

REVISITING "MOTHERS AND SONS" :

Preference Formation and Female Labor Force in Switzerland

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PRELIMINARY AND INCOMPLETE VERSION.

Abstract

In this paper I analyze the interrelation between marriage choice and female labor supply decision. Following Fernández, Fogli and Olivetti (2004), I argue that the recent changes in the female labor market participation rate are driven by the formation of men's preferences and gender-role attitudes. Consequently, the increasing proportion of men who were brought up in a family with a working mother caused a significant rise of the female labor force participation rate. Using the Swiss Household Panel 2005, I replicate first the results of Fernández, Fogli and Olivetti (2004) by illustrating that married women whose mothers-in-law were working are themselves significantly more likely to be in the labor force. In a second step, I test their crucial assumption and show that men's preferences towards employed wives diverge depending on the former labor market status of their mothers. Taken together, this evidence indicates that men raised by working mothers are less likely to support traditional gender roles.

Keywords: female labor supply; well-being; preferences; cultural transmission; marriage; households; family.

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1 Introduction

The situation of women in the Swiss labor market has changed profoundly during the last decades. At the beginning of the 20th century female labor force participation rates were very low and women tended to leave the labor market right after marriage. Due to the educational expansion after World War II the general education of women increased remarkably and this also enhanced the female labor participation rate. Today, more than 70% of all women living in Switzerland are employed, the number of female students recently exceeded the number of male students and the rate of women combining career and family is constantly rising.

What are the reasons behind this change and the increased presence of females in the labor market? Smith and Ward (1985) study longer-term trends since 1900 for the US labor market and find that the rising real wages explain 60% of the total increase of the number of employed women. They state that the change in real wages caused a change in the attractiveness of working in the labor market relative to housekeeping. Goldin (1992) argues that men were mainly employed in the industry sector which was severely restructured during the last century due to technological changes, whereas women are mostly employed in the service sector. The service sector is not only growing intensely it is also better protected from international competition and the relocation of production. While aforementioned papers focus on the female labor supply in general, there is a variety of studies that narrows down the discussion on married women. Greenwood, Seshadri and Yorukoglu (2005) argue that new consumable durables like washing machines and vacuum cleaners significantly decreased the workload to run a household. The newly invented machines facilitated housework and allowed the homemaker to become at least part-time employed. As suggested by Goldin and Katz (2002) oral contraceptives made a women's investment in an occupational career more worthwhile. Thenceforward, women could control their fertility and determine whether to focus on a professional life or a family.

In this paper, I argue that the constantly increasing number of employed married women is enforced by the change of preferences of their husbands. The fundamental changes in gender roles and family models are often debated topics. However, the belief that a woman's labor force participation negatively affects her capability to manage a family often remains. The attitudes towards working women may differ with the personal experience with women successfully combining children and a career. Since children are mainly confronted with their parents' role-models, the mother's labor market status may affect the acceptance of working women. Following Fernández, Fogli and Olivetti (2004), I therefore suggest that an important factor for the constantly increasing female labor market participation rate is the growing fraction of men who grew up with a working

mother. Mother figures who combine working in the labor market and in the household encourage the acceptance of such type of women. Since gender-roles are established early in life, mothers pursuing a professional career set an example of expected female behavior. Being raised by a working mother directly affects a man's attitude towards role-modeling. Thus, the labor market status of a mother is a significant determinant for a man's preferences for an employed wife. Consequently, the increasing number of men who grew up with a working mother made investments in education and professional skills for women in the following generation more worthwhile and thereby augmented the female labor supply. This argument is related to the theory of intergenerational transmission of traits as well as on studies examining the relation between working mothers and gender-role attitudes of their offspring. As formulated by Bisin and Verdier (2001) parents socialize their children by transmitting their own preferences. Therefore, a child's position towards women is mainly modeled by own experiences with the role of his or her mother. Powell and Steelman (1982) analyze the question of a mother's influence on her children's attitudes towards gender-roles and especially towards female labor force participation. They find that the association between maternal status characteristics and gender-role attitudes of adult men are stronger than for adult women. Thus, working mothers set an example for their sons, determine their sons' preferences for a working wife and lead the way for the following generation of women to succeed in their footsteps. Kawaguchi and Miyazaki (2009) replicate the results of Fernández, Fogli and Olivetti (2004) using Japanese data from 2000, 2001, 2002, and 2003. They find no statistically significant evidence that men raised by full-time working mothers are more likely to have full-time working wives. However, by examining the survey response to a direct gender role question they find that men raised by full-time working mothers are more likely to responde negatively to traditional gender stereotypes.

As noted above, the crucial assumption is the different preferences between men who grew up in a household with a working mother and those who were raised by a mother attributing time only to household production. I therefore expand the analysis of Fernández, Fogli and Olivetti (2004) and introduce a satisfaction estimation to verify this assumption before analyzing the impact of the labor market participation of a husband's mother on his wife's probability to work. Bonke and Browning (2008) examine the distribution of financial satisfaction within the household empirically. The authors find that the wife's share of household income has a negative effect on her husband's material well-being. I suggest that this negative influence on men's well-being is dependent on gender-role attitudes. Men who grew up with a working mother have a different position towards role-modeling and especially towards female labor force participation. Therefore, I ana-

lyze the financial satisfaction of men depending on their mother's former work status. My empirical work neglects the dynamics and focuses on the cross-sectional conclusions. Using the Swiss Household Panel 2005, I first replicate the results of Fernández, Fogli and Olivetti (2004) and estimate how men's different attitudes towards gender-roles influence the labor market participation decision of married women. I use the mother's former labor market status as a proxy for the husband's attitudes and include this variable in the estimation of the female working decision. The results indicate that the working behavior of a married woman is significantly influenced by the labor market status of her mother-in-law. Controlling for a set of other determinants of the working decision and the socioeconomic background, I show that the probability that a man's wife is employed is positively correlated with whether the man's mother used to work during his childhood. Depending on the estimated model specification, I conclude that growing up with an employed mother raises the probability that a man's wife is in labor force by approximately six percentage points for a women with average characteristics. Using the same data base, I examine in a second step married men's degree of financial satisfaction depending on their mothers' former employment status. To test the validity of the crucial assumption in the model by Fernández, Fogli and Olivetti (2004), I show that the wife's share of household income affects her husband's financial satisfaction negatively when he was raised by mother that worked exclusively at home. For men who were raised by working mothers the wife's share of household income has no significant impact on their material well-being. Thus, being raised by an employed mother has an impact on men's preferences and utility. Taken together, the results indicate that mothers' work experience affect their sons' preferences towards gender-role attitudes and thereby also the labor force participation rate of married women in the next generation.

The remainder of the paper is organized as follows. The next section presents a short formalization of the idea. Section 3 gives a brief overview of the data source used in this paper. The differences in the labor participation decision of women depending on the employment status of their mothers-in-law are discussed in section 4. Using ordered probit models, I analyze in section 5 the effect of wife's share of household income on her husband's financial satisfaction. The last section concludes.

2 Model

In this section I work out a model that addresses the reason why the probability of participation in the labor market is higher for women whose mothers-in-law had worked.

A reason why the labor market status of a married woman might be affected by the former labor market status of her mother-in-law is that men with working mothers have

different gender-role preferences and marry women who are more likely to work. During the socialization process parents transmit their own preferences to their children. Experiences with a working mother influence a boy's attitudes towards gender-roles and especially towards female labor force participation. Therefore, the position of the mother in the household a boy grew up in is reflected later in life in his preferences of having a working wife. Thus, I assume that all men have the same set of household skills, but differ in preferences towards being married with an employed woman.¹

The general framework is a simplification of the model by Fernández, Fogli and Olivetti (2004). Definitions, notations and timing are analogous to their model. All individuals are assumed to live for two periods. In period one, women choose the effort level they are willing to invest in market skills given the distribution of male types. In period two, male and female agents match, decide whether to remain single or to marry and choose how much time they attribute to market work. All stages are described below in reverse order.

2.1 Time Allocation

All individuals are endowed with one unit of time. Husbands and wives decide individually how much time t they attribute to labor market activity and how much time $(1 - t)$ to household production. Time allocation is assumed to be a Nash equilibrium. That is, within a married household the husband's time allocation is determined by his wife's allocation of time. The same is true for the wife.

A married woman's utility function is given by

$$V_f(c, b; q_f) = c(\cdot) + \beta \log[b(\cdot)] + q_f, \quad (1)$$

where β is assumed to be strictly positive. The sum of each spouse's market earnings equals the joint household consumption of market goods $c = \omega_m t_m + \omega_f t_f$, where ω_i describes that market wage of either husband or wife. The production of the household good b is given by $b = a_m(1 - t_m) + a_f(1 - t_f)$, where the household productivity is denoted by $a_i \geq 0$ and q_f measures the quality of the match for a woman. A married man's utility function is given by

$$V_m(c, b, t; q_m) = c(\cdot) + \beta \log[b(\cdot)] - \alpha t_f + q_m. \quad (2)$$

¹One could argue that the differences between men who grew up with a working mother and men who did not are less determined by preferences but endowments. Having a working mother might affect a son's set of household skills or his attitude towards household work and make him later in life a better partner for a working woman. Since the reason why this two type of men differ is of minor interest here, I focus only on the preference channel.

The function includes one more component representing men's disutility of having a working wife. I use this modeling shortcut and assume that women's labor market activities enter directly into men's utility function. In this paper $\alpha \geq 0$ is the crucial parameter in the husband's utility function. The parameter will later differ systematically between male types. The quality of the match for a man is given by q_m .

The market wage corresponds perfectly to the market productivity. Furthermore, I assume that the husband has a comparative advantage in the market,

$$\frac{\omega_m}{a_m} \geq \frac{\omega_f}{a_f}. \quad (3)$$

This assumption implies that married women attribute more time to household production than their husbands. Since the analysis focuses on the preference channel I assume in addition that all agents have the same household productivity $a_m = a_f$. This implies that men are always better paid in the market than women; i.e. $\omega_m > \omega_f \forall \omega_f$ and that the husband works exclusively in the market; i.e. $t_m = 1$. Assuming further that $\omega_m > \beta$ two solutions are possible: Either the wife devotes her time fully to household production if $\omega_f \leq \beta$ or if $\omega_f > \beta$ the wife works $t_f = 1 - \frac{\beta}{\omega_f}$ in the market and reminding time at home.

Assuming that all men have the same market productivity ω_m the labor market supply decision of a women is, ceteris paribus, dependent on her market wage.

Just like couples, single agents decide how much time they devote to household work and how much time to market production. A single agent's utility is given by

$$u(c, b) = \max c(.) + \beta \log[b(.)], \quad (4)$$

subject to $c = \omega_i t$, $b = a_i(1 - t)$ with $1 \geq t \geq 0$. Moreover, $U(\omega_i, a_i)$ represents the indirect utility resulting from the optimization problem (4). Henceforth, I define the utility of agent i married to agent j by $V_{ij}(\omega_m, \omega_f, \alpha, a_m, a_f)$ and the utility of single agent i by U_i .

2.2 Matching and Utility of Getting Married

To simplify the model I limit the matching process to only one round of matching. A man and a woman meet randomly. The quality of the match is an independently and identically distributed draw $q_i \in [\underline{q}, \bar{q}]$ from a continuous distribution Q with $\underline{q} \geq 0$. According to the quality outcome of the drawing they decide to marry or to stay single. Thus, I define a cutoff quality for each agent depending on the productivity level of the woman. The cutoff quality of a man for a woman with attributes (ω_f, a_f) is given by $q_m^*(\omega_m, \omega_f; \alpha, a_m, a_f)$, the cutoff quality of a woman for a man with attributes (ω_m, a_m)

by $q_f^*(\omega_m, \omega_f; \alpha, a_m, a_f)$. Thus, the cutoff quality simply represents the value of q that sets agents indifferent between marrying or staying single. A man and a woman only get married if the quality of the match lies above the cutoff quality for both agents, that is if both agents are better off being married than staying single.

2.3 Investing in Market Skill Acquisition

As described before the labor market supply decision of a woman depends *ceteris paribus* on her market wage. Whereas all men are assumed to have the same market production ω_m , women can influence their market wage by investing in education. That is, *ex ante* identical women chose an effort level $e \in [0, 1]$ they are willing to invest in acquiring market skills. The effort level e directly determines the probability of being a highly productive worker and getting the higher market wage ω_h instead of the lower market wage ω_l , with $\omega_h > \beta \geq \omega_l$.

2.4 Two Type of Gender-Role Preferences

To further simplify the exposition I assume that all agents' household productivity is equal to one ($a_m = a_f = 1$). As discussed, a married woman's working behavior influences her husband's utility. The hours worked in the labor market by a woman whose husband grew up with a mother working exclusively in the household have a negative effect on the husbands utility. In contrast, the utility of a man who grew up with a working mother is not influenced by his wife's labor market status. Therefore, I define $\alpha = 0$ for all men with working mothers and $\alpha > 0$ for all men with a mother working solely at home. This distinction is based on differences in gender-role attitudes (see Powell and Steelman, 1982; Weitzman, Eifler, Hokada, and Ross, 1972; Akerlof and Kranton, 2000). Analogous to the previously defined high and low productive types of women, I define two types of men: whereas type h represent all men whose mother's productivity was ω_h and therefore worked in the market, type l stands for men with mothers who worked exclusively in the household.

Let λ be the fraction of men in the population with working mothers. This proportion of male type h on the marriage market is assumed to be equal to the probability of being matched with this type of men. A woman's expected utility $V^j(\lambda)$ conditional on her market wage ω_j and the fraction λ is denoted by

$$V^h(\lambda) = \lambda[p_{hh}V_h + (1 - p_{hh})U_h] + (1 - \lambda)[p_{hl}V_h + (1 - p_{hl})U_h] \quad (5)$$

$$V^l(\lambda) = \lambda[p_{lh}V_l + (1 - p_{lh})U_l] + (1 - \lambda)[p_{lu}V_l + (1 - p_{lu})U_l], \quad (6)$$

where a woman with market wage ω_j , $j = h, l$ has an utility V_j of being married and an utility U_j of being single.² The marriage probability of two agents when a woman with wage ω_j is matched with a man whose mother's productivity was k is

$$p_{jk} = \int_{q_j^*}^{\bar{q}} \int_{q_{kj}^*}^{\bar{q}} dQdQ, \quad (7)$$

where $j, k = h, l$, q_j^* gives the reservation match quality for a woman earning ω_j and q_{kj}^* describes the reservation match quality for a man given that he is of type k and matched to a woman with market wage ω_j .³ Since all women with ω_l are assumed to work exclusively in the household, $p_{lh} = p_{ll}$. Furthermore, the probability that a highly productive woman marries a man of type l is smaller than the probability that this woman marries a man of type h ($p_{hl} < p_{hh}$).

The female lifetime utility is defined by

$$eV^h(\lambda) + (1 - e)V^l(\lambda) - C(e), \quad (8)$$

where $C(e)$ is a woman's disutility from investing effort in acquiring skills, where $C(0) = 0$, $C'(e) > 0$ and $C''(e) > 0$ for all $e > 0$. Furthermore, it is assumed that $C'''(e) > 0$ and that the Inada conditions $C'(0) = 0$ and $\lim_{e \rightarrow 1} C'(e) = \infty$ are satisfied. Focusing again on the education investment problem a woman is facing early in life, I assume that a young woman is choosing e such that equation (8) is maximized. Thus, it can be shown that $V^{h'} > V^{l'}$ and therefore the optimal choice of e is increasing in the proportion λ . Since men of type h are more likely to marry a highly productive woman, the existence of this type of men is crucial for the investment problem. A larger proportion of men who grew up with a working mother make it more appealing for women to invest in education. Accordingly, an augmented rate λ in the population leads to an increase in the fraction of women with ω_h compared to ω_l and this relative change causes higher female labor market participation rates. Thus, the model provides a reason for the higher market participation rate of married women whose mothers-in-law had worked.

3 Data

The data used in this study is taken from the Swiss Household Panel (SHP) conducted in 2005. This panel survey is representative of the Swiss residential population and

²Since all men have the same market and household productivity their choice of t_m is independent of their type. Therefore, a woman's utility from being married to a certain man is not influenced by the man's type. Consequently, all male subscript can be neglected in the female utility function.

³Again, a woman's reservation match quality is independent of the man's type and only depends on her market productivity.

covers a broad range of social fields. Since 1999 a sample of 5000 households per wave is conducted each year. The survey collects both objective and subjective data and therefore provides information about financial resources, labor market status as well as attitudes and satisfaction with various life domains of all individuals within a household. Furthermore, the survey collects information regarding the respondent's life at age 15. These questions include the labor market status of both parents and parents' educational background.

I focus on married couples exclusively. This leaves a sample of 679 households for the satisfaction estimation and a sample of 946 for the estimation of the female labor supply decision.⁴ The models consist of the following variables.

- **Age.** Wife's and husband's age in the census year are reported.
- **Education** is measured in three categories corresponding to tertiary, secondary and primary education. Secondary education serves as the reference category.
- **Financial satisfaction.** For my satisfaction analysis I use the response to the question: Overall, how satisfied are you with your financial situation? The answers are classified in eleven categories ranging from "not at all satisfied" to "completely satisfied". I assume that the degree of satisfaction is comparable across respondents. Since different individuals may diverge in the interpretation of the scale, this assumption is crucial.
- **Income** represents the yearly total personal net income in the census year.
- **Household income** is the sum of husband's and wife's yearly total personal net income. Here, the logarithm of the household income is used in the satisfaction estimation.
- The **wife's share** measures the percentage of the household income that is contributed by the wife.
- **Labor force status of the mother.** Individuals were asked whether their mother was actively occupied when they were 15 years old. Based on this variable I construct the former work status of an individual's mother.
- As a proxy for the **socioeconomic status** of an individual, I use the father's and mother's education. The categorization is analogous to the before described education variables. Thus, two dummy variables for primary and tertiary education are introduced. Secondary education serves as the reference category.

⁴Due to missing satisfaction variables the two samples are not of equal sizes.

- **Number of children** counts the children not older than 17 years living in the household.
- **Numbers of adults** counts the adults older than 17 living in the household.
- **Religion.** Using Christianity as the reference category, I control for **other religions** (as Islam and Buddhism) and **no religion**.
- **Language region.** Whereas German-speaking individuals serve as the reference category, I account for disparities between the three main language areas are by introducing dummy variables for the **French** and **Italian** speaking population.

To ensure that most individuals in the dataset might still be in the labor force I only select couples where the husband is below 50 years of age. Since the model assumes that all husbands are working at least partly, I exclude all couples with husbands that are not in the labor force or unemployed. The present female labor market participation rate in the sample is 75%. Considering that older individuals were excluded this number corresponds to today's labor market participation rate in Switzerland, 70%. The participation rate of the husbands' mothers was only 48%. The mean of wife's share of household income is 19.6% and the median is 17.8%. The mean and median share of household income of wives whose mothers-in-law were in the labor force are both higher. Only 17% of the male individuals report a financial satisfaction of five or below. The median lies at a satisfaction degree of 7. Tables 1-3 in the Appendix give further details of the sample statistics.

4 Labor Force Participation Decision

The objective of this section is to analyze a married woman's labor force participation decision depending on the work status of her mother-in-law. In particular, I show that controlling for several labor market characteristics and the socioeconomic background, the former working behavior of a married man's mother positively affects the likelihood that his wife works.

Since the Swiss Household Panel contains information on both spouse's income, working behavior and several background characteristics as well as on the labor force status of each individual's parents, the dataset provides the necessary information. The probit estimation of the female labor force participation decision is mainly based on the standard literature (see Becker, 2005). The basic model specification describes the labor force participation decision of married women as a function of age, education, husband's income and the number of children. Since I focus on measuring the influence of the husband's gender-role preferences on the female work decision, I use the husband's mother's

work status as a proxy for his attitudes. One might question the extent of the direct effect and argue that certain background variables cause the positive correlation between the working behavior of a wife and her mother-in-law’s employment status. A mother’s intention to work as well as her attitudes towards market and household production might be correlated with a family’s socioeconomic background. Therefore, I control for the socioeconomic background by introducing the education of the parents into the regression equation. Systematical differences between the language areas in Switzerland for many different situations in life are often discussed. When a man who grew up in a language area where women are more likely to work marries a woman who is speaking the same language, this might create a positive effect for the variable of interest. Hence, dummy-variables for the language regions within Switzerland are included. To exclude the possibility that the correlation of interest is only driven by a variety of background factors, the husband’s education and age as well as the former labor market status of the wife’s mother are included in the estimations.

I estimate the following discrete response model:

$$P^w = \mathbf{x}_2\beta + P^{hm}\delta + e, \quad e \sim N(0, 1).$$

The dependant latent variable P^w indicates the labor market participation decision of the wife. The dummy variable P^{hm} equals 1 if the husband’s mother worked when her son was fifteen years old and \mathbf{x} represents a vector of control variables.

The estimated marginal effects⁵ are given in Table 4. Regression (i) represents a standard labor force participation estimation. Regressions (ii), (iii) and (iv) are expansions of the basic model including the labor market status of the husband’s and the wife’s mother and a variety of other control variables.

I find that a married woman’s labor market participation decision is positively and significantly related to whether her mother-in-law has worked. Thus, having a mother-in-law who has worked raises the chances that a wife with mean characteristics is participating in the labor market by six to seven percentage points. Even when controlling for a variety of background variables as religion or language area the coefficient of the dummy variable indicating whether the husband’s mother had worked remains significant. The magnitude of the effect for a woman with mean characteristics is even bigger when adding further controls. Compared to the results of Fernández, Fogli, and Olivetti (2004) the effects presented in this paper seem rather small. However, the former labor market status of a husband’s mother is an important factor determining the working decision of his wife.

⁵All marginal effects are computed at the means of the independent variables. Due to presentational reasons no coefficients are reported.

Besides the labor market status of the mother-in-law, the participation decision is also determined by education, the number of children and some proxy variables for the socioeconomic background of the husband’s or the wife’s family. Whereas an additional child reduces the probability for labor market participation by approximately five percentage points, a married woman’s probability of participating in the labor market is approximately eight to ten percentage points higher for women with tertiary education compared to women with secondary education. Interestingly, the former labor market status of a wife’s mother does not influence a married woman’s labor market participation decision. However, the education of a wife’s mother can be a crucial determinant. The likelihood that a married woman is in the labor forces is approximately 15 percentage points higher, when her mother has a tertiary compared to secondary education.

5 Financial Satisfaction

As noted above, the crucial assumption is the different preferences between men who grew up in a household with a working mother and those who were raised by a mother attributing time only to household production. In this section I show that the men’s material well-being is negatively affected by the wife’s share of income. I further present evidence that this negative correlation is only true for men who grew up in a traditionally structured household.

The analysis of the financial satisfaction is based on the conventional satisfaction literature. While Van Praag (2004) mainly uses family size based determinants of financial satisfaction, Mc Bride (2001) and Clark and Oswald (1996) introduce relative income measurements and income comparison levels. Bonke and Browning (2008) focus on the financial situation of married couples and include the wife’s share of household income in their estimation model. They find that the income share contributed by the wife is negatively correlated with men’s satisfaction level. I segment the sample depending on the labor market status of the husband’s mother and estimate ordered probit models for each group based on the specification of Bonke and Browning:

$$S^h = \mathbf{x}_1\beta + r\gamma + e, \quad e|\mathbf{x}_1 \sim N(0, 1).$$

The husband’s latent satisfaction level is given by S^h , \mathbf{x} represents a vector of husband and household specific control variables and r measures the wife’s share of household income.

The results of the ordered probit estimation for men are given in Table 5. Controlling for the household income, age, education, the numbers of children, language area and religion, I focus my analysis on the wife’s share of household income. I find that a man’s

financial satisfaction rises significantly with personal income for all different model specifications. In addition, French-speaking inhabitants report significantly lower satisfaction than German-speaking men. The most important finding is that the wife's share negatively affects the material well-being of men. Independent of the model specifications the negative impact is only significant for the group without working mothers. For all men who grew up with an employed mother, the income share the wife contributes to the household income has no significant effect on the degree of satisfaction. As a robustness check, I repeat the satisfaction estimation using the general satisfaction with life as the left-hand variable. The results presented in Table 6 show very similar effects and lead to the same conclusion: A man's well-being is negatively affected by the share that his wife contributes to the household income if he was raised in a traditionally structured household.

I assume that the wife's share of household income is a valid proxy for the time a woman attributes to labor market activity. Therefore, the results can be interpreted as evidence for the systematically differing α in men's utility functions. Thus, these findings support the crucial assumption that men's preferences towards employed wives diverge depending on the former labor market status of their mothers and support the inclusion of the labor market participation of the mother-in-law into the female labor market participation decision in Section 4.

6 Conclusion

This paper reexamines the idea that the increasing proportion of men who were brought up in a family with a working mother caused an significant rise of the female labor force participation rate. My results indicate that the intergenerational transmission of family attitudes significantly affect the labor market participation decision of married women. In particular, the working decision of a man's mother determines his attitude towards having a working wife. Men who grew up in a traditionally structured household dislike working wives and their preferences therefore make it less likely that their wives participate in the labor market. However, the preferences of men who were brought up by a working mother favor working wives.

Using the Swiss Panel 2005, I show that the income satisfaction of a married man is negatively affected by the share his wife contributes to the household income. However, this effect is not significant for men who grew up in a family with a working mother. These crucial differences in income satisfaction is interpreted as an indication of varying preferences due to exposure to certain sexual stereotypes early in life. Therefore, the former labor market status of a husband's mother is included as a proxy variable for

his gender-role attitudes in the estimation of the working decision of his wife. I present evidence that the probability of whether a man's wife is working is positively affected by the former labor market status of his mother. The effect remains significantly positive even when controlling for many background characteristics as religion, language area, socioeconomic background and whether the wife's mother worked. Depending on the specification, a married woman's probability to work is approximately seven percentage points higher when her mother-in-law used to work. Thus, growing up with a mother who performs the dual role of homemaker and worker influences a man's attitudes toward a working wife and indirectly affects the labor market participation decision of his wife significantly.

This paper is a further contribution to the literature analyzing the interaction between the economy and attitudes and social norms. Besides showing that there is a substantial tie between the proportion of men who were brought up by a working mother and the female labor market participation rate, I present evidence that the gender-role attitudes crucially differ according to the role-model men were confronted with early in life. The results discussed above complete the results described in Fernández, Fogli and Olivetti (2004) by directly establishing a link between mothers' former labor force status and sons' financial satisfaction depending on their wives' relative income. Thus, the presented evidence serves as a test for the validity of the assumption employed in the model by Fernández, Fogli and Olivetti (2004) that men's preferences towards employed wives diverge depending on the former labor market status of their mothers.

References

- AKERLOF, G. A., AND R. E. KRANTON (2000): “Economics and Identity,” *The Quarterly Journal of Economics*, 115(3), 715–753.
- BECKER, G. S. (2005): *A Treatise on the Family: Enlarged Edition*. Harvard University Press.
- BISIN, A., AND T. VERDIER (2001): “The Economics of Cultural Transmission and the Dynamics of Preferences,” *Journal of Economic Theory*, 97, 298–319.
- BONKE, J., AND M. BROWNING (2008): “The Distribution of Well-Being and Income within the Household,” *Review of the Economics of the Household*.
- CLARK, A. E., AND A. J. OSWALD (1996): “Satisfaction and comparison income,” *Journal of Public Economics*, 61(3), 359–381.
- FERNÁNDEZ, R., A. FOGLI, AND C. OLIVETTI (2004): “Mothers and Sons: Preference Formation and Female Labor Force Dynamics,” *The Quarterly Journal of Economics*, 119(4), 1249–1299.
- GOLDIN, C. (1992): *Understanding the Gender Gap: An Economic History of American Women (Nber Series on Long-Term Factors in Economic Development)*. Oxford University Press, USA.
- GOLDIN, C., AND L. F. KATZ (2002): “The Power of the Pill: Oral Contraceptives and Women’s Career and Marriage Decisions,” *Journal of Political Economy*, 110, 730770.
- GREENWOOD, J., A. SESHADRI, AND M. YORUKOGLU (2005): “Engines of Liberation,” *Review of Economic Studies*, 72, 109133.
- KAWAGUCHI, D., AND J. MIYAZAKI (2009): “Working Mothers and Sons’ Preferences Regarding Female Labor: Direct Evidence From Stated Preferences,” *Journal of Economic Literature*, 22, 115–130.
- MCBRIDE, M. (2001): “Relative-income effects on subjective well-being in the cross-section,” *Journal of Economic Behavior & Organization*, 45(3), 251–278.
- POWELL, B., AND L. C. STEELMAN (1982): “Testing an Undertested Comparison: Maternal Effects on Sons’ and Daughters’ Attitudes toward Women in the Labor Force,” *Journal of Marriage and the Family*, 44(2), 349–355.

- PRAAG, B. M. V. (2004): “The Connexion between Old and New Approaches to Financial Satisfaction,” Tinbergen Institute Discussion Papers 04-053/3, Tinbergen Institute.
- SMITH, J. P., AND M. P. WARD (1985): “Time-series Growth in the Female Labor Force,” *The Quarterly Journal of Economics*, (3), 59–90.
- WEITZMAN, L. J., D. EIFLER, E. HOKADA, AND C. ROSS (1972): “Sex-Role Socialization in Picture Books for Preschool Children,” *The American Journal of Sociology*, 77(6), 1125–1150.

A Appendix

Table 1: Husband's Income Satisfaction

Satisfaction level	Husband's mother not in labor force		Husband's mother in labor force	
	Frequency	Percent	Frequency	Percent
1	2	0.6	3	0.9
2	3	0.9	4	1.2
3	2	0.6	9	2.8
4	4	1.1	14	4.3
5	40	11.3	37	11.4
6	27	7.6	36	11.1
7	88	24.9	82	25.2
8	128	36.2	104	32.0
9	38	10.7	26	8.0
10	22	6.2	10	3.1
Total	354	100	325	100

Table 2: Descriptive Statistics - Participation Estimation

Variable	Husband	Wife
In labor force		0.75
Income	92881.12 (65584.4)	
Age	40.73 (5.92)	38.77 (6.30)
Primary education	0.03	0.11
Secondary education	0.57	0.67
Tertiary education	0.40	0.21
Christian	0.83	0.84
Other religions	0.01	0.02
No religion	0.09	0.08
German speaking	0.68	0.68
French speaking	0.27	0.27
Italian speaking	0.05	0.05
Mother in labor force	0.48	0.54
Primary education father	0.24	0.23
Secondary education father	0.53	0.51
Tertiary education father	0.23	0.26
Primary education mother	0.42	0.43
Secondary education mother	0.52	0.52
Tertiary education mother	0.05	0.06
Number of children	1.63 (1.10)	
Number of Households	946	

Mean and Standard Deviation in Parenthesis

Table 3: Descriptive Statistics - Satisfaction Estimation

Variable	Husband's mother not in labor force	Husband's mother in labor force
Husband's age	41.23 (5.72)	39.43 (6.09)
Household income	115674.50 (60475.5)	116621.40 (59783.6)
Primary education husband	0.02	0.03
Secondary education husband	0.55	0.55
Tertiary education husband	0.42	0.42
Wife's share	17.88 (17.33)	21.43 (19.44)
Number of Children	1.56 (1.08)	1.63 (1.10)
Christian husband	0.86	0.80
Other religions husband	0.02	0.02
No religion husband	0.07	0.11
German speaking husband	0.71	0.62
French speaking husband	0.24	0.34
Italian speaking husband	0.05	0.04
Number of households	354	325

Mean and Standard Deviation in Parenthesis

Table 4: Probit Estimation - Female Labor Market Participation

Variable	(i)	(ii)	(iii)	(iv)
Husband's mother in labor force		0.058*	0.065*	0.070*
		(0.030)	(0.030)	(0.032)
Wife's age	0.025	0.011		0.019
	(0.023)	(0.028)		(0.035)
Wife's age squared	-0.0003	-0.0001		-0.0002
	(0.003)	(0.0004)		(0.0005)
Primary education wife	-0.012	0.007		0.059
	(0.044)	(0.048)		(0.047)
Tertiary education wife	0.112**	0.091**		0.082*
	(0.031)	(0.035)		(0.038)
Wife's mother in labor force		0.011	-0.019	-0.010
		(0.031)	(0.030)	(0.033)
Husband's income	-0.0002	-0.0002	-0.0001	-0.0003
	(0.002)	(0.0002)	(0.0003)	(0.0002)
Husband's age			0.001	-0.018
			(0.001)	(0.044)
Husband's age squared			-0.0005	0.0003
			(0.0004)	(0.001)
Primary education husband			0.126	0.061
			(0.065)	(0.090)
Tertiary education husband			0.012	-0.008
			(0.032)	(0.036)
Number of Children	-0.053**	-0.049**		-0.056**
	(0.014)	(0.014)		(0.015)
Primary education wife's father		0.027		0.035
		(0.040)		(0.042)
Tertiary education wife's father		0.027		0.043
		(0.039)		(0.041)
Primary education wife's mother		0.001		0.021
		(0.035)		(0.038)
Tertiary education wife's mother		0.102		0.148**
		(0.059)		(0.052)
Wife French speaking				-0.226
				(0.208)
Wife Italian speaking				-0.257
				(0.159)
Primary education husband's father			-0.082	-0.091*
			(0.042)	(0.045)
Tertiary education husband's father			0.009	0.016
			(0.039)	(0.042)
Primary education husband's mother			-0.073*	-0.055
			(0.034)	(0.036)
Tertiary education husband's mother			-0.110	-0.137
			(0.082)	(0.092)
Husband French speaking				0.157
				(0.139)
Husband Italian speaking				0.041
				(0.111)
Number of households	946	824	846	750
Log likelihood	-514.26	-442.98	-462.96	-390.09
Pseudo R	0.030	0.035	0.028	0.071

* Statistically significant at the 5-percent level.

** Statistically significant at the 1-percent level.

Table 5: Ordered Probit Estimation - Men's Income Satisfaction

Variables	Mother not in Labor Force		Mother in Labor Force	
	(i)	(ii)	(i)	(ii)
Log(household income)	0.667** (0.14)	0.551** (0.15)	0.694** (0.13)	0.669** (0.14)
Husband's age	0.042 (0.12)	0.076 (0.13)	0.031 (0.13)	0.064 (0.14)
Husband's age squared	-0.0004 (0.002)	-0.001 (0.002)	-0.0003 (0.002)	-0.001 (0.002)
Primary education husband		0.154 (0.39)		-0.665 (0.36)
Tertiary education husband		0.252 (0.12)		0.023 (0.13)
Other religions husband	-0.088 (0.43)	-0.121 (0.43)	-0.163 (0.47)	-0.187 (0.47)
No religion husband	0.218 (0.22)	0.250 (0.22)	0.075 (0.18)	0.077 (0.18)
French speaking husband	-0.438** (0.13)	-0.434** (0.14)	-0.344** (0.12)	-0.358** (0.12)
Italian speaking husband	0.020 (0.26)	0.190 (0.26)	0.190 (0.29)	0.354 (0.30)
Log(number of children + 1)		-0.241* (0.12)		-0.152 (0.14)
Wife's share	-0.009** (0.003)	-0.010** (0.003)	-0.002 (0.003)	-0.004 (0.003)
Number of households	354	354	325	325
Log likelihood	-586.6	-582.7	-578.6	-576.3
Pseudo R	0.036	0.042	0.035	0.039

* Statistically significant at the 5-percent level.

** Statistically significant at the 1-percent level.

Table 6: Ordered Probit Estimation - Men's General Satisfaction

Variables	Mother not in Labor Force		Mother in Labor Force	
	(i)	(ii)	(i)	(ii)
Log(household income)	0.354*	0.339*	0.283*	0.252
	(0.15)	(0.16)	(0.12)	(0.13)
Husband's age	-0.051	-0.002	0.158	0.152
	(0.12)	(0.13)	(0.13)	(0.14)
Husband's age squared	0.001	-0.0001	-0.002	-0.002
	(0.002)	(0.002)	(0.002)	(0.002)
Primary education husband		-0.197		0.066
		(0.39)		(0.37)
Tertiary education husband		-0.013		0.100
		(0.12)		(0.13)
Other religions husband	-0.101	-0.103	-0.497	-0.474
	(0.48)	(0.48)	(0.47)	(0.47)
No religion husband	0.015	0.038	-0.128	-0.147
	(0.23)	(0.23)	(0.18)	(0.18)
French speaking husband	-0.171	-0.155	-0.151	-0.157
	(0.13)	(0.13)	(0.12)	(0.13)
Italian speaking husband	-0.378	-0.375	-0.392	-0.392
	(0.26)	(0.26)	(0.30)	(0.31)
Log(number of children + 1)		-0.206		0.013
		(0.12)		(0.14)
Wife's share	-0.009**	-0.011**	-0.003	-0.003
	(0.003)	(0.003)	(0.003)	(0.003)
Number of households	365	365	332	332
Log likelihood	-515.7	-514.2	-491.6	-491.3
Pseudo R	0.015	0.018	0.013	0.014

* Statistically significant at the 5-percent level.

** Statistically significant at the 1-percent level.