

COLLECTIVE FEMALE LABOR SUPPLY: EVIDENCE FROM GERMANY

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Preliminary and Incomplete. Please do not quote.

Abstract

The nature of married women's labor supply in Germany has undergone drastic changes since the mid-1980s. Their employment ratio has risen while their average weekly hours worked have declined. This paper uses micro data from the German Socio-Economic Panel (SOEP) in order to illustrate the changes in married women's labor supply between 1986 and 2000. It links these changes to women's own characteristics and to those of their husbands'. There is evidence that the spouses' level of education as well as the presence of small children in the family systematically affect the wife's hours of work. There is further evidence of an interaction between the hours worked by a wife and her husband, particularly if both of them have at least a medium level of education.

JEL Classification: J13, J22

Key Words: Female Labor Supply, Collective Approach

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1. INTRODUCTION

The literature on female labor supply has pointed to the rise of married women's market hours worked over the past decades as one of the most remarkable changes in labor economics that deserves to be studied in detail. A commonly quoted example is the experience of married women in the United States. As pointed out by McGrattan and Rogerson (1998, 2004), their average hours worked have risen by over sixty percent during the last three decades. For married women with small children this rise has been even more extreme. An often quoted counterexample is the experience of Germany, where average weekly hours worked of married women have been comparably low, and also have not changed much over the past decades.² These differences in married women's behavior most likely are linked to the answer to a question which Ed Prescott (2004) recently raised: "Why Do Americans work so much more than Europeans?" Given that men's hours worked have been remarkably similar in these two countries, this question boils down to asking why American women – and in particular married women – work so much more than women in Germany.

In this paper, we document the changes in married women's market hours worked in former West-Germany as they occurred between 1986 and 2000. Based on the German Socio-Economic Panel (SOEP) - a representative sample of private households living in Germany – we provide evidence on women's employment status and their actual weekly hours worked. We link these variables to women's own characteristics and to those of their respective husbands. We consider women's educational level, whether or not young children belong to their family, and their real hourly wage rate. We also consider their husbands' education and his real hourly wage rate. We can thus investigate, to which extent married women's labor market behaviour depends on their husbands, and whether or not husbands should explicitly be considered in a theory used to explain the observations. Assembling this evidence is a key ingredient for our effort to explain the observed trends and the differences between Germany and the United States. We ultimately want to quantify the role that the wage structure, institutional features such as the income tax system, parental leave policies, or the cost of childcare have for explaining the differences.

Preliminary evidence suggests that small children and a married woman's educational level systematically affect the number of hours she works in the market. Husbands' hours matter depending on the educational level considered. The evidence points to using a

² Merz (2005) uses the *Mikrozensus* of the German Statistical Bureau to document the changes in women's market hours worked as they occurred in former West Germany between the late 1950s and 2002. She links changes to hours worked by married women with small children to changes regulating parental leave. However, the *Mikrozensus* has no earnings information.

collective model of labor supply, rather than a unitary model, when trying to explain married women's labor supply and changes thereof.

The paper proceeds as follows. Section two presents the data underlying our study together with the main variables entering the analysis. Section three documents the evidence on married women's market hours in a household context for the years 1986 and 2000. Section four concludes.

2. DATA AND VARIABLES

The data used in this paper originate from the German Socio-Economic Panel (SOEP), a representative sample of private households and persons living in the Federal Republic of Germany. The panel was started in 1984 (wave A) and has been updated annually through 2003 (wave T). The panel design closely follows that of the Panel Study of Income Dynamics (PSID) – a representative sample of US households and individuals – but also takes idiosyncracies of the German legal and socio-economic framework into account.³ Like the PSID, the SOEP contains information on households as well as on the individuals belonging to those households. A set of core questions is asked every year, including questions on household composition, labor market and occupational dynamics, and earnings.

2.1 SAMPLE

Because our paper's focus is on the labor market involvement of married women in Germany and its change over time, we extracted a subsample for the years 1986 (wave C) and 2000 (wave Q) tailored to our main questions of interest.⁴ The subsample includes all married couples living in former West Germany if the wife is aged between 25 and 45, and if the husband is at most 60 years old. We exclude women younger than 25, because many of them still undergo education and do not fully participate in the labor market. Including younger women would confound our comparison of women with different levels of completed education. We exclude women older than 45, because women in that age range who have no children are very likely to have had children in the past. Thus, including women older than 45 would confound our comparison of women with small children and women without children. We also exclude all individuals on maternal or parental leave. Lastly, we exclude individuals

³ A detailed description of the panel's design, its coverage, the main questions asked, etc. is contained in the *Desktop Companion* to the SOEP, which is accessible online at www.diw.de.

who give incomplete information on marital status, work hours, years of education, or earnings.

We restrict our attention to couples residing in former West Germany, because we focus on changes in labor market behavior which requires consistent data over a rather long time-period. Naturally, such data are more readily available for former West Germany than for the former east. Also, it is well known that the labor market behavior of women in the former east systematically differs from that of women in the former west. Since we are ultimately interested in a cross-country comparison between Germany and the United States over a rather long time span, we do not explicitly address these internal differences in our analysis.

In order to study the impact of young children on married women's labor supply, we further refine our sample. We separately consider married women with children below the age of six, and also married women who never had children. In 2000 (1986), 32.4 (41.3) percent of all married couples in our sample had children below the age of six, and 20.3 (10.4) percent of them had no children at all.

2.2 VARIABLES AND METHODOLOGY

Our key variables of interest are actual hours worked by married women and their husbands, the respective hourly wage rates, levels of education, and non-labor income of the entire household. Regarding the hours variable, we take actual hours worked per month and divide them by 4.2 to get weekly hours worked.⁵ Following convention, we define three different categories: full-time employment covers at least 35 hours of work per week; part-time employment covers employment with at least one hour and at most 34 hours per week; non-employment covers zero hours per week. We label as employed anyone who works either full-time or part-time. All others are considered non-employed.

We compute an individual's real hourly wage rate as the ratio of his or her monthly labor income and the actual hours worked in that month, where labor income is measured in € We express the resulting wage rate in real terms (2000=100) using the price index provided by SOEP for deflation.⁶ We currently do not correct for overtime premia.

⁴ These two years were chosen in order to facilitate comparison with the micro census of Germany – the country's official statistic of its population and labor force. Individual-level data from the micro census are readily available as scientific use files, but only for selected years such as 2000, or 1989.

⁵ Actual work hours are composed of contractual work hours plus overtime.

⁶ The SOEP price index is based on the official German consumer price index (*Verbraucherpreisindex*) and the retail price index (*Index der Einzelhandelspreise*).

In order to investigate the link between a married woman's work hours and her level of education, we form three educational categories based on the SOEP variable "years of schooling completed". According to the definition of this variable, schooling comprises formal schooling as well as vocational training, e.g., in form of an apprenticeship. Any individual who completed compulsory education with strictly less than twelve years of schooling is assigned a low level of education. This category mostly includes individuals who at best graduated from the *Hauptschule* – the mandatory type of high-school which takes nine years to complete – without completing a *Fachschule*, an apprenticeship, or any other type of formal training. Individuals with at least twelve years of schooling but less than sixteen are assigned a middle level of education. This group typically consists of individuals who graduated from one of the three types of high-schools in Germany (*Hauptschule*, *Realschule*, or *Gymnasium*) and who also completed an apprenticeship or a *Fachschule*. Finally, we assign individuals with at least sixteen years of completed schooling to the category 'high education'. This group mostly consists of individuals with a university degree or a degree from a *Fachhochschule* (polytechnic).

Whether or not a couple has young children is based on information on children who live in the household at the time of the interview, are younger than six years old, and are the biological or adopted children of either the wife or her husband.

3. EMPIRICAL EVIDENCE

Married women in West Germany have radically changed their labor market behavior since the mid 1980s. In this section we document this change in detail, providing evidence on actual hours worked, employment ratios as well as on hourly wage rates and non-labor household income. We show that the level of education and whether or not there is a young child in the family has affected married women's labor market involvement much more than that of married men.

When looking at the average weekly hours worked of those, who have actively been involved in the labor market by working a positive number of hours, one observes a clear reduction in weekly hours worked among all married women. This reduction was particularly strong among women with children below age six. As shown in table 1, this group of women cut their weekly hours by more than five, whereas married women without children reduced their hours by only two per week. While married women obviously adjusted their labor market involvement during the period considered, married men's weekly hours worked have

barely changed. Regardless of whether or not there are small children in the family, men worked on average 44 hours per week. In fact, that number slightly increased over time.

Table 2 depicts employment ratios for couples in 2000 and in 1986. That ratio rose from 50.4 percent in 1986 to 66.5 percent in 2000 for all married women. The increase was equally strong among married women with young children; their ratio rose from 37.4 percent to a little over 50 percent. The severity of this change can also be seen when viewing table 2 from a different angle. In 1986, 47 percent of all married couples followed the traditional role model where the husband was the bread-earner and the wife stayed at home; another 47 percent of them were dual-career couples. By 2000, 62.5 percent of all married couples followed a dual-career path, whereas only 30 percent continued to follow the traditional model. The direction of change was similar for couples with small children.

Unlike in the case of women, married men's employment ratios remained by and large stable at well over 90 percent. Put differently, from the perspective of any married woman, in over 90 percent of all cases the husbands are employed. From a married men's perspective, however, things changed a lot. In 1986, only 50 percent of all husbands had a working wife. By 2000 that figure had risen to 67 percent for an employed husband and to 57 percent for a non-employed husband.

3.1 PART-TIME VS. FULL-TIME EMPLOYMENT

The evidence so far suggests that between 1986 and 2000, a considerable number of married women moved from non-employment to employment. In this section, we investigate whether the observed transitions occurred universally across different subsections of married women, and whether they were made into part-time employment, or rather into full-time employment. We also investigate whether the type of employment is linked to a couple's level of education, or to the presence of young children in a family.

Tables 3a through 3c summarize the distribution of married couples across non-employment, part-time and full-time employment in 1986 and also in 2000. A few facts stand out. The shift from non-employment into employment is most prominent among married women with young children. This group significantly increased part-time work by reducing non-employment, and also full-time employment. Married women without children maintained a stable employment ratio of about 80 percent, which is close to what is observed for single women without children. By 2000, the fraction of this group working full-time had declined from 67 percent to 54.4 percent, while the fraction working part-time had increased by almost ten percentage points to 26 percent. Hence, married women without children primarily

changed their labor market involvement by reducing weekly hours worked. The fraction of dual-career couples where both spouses work full-time declined from 60 to 50 percent among married couples without children, and from 15 to 11 percent among married couples with young children. Hence, this change was relatively strong among families with young children, and it was primarily due to married mothers cutting their weekly market hours more strongly than married women without children.

The numbers in tables 3a through 3c once again clearly indicate that married men have not adjusted their weekly hours worked during the period of observation. Over 90 percent of them continue to be employed in full-time jobs regardless of whether or not there are young children in their family.

3.2 THE ROLE OF EDUCATION

The question arises whether the observed changes in married women's engagement in the labor market are related to their level of education, or to that of their husbands. To answer it, we divide couples according to the partners' level of education into the three categories *low*, *middle* or *high*.

Table 4 illustrates marital sorting by educational categories, and how it has changed over our period of observation. To some extent, the numbers reflect the general rise in the level of education which has occurred since the mid-1980s in West Germany as well as in many other industrialized countries. A couple of facts stand out. Married women caught up on education more strongly than married men. In 1986, 82 percent of married women exhibited a low level of education, and only 4.6 percent of them counted as highly educated. The respective figures for married men then stood at 77 percent and 9.3 percent. By 2000, a mere 62 percent of married women had a low education, and the fraction with a high education had risen to 8.6 percent. These figures are much more in line with those of husbands in the same year, even though the fraction of highly educated men among those who are married continues to exceed the respective fraction among married women.

Table 4 points to two phenomena which demographers have stressed for some time. Firstly, in West Germany like in many other Western countries, marital sorting by the spouses' level of education can be observed. That is, within each education category, most married women are married to a man of the same category.⁷ Marital sorting is clearly observable for low and for high education levels; it is less prominent for spouses exhibiting a

⁷ Fernandez (2002) formulates a theory explaining very similar phenomena for the United Kingdom.

medium level of education. Secondly, it is much more common for a woman to be married to someone with an education exceeding hers than it is for a man. In 2000 like in 1986, the majority of men were married to a woman whose education level did not exceed their own level.

Taken together, marital sorting by education and the general rise in the level of education imply that the relative importance of different educational combinations of spouses changed between 1986 and 2000. The relative importance of couples where both partners have a low education declined in favor of couples where at least one partner exhibits a medium level of education, or couples consisting of two highly educated individuals. These shifts matter for our study of married women's hours worked within a family context, if their market hours systematically vary with their own educational achievement and/or with that of their husbands. We will now investigate whether or not this indeed is the case.

Tables 5a through 5c summarize the distribution of married women across the three labor market states non-employment, part-time work and full-time work by their own educational achievement irrespective of their husband's education. In 1986, about 50 percent of all married women were not employed, and the other half equally spread its labor market engagement across part-time and full-time employment. This pattern prevailed irrespective of their level of education. Things looked different when small children were present. In that case, the extent of non-employment strictly declined in a mother's level of education, while the extent of part-time work increased. Put differently, within the group of married women, highly educated mothers with small children were most likely to be employed and to work part-time. Irrespective of their education, about 14 percent of married mothers with young children worked full-time.

Things had changed fifteen years later. By 2000, married women had universally reduced non-employment, but that reduction was most pronounced among the highly educated. Part-time work increased across all three educational levels. Full-time work significantly increased among highly educated women; it declined among women with a low level of education. The picture becomes more complete if we also take the presence of small children into account. According to table 5b, married mothers with young children forcefully moved into employment. The highly educated ones among them primarily increased full-time work, whereas among those with a medium level of education part-time work increased more strongly than full-time work. Those with a low level of education not only reduced non-employment, but also full-time employment and increasingly worked part-time. According to table 5c, married women without children underwent similar changes as married mothers, a

notable exception being women with little education and no children. This latter group increasingly withdrew from employment.

Are the observed differences in women's labor market involvement possibly related to their spouses' behavior? We address this question next.

3.3 THE ROLE OF HUSBANDS

The evidence provided so far may be interpreted as suggesting that married women's labor market behavior – including the observed changes thereof – is independent of that of their husbands. In order to further investigate this issue, we depict the distribution of spouses across the three possible labor market states full-time work, part-time work, and non-employment. Table 6 illustrates the results according to the three educational levels *low*, *middle* and *high*.⁸

When comparing 2000 with 1986 for couples with young children (table 6b) the following observations stand out. We first consider couples consisting of two highly educated individuals. In this group, wives' employment ratio has remained unchanged; unlike all highly educated mothers with young children taken together (table 5b), the subgroup who is married to a highly educated spouse substituted from full-time work to part-time work. During the same time, the respective husbands significantly increased full-time employment. When looking at couples including spouses who each have a medium level of education, we notice that the share of husbands working full-time declined by 5 percentage points to a mere 86 percent – a remarkably low value. The respective wives, on the other hand, substituted from non-employment primarily into full-time work. Among low educated couples, the impact that a husband's hours worked have on the wife's labor market behavior seems to be negligible.

In sum, there is some evidence that the hours worked by spouses are not independent of each other, and that the kind of interaction varies with the partners' educational level. Among highly educated couples with young children, full-time employment has become more prominent for husbands and less prominent for wives. Among the group exhibiting a medium level of education, wives exchanged full-time work or non-employment in favor of part-time work. Their husbands frequently exchanged full-time employment against non-employment.

⁸ The focus is on spouses with an identical education level, since we know from the observed sorting in table 4, that these combinations are most frequent in each education category. We also considered wives with a medium level of education and husbands with low education, since this combination frequently occurs as well. The

4. CONCLUSIONS

This paper provides detailed evidence on married women's market hours worked in former West Germany between 1986 and 2000. It links these variables to women's own characteristics and to those of their husbands. Over the course of these fifteen years, married women increasingly moved from non-employment into employment. Preliminary results indicate that women's own level of education, and whether or not small children are present in their family are key determinants of their hours worked. There is further evidence of an interaction between the hours worked by wives and their husbands, particularly if both of them have at least a medium level of education. The evidence points to using a collective model of labor supply, rather than a unitary model, when trying to explain married women's labor supply and changes thereof.

results do not systematically differ from the ones reported for a medium-medium combination of spousal education.

REFERENCES

- Bloemen, Hans G. 2005. "Income taxation in a collective household labour supply model with discrete hours," working paper, Free University of Amsterdam.
- Chiappori, Pierre-André 1988. "Rational household labour supply," *Econometrica* 56:63-89.
- Chiappori, Pierre-André, François Bourguignon 1992. "Collective models of household behaviour: An introduction," *European Economic Review* 36:355-365.
- Donni, Olivier 2005. "Collective female labor supply: Theory and application," IZA discussion paper 1506.
- _____ 2003. "Collective household labor supply: Nonparticipation and income taxation," *Journal of Public Economics* 87:1179-1198.
- Fernandez, Raquel 2002. "Education, Segregation and Marital Sorting: Theory and an Application to the UK," *European Economic Review* 46:993-1022.
- McGrattan, Ellen, Richard Rogerson 1998. "Changes in Hours Worked since 1950," *Quarterly Review of the Federal Reserve Bank of Minneapolis*, Winter:2-19.
- _____ 2004. "Changes in Hours Worked, 1950-2000," *Quarterly Review of the Federal Reserve Bank of Minneapolis*, Summer:14-33.
- Merz, Monika 2005. "Women's Hours of Market Work in Germany," in *Labour Supply and Incentive to Work in Europe*, R. Gómez-Salvador et al. (eds.), Northampton, MA: Edward Elgar Publishing.
- Prescott, Edward 2004. "Why do Americans work so much more than Europeans?" *Federal Reserve Bank of Minneapolis Quarterly Review* 28:2-13.
- Rogerson, Richard 2004. "Structural transformation and the deterioration of European labor markets," working paper, Arizona State University.
- Vermeulen, Frederic 2004. "A collective model for female labor supply with nonparticipation and taxation," working paper, CentER, Tilburg University.
- _____ 2002. "Collective household models: Principles and main results," *Journal of Economic Surveys* 16:533-564.

APPENDIX

Table 1: Average Actual Working Hours Per Week

	All couples		Couples with kids < 6 yrs.		Couples without kids	
	2000	1986	2000	1986	2000	1986
h³0						
Wife	18.2	14.2	11.5	10.8	28.5	31.6
Husband	41.6	41.0	40.9	40.9	41.4	40.4
h>0						
Wife	27.7	31.5	23.4	28.6	35.7	37.9
Husband	44.8	44.0	44.8	44.0	44.7	43.2

Notes: All statistics are based on a subsample of SOEP from wave C (1986) and wave Q (2000), respectively. The subsample includes all married couples if the wife is aged between 25 and 45, and if the husband is at most 60 years old. Individuals on maternity or parental leave are excluded. See text for details.

Table 2: Employment Ratios of Married Couples [%]

a. All Couples

		2000			1986		
		<i>Husband</i>			<i>Husband</i>		
		E	NE		E	NE	
Wife	E	62.5	4.0	66.5	47.2	3.2	50.4
	<i>67.1</i>	<i>57.4</i>	<i>50.3</i>		<i>51.9</i>		
Wife	NE	30.6	3.0	33.5	46.6	3.0	49.6
	<i>32.9</i>	<i>42.6</i>	<i>49.7</i>		<i>48.1</i>		
		<i>93.1</i>	<i>6.9</i>	100	<i>93.8</i>	<i>6.4</i>	100

b. Couples With Children < Age 6

		2000			1986		
		<i>Husband</i>			<i>Husband</i>		
		E	NE		E	NE	
Wife	E	46.1	4.0	50.1	34.3	3.1	37.4
	<i>50.3</i>	<i>47.5</i>	<i>36.8</i>		<i>45.7</i>		
Wife	NE	45.5	4.4	49.9	59.0	3.6	62.6
	<i>49.7</i>	<i>52.5</i>	<i>63.2</i>		<i>54.3</i>		
		<i>91.6</i>	<i>8.4</i>	100	<i>93.3</i>	<i>6.7</i>	100

Notes: See table 1. *E* denotes employment, and *NE* stands for non-employment. Figures in bold relate to the wife, figures in italics to the husband. All other figures relate to the joint distribution.

Table 3: Distribution of Married Couples Across Hours Categories [%]

a. All Couples

		2000				1986					
		<i>Husband</i>				<i>Husband</i>					
		NE	PT	FT		Wife	NE	PT	FT		
Wife	NE	3.0	0.1	30.4	34.0	NE	3.0	1.3	46.0	50.4	
	PT	2.0	0.1	38.0	40.7	PT	1.0	0.8	20.3	22.0	
	FT	2.0	0.1	22.8	25.3	FT	2.1	0.1	24.5	27.6	
		<i>7.0</i>	<i>1.8</i>	<i>91.1</i>	100			<i>6.1</i>	<i>3.1</i>	<i>90.8</i>	100

b. Couples with Children < Age 6

		2000				1986					
		<i>Husband</i>				<i>Husband</i>					
		NE	PT	FT		Wife	NE	PT	FT		
Wife	NE	4.5	1.0	45.1	50.6	NE	3.6	1.8	56.9	62.2	
	PT	2.0	0.7	33.6	36.3	PT	0.1	0.1	18.7	19.9	
	FT	1.8	0	11.1	13.1	FT	1.9	0.1	15.2	17.9	
		<i>8.3</i>	<i>1.8</i>	<i>89.9</i>	100			<i>6.3</i>	<i>2.8</i>	<i>90.8</i>	100

c. Couples without Children

		2000				1986					
		<i>Husband</i>				<i>Husband</i>					
		NE	PT	FT		Wife	NE	PT	FT		
Wife	NE	2.9	0.5	16.3	19.7	NE	1.8	0	14.9	16.7	
	PT	2.0	0.2	23.6	25.8	PT	1.2	0	15.5	16.7	
	FT	2.3	1.6	50.6	54.4	FT	3.6	3.0	60.1	66.7	
		<i>7.3</i>	<i>0.7</i>	<i>90.5</i>	100			<i>6.5</i>	<i>3.0</i>	<i>90.5</i>	100

Notes: *NE* denotes non-employment (zero hours worked), *PT* stands for part-time employment (1-34 hours worked), and *FT* represents full-time employment (≥ 35 hours). Figures in bold relate to the wife's marginal distribution, figures in italics to the husband's marginal distribution. All other figures relate to the joint distribution.

Table 4: Distribution of Couples Across Education Categories [%]

		2000			1986						
		<i>Husband</i>			<i>Husband</i>						
Wife		Low	Middle	High		Low	Middle	High			
		Low	48.0 77.9 <i>78.5</i>	11.5 17.7 <i>47.1</i>	2.8 4.4 <i>20.6</i>	62.3	Low	69.7 85.4 <i>91.3</i>	8.8 10.7 <i>64.2</i>	3.2 3.9 <i>34.9</i>	81.7
	Middle	12.8 42.9 <i>19.6</i>	10.4 37.2 <i>44.8</i>	5.9 19.9 <i>42.2</i>	29.1	Middle	6.6 47 <i>8.0</i>	4.3 31.6 <i>30.1</i>	2.8 21.4 <i>30.3</i>	13.7	
	High	1.2 14.6 <i>1.9</i>	2.0 23.6 <i>8.0</i>	5.3 61.8 <i>37.2</i>	8.6	High	0.05 12.0 <i>0.7</i>	0.08 17.3 <i>5.8</i>	3.3 70.7 <i>34.9</i>	4.6	
		<i>62.0</i>	<i>23.9</i>	<i>14.1</i>	100			<i>76.8</i>	<i>13.9</i>	<i>9.3</i>	100

Notes: See table 1. Figures in bold relate to the wife and those in italics relate to the husband. All other figures relate to the joint distribution. The educational categories are based on the SOEP variable “years of schooling completed”. *Low* indicates completed compulsory education with less than 12 years of schooling; *middle* indicates high-school education with at least 12 years of schooling but less than 16; *high* indicates college education with 16 or more years of education.

Table 5: Distribution of Women Across Hours Categories by Level of Education [%]

a. All Married Women

	2000			1986		
	Low	Middle	High	Low	Middle	High
NE	35.9	30.4	23.0	51.0	44.9	49.4
PT	41.9	42.3	39.9	22.9	29.6	24.3
FT	22.2	27.3	37.1	26.1	25.5	26.3

b. Married Women with Children < Age 6

	2000			1986		
	Low	Middle	High	Low	Middle	High
NE	54.9	43.5	35.4	64.7	59.1	44.4
PT	35.8	39.0	43.1	19.3	27.3	41.7
FT	9.3	17.5	21.5	16.0	13.6	13.9

c. Married Women without Children

	2000			1986		
	Low	Middle	High	Low	Middle	High
NE	23.9	14.6	14.5	14.4	21.6	16.4
PT	27.5	29.2	16.4	18.6	24.3	19.3
FT	48.6	56.3	69.1	66.9	54.1	64.3

Notes: See tables 1, 3 and 4.

Table 6: Distribution of Couples across Hours Categories by Level of Education [%]

a. All Couples

	2000						1986					
	Low		Middle		High		Low		Middle		High	
	W	H	W	H	W	H	W	H	W	H	W	H
NE	35.5	7.9	31.6	5.1	25.5	1.8	49.5	6.6	45.6	6.0	35.8	9.4
PT	42.0	1.2	40.6	4.3	39.1	1.8	23.0	2.1	30.9	11.9	26.4	9.4
FT	22.4	90.9	27.8	90.6	35.5	96.4	27.5	91.3	23.5	82.1	37.7	81.1

b. Couples with Children < Age 6

	2000						1986					
	Low		Middle		High		Low		Middle		High	
	W	H	W	H	W	H	W	H	W	H	W	H
NE	55.7	8.8	45.7	5.6	39.5	2.4	63.7	6.7	62.9	2.9	41.7	8.33
PT	36.1	1.2	34.6	6.2	46.5	2.3	19.1	2.6	31.4	5.7	37.5	0
FT	8.3	89.9	19.8	86.4	14.0	95.3	17.2	90.7	5.7	91.4	20.8	91.7

c. Couples without Children

	2000						1986					
	Low		Middle		High		Low		Middle		High	
	W	H	W	H	W	H	W	H	W	H	W	H
NE	25.7	7.7	7.8	5.9		2.9	15.6	4.4	16.7	27.3	23.1	15.4
PT	26.6	1.1	37.3	7.8	8.8	2.9	15.6	0	16.7	9.1	0	23.1
FT	48.1	91.3	54.9	86.3	79.4	94.1	68.9	95.6	66.7	63.6	76.9	61.5

Notes: See tables 1, 3 and 4. Each education level relates to both spouses, i.e., to the wife (W) and to the husband (H).

Table 7: Women's Contribution to Real Household Earnings (2000=100) [%]

	All couples		Couples with kids < 6		Couples without kids	
	2000	1986	2000	1986	2000	1986
Gross	31.1	33.7	26.7	31.1	39.3	40.3
Net	28.8	32.3	26.1	30.4	37.4	39.2

Notes: Earnings are expressed in € Nominal figures are deflated using the SOEP price index. *Gross* denotes gross earnings, i.e., wage or salary income before taxes and social security contributions. *Net* denotes net earnings, i.e., gross earnings after income taxes and social security contributions.

Table 8: Hourly Gross Real Wage Rates (2000=100)

a. All Married Couples

		2000 <i>Husband</i>			1986 <i>Husband</i>				
		NE	PT	FT		NE	PT	FT	
Wife	NE	-	-	-		NE	-	-	
		-	22.33	16.46			-	110	13.31
	PT	8.72	13.83	11.35		PT	30.33	20.48	11.38
		-	24.32	15.82			-	65.78	13.4
	FT	10.42	10.47	11.75		FT	10.07	10.66	9.10
		-	9.39	14.46			-	46.91	11.63

b. Couples with Children < Age 6

		2000 <i>Husband</i>			1986 <i>Husband</i>				
		NE	PT	FT		NE	PT	FT	
Wife	NE	-	-	-		NE	-	-	
		-	22.75	16.68			-	84.4	12.80
	PT	7.04	15.82	13.25		PT	10.85	7.84	11.17
		-	39.87	15.71			-	101	13.30
	FT	12.66	14.66	12.01		FT	11.82	8.65	8.57
		-	10.58	15.53			-	52.6	10.62

Notes: Gross hourly wage rates are computed by dividing an individual's gross monthly earnings by the actual hours worked in that same month. No correction is made for overtime premia.