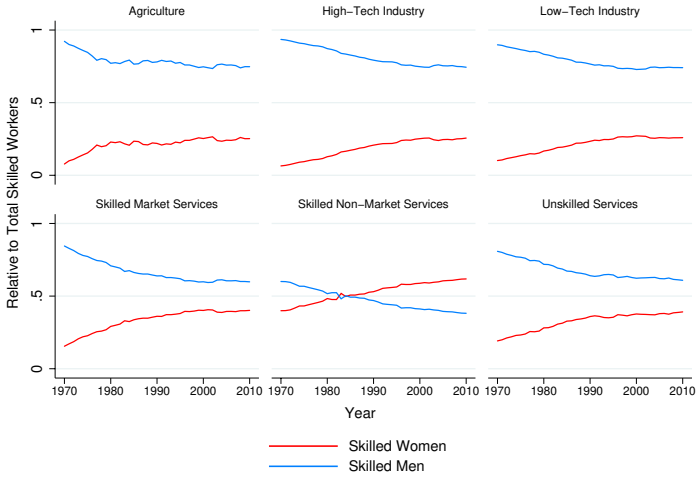


Fig. 2: Share of Skilled Women and Skilled Men relative to Total Skilled Labor Force
Source: WORLD KLEMS Database.

Finally, in Figure 3 we plot the number of skilled women relative to the number of skilled men within sectors (left) and the growth of this ratio (right) in the U.S.[6] In the left we see that this ratio has increased over time in all sectors, not only in services. Moreover, in the right we see that the High-Tech Industry shows the highest growth in this ratio: in 2010 this ratio was around 5 times higher than in 1970 in this sector [7]. In this figure we then identify another relevant fact for women. The ratio of skilled women relative to skilled men within sectors has increased over time in all sectors but the High-Tech Industry shows the highest growth.

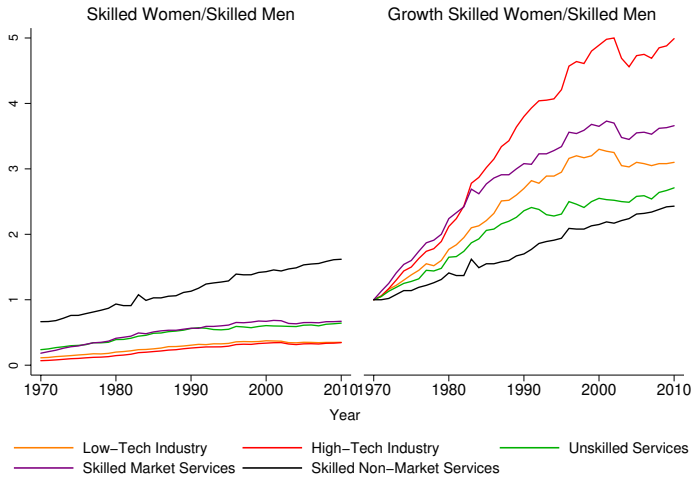


Fig. 3: Ratio of Skilled Women Relative to Skilled Men and Its Growth, Within Sectors
Source: WORLD KLEMS Database.

This evidence suggests that it is not only the "brain" vs "brawn" comparative advantage that determines the allocation of skilled labor force during structural transformation. If it was the case, we would not see the high growth of skilled women participation in the High-Tech Industry. We would not see either that the share of skilled men relative to total skilled labor force is higher than the share of skilled women in services —the share of skilled women relative to total skilled labor force is higher only in the Skilled Non-Market Services sector—. Evidence shows first that government is the most important employer of women. Second, skilled women have been allocated mainly into high TFP sectors —High-Tech Industry, Skilled Market Services, and Skilled Non-Market Services—in line with the findings of Armas and Sánchez-Losada (2021) who argue that it is the existence of directed technical change during structural transformation that determines to allocate skilled workers into high TFP sectors. We next study the behavior of some family indicators as a result of the rise in female participation.

[6] We drop the Agriculture sector in Figure 2 since the share of workers in this sector is almost zero.
[7] The growth in this ratio in the other sectors was 3.66 in the Skilled Market Services sector, 3.10 in the Low-Tech Industry, 2.71 in the Unskilled Services sector, and 2.43 in the Skilled Non-Market Services sector.

2.2 Family Indicators

The increase in female participation has come together with some demographic issues: the decrease in the number of children and marriages and fecundity rates. Using data from the IPUMS-CPS and considering a wider division of the economy we identify differences in these family indicators for unskilled and skilled women among sectors. We drop those observations without information about sex, education, income and type of industry in which the person performed his or her primary occupation. We use the following variables: *"Educational attainment recode"* to categorize individuals into two groups, skilled —with at least a bachelor degree—and unskilled—without tertiary education—; *"Industry, 1990 basis"* to divide the economy into Agriculture, Low-Tech Industry, High-Tech Industry, Unskilled Services, Skilled Market Services and Skilled Non-Market Services[8]; *"Age"* to group individuals into 4 groups —25-34, 35-44, 45-54 and 55-65—; *"Marital status"* to identify those married individuals; and *"Number of own children in household"* in order to compute the average number of children. In Table 1 we present data for women regarding the average number of own children in household and the percentage of marriage among sectors in 1971 and 2010. We group women into skilled and unskilled and categorize them according to the economic sector they work in and their group of age.

We identify differences between unskilled and skilled women. First, unskilled women indeed show a decrease in the number of own children and the percentage of marriage, regardless the economic sector. However, these family indicators behave differently for skilled women according to the economic sector they work in. Specifically, we see that those skilled women in high TFP sectors —High-Tech Industry, Skilled Market Services and Skilled Non-Market Services—have more children in 2010 than in 1971 and the percentage of marriage has also increased. Second, when we control for age, these family indicators for unskilled women behave differently depending on the economic sector they work in and their group of age. While for skilled women we point out a relevant fact. The two family indicators have increased in the Skilled Non-Market Services sector, regardless the group of age. We then argue that the trade-off between marriage, having children and participating in the labor market depends not only in the level of education of women but also in the economic sector they decide to work in. Women, who decide to have a family and work, get tertiary education not only because the cost of not doing so has increased over time but allows them to end up working in a sector such as the Skilled Non-Market Services sector that offers skilled women a more favorable trade-off between family and working life. We next study sector specific working characteristics that help us to enhance the preference of skilled women to end up working in this sector.

[8] We do not make any reference to Agriculture since it has become the sector with the smallest share or workers engaged.

Table 1: Demographic Indicators: Number of Own Children and Percentage of Marriage.

Categories	Number of own children				% of married women			
	Skilled		Unskilled		Skilled		Unskilled	
	1971	2010	1971	2010	1971	2010	1971	2010
By sector								
Low-Tech Industry	1.27	1.03	1.38	1.24	36.36	64.58	70.61	63.60
High-Tech Industry	0.50	1.14	1.32	1.12	50.00	67.47	69.19	58.56
Unskilled Services	0.95	0.99	1.44	1.23	68.42	62.91	73.17	55.48
Skilled Market Services	0.62	1.10	1.22	1.21	48.65	67.59	68.71	62.98
Skilled Non-Market Services	*0.88*	*1.10*	1.46	1.25	*58.44*	*68.27*	70.58	59.75
By group of age								
25-34								
Low-Tech Industry	0.57	0.66	1.83	1.51	28.57	51.56	71.79	54.49
High-Tech Industry	0.50	0.95	1.74	1.42	25.00	56.73	73.37	45.88
Unskilled Services	0.92	0.69	1.87	1.38	75.00	48.57	74.35	43.73
Skilled Market Services	0.31	0.72	1.31	1.44	30.77	56.66	66.85	52.61
Skilled Non-Market Services	*0.54*	*0.82*	1.56	1.55	*57.22*	*58.79*	70.61	47.81
35-44								
Low-Tech Industry	3.50	1.54	2.13	1.76	50.00	71.72	77.23	62.96
High-Tech Industry	0.00	1.43	1.77	1.72	100.00	75.14	69.45	58.62
Unskilled Services	0.90	1.46	2.29	1.69	70.00	70.23	79.52	59.70
Skilled Market Services	0.29	1.58	1.94	1.66	28.57	75.53	77.07	65.21
Skilled Non-Market Services	*1.60*	*1.64*	2.44	1.80	*63.13*	*74.97*	80.37	62.23
45-54								
Low-Tech Industry	3.00	1.14	0.91	0.99	100.00	68.99	72.33	68.53
High-Tech Industry	1.00	1.13	0.88	0.91	100.00	68.91	73.33	61.05
Unskilled Services	1.27	1.16	1.02	1.01	63.64	71.33	73.75	60.87
Skilled Market Services	2.13	1.27	1.01	1.01	75.00	72.40	71.46	67.59
Skilled Non-Market Services	*1.10*	*1.23*	1.27	1.09	*68.39*	*72.32*	73.74	65.01
55-65								
Low-Tech Industry	0.00	0.36	0.30	0.44	-	65.57	55.50	65.23
High-Tech Industry	-	0.66	0.34	0.31	-	61.02	52.38	65.88
Unskilled Services	0.40	0.47	0.30	0.44	60.00	66.98	61.33	60.11
Skilled Market Services	0.00	0.41	0.27	0.37	66.67	62.94	54.78	66.74
Skilled Non-Market Services	*0.18*	*0.43*	0.31	0.40	*41.18*	*65.26*	53.02	61.23

Source: Current Population Survey.

2.3 Hours Worked vs Compensation per Hour

The decrease in hours worked per week and the rise in compensation per hour worked —in constant U.S. dollars—characterize the evolution of industry and services in the U.S. Figure 4 describes this evolution for skilled women and skilled men considering a wider division of the economy[9]. In this figure we see a similar behavior for both skilled men and skilled women in all sectors. Although hours worked per week differed among sectors, compensation per hour worked was very similar for skilled workers in 1970, 1980 and 1990. Since 2000 hours worked per week still differ among sectors but compensation per hour worked now is also different. Specifically, skilled workers earn considerably more than the average compensation per hour worked in the Skilled Market Services and the High-Tech Industry sectors. Regarding skilled women, note that in the Skilled Non-Market Services sector they earn as much as the average compensation per hour worked and work less hours per week.

[9] Horizontal lines in Figure 4 indicate the average compensation for skilled women and skilled men in 1970, 1980, 1990, 2000 and 2010, respectively.

As a consequence, skilled women working in the Skilled Non-Market Services sector have more hours for leisure or to share with family while earning as much as the average compensation per hour worked for skilled women among sectors. This difference surely explains the increase in family indicators for skilled women in this sector.

Fig. 4: Hours Worked per Week vs Compensation per Hour Worked
Source: U.S. Labor Input File - WORLD KLEMS Databases.

The evidence in this figure shows that when we consider a wider division of the economy we can identify deeper reasons that explain the allocation of skilled women in the Skilled Non-Market Services sector. This sector offers them the best trade-off between hours worked per week and compensation per hour worked. They work less hours and earn as much the average compensation per hour worked for skilled women among sectors. It is a key reason for the increase of family indicators discussed previously. Through a low number of hours worked at a relatively high compensation per hour worked, the Skilled Non-Market Services sector allows skilled women to have a balanced working family life, different from the other economic sectors. In order to find another key factor that explains the allocation of skilled women in the Skilled Non-Market Services sector, we next analyze the evolution of gender wage gap.

2.4 Gender Wage Gap

It is a known fact that gender wage gap within skilled labor force has declined over time. However, when we classify the economy in more sectors, we identify some differences. In Figure 5 we plot the skilled gender wage gap by groups of age and consider a wider division on the economy. We see that the skilled gender wage gap is the smallest in the Skilled Non-Market Services sector for every group of age. It is also interesting to note that in younger ages —the two upper graphs—the skilled gender wage gap is the lowest and very similar in high TFP sectors —High-Tech Industry, Skilled Market Services and Skilled Non-Market Services—. It suggests that a young woman might choose a degree that leads her to work in these sectors due to a more "equal" salary relative to a young man. Nonetheless, when we analyze older ages —the two lower graphs—we see that the skilled gender wage gap in the Skilled Non-Market Services sector is distant from the other sectors. It suggests that when a skilled woman considers her later stages of working life she would face a more valuable situation relative to a skilled man when she ends up working in the Skilled Non-Market Services sector.

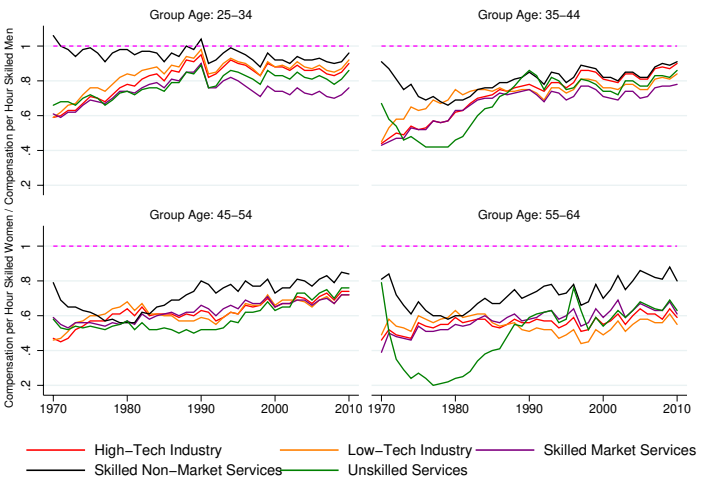


Fig. 5: Compensation per Hour Worked Skilled Women vs Skilled Men by Group of Age
Source: WORLD KLEMS Database.

The evidence given in this figure suggests that gender wage gap is a key driver for women to be allocated into the Skilled Non-Market Services sector during structural transformation. The small gender wage gap experienced in this sector shapes the preferences of women to end up working on it. This small gender wage gap not only motivates young women to choose a career that leads them to end up working in the Skilled Non-Market Services sector but also offers a more valuable situation relative to men when they reach older ages. We then explore an alternative explanation different from the "brain" vs "brawn" comparative advantage as the key assumption to explain the allocation of women towards services. We refer to this alternative as a "new" comparative advantage. It refers to the opportunity cost of staying working a certain amount of hours in one sector instead of another one. Specifically, we argue that a skilled woman has a "new" comparative advantage over a skilled man if her opportunity cost is higher than the opportunity cost of a skilled man.

2.5 Comparative Advantage

Consider w^S as the compensation per hour worked in sector S and L^S as the total hours worked per week in sector S. Assume that industry requires L^I hours to work per week. We then compute the opportunity cost of staying working L^I hours in industry instead of working L^I hours in services. The weekly compensation if a worker decides to work L^I hours per week in industry is $\omega^{I,I} = w^I L^I$ while in services is $\omega^{I,s} = w^s L^I$. Then, the opportunity cost of working in industry instead of services is given by the ratio $\omega^{I,s}/\omega^{I,I}$, i.e., the sector premium[10]. Given the differences in hours worked per week and in compensation per hour worked between women and men, we compute this opportunity cost for both separately and compare the results[11]. We name this comparison as a "new" comparative advantage and argue that a woman has a comparative advantage if her opportunity cost is higher than the opportunity cost of a man. Figures 6 to 8 show the evolution of this "new" comparative advantage for skilled women —red line—over skilled men —blue line—[12]. We expect to see the red line above the blue line in these figures if skilled women have comparative advantage in services. It would imply skilled women have a higher opportunity cost —or higher losses—than skilled men if they decide to work in industry instead of services.

We first analyze this "new" comparative advantage within high TFP sectors—High-Tech Industry, Skilled Market Services and Skilled Non-Market Services—. In Figure 6 we see that the opportunity cost of staying working in the High-Tech Industry instead of moving towards the Skilled Market Services is similar for both skilled men and skilled women. This opportunity cost is even slightly higher for skilled men. It means that if a skilled woman stays working in the High-Tech Industry instead of working the same hours in the Skilled Market Services, she loses slightly less than a skilled man. In other words, skilled men have a small comparative advantage over skilled women in the Skilled Market Services. Note that this opportunity cost is increasing over time and, then, not moving towards this sector has become very costly for both skilled women and skilled men.

[10] If we build it from services to industry we would have the opposite interpretation.
[11] See section 2.3.
[12] We make the same analysis considering also unskilled women and find the same conclusions.

In Figure 7 we plot the opportunity cost of staying working in the High-Tech Industry instead of moving towards the Skilled Non-Market Services. We see that it is clearly higher for skilled women than for skilled men, although it is decreasing over time. It implies that if a skilled woman stays working in the High-Tech Industry instead of working the same hours in the Skilled Non-Market Services, she has higher losses than a skilled man. Then, we argue that skilled women have a comparative advantage over skilled men in the Skilled Non-Market Services sector and, therefore, skilled women make decisions that lead them to end up working in this sector.

Second, we compare this "new" comparative advantage within low TFP sectors—Low-Tech Industry and Unskilled Services—. In Figure 8 we see that the opportunity cost of staying working in the Low-Tech Industry instead of moving towards the Unskilled Services is decreasing over time and it is clearly higher for skilled men before 1990. It means that before 1990 if a skilled woman stayed working in the Low-Tech Industry instead of working the same hours in the Unskilled Services, her losses were lower than those of a skilled man. Therefore, before 1990 skilled men had a comparative advantage over skilled women in the Unskilled Services. However, it changed after 1990. This opportunity cost became slightly higher for skilled women. Then, we argue that the Unskilled Services sector does not show a clear comparative advantage for skilled women or skilled men.

Finally, we make this analysis for a skilled worker moving from a low TFP sector in industry —Low-Tech Industry—to a high TFP sector in services —Skilled Market Services and Skilled Non-Market Services—and we obtain similar results; see Figures 10 and 11 in Appendix A. Skilled women show a similar opportunity cost than skilled men if they move from the Low-Tech Industry towards the Skilled Market Services and it is slightly higher for skilled men. While the opportunity cost of staying working in the Low-Tech Industry instead of moving towards the Skilled Non-Market Services is clearly higher for skilled women. Then, skilled women have a clear comparative advantage over skilled men in the Skilled Non-Market Services sector.

Fig. 6: Opportunity Cost of Skilled Market Services vs High-Tech Industry
Source: WORLD KLEMS Database.

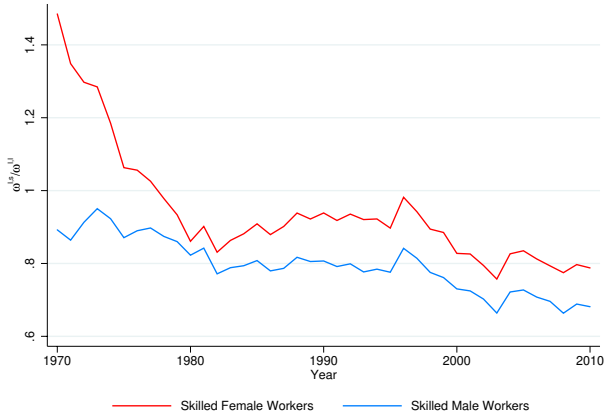


Fig. 7: Opportunity Cost of Skilled Non-Market Services vs High-Tech Industry
Source: WORLD KLEMS Database.

Fig. 8: Opportunity Cost of Unskilled Services vs Low-Tech Industry
Source: WORLD KLEMS Database.

Because of the evidence shown in Section 2, we argue that the "brain" versus "brawn" comparative advantage is not enough to explain the allocation of the skilled female labor force in services. We argue that because of different forces —such as a directed technical change, lower hours worked at a relatively high compensation per hour, a small gender wage gap, better family indicators—a skilled woman has stronger preferences to work in the Skilled Non-Market Services sector. In the next section, we propose a theoretical approach used to explain why a skilled woman is allocated mainly in the Skilled Non-Market Services sector during structural transformation. This model does not assume the usual comparative advantage of gender literature and, instead, focuses on the empowerment of women and their preferences.

3 Model and Calibration

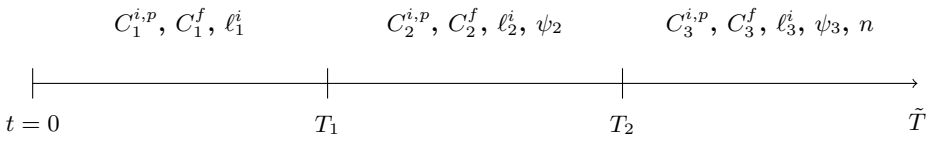
In previous sections we described different factors that might shape the preferences of a skilled woman related to her working and family life. In this section we build a theoretical model that explain why some of these factors

make a skilled woman have strong preferences to work in the Skilled Non-Market Services sector.

Over time, there has existed critical changes—such as the legal use of the pill and divorce laws—that have favored women to truly decide over her body and, therefore, over her desired balance between working and family life. We focus then on the preferences of these empowered women. More precisely, we focus on their decisions about where and how many hours to work, how many hours to share with family, their consumption, and whether and how many children to have. We implicitly assume that if a woman decides to have tertiary education, she chooses a degree that leads her to end up working in the sector she prefers. We also assume that if a woman decides to have tertiary education, she starts with a higher human capital. Moreover, we assume that a woman that does not decide to be tertiary educated in her first period of time cannot get a degree in later periods. In our model we also assume a discount factor of zero and, then, there are no savings in our model. Finally, we do not consider taxes nor transfers from government.

3.1 Decisions of An Empowered Woman

The lifetime period of an empowered woman is divided into three periods of time: from the moment she starts to work ($t = 0$)[13] until the moment she decides to get married ($t = T_1$), from the moment she decides to get married until the moment she decides to have children ($t = T_2$), and from the moment she decides to have children until retirement ($t = \tilde{T}$). Since we assume there are no savings nor taxes in our model, we do not analyze any kind of pension system nor public policies related to it. As a consequence, the lifetime period of our empowered woman —and her family —ends exactly at $t = \tilde{T}$.



In each period of time she makes decisions on consumption and leisure. We assume two different types of consumption: personal and family consumption. We refer to personal consumption ($C_1^{i,p}$, $C_2^{i,p}$ and $C_3^{i,p}$) to the one that satisfies own necessities or personal likes, such as clothes. We refer to family consumption (C_1^f, C_2^f and C_3^f) to the one that satisfies general or common necessities to live, such as housing. She is endowed with one unit of time each period. The share of time she devotes to "own" leisure (ℓ_1^i, ℓ_2^i and ℓ_3^i) does not only depend on the share of hours worked in sector s ($L^{i,s}$) but also on the share of time spent with the other members of the family. Specifically, in the second period of time it also depends on the share of time spent with her husband (ψ_2). In the third period of time it also depends on the time spent with her husband (ψ_3) and the time spent with each child (θ^i). We assume a fixed $L^{i,s}$ in the three periods since it is the sector s who determines the total number of hours to work. The share of time devoted to "own" leisure in each period of time is then given by

[13] Across OECD countries, the average age of first-time entrants to tertiary education was 22 years old in 2018. Moreover, a bachelor's programme allows students to obtain a first degree qualification over three to four years; see OECD (2020). We assume that any individual with tertiary education starts to work ($t = 0$) at the age of 25, on average.

$$\ell_1^i = \left(1 - L^{i,s}\right), \tag{1}$$

$$\ell_2^i = \left(1 - L^{i,s} - \psi_2\right), \tag{2}$$

$$\ell_3^i = \left(1 - L^{i,s} - \psi_3 - \theta^i n\right), \tag{3}$$

where n in equation (3) refers to the number of children in household which is decided only by our empowered woman. She accumulates utility in each period of time as follows:

$$u_1^i = \alpha_1^p ln\left(\int_0^{T_1} C_1^{i,p} dt\right) + \alpha_1^f ln\left(\int_0^{T_1} C_1^f dt\right) + \alpha_1^\ell ln\left(\int_0^{T_1} \ell_1^i dt\right), \tag{4}$$

$$u_2^i = \alpha_2^p ln\left(\int_{T_1}^{T_2} C_2^{i,p} dt\right) + \alpha_2^f ln\left(\int_{T_1}^{T_2} C_2^f dt\right) + \alpha_2^\ell ln\left(\int_{T_1}^{T_2} \ell_2^i dt\right) + \alpha_2^\psi ln\left(\int_{T_1}^{T_2} \psi_2 dt\right), \tag{5}$$

$$u_3^i = \alpha_3^p ln\left(\int_{T_2}^{\tilde{T}} C_3^{i,p} dt\right) + \alpha_3^f ln\left(\int_{T_2}^{\tilde{T}} C_3^f dt\right) + \alpha_3^\ell ln\left(\int_{T_2}^{\tilde{T}} \ell_3^i dt\right) + \alpha_3^\psi ln\left(\int_{T_2}^{\tilde{T}} \psi_3 dt\right) + \alpha_3^n ln\left(\int_{T_2}^{\tilde{T}} t^\phi f(\theta^i, n) dt\right), \tag{6}$$

where the last term of equation (6) refers to the utility our empowered woman gets from the number of children and the share of time she devotes to them[14]. We define

$$f(\theta^i, n) = \left(\theta^i + \theta^j\right)(\bar{n} + n), \tag{7}$$

where θ^j refers to the share of time her husband devotes to children and $\bar{n}$ is defined as in Guner et al. (2019)[15]. $\alpha_t^p > 0$, $\alpha_t^f > 0$, $\alpha_t^\ell > 0$, for $t = 1, 2, 3$, $\alpha_t^\psi > 0$ for $t = 2, 3$, and $\alpha_3^n > 0$ are the preferences' parameters for personal and family consumption, "own" leisure, time with other members of family, and children, respectively. We assume that in each period of time the preferences' parameters for accumulated consumption and accumulated leisure sum up to one and impose $\alpha_3^n > 0$ in order to have a positive utility from the number of children.

She devotes a fraction of time $L^{i,s}$ to work in sector s and gets paid a wage $w^{i,s}$ per efficiency unit of work. She accumulates human capital h^i which does not only captures her education but also her learning by doing at her job. The growth rate of her human capital is high at earlier stages of her working life; however, it declines with age, given by $\int t^\rho dt$, with $0 \leq \rho \leq 1$. Considering that $L^{i,s}h^i$ are the total efficiency units of labor offered, $w^{i,s}L^{i,s}h^i$ is the wage mass of the female. She devotes a fraction ξ_t^i of her wage mass to satisfy personal consumption and a fraction $(1 - \xi_t^i)$ to family consumption, with $0 \leq \xi_t^i \leq 1$. Childcare costs are a part of family consumption in

[14] Similar to Guner et al. (2019) we assume that utility from the number of children is increasing in parents age. However, the growth rate of this utility declines with age, captured by t^ϕ with $0¡\phi < 1$.

[15] It is an exogenously given number of children from which parents get utility, independent of the number of children they have. It is a standard feature of models with fertility, which allows us to pin down the fraction of childless females.

the third period of time. The interest rate of the intertemporal budget constraints is zero[16]. There are no taxes nor transfers from government. Then, accumulated personal consumption, family consumption and leisure, in the first period of time, satisfy

$$\int_0^{T_1} C_1^{i,p} dt = \int_0^{T_1} \xi_1^i w^{i,s} L^{i,s} h^i t^\rho dt, \tag{8}$$

$$\int_0^{T_1} C_1^{i,f} dt = \int_0^{T_1} (1-\xi_1^i) w^{i,s} L^{i,s} h^i t^\rho dt, \tag{9}$$

$$\int_0^{T_1} \ell_1^i dt = \left(1 - L^{i,s}\right) T_1, \tag{10}$$

in the second period of time

$$\int_{T_1}^{T_2} C_2^{i,p} dt = \int_{T_1}^{T_2} \xi_2^i w^{i,s} L^{i,s} h^i t^\rho dt, \tag{11}$$

$$\int_{T_1}^{T_2} C_2^{i,f} dt = \int_{T_1}^{T_2} (1-\xi_2^i) w^{i,s} L^{i,s} h^i t^\rho dt, \tag{12}$$

$$\int_{T_1}^{T_2} \ell_2^i dt = \left(1 - L^{i,s} - \psi_2\right)(T_2 - T_1), \tag{13}$$

$$\int_{T_1}^{T_2} \psi_2 dt = \psi_2 (T_2 - T_1), \tag{14}$$

and in the third period of time

$$\int_{T_2}^{\tilde{T}} C_3^{i,p} dt = \int_{T_2}^{\tilde{T}} \xi_3^i w^{i,s} L^{i,s} h^i t^\rho dt, \tag{15}$$

$$\int_{T_2}^{\tilde{T}} C_3^{i,f} dt = \int_{T_2}^{\tilde{T}} (1-\xi_3^i) w^{i,s} L^{i,s} h^i t^\rho dt, \tag{16}$$

$$\int_{T_2}^{\tilde{T}} \ell_3^i dt = \left(1 - L^{i,s} - \psi_3 - \theta^i n\right)(\tilde{T} - T_2), \tag{17}$$

$$\int_{T_2}^{\tilde{T}} \psi_i dt = \psi_3 (\tilde{T} - T_2). \tag{18}$$

Her husband faces the same decisions about the two types of consumption and leisure along his lifetime cycle, see Appendix B[17]. He is endowed with one unit of time each period. He devotes a fraction of time L^j to work and gets paid a wage w^j per efficiency unit of work. He also accumulates human capital h^j. A skilled man starts with a higher human capital than an unskilled man. He devotes a fraction ξ_t^j of his wage mass to personal consumption and $(1-\xi_t^j)$ to family consumption.

As in the first period of time there is only one member in household, family consumption satisfies

[16] For a positive interest rate, we have a discount factor of $\frac{1}{1+r}$ in the intertemporal buget constraint. As a consequence, in the third period, where our empowered woman works some years more than her husband, we should include the discounted rent that she earns.

[17] $T_2^j = T_1^j + T_2 - T_1$. Whether and how many children to have is determined only by the woman in household. Also, $\tilde{T}$=$\tilde{T}^j$ since women and men usually retire at the same age in the U.S. The 2018 average normal retirement age in the U.S. for an individual with a full career and who entered the labour market at age 22 was equal to 66 years; see OECD (2019).

$$\int_0^{T_1} C_1^f dt = \int_0^{T_1} (1-\xi_t^i) w^{i,s} L^{i,s} h^i t^\rho dt, \tag{19}$$

while in the second and third period of time family consumption is decided simultaneously by the female and her husband. In these periods family consumption in household satisfies

$$\int_{T_1}^{T_2} C_2^f dt = \frac{\int_{T_1}^{T_2} C_2^{i,f} dt + \int_{T_1^j}^{T_2^j} C_2^{j,f} dt}{\Omega_2(n)}, \tag{20}$$

$$\int_{T_2}^{\tilde{T}} C_3^f dt = \frac{\int_{T_2}^{\tilde{T}} C_3^{i,f} dt + \int_{T_2^j}^{\tilde{T}^j} C_3^{j,f} dt}{\Omega_3(n)}, \tag{21}$$

where $\Omega_2(n) = 1+0.5$ and $\Omega_3(n) = 1+0.5+0.3n$ refer to household equivalence scale, as defined by the OECD[18]. Moreover, accumulated utility from children in the third period of time is given by

$$\int_{T_2}^{\tilde{T}} t^\phi \left(\theta^i + \theta^j\right) (\bar{n}+n)\, dt = \left(\theta^i + \theta^j\right) (\bar{n}+n) \left(\frac{\tilde{T}^{\phi+1} - T_2^{\phi+1}}{\phi+1}\right). \tag{22}$$

We replace equations (8) to (22) into utility functions (4) to (6) and determine the accumulated utility that our empowered woman gets over her lifetime cycle

$$u^i = u_1^i + u_2^i + u_3^i, \tag{23}$$

which is then maximized. In order to find closed forms optimal solutions we use $\max(u^i) \leq \max(u_1^i) + \max(u_2^i) + \max(u_3^i)$[19]. We then maximize utility functions (8) with respect to ξ_1^i and $L^{i,s}$, (9) with respect to ξ_2^i, $L^{i,s}$ and ψ_2, and (10) with respect to ξ_3^i, $L^{i,s}$, ψ_3 and n and assume these first order conditions solve the maximization problem of our empowered woman over her lifetime cycle. Since the decision of the female becomes an externality to her husband and vice versa, as we can see in restrictions (20) and (21), her husband maximizes his accumulated utility u^j over ξ_t^j and L^j[20], simultaneously. We emphasize it is only the female who decides whether and how many children to have and the share of time spent with the partner. The first order conditions of utility maximization imply:

$$\alpha_1^p = \xi_1^i L^{i,s}, \tag{24}$$

$$\alpha_1^f = (1-\xi_1^i) L^{i,s}, \tag{25}$$

$$\alpha_1^l = 1 - L^{i,s}, \tag{26}$$

[18] Equivalence scales capture how the needs of a household grow with each additional member but – due to economies of scale in consumption– not in a proportional way. Needs for housing space, electricity, and others are not three times as high for a household with three members than for a single person.
[19] See Appendix B.1.
[20] See Appendix B.2.

$$\alpha_2^p = \frac{(\rho^j+1)\xi_2^i w^{i,s} L^{i,s} h^i (T_2^{\rho+1} - T_1^{\rho+1})}{(\rho^j+1) w^{i,s} h^i (T_2^{\rho+1} - T_1^{\rho+1})(1 - L^{i,s} + L^{i,s}\xi_2^i) + \kappa_2}. \tag{27}$$

$$\alpha_2^f = \frac{\kappa_2}{(\rho^j+1) w^{i,s} h^i (T_2^{\rho+1} - T_1^{\rho+1})(1 - L^{i,s} + L^{i,s}\xi_2^i) + \kappa_2}, \tag{28}$$

$$\alpha_2^l = \frac{(\rho^j+1) w^{i,s} h^i (T_2^{\rho+1} - T_1^{\rho+1})(1 - L^{i,s} - \psi_2)}{(\rho^j+1) w^{i,s} h^i (T_2^{\rho+1} - T_1^{\rho+1})(1 - L^{i,s} + L^{i,s}\xi_2^i) + \kappa_2}, \tag{29}$$

$$\alpha_2^\psi = \frac{\psi_2(\rho^j+1) w^{i,s} h^i (T_2^{\rho+1} - T_1^{\rho+1})}{(\rho^j+1) w^{i,s} h^i (T_2^{\rho+1} - T_1^{\rho+1})(1 - L^{i,s} + L^{i,s}\xi_2^i) + \kappa_2}, \tag{30}$$

with $\kappa_2 = (\rho^j+1)(1-\xi_2^i) w^{i,s} L^{i,s} h^i (T_2^{\rho+1} - T_1^{\rho+1}) + (\rho+1)(1-\xi_2^j) w^j L^j h^j \left[\left(T_1^j + T_2 - T_1\right)^{\rho^j+1} - T_1^{j\,\rho^j+1} \right]$,

$$\alpha_3^p = \frac{(\rho^j+1)\xi_3^i w^{i,s} L^{i,s} h^i \left(\tilde{T}^{\rho+1} - T_2^{\rho+1}\right)}{(\rho^j+1) w^{i,s} h^i \left(\tilde{T}^{\rho+1} - T_2^{\rho+1}\right)(1 - L^{i,s} - \theta^i n + L^{i,s}\xi_3^i) + \kappa_3}, \tag{31}$$

$$\alpha_3^f = \frac{\kappa_3}{(\rho^j+1) w^{i,s} h^i \left(\tilde{T}^{\rho+1} - T_2^{\rho+1}\right)(1 - L^{i,s} - \theta^i n + L^{i,s}\xi_3^i) + \kappa_3}, \tag{32}$$

$$\alpha_3^l = \frac{(\rho^j+1) w^{i,s} h^i \left(\tilde{T}^{\rho+1} - T_2^{\rho+1}\right)(1 - L^{i,s} - \psi_3 - \theta^i n)}{(\rho^j+1) w^{i,s} h^i \left(\tilde{T}^{\rho+1} - T_2^{\rho+1}\right)(1 - L^{i,s} - \theta^i n + L^{i,s}\xi_3^i) + \kappa_3}, \tag{33}$$

$$\alpha_3^\psi = \frac{\psi_3(\rho^j+1) w^{i,s} h^i \left(\tilde{T}^{\rho+1} - T_2^{\rho+1}\right)}{(\rho^j+1) w^{i,s} h^i \left(\tilde{T}^{\rho+1} - T_2^{\rho+1}\right)(1 - L^{i,s} - \theta^i n + L^{i,s}\xi_3^i) + \kappa_3} \tag{34}$$

and

$$\alpha_3^n = \frac{(\bar{n}+n)\left[\Omega_3'(n)\kappa_3 + \theta^i \Omega_3(n)(\rho^j+1) w^{i,s} h^i \left(\tilde{T}^{\rho+1} - T_2^{\rho+1}\right)\right]}{\Omega_3(n)\left[(\rho^j+1) w^{i,s} h^i \left(\tilde{T}^{\rho+1} - T_2^{\rho+1}\right)(1 - L^{i,s} - \theta^i n + L^{i,s}\xi_3^i) + \kappa_3\right]}, \tag{35}$$

with $\kappa_3 = (\rho^j+1)(1-\xi_3^i) w^{i,s} L^{i,s} h^i (\tilde{T}^{\rho+1} - T_2^{\rho+1}) + (\rho+1)(1-\xi_3^j) w^j L^j h^j \left[\tilde{T}^{\rho^j+1} - \left(T_1^j + T_2 - T_1\right)^{\rho^j+1} \right]$. Hence, $\alpha_t^\psi < \alpha_t^p < \alpha_t^f < \alpha_t^l$ for $t = 1, 2, 3$ meaning that our empowered woman prefers to work in a sector where she can devote more time to "own" leisure and from which she can earn the most in order to satisfy common necessities of her household. Consequently with previous sections, we expect this is true when she works in the Skilled Non-Market Services sector. Therefore, we consider this sector as our benchmark model and calibrate preference parameters (24) to (35).

3.2 Calibration

We use the National Survey of Family Growth (NSFG) 2002 to target T_1, T_2, T_1^j, and n for a skilled individual. The Multinational Time Use Study (MTUS) 2003 is used to target θ^i for a skilled woman in the public sector, θ^j for a skilled man, and ψ_2 and ψ_3 for skilled individuals in the public sector. With the information of the Labor Input Data File of WORLD KLEMS we compute the following values in 2002: the average share of hours worked in a week in the Skilled Non-Market Services for a skilled woman ($L^{i,s}$), the average share of hours worked in a week for a skilled man (L^j), the average compensation per hour worked in the Skilled Non-Market Services for a skilled woman ($w^{i,s}h^i$), the average compensation per hour worked for a skilled man ($w^j h^j$), and the growth rate of compensation per hour worked, for a skilled woman in the Skilled Non-Market Services and for a skilled

man (ρ, ρ^j). Additionally, from the Consumer Expenditure Surveys (CE) 2002, we compute the average share of income spent in personal consumption for a skilled woman and for a skilled man (ξ_t^i, ξ_t^j), see Table 2. Note that we assume our empowered woman marries an average skilled man due to assortative matching. Note also that she marries this skilled man regardless the economic sector he works in. Using these targets we calibrate preference parameters (24) to (35) and show them in Table 3.

Table 2: Model Targets.

Target	Description
Time	
$T_1 = 3.84$	Years between age of 25 and average age of getting married, for a skilled woman. NSFG 2002.
$T_1^j = 4.35$	Years between age of 25 and average age of getting married, for a skilled man. NSFG 2002.
$T_2 = 8.17$	Years between average age of getting married and average age of having children, for a skilled woman. NSFG 2002.
$\tilde{T} = \tilde{T}^j = 41$	Years between age of 25 and 66 (retirement).
$\psi_2 = 0.05$	Average share of time spent in the family, for skilled individuals with no children in the public sector. MTUS 2003.
$\psi_3 = 0.04$	Average share of time spent in the family, for skilled individuals with children n the public sector. MTUS 2003.
Children	
$n = 1.04$	Number of own children for a skilled woman, on average. NSFG 2002.
$\bar{n} = 2.20$, $\phi = 0.36$	Preferences for children. Guner et al. (2019).
$\theta^i = 0.03$	Average share of time spent with the children, for a skilled woman in the public sector. MTUS 2003.
$\theta^j = 0.02$	Average share of time spent with the children, for a skilled man. MTUS 2003.
Employment and Consumption	
$L^{i,s} = 0.23$	Average share of hours worked in a week in the SNMS, for a skilled woman. WORLD KLEMS.
$L^j = 0.35$	Average share of hours worked in a week, for a skilled man. WORLD KLEMS.
$w^{i,s}h^i = 30.63$	Average compensation per hour worked in the SNMS, for a skilled woman. WORLD KLEMS.
$w^j h^j = 42.02$	Average compensation per hour worked, for a skilled man. WORLD KLEMS.
$\rho = 0.05$	Growth rate of compensation per hour worked, for a skilled woman in the SNMS. WORLD KLEMS.
$\rho^j = 0.05$	Growth rate of compensation per hour worked, for a skilled man. WORLD KLEMS.
$\xi_1^i = 0.27$, $\xi_2^i = 0.28$, $\xi_3^i = 0.27$	Average share of income spent in personal consumption, for a skilled woman, single, married with no children, and married with children, respectively. CE 2002.
$\xi_1^j = 0.26$, $\xi_2^j = 0.28$, $\xi_3^j = 0.29$	Average share of income spent in personal consumption, for a skilled man, single, married with no children, and married with children, respectively. CE 2002.

Table 3: Preference Parameters Calibration.

Parameter	Value
Personal Consumption	
α_1^p	0.062
α_2^p	0.048
α_3^p	0.047
Family Consumption	
α_1^f	0.167
α_2^f	0.380
α_3^f	0.387
Leisure	
α_1^ℓ	0.771
α_2^ℓ	0.536
α_3^ℓ	0.537
Time spent with partner	
α_2^ψ	0.036
α_3^ψ	0.029
Children	
α_3^n	0.277

From first order conditions of utility maximization we know that

$$\xi_2^{i^*} = \frac{\alpha_2^p}{\alpha_2^p + \alpha_2^f}\left[1 + \left(\frac{\rho+1}{\rho^j+1}\right)\left(1-\xi_2^j\right)\left(\frac{L^j}{L^{i,s}}\right)\left(\frac{w^j h^j}{w^{i,s}h^i}\right)\left(\frac{\left[T_1^j + T_2 - T_1\right]^{\rho^j+1} - {T_1^j}^{\rho^j+1}}{T_2^{\rho+1} - T_1^{\rho+1}}\right)\right], \tag{36}$$

$$\xi_3^{i^*} = \frac{\alpha_3^p}{\alpha_3^p + \alpha_3^f}\left[1 + \left(\frac{\rho+1}{\rho^j+1}\right)\left(1-\xi_3^j\right)\left(\frac{L^j}{L^{i,s}}\right)\left(\frac{w^j h^j}{w^{i,s}h^i}\right)\left(\frac{\tilde{T}^{\rho^j+1} - \left[T_1^j + T_2 - T_1\right]^{\rho^j+1}}{\tilde{T}^{\rho+1} - T_2^{\rho+1}}\right)\right] \tag{37}$$

and

$$n^* = \frac{-\left[0.3\bar{n}\theta^i(\alpha_3^f - \alpha_3^\ell) - 0.3(1 - L^{i,s} - \psi_3)(\alpha_3^f - \alpha_3^n) - 1.5\theta^i(\alpha_3^\ell + \alpha_3^n)\right] - (\kappa_n)^{\frac{1}{2}}}{0.6\theta^i(\alpha_3^f - \alpha_3^\ell - \alpha_3^n)}, \tag{38}$$

with

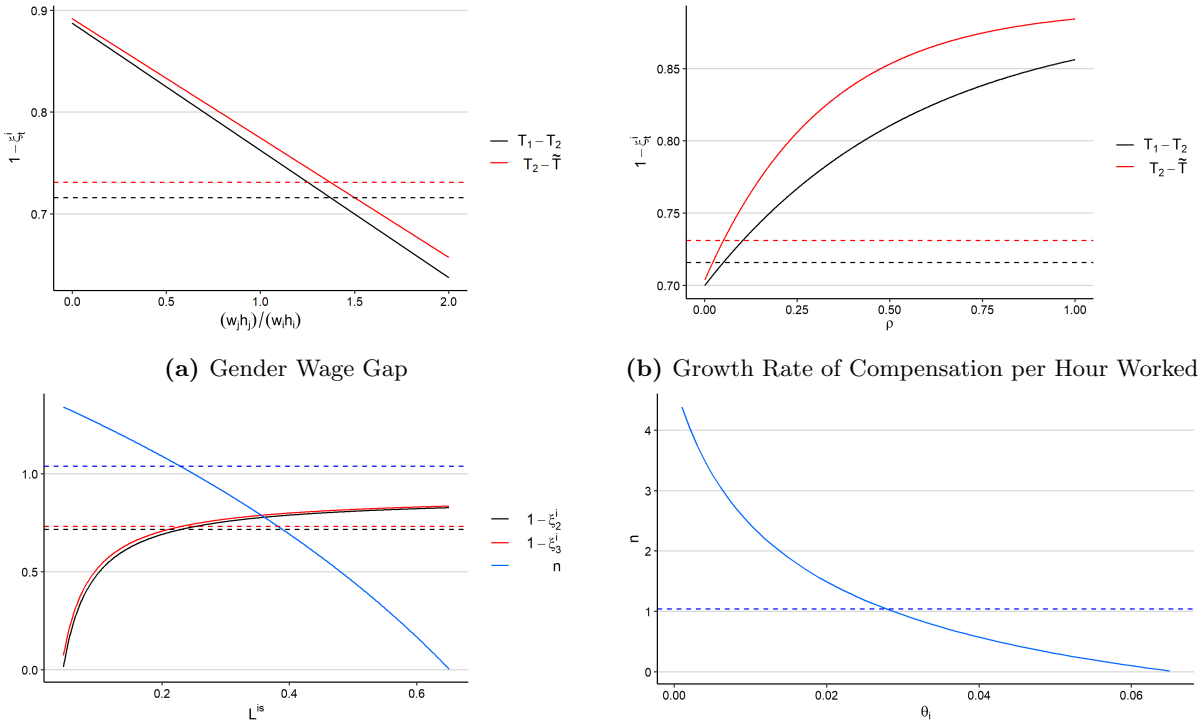
$$\kappa_n = \left[0.3\bar{n}\theta^i(\alpha_3^f - \alpha_3^\ell) - 0.3(1 - L^{i,s} - \psi_3)(\alpha_3^f - \alpha_3^n) - 1.5\theta^i(\alpha_3^\ell + \alpha_3^n)\right]^2 - 1.2\theta^i(\alpha_3^f - \alpha_3^\ell - \alpha_3^n)\left[(1 - L^{i,s} - \psi_3)(1.5\alpha_3^n - 0.3\alpha_3^f\bar{n}) - 1.5\alpha_3^\ell\theta^i\bar{n}\right].$$

In equations (36) and (37) we see that as gender wage gap $\left(\frac{w^j h^j}{w^{i,s}h^i}\right)$ increases the fraction of her wage mass devoted to satisfy personal consumption (ξ_t^i) increases, i.e. the fraction of her wage mass devoted to satisfy family consumption ($1 - \xi_t^i$) decreases, see Figure 9a. From first order conditions we also know that $\alpha_t^p < \alpha_t^f$ meaning that our empowered woman has stronger preferences to satisfy family consumption rather than personal consumption. Therefore, she decides to work in an economic sector with a low gender wage gap so she can satisfy

family consumption more likely. Recall that h^i refers to our empowered woman human capital. From equations (36) and (37) we also see that if she decides to have tertiary education, i.e. start with a higher human capital than one without it, she would also have a higher fraction of her wage mass devoted to satisfy family consumption. Then, our empowered woman optimally decides to be tertiary educated and chooses a career that leads her to end up working in the Skilled Non-Market Services sector. In Figure 9b we additionally observe how the fraction of her wage mass devoted to satisfy family consumption $(1-\xi_t^i)$ increases as the growth rate of compensation per hour worked (ρ) increases. Thus, our empowered woman would like to move to other sectors with higher ρ such as the High-Tech Industry and the Skilled Market Services. However, it implies to move to other sectors that require a higher number of hours worked as explained in Section 2. It is true that moving towards sectors with higher number of hours worked $(L^{i,s})$ allows women to have a higher ρ and, therefore, a higher fraction of her wage mass devoted to satisfy family consumption but it also comes together with a high cost for her: a decrease in the number of children, see equation (38) and Figure 9c. Finally, as the share of time devoted to childcare increases (θ^i) the number of children decreases, see Figure 9d. It means that women with a high number of children devote very little time to each child. This latter case might explain why skilled women in general decide to have a low number of children[21].

As described in Section 2, Skilled Non-Market Services offers skilled women the smallest gender wage gap among economic sectors, regardless their age. It also requires the smallest hours to work per week and compensation per hour worked is as much as the average compensation per hour worked among sectors. The number of own children has increased over time for skilled women in this sector. We then conclude that our empowered woman's optimal decisions lead her to work in the Skilled Non-Market Services sector. This sector offers her a balanced trade-off between marriage, having children and participating in the labor market. Finally, we confirm our findings identifying relevant characteristics of this sector through a microdata approach. These characteristics strengthen our claims about the allocation of skilled women into this sector.

[21] See Table 1.



(a) Gender Wage Gap

(b) Growth Rate of Compensation per Hour Worked

(c) Share of Time Devoted to Work

(d) Share of Time Devoted to Children

Fig. 9: Fraction of Wage Mass Devoted to Satisfy Family Consumption and Number of Own Children

4 Microdata Approach

We use information from IPUMS-CPS database. Specifically, we use the Annual Social and Economic (ASEC) supplement to the Current Population Survey (CPS) from 1976 to 2018. We consider those individuals with valid entries for those variables that we use in the estimation. We use the variable "*Educational attainment recode*" to determine if the individual has tertiary education or not[22]. We use the variable "*Industry, 1990 basis*" to identify the six economic sectors described in the previous sections. We use the variable "*Wage and salary income*" since it indicates each respondent's total pre-tax wage and salary income for the previous calendar year. We adjust it for inflation to be able to make results comparable over time[23]. Similar to Section 2, we categorize the age of the individual into four groups: from 25 to 34, from 35 to 44, from 45 to 54 and from 55 to 65. Finally, we use the variable "*Annual Social and Economic Supplement Weight*" as our weighting variable.

First, we perform a logit estimation of the probability of an individual to end up working in the Skilled Non-Market Services, i.e. we define

$$y_i = \begin{cases} 1, & \text{if } i \text{ works in the Skilled Non-Market Services sector} \\ 0, & \text{otherwise.} \end{cases}$$

[22] We consider that an individual has tertiary education if she has a Bachelor's degree or higher.
[23] We adjust for 1999 inflation; see Flood et al. (2020).

and estimate

$$Pr[y_i = 1|\mathbf{x}] = F(\mathbf{x}_i'\beta), \tag{39}$$

where $\mathbf{x}_i$ is a set of characteristics of individuals[24]. Specifically, we use sex and age of the individual as regressors in Model (1). In Model (2) we include work characteristics such as hours worked, income wage (in logs), and part-time or full-time employment status of the individual. In Model (3) we capture the impact of fertility rate with variables such us the number of children and whether the individual has babies or not[25]. In Model (4) we introduce a geographic control since government activities are usually more concentrated in big cities and, therefore, we would face a problem of omitted variable bias. Finally, in Model (5) we include time-fixed effects. Table 4 shows the results for this estimation and we only describe the results of this last model since it considers the same variables than the others but also controls for time-fixed effects.

We see that the sex of individual is not significant to estimate the probability of ending up working in the Skilled Non-Market Services sector. However, we have seen in Section 2 that the evolution of the Skilled Non-Market Services sector has been characterized by a higher participation of women over men. Moreover, when we consider age, we see that individuals in the older ages have higher probability to end up working in this sector than those in the youngest ages. It is specially true for a woman in the older ages—e.g. an increase of 0.196 is expected in the log odds of our dummy with respect to a male in all groups of age and females in the 25-34 group—. These results depict a work stability in the older ages for individuals in this sector, specially for women.

As expected, if the individual has tertiary education the probability of ending up working in the Skilled Non-Market Services sector also increases —an increase of 1.106 is expected in the log odds of our dummy with respect to an individual with less than tertiary education—. This result supports the importance of tertiary education in the allocation of the labor force in this sector.

Moreover, when we consider work characteristics such as hours worked, income wage, and part-time or full-time employment status of the individual, we identify relevant facts. On the one hand, we see that as the number of hours worked increases the probability for the individual to end up working in the Skilled Non-Market Services sector decreases. It is true for both, males and females—a higher decrease is expected in the log odds of our dummy for a male (0.021 compared to 0.010)—. Moreover, regarding the income of the individual, we see that its increase has a positive impact on the analyzed probability for females while it is negative for males[26]. These results support the evidence shown in Section 2. On the other hand, when we consider the individual's type of contract, we see that the probability of working in the Skilled Non-Market Services sector increases if it is a full

[24] See Cameron and Trivedi (2005). In Appendix C we perform a logit estimation of the probability to end up working in the other economic sectors.

[25] We use the variable of number of children under age 5 as a dummy to identify if there is a baby or not in household. We do this assumption since the CPS does not include the age of every children in household.

[26] Results on Appendix C show that this phenomenon happens only the Skilled Non-Market Services sector.

time contract and the individual is a female—an increase of 0.126 is expected in the log odds of our dummy with respect to individuals with part time contract—. With this result, we argue that there exists an "unobserved" stability offered by this sector to females.

Finally, when we consider those variables related to family indicators we see that as the number of own children increases, the probability to end up working in the Skilled Non-Market Services sector increases for females while it decreases for males—an increase of 0.121 is expected in the log odds of our dummy if the individual is a female—. But when we consider the presence of a baby in the household we see that this probability decreases for females—a decrease of 0.071 is expected in the log odds of our dummy—. As discussed in Section 2, we believe this result can be explained when we consider the level of education of the individual and, therefore, we next perform an additional analysis where we emphasize the role of tertiary education.

We now define

$$y_i^1 = \begin{cases} 1, & \text{if } i \text{ is a woman and works in the Skilled Non-Market Services sector} \\ 0, & \text{otherwise.} \end{cases}$$

and estimate

$$Pr[y_i^1 = 1|\mathbf{x}] = F(\mathbf{x}_i'\beta). \tag{40}$$

Table 5 shows the results for this estimation. Additional to the age of the individual, in Model (1) we create an interaction term between age and education of the individual and use it as another regressor. In Model (2) we include work characteristics such as hours worked, income wage, and part-time or full-time employment status of the individual. Due to collinearity problems we do not use the interaction term created in Model (1). Instead, we create interaction terms between the work-related characteristics and the education of the individual. In Model (3) we take into account variables regarding fertility rate such as the number of own children and if the individual has babies or not. Due to collinearity problems we do not use the interaction terms created for the first two models. Instead, we consider interaction terms between the variables regarding fertility rate and the education of the individual. In Model (4), (5), and (6) we perform the same analysis of Model (1), (2), and (3), respectively, but introducing a geographic control and time-fixed effects. We describe mainly the results of models (4) to (6) since they consider a geographic control and time-fixed effects.

Model (4) suggest that women in the older ages have higher probability to end up working in this sector than those in the youngest ages. More importantly, due to the interaction term between age and level of education, we see that skilled women in every group of age have higher probability to end up working in this sector than unskilled individuals and it is even higher in the first group of age—an increase of 0.909 is expected in the log odds of our dummy—. This result suggests that women that decide to have tertiary education might choose a

career that leads them to end up working in this sector.

Different from the results in Table 4, in Model (5) we can see that full-time contracts would reduce the analyzed probability—a decrease of 0.029 is expected in the log odds of our dummy with respect to individuals working with a part-time contract—. However, when we take into account the level of education, those with tertiary education actually have higher probability to end up working in the Skilled Non-Market Services sector regardless the type of contract—an increase of 2.311(2.495) is expected in the log odds of our dummy with respect to individuals without tertiary education working with a part(full)-time contract—. This result suggests that job flexibility might be an important characteristic offered to skilled women in this sector.

Finally, the results of Model (6) show that indeed there exists a difference between skilled and unskilled women regarding the decision of whether to have babies. Different from results in Table 4, we now see that skilled women that decide to have babies make increase the probability to end up working in the Skilled Non-Market Services sector—an increase of 1.253 is expected in the log odds of our dummy with respect to individuals without tertiary education that have babies—.

The results of this section allow us not only to confirm our findings in previous sections but also to point out other relevant characteristics of Skilled Non-Market Services sector, specially for skilled women. We have identified they experience a long run stability and job flexibility in this sector. These characteristics might strengthen the preferences of women regarding acquiring education or not, participating in the labor force or having a family, or both. We have seen that Skilled Non-Market Services seems to be the sector that offers skilled women a balanced life between work and family.

Table 4: Logit Estimation of Equation (39).

	(1)	(2)	(3)	(4)	(5)
Sex					
Female	1.118***	0.200***	-0.035	-0.049	-0.069
	(0.009)	(0.052)	(0.052)	(0.052)	(0.052)
Age					
35-44	0.040***	0.103***	0.115***	0.114***	0.121***
	(0.009)	(0.009)	(0.010)	(0.010)	(0.010)
45-54	0.174***	0.257***	0.269***	0.268***	0.276***
	(0.009)	(0.010)	(0.010)	(0.010)	(0.010)
55-65	0.282***	0.349***	0.352***	0.349***	0.353***
	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)
35-44 (Female)	0.146***	0.109***	0.018	0.017	0.018
	(0.012)	(0.012)	(0.013)	(0.013)	(0.013)
45-54 (Female)	0.169***	0.133***	0.099***	0.099***	0.100***
	(0.012)	(0.012)	(0.013)	(0.013)	(0.013)
55-65 (Female)	0.160***	0.147***	0.193***	0.193***	0.196***
	(0.014)	(0.014)	(0.015)	(0.015)	(0.015)
Education					
Tertiary	1.021***	1.080***	1.091***	1.091***	1.106***
	(0.004)	(0.005)	(0.005)	(0.005)	(0.005)
Work					
Hours Worked (Male)		-0.021***	-0.021***	-0.021***	-0.021***
		(0.000)	(0.000)	(0.000)	(0.000)
Hours Worked (Female)		-0.011***	-0.010***	-0.010***	-0.010***
		(0.000)	(0.000)	(0.000)	(0.000)
Income Wage (Male)		-0.032***	-0.034***	-0.032***	-0.034***
		(0.004)	(0.004)	(0.004)	(0.004)
Income Wage (Female)		0.001	0.010**	0.013**	0.013**
		(0.004)	(0.004)	(0.004)	(0.004)
Full Time (Male)		0.004	0.008	0.002	0.002
		(0.016)	(0.016)	(0.016)	(0.016)
Full Time (Female)		0.117***	0.132***	0.124***	0.126***
		(0.010)	(0.010)	(0.010)	(0.010)
Children					
Number of Own Children (Male)			-0.017***	-0.016***	-0.017***
			(0.003)	(0.003)	(0.003)
Number of Own Children (Female)			0.121***	0.121***	0.121***
			(0.003)	(0.003)	(0.003)
Babies (Male)			0.022**	0.022**	0.024*
			(0.010)	(0.010)	(0.010)
Babies (Female)			-0.074***	-0.074***	-0.071***
			(0.009)	(0.009)	(0.009)
Constant	-2.070***	-0.864***	-0.857***	-0.827***	-0.595***
	(0.007)	(0.040)	(0.040)	(0.041)	(0.048)
Individual Income	NO	YES	YES	YES	YES
Work-related Characteristics	NO	YES	YES	YES	YES
Geographic Controls	NO	NO	NO	YES	YES
Year Fixed Effects	NO	NO	NO	NO	YES
Observations	1,774,884	1,684,313	1,684,313	1,684,313	1,684,313
Wald χ^2	120919.83	118982.80	122392.30	123003.90	123545.50
Prob< χ^2	0.000	0.000	0.000	0.000	0.000

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Source: IPUMS-CPS.

Table 5: Logit Estimation of Equation (40).

	(1)	(2)	(3)	(4)	(5)	(6)
Age						
35-44	0.226***	0.232***	0.148***	0.232***	0.234***	0.151***
	(0.008)	(0.007)	(0.007)	(0.008)	(0.007)	(0.007)
45-54	0.392***	0.411***	0.337***	0.391***	0.409***	0.335***
	(0.008)	(0.007)	(0.007)	(0.008)	(0.007)	(0.007)
55-65	0.493***	0.412***	0.383***	0.482***	0.401***	0.374***
	(0.010)	(0.008)	(0.008)	(0.010)	(0.008)	(0.008)
25-34 (Tertiary Education)	0.907***			0.909***		
	(0.009)			(0.010)		
35-44 (Tertiary Education)	0.692***			0.692***		
	(0.008)			(0.008)		
45-54 (Tertiary Education)	0.613***			0.620***		
	(0.009)			(0.009)		
55-65 (Tertiary Education)	0.485***			0.490***		
	(0.012)			(0.012)		
Work						
Income Wage		-0.177***	-0.251***		-0.176***	-0.250***
		(0.004)	(0.003)		(0.004)	(0.003)
Hours Worked		-0.035***	-0.031***		-0.035***	-0.031***
		(0.000)	(0.000)		(0.000)	(0.000)
Type of Contract (Full Time)		-0.025*	0.046		-0.029*	0.039***
		(0.012)	(0.009)		(0.012)	(0.009)
Income Wage (Tertiary Education)		-0.182***			-0.183***	
		(0.007)			(0.007)	
Hours Worked (Tertiary Education)		0.008***			0.009***	
		(0.001)			(0.001)	
Type of Contract (Partial Time) (Tertiary Education)		2.303***			2.311***	
		(0.060)			(0.060)	
Type of Contract (Full Time) (Tertiary Education)		2.493***			2.495***	
		(0.068)			(0.068)	
Children						
Number of Own Children			0.124***			0.126***
			(0.003)			(0.003)
Babies			-0.349***			-0.347***
			(0.011)			(0.011)
Number of Own Children (Tertiary Education)			-0.094***			-0.098***
			(0.004)			(0.004)
No babies (Tertiary Education)			1.008***			1.014***
			(0.007)			(0.007)
Babies (Tertiary Education)			1.251***			1.253***
			(0.016)			(0.016)
Constant	-1.962***	1.210***	1.684***	-1.858***	1.252***	1.707***
	(0.006)	(0.034)	(0.027)	(0.030)	(0.045)	(0.040)
Individual Income	NO	YES	YES	YES	YES	YES
Work-related Characteristics	NO	YES	YES	YES	YES	YES
Geographic Controls	NO	NO	NO	YES	YES	YES
Year Fixed Effects	NO	NO	NO	YES	YES	YES
Observations	1,774,884	1,684,313	1,684,313	1,774,884	1,684,313	1,684,313
Wald χ^2	24499.10	57462.94	58641.78	26526.72	59062.19	60220.64
Prob< χ^2	0.000	0.000	0.000	0.000	0.000	0.000

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Source: IPUMS-CPS.

5 Conclusions

The opportunity cost of staying working in a sector different from the Skilled Non-Market Services sector is clearly higher for skilled women than for skilled men and, then, we argue that skilled women show a ("new") comparative advantage in this sector. However, this behavior is not identified within other services sectors and, therefore, we do not consider the usual "brain" versus "brawn" comparative advantage in our theoretical model. Instead, our model focuses on the preferences of an empowered woman.

We find that "own" leisure and family consumption account for the largest weight on our empowered woman utility. We show that as gender wage gap increases the fraction of her wage mass devoted to satisfy family consumption decreases while it increases if she decides to be tertiary educated. We also find that this fraction increases when she works more hours, however, it comes together with a high cost: a lower number of children. As Skilled Non-Market Services sector offers skilled women the smallest gender wage gap, requires the smallest hours to work per, offers a compensation per hour worked as large as the average compensation among sectors, and shows higher demographic indicators for skilled women we conclude that our empowered woman's optimal decisions lead her to work in this sector.

We also present a microdata approach using data from Current Population Survey where we identify relevant characteristics of the Skilled Non-Market Services sector. These characteristics are work stability in the older ages, job flexibility or less hours worked, a small gender wage gap, and better family indicators. We then confirm women preferences match the characteristics of the Skilled Non-Market Services sector and, as a consequence, they are more likely allocated in this sector during structural transformation.

6 Competing Interest, Data Availability and Others

6.1 Conflict of Interest Statement

All authors have no conflicts of interest.

6.2 Data Availability Statement

The data that support the findings of this study are available from WORLD KLEMS Database, U.S. Labor Input File and the U.S. ASEC supplement to the CPS from IPUMS, National Survey of Family Growth (NSFG) 2002, Multinational Time Use Study (MTUS) 2003, and Consumer Expenditure Surveys (CE) 2002 from Bureau of Labor Statistics. Restrictions may apply to these data, but they are available from these institutes upon request. Finally, raw[27] and cleaned datasets used in the analysis, code used for data processing and analysis and addi-

[27] IPUMS CPS is a very large dataset that is impossible to share due to size restrictions, however, it is downloadable from IPUMS website: `https://cps.ipums.org/cps-action/variables/group`

tional methodological documentation necessary to reproduce the analyses have been shared in the corresponding author's GitHub repository: `https://github.com/Cynthia-Armas/Understanding-Women-Paper`.

6.3 Ethical Approval

This article does not contain any studies with human participants performed by any of the authors.

6.4 Informed Consent

This article does not contain any studies with human participants performed by any of the authors.

Bibliography

Acemoglu, D. (1998). Why Do New Technologies Complement Skills? Directed Technical Change and Wage Inequality. *Quarterly Journal of Economics*, 113(4):1055–1089.

Acemoglu, D., Autor, D. H., and Lyle, D. (2004). Women, War, and Wages: The Effect of Female Labor Supply on the Wage Structure at Midcentury. *Journal of Political Economy*, 112(3):497–551.

Armas, C. and Sánchez-Losada, F. (2021). Structural Change and the Income of Nations. Working Paper E21/412, University of Barcelona, Department of Economics.

Bailey, M. J., Hershbein, B., and Miller, A. R. (2012). The Opt-In Revolution? Contraception and the Gender Gap in Wages. *American Economic Journal: Applied Economics*, 4(3):225–54.

Barham, V., Devlin, R. A., and Yang, J. (2009). A Theory of Rational Marriage and Divorce. *European Economic Review*, 53(1):93–106.

Barro, R. J. and Becker, G. S. (1989). Fertility Choice in a Model of Economic Growth. *Econometrica*, 57(2):481–501.

Becker, G. S. (1973). A Theory of Marriage: Part I. *Journal of Political Economy*, 81(4):813–846.

Becker, G. S. (1978). *The Economic Approach to Human Behavior*. University of Chicago Press.

Becker, G. S. and Murphy, K. M. (2007). Education and Consumption: The Effects of Education in the Household Compared to the Marketplace. *Journal of Human Capital*, 1(1):9–35.

Becker, G. S. and Tomes, N. (1986). Human Capital and the Rise and Fall of Families. *Journal of Labor Economics*, 4(3):S1–S39.

Bick, A. and Fuchs-Schündeln, N. (2017). Taxation and Labour Supply of Married Couples across Countries: A Macroeconomic Analysis. *Review of Economic Studies*, 85(3):1543–1576.

Buera, F. J. and Kaboski, J. P. (2012). The Rise of the Service Economy. *American Economic Review*, 102(6):2540–69.

Buera, F. J., Kaboski, J. P., Rogerson, R., and Vizcaino, J. I. (2018). Skill Biased Structural Change. Working Paper 21165, National Bureau of Economic Research.

Buera, F. J., Kaboski, J. P., and Zhao, M. Q. (2019). The Rise of Services: The Role of Skills, Scale, and Female Labor Supply. *Journal of Human Capital*, 13(2):157–187.

Cameron, A. and Trivedi, P. (2005). *Microeconometrics, Methods and Applications*. Cambridge University Press, 8 edition.

Cavalcanti, T. and Tavares, J. (2008). Assessing the "Engines of Liberation": Home Appliances and Female Labor Force Participation. *Review of Economics and Statistics*, 90(1):81–88.

Cavalcanti, T. V. and Tavares, J. (2011). Women Prefer Larger Governments: Growth, Structrural Transformation, and Government Size. *Economic Inquiry*, 49(1):155–171.

Chassamboulli, A. and Gomes, P. (2018). Meritocracy, Public-Sector Pay and Human Capital Accumulation. University of Cyprus Working Papers in Economics 08-2018, University of Cyprus Department of Economics.

Chiappori, P.-A., Salanié, B., and Weiss, Y. (2017). Partner Choice, Investment in Children, and the Marital College Premium. *American Economic Review*, 107(8):2109–67.

Cuberes, D. and Teignier, M. (2017). Macroeconomic Costs of Gender Gaps in a Model with Entrepreneurship and Household Production. *B.E. Journal of Macroeconomics*, 18(1):1–15.

Del Boca, D., Flinn, C., and Wiswall, M. (2013). Household Choices and Child Development. *The Review of Economic Studies*, 81(1):137–185.

Eckstein, Z. and Lifshitz, O. (2011). Dynamic Female Labor Supply. *Econometrica*, 79(6):1675–1726.

Erosa, A., Fuster, L., Kambourov, G., and Rogerson, R. (2017). Hours, Occupations, and Gender Differences in Labor Market Outcomes. Working Paper 23636, National Bureau of Economic Research.

Fernández, R., Fogli, A., and Olivetti, C. (2004). Mothers and Sons: Preference Formation and Female Labor Force Dynamics. *Quarterly Journal of Economics*, 119(4):1249–1299.

Flood, S., King, M., Rodgers, R., Ruggles, S., and Warren, J. R. (2020). Integrated Public Use Microdata Series, Current Population Survey: Version 7.0 [dataset]. Minneapolis, MN: IPUMS, 2020. `https://doi.org/10.18128/D030.V7.0`.

Galor, O. and Weil, D. N. (1996). The Gender Gap, Fertility, and Growth. *American Economic Review*, 86(3):374–387.

Gayle, G.-L. and Shephard, A. (2019). Optimal Taxation, Marriage, Home Production, and Family Labor Supply. *Econometrica*, 87(1):291–326.

Ge, S. (2011). Women's College Decisions: How Much Does Marriage Matter? *Journal of Labor Economics*, 29(4):773–818.

Goldin, C. (2004). The Long Road to the Fast Track: Career and Family. *The Annals of the American Academy of Political and Social Science*, 596(1):20–35.

Goldin, C. (2006). The quiet revolution that transformed women's employment, education, and family. *The American Economic Review*, 96(2):1–21.

Goldin, C. and Katz, L. F. (2002). The Power of the Pill: Oral Contraceptives and Women's Career and Marriage Decisions. *Journal of Political Economy*, 110(4):730–770.

Goldin, C., Katz, L. F., and Kuziemko, I. (2006). The Homecoming of American College Women: The Reversal of the College Gender Gap. *Journal of Economic Perspectives*, 20(4):133–156.

Goussé, M., Jacquemet, N., and Robin, J.-M. (2017). Marriage, Labor Supply, and Home Production. *Econometrica*, 85(6):1873–1919.

Greenwood, J., Guner, N., Kocharkov, G., and Santos, C. (2016). Technology and the Changing Family: A Unified Model of Marriage, Divorce, Educational Attainment, and Married Female Labor-Force Participation. *American Economic Journal: Macroeconomics*, 8(1):1–41.

Greenwood, J., Guner, N., and Vandenbroucke, G. (2017). Family Economics Writ Large. *Journal of Economic Literature*, 55(4):1346–1434.

Guner, N., Kaya, E., and Sánchez Marcos, V. (2019). Labor Market Frictions and Lowest Low Fertility. IZA Discussion Papers 12771, Institute of Labor Economics (IZA).

Guvenen, F. and Rendall, M. (2015). Women's Emancipation through Education: A Macroeconomic Analysis. *Review of Economic Dynamics*, 18(4):931–956.

Heckman, J. (1974). Life Cycle Consumption and Labor Supply: An Explanation of the Relationship between Income and Consumption Over the Life Cycle. *The American Economic Review*, 64(1):188–194.

Hsieh, C.-T., Hurst, E., Jones, C. I., and Klenow, P. J. (2019). The Allocation of Talent and U.S. Economic Growth. *Econometrica*, 87(5):1439–1474.

Kucera, D. and Tejani, S. (2014). Feminization, Defeminization, and Structural Change in Manufacturing. *World Development*, 64(C):569–582.

Macpherson, D. A. and Hirsch, B. T. (1995). Wages and Gender Composition: Why do Women's Jobs Pay Less? *Journal of Labor Economics*, 13(3):426–471.

Ngai, L. R. and Petrongolo, B. (2017). Gender Gaps and the Rise of the Service Economy. *American Economic Journal: Macroeconomics*, 9(4):1–44.

OECD (2019). *Pensions at a Glance 2019*.

OECD (2020). *Education at a Glance 2020*.

Olivetti, C. and Petrongolo, B. (2014). Gender Gaps across Countries and Skills: Demand, Supply and the Industry Structure. *Review of Economic Dynamics*, 17(4):842–859.

O'Neill, J. and Polachek, S. (1993). Why the Gender Gap in Wages Narrowed in the1980s. *Journal of Labor Economics*, 11(1):205–228.

Rendall, M. (2013). Structural Change in Developing Countries: Has it Decreased Gender Inequality? *World Development*, 45:1–16.

Rendall, M. (2018). Female Market Work, Tax Regimes, and the Rise of the Service Sector. *Review of Economic Dynamics*, 28(2):269–289.

Rendall, M. P. (2017). Brain Versus Brawn: The Realization of Women's Comparative Advantage. Technical Report 491. Revised version.

Rogerson, R. (2007). Taxation and Market Work: Is Scandinavia an Outlier? *Economic Theory*, 32(1):59–85.

Voena, A. (2015). Yours, Mine, and Ours: Do Divorce Laws Affect the Intertemporal Behavior of Married Couples? *American Economic Review*, 105(8):2295–2332.

Weinberg, B. A. (2000). Computer Use and the Demand for Female Workers. *Industrial and Labor Relations Review*, 53(2):290–308.

Zhang, H. (2018). Human Capital Investments, Differential Fecundity, and the Marriage Market. Working Papers 2018-7, Michigan State University, Department of Economics.

Appendix

A From Low TFP to High TFP Sectors

Figures 10 and 11 show the comparative advantage defined in Section 2 if workers move from low TFP sectors to high TFP sectors.

Fig. 10: Opportunity Cost of Skilled Market Services vs Low-Tech Industry
Source: WORLD KLEMS Database.

Fig. 11: Opportunity Cost of Skilled Non-Market Services vs Low-Tech Industry
Source: WORLD KLEMS Database.

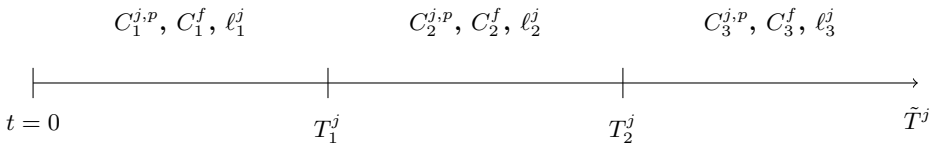
B Utility Maximization

B.1 Definition

Let $x^* = \arg\max f(x) + g(x)$, $x^a = \arg\max f(x)$ and $x^b = \arg\max g(x)$. As $f(x^a) \geq f(x^*)$ and $g(x^b) \geq g(x^*)$, we have that $f(x^*) + g(x^*) \leq f(x^a) + g(x^b)$.

B.2 Male Utility Maximization Problem

Similar to our empowered woman, the lifetime cycle of her husband is shown in the following plot.



In each period of time he makes decisions on consumption and leisure. He decides on his personal consumption ($C_1^{j,p}$, $C_2^{j,p}$ and $C_3^{j,p}$) and family consumption (C_1^f, C_2^f and C_3^f). He is endowed with one unit of time each period. The share of time he devotes to leisure (ℓ_1^j, ℓ_2^j and ℓ_3^j) does not only depend on the share of hours worked (L^j) but also on the share of time spent with the other members of the family. Specifically, in the second period of time it also depends on the share of time spent with his wife (ψ_2). In the third period of time it also depends on the time spent with his wife (ψ_3) and the time spent with each child (θ^j):

$$\ell_1^j = \left(1 - L^j\right), \tag{41}$$

$$\ell_2^j = \left(1 - L^j - \psi_2\right), \tag{42}$$

$$\ell_3^j = \left(1 - L^j - \psi_3 - \theta^j n\right). \tag{43}$$

His accumulated utility functions in each period of time are

$$u_1^j = \alpha_1^{j,p} ln\left(\int_0^{T_1^j} C_1^{j,p} dt\right) + \alpha_1^{j,f} ln\left(\int_0^{T_1^j} C_1^f dt\right) + \alpha_1^{j,\ell} ln\left(\int_0^{T_1^j} \ell_1^j dt\right), \tag{44}$$

$$u_2^j = \alpha_2^{j,p} ln\left(\int_{T_1^j}^{T_2^j} C_2^{j,p} dt\right) + \alpha_2^{j,f} ln\left(\int_{T_1^j}^{T_2^j} C_2^f dt\right) + \alpha_2^{j,\ell} ln\left(\int_{T_1^j}^{T_2^j} \ell_2^j dt\right) + \alpha_2^{\psi} ln\left(\int_{T_1^j}^{T_2^j} \psi_2 dt\right), \tag{45}$$

$$u_3^j = \alpha_3^{j,p} ln\left(\int_{T_2^j}^{\tilde{T}^j} C_3^{j,p} dt\right) + \alpha_3^{j,f} ln\left(\int_{T_2^j}^{\tilde{T}^j} C_3^f dt\right) + \alpha_3^{j,\ell} ln\left(\int_{T_2^j}^{\tilde{T}^j} \ell_3^j dt\right) + \alpha_3^{\psi} ln\left(\int_{T_2^j}^{\tilde{T}^j} \psi_3 dt\right) + \alpha_3^{j,n} ln\left(\int_{T_2^j}^{\tilde{T}^j} t^{\phi} f(\theta^j, n) dt\right), \tag{46}$$

where $f(\theta^j, n) = f(\theta^i, n)$.

Additionally, in the first period of time, his accumulated personal consumption, family consumption and leisure satisfy

$$\int_0^{T_1^j} C_1^{j,p} dt = \int_0^{T_1^j} \xi_1^j w^j L^j h^j t^{\rho^j} dt, \tag{47}$$

$$\int_0^{T_1^j} C_1^{j,f} dt = \int_0^{T_1^j} (1-\xi_1^j) w^j L^j h^j t^{\rho^j} dt, \tag{48}$$

$$\int_0^{T_1^j} \ell_1^j dt = \left(1 - L^j\right) T_1^j, \tag{49}$$

in the second period of time

$$\int_{T_1^j}^{T_2^j} C_2^{j,p} dt = \int_{T_1^j}^{T_2^j} \xi_2^j w^j L^j h^j t^{\rho^j} dt, \tag{50}$$

$$\int_{T_1^j}^{T_2^j} C_2^{j,f} dt = \int_{T_1^j}^{T_2^j} (1-\xi_2^j) w^j L^j h^j t^{\rho^j} dt, \tag{51}$$

$$\int_{T_1^j}^{T_2^j} \ell_2^j dt = \left(1 - L^j - \psi_2\right) (T_2^j - T_1^j), \tag{52}$$

and in the third period of time

$$\int_{T_2^j}^{\tilde{T}^j} C_3^{j,p} dt = \int_{T_2^j}^{\tilde{T}^j} \xi_3^j w^j L^j h^j t^{\rho^j} dt, \tag{53}$$

$$\int_{T_2^j}^{\tilde{T}^j} C_3^{j,f} dt = \int_{T_2^j}^{\tilde{T}^j} (1-\xi_3^j) w^j L^j h^j t^{\rho^j} dt, \tag{54}$$

$$\int_{T_2^j}^{\tilde{T}^j} \ell_3^j dt = \left(1 - L^j - \psi_3 - \theta^j n\right) (\tilde{T}^j - T_2^j). \tag{55}$$

As in the first period of time there is only one member in household, family consumption satisfies

$$\int_0^{T_1^j} C_1^f dt = \int_0^{T_1^j} (1-\xi_1^j) w^j L^j h^j t^{\rho^j} dt, \tag{56}$$

while in the second and third period of time family consumption is decided simultaneously by the female and her husband and is defined as in equations (20) and (21). Moreover, accumulated utility from children in the third period of time is given by

$$\int_{T_2^j}^{\tilde{T}^j} f(t, \theta^j, n) dt = \left(\theta^i + \theta^j\right) (\bar{n} + n) \left[\frac{\tilde{T}^{j\,\phi+1} - \left(T_1^j + T_2 - T_1\right)^{\phi+1}}{\phi + 1}\right]. \tag{57}$$

We replace equations (47) to (57) into utility functions (44) to (46) and determine his accumulated utility over his lifetime cycle

$$u^j = u_1^j + u_2^j + u_3^j. \tag{58}$$

C Logit Estimation for Other Economic Sectors

Tables 6, 7, 8 and 9 show the results of the logit estimation of the probability of an individual to end up working in the other four economic sectors: High-Tech Industry, Low-Tech Industry, Unskilled Sevices, and Skilled Market Services. Regarding the income of the individual, results show that its increase has a positive impact on the analyzed probability for females while it is negative for males only in the Skilled Non-Market Services sector.

Table 6: Probability for an Individual To End Up Working in the High-Tech Industry Sector.

	(1)	(2)	(3)	(4)	(5)
Sex					
Female	-0.721***	0.953***	0.984***	0.929***	0.706***
	(0.015)	(0.116)	(0.116)	(0.117)	(0.118)
Age					
35-44	0.198***	0.093***	0.082***	0.084***	0.094***
	(0.011)	(0.012)	(0.012)	(0.012)	(0.012)
45-54	0.251***	0.128***	0.120***	0.118***	0.157***
	(0.012)	(0.012)	(0.013)	(0.013)	(0.013)
55-65	0.169***	0.102***	0.104***	0.103***	0.161***
	(0.014)	(0.014)	(0.015)	(0.015)	(0.015)
35-44 (Female)	-0.035*	0.053**	0.089***	0.089***	0.085***
	(0.020)	(0.020)	(0.021)	(0.021)	(0.021)
45-54 (Female)	-0.088***	-0.014	0.013	0.011	0.016
	(0.020)	(0.021)	(0.022)	(0.022)	(0.023)
55-65 (Female)	-0.160***	-0.092***	-0.088***	-0.090***	-0.073***
	(0.025)	(0.025)	(0.026)	(0.026)	(0.026)
Education					
Tertiary	-0.149***	-0.392***	-0.392***	-0.381***	-0.329***
	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)
Work					
Hours Worked (Male)		-0.007***	-0.007***	-0.007***	-0.008***
		(0.000)	(0.000)	(0.000)	(0.000)
Hours Worked (Female)		0.020***	0.020***	0.020***	0.020***
		(0.001)	(0.001)	(0.001)	(0.001)
Income Wage (Male)		0.430***	0.428***	0.420***	0.417***
		(0.007)	(0.007)	(0.007)	(0.007)
Income Wage (Female)		0.190***	0.186***	0.178***	0.194***
		(0.010)	(0.010)	(0.010)	(0.010)
Full Time (Male)		1.056***	1.055***	1.072***	1.060***
		(0.037)	(0.037)	(0.037)	(0.037)
Full Time (Female)		0.895***	0.894***	0.936***	0.938***
		(0.029)	(0.029)	(0.029)	(0.029)
Children					
Number of Own Children (Male)			0.016***	0.011**	0.007
			(0.004)	(0.004)	(0.004)
Number of Own Children (Female)			-0.028***	-0.031***	-0.026***
			(0.006)	(0.006)	(0.006)
Babies (Male)			-0.014	-0.011	-0.005
			(0.013)	(0.013)	(0.013)
Babies (Female)			0.070***	0.069***	0.084***
			(0.021)	(0.021)	(0.021)
Constant	-2.304***	-7.325***	-7.313***	-6.995***	-6.555***
	(0.009)	(0.071)	(0.071)	(0.073)	(0.081)
Individual Income	NO	YES	YES	YES	YES
Work-related Characteristics	NO	YES	YES	YES	YES
Geographic Controls	NO	NO	NO	YES	YES
Year Fixed Effects	NO	NO	NO	NO	YES
Observations	1,774,884	1,684,313	1,684,313	1,684,313	1,684,313
Wald χ^2	12370.35	21663.85	22009.02	29712.07	32642.30
Prob< χ^2	0.000	0.000	0.000	0.000	0.000

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Source: IPUMS-CPS.

Table 7: Probability for an Individual To End Up Working in the Low-Tech Industry Sector.

	(1)	(2)	(3)	(4)	(5)
Sex					
Female	-1.425***	-1.964***	-2.008***	-2.066***	-2.163***
	(0.012)	(0.080)	(0.081)	(0.081)	(0.082)
Age					
35-44	0.056***	0.042***	0.004	0.003	0.003
	(0.008)	(0.009)	(0.009)	(0.009)	(0.009)
45-54	0.003	-0.007	-0.021*	-0.023*	-0.010
	(0.009)	(0.009)	(0.010)	(0.010)	(0.010)
55-65	-0.091***	-0.076***	-0.052***	-0.054***	-0.029*
	(0.010)	(0.011)	(0.011)	(0.011)	(0.011)
35-44 (Female)	0.034*	0.052**	0.095***	0.095***	0.092***
	(0.016)	(0.017)	(0.018)	(0.018)	(0.018)
45-54 (Female)	0.048**	0.041*	0.061**	0.062**	0.062**
	(0.017)	(0.018)	(0.019)	(0.019)	(0.019)
55-65 (Female)	0.035	0.039	0.019	0.021	0.027
	(0.021)	(0.021)	(0.022)	(0.022)	(0.022)
Education					
Tertiary	-1.198***	-1.187***	-1.183***	-1.176***	-1.158***
	(0.007)	(0.008)	(0.008)	(0.008)	(0.008)
Work					
Hours Worked (Male)		0.000	0.000	-0.001	-0.001*
		(0.000)	(0.000)	(0.000)	(0.000)
Hours Worked (Female)		0.013***	0.013***	0.012***	0.012***
		(0.001)	(0.001)	(0.001)	(0.001)
Income Wage (Male)		-0.043***	-0.052***	-0.046***	-0.048***
		(0.005)	(0.005)	(0.005)	(0.005)
Income Wage (Female)		-0.018*	-0.019*	-0.007	-0.002
		(0.008)	(0.008)	(0.008)	(0.008)
Full Time (Male)		0.613***	0.607***	0.599***	0.590***
		(0.020)	(0.020)	(0.020)	(0.020)
Full Time (Female)		0.507***	0.508***	0.492***	0.490***
		(0.021)	(0.021)	(0.021)	(0.021)
Children					
Number of Own Children (Male)			0.070***	0.071***	0.071***
			(0.003)	(0.003)	(0.003)
Number of Own Children (Female)			-0.004	-0.003	-0.001
			(0.005)	(0.005)	(0.005)
Babies (Male)			-0.006	-0.007	-0.007
			(0.010)	(0.010)	(0.010)
Babies (Female)			0.020	0.015	0.019
			(0.019)	(0.019)	(0.019)
Constant	-1.039***	-1.226***	-1.177***	-1.309***	-1.117***
	(0.006)	(0.043)	(0.043)	(0.045)	(0.054)
Individual Income	NO	YES	YES	YES	YES
Work-related Characteristics	NO	YES	YES	YES	YES
Geographic Controls	NO	NO	NO	YES	YES
Year Fixed Effects	NO	NO	NO	NO	YES
Observations	1,774,884	1,684,313	1,684,313	1,684,313	1,684,313
Wald χ^2	68237.97	64663.75	66731.30	67740.87	69154.98
Prob< χ^2	0.000	0.000	0.000	0.000	0.000

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Source: IPUMS-CPS.

Table 8: Probability for an Individual To End Up Working in the Unskilled Services Sector.

	(1)	(2)	(3)	(4)	(5)
Sex					
Female	-0.118***	0.814***	1.034***	1.063***	1.144***
	(0.008)	(0.053)	(0.054)	(0.054)	(0.054)
Age					
35-44	-0.143***	-0.091***	-0.061***	-0.060***	-0.068***
	(0.007)	(0.008)	(0.008)	(0.008)	(0.008)
45-54	-0.182***	-0.118***	-0.110***	-0.107***	-0.124***
	(0.008)	(0.008)	(0.009)	(0.009)	(0.009)
55-65	-0.171***	-0.121***	-0.143***	-0.140***	-0.159***
	(0.009)	(0.010)	(0.010)	(0.010)	(0.010)
35-44 (Female)	-0.067***	-0.101***	-0.105***	-0.105***	-0.103***
	(0.011)	(0.011)	(0.012)	(0.012)	(0.012)
45-54 (Female)	-0.138***	-0.168***	-0.197***	-0.198***	-0.200***
	(0.011)	(0.012)	(0.013)	(0.013)	(0.013)
55-65 (Female)	-0.183***	-0.228***	-0.269***	-0.270***	-0.275***
	(0.013)	(0.014)	(0.015)	(0.015)	(0.015)
Education					
Tertiary	-0.795***	-0.704***	-0.713***	-0.716***	-0.739***
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Work					
Hours Worked (Male)		0.016***	0.016***	0.016***	0.016***
		(0.000)	(0.000)	(0.000)	(0.000)
Hours Worked (Female)		0.005***	0.005***	0.005***	0.005***
		(0.000)	(0.000)	(0.000)	(0.000)
Income Wage (Male)		-0.190***	-0.182***	-0.182***	-0.179***
		(0.004)	(0.004)	(0.004)	(0.004)
Income Wage (Female)		-0.280***	-0.286***	-0.287***	-0.291***
		(0.004)	(0.004)	(0.004)	(0.004)
Full Time (Male)		-0.536***	-0.531***	-0.530***	-0.529***
		(0.015)	(0.015)	(0.015)	(0.015)
Full Time (Female)		-0.241***	-0.252***	-0.253***	-0.253***
		(0.011)	(0.011)	(0.011)	(0.011)
Children					
Number of Own Children (Male)			-0.057***	-0.057***	-0.055***
			(0.003)	(0.003)	(0.003)
Number of Own Children (Female)			-0.071***	-0.070***	-0.071***
			(0.003)	(0.003)	(0.003)
Babies (Male)			-0.015	-0.015	-0.017
			(0.009)	(0.009)	(0.009)
Babies (Female)			-0.048***	-0.046***	-0.052***
			(0.010)	(0.010)	(0.010)
Constant	-0.560***	1.193***	1.147***	1.054***	0.776***
	(0.005)	(0.038)	(0.038)	(0.039)	(0.047)
Individual Income	NO	YES	YES	YES	YES
Work-related Characteristics	NO	YES	YES	YES	YES
Geographic Controls	NO	NO	NO	YES	YES
Year Fixed Effects	NO	NO	NO	NO	YES
Observations	1,774,884	1,684,313	1,684,313	1,684,313	1,684,313
Wald χ^2	31740.46	43289.25	44180.93	45486.61	46759.97
Prob< χ^2	0.000	0.000	0.000	0.000	0.000

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Source: IPUMS-CPS.

Table 9: Probability for an Individual To End Up Working in the Skilled Market Services Sector.

	(1)	(2)	(3)	(4)	(5)
Sex					
Female	0.151***	1.740***	1.881***	1.901***	1.977***
	(0.009)	(0.072)	(0.073)	(0.073)	(0.073)
Age					
35-44	0.015*	-0.122***	-0.092***	-0.092***	-0.096***
	(0.008)	(0.009)	(0.009)	(0.009)	(0.009)
45-54	-0.016*	-0.213***	-0.188***	-0.187***	-0.199***
	(0.009)	(0.009)	(0.010)	(0.010)	(0.010)
55-65	-0.015	-0.219***	-0.219***	-0.218***	-0.236***
	(0.010)	(0.011)	(0.012)	(0.012)	(0.012)
35-44 (Female)	-0.078***	-0.001	0.011	0.012	0.014
	(0.012)	(0.012)	(0.013)	(0.013)	(0.013)
45-54 (Female)	-0.127***	-0.022*	-0.023	-0.023	-0.024*
	(0.012)	(0.013)	(0.014)	(0.014)	(0.014)
55-65 (Female)	-0.161***	-0.049***	-0.057***	-0.058***	-0.063***
	(0.015)	(0.016)	(0.016)	(0.016)	(0.016)
Education					
Tertiary	0.502***	0.269***	0.262***	0.258***	0.237***
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Work					
Hours Worked (Male)		-0.004***	-0.004***	-0.003***	-0.003***
		(0.000)	(0.000)	(0.000)	(0.000)
Hours Worked (Female)		0.001**	-0.002**	-0.001**	-0.001**
		(0.000)	(0.000)	(0.000)	(0.000)
Income Wage (Male)		0.429***	0.436***	0.433***	0.436***
		(0.006)	(0.006)	(0.006)	(0.006)
Income Wage (Female)		0.255***	0.250***	0.246***	0.242***
		(0.005)	(0.005)	(0.005)	(0.005)
Full Time (Male)		-0.207***	-0.206***	-0.204***	-0.200***
		(0.019)	(0.019)	(0.019)	(0.019)
Full Time (Female)		-0.003	-0.010	-0.009	-0.008
		(0.012)	(0.012)	(0.012)	(0.012)
Children					
Number of Own Children (Male)			-0.045***	-0.044***	-0.043***
			(0.003)	(0.003)	(0.003)
Number of Own Children (Female)			-0.056***	-0.056***	-0.057***
			(0.003)	(0.003)	(0.003)
Babies (Male)			0.044***	0.045***	0.044***
			(0.010)	(0.010)	(0.010)
Babies (Female)			0.075***	0.078***	0.074***
			(0.011)	(0.011)	(0.011)
Constant	-1.554***	-5.522***	-5.574***	-5.533***	-5.874***
	(0.006)	(0.057)	(0.057)	(0.058)	(0.066)
Individual Income	NO	YES	YES	YES	YES
Work-related Characteristics	NO	YES	YES	YES	YES
Geographic Controls	NO	NO	NO	YES	YES
Year Fixed Effects	NO	NO	NO	NO	YES
Observations	1,774,884	1,684,313	1,684,313	1,684,313	1,684,313
Wald χ^2	12688.42	17362.919	17864.244	18695.146	19489.862
Prob< χ^2	0.000	0.000	0.000	0.000	0.000

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Source: IPUMS-CPS.