

Why Are Married Women Working More? Some Macroeconomic Explanations

BY AUBHIK KHAN

For the past 60 years, the number of hours worked per person in the U.S. has changed very little. Nonetheless, the labor force has undergone some pronounced shifts over that same period. One prominent change is the sharp increase in the number of hours worked by married women. In this article, Aubhik Khan discusses how the composition of the labor force has changed since 1945 and how macroeconomists explain these changes.

Since the Second World War, there has been little overall change in the number of hours worked per person in the United States. Hiding under this apparent constancy lie some pronounced shifts in the composition of the labor force. The share of employment attributable to men and women, to older workers, and to married households has changed, in some instances rather dramatically. How have these shares changed, and what does recent economic research have to say about these compositional changes?¹

¹ My discussion of changes in hours worked uses the work of Ellen R. McGrattan and Richard Rogerson closely. The advanced reader should consult their 1998 and 2004 papers for a far more thorough analysis.



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Perhaps the most prominent change in the composition of the labor force has been the sharp rise in the hours worked by married women. Motivated by this rather striking phenomenon, macroeconomists have developed models to explain the asymmetric rise over the past 40 years in weekly hours worked by married women. Three basic changes in the economy likely have contributed to a rise in hours worked by married women (in no particular order of importance): (1) technological progress that has made durable consumer goods more productive; (2) a reduction in the gender wage gap associated with lower pay for women than for men; and (3) a change in social attitudes toward married women working outside the home.

CHANGES IN COMPOSITION OF THE LABOR FORCE

If we ignore differences in the sex, age, or marital status of workers and look at aggregate average hours worked, the number of weekly hours of market work per person has remained roughly constant over the postwar

period from 1950 to 2000 (Table 1).² This is not to suggest that there have not been short-term fluctuations. For example, we know that hours worked per person fall during recessions (as firms' demand for employment decreases) and rise during expansions. However, aside from such cyclical fluctuations, the long-run value changed little between 1950 and 2000: The data indicate that average weekly hours worked per person were 22.34 in 1950 and rose slightly to 23.90 in 2000.

Average weekly hours are, of course, considerably less than the familiar 40-hour workweek, since not all persons are employed. However, the first indication that the aggregate measure hides changes across different groups of workers comes from an examination of the employment to population ratio. Over the same 50 years, this ratio has risen from 0.53 to 0.59. Thus, while five out of 10 people were working in 1950, 50 years later nearly six out of 10 people were employed in the economy. This substantial rise in the employment-to-population ratio and the smaller increase in average weekly hours per person together imply that the hours worked by the typical employed individual have fallen. Indeed, on average, workers worked two fewer hours per week in 2000 than they did in 1950.

Of course, the constancy of average weekly hours per person does

² I survey the postwar data using the decennial U.S. census, which is taken in the final year of every decade. All tables are based on data taken from McGrattan and Rogerson's 2004 article. I thank Ellen McGrattan for making these data available to me.

TABLE 1**Average Weekly Hours**

Year	Average Weekly Hours Worked		Employment-to-Population Ratio %
	Per Person	Per Worker	
1950	22.34	42.40	52.69
1960	21.55	40.24	53.55
1970	21.15	38.83	54.47
1980	22.07	39.01	56.59
1990	23.86	39.74	60.04
2000	23.90	40.39	59.17
% Change			
1950-2000	6.98	-4.74	12.30

Source: Table based on data presented in McGrattan and Rogerson (2004); original source for the data is the U.S. census.

not reflect a constancy of earnings. Average real compensation per hour is a common measure of real labor earnings, which includes workers' benefits and controls for the effects of inflation on nominal earnings. Between 1950 and 2000, average real compensation per hour rose more than 150 percent (Figure 1). Thus, while workers are earning much more, the population as a whole is not working more.³

A SIMPLE ECONOMIC MODEL OF THE LABOR-LEISURE TRADEOFF

The constancy of hours worked in light of changes in wages is interesting to economists, as it offers some insight into workers' preferences. To see this, consider the following very primitive model of labor supply sometimes used by macroeconomists.

³ Average real compensation per hour is a better measure of earnings than wages. For example, it would make little sense to focus on a measure that ignored health insurance provided by an employer. However, I will use the term wage in what follows as shorthand for compensation per hour.

Assume for simplicity that each worker values two goods. We call the first *consumption*, a single commodity that represents all the different goods and services we use. The second good is *leisure*, which is not produced but is granted to the worker as time. The worker may devote his time to either leisure, which he values, or to labor, which earns him a wage.⁴ Since wages pay for consumption goods, any worker faces this fundamental tradeoff: The time spent enjoying leisure could have been spent working for wages. Given any real wage — the amount of consumption goods that can be purchased with a given money wage — the worker must choose how much of his time to allocate to labor, and the remainder is leisure.

A rise in his wage will induce a *wealth effect*: With no change in hours worked, the worker is now wealthier. The wealth effect tends to

⁴ Thus, this simple economic model assumes we do not value jobs directly, but rather indirectly through the goods available to us as a result of earning a salary.

make the worker consume more of most goods — economists call these *normal goods*.⁵ Economists think of leisure as one such commodity. Thus, the wealth effect tends to reduce the quantity of labor supplied in response to a rise in wages as people wish to have more leisure. Nonetheless, since the worker may earn more than before — if he does not reduce his hours worked too sharply — both leisure and consumption will rise.

The rise in wages also implies a *substitution effect*: The cost of leisure has now risen, since each hour of leisure means an hour less of work, which is now worth more. As the cost of leisure rises, demand falls, and this by itself should increase the worker's hours of work. The wealth and substitution effects conflict, and, in general, there is no way to tell which will dominate. However, the observation that average hours worked per person have not changed in response to a 150 percent rise in earnings has led many macroeconomists to suggest that at least for the average or representative household in the economy, the wealth and substitution effects have offset each other. Thus, this offsetting is one explanation for the observed lack of trend in hours worked.

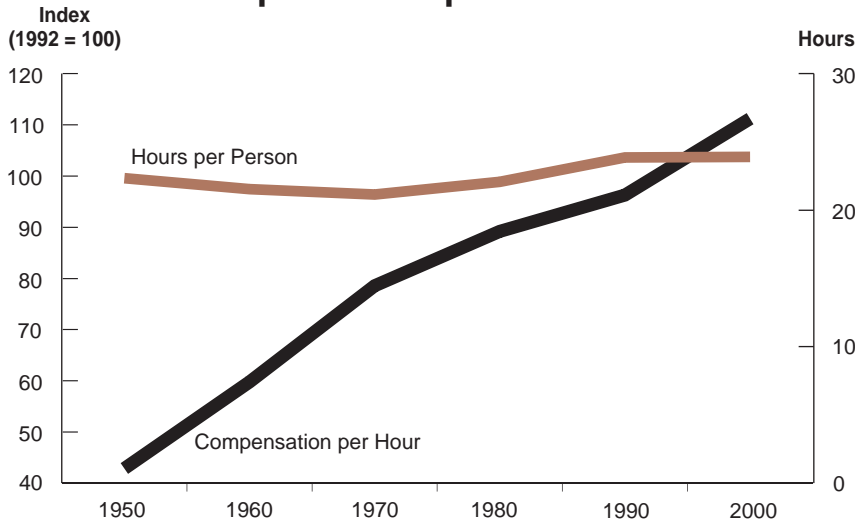
WOMEN'S WORK PATTERNS CHANGED DRASTICALLY

While this net cancellation may summarize the behavior of the representative household, it does not accurately reflect the changes in labor supplied by men and women, nor the young and old. There have been large movements in hours worked across all these groups. However, as we have already noted, the sum of these

⁵ For example, generic paper towels may not be a normal good. As your wage rises, you might switch to a name brand; hence, your expenditure on generic paper towels would fall.

FIGURE 1

Average Weekly Hours Worked per Person and Real Compensation per Hour Worked*



* The compensation series is an index of hourly compensation in the business sector, deflated by the consumer price index for all urban consumers. The index is constructed to equal 100 in 1992.

TABLE 2

The Distribution of Hours Worked by Gender

Year	Average Weekly Hours Worked per Person by Gender		
	Total Population	Males	Females
1950	22.34	34.18	10.87
1960	21.55	31.93	11.84
1970	21.15	29.72	13.32
1980	22.07	28.70	16.02
1990	23.86	29.11	19.03
2000	23.90	28.34	19.78
% Change			
1950-2000	6.98	-17.09	81.97

Source: Table based on data presented in McGrattan and Rogerson (2004); original source for the data is the U.S. census.

movements has had little overall effect on average hours worked per person. Separating weekly hours per worker, we find that hours worked by males fell 17 percent, while hours worked by females rose an astounding 82 percent between 1950 and 2000 (Table 2).

Almost all of the rise in

female hours worked is explained by an increase in the average weekly hours spent in employment by married women (Table 3). The weekly hours worked by married women ages 25 to 54 rose, on average, more than 200 percent! The corresponding figure for single women is actually -1.3 percent

(second panel of Table 4).⁶ This does not mean that single women are working less than married women. Rather, in 1950, the U.S. census shows married women working far fewer hours than single women. However, 50 years later, these differences had largely evaporated as the hours worked by married women rose to match the initially longer workweek of single women. Moreover, most of the change in married women's hours of market work happened between 1950 and 1990.

To see this clearly, take, for example, the weekly hours of married and single women, between 35 and 44 years of age, in 1950. The census conducted that year shows that, on average, married women in this age group worked about 9.5 hours a week. Single women in this age group worked far more: 30.5 hours a week. Now re-examine the weekly hours of women in the same age group, but 50 years later. In 2000, married women ages 35 to 44 were working 26 hours, on average. Single women in this age group worked an average of about 29.5 hours a week, actually slightly less than their predecessors 50 years ago.

Across all age groups, the length of the average workweek of married women (with spouses present) rose about 200 percent, from about 7 hours to over 20 hours a week, between 1950 and 2000 (Figure 2).⁷

⁶ Generally, the changes in hours worked by single men and single women, of any age, are rather similar.

⁷ The census refers to married men (or women) with spouses present as a separate group from married men (or women) with spouses absent. A married person with a spouse present is living in a household with the wife or husband. Married people with spouses absent include those with spouses in the military or living in institutions. The 2000 census indicates there are 2 million households composed of a married person with spouse absent. Hereafter, when I describe a married person whose spouse is present, I will simply describe them as married.

TABLE 3

Changes in Hours Worked by Married People

Status	Gender	Year	Weekly Hours Worked Per Person by Age (in Years)							
			15-24	25-34	35-44	45-54	55-64	65-74	75-99	
Spouse Present*	Total	Males	1950	39.68	42.20	43.46	42.06	37.62	23.39	9.74
		1960	39.50	42.33	42.77	41.21	35.77	14.74	6.23	
		1970	37.14	41.86	42.60	40.90	34.73	11.59	4.31	
		1980	37.80	40.99	42.01	39.79	30.53	8.15	3.08	
		1990	38.75	42.52	42.88	40.88	28.68	7.69	2.56	
		2000	37.17	40.99	41.88	40.39	29.17	8.15	3.06	
		% Change 1950-2000	-6.33	-2.87	-3.64	-3.97	-22.46	-65.16	-68.58	
	Females	1950	9.03	7.93	9.43	8.43	4.42	1.67	0.52	
		1960	10.00	9.10	12.35	13.56	8.66	2.27	0.98	
		1970	14.67	12.23	15.04	16.26	11.77	2.53	1.22	
		1980	18.95	19.25	20.13	18.61	12.18	2.44	0.79	
		1990	21.75	24.36	25.95	24.51	14.00	2.84	0.70	
		2000	20.49	24.49	26.03	27.27	16.99	3.38	1.02	
		% Change 1950-2000	126.91	208.83	176.03	223.49	284.39	102.40	96.15	

Source: Table based on data presented in McGrattan and Rogerson (2004); original source for the data is the U.S. census.

*A married person with a spouse present is living in a household with the wife or husband. Married people with spouses absent include those with spouses in the military or living in institutions.

Finally, it is important to emphasize that these figures are hours per person, not hours per worker. To a significant extent, the increase in hours worked by married women is due to their greater participation in the labor force. In sharp contrast to the behavior of married women, the average hours worked per single woman remained relatively unchanged, rising 11 percent (Figure 3). Over the same period, hours worked by married men with spouses

present fell eight hours, or 20 percent. Finally, hours worked by single men fell 7 percent.

In their 2003 paper, Larry Jones, Rodolfo Manuelli, and Ellen McGrattan adopted an interesting perspective on these changes in the labor force. They noted that in 1950, a married couple's total hours worked in the market were much fewer than those we would obtain by summing the hours worked by the average single man and

woman. Their census data indicate that this *artificial* couple (formed by combining a single man and a single woman) would have worked, on average, 60.5 hours a week in 1950; their hours worked would have changed little over the next 40 years, falling slightly to a little over 59 hours by 1990. As I mentioned, the total hours worked in the market by the married couple together was initially far less, 49.5, in 1950. However, by 1990, differ-

TABLE 4

Changes in Hours Worked by Single People

Status	Gender	Year	Weekly Hours Worked Per Person by Age (in Years)						
			15-24	25-34	35-44	45-54	55-64	65-74	75-99
Single	Males	1950	20.02	32.81	34.14	32.07	27.19	15.44	6.00
		1960	14.92	31.99	30.78	29.19	24.35	9.74	5.07
		1970	13.20	30.88	30.30	28.14	22.31	8.76	4.27
		1980	16.58	31.80	30.25	27.21	19.90	6.11	2.30
		1990	16.75	32.86	30.88	27.25	18.19	5.99	2.21
		2000	16.25	33.29	30.68	27.81	19.12	6.42	3.63
		% Change 1950-2000	-18.83	1.46	-10.13	-13.28	-29.68	-58.42	-39.50
	Females	1950	14.25	30.64	30.53	28.61	22.72	10.31	3.14
		1960	10.76	29.46	29.49	29.07	24.40	10.62	3.40
		1970	10.44	28.72	27.70	27.69	24.38	8.34	3.08
		1980	13.53	30.28	28.89	26.73	20.60	5.20	1.36
		1990	14.17	30.75	30.99	28.30	19.11	5.23	1.17
		2000	13.86	30.52	29.56	28.53	19.67	5.43	1.51
% Change 1950-2000	-2.74	-0.39	-3.18	-0.28	-13.42	-47.33	-51.91		

Source: Table based on data presented in McGrattan and Rogerson (2004); original source for the data is the U.S. Census.

ences in hours worked between these two pairs — the married couple and the artificial couple — had largely disappeared. The average married couple was working 61 hours by then. Thus, we see that in terms of total hours spent in the market, married couples are now behaving much more like single people. Why has the behavior of married households changed?

THE HOUSEHOLD EMPLOYMENT DECISION

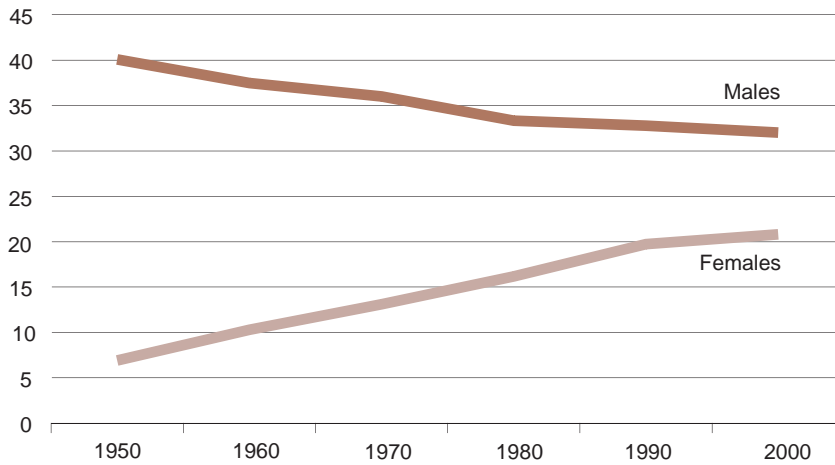
To answer the question about changes in hours worked, we

must consider the determinants of hours worked. Many economic factors determine an individual's employment decisions. The number of dependents and earning ability are just two characteristics that come to mind. In turn, these characteristics are themselves affected by an individual's decisions about the number of children to have and the years of schooling to invest in. I won't attempt to discuss the general economic theory of labor supply, a rich theory that has been developed over several decades by many economists. Instead, I will focus on more recent

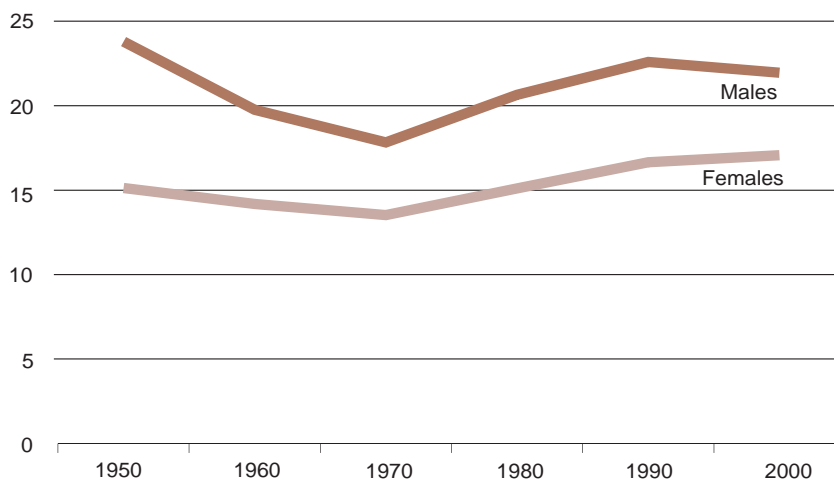
macroeconomic models developed to understand why married women's hours of work in the market have risen so sharply.⁸

Three basic changes in the economy have likely contributed to a rise in hours worked by married women: (1) technological progress that has made durable consumer goods, such

⁸ Given this focus, the models I will discuss will abstract from many issues that affect individuals' employment choices but do so more or less uniformly across individuals of different gender and marital status.

FIGURE 2**Average Weekly Hours Worked per Person Married, Spouse Present***

* A married person with a spouse present is living in a household with the wife or husband. Married people with spouses absent include those with spouses in the military or living in institutions.

FIGURE 3**Average Weekly Hours Worked per Person Not Married (Single, Widowed, Divorced, Married-Spouse Absent*)**

* A married person with a spouse present is living in a household with the wife or husband. Married people with spouses absent include those with spouses in the military or living in institutions.

as home appliances, more productive, (2) a reduction in the gender wage gap that yields lower pay for women than for men for the same work, and (3) a change in social norms.

Producing at Home or Working in the Market. The data do not imply that married women are working more hours but that they are working more hours in formal employment, that is, in the market. This has come at the expense of fewer hours worked at home. A necessary starting point for understanding changes in married women's market hours is a discussion of how a household allocates the time of its adult members between the home and the market. This involves understanding the economic model of home production.

All households, whether composed of a married couple or a single adult, value goods bought in the market – for example, restaurant meals, wine, and the inevitable dose of aspirin – and goods produced at home – for example, breakfast.

To purchase market goods, the typical household must work in the market. The earnings from this employment allow the household to consume market goods. Other market goods a household buys are not directly used but are themselves inputs in the production of a different set of goods produced at home. These inputs are durable consumer goods, such as refrigerators and washing machines, that are used at home. Finally, some of the household's earnings may be saved toward future consumption.

Economists find it useful to think of three broad uses of time. Of the hours in a day not spent sleeping, the time may be spent engaged in home production, market work, or at leisure. An example of time spent in home production — labor that does not earn a wage or salary but contributes to the production of goods at home — is time spent washing one's

automobile or cooking a meal. A clean car and a cooked meal are both goods most of us enjoy. An example of time spent enjoying leisure may include driving that car across the countryside or eating that meal. Alas, there are only so many hours in the day, and some of those hours must be spent sleeping or engaged in basic activities such as bathing. It then follows that, given an individual's consumption of leisure, time spent in home production tends to reduce the amount of time an individual can work in the market. A household must then decide how much time its adult members should devote to market work and how much to home work.

Members of married households have historically specialized between work in the market and work done at home. As such, they provided an illustration of Adam Smith's famous theory of the division of labor. Once married, the majority of women spent all or most of their time in home production. Men specialized in market work. According to Adam Smith's theory, two individuals, each specialized in one task, are likely to be far more productive as a team than when each individual spends part of his or her time on each task. This division of labor is a large part of the reason that most people do not sew their own clothes and build their own houses. This specialization may well hold true for time a household divides between market and home production.

Technology may have had more subtle effects in leading households to specialize between market and home work. Because technological progress has enabled the production of more and more commodities, goods that once required substantial levels of home production are now widely and cheaply available in the marketplace. A prominent example is prepared food. Restaurant meals are far more com-

mon now than they were 50 or 100 years ago. Home delivery of meals was almost unknown until the postwar period. If, some time in the past, many of the goods consumed by a typical household involved a substantial level of home production, the household would have had to allocate far more

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time to home production. As more substitutes prepared in the market became available, the household was able to devote less time to home production and increase the time it devoted to market work. If the male adult was already working in the market, the female adult could then increase her hours of market work.

MACROECONOMIC THEORIES OF THE RISE IN MARRIED WOMEN'S MARKET HOURS

Several macroeconomic theories seek to explain the pronounced increase in the hours worked in the market by married women. Each of these theories involves a completely specified model of the economy in which households' and firms' decisions interact to determine total quantities, such as total hours worked, and prices, such as real wages. These macroeconomic models make predictions about how hours worked by women will change in response to a change in some outside factor, such as a change in preferences or technology.⁹

The Gender Wage Gap. In the first macroeconomic theory we

examine, the outside factor is a discrimination tax that leads to a gender wage gap. Researchers Ellen McGroffan, Rodolfo Manuelli, and Larry Jones studied the extent to which changes in married women's market hours may be explained by the gender wage gap. Their analysis does not attempt to explain the gap between men's and women's wages. Rather, taking this gap as given, they wanted to evaluate how much of the difference in hours worked in the market may be attributed to the gap. While the ratio of female to male wages has been less than one over the entire postwar period, the gap has been narrowing. In her paper, economist Francine Blau reported that in 1969, women who worked full time earned about 56 percent of what men earned. By 1994, they earned 72 percent of what men earned. Part of this difference in pay may be attributable to differences in occupation and skills. The remainder is effectively a tax on women's hours of work, which we call a discrimination tax.

Think of the problem faced by a household that must allocate the time of its two working-age adults to home production, market work, and leisure. If the woman's market wages are lower than the man's, the woman will spend more time at home. She may spend some time in market work, but it must be less than the time the man spends if his wage is higher.

⁹My survey of the macroeconomic literature does not include a large body of microeconomic empirical research into women's labor supply decisions. Such research has offered important insight into why married women's hours of work may have changed that is complementary to the macroeconomic theories we discuss here. For example, Lawrence Katz and Claudia Goldin discuss the role of birth control; Mark Rosenzweig and Paul Schulz study the effects of changes in fertility; and Lawrence Katz and Kevin Murphy examine the changes in the difference between male and female wages.

Lower market wages for women, at least those with the same skills as men, amount to a tax on women's wages relative to those of men. By devoting less of the woman's time to market work, the household avoids the tax.

As the gap between the man's and the woman's market wages narrows, the time spent by each in home and market work should become more nearly equal. This is exactly what we have seen. Indeed, as the wage gap associated with women's market work falls, the total amount of household members' time spent in the market may rise.

An interesting aspect of the gender wage gap theory is that it does not require a very large gap to explain the observed disparity between married men's and married women's hours. This is because even a small difference in the wages paid to women leads women to acquire less human capital, that is, invest less in education.

In such economic models, people invest in education because firms pay higher wages for more educated workers. Since the gender wage gap reduces women's wages, women find it less worthwhile to invest in education. A gap in women's wages relative to those of men reduces the returns to schooling for women relative to returns earned by men. Lower investment in education by women further reduces their potential market earnings, above and beyond that implied by the gender wage gap. Women's lower investment in human capital reinforces the extent of their specialization in the home.

The theory implies that as the gender wage gap narrows, women's investment in human capital should rise relative to that of men. There is evidence for this prediction. For example, in 1960, women, when compared with men, were 60 percent as likely to be college graduates. This

fraction rose steadily until, in 2002, women were 88 percent as likely to be college graduates.¹⁰

Another interesting feature of the gender wage gap argument is that it can explain the large change in hours worked by married women without incorrectly predicting — contrary

Another interesting feature of the gender wage gap argument is that it can explain the large change in hours worked by married women without incorrectly predicting concomitant large movements in hours worked by single women.

to the evidence — concomitant large movements in hours worked by single women. Single women, not having a partner, cannot specialize in home production. As single women value both home and market goods, and the latter cannot be bought without earning market wages, they will specialize far less than married women, despite the wage gap. The theory leaves unexplained the origin of the gender wage gap and how it might affect incentives to marry.

Technological Progress at Home. Economists Jeremy Greenwood, Ananth Seshadri, and Mehmet Yorukoglu (2003) argue that technological progress is largely responsible for the rise in married women's market employment. They suggest that improvements in labor-saving equipment used in the home has freed up women's time for market work. Thus, like the gender wage gap theory discussed above, the technological progress explanation also uses as its basic framework a model of home production.

Home production, just like production in the market, requires capital. We all understand that firms combine workers with capital, in the form of both equipment and structures, along with materials and energy in order to produce output. Similarly, in home production, consumer durable

goods serve as capital in the production of goods and services made at home. Stoves, dishwashers, washing machines, and refrigerators are all examples of capital used in home production.

Over the past 100 years, as electricity has reached more and more households in the United States, the technology of home production has undergone a dramatic change. Households have begun to invest in capital goods — consumer durables — that have increased labor productivity in the home. Investment in household appliances, as a percentage of gross domestic product, has nearly doubled over the past 100 years. As a series of new household appliances has increased productivity in the home, the amount of time a worker must devote to home production, to produce any desired level of goods and services, has fallen sharply.

A refrigerator is one example of a labor-saving consumer durable that has become common in households. The availability of refrigeration allows meals to be prepared far in advance of when they are consumed. Households with refrigerators are able

¹⁰ The data are taken from Table 228 of the *Statistical Abstract of the United States: 2003*.

to prepare several meals at one time, thus reducing the labor required to cook meals at home. In the 1920s, almost no households in the United States had refrigerators. Twenty years later, about half of all households had such equipment. By 1960, almost all households had refrigeration. Richer families bought refrigerators first; as the real cost of the technology fell, additional families adopted it.

Electric washing machines and irons have also sharply reduced the amount of time people must work in the home. Consider the following example, taken from Greenwood, Seshadri, and Yorokoglu. In 1900, 98 percent of households used a scrub board to wash their clothes. The process of washing clothes required water to be transported to the stove, then heated by burning wood or coal, which itself had to be brought into the house. Next, the clothes were cleaned and rinsed. Afterward, the water used had to be removed and the clothes had to be hung on a clothesline to dry. Finally, the clean clothes had to be ironed, using flatirons heated on the stovetop. A study by the Rural Electrification Authority in 1945 found that washing and ironing 35 pounds of clothes required 8.5 hours when done by hand but only two hours and 16 minutes when done using a washing machine and an electric iron.

Such examples confirm that the introduction of household appliances, combined with electricity, central heating, and indoor plumbing, has dramatically increased the productivity of home work. Thus, Greenwood and his co-authors argued that these capital-specific productivity improvements have allowed the substitution of capital for labor at home. As a result, the amount of time required in the home has fallen, and this has freed up time for market work, especially women's time. (This argument assumes that,

historically, the majority of home work was done by women.) Greenwood and co-authors found that more productive capital in the home leads to reduced time spent working in the home. This is in contrast to standard macroeconomic models in which more capital would tend to increase employment because capital accumulation raises the value of labor.

Changing Social Norms. A final explanation for the rise in hours worked by married women shifts the focus away from home production and toward changing social norms. In their paper, Raquel Fernandez, Alessandra

suggest that the change in married men's preferences has come about as a result of being raised in households in which their own mothers worked. They showed that the sons of mothers who are skilled and who work are more likely to marry wives who are also skilled and who work. They concluded that a few mothers set an example that led their sons to become more accepting of women working. As these sons themselves married, their wives found it easier to work in the market. Thus, women, who could now work without hurting their marriage possibilities, undertook more education in order to

The introduction of household appliances, combined with electricity, central heating, and indoor plumbing, has dramatically increased the productivity of home work.

Fogli, and Claudia Olivetti suggest that changes in men's attitudes about their wives' working have been important in bringing about the rise in the fraction of married women who work.

They discussed evidence indicating that in the early part of the century, men strongly disapproved of married women working, a disapproval that has lessened over time. In 1938, a Gallup poll asked, "Do you approve or disapprove of a married woman earning money in business or industry if she has a husband capable of supporting her?" Of the men surveyed, 81 percent did not approve. However, by 1972, the percentage of negative responses had fallen to 38; 10 years later this percentage had decreased further to 25. By 1998, only 17 percent of men surveyed gave negative responses. Clearly, married men at the end of the century were more willing to have their wives work than were men of 60 years before.

Fernandez and her co-authors

earn higher wages. Each generation of households increased the acceptance of married women working, and over time, the fraction of working wives increased.

The authors provide evidence of the growing acceptability of marrying educated women, women who are far more likely to work in the market. Between 1890 and 1950, the likelihood that a college-educated woman would eventually marry, originally much lower than that for men, had risen to about the same as that for men. When studying women born in 1890, Fernandez and co-authors found that 31 percent of those with a college degree did not marry, while only 7.8 percent of those without college educations did not marry. In contrast, during this same period, there was no comparable difference in the marriage rate for men; they had a 10 percent chance of not marrying, whether or not they had a college degree.

If we look at women born 60 years later in 1950, who were attending college in 1970, the percentage of those with college degrees who did not marry fell to 7.9 percent. For comparison, 5.5 percent of those without college degrees did not marry. The probabilities for men were similar.


Fernandez, Fogli, and Olivetti developed a model in which the sons of educated mothers, who are more likely to work in the market, are less unhappy about marrying educated women. In other words, there is a direct transmission of preferences from mother to son, and sons of educated mothers find educated women less unsuitable as partners.

These co-authors' model predicts that, over time, more and more women will choose to obtain an education, marry, and work in the market. Their model matches several facts. First, both women's market work and educational level have risen. Second, men's attitudes toward working women have improved over time as more and more of them are themselves the sons of working mothers. Finally, the marriage rate of working women has risen relative to that of women who do not work in the market.

CONCLUSION

Over the postwar period there has been a large change in the

composition of the labor force that is hidden when one examines the overall change in total hours worked per person. The labor force participation of married women has risen sharply, while the hours worked by others has fallen a little. Economists are using the home production model to better understand the determinants of these changes. Other explanations center on changing social norms.

The working behavior of the old and the very young has undergone significant changes over this period. Economic theory now must integrate the changes in working behavior across all ages and marital status. 

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