Trends in the Well-Being of American Women, 1970–1995

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I. *Introduction*

THE MAJOR GOAL of this paper is to chart the trends in the well-being of women in the United States over the last quarter of a century. This interval covers the period of the most significant shifts in women's wage outcomes since 1940 and is long enough to form reasonable conclusions regarding the extent and magnitude of changes in other indicators of well-being. The past 25 years are significant not only as a period in which women's labor market outcomes and family structure changed substantially, but also as a time of equally significant changes in the labor market as a whole. Chief among these has been the dramatic widening of wage inequality among workers. In a time of stagnating overall real wage increases for men, this has meant substantial declines in the real wages of less skilled men. Moreover, substantial decreases in the relative employment of this group have also been documented. The sources, dimensions, and consequences of widening wage inequality, particularly as they affect male workers and family income distribution have been the focus of considerable re-cent research. Less attention has been directed at the implications of these trends for women's well-being, a major focus of this paper.

Documentation of changes in women's well-being cannot proceed without the specification of a set of indicators by which well-being may be measured. A second major goal of this paper is to propose a set of indicators for this purpose and demonstrate their usefulness for forming a more complete picture of changes in women's well-being than may be obtained elsewhere in the literature. While there is always likely to be some disagreement about the usefulness of including any particular indicator, I hope that the two basic principles which guided me in my selection will prove useful in future similar endeavors.

First, it is important that a broad range of indicators of well-being be employed, encompassing not only labor market outcomes like wages and occupations, but also time available for leisure, the level of family income, and the share of women who are single family heads, an important proxy for a family's economic resources. In this re-

spect, this inquiry follows the example set by Victor Fuchs (1986; 1988) and James Smith and Michael Ward (1989). In addition, recent work on bargaining models of the family and feminist economics[1] suggest that women's status within the family is also of interest. Thus, I have sought indicators with which to measure changes in this facet of well-being as well, including women's relative wages among married couples and data on the extent of domestic violence.

Second, in considering the trends, it is important to examine both changes in indicators of well-being for women relative to men, and changes in absolute levels for women over time, and to conduct these inquiries at a disaggregated as well as at an aggregate level. An interest in relative outcomes of women flows naturally from a concern that women are in some sense in a disadvantaged position in the labor market, in the family, and in the larger society. But such a perspective is not necessary to motivate this investigation. Even if gender differences in outcomes were entirely due to differences between men and women in preferences and qualifications, it is still of interest to know whether such factors have resulted in widening or narrowing differences in outcomes over time. In addition to permitting an appraisal of progress toward gender equality per se, women's relative progress is also of interest because data on males provide a useful benchmark against which to assess women's progress, in effect enabling us to estimate a "period effect." Thus, for example, we would assess a 10 percent decline in real wages for women differently depending on whether the real wages of comparable males fell by 20 percent or increased by 20 percent at the same time.

Absolute trends in indicators of well-being among women are also important. So, for example, it instructive to know not simply that the gender wage gap is declining, but also the magnitude of any real wages increases for women. Or, as another example, we may inquire as to whether in recent years women have been upgrading their occupations in some absolute sense or simply narrowing the gender difference in occupational distributions. The importance of a disaggregated analysis is suggested by the recent research on men which has pointed to growing disparities among them based on skill. This suggests the potential usefulness of a comparable investigation of how various groups of women are faring relative to others, both in terms of how quickly they are narrowing the gap with men, but also in terms of their standing on various indicators of well-being compared with other women. Because in most cases a great deal more is known about the trends for males and the trends in the relevant gender differences than about the absolute trends in indicators of well-being for women and the differences in these trends among various groups of women, I have sought in this review to place greater emphasis on the latter.

One contribution of this paper is to supplement what can be learned from existing research by presenting new tabulations of a variety of indicators of women's well-being calculated primarily from Current Population Survey (CPS) data.[2] While the broad outline of

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[1] See Shelly Lundberg and Robert Pollak (1996) for a review of the literature on family bargaining models and the contributions in Marianne Ferber and Julie Nelson (1993) for examples of issues raised by feminist economics.

[2] See the Data Appendix for details of the data analysis.

many of the trends delineated here are generally known, it is useful to present data for the same years from a comparable source and across a wide range of outcomes. More important, data are presented here at a more disaggregated level than is generally the case so that significant differences in trends by education and age may be identified. Given constraints of space, however, I was not able to investigate these trends separately by race in comparable detail; this remains an important area for future research. I also present new empirical results for indicators which have not been examined in the same way before, including information on trends in the wages of wives compared to their husbands from the CPS and in the time use of men and women from the Panel Study of Income Dynamics. Where possible, I compare my empirical results with the broader literature but I do not attempt to review this literature in its entirety, which would of necessity be a very different exercise. Similarly, I endeavor to summarize briefly and comment on what is known about the causes of these trends, but, here too, given the broad range of indicators which I review, it is not possible to fully consider this question in each case. Finally, it is important to note that when other work is considered, the primary focus is on the economics literature. Considerations of time and space preclude doing justice to the voluminous literature on these topics in other fields.

For virtually all age and education groups, I obtain substantial evidence of rising gender equality in labor market outcomes, notably labor force participation, wages, occupational distributions, and self-employment. I also find broad evidence of greater gender parity within married couple families as the housework time of husbands has increased

relative to wives', and as the relative wages of wives have risen compared to their husbands'. However, parallel to the recent evidence of the declining labor market status of lower skilled men, there has been a similar sharp decline for less educated women, especially high school dropouts, compared to other women. This decline has occurred across a wide variety of dimensions. For example, while overall female participation rates increased 23 percentage points over the 1970 to 1995 period, the participation rate of high school dropouts, already below that of their more educated peers in 1970, rose by only 4 percentage points. For those that were employed similar disparities are evident with respect to the progress of real wages, with average weekly wages of full-time workers rising by 31.2 percent in real terms for all women, but declining by 2.2 percent for female high school dropouts. Finally, while the headship rate of women with less than a high school education (12.1 percent) was fairly similar to that of all women (9.4 percent) in 1970, the incidence of single headship among high school dropouts increased 12.2 percentage points, compared to an increase of 6.5 percentage points among all women.

The deteriorating relative economic position of less educated women and their families is a major finding of this paper, drawn both from existing studies and the original results presented here. One question that these results raise, and a question which has received remarkably little attention in the literature, is the possibility that such trends reflect shifts in the composition of the least educated category rather than changes in their opportunities or behavior. The share of the population with less than 12 years of education has fallen sharply over the past 25 years, de-

clining by over 60 percent among both men and women. It is possible that as this group has dwindled in size it has become more negatively selected compared to more highly educated Americans. Were it possible to identify a similarly constituted group in each year, one might find smaller changes in outcomes, or, indeed, no changes at all. An additional compositional factor affecting the least educated is that the share who are foreign born has grown considerably more rapidly for them than for other education groups, and labor market outcomes of immigrants have been declining relative to natives, even compared to natives with the same measured characteristics (George Borjas 1995). On the other hand, it could be argued that the college educated group which has fared especially well relative to high school dropouts, has increased its share markedly—by nearly two times among men and two and a half times among women—potentially making it a less positively selected group. This suggests that, to the extent that compositional factors are important, their impact is an empirical question.

Although these are undoubtedly complex factors which will take considerable effort to unravel completely, in their analysis of trends in wage inequality, Chinhui Juhn, Kevin Murphy, and Brooks Pierce (1993) suggest a fairly simple method for gaining some insight into whether or not changes in the relative status of the less educated reflect true changes in outcomes and behavior versus solely compositional shifts. One can compare the magnitude of changes in outcomes for a cohort over time to changes experienced by successive cohorts of individuals of the same age. Because the former comparison could not have been affected by changes in the composition of the various education

groups, similar findings for the "within cohort" and "across cohort" comparisons would suggest true changes in opportunities or behavior and not simply compositional effects. I apply this technique to a number of the indicators of welfare considered below. The findings strongly suggest that compositional shifts do not entirely account for the deteriorating economic position of less educated Americans.

In the sections that follow, a broad range of indicators of economic well-being are considered. I first focus on labor force participation and next turn to an examination of major labor market outcomes including wages and occupations, and trends in self-employment. I then consider indicators of women's standard of living, including family structure and income differences across families, as well as indicators of women's well-being within the family, including the relative wages of husbands and wives and housework hours of men and women, as well as trends in domestic violence. A more detailed rationale for the inclusion of each indicator and its relationship to women's economic well-being is presented below in conjunction with the empirical results. The focus is on individuals aged 25–64; and the following four age groups are distinguished: 25–34, 35–44, 45–54, and 55–64. Disaggregations by education are presented for the following four education groups: less than 12 years, 12 years, 13–15 years, and 16 or more years.[3] Throughout, the term "married" is used to refer to an individual who is married, spouse present. A "single head" of a family or subfamily is a person who is not married spouse present, i.e., was never mar-

[3] The specification of education in the 1995 CPS differs significantly from previous years. These differences and how they were dealt with are described in the Data Appendix.

ried, or is separated, widowed, or divorced.

II. *Labor Force Participation: Trends and Explanations*

The labor force participation decision is viewed as the outcome of a utility maximizing decision by an individual, possibly in conjunction with his or her family, as to how much labor to supply to the market. Thus, the relationship between trends in participation and women's economic well-being is not obvious. One reason for examining participation trends is that they underlie the transformation in gender roles that has occurred in recent years and thus should be summarized, if only to provide the background for understanding changes in indicators more obviously linked to well-being. However, our consideration of labor force participation also rests on more direct links between female participation and women's well-being.

First, with the increase in the incidence of female-headed families and single person female households, admittedly not entirely exogenous developments, there exists a segment of the female population whose economic well-being is quite obviously heavily dependent on whether they participate in the labor force and their earnings levels, given participation. In addition, within married couples, the contribution of working wives has traditionally been important in averting poverty and has been found to play a role in determining the extent of inequality in family income (Maria Cancian, Sheldon Danziger, and Peter Gottschalk 1993; Lynn Karoly and Gary Burtless 1995). Thus, the finding that, for example, the growth in the labor force participation of female high school dropouts has lagged behind that of other groups is of

concern in light of their rising incidence of single-headed families and the well documented declines in the relative earnings of the less educated men that they are likely to marry.

Second, family bargaining models suggest that, in married couple families, women's participation in the labor force and their level of earnings while employed is likely to affect the distribution of resources within marriage. These models assume that the preferences of husbands and wives may diverge and that outcomes for each spouse can be modeled using game theory. In the most widely applied of these models, the cooperative bargaining model of marriage, the utility received by each spouse in the Nash bargaining solution is positively related to the utility of each partner at the "threat point." Most commonly, threat point utility is taken to be the utility that each would receive if the marriage irretrievably broke down, i.e., in the event of divorce. The link to labor force participation is provided by assuming that, if a divorce occurs, each partner will maintain ownership of income received separately within marriage. Thus, a woman who works outside the home will have a higher utility at the threat point and hence a more favorable distribution within marriage. Studies reviewed by Lundberg and Pollak (1996) provide empirical support for this model in their finding that earned or unearned income received by the wife has a different effect on demand patterns than income received by the husband. [4]

Third, shifts in participation are also

[4] A common finding of such studies is that children appear to do better when their mothers control a larger fraction of family resources. Additional support for this view is provided by a substantial literature in sociology which finds that employed wives have a greater say in household decision making than nonemployed wives (Paula England and George Farkas 1986).

of importance because they influence the average levels of labor market experience of women, an important determinant of the gender pay gap (Jacob Mincer and Solomon Polachek 1974). The relationship between rising participation and women's average experience is not obvious a priori (Smith and Ward 1985; Claudia Goldin 1990). On the one hand, to the extent that rising participation reflects increased entry of women, female experience levels are likely to be diluted by new entrants. On the other hand, to the extent that participation increases reflect more continuous attachment over the life cycle, experience levels will be raised. While the net effect is an empirical question considered below, in either case, participation trends potentially affect gender differences in labor market outcomes.

A. *Trends in Labor Force Participation: Gender Differences*

An extensive literature documents the substantial increases in the labor force participation of women since World War II, including Mincer's (1962) classic study and the influential papers in Smith (1980). Panel (A) of Table 1 illustrates these trends for our time period, while Panel (B) presents comparable tabulations for men. Data are for the standard measure of labor force participation based on survey week status; both the employed and unemployed are included in the labor force.

Overall, female participation rose 23 percentage points between 1970 and 1995. While participation increased substantially for all but the oldest age group, the major development of these decades was the substantial rise in participation among younger women due partly to postponements and reductions in fertility and increases in the divorce rate, but also reflecting a

substantial rise in labor force attachment among new mothers, especially among married women (e.g., Blau, Ferber, and Anne Winkler 1998; Arlene Leibowitz and Jacob Klerman 1995). So, for example, published data indicate that the participation rate of married women with children under six rose from 18.6 percent in 1960 to 30.3 percent in 1970 and 63.5 percent in 1995. Participation growth of women slackened in the early 1990s, most notably in the two younger age groups. Given the high rates that their participation had attained by 1990, approximately three-quarters were in the labor force, such a slow-down is perhaps not surprising.

As Goldin (1990) has shown, increases in female participation patterns have been fueled by rises in participation both across and within cohorts. This may be seen in Table 1 which shows, looking across the rows, that more recent cohorts have evinced greater labor force attachment than their predecessors, and, looking diagonally, that participation has also risen within specific cohorts as they age. An exception is that for the oldest age category, 55–64, where retirement begins to occur, there are some small cross-sectional increases due to cohort effects, but declining participation within cohorts (aging from 45–54 to 55–64). Male participation trends shown in Table 1B are in some respects the reverse of those for women. As emphasized in recent work by Juhn (1992), male participation has been declining, even in the prime working ages, though the changes have been considerably less than the shifts in female participation; overall, the male rate fell by 6 points. The net result of these participation trends is that the difference in participation rates between men and women declined substantially between 1970

	1970	1980	1990	1995
I. Total	0.490	0.596	0.689	0.715
II. By Age				
Age 25–34	0.456	0.660	0.737	0.745
Age 35–44	0.513	0.660	0.763	0.771
Age 45–54	0.544	0.598	0.706	0.752
Age 55–64	0.437	0.417	0.453	0.492
III. By Age and Education				
A. Education < 12 years	0.430	0.439	0.462	0.472
Age 25–34	0.403	0.490	0.505	0.505
Age 35–44	0.476	0.537	0.569	0.542
Age 45–54	0.479	0.476	0.507	0.538
Age 55–64	0.367	0.308	0.319	0.319
B. Education = 12 years	0.513	0.614	0.687	0.689
Age 25–34	0.455	0.642	0.721	0.722
Age 35–44	0.527	0.676	0.763	0.751
Age 45–54	0.578	0.625	0.716	0.731
Age 55–64	0.494	0.472	0.471	0.490
C. Education 13 to 15 years	0.509	0.665	0.759	0.773
Age 25–34	0.455	0.704	0.780	0.772
Age 35–44	0.527	0.700	0.803	0.824
Age 45–54	0.570	0.666	0.774	0.799
Age 55–64	0.506	0.491	0.555	0.586
D. Education 16 + years	0.608	0.736	0.811	0.828
Age 25–34	0.576	0.775	0.850	0.856
Age 35–44	0.576	0.749	0.824	0.835
Age 45–54	0.674	0.739	0.830	0.856
Age 55–64	0.641	0.545	0.595	0.636

Source: Author's tabulations from the March Current Population Surveys.
Notes: Sample for each year includes all adult civilian women between ages 25 and 64. Labor force participation is measured during the survey week.

and 1995 from 45 to 16 percentage points.

As discussed above, rising female labor force participation has ambiguous effects on the average experience levels of employed women depending on the relative importance of increases in entry and reductions in exits (i.e., increasing labor force attachment) in producing the trends. The central finding here too has been one of declining gender differences over this period (e.g., Goldin 1990; Smith and Ward 1985). However, this decrease did not occur immediately even though women's age-specific experience levels began to increase in the 1970s. This is because the especially large increases in participation of younger women which occurred over the decade resulted in a decrease

TABLE 1A (*Cont.*)

	Change			
	1970–80	1980–90	1990–95	1970–95
I. Total	0.107	0.093	0.025	0.225
II. By Age				
Age 25–34	0.203	0.078	0.007	0.289
Age 35–44	0.147	0.103	0.008	0.258
Age 45–54	0.054	0.108	0.046	0.208
Age 55–64	–0.020	0.036	0.039	0.054
III. By Age and Education				
A. Education < 12 years	0.009	0.023	0.010	0.042
Age 25–34	0.087	0.014	0.000	0.101
Age 35–44	0.061	0.033	–0.027	0.066
Age 45–54	–0.003	0.030	0.031	0.059
Age 55–64	–0.059	0.011	0.001	–0.047
B. Education = 12 years	0.100	0.074	0.002	0.176
Age 25–34	0.187	0.079	0.000	0.267
Age 35–44	0.149	0.088	–0.012	0.224
Age 45–54	0.048	0.091	0.015	0.153
Age 55–64	–0.022	–0.001	0.020	–0.004
C. Education 13 to 15 years	0.156	0.094	0.014	0.264
Age 25–34	0.249	0.075	–0.007	0.317
Age 35–44	0.173	0.103	0.021	0.297
Age 45–54	0.095	0.108	0.025	0.229
Age 55–64	–0.015	0.065	0.031	0.080
D. Education 16 + years	0.127	0.076	0.016	0.219
Age 25–34	0.199	0.075	0.006	0.280
Age 35–44	0.172	0.076	0.011	0.259
Age 45–54	0.065	0.091	0.026	0.181
Age 55–64	–0.096	0.050	0.041	–0.005

in the average age of women workers (Goldin 1990). This is ironic in that it is precisely this growing labor force attachment of women during the childbearing years which was necessary to increase women's overall experience levels in the long run. In any case, by the 1980s, this process had played itself out and the "experience gap" between men and women began to fall. For example, Blau and Lawrence Kahn (1997) find that, among full-time workers, the gender difference in full-time experience declined from 7.5 years in 1979 to 4.6 years in 1988; similar trends are reported in June O'Neill and Polachek (1993). The gender difference in job tenure (i.e., length of time with an employer) was also reduced (Alison Wellington 1993).

TABLE 1B
PARTICIPATION RATES OF MEN BY AGE AND EDUCATION, 1970–95

	1970	1980	1990	1995
I. Total	0.935	0.898	0.888	0.874
II. By Age				
Age 25–34	0.965	0.950	0934	0.926
Age 35–44	0.971	0.953	0.942	0.914
Age 45–54	0.946	0.912	0.904	0.890
Age 55–64	0.834	0.726	0.671	0.661
III. By Age and Education				
A. Education < 12 years	0.893	0.794	0.751	0.720
Age 25–34	0.951	0.892	0.868	0.842
Age 35–44	0.947	0.885	0.818	0.756
Age 45–54	0.916	0.853	0.797	0.733
Age 55–64	0.793	0.621	0.537	0.508
B. Education = 12 years	0.963	0.922	0.899	0.869
Age 25–34	0.982	0.967	0.945	0.928
Age 35–44	0.982	0.965	0.939	0.910
Age 45–54	0.963	0.926	0.911	0.869
Age 55–64	0.888	0.773	0.693	0.650
C. Education 13 to 15 years	0.958	0.927	0.915	0.901
Age 25–34	0.958	0.946	0.942	0.939
Age 35–44	0.988	0.968	0.960	0.933
Age 45–54	0.975	0.929	0919	0.909
Age 55–64	0.875	0.794	0.694	0.704
D. Education 16 + years	0.961	0.955	0.945	0.938
Age 25–34	0.954	0.960	0.952	0.956
Age 35–44	0.988	0.985	0.983	0.970
Age 45–54	0.975	0.972	0.968	0.964
Age 55–64	0.900	0.850	0.797	0.777

Source: Author's tabulations from the March Current Population Surveys.
Notes: Sample for each year includes all adult civilian men between ages 25 and 64. Labor force participation is measured during the survey week.

B. *Trends in Labor Force Participation: Differences by Education within Gender Groups*

The results presented in Table 1 also illustrate the well known strong positive association between educational attainment and labor force participation in each year. Of more significance for trends in well-being, however, are the sharp differences in participation trends by education for both men and women which resulted in a steepening association between education and participation among both groups, with an especially large increase in the participation gap between high school dropouts and others. The sharp declines in participation of less educated men have received considerable attention in recent years.

TABLE 1B (*Cont.*)

	Change			
	1970–80	1980–90	1990–95	1970–95
I. Total	−0.037	−0.010	−0.014	−0.061
II. By Age				
Age 25–34	−0.015	−0.015	−0.009	−0.040
Age 35–44	−0.018	−0.011	−0.028	−0.057
Age 45–54	−0.034	−0.007	−0.014	−0.055
Age 55–64	−0.108	−0.055	−0.010	−0.173
III. By Age and Education				
A. Education < 12 years	−0.099	−0.043	−0.032	−0.173
Age 25–34	−0.059	−0.025	−0.025	−0.109
Age 35–44	−0.062	−0.067	−0.061	−0.190
Age 45–54	−0.063	−0.057	−0.064	−0.183
Age 55–64	−0.172	−0.084	−0.030	−0.285
B. Education = 12 years	−0.042	−0.023	−0.030	−0.094
Age 25–34	−0.016	−0.022	−0.017	−0.055
Age 35–44	−0.016	−0.026	−0.029	−0.071
Age 45–54	−0.037	−0.015	−0.042	−0.095
Age 55–64	−0.115	−0.080	−0.043	−0.238
C. Education 13 to 15 years	−0.031	−0.012	−0.014	−0.057
Age 25–34	−0.012	−0.004	−0.003	−0.019
Age 35–44	−0.020	−0.008	−0.027	−0.056
Age 45–54	−0.045	−0.011	−0.010	−0.066
Age 55–64	−0.081	−0.101	0.010	−0.171
D. Education 16 + years	−0.006	−0.010	−0.006	−0.023
Age 25–34	0.006	−0.008	0.004	0.002
Age 35–44	−0.003	−0.001	−0.014	−0.018
Age 45–54	−0.003	−0.004	−0.005	−0.011
Age 55–64	−0.050	−0.053	−0.020	−0.123

But it has not been recognized that an analogous pattern of falling relative participation has occurred among women as participation increases of high school dropouts have lagged considerably behind those for other groups. Participation rates of the least educated women, already below those of their more highly educated counterparts in 1970, rose by only 4 percentage points over the 25 year period compared to increases of 19 to 26 points for the other education categories. By 1995, only 47 percent of women with less than a high school education were in the labor force compared to 83 percent of college graduates.

The role of compositional changes in explaining the trends in participation by education is investigated by comparing

TABLE 2
DIFFERENCES IN LABOR FORCE PARTICIPATION
RATES BY EDUCATION, ACROSS AND WITHIN COHORTS, 1970–90

	Across Cohort Change		Within Cohort Change	
	1970–80	1980–90	1970–80	1980–90
I. Women				
A. Difference: Ed = 12 minus Ed < 12				
Age 25–34	0.100	0.065	0.087	0.042
Age 35–44	0.088	0.055	0.098	0.071
Age 45–54	0.050	0.060	0.065	0.003
B. Difference: Ed = 16+ minus Ed < 12				
Age 25–34	0.112	0.060	0.039	–0.030
Age 35–44	0.111	0.043	0.162	0.112
Age 45–54	0.067	0.060	0.041	0.013
II. Men				
A. Difference: Ed = 12 minus Ed < 12				
Age 25–34	0.043	0.003	0.049	0.047
Age 35–44	0.045	0.041	0.038	0.034
Age 45–54	0.025	0.041	0.104	0.083
B. Difference: Ed = 16+ minus Ed < 12				
Age 25–34	0.064	0.017	0.096	0.098
Age 35–44	0.058	0.066	0.078	0.072
Age 45–54	0.060	0.053	0.170	0.141

Notes: Calculated from results presented in Table 1. Illustrating for the 1970–80 participation change of the 25–34 year age group, the "across" cohort change is the difference between the participation rate of the 25–34 year age group in 1970 and 1980; the "within" cohort change is the difference between the participation rate of the 25–34 year age group in 1970 and the 35–44 year age group in 1980.

across and within cohort changes in participation for those with less than 12 years of schooling to the changes for high school and college graduates. Were compositional changes the full explanation for the weakening position of high school dropouts, we would expect to see considerable differences in across cohort changes in participation by education group but relatively little difference in within cohort changes. Table 2 which is derived from the data in Table 1 presents these comparisons. (Note that the oldest age group is dropped because only the across cohort changes would be available for them.) A positive sign indicates that the change for high school and college graduates is algebraically larger than for high school drop-

outs, i.e., more positive or less negative.

Looking first at the results for women shown in Panel I of the table, we see that, for the comparisons of high school drop outs to high school graduates, all the within and across cohort comparisons indicate a growing gap in participation between the two groups and all but one of the within cohort changes are quite similar in magnitude to the corresponding across cohort changes. The exception is that, by the 1980s, the size of the within cohort participation reduction as 45–54 year olds aged to 55–64 was similar for high school dropouts and high school graduates. Similarly, with one exception, the comparisons between high school dropouts and college graduates indicate a widening differ-

ence between the two groups over time both across and within cohorts. The exception, is for the 25–34 year age group: within cohort increases in participation were smaller for college graduates than for high school dropouts over the 1980s. Similarly, over the 1970s, the within cohort advantage for college graduates was considerably smaller than their across cohort advantage. These results are likely due to the tendency of female college graduates to delay childbearing; thus, many of them are making first transitions into parenthood as they age from 25–34 to 35–44, at the same time that many women with a high school education or less are experiencing diminished child care responsibilities as their children get older and more self-sufficient. It may also be noted that the participation rate for college graduates in this age group was already extremely high by 1980 (77.5), thus limiting the scope for further increases and making their within cohort participation rate increase of 5 points particularly impressive. Finally, as was the case for the comparison with high school graduates, the participation rate drop off as the 45 to 54 year olds aged over the 1980s was similar for high school dropouts and college graduates.

Taken as a whole, these results strongly suggest that compositional factors are not the full explanation for the growing disparity in participation rates between high school dropouts and more highly educated women. The results for males shown in the lower portion of the table are, if anything, even stronger in this regard, indicating that the within cohort changes are consistently larger than the corresponding across cohort changes. Thus for males as well it appears that the declining relative participation of the least educated does not merely reflect compositional shifts.

Our discussion has focused on the labor force participation trends which show strikingly similar patterns for men and women of decreasing relative labor force participation among the less educated. Findings by Mary Coleman and John Pencavel (1993a, 1993b) strongly suggest that the patterns noted here also prevail along other dimensions of labor supply. They document remarkably similar trends of rising annual hours worked for well-educated male and female workers since 1940 and decreasing trends in annual hours among the less educated. The changes in magnitude were larger for women than for men. Further evidence of the deteriorating labor market position of less skilled workers is presented by Henry Farber (1995) who finds a decrease in the probability of being in long duration jobs for less educated men between 1973 and 1993, while women with at least a high school education were more likely to be in such jobs.

C. *Explaining the Trends*

In his pioneering study of the post–World War II increase in married women's labor force participation, Mincer (1962) concluded that the rise was due to a dominance of the positive substitution effect generated by increases in wives' own wages over the negative income effect associated with increases in the real wages of their husbands. Extrapolating to our period of stagnating real wages for men, it would be tempting to suggest that married women's participation has increased in recent years at least in part to compensate for the disappointing wage growth of their husbands. This is the question posed in a recent study by Juhn and Murphy (1997) which convincingly demonstrates that, while such an interpretation appears plausible at the aggregate level, it does not match up well with the cross-sectional evidence. They

find that the declines in male employment and earnings have been greatest for low wage men, but employment and earnings gains have been largest for wives of middle and high wage men.[5] Moreover, for married women, the positive relationship between employment and own wages has grown stronger over time while the negative relationship between employment and husband's earnings has grown weaker. Based on these findings, they conclude, as did Mincer (1962), that own wage effects continue to dominate cross effects between husband and wife in accounting for changes in female employment.

These findings not only help to illuminate the aggregate participation trends, but also shed light on the widening differences in participation across education groups. As we shall see below, more highly educated women have experienced faster real wage growth than less educated women, and real wage declines have occurred for high school dropouts. Because women tend to marry men with similar levels of education, low wage couples tend to be comprised of men and women with low levels of education. Thus, the labor force participation rates of husbands and wives in these families has been declining relative to the participation rates of higher wage, more highly educated couples who experienced faster real wage growth for both partners. More generally, this suggests that worsening relative wage prospects for less educated women underlie their declining relative participation just as has been found to be the case in recent studies of male labor force participation (Juhn 1992; Pencavel 1997).

As discussed in detail below, another important development during the 1970–95 period was the especially large increase in the incidence of single-headed families among less educated women and blacks. Nonetheless, Table 3 which shows participation trends by education, headship and race suggests that the differences in the overall participation trends across education groups were driven by the trends for married women. For all races combined, married women's participation rates rose by 8 percentage points among high school dropouts, but by 22 points among high school graduates, and by 29 points among women with some college. Differences in trends by education were much smaller for single heads and others. Moreover, the participation rates of high school dropouts were fairly similar across headship/marital status categories in 1995, with the highest rate being 49 percent for single heads. Thus, a slower growth in female headship would not have raised the participation rate of less educated women as a whole. Because the slow rise of participation rates among married women appears to be primarily responsible for the declining relative participation of less educated women, welfare is unlikely to have played a major role in explaining it. This conclusion is reinforced by Robert Moffitt's (1992) finding based on an extensive review of the literature that higher AFDC guarantee levels have only a small negative effect on the labor supply of female family heads.

Over the past 25 years, there have been significant declines in the participation rates of blacks relative to whites. Among men this has taken the form of faster declines in participation among blacks. As may be seen in Table 3, among women this was due to considerably slower increases in participation among blacks than whites; by 1995, the

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[5] The rising correlation of wife's and husband's earnings has also been noted by others, e.g., Cancian, Danziger, and Gottschalk (1993); and Karoly and Burtless (1995). We return to this issue below when we consider income trends across families.

TABLE 3
LABOR FORCE PARTICIPATION RATES OF WOMEN BY HEADSHIP, EDUCATION, AND RACE, 1970–95

	All			Whites			Blacks		
	1970	1995	Change 1970–95	1970	1995	Change 1970–95	1970	1995	Change 1970–95
I. Total	0.490	0.715	0.225	0.479	0.719	0.240	0.590	0.704	0.114
II. Education < 12 years									
Married, Spouse Present	0.393	0.469	0.076	0.380	0.466	0.086	0.500	0.531	0.031
Single Head	0.520	0.487	–0.033	0.531	0.514	–0.018	0.504	0.449	–0.055
Other	0.549	0.464	–0.085	0.544	0.478	–0.066	0.564	0.406	–0.158
III. Education = 12 years									
Married, Spouse Present	0.453	0.668	0.215	0.443	0.667	0.223	0.613	0.699	0.086
Single Head	0.762	0.722	–0.040	0.776	0.754	–0.022	0.714	0.653	–0.061
Other	0.795	0.742	–0.053	0.798	0.756	–0.041	0.767	0.686	–0.081
IV. Education > 12 years									
Married, Spouse Present	0.476	0.767	0.291	0.458	0.763	0.305	0.805	0.838	0.033
Single Head	0.785	0.851	0.066	0.784	0.863	0.079	0.791	0.826	0.035
Other	0.843	0.863	0.021	0.835	0.868	0.033	0.921	0.860	–0.061

Source: Author's tabulations from the March Current Population Surveys.
Notes: Sample for each year includes all adult civilian women between ages 25 and 64. Labor force participation is measured during the survey week.

historic participation advantage of black women had been eliminated. Table 3 also indicates that smaller participation increases for black women prevailed within all education and headship categories. Analyzing the growing overall race gap in employment rates among men, Juhn (1992) finds that declining wage opportunities for the low skilled combined with the lower education levels of black men explain a substantial part of the differences between blacks and whites. However, a significant component cannot be explained and is consistent with an inward shift in the supply curve of black males. A similar analysis of the slower growth of participation among black women and the role of behavior shifts vs. labor market opportunities in producing it would be extremely valuable.

Rising educational attainment of women is also a factor in their increasing labor force participation via its impact on wages. The causation likely runs in the opposite direction as well: as women expect to participate in the labor force more continuously over the life cycle, they will be inclined to invest more in their human capital. While years of education have increased at only a slightly faster pace for women than men, women have been increasingly pursuing college, graduate and professional education and entering traditionally male fields of study (Blau, Ferber, and Winkler 1998; Jerry Jacobs 1995). While a human capital explanation for the educational shifts fits well in some respects, it should also be pointed out that, to the extent that women's expectations of encountering labor market discrimination have deterred their educational investments in

the past,[6] expectations of reductions in discrimination would encourage them to invest more and to enter traditionally male fields.

Demographic factors have also contributed to the aggregate increases in labor supply for women. Decreases in fertility, declines in marriage rates, and increases in marital breakup move women into categories with higher participation rates (e.g., Goldin 1990). Moreover, there is some evidence that the higher probability of divorce has increased the participation rates of married women (William Johnson and Jonathan Skinner 1986). Of course to some extent these demographic trends may themselves be due to rising market opportunities for women (Gary Becker 1991).

Of considerable importance in understanding the reasons for the intertemporal shifts in women's participation is the evidence that changes in measured variables, including wages and demographic factors can explain only a portion of the observed increase; frequently only a small portion. So, for example, focusing on the traditional economic variables, Juhn and Murphy (1997) find that increases in women's real wages can explain only 6–7 percent of the total increase in women's employment between 1969 and 1989. While changes in demographic factors likely explain some of the remainder, behavioral shifts even in the impact of demographic factors have played a part as well. Of particular significance, not just for the level of women's participa-

tion, but also for its growing consistency over the life cycle is that young children exert a smaller negative influence on wives' participation than formerly (Leibowitz and Klerman 1995).

Thus, a considerable portion of the change over time in female participation remains "unexplained" by variables conventionally used in our analyses. As we shall see, this appears to be the case in each of the broad areas examined. During a period of major shifts in gender roles, it is perhaps not surprising that a significant portion of the explanation for the changes in participation appear to be due to behavioral shifts of unknown or at least unquantified origin. Moreover, it can be informative to ascertain what particular aspects of behavior have changed. So, for example, the findings of a diminished negative effect on female participation of young children and higher husband's income, and of a growing positive effect of own wages, suggest that women's economic role within the family has changed and that their participation is increasingly determined by their own opportunities and less by the demographic and economic circumstances of their families.[7]

III. *Labor Market Outcomes: Wages and Occupational Distributions*

The inclusion of wages as an indicator of economic well-being requires little justification because they are of obvious fundamental importance as a major determinant of economic welfare for employed individuals, as well as of the potential gain to market employment for those not currently employed. Further they serve as a significant input into a myriad of decisions ranging from labor

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[6] Blau and Ferber (1991) find that while female college seniors expected equal starting salaries with men in the same field, they expected much lower salaries later in their career, even under the assumption of equal labor force attachment. It should also be noted that a reduction in discrimination in educational institutions themselves may have also played a role; Title IX which bans such discrimination was passed in 1972.

[7] Goldin (1990) provides an excellent example of how evidence of shifts in supply responsiveness may be interpreted to suggest insights into the underlying factors that caused them; see pp. 136–38.

supply to marriage and fertility (Becker 1991), as well as a factor potentially influencing bargaining power and relative status within the family.

A major motive for considering sex differences in occupational distributions derives from their association with earnings. Considerable research suggests that predominantly female occupations pay less, even controlling for measured personal characteristics of workers and a variety of characteristics of occupations and industries.[8] Occupational differences between men and women may reflect differences in preferences or discrimination. It is not an easy matter to distinguish between these two empirically, and of course the outcome may reflect a combination of both. While most would allow that gender differences in preferences play some role, and there is considerable evidence to support that view (e.g., Morley Gunderson 1989), the claim that discrimination is also important is more controversial. Some of the more convincing evidence of the importance of discrimination comes from descriptions of institutional barriers that have historically excluded women from particular pursuits or impeded their progress (e.g., Barbara Reskin and Heidi Hartmann 1986). In addition the finding that women are less likely to be promoted, all else equal, is also suggestive though it suffers from the standard problems of this type of exercise discussed at greater length below.[9] Moreover, to the extent that less on-the-job

training occurs in female than in male jobs, the incentives for women to participate in the labor force continuously are increased when women enter traditionally male jobs. This is the case whether the changes are due to voluntary choice or declines in discrimination. It might also be argued that the tie to earnings is not the only reason for including occupations as an indicator of well-being. Occupational segregation itself may have deleterious effects on women's economic status by reinforcing exaggerated notions of gender differences in capabilities, preferences, and social and economic roles. Such views could adversely affect the labor market outcomes even of women who enter traditionally male pursuits. In addition to occupation, we also consider the growth in self-employment of women as at least potentially indicating an expansion in opportunities.

A. *Issues in Measuring Wages*

An important factor in interpreting our results for wages and other labor market outcomes is that they may be affected by changes over time in the self-selection of individuals into the labor force This is of particular concern in a study focusing on women because there have been considerable increases in their labor force participation rates over time, as well as differences in growth rates across education categories. Two types of selectivity are potentially at issue. The first relates to changes in the degree of self-selection by measured characteristics, as, for example, more highly educated women experience faster increases in participation. This type of selection is of lesser concern because all our results are disaggregated by important measured characteristics, i.e., education and age, thus in effect adjusting for such shifts. (Although it should be noted that age is a much

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[8] See, e.g., Elaine Sorensen (1990). A recent study by David Macpherson and Barry Hirsch (1995) using a 1973–93 panel of data from the CPS, however, finds that the negative wage effect of percent female in the occupation is substantially reduced when longitudinal wage change models are estimated to control for unobserved fixed effects.

[9] For citations of such studies, see, Blau, Ferber, and Winkler (1998).

poorer proxy for labor market experience for women than it is for men.) In addition, studies of the impact of changes in men's and women's measured characteristics, including actual labor market experience, on the gender gap over time are reviewed below.

Of considerably greater concern, however, are changes in the degree of selectivity of workers on the basis of their unmeasured characteristics; this important issue was brought to the fore in the highly influential work of James Heckman (1980). The expected effect of this factor on the trends is uncertain. It is theoretically possible for labor force participants to be either a positively selected group of those with especially high wage offers, controlling for measured characteristics, or a negatively selected group of those with especially low values of nonmarket time, all else equal. In the former case, an increase in the relative size of the labor force group is likely to make it less positively selected. In the latter case, an expansion of the labor force could result in its becoming less negatively selected. A conventional approach to adjusting for selectivity bias in unmeasured characteristics is to employ a Heckman (1980) selectivity bias correction to obtain consistent estimates of the coefficients in the earnings equation. Using this approach, it would be possible to obtain estimated mean male and female wage offers after adjusting for selectivity bias. Such parametric models have, however, been criticized for their lack of robustness: "seemingly small misspecifications [including heteroskedasticity and nonnormality] may generate large biases in estimates" (Charles Manski 1989, p. 356). For this reason, I do not employ such an approach here. If we take as the most plausible scenario that the female labor force has become less positively selected over time as it has grown, the degree of closing of the gender wage gap is understated in the results presented below, but, as our discussion above suggests, the possibility that women's relative wage growth is overstated cannot be completely ruled out. It may be noted, however, that where the Heckman correction has been used, it has uniformly been found that women narrowed the gender wage gap even after such an adjustment (Blau and Andrea Beller 1988; Wellington 1993).

To study trends in wages, it is necessary to define an earnings measure for the CPS data which adjusts for time input. Weekly wages, defined for the calendar year preceding the survey, are used here; they are computed as annual earnings divided by annual weeks worked for full-time workers. This measure is employed because it is available in comparable form for each of the sample years; computation of a comparable hourly wage variable is complicated by the absence of data on usual weekly hours in the 1970 CPS. The issues involved are considered at greater length in the data appendix. A final point to note is that money wages, however measured, are an incomplete indicator of total compensation which would take into account not only nonwage benefits but also compensating differentials for job amenities. This is far from a trivial issue and particularly the latter is a concern given the likelihood of substantial differences in occupational preferences between men and women. Complex issues are also raised with respect to nonwage benefits because, in some instances, married women may be covered under their husbands' plans, thus reducing their demand for these benefits. Unfortunately, a full consideration of these issues would take us well beyond the scope of this paper; at the same time the relevant data and prior research needed for such an investiga-

TABLE 4
FEMALE-MALE WEEKLY WAGE RATIOS BY AGE AND EDUCATION, 1969–94
(FULL-TIME WORKERS)

	Ratio				Percent Change			
	1969	1979	1989	1994	1969–79	1979–89	1989–94	1969–94
I. All workers	0.562	0.583	0.682	0.717	3.87	17.00	5.00	27.61
Age 25–34	0.598	0.665	0.785	0.827	11.20	18.06	5.37	38.33
Age 35–44	0.520	0.542	0.664	0.720	4.29	22.53	8.37	38.49
Age 45–54	0.541	0.535	0.620	0.651	–1.16	16.03	5.00	20.43
Age 55–64	0.600	0.554	0.582	0.615	–7.66	5.03	5.78	2.59
II. Education < 12 years	0.560	0.568	0.682	0.670	1.48	20.08	–1.79	19.67
Age 25–34	0.556	0.630	0.738	0.713	13.34	17.02	–3.32	28.22
Age 35–44	0.546	0.581	0.685	0.639	6.28	17.94	–6.74	16.89
Age 45–54	0.557	0.532	0.660	0.662	–4.48	24.00	0.36	18.87
Age 55–64	0.574	0.558	0.603	0.607	–2.84	8.09	0.77	5.82
III. Education = 12 years	0.553	0.577	0.662	0.710	4.22	14.79	7.24	28.30
Age 25–34	0.577	0.621	0.712	0.779	7.60	14.67	9.42	35.00
Age 35–44	0.526	0.539	0.657	0.700	2.53	21.95	6.42	33.06
Age 45–54	0.536	0.558	0.596	0.651	4.00	6.91	9.22	21.44
Age 55–64	0.563	0.567	0.606	0.633	0.83	6.83	4.44	12.51
IV. Education 13 to 15 years	0.568	0.608	0.680	0.715	7.06	11.89	5.11	25.91
Age 25–34	0.617	0.676	0.748	0.776	9.54	10.59	3.78	25.71
Age 35–44	0.538	0.565	0.665	0.711	4.93	17.68	6.93	32.05
Age 45–54	0.526	0.557	0.641	0.681	5.76	15.13	6.32	29.45
Age 55–64	0.569	0.534	0.612	0.663	–6.15	14.67	8.29	16.54
V. Education 16 + years	0.589	0.598	0.694	0.722	1.51	16.01	4.03	22.52
Age 25–34	0.660	0.715	0.796	0.831	8.36	11.34	4.34	25.89
Age 35–44	0.554	0.561	0.698	0.736	1.36	24.40	5.49	33.02
Age 45–54	0.540	0.526	0.645	0.685	–2.64	22.63	6.25	26.85
Age 55–64	0.542	0.570	0.617	0.647	5.17	8.34	4.80	19.40

Source: Author's tabulations from the March Current Population Surveys.
Notes: The sample for each year includes full-time workers between ages 25 and 64. The weekly wage ratio is calculated as $WAGE_w/WAGE_m$, where $WAGE_w$ is the mean weekly wage of women and $WAGE_m$ is the mean weekly wage of men. See the Data Appendix for additional sample restrictions and wage definitions.

tion are considerably sparser than one would like. Thus the focus here is on the traditional wage.

B. *Trends in the Gender Wage Gap*

Gender wage ratios for all workers and for age and education categories separately are shown in Table 4. Overall, there has been a substantial reduction in the gender gap over the past 25 years as the gender ratio rose from 56.2 percent in 1969 to 71.7 percent in 1994. For the most part, gains were concentrated in the post-1979 period, as has been noted in a number of previous studies, although some progress is discernible among younger women in the earlier decade.[10] The largest

[10] This also accords with published data summarized in Blau, Ferber, and Winkler (1998).

TABLE 5
PERCENTAGE CHANGES IN REAL WEEKLY WAGES, BY SEX, AGE AND EDUCATION, 1969–94
(FULL-TIME WORKERS)

	Women				Men			
	1969–79	1979–89	1989–94	1969–94	1969–79	1979–89	1989–94	1969–94
I. All workers	12.07	11.98	4.51	31.15	7.90	–4.29	–0.47	2.78
Age 25–34	13.30	6.78	–0.56	20.31	1.89	–9.56	–5.62	–13.03
Age 35–44	15.73	16.41	4.48	40.76	10.96	–4.99	–3.59	1.64
Age 45–54	10.72	15.83	7.65	38.06	12.01	–0.17	2.52	14.64
Age 55–64	8.12	7.12	7.43	24.42	17.08	1.99	1.56	21.28
II. Education < 12 years	7.18	–1.79	–7.11	–2.23	5.62	–18.21	–5.42	–18.30
Age 25–34	9.37	–7.33	–7.69	–6.44	–3.50	–20.81	–4.52	–27.03
Age 35–44	8.39	0.50	–15.57	–8.03	1.99	–14.79	–9.46	–21.32
Age 45–54	6.07	2.18	–2.95	5.19	11.05	–17.59	–3.30	–11.51
Age 55–64	7.42	–2.55	0.87	5.60	10.56	–9.84	0.11	–0.21
III. Education = 12 years	7.02	1.95	–0.71	8.33	2.69	–11.18	–7.42	–15.56
Age 25–34	7.73	–2.56	–1.16	3.76	0.12	–15.02	–9.67	–23.14
Age 35–44	7.76	5.29	–4.42	8.44	5.10	–13.66	–10.19	–18.50
Age 45–54	8.20	4.28	0.63	13.54	4.04	–2.46	–7.86	–6.50
Age 55–64	6.81	–0.01	3.04	10.05	5.92	–6.40	–1.33	–2.18
IV. Education 13 to 15 years	2.53	6.71	–0.34	9.05	–4.23	–4.63	–5.18	–13.39
Age 25–34	6.72	0.51	–3.77	3.22	–2.57	–9.11	–7.28	–17.89
Age 35–44	2.40	9.70	–0.31	11.99	–2.42	–6.78	–6.77	–15.19
Age 45–54	4.08	12.25	–1.91	14.59	–1.59	–2.50	–7.74	–11.48
Age 55–64	–0.29	8.94	1.01	9.72	6.25	–5.00	–6.72	–5.85
V. Education 16 + years	–2.00	16.26	5.55	20.26	–3.46	0.22	1.45	–1.84
Age 25–34	–0.18	15.52	–1.21	13.92	–7.88	3.75	–5.32	–9.51
Age 35–44	4.37	15.74	9.22	31.93	2.97	–6.97	3.53	–0.82
Age 45–54	–2.01	15.40	5.60	19.42	0.65	–5.89	–0.61	–5.86
Age 55–64	8.37	5.45	0.84	15.24	3.05	–2.66	–3.78	–3.49

Source: Author's tabulations from the March Current Population Surveys.
Notes: The sample for each year includes full-time workers between ages 25 and 64. Wages are expressed in 1990 dollars, adjusted for inflation using the Implicit Price Deflator. See the Data Appendix for additional sample restrictions and wage definitions.

increases were during the 1980s, but progress continued at a slower rate in the early 1990s. Women in all age and education groups substantially narrowed the gap with their male counterparts; increases were largest for women in the younger two age groups, 25–34 and 35–44, and smallest for those over 54. Relative gains were fairly similar in magnitude for high school graduates and women with some college. Increases were a bit lower among college graduates, but they started and ended the period with the highest gender ratios. While relative gains were actually a bit greater for high school dropouts over the 1980s, progress for them lagged over the early 1990s, and, by 1994, they had the lowest gender ratio.

C. *Trends in Real Wages and Differences in Wage Gains Within Gender Groups*

The declining gender gap has also meant that women as a group fared better than men in terms of real wage growth. Table 5 shows percentage changes in real weekly wages; adjusted using the 1990 Implicit Price Deflator. Overall, women's real wages increased by 31 percent between 1969 and 1994; rising at a similar average annual rate in the 1970s and 1980s, and at a somewhat slower pace in the early 1990s. In contrast, as has been widely noted, men's real wages stagnated, rising by only 3 percent over the 25 year period. If the Consumer Price Index had been employed to adjust for inflation, the real wage gains for women would have been smaller and men's real wages would have declined somewhat.[11]

Table 5 also shows that, as has been widely found by other researchers, more educated men fared better than less educated men in terms of real wage growth in the post-1980 period and cumulatively for the two decades (e.g., Juhn, Murphy, and Pierce 1993). Less well known is that a similar pattern prevailed among women. Real wage gains between 1969 and 1994 were 20.3 percent for female college graduates and 8 to 9 percent for women with high school degrees or some college, while real wages fell by 2.2 percent for high school dropouts. As was the case for men, declines in real wages among the least educated women were especially large for the younger two age groups, falling by 6.4 to 8.0 percent. For each educational group, however, the experi-

ence of women was more favorable than that of the corresponding male group. The real wages of male high school dropouts, for example, fell by 18.3 percent between 1969 and 1994, declining by 27.0 percent for the youngest men, while the real wages of male college graduates decreased by only 1.8 percent.

Patterns of men's and women's real wage growth by education differed between the 1970s and the 1980s. These differences were related to movements in the return to a college education which fell in the 1970s, for both men and women, but has risen for both groups since then (Lawrence Katz and Murphy 1992). Thus, the disparity in the experience of real wage growth among education categories was more pronounced in the 1980s and 1990s than for the period as a whole. Since 1979, the real wages of female college graduates have risen by 22.7 percent, while the real wages of female high school dropouts fell by 8.8 percent.

Finally, we may consider whether the declining relative wages of the least educated which are observed across cohorts represent a true change in outcomes or whether they can be entirely explained by compositional changes. In Table 6, I seek to shed light on this issue by comparing across and within cohort changes in real wages by education group. Again, the focus is on the comparison of the across and within cohort changes of high school dropouts to high school and college graduates shown in panels A and B. For women, we see that the within cohort changes generally exhibit the same basic pattern of changes for high school dropouts relative to the others as the across cohort changes. Moreover, the across and within cohort changes are quite similar in magnitude in the 1980s, the key period during which high school dropouts lost ground.

[11] Note that estimated changes in real wages will vary depending on the wage measure used, the data set employed, and the starting and ending years selected. However, the findings reported here are broadly consistent with those reported in the literature.

TABLE 6
DIFFERENCES IN PERCENTAGE CHANGES IN REAL WAGES
BY EDUCATION ACROSS AND WITHIN COHORTS, 1969–89

	Across Cohort Change		Within Cohort Change	
	1969–79	1979–89	1969–79	1979–89
I. Women				
A. Difference: Ed = 12 minus Ed < 12				
Age 25–34	–1.64	4.78	–2.53	4.26
Age 35–44	–0.63	4.79	1.12	3.83
Age 45–54	2.12	2.10	1.94	2.37
B. Difference: Ed = 16+ minus Ed < 12				
Age 25–34	–9.55	22.85	–0.25	27.40
Age 35–44	–4.02	15.24	–4.19	13.32
Age 45–54	–8.09	13.22	1.56	18.32
II. Men				
A. Difference: Ed = 12 minus Ed < 12				
Age 25–34	3.62	5.79	10.27	6.58
Age 35–44	3.12	1.13	–8.17	5.98
Age 45–54	–7.02	15.14	–3.85	5.81
B. Difference: Ed = 16+ minus Ed < 12				
Age 25–34	–4.38	24.56	24.86	39.09
Age 35–44	0.98	7.82	–1.54	10.56
Age 45–54	–10.41	11.70	–3.90	12.62

Source: Author's tabulations from the March Current Population Surveys.
Notes: Illustrating for the 25–34 year age group in 1969–79, the "across" cohort change is the percentage change in the real wage of the 25–34 year age group between 1969 and 1979; the "within" cohort change is the percentage difference between the real wage of the 25–34 year age group in 1969 and the 35–44 year age group in 1979. See Table 5 and the Data Appendix for additional information.

The same is true for males. As in the case of the participation trends, there is no evidence that the age specific trends identified for high school dropouts are merely due to shifts in the composition of this group.

D. *Trends in Gender Differences in Occupations and Self-Employment*

For many decades a high degree of segregation of men and women into different occupations appeared to be an unchanging feature of the labor market (Blau, Ferber, and Winkler 1998). A substantial break with this pattern occurred in the 1970s when occupational segregation began to decline noticeably (Beller 1985). This progress has contin-ued into the 1980s (e.g., Jacobsen 1994; and Blau, Patricia Simpson, and Anderson 1997). Differences between women and men in occupations across a wide number of categories may be summarized by a segregation index which gives the percentage of women (or men) who would have to change jobs for the occupational distribution of the two groups to be the same. Estimates based on Census data for a comparable set of 470 detailed occupations indicate that the index fell by 11 to 12 percent in each decade, declining from 67.7 in 1970 to 59.3 in 1980 and 53 in 1990 (Blau, Simpson, and Anderson 1997).

Changes in the extent of segregation may be due to shifts in sex composition

within occupations (i.e., integration of formerly male or female occupations) or shifts in occupation mix (i.e., growth in the size of integrated occupations or decreases in the size of male or female occupations). Changes in the sex composition of occupations were the predominant cause of the decrease in segregation in both the 1970s and 1980s, suggesting expanding opportunities for women played a significant role, although changing occupational mix was of more importance in the latter period (Blau, Simpson, and Anderson 1997). In terms of segregation per se, female college graduates made the fastest progress in reducing the segregation index over the decade and by 1990 the index was 46 among college graduates compared to 56–58 for less educated women (Jacobsen, forthcoming).[12]

Another striking trend during our period is a substantial increase in the self-employment rate of women which rose over 60 percent from 4.1 percent in 1975 to 6.7 percent in 1990, compared to a 20 percent increase for men to 12.4.[13] Thus women have reduced the "self-employment gap" with men, increasing from less than one quarter to nearly one third of self-employed workers (Theresa Devine 1994a). Similarly, a larger rise in female than in male self-employment prevailed within each of a large number of racial and ethnic groups included in a recent study (Robert Fairlie and Bruce Meyer 1996). However, while the rise in female self-employment was fairly broad-based, here too the least skilled, as measured

by quartile in the distribution of potential wage and salary earnings, have lagged (Devine 1994b).

An interesting question which has not yet been addressed is the relationship between the changes in the occupational distribution of women and their increased incidence of self-employment. As women have entered traditionally male pursuits, the opportunities for self-employment have likely increased. In evaluating the implications of the growth in self-employment for women's well-being, however, it should be noted that, for workers of both sexes, this expansion likely reflects, at least in part, the increase in independent contractors who comprise one component of the growing "nonstandard" workforce (that is, workers who do not have "regular" full-time jobs).[14] Nonetheless, a recent study by Karen Lombard (1996) found that the rising earnings potential of women in self-employment compared to the wage and salary sector explains most of the upward trend in the self-employment of married women between 1970 and 1990. This suggests that the growing move of women into self-employment does represent an expansion in their opportunities.

E. *Explaining the Trends in Wages: The Overall Gender Gap*

As we have seen, the narrowing of the gender gap in recent years has taken place in an environment of sharply rising wage inequality. Wage inequality has been increasing for women since at least 1979, and for men since 1970. The most widely accepted explanation for this trend links it to a rise in the returns to skill caused by an outward shift in the relative demand for highly skilled workers (e.g., Katz and Murphy 1992;

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[12] Some caution must be observed in such comparisons because the 3-digit occupational categories employed by the Census for blue collar, manufacturing occupations distinguish an especially large number of occupations thus making it easier to detect segregation than for (relatively) more aggregated white collar jobs.

[13] The self-employment rate is the percentage of nonagricultural workers who are self-employed.

[14] For more information on these trends, see, e.g., Blau, Ferber, and Winkler (1998).

TABLE 7
IMPACT OF CHANGES IN CHARACTERISTICS ON CHANGES IN MEN'S AND WOMEN'S LOG REAL WAGES AND
THE GENDER GAP, 1979–88 (1983 DOLLARS)

	Men's Wages	Women's Wages	Gender Gap
I. All Workers			
Total Change	–0.104	0.048	–0.152
Due to: All Characteristics	–0.014	0.116	–0.124
Education Variables	0.040	0.049	–0.009
Experience Variables	–0.018	0.040	–0.053
Occupation Variables	0.002	0.048	–0.046
Collective Bargaining	–0.028	–0.011	–0.018
Industry Variables	–0.009	–0.011	0.001
II. Low Skill Group (0–20 in 1979)			
Total Change	–0.268	–0.159	–0.109
Due to: All Characteristics	–0.069	0.015	–0.083
Education Variables	0.030	0.019	0.011
Experience Variables	–0.006	0.005	–0.012
Occupation Variables	–0.009	0.032	–0.041
Collective Bargaining	–0.051	–0.029	–0.022
Industry Variables	–0.028	–0.016	–0.012

Source: Blau and Kahn (1997).
Notes: These results are from Blau and Kahn (1997) and include some additional calculations. Data are from the Michigan Panel Study of Income Dynamics for 1980 and 1989. Wages are defined as annual average hourly earnings. Individuals are divided into skill groups based on their predicted wages using estimated coefficients from an overall male OLS regression estimated pooling 1979 and 1988 wage data which controls for education (years of schooling and dummy variables for college and advanced degrees), actual experience, actual experience squared, and year. In 1979, allocation to skill groups is determined by the own sex percentile ranking of the individual's predicted wage as follows: low skill group (0–20); middle skill group (20–80); high skill group (80–100). Individuals are allocated to skill groups in 1989 based on the 1979 cut-offs for predicted wages. Thus the size of each skill group can change. For further details, see Blau and Kahn (1997).

Juhn, Murphy, and Pierce 1993). This demand shift has in turn been related to such economy-wide forces as technological change and the impact of international trade. Institutional factors like the decline in unionism and the falling real value of the minimum wage may have also played a role. What is the relationship between these developments and trends in the gender wage gap?

An insightful recent paper by Juhn, Murphy, and Pierce (1991) suggests how these aggregate trends may influ-ence the wage outcomes of particular demographic groups. Juhn, Murphy, and Pierce (1991) were concerned with explaining the slowing of convergence black and white wages among males over the late 1970s and the 1980s. (A similar slowing of race convergence occurred among women; see, e.g., Blau, Ferber, and Winkler 1998). Their approach not only links the outcomes of particular groups to the widening wage inequality which has been a dominant labor market trend of this period, but also introduces a new factor into the

TABLE 7 (*Cont.*)

	Men's Wages	Women's Wages	Gender Gap
III. Middle Skill Group (20–80 in 1979)			
Total Change	–0.144	–0.037	–0.107
Due to: All Characteristics	–0.067	0.003	–0.070
Education Variables	0.020	0.011	0.009
Experience Variables	–0.021	0.002	–0.024
Occupation Variables	–0.006	0.025	–0.031
Collective Bargaining	–0.046	–0.019	–0.027
Industry Variables	–0.011	–0.012	0.001
IV. High Skill Group (80–100 in 1979)			
Total Change	–0.038	0.080	–0.118
Due to: All Characteristics	–0.033	0.065	–0.098
Education Variables	0.008	0.026	–0.018
Experience Variables	–0.040	0.001	–0.040
Occupation Variables	–0.025	0.035	–0.060
Collective Bargaining	0.001	0.000	0.001
Industry Variables	0.023	0.004	0.019

The entries in the columns headed "men's wages" and "women's wages" show the contribution of changes in the means of the indicated category of variables to the 1979–88 change in the mean of real log wages for males and females respectively. This is calculated for all workers and separately by skill groups. The contribution of the indicated variables is:

$$(\bar{X}_1 - \bar{X}_0)\hat{\beta}_{1m}$$

where $\hat{\beta}_{1m}$ is a vector of coefficients from an OLS regression estimated for males overall or in the indicated skill group in 1988, and $\bar{X}_t$ is a vector of own means of the variables (i.e., for men or women) either overall or in the indicated skill group in year t (1 = 1988 and 0 = 1979). The results are based on the "full specification" reported in Blau and Kahn (1977) and include controls for education and experience (as described above), as well as dummy variables for major industry and occupation, and unionism. The difference in the entries for men and women is equal to the contribution of changes in the indicated characteristics to the change in the gender gap.

analysis of demographic wage differentials. Traditional analyses focus on what might be termed "group-specific" factors, i.e., the group's relative skills and the extent of labor market discrimination against them. However, outcomes for particular groups are also affected by "wage structure" in general. I would define wage structure to include overall skill prices and rents received for employment in favored sectors, although Juhn, Murphy, and Pierce (1991) emphasize the former. Because blacks are on average less skilled than whites,

Juhn, Murphy, and Pierce show that they were especially adversely affected by recent trends in skill prices and that this helps to explain the slowing of convergence in the race gap.

The reasoning which Juhn, Murphy, and Pierce (1991) apply to understanding the trends in the race gap is applicable to understanding trends in gender wage differentials. Thus, while there have been a number of useful studies of the sources of the recent narrowing of the gender gap, including O'Neill and Polacheck (1993) and

Wellington (1993), I focus on one by Blau and Kahn (1997) which incorporates these insights. As Blau and Kahn point out, analyzing women's progress in Juhn, Murphy, and Pierce's framework raises something of a paradox. As the prices of measured skills and rewards for employment in high-paying sectors have risen, women, who continue to have less experience, on average, and to be located in lower-paying occupations and industries, should have been increasingly disadvantaged. Yet the gender wage gap has declined substantially.

Blau and Kahn (1997) investigate this issue using data from the Michigan Panel Study of Income Dynamics.[15] They find that rising inequality and higher rewards to skills did indeed retard women's progress during the 1980s, "reclaiming" about one-third to two-fifths of women's potential gains in relative wages. The substantial decline in the male-female pay gap which nonetheless occurred is traced to "gender-specific" factors which were more than sufficient to counterbalance changes in both measured and unmeasured prices which worked against women. Specifically, improvements in women's relative qualifications and the "unexplained" portion of the pay gap declined substantially.

A decline in the unexplained gap is generally viewed as reflecting either an upgrading of women's unmeasured labor market skills or a decline in labor market discrimination against them. This ambiguity is due to the fact that empirical evidence for discrimination relies on the existence of a residual gender pay gap which cannot be explained by gender differences in measured

qualifications. This accords well with the economic definition of labor market discrimination, i.e., pay differences between groups that are not explained by productivity differences, but may also reflect group differences in unmeasured qualifications. If men are more highly endowed with respect to these omitted variables then we would overestimate discrimination. Alternatively, if some of the factors controlled for (e.g., occupation, industry) themselves reflect the impact of discrimination, then discrimination will be underestimated. Blau and Kahn report that, controlling for human capital characteristics, including education and actual labor market experience, women earned 71.5 percent as much as men in 1979 and 80.5 percent in 1988. When the authors further control for major occupation and industry and for unionism, the ratio rose from 77.6 percent in 1979 to 88.2 percent in 1988.

These results are shown in more detail in Table 7. Column (3) is drawn directly from the Blau-Kahn study and gives the contribution of changes in the characteristics of men and women workers to changes in the gender wage gap over the 1980s. However, these findings refer to relative changes and thus leave open the question of whether women's characteristics improved in some absolute sense. To shed light on this question, the first two columns of Table 7 provide new calculations based on the Blau-Kahn results. They give the contribution of changes in characteristics to each sex group's real wage changes over the period, both overall and separately by skill group. The weights are 1988 regression coefficients (including the constant term) from male wage equations estimated either for all workers or for workers in the indicated skill group. Differences in these changes for men and women separately equal the final

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[15] In a companion paper, Blau and Kahn (1996) present evidence that wage structure is very important in explaining international differences in the gender pay gap.

column which gives the net result of the changes in characteristics on the change in the gender gap. (See the notes to Table 7 and Blau and Kahn (1997) for additional details.)

Results in column (3) indicate that improvements in women's relative experience[16] and broad occupational category were particularly important in narrowing the gender gap; changes in unionism also benefited women relative to men, but played a smaller a role, while shifts in industrial distribution had relatively little effect. Looking at columns (1) and (2), we see that women did upgrade their major occupations absolutely, that is they moved into higher paying categories, evaluated at the male returns, while changes in men's occupational distribution had no effect on men's real wage changes. Both men and women lost ground in terms of collective bargaining coverage, with larger declines for men than for women. Changes in industry distribution also lowered the real wage growth of both men and women, but by approximately the same amount for each.

The role of occupational upgrading in narrowing the gender gap raises the question of the reason for the decline in occupational segregation which occurred over the 1970s and 1980s. Here again, as in our consideration of the educational improvements of women, both the human capital and the discrimination models potentially provide viable explanations.[17] On the one hand, it may be that as women anticipated re-maining in the labor force for longer periods it became profitable for them to invest in the higher amount of on-the-job training required in traditionally male occupations. On the other hand, women may have entered these areas in response to declining barriers to their participation. Unfortunately, there is no research explicitly examining this, but it is quite likely that both sets of factors played a role.

There is also some question as to how we should interpret the decline in the unexplained gender gap over this period; as noted above, it is unclear whether this is due to an upgrading of women's unmeasured labor market skills or a decline in labor market discrimination against them. Because women improved their relative level of measured characteristics, it is plausible that they also enhanced their relative level of unmeasured characteristics. For example, it is possible that with increasing labor force commitment, the quality of women's labor market experience may have also improved. A recent study by Anne Royalty (1996), the first to explicitly examine the importance of predicted turnover probability in explaining the gender training difference, sheds some light on this possibility. Consistent with this expectation, she finds that predicted turnover probability does explain some of the gender training difference.[18] However, interestingly, a major portion remains unexplained even after this and other determinants of training are taken into account. This suggests that women's rising labor force commitment likely did reduce the gender training gap, though even if the gender difference in com-

[16] Similar results are reported by O'Neill and Polachek (1993) and Wellington (1993).

[17] England (1982) provides the strongest critique of the human capital explanation for occupational segregation. Some particularly interesting recent evidence implicitly supporting the human capital model is Macpherson and Hirsch's (1995) finding of a substantial effect of skills in explaining the lower pay in predominantly female jobs. Theirs are among the higher estimates; for a review see Sorensen (1990).

[18] Considerable empirical evidence indicates that women have traditionally received less on-the-job training than men; see John Barron, Dan Black, and Mark Loewenstein (1993) and the references therein.

mitment had been eliminated some training difference would remain.

There is also evidence that the marketability of women's education improved. As noted above, gender differences in fields of study among college students decreased over the 1970s and 1980s. This development, which is not captured in the Blau and Kahn study and other similar work, likely contributed to the narrowing of the gender gap because gender differences in college major have been found to be strongly related to the gender wage gap among college graduates (Charles Brown and Mary Corcoran 1997). The male-female difference in SAT math scores has also been declining, falling from 46 points in 1977 to 35 points in 1996 (College Board 1996).[19]

On its face, the implication that discrimination against women declined seems less credible than that their unmeasured characteristics improved, because it is well known that the federal government scaled back its anti-discrimination enforcement effort during this period (Jonathan Leonard 1989). However, there are a number of ways in which decreases in discrimination still could have played a role in reducing the pay gap in the 1980s. For example, it is possible that the female gains reflected delayed dividends to earlier anti-discrimination efforts which encouraged women to enhance their qualifications and enter traditionally male fields. Thus, decreases in discrimination may underlie some of the progress women made due to the enhancement of their measured qualifications relative to men's. And, to the extent that qualifications are not fully controlled for in the wage regression used to decompose the

change in the gender wage gap, this may also help to explain the decline in the "unexplained" gap. Further, it may be that as women increased their commitment to the labor force and their other job skills, the rationale for statistical discrimination against them diminished. For example, controlling for measured characteristics, employers may discount women's wages due to their higher expected turnover rate. A reduction in the perceived turnover differential between men and women would result in a decrease in this discount and an increase in women's relative wages controlling for other factors (Dennis Aigner and Glen Cain 1977). Moreover, in the presence of feedback effects, employers' revised views can generate further improvements in women's earnings by increasing returns to their investments in job qualifications and skills.[20] To the extent that some of these qualifications are unobserved in our analysis, the result will be a decrease in the unexplained gap. A final scenario might be that discrimination declined due to changes in social attitudes which make such discriminatory tastes increasingly unpalatable. Thus, an important role for decreases in discrimination in narrowing the gap may not be as implausible as it first appears.

Two more points may be noted about the finding that a decrease in the unexplained gap played a significant role in the narrowing of the gender gap. First, these findings do not, of course, imply that labor market discrimination has disappeared entirely. As reported above, ceteris paribus pay gaps between

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[19] SAT scores were recentered by the College Board in 1996; scores for the earlier year have been converted to the recentered scale by the College Board.

[20] Lundberg and Richard Startz (1983) develop an interesting model of statistical discrimination based on women's productivity being less accurately predicted than men's that includes feedback effects. See also, Blau, Ferber, and Winkler (1998).

men and women, which are often taken as an estimate of discrimination, continue to exist, although their magnitude has been diminished. Second, the finding that a substantial portion of the closing of the gap is essentially "unexplained" parallels the findings in each of the major areas examined. This may be an indicator in this case of a decrease in discrimination. It is my own view that is the case at least to some extent. However, it may also be, in this area as in others, in part a reflection of the limitations of our models and the data sets at our disposal for estimating them.

F. *Explaining the Trends in Wages: Differences by Skill Group*

Blau and Kahn (1997) also investigate women's progress separately by skill group. Returning to Table 7, we see that the pay gap declined at about the same pace across all three skill groups defined in terms of experience and education. This is consistent with tabulations from the CPS presented above which showed similar gains for women across education groups prior to the early 1990s. However, the sources of the closing differed. Consistent with a greater negative effect of restructuring on male blue collar and manufacturing jobs, the results in column (3) of Table 7 indicate that industry and union representation effects strongly favored women relative to men at the bottom and middle of the skill distribution; but worked to increase the gender gap slightly among high skill workers. High skill women nonetheless advanced at a similar pace as the other groups due to the larger improvement in their human capital characteristics and occupational distribution, although relative occupational gains were also substantial for low and middle skill women.

In terms of absolute progress, we see in Table 7 that women in each skill group also improved their occupational distribution absolutely over the period, while men's distribution declined slightly for low and middle skilled men and more substantially for high skill men. With respect to industrial distribution and unionism, the experience of low and middle skilled men and women was less favorable than men and women in the high skill group. Putting this somewhat differently, the decline of the gender wage gap among low and middle skilled workers was partly due to men losing ground at a faster pace than women. Taken together, changes in industry distribution and unionism worked to lower the real wages of low skill men by about 8 percent and of low skill women by about 5 percent. In the middle skill group, these factors lowered real wages by 6 percent for men and 3 percent for women. In contrast, in the high skill group, changes in industry and unionism (principally the former) worked to raise men's wages by 2 percent and left women's wages roughly unchanged.

IV. *Standard of Living: Differences Across and Within Families*

In this section I review trends in a number of indicators of economic well-being related to the distribution of resources both between and within families. I first consider trends in marital status and family formation among women, chiefly focusing on single headship. I concentrate on headship because it is well documented that families headed by women are more likely to be poor or to have low incomes. There are also serious concerns about negative consequences for children of living in female headed families, due in part to this economic deprivation (e.g., Sara McLanahan and Karen Booth 1989).

Trends in well-being are influenced not only by trends in family structure but also by trends in family income both across family types and by differences in the trends within each type for particular education groups. Thus, I also explicitly consider these trends below.

In comparing income across family types we confront a conceptual issue raised by Fuchs (1988) which has generally not been addressed in the income distribution literature. Because full-time homemakers produce goods and services of value to their families, comparisons based only on money income are likely to overstate the difference in well-being between families in which the wife works outside the home and those in which she does not. In like manner, when labor force participation rates of married women are rising, the increase in the well-being of married couples compared to single-headed families is likely to be overstated when only money contributions to the economic well-being of the family are counted. However, Fuchs' (1988) careful adjustment for this problem did not alter his conclusion that the rise in the share of female-headed families adversely affected the economic well-being of women relative to men.

Another issue to be considered which Fuchs (1988) also brought to the fore is the sharing rule within the family. If the distribution of resources between husbands and wives within families is very unequal, we may overstate the advantage in well-being for women of being part of a higher income married couple family over a lower income single-headed family. While this is certainly a reasonable qualification, the differences in income between the two family types are so large that it seems justifiable to assume in general that women in married couple families do have more resources. Further, bargain-

ing models (discussed above) suggest that higher relative wages of wives should increase their bargaining power within marriage. Thus, trends in wages of wives relative to those of husbands are reviewed as an indicator of bargaining power.[21] Relative wages of wives are found to have been increasing overall and within education groups. This implies that, if anything, women's share of resources within marriage should be increasing. Similarly, while domestic violence is a risk which married (or cohabiting) women may face to a greater extent than single women, the trends in domestic violence which are also considered below suggest that there was no increase in the incidence of such violence from the mid-1970s to the mid-1980s.

Finally, trends in the gender division of housework are considered. This is an important indicator of well-being for a number of reasons. First, as Fuchs (1986; 1988) has pointed out, access to leisure is important. Within families, women have traditionally had the major responsibility for housework, while men have had the major responsibility for market work. As market work has become more equally shared between men and women in the family, if the division of housework remains very unequal, the consequence is likely to be a reduction in leisure for women. An additional reason for concern over the division of housework is because women's greater responsibility for housework may adversely affect their labor market outcomes in at least two ways. First, it may cause women to constrict their hours of work, work schedules, and commuting time and hence reduce their wages or occupational choice. Second, even controlling for hours of market work, it

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[21] This is preferable to looking at earnings, because earnings are influenced by labor supply decisions which could well change after a divorce.

may result in their reducing their effective effort per hour compared to men who spend fewer off-job hours on homemaking tasks (Becker 1985). And, indeed, empirical evidence suggests that women who spend more time on housework do have lower wages, all else equal (e.g., Joni Hersch and Leslie Stratton 1997). Of course, the causation could run in the opposite direction: women with lower wages face a lower opportunity cost of time spent in housework. However, Hersch and Stratton (1997) still find a significant negative effect of housework on wages when instrumental variables estimation is used.[22]

A. *Trends in Marital Status and Family Formation*

In this section I review trends in marital and family status for women. As noted above, "married" refers to women who are married spouse present. Single heads are women who head families or subfamilies and are not married spouse present; this excludes single person households. One problem with these definitions is that a significant and growing proportion of individuals who are officially defined as single heads are actually members of cohabiting couples. For example, in 1990, 7 percent of single mothers were cohabiting (McLanahan and Casper 1995). While this is certainly an important caution, it should also be noted that the extent of income pooling in cohabiting families is uncertain. Moreover, cohabitations tend to end very quickly either in marriage or a breakup (Larry Bumpass and James Sweet 1989).[23]

[22] The Hersch and Stratton study finds these conclusions to be quite robust to alternative specifications of the instrument set. They do not, however, find consistent evidence of a significant negative effect of housework on men's wages.
[23] For example, 40 percent of cohabitations do not continue (as cohabitations) beyond one year, and two-thirds do not continue beyond two years.

Table 8 shows the trends in marital and family status for women and illustrates a number of well-known demographic shifts. Overall, the proportion of women who are married spouse present has declined, while the proportion of those who are single heads has increased. So, for example, the percentage of women who were married and living with their husbands fell from 78 to 65 percent between 1970 and 1995. At the same time, the incidence of single headship rose from 9 to 16 percent; and the proportion of women raising children on their own doubled from 6 to 12 percent. The fastest growth in female headship over this period occurred during the 1970s. A rise in headship occurred in all age groups with the exception of the oldest, and was particularly pronounced for younger women.

While these increases in single headship among women have received a great deal of attention, the pronounced differences across education groups in these trends have been less often noted. The contrast between high school dropouts and college graduates is particularly striking. In 1970, about three-quarters of both groups were married, less than either high school graduates or those with some college. But, by 1995, the proportion of women who were married had fallen to 56 percent among high school dropouts compared to 69 percent among college graduates. Of greater significance for economic well-being, this represented principally a postponement of marriage and family for more educated women but an increasing tendency toward single headship among less educated women. Although women with less than a high school education were more likely to be single heads than other groups in 1970, the differences were fairly moderate in absolute terms. For example, the proportion of single heads was 12 percent

TABLE 8
MARITAL AND FAMILY STATUS OF WOMEN

| Year | Marital Status | | | Single Head | | Child/Children Present | | |
	Married, Spouse Present	Ever Married	Never Married	All	Never Married	All	Married, Spouse Present	Single Head
				All Women				
1970	0.777	0.161	0.062	0.094	0.008	0.545	0.484	0.061
1980	0.715	0.200	0.085	0.132	0.016	0.506	0.410	0.096
1990	0.666	0.211	0.123	0.148	0.032	0.462	0.356	0.106
1995	0.652	0.214	0.135	0.159	0.040	0.467	0.350	0.116
				Age 25–34				
1970	0.819	0.096	0.086	0.084	0.009	0.812	0.730	0.081
1980	0.687	0.159	0.154	0.141	0.029	0.686	0.551	0.135
1990	0.618	0.145	0.236	0.165	0.063	0.632	0.475	0.157
1995	0.589	0.144	0.266	0.183	0.081	0.620	0.446	0.174
				Education < 12 Years				
1970	0.736	0.218	0.046	0.121	0.009	0.474	0.397	0.077
1980	0.656	0.281	0.063	0.182	0.023	0.445	0.319	0.126
1990	0.596	0.287	0.117	0.217	0.056	0.404	0.258	0.146
1995	0.561	0.293	0.146	0.243	0.076	0.436	0.270	0.167
				Education = 12 Years				
1970	0.816	0.129	0.055	0.080	0.006	0.604	0.549	0.055
1980	0.754	0.180	0.065	0.125	0.015	0.534	0.441	0.092
1990	0.691	0.214	0.094	0.154	0.031	0.477	0.364	0.113
1995	0.669	0.219	0.113	0.166	0.043	0.459	0.337	0.122
				Education 13–15 Years				
1970	0.790	0.137	0.073	0.078	0.006	0.589	0.536	0.054
1980	0.711	0.193	0.095	0.127	0.015	0.551	0.449	0.102
1990	0.664	0.210	0.126	0.147	0.030	0.502	0.392	0.110
1995	0.647	0.233	0.121	0.172	0.037	0.501	0.368	0.133
				Education 16 + Years				
1970	0.754	0.103	0.144	0.060	0.009	0.523	0.489	0.034
1980	0.704	0.130	0.165	0.078	0.010	0.482	0.430	0.052
1990	0.671	0.144	0.185	0.082	0.016	0.441	0.387	0.054
1995	0.685	0.136	0.179	0.082	0.017	0.454	0.398	0.057

Source: Author's tabulations from the March Current Population Surveys.
Notes: Sample for each year includes all adult civilian women between ages 25 and 64.

among high school dropouts compared to 6 percent among college graduates. By 1995, the incidence of headship had doubled to 24 percent among high school dropouts compared to a 33 percent increase to 8 percent among college graduates. As many as 38 percent of female high school dropouts with children were raising them on their own compared to only 13 percent of college graduates.

As has been widely noted in the literature, the rise in female headship has been particularly large among blacks. As Table 9 indicates, by 1995, 39 percent of black women were single heads and the race difference in the incidence of single female headship rose from 17 percentage points in 1970 to 26 points in 1995. A considerably higher incidence of single headship prevailed among blacks within all age and educa-

TABLE 9
INCIDENCE OF SINGLE HEADSHIP BY RACE, AGE, AND EDUCATION

	1970	1980	1990	1995	Change 1970–95
A. White Women	0.077	0.105	0.116	0.124	0.047
Age 25–34	0.063	0.106	0.121	0.140	0.078
Education < 12 years	0.091	0.199	0.223	0.253	0.162
Education = 12 years	0.060	0.115	0.145	0.178	0.118
Education > 12 years	0.042	0.067	0.075	0.097	0.056
Age 35–44	0.078	0.126	0.136	0.148	0.070
Education < 12 years	0.097	0.169	0.196	0.235	0.138
Education = 12 years	0.070	0.115	0.149	0.153	0.083
Education > 12 years	0.065	0.115	0.112	0.130	0.065
B. Black Women	0.244	0.347	0.381	0.388	0.144
Age 25–34	0.260	0.398	0.445	0.440	0.181
Education < 12 years	0.335	0.517	0.646	0.651	0.316
Education = 12 years	0.236	0.418	0.464	0.452	0.216
Education > 12 years	0.114	0.277	0.337	0.358	0.243
Age 35–44	0.274	0.396	0.413	0.416	0.142
Education < 12 years	0.319	0.456	0.484	0.536	0.217
Education = 12 years	0.227	0.369	0.432	0.421	0.194
Education > 12 years	0.184	0.348	0.351	0.375	0.192

Source: Author's tabulations from March Current Population Surveys.
Notes: Sample for each year includes all adult civilian women between ages 25 and 64.

tion groups. However, it is also true for both blacks and whites that, within each age category, high school dropouts had the highest rates of single headship. By 1995, among women aged 25–34 with less than 12 years of education, 65 percent of black women and 25 percent of white women were single family heads.

A final important aspect of the demographic shifts related to headship is the rise in the incidence of never married women among female heads. This is of concern because this group tends to be the least well-off economically. As may be seen in Table 8, never married single heads account for a rising proportion of women overall and within each education group. However, the share of never married heads has increased especially rapidly among blacks and among younger, less educated women in both race groups. By 1995, among younger women (aged 25–34) with less than 12 years of education, 44 percent of single white heads and 72 percent of single black heads were never married, up from 7 percent of whites and 19 percent of blacks in 1970.[24]

Across and within cohort changes in headship are presented in Table 10. I focus on the two younger age groups (25–34 and 35–44) when across and (especially) within cohort changes in headship are still likely to occur. Comparisons of the across and within cohort rates are not as informative here as in the case of the other variables considered. Less educated women have children earlier and increasingly form single-headed families through out of wedlock births, thus reducing the scope for within cohort increases in headship over time. In contrast, more educated women are much more likely to form

[24] Based on tabulations from the CPS.

TABLE 10
ACROSS AND WITHIN COHORT CHANGES IN SINGLE HEADSHIP OF WOMEN
BY AGE AND EDUCATION, 1970–90

	Across Cohort Change		Within Cohort Change	
	1970–80	1980–90	1970–80	1980–90
A. Education < 12 years				
Age 25–34	12.39	3.98	8.87	–0.73
Age 35–44	8.84	2.79	4.05	–1.62
B. Education = 12 years				
Age 25–34	7.48	3.95	6.50	3.31
Age 35–44	6.06	4.29	2.24	–2.63
C. Education 13 to 15 years				
Age 25–34	6.09	3.14	10.88	5.04
Age 35–44	8.39	0.25	2.76	–5.21
D. Education 16 + years				
Age 25–34	2.43	0.31	7.02	4.28
Age 35–44	4.31	–0.32	6.67	2.46
E. Difference: Ed = 12 minus Ed < 12 (B – A)				
Age 25–34	–4.91	–0.04	–2.37	4.04
Age 35–44	–2.78	1.49	–1.80	–1.01
F. Difference: Ed = 16+ minus Ed < 12 (D – A)				
Age 25–34	–9.96	–3.67	–1.84	5.00
Age 35–44	–4.52	–3.11	2.62	4.08

Notes: Illustrating for the 1970–80 change in single headship of the 25–34 year age group, the "across" cohort change is the difference between the single headship rate of the 25–34 year age group in 1970 and 1980; the "within" cohort change is the difference between the single headship rate of the 25–34 year age group in 1970 and the 35–44 year age group in 1980.

single-headed families through divorce or separation, and, especially in the case of college graduates, tend to have children considerably later. These factors tend to raise within cohort increases in headship of more educated women relative both to their own across cohort increases and to the within cohort increases of less educated women.

Taking these factors into account, the results in Table 10 are fairly supportive of the view that true changes in behavior and not just compositional shifts underlie at least some of the observed growth in headship of the least educated women. Focusing on the 1970s,

when the largest across cohort increases in headship occurred for all groups, we find sizable within cohort increases in headship among high school dropouts, although in each case they are smaller than the corresponding across cohort increases. Moreover, with one exception, the within cohort increases of high school dropouts exceed those of high school and college graduates (panels E and F), although by considerably less than is the case for the across cohort differences. In contrast, in the 1980s, as the rate of increase in headship slowed and as more less educated women entered single headship through out-of-

wedlock births, within cohort changes in headship of less educated women became smaller than their across cohort changes (in fact they are negative) and tended to be smaller than those of more highly educated women as well. Nonetheless, at least for the 1970s, these results suggest that the rise in headship of less educated women was due at least in part to behavioral changes.

B. *Explaining the Trends in Family Formation*

A variety of explanations have been offered for the movement of women away from marriage and toward female headship. One explanation links these developments to increasing labor market opportunities for women which increase their relative wages and thereby reduce the gains to marriage (Becker 1991). A second explanation focuses on the deteriorating labor market situation of less skilled men and the resulting scarcity of "marriageable" males (William Wilson 1987). A final explanation points to welfare availability as important in encouraging the formation of female headed families (Charles Murray 1984; Becker 1991). Changes in social attitudes, including the greater social acceptance of divorce and the declining social stigma of unwed motherhood have also been cited as supplementary to the economic explanations (Rebecca Blank 1995).

Some conclusions may be reached concerning the relative importance of each of each of these factors based on what has been learned regarding the fundamental causes of headship at a point in time as well as from a smaller number of studies that explicitly examine trends. On the basis of this research, welfare appears the least plausible explanation for a number of reasons. First, Moffitt's (1992) review of the literature suggests that welfare does not

have strong incentive effects on demographic decisions. Second, the time pattern of changes in welfare benefits does not match the demographic trends. The real value of monthly support levels available from AFDC and food stamps combined have been falling steadily since the 1960s (Blank 1995). It is true, as we have seen, that labor market options of low-skilled men (and women) have also been declining, possibly making welfare relatively more attractive. However, to the extent this is the case, it is the labor market trends that are the causal factor. Finally, as Blank (1995) points out, international comparisons are very persuasive. While the U.S. provides much lower levels of government support for single mothers than other industrialized countries, it has one of the highest rates of single motherhood and the highest rate of teen pregnancy.

Greater empirical support has been obtained for the first two explanations: rising relative wages of women (e.g., T. Paul Schultz 1994) and the declining economic prospects of low skilled men (e.g., William Darity and Samuel Meyers 1995).[25] Blank (1995) suggests that these two explanations may work together, with higher relative wages and labor market opportunities for women explaining the general rise in single parenthood across all income and skill groups and declining labor market opportunities of low skilled men explaining the higher increases among the low skilled women they would generally marry. An additional factor that can be noted based on the labor market trends reviewed above is declining labor market opportunities for low skill women. This has been true over the 1980s in both a relative sense, i.e., compared to other women, and an absolute sense,

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[25] In the black community, relatively high homicide and incarceration rates are also believed to contribute to a scarcity of marriageable males.

i.e., in terms of declining real wages. And the declines have been most pronounced for younger women. A substantial and growing proportion of single female heads, especially among low skilled women, is comprised of unwed mothers, many of whom began their childbearing as teenagers. The declining market opportunities confronting this group imply that their opportunity cost of having children at an early age has been falling relative to others.[26]

While arguments structured in terms of the wage trends of men and women appear more promising than the welfare explanation, a review of the aggregate trends suggests that they too are unlikely to provide a full explanation. The largest growth in female headship during our period occurred over the 1970s, yet that was a time when real wage trends for those with a high school education or less were actually more favorable than the trends for college graduates among both men and women. This suggests that the 1970s trends were not driven by a declining desirability of male high school graduates or dropouts as husbands in economic terms, or by a falling opportunity cost of teen pregnancy. Moreover, research findings suggest that the decline in the supply of "marriageable" men is not the prime explanation for the sharp decrease in black marriage rates over the 1970s and 1980s. A particularly comprehensive study by Robert Wood (1995) using SMSA level data for 1970 and 1980 finds that the decline in high earning young black men explains only 3 or 4 percent of the decline in black marriage rates during the 1970s. Moreover, Wood's review of previous research suggests that while the availability of marriageable men, defined in terms of employment or earnings, is often found to be statistically significant, its quantitative effect is small.

Rising relative wages of women also appear unlikely to be the principal cause of the trends, especially the large rise in headship in the 1970s. While there was some increase in the relative wages of women among younger workers in the 1970s, the largest increase even for this group as well as for other age groups occurred in the 1980s. Even the point estimate of this effect is in some doubt. A recent event history analysis of first marriages begun between 1967 and 1983 using data from the Panel Study of Income Dynamics by Hoffman and Greg Duncan (1995) finds no evidence that higher wages of wives increase marital instability. Based on simulations using their estimated coefficients, they find that female wages, male incomes, and AFDC benefit levels did not play a large role in explaining the trends in divorce rates over recent decades.

A review of the trends presented above suggests that a closer correlation would be obtained between rising women's labor force participation per se and the decline in marriage than between the relative wages of women and the 1970s trends. This difference can occur both because absolute increases in women's wages can raise their participation even if their relative wages remain fairly constant—this appears to have occurred in the 1970s—and because, as we have seen, much of the increase in women's labor force participation cannot readily be explained by measured economic and demographic variables. As women and men become

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[26] Recent work suggests that the negative effects of teen childbearing may have been overstated in earlier studies due to overestimates of the alternative prospects for these young women (Arline Geronimus and Sanders Korenman 1992). At present there exists a considerable range of estimates of the magnitude of this adverse effect (Saul Hoffman, Michael Foster, and Frank Furstenberg 1993).

less specialized in homework and market work, the scope for gains to specialization is reduced. On the other hand, in reconciling an explanation based on participation with the aggregate trends, we now face an embarrassment of riches: the percentage point increases in female participation were similar in the 1970s and 1980s, but headship rose at a much faster pace in the 1970s.[27]

Thus, wage explanations framed in terms of changes either in levels of male wages or in women's wages relative to men's are unlikely to fully account for the particularly rapid increases in headship which occurred over the 1970s, though they might provide a more viable explanation for the post-1980 trends which have not yet been investigated. Considerably more work is needed to fully understand the importance of economic factors in explaining the trends. The role of increases in women's labor force participation, as distinct from trends in the wages of women relative to men, might be a fruitful area for future study. In addition, there is some evidence, particularly among blacks, that greater economic opportunity may reduce out-of-wedlock births to young women by raising its opportunity cost (Randall Olsen and Farkas 1990). This suggests that an investigation of the declining prospects of less skilled women might also be a promising route to explore in explaining the post-1980 trends. Given the apparent inadequacies of each of the proposed economic explanations, a principal role in explaining the changes in family formation would at this point have to be assigned to changes in behavioral responses and shifts in social attitudes. While it is always difficult to know whether changes

in behavior follow changes in attitudes or cause them, it is likely that, whatever the initial cause, changes in both areas reinforce each other through feedback effects.

C. *Implications of Changes in Family Formation, Labor Force Participation, and Wage Trends for Income Differences Across Families*

As we have seen, the rise in female headship has been heavily concentrated among less-educated women. At the same time, the labor force participation and wages of this group have also declined relative to other women. Thus, it is not surprising that the relative incomes of individuals in female-headed families have fallen. Equivalence incomes for individuals are based on family income after adjusting for the number of family members and economies of scale. In 1989, the mean equivalence income of individuals in married couple families was over double the income in female-headed families, up from 70 percent higher in 1969 (U.S. Department of Labor 1995, p. 65). The consequences of being in a female headed family are also more negative for less educated women, and are becoming increasingly so. Fifty-nine percent of individuals in families headed by a single woman with a high school education or less were in the bottom quintile compared to 30 percent when the head had more than a high school education. And, between 1969 and 1989, the equivalence income of individuals in families headed by single, less-educated women fell from 60 to 57 percent of individuals in families headed by women with more than a high school education (U.S. Department of Labor 1995).

There has also been a widening income gap between individuals in families headed by less educated couples

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[27] The percentage increase in participation did decline a bit, however, from 21.8 percent over the 1970s to 15.6 percent over the 1980s.

compared to more highly educated couples. For example, in 1969, the average equivalence income of individuals in families headed by married couples who had a high school education or less, was 59 percent of that of individuals in families where both spouses had more than a high school education; by 1989 the ratio was 52 percent (U.S. Department of Labor 1995). This trend reflects a larger rise in labor force participation of wives of high earning husbands and also an increase in the correlation between the earnings of husbands and wives when both are employed (U.S. Department of Labor 1995; Karoly and Burtless 1995; Cancian, Danziger, and Gottschalk 1993). The consequences of these developments for income inequality across married couple families is unclear a priori. Increases in participation of wives lower wage dispersion across all persons (or families) because there are fewer families with zero earnings of the wife. On the other hand, the increasing tendency of participation to be concentrated among high income families and the increase in the correlation of husbands' and wives' earnings works to increase inequality (Karoly and Burtless 1995). Cancian, Danziger, and Gottschalk (1993) found that, on net, wives' earnings have continued to equalize family income among married couples. Karoly and Burtless (1995), however, using a different measure of inequality and a different decomposition technique, find that wives contributed to a rise in inequality of equivalence income of individuals since the late 1970s among married couples. One problem in reconciling these results is that, as Gottschalk and Timothy Smeeding (1997) point out, it is unclear how to allocate changes in correlations among income sources (e.g., between husbands' and wives' earnings) in such decompositions. They report that some

of the differences between the Karoly and Burtless and Cancian, Danziger, and Gottschalk results are due to differences in the treatment of changes associated with such correlations. In any case, it is clear, as we have seen, that the average equivalence income of individuals in families headed by less educated spouses has fallen relative to those in families headed by the more highly educated.

D. *Trends in Intra-family Allocation: Wage Ratios of Husbands and Wives*

We have seen that, overall, women's wages increased relative to men's, particularly over the 1980s. In this section, I examine how these trends have played out within the family. The focus is on the post-1979 period because preliminary results indicated little change in the wage ratio of wives to husbands in the 1970s. Because I do not include results from the 1970 CPS, it is possible to compute average hourly earnings. An advantage of this measure is that part-time workers may be included; part-time work is particularly prevalent among married women. In Table 11, data are presented for all women, and separately by education category of the wife; and for wives in the youngest age group. Wage ratios are calculated as the ratio of the mean wages of wives in the indicated group divided by the mean wages of husbands in that group. In addition, data are presented on the percentage of couples with a wage ratio of .9 or higher, i.e., with rough wage parity between the spouses (or, in some cases, superiority for the wife).

Looking first at the actual female-male wage ratios, it may be seen that, for the total group, there was considerable improvement in the 1980s and early 1990s Overall, the wage ratio rose from 60.1 to 72.9 percent between 1979 and 1994. Also of interest is that the

TABLE 11
FEMALE-MALE AVERAGE HOURLY EARNINGS RATIOS AMONG MARRIED COUPLES BY EDUCATION, 1979–94

	1979	1989	1994	Change 1979–94
I. All Women				
Female/male wage ratio (actual)	0.601	0.684	0.729	21.3%
Female/male wage ratio (fixed weight average)	0.592	0.663	0.689	16.4%
Wage ratio .9 or higher	0.228	0.316	0.368	0.14
II. Education < 12 years				
All Women				
Female/male wage ratio	0.579	0.647	0.643	11.2%
Wage ratio .9 or higher	0.226	0.286	0.276	0.05
Age 25–34				
Female/male wage ratio	0.593	0.659	0.696	17.4%
Wage ratio .9 or higher	0.240	0.315	0.313	0.07
III. Education = 12 years				
All Women				
Female/male wage ratio	0.568	0.616	0.649	14.2%
Wage ratio .9 or higher	0.186	0.255	0.300	0.11
Age 25–34				
Female/male wage ratio	0.610	0.671	0.711	16.5%
Wage ratio .9 or higher	0.214	0.270	0.344	0.13
VI. Education > 12 years				
All Women				
Female/male wage ratio	0.646	0.742	0.772	19.5%
Wage ratio .9 or higher	0.286	0.380	0.419	0.13
Age 25–34				
Female/male wage ratio	0.718	0.799	0.830	15.5%
Wage ratio .9 or higher	0.330	0.424	0.440	0.11

Source: Author's tabulations from the March Current Population Surveys.
Notes: The sample in each year includes husbands and wives (matched partners) both of whom are between ages 25 and 64 and worked for at least one week in the previous year. The additional sample restrictions detailed in the Data Appendix are applied to both partners except that respondents are not required to be full-time workers. Wages are defined as annual earnings divided by annual hours; ratios are calculated as the mean wages of wives divided by the mean wages of husbands. The ratio using "fixed weight averages" is calculated by fixing the distribution of husbands and wives across education-age cells at their 1970 levels, but attributing current year wages to each cell. Four age categories are employed: 25–34, 35–44, 45–54, and 55– 64; and three education categories: less than 12 years, 12 years, and greater than 12 years. The "proportion with a wage ratio of .9 or higher" is the mean of a dummy variable which takes a value of 1 if a couple's wage ratio is .9 or higher and 0 otherwise. Where averages are reported separately, couples are classified on the basis of the wife's education and age.

percentage of couples with a wage ratio of .9 or higher rose by 14 percentage points, from 23 to 37 percent. Potential market wages likely affect the behavior and bargaining power of women who are not currently employed, as well as that of labor force participants. Be- cause, as we have seen, employment growth has been largest for wives of middle and high wage men who are likely themselves to be better educated, the figures in Table 11 may be affected by shifts in the composition of em- ployed wives compared to their hus-

bands. Thus, they may give a distorted impression of the extent of increases in the relative earnings of wives with given characteristics.

To get a rough indication of whether adjusting for changes in measured characteristics would affect our conclusions, I have calculated female-male wage ratios for all workers based on "fixed weight" averages; that is, based on mean earnings for each sex fixing the distribution of husbands and wives across education-age cells at their 1970 levels, but attributing current year wages to each cell.[28] These fixed-weight averages thus adjust for any shifts in the composition of women relative to men across these measurable characteristics. The results suggest that some of female gains are due to improvements in working wives' characteristics relative to their husbands, because the pace of progress is somewhat reduced when the fixed weight measure is used. Nonetheless, bulk of the gains remain; the wage ratio based on fixed weight averages increased from 59.2 to 68.9 percent between 1979 and 1994. Of course, this approach only addresses the issue of gender differences in the selectivity of labor force participants in terms of their measured characteristics. Shifts in the distribution of unmeasured characteristics of wives relative to husbands could still have an impact on the observed progress (Heckman 1980).

The results for the gender ratios based on fixed weight averages indicate that most of the progress in narrowing the gender ratio among married couples occurred within age-education categories. But this does not mean that the rate of progress was the same for each

educational group. Table 11 indicates that the ratio of wages of wives to husbands increased in all education groups. However, in each year, the highest ratio was for wives with more than a high school education and, moreover, relative gains were larger for more highly educated wives. By 1994, the wage ratio for couples where the wife had more than 12 years of schooling was 77 percent, and rough wage parity existed for 42 percent of such couples. Among wives with less than 12 years of education, the wage ratio was 65 percent and rough wage parity prevailed for only 30 percent of couples. In each year, the wage ratio was higher for younger women (25–34) and they experienced similar wage gains across all education groups. Nonetheless, young wives with more than a high school education began and ended the period with the highest wage ratio.

E. *Trends in Intra-family Allocation: Allocation of Housework*

There are two potential sources of data on housework: time budget studies and self-reports based on recollections over some period of time. While the former are likely to be more accurate, the relevant surveys are generally not available on a regular basis and tend to have small samples. Given these data problems, there have been few efforts to examine trends in the allocation of housework between men and women. A notable exception is work by Fuchs (1986; 1988). Fuchs reports that, on average, women's total hours of work (housework plus market work) increased relative to men's between 1959 and 1979, and thus concludes that the increased employment of women outside the home had resulted in a relative decrease in leisure for them. One problem with these estimates, however, is that, given the limited data available,

[28] Four age categories: 25–34, 35–44, 45–54, and 55–64; and three education categories: less than 12 years, 12 years, and greater than 12 years are employed.

Fuchs relied on an imputation of housework time based on coefficients obtained from one time use study which he then merged with large, nationally representative data sets drawn from the Census and CPS for a number of time periods.[29]

Two other studies which use time budget data reach somewhat different conclusions from each other, but neither find that total work time of women increased relative to men's. Thomas Juster and Frank Stafford (1991) report that women's total work time fell from 60.9 hours to 54.4 per week between 1965 and 1991 compared to a decrease from 63.1 to 57.8 for men, while a United Nations (1991) report found that women's total weekly work time remained roughly constant at about 56.5 hours between 1965 and 1986 while men's increased slightly from 58.3 to 59.4 hours. However, because these studies do not provide data separately by marital and employment status, it is not clear what role changes in the composition of the population play in producing these results nor is there any direct indication of the extent of reallocation of tasks between partners among married couples.

To investigate the extent of reallocation of housework between men and women, as well as trends in leisure, I provide some new tabulations on time allocation based on the Michigan Panel Study of Income Dynamics (PSID) in Table 12. There are some limitations to the data used here, most important, due to the phrasing of the housework questions, it is possible that time spent on child care or time spent outside of the home on housework, e.g., shopping, are not included, because respondents were not explicitly prompted about

them.[30] Bearing this caution in mind, the opportunity to examine these trends for a large, nationally representative sample is nonetheless of interest. Tabulations are from the 1979 and 1989 PSID on reported average weekly housework and market work hours in 1978 and 1988. "Not employed" is defined as working less than 100 hours per year.

The results in Table 12 suggest a moderate but significant reallocation of time use between men and women. Overall, for women, average hours of market work increased and average hours of housework decreased, while hours of both market work and housework increased for men. The changes were larger for women. Their housework declined by 5.4 hours per week, on average. It fell a bit more for married than for single women and, surprisingly, more for nonemployed than for employed wives. Comparisons across a number of time use studies reported in Blau, Ferber, and Winkler (1998) indicate that women's housework time also appears to have declined for both employed and nonemployed wives between the 1960s and the 1970s, suggesting that the results in Table 12 for the 1980s represent the continuation of a long-term trend. The increase in wives' market work of 6.3 hours are, in part, the result of a shift of wives from nonemployed to employed status, but, even among employed wives, market work hours increased. Again, similar findings are reported by Blau, Ferber, and Winkler (1998) for the earlier period.

In contrast to the changes for women, the increase in men's housework was entirely concentrated among married men: housework hours *declined* by 1.1 hours for single men but *increased* by

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[29] For a critique of the Fuchs' approach, see Joyce Manchester and David Stapleton (1991).

[30] This and other data issues are evaluated in detail by Hersch and Stratton (1997); they conclude that, despite these data problems, the PSID yields a useful measure of household production.

TABLE 12
TRENDS IN AVERAGE WEEKLY HOURS OF HOUSEWORK AND MARKET WORK BY MARITAL STATUS AND
EDUCATION, MEN AND WOMEN, 1978 AND 1988

	1978		
	Market Work	Housework	N
A. All individuals			
Women	20.1	26.7	2008
Single	27.2	17.2	412
Married	18.3	29.1	1596
Wife not employed	0.3	37.1	607
Wife employed	29.3	24.3	989
Men	42.5	6.1	1812
Single	38.3	8.2	216
Married	43.1	5.8	1596
Wife not employed	42.5	5.0	607
Wife employed	43.5	6.4	989
B. Married Couples by Education of Wife			
Education 12 years or less			
Wives	16.8	30.6	1088
Wife not employed	0.2	37.5	462
Wife employed	29.0	25.4	626
Husbands	42.0	5.7	1088
Wife not employed	41.2	4.8	462
Wife employed	42.6	6.3	626
Education 13 years or more			
Wives	21.5	26.1	508
Wife not employed	0.4	35.5	145
Wife employed	30.0	22.3	363
Husbands	45.5	6.2	508
Wife not employed	46.7	5.4	145
Wife employed	45.1	6.5	363

Source: Based on author's tabulations from the Michigan Panel Study of Income Dynamics, 1979 and 1989.
Notes: Individuals and spouses are aged 25–64 in the indicated year and have valid data on both housework and market work hours. Married individuals are included only if their spouse also satisfies the inclusion criteria. Couples are allocated to education categories on the basis of the wife's education.

1.6 hours for married men. The increase in married men's housework in part represented a shift of their wives to the employed category where, even in the initial year, husbands' hours of housework were greater. But, primarily, it reflected a rise in hours of housework of equal magnitude, 1.4 hours, for husbands of both employed and non-employed wives. Trends were similar among married couples where the wife had a high school education or less, and those where she had more than a high school education.

The increase in husbands' hours of housework was small and the allocation of hours of housework between husbands and wives remained quite unequal in 1988, even when the wife was employed. However, the significance of this change is magnified by the fact that housework hours decreased for wives.

TABLE 12 (*Cont.*)

| | 1988 | | | Change 1978–88 | |
	Market Work	Housework	N	Market Work	Housework
A. All individuals					
Women	26.4	21.3	2320	6.34	–5.35
Single	32.1	13.4	507	4.96	–3.83
Married	24.9	23.6	1813	6.58	–5.57
Wife not employed	0.3	33.0	415	–0.02	–4.01
Wife employed	32.2	20.8	1398	2.83	–3.52
Men	43.3	7.4	2183	0.71	1.27
Single	41.2	7.0	370	2.99	–1.14
Married	43.7	7.5	1813	0.54	1.63
Wife not employed	41.3	6.4	415	–1.19	1.40
Wife employed	44.4	7.8	1398	0.86	1.42
B. Married Couples by Education of Wife					
Education 12 years or less					
Wives	23.1	24.9	941	6.36	–5.64
Wife not employed	0.1	33.3	248	–0.12	–4.26
Wife employed	31.4	21.9	693	2.39	–3.49
Husbands	41.7	7.2	941	–0.30	1.58
Wife not employed	38.6	6.0	248	–2.63	1.13
Wife employed	42.8	7.7	693	0.22	1.42
Education 13 years or more					
Wives	26.7	22.1	872	5.22	–3.97
Wife not employed	0.4	32.7	167	0.07	–2.83
Wife employed	33.0	19.6	705	3.00	–2.69
Husbands	45.8	7.7	872	0.25	1.51
Wife not employed	45.4	7.0	167	–1.29	1.59
Wife employed	45.9	7.8	705	0.81	1.35

So, for example, in employed-wife families, the ratio of husbands' to wives' housework hours rose from 26 percent in 1978 to 38 percent in 1988.[31] Moreover, the fact that married men's housework hours increased when they de-creased for all other demographic groups is also significant. This suggests

[31] Using data from the 1975 Time Use Study based on time diaries and the 1987 National Survey of Families and Households based on direct questions about specific tasks, Beth Shelton (1992) also finds an increase in employed men's housework time as a percentage of employed women's over the 1975 to 1987 period, due in part to a decline in women's time. Similarly, Juster and Stafford (1991) report a decrease in women's housework time and an increase in men's between 1965 and 1981; however, because as noted above, they do not report results separately by employment or marital status, trends in these factors could account for some of the observed changes.

the combined impact of demographic trends together with changes in household technology and in the availability of market substitutes was to reduce housework. Absent some reallocation between spouses, we would have expected married men's housework to have declined rather than to have increased. Finally, it may be noted that the comparison of results of time use studies for the 1960s and 1970s reported in Blau, Ferber, and Winkler (1998) finds no such trend toward increased housework by husbands for that period, either among those with employed wives or among those with nonemployed wives. This suggests that increased housework by husbands was an important new development of the 1980s.

Overall, these trends are consistent with a reallocation of housework between men and women due to the rising relative wage of women.[32] The timing of the change also matches well with the increase in married women's relative wages in the 1980s. Such a reallocation might occur in Becker's (1991) model of specialization within the family due to comparative advantage. As women's comparative advantage in this area declines, housework may be more evenly divided.[33] Alternatively, the increasing relative wages of women could signal an increase in their bargaining power (e.g., Lundberg and Pollak 1996), and the reallocation of housework between men and women could be viewed in that context. Our finding

that housework hours increased for the husbands of *both* employed and nonemployed women seems more consistent with the bargaining explanation, with a shift in bargaining power between husbands and wives in response to changing market opportunities for women (regardless of their current employment status). However, calculations based on results in Table 11 indicate a faster growth in relative wages over the 1980s for wives with some college than for women with a high school education or less, yet the housework of more highly educated wives relative to their husbands fell no faster than for less educated women. This does not accord well with either theory.[34] Clearly more research is needed to better understand the reasons for the observed reallocation of time use between married men and women.

We may also consider the trends in relative leisure time of men and women implied by the results in Table 12, although an important qualification is that the measure of housework hours is likely incomplete. Overall, based on this measure, total work time (including both housework and market work) was a bit higher (2 hours) for men than for women in 1978. Total work time increased for both men and women, but a bit more for men (2 hours) than for women (1 hour). The trends were the same for married men and women: an increase of 2 hours in total work time for husbands and 1 hour for wives. The more favorable trend for women was due to the sizable decrease in the time spent on housework by both employed and nonemployed wives; this was suffi-

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[32] See Hersch and Stratton (1994) for evidence on the responsiveness of husband's and wife's housework time to relative wages.

[33] This conclusion would require some modifications of the simple comparative advantage model presented in Becker (1991). For example, there might be a number of household activities, with the degree of comparative advantage of each spouse differing across activities. Then, as the wife's relative wage increases, some activities might be transferred from wife to husband.

[34] Specifically, the ratio of husband's to wife's housework time increased by 57 percent among less educated wives (39 percent for nonemployed wives and 42 percent for employed wives); the ratio increased by 47 percent among more highly educated wives (41 percent for nonemployed wives and 37 percent for employed wives).

cient to outweigh most of the positive impact on their total hours of the shift of wives to the employed category (employed wives work longer total hours than nonemployed wives in each year). Based on this data then it appears that, for this period, gender differences in trends in leisure time are small, and where differences exist they slightly favor women over men.[35]

F. *Trends in Intra-family Allocation: Domestic Violence*

In recent years, considerable attention has focused on domestic violence. Economists have only recently begun attempting to model the determinants of the incidence of domestic violence, and there have been very few studies of trends, let alone efforts to explain these trends. An endeavor of this type faces enormous measurement problems due to changes in the propensity to recognize and report such incidents, as well as changes in the particular questions asked over time in various surveys. However, as we shall see, it is possible to reach some reasonable conclusions about trends despite the data problems.

One potential source of data on domestic violence is the National Crime Victimization Survey (NCVS) which annually collects information about crimes from a nationally representative sample of U.S. households. This data set has a number of advantages for our purposes, but also some disadvantages. First, as a household survey, it includes information on crimes that are not reported to the police; this is important because many incidents of domestic violence are not reported. Second, it separately reports information on violent crimes

committed against women by "intimates," although who precisely is included in that category has changed over time.[36] Finally, incidents reported in the survey must be considered "crimes" by the respondents. This is both an advantage and a disadvantage. On the one hand, it serves as an implicit control for the seriousness of the incident. On the other hand, while many people see domestic violence as wrong, they do not necessarily perceive it as criminal (Murray Straus and Richard Gelles 1988). Thus, data from the NCVS is likely to underreport the incidence of domestic violence, though perhaps to a lesser extent over time if people are increasingly inclined to see such acts as criminal. The inherent problems in using the NCVS to study trends are exacerbated by a recent redesign of the survey explicitly undertaken to produce more accurate reporting of violence by intimates and to increase the range of incident types that are reported.

Bearing the data issues in mind, it is nonetheless of interest to consider the magnitude of the problem based on this data source. In general, men in the U.S. are considerably more likely than women to be the victims of violence; during the 1980s and 1990s, the overall rate of violent crime victimization for men averaged 1.5–1.7 times higher than the female rate.[37] In contrast, as may be seen in Table 13, women are considerably more likely than men to be victims of violence by an intimate or relative, some 3.5 to 5.4 times more likely. The data in Table 13 show a jump in the incidence of violence by intimates for both men and women with the redesign

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[35] Based on diary reports of time specifically spent on leisure activities, Shelton (1992) finds little difference between women and men in total leisure time in 1975 or 1981.

[36] An intimate is currently defined as a spouse, ex-spouse, boy/girlfriend, or ex-boy/girlfriend. In earlier data, figures for intimates are included in the same category as "other relatives."

[37] Calculated from U.S. Department of Justice (1994); and Ronet Bachman and Linda Saltzman (1995).

TABLE 13
AVERAGE ANNUAL RATE OF SINGLE-OFFENDER VIOLENT VICTIMIZATIONS FROM THE NATIONAL CRIME
VICTIMIZATION SURVEY, 1979–93

Victim-Offender Relationship	Women			Men		
	1979–87	1987–91	1992–93	1979–87	1987–91	1992–93
Intimates and Relatives	6.3	6.5	12.1	1.8	1.2	2.6
Intimate	na	5.4	9.3	na	0.5	1.4
Other Relative	na	1.1	2.8	na	0.7	1.2
Acquaintance/friend	7.0	7.6	12.9	12.1	13.0	17.2
Stranger	11.4	5.4	7.4	29.4	12.2	19.0

Sources: 1979–87: Harlow (1991); 1987–91: Bachman (1994); and 1992–93: Bachman and Saltzman (1995).
Notes: Rate per 1000 individuals, 12 years of age or over. Intimate includes spouse, ex-spouse, boy/girlfriend, and ex-boy/girlfriend. Data for 1979–87 include multiple offenders. na indicates not available. Results from the 1992–93 NCVS are based on a redesigned survey and thus may not be comparable to previous years.

of the survey, indicating considerable sensitivity of responses to how questions are phrased and whether or not additional cuing occurs. However, prior to the redesign of the survey, the incidence of violence by intimates and relatives is virtually constant for women at about 6.5 per thousand for the 1979–87 and 1987–91 periods, and fell somewhat for men from 1.8 to 1.2.[38] Given the many biases which would be expected to cause an upward trend in these figures over time, it seems reasonable to conclude that there was no increase in domestic violence between the early and the late 1980s.

Another source of data on domestic violence is the 1975 and 1985 National Family Violence Surveys (NFVS) reported in Table 14. This nationally representative survey which includes married and cohabiting couples is portrayed to respondents as a survey of "family problems" rather than of crime. And re-

spondents are explicitly questioned about the particular types of violent behavior which are itemized in the footnotes to the table. Two indexes are obtained, one for overall violence and the other for severe violence; the latter includes actions which are believed to have a high probability of causing injury. As may be seen by comparing the violence rates in Tables 13 and 14, the rates obtained from the NFVS, even for severe violence, are considerably higher than those obtained by the NCVS. For example, for 1992–93, after the redesign, the rate of violence against women by intimates from the NCVS is 9.3 per thousand compared to a rate of severe husband to wife violence of 30 per thousand from the NFVS for 1985. When all violence is considered, the NFVS rate of 113 for husbands to wives in 1985 is 12 times the NCVS rate and indicates that at least one incident of violent behavior of husbands to wives occurred among 11 percent of American couples in 1985, with serious incidents taking place among 3 percent. Are the rates from the NFVS, which are so much higher than the NCVS rates, credible? The an-

[38] Another discontinuity in the table is the sizable fall in the rate of violence by strangers for both men and women between 1979–87 and 1987–91. This likely reflects the inclusion of multiple-offender victimizations in the 1979–87 data, but not in the later period.

TABLE 14
RATE OF VICTIMIZATION BASED ON MARITAL VIOLENCE INDEXES, 1975 AND 1985

	Husband to Wife		Wife to Husband	
Year	Overall Violence (1)	Severe Violence (2)	Overall Violence (1)	Severe Violence (2)
1975	121	38	116	46
1985	113	30	121	44
% Change	−6.6	−21.1	4.3	−4.3

Source: Gelles and Straus (1986) based on the 1975 and 1985 National Family Violence Surveys.
Notes: Rate per 1000 wives (husbands). Includes cohabiting couples.
(1) Includes: threw something; pushed, grabbed, or shoved; slapped; kicked, bit or hit with fist; hit or tried to hit with something; beat up; threatened with knife or gun; used gun or knife.
(2) Includes only: kicked, bit or hit with fist; hit or tried to hit with something; beat up; threatened with gun or knife; used gun or knife.

swer seems to be yes. Straus and Gelles (1988) summarize findings from a large number of similar studies which obtain results of roughly the same magnitude. The difference between the NFVS and the NCVS appears to occur because the NFVS does not query respondents about "crimes," but rather "problems," and also because it asks them about specific types of violent behavior.

Another surprising finding from the NFVS is that, when this methodology is employed, the violence rate of wives to husbands is similar to the rate of violence of husbands to wives. However, as Straus and Gelles and others have pointed out, the greater average size and strength of men and their greater aggressiveness means that the same act (e.g., a punch) is likely to inflict greater amounts of pain and injury when committed by a man. This reasoning is supported by the much lower rates of victimization of men by intimates reported in the NCVS where "crimes" are the focus. In addition, the data on homicide indicate that 28.3 percent of female homicide victims in 1992 were known to have been killed by an intimate compared to only 3.6 percent of males (Bachman and Saltzman

1995).[39] Moreover, Straus and Gelles argue that many of the assaults of women against their husbands are acts of retaliation or self-defense. Some evidence in support of this is that while these data suggest that women are violent as frequently within the family as men, they are very rarely found to be violent outside the family.

Nonetheless, the high rates of violence of wives against husbands reported in this data raise some concerns about the validly of the results for violence of husbands against wives. Specifically, if one dismisses much of the violence of women against men as insignificant because it is unlikely to cause injury, some unknown portion of the violence of husbands against wives should also likely be dismissed for the same reason. Putting this somewhat differently, though many reasonably feel that any domestic violence is wrong and should not occur, the statistics from the measure of violence employed by NFVS may give an inflated picture of the prevalence of violence that consti-

[39] The relationship of the offender to the victim was not identified in 30.9 percent of the cases with female victims and 41.3 percent of the cases with male victims.

tutes a serious problem in terms of harm or potential harm. On the other hand, as Straus and Gelles point out, violence by women may be of substantive concern because it is dangerous to *them*. It may set the stage for a more serious immediate assault on them by their partners who, as previously noted, are generally bigger and stronger; or it may provide a precedent or rationale for violence on their partners' part at a later time.

Whatever the conclusion about the levels of violence reported in the two surveys, the data in Table 14 from the NFVS strongly support our conclusion from the NCVS that there is no evidence of an increase in the rate of domestic violence against women, in this case between the mid-1970s and mid-1980s. Indeed, there is even some evidence of a decrease, especially in the incidence of severe violence. If we again assume that, if anything, the tendency would be to increase reporting of such incidents, our confidence that a decrease has occurred would be strengthened further.

An interesting question that may be raised about these trends is whether economic variables played a role in causing the apparent decrease in the incidence of domestic violence. Specifically, it is possible that, as women's relative wages and employment rates have risen, they have become less likely to remain in an abusive situation. The increased establishment of shelters for battered women could also have contributed to the decrease. However, currently, there are no detailed studies of the causes of these trends and, indeed, as we have seen, there is some reason to feel less than completely confident that a decrease has even occurred. Perhaps the most reasonable conclusion is that there is no evidence that the inclusion of domestic violence would in any way

change our finding, based on other indicators, that women's status within the family has, if anything, increased.

A last point to consider is what can be learned about the incidence of domestic violence among women by level of education and by race. For this purpose, the most recent NVCS figures are particularly useful because they provide the most accurate reporting of the relevant data for this survey. The findings are somewhat surprising. While high school dropouts and black women have higher overall violence victimization rates than others, rates of violence by intimates are similar for blacks and whites, and across education categories, with the exception of considerably lower rates among women college graduates. If it can be assumed that this pattern has been fairly stable,[40] here again, the bottom line is that the conclusions reached based on other indicators do not have to be revised by a consideration of domestic violence.

V. *"Having It All:" Combining Work and Family*

Given traditional male and female roles, one potential source of gender differences in economic well-being is a difference in the ability to successfully combine work and family responsibilities so as to attain desired objectives in both areas. Men tend not to face the same dilemmas as women, or not to face them to the same extent, because desirability as a spouse and ability to contribute economically to one's family are positively correlated with labor market success for men. While shifting gender roles within the family may be increasing the prevalence of family responsibilities among men, as we have

[40] Tabulations for previous years in Caroline Harlow (1991) and Bachman (1994) suggest similar patterns.

seen, considerable gender differences remain.

Differences in typical gender roles in the family are also indicated by research which widely finds a negative simple correlation between women's earnings and the presence of children. In general, it has also been found that children are negatively related to female earnings, all else equal, while marriage and children are positively related to male earnings.[41] The finding for women depends in part on what other variables are controlled for. A substantial part of the negative effect of children when education and potential experience (age) are held constant reflects the lower actual labor market experience of women with children, but some evidence of a negative effect has been obtained in a number of studies even when experience is controlled for (e.g., Jacobsen and Laurence Levin 1995; Waldfogel 1997). This may reflect that, in the past, the birth of a child often meant that a woman withdrew from the labor force entirely, thus breaking her tie to her employer and foregoing the returns to any firm-specific training she might have received, as well as any rewards for having made an especially good job match. Anticipation of this pattern could also deter both women and their employers from making large investments in firm-specific training to begin with.

This is by no means a new dilemma for women, but the terms of the choices

perceived by the bulk of women have changed over time. In recent decades, the desire to "have it all," that is to successfully pursue a career and to have a family appears to have become an increasingly common goal among women, especially the college educated. While there is no way of knowing precisely how prevalent it is, recent work by Goldin (1997) shows how rarely women have been able to successfully combine career and family, even among a relatively recent cohort of college women.

Using National Longitudinal Survey data, Goldin looks at attainment of career and family by 1985–88 among white women who graduated from college between 1966 and 1979. These women ranged in age from 34 to 44 in 1988. Goldin uses a variety of definitions of career, but especially emphasizes results where career is defined as having hourly earnings in the selected years exceeding that of the 25th percentile of men with 16 or more years of schooling in the Current Population Survey (CPS) in the relevant year. When a three-year definition is employed, 1985, 1987, and 1988, only 26 percent of the women qualify as having careers. Using a two-year definition, 1987 and 1988, one third qualify, still a relatively low proportion. A still smaller proportion attain both career and family, where family is defined by the presence of children: only 13 percent using the three-year definition and 16 percent using the two-year definition. This reflects a considerably lower incidence of career among women with children. This is a relatively stringent definition of career, because a substantial proportion of men would not have attained a career by this definition either. However, when Goldin shifts to a lower cutoff—being in the labor force in each of three years and generally working full-time—the incidence of career and fam-

[41] See for example, Korenman and David Neumark (1991), Waldfogel (1997), and Fuchs (1988). A number of serious econometric issues are raised in seeking to measure the effect of children on women's wages due to unmeasured heterogeneity among individuals and endogeneity of the decision to have children. For an especially thorough treatment of these issues, see Korenman and Neumark (1992 and 1994). While Korenman and Neumark's earlier findings were ambiguous, their more recent and preferred results do indicate a negative effect of children on wages for white women.

ily among the women remains extremely low, only 22 percent. And, under all three definitions, approximately one half of the women with careers had not had a first birth.

Some qualifications may be noted concerning these findings. We do not know what fraction of the childless women were disappointed in not having children. However, Goldin (1997) does present evidence that a considerable fraction (half or more) had indicated that they desired children when surveyed in their early to mid twenties. Another qualification is that this cohort (aged 34–44 in 1988) has in general postponed marriage and childbearing. Thus, childlessness among them is likely to be overestimated, because some may still have children later, and their measured career attainments may appear especially low during the years surveyed because of the presence of young children among the women with families. Yet even these qualifications suggest that these women face the need to make decisions and tradeoffs seldom confronted by their male counterparts. This concern is reinforced by Waldfogel's (1997) finding that the wages of women with children lag increasingly behind those of women without children. On a more positive note, Waldfogel finds that access to family leave substantially mitigates the negative effect of children on women's wages. This suggests that the difficulties which women have faced in achieving career and family may be reduced as more firms adopt such policies.[42]

VI. *Conclusion*

The goal of this paper is to delineate the trends in the well-being of Ameri-

can women over the past quarter century. I argue for a broad range of indicators designed to capture changes in women's well-being in the family as well as in the labor market, and also for the importance of examining both women's progress relative to men and in some absolute sense compared to the initial levels of indicators for women. Moreover, given trends in recent years of growing disparities across groups, the investigation must proceed at a disaggregated as well as at an aggregated level to be informative. I have undertaken this investigation both through direct analyses of data, primarily from the Current Population Surveys, and examination of existing research results.

Overall, I conclude that women have made substantial progress toward gender equality over the past 25 years across a number of dimensions. Gender differences in labor force participation have narrowed sharply and women now remain in the labor market more consistently over the life cycle. Differences between men and women in occupations, types of education, and rates of self-employment have been greatly diminished; and women have narrowed the gender wage gap substantially. Within the family, wages of wives rose relative to their husbands' and, perhaps as a consequence, there was a small but notable reallocation of housework between husbands and wives. And, while the data are not as reliable as one would like, there is no indication of any increase in domestic violence between the mid-1970s and mid-1980s which would tend to offset these gains. Relative gains also appear to have been widely distributed across education groups. These relative gains appear to be matched by progress for women overall in an absolute sense. Women's real wages increased substantially over

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[42] The Family and Medical Leave Act of 1993 requires all employers over a minimum size to offer 12 weeks of unpaid job-protected leave.

the 1969–1994 period, while men's stagnated. Similarly, women upgraded their major occupations absolutely between 1979 and 1988, in that they moved into higher paying occupational categories, while, on net, men's occupational shifts left their real wages unchanged.

This does not mean that discrimination and other gender-related disabilities affecting women have disappeared. There still exists a considerable, although reduced, gender wage gap after controlling for measured characteristics, which is often taken as an estimate of discrimination. And the challenges of combining work and family appear to continue to pose serious obstacles and dilemmas for women but, at this point, do not seem to affect men in the same way or at least to the same extent. Moreover, trends in family structure and, in particular, the increase in families headed by single women, have adversely affected the economic well-being of women and their dependent children. But this development, unlike those cited above was heavily concentrated among women with little education (less than 12 years) and black women.

The faster rise in female headed families was just one of a number of developments adversely affecting the relative economic well-being of less educated women. In a manner strikingly parallel to trends in the labor market for men, wage differentials by education widened among women in the 1980s and early 1990s, and female high school dropouts experienced real wage declines. While women at all skill levels upgraded their occupations, less skilled and middle skilled women lost union jobs, although at a slower pace than men, and their representation in higher paying industries declined, at about the same rate as men's. Less educated women have also increased their labor

force participation less than other education groups, as have black women compared to white women. Finally, not only has female headship increased most rapidly among less educated women, the income of individuals in families headed by couples with lower educational attainment has fallen relative to that of more highly educated couples. Some simple analyses strongly suggest that compositional shifts do not entirely account for the deteriorating economic position of less educated Americans, but rather that real changes in behavior and opportunities underlie at least some part of them. My principal concern has been with the well-being of women. However, these findings for less educated women also serve to underscore the widening gap between more and less skilled Americans of both sexes, as well as to emphasize its broad dimensions.

Much remains to be learned about the details of the trends outlined here, and even more about their fundamental causes. In each major area where we probed existing studies for explanations of the trends, whether in participation, relative wages, or single headship, a substantial portion of the explanation must at this point be allocated to behavioral shifts and changes in tastes. The sources of the growth in headship are particularly poorly understood. It may be that this is inescapable at a time of rapid change in gender roles and social attitudes toward women and family relationships. But perhaps we should take this as a challenge to develop and refine economic models which can account for a greater proportion of the changes. It is in any case clear that more serious empirical analyses of the reasons for these trends are needed if we are to understand these developments better. Such analyses also provide an excellent opportunity for testing the economic

significance as well as the statistical significance of our models.

Appendix: Data Description

The primary source of data for the empirical results presented here are the March Current Population Surveys (CPS) for 1970, 1980, 1990, and 1995. The CPS was used because it is a large, nationally representative sample which permits considerable disaggregation by subgroups. The CPS data for 1970, 1980, and 1990 were selected because the earnings measure which is based on the previous calendar year relates to years of comparable economic activity over broad ten year intervals; the 1995 CPS was the most recent year available at the time this research was conducted. While the Census of Population could have been used as an alternative data source for 1970–1990, providing still larger samples, the CPS provides a consistent data source throughout, including the most recent year.

There was a change in the coding of the CPS education variables affecting the 1995 CPS data. In earlier years, information is available on years of schooling completed, top-coded at 18. The 1995 codes, with years of education assigned in parentheses, are: less than 1st grade (1); 1st, 2nd, 3rd, or 4th grade (2.5); 5th or 6th grade (5.5); 7th or 8th grade (7.5); 9th grade (9); 10th grade (10); 11th grade or 12th grade no diploma (11); high school graduate (12); some college but no degree (13); associate degree (14); bachelor's degree (16); master's degree; professional school degree; and doctorate degree (18).

Wage results are generally for the weekly wages of full-time workers (i.e., those usually working 35 hours or more per week in the preceding year). While average hourly earnings (i.e., annual earnings divided by weeks worked multiplied by hours per week) would have been a preferable measure in some respects, weekly hours information in 1970 is available only for hours last week. This is in an error-ridden measure of the preferred variable, usual weekly hours, and, moreover, is only available for a selected group of workers, i.e., those employed last week. However, information on whether the individual usually worked part-time or full-time in the preceding year is available in each of the surveys, including 1970. I thus generally use the weekly earnings measure which can be computed on a comparable basis in each year and which applies to an identifiable group, full-time workers, rather than an arbitrary group, those employed in the previous week.[43]

Average weekly and hourly wage rates are calculated based on the previous calendar year and exclude individuals who were self-employed or for whom data on wage and salary income was either missing or imputed. Except when otherwise indicated, the sample was further restricted to full-time workers who worked at least one week in the preceding year and who participated in the labor force (i.e., were employed or unemployed) for at least 27 weeks. Following Katz and Murphy (1992), individuals with real weekly earnings of less than $67 or real hourly earnings of less than $1.68 in 1982 dollars (i.e., one half the value of the minimum wage, assuming a 40 hour week for the weekly earnings cutoff) were excluded; for individuals whose annual wage and salary income was top-coded by the CPS, annual income was imputed as 1.45 the top-coded value ($50,000 in 1970 and

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[43] The weekly wage measure has been used quite extensively in recent studies of trends in wages, wage inequality, and race wage differentials; see, for example, Katz and Murphy (1992), and Juhn, Murphy, and Pierce (1991 and 1993).

1980 and $1,999,998 in 1990 and 1995). All tabulations employ the CPS sampling weights.

The CPS data are supplemented with information from the Michigan Panel Study of Income Dynamics (PSID) on average weekly hours of self-reported market work and housework. The PSID is a large, national sample which is available for a number of years making it attractive compared to smaller, and less frequently available time use studies. I employ data from the 1979 and 1989 PSID yielding information for the preceding years. I begin with 1979 because housework data were not consistently available before this. The 1989 PSID was the most recent publicly available when this work was commenced. These are two years of roughly comparable levels of economic activity. The poverty sample of the PSID was deleted in the tabulations presented.

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