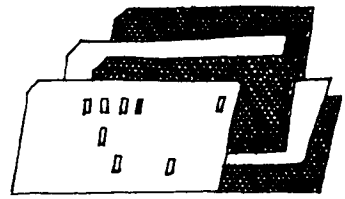
Research Summaries



Effects of selected variables on work hours of young women

DAVID SHAPIRO AND FRANK L. MOTT

A young woman's twenties are extremely significant in her life cycle: typically, schooling will have ended, and work careers, marriage, and family formation are all likely to begin. As part of an examination of the continuing increase in work attachment of young women, we analyzed the labor supply of respondents to the National Longitudinal Surveys of Young Women during two 5-year periods between 1968 and 1978—1968–73 and 1973–78.[1] Beginning with respondents age 20 to 24 in 1968, we examined hours worked during 1968–73; and for those age 20 to 24 in 1973, we examined hours worked during 1973–78. In each case, hours of work are viewed as dependent upon schooling, marriage, and childbearing activities, as well as on some additional control variables.

Important changes in the characteristics that influence the labor supply behavior of young women in their twenties took place during the 1970's. Relative to earlier cohorts, more recent cohorts of young women have more schooling, are marrying and beginning to have children later, and are having fewer children. All of these changes contribute to greater work activity on the part of young women. At the same time, changes in attitudes toward women who work and in young women's expectations of future work activity[2] have resulted in increased work activity among women of given characteristics. Both changing characteristics and changing behavior have thus contributed to the continuing increase in work attachment of young women, and this analysis emphasizes the importance of each of these types of changes in accounting for the observed increase in labor supply.

In addition, we seek to determine the extent to which changing behavior is associated with specific factors. For example, consideration of the secular trend in labor force participation rates of young mothers suggests that the inhibiting effect of young children on female labor supply has been smaller in more recent years than in earlier years.[3] Similarly, the impact on labor supply of variations in wages or educational attainment may have changed over the 1970's.[4] The multivariate estimates of the determinants of hours of work among women in their twenties for the two periods 1968–73 and 1973–78 allow us to ascertain the nature of changes in the impacts of specific factors on labor supply.

Empirical specification

Conventional one-period labor supply equations are based on the notion from labor supply theory that a woman's labor market activity will depend on a comparison of her market wage with her shadow price of time (the value the household attaches to the wife's nonmarket time).[5] Factors augmenting the market wage will be positively associated with labor supply, while factors increasing the shadow price of time will be inversely related to labor supply. Theoretical considerations and previous empirical studies suggest that hours of work will be positively related to educational attainment and age—two important determinants of the market wage. Similarly, enrollment in school, the presence of a husband, higher husband's earnings, and the presence of preschool children in the home all contribute to a higher value of a woman's time in nonmarket activities and, hence, are expected to result in fewer hours worked, other things equal. Additionally, individuals with health problems that limit the amount or kind of work they can do, those who have migrated from another area, and those residing in areas with high unemployment rates are all expected to work fewer hours, other things equal.

A complicating factor here is that we are considering labor supply over a 5-year period, during which many of the important determinants of labor supply (for example, fertility, marital, and school enrollment status) are likely to change. Thus, there will be variation in labor supply not only between women who had young children at home during the interval and those who did not, but also among women with children at home—because for some women, children will have been present for the entire interval, while for others, children will have been present for, say, only 1 of the 5 years. Hence, for fertility status, marital status, and

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school enrollment status, we need to know how many years an individual had young children at home, was married, or was enrolled in school. Because only 3 years of data were available for the 1973–78 period,[6] these variables are expressed as ratios indicating the proportion of years during which the respondent was characterized by a particular status.

The results

Mean values of the variables for young women age 20–24 at the outset of the 1968–73 and 1973–78 periods are shown separately by race and by presence of young children in table 1 for all respondents. The data confirm what was suggested earlier: those in the more recent cohort were more likely to have been in school and have greater educational attainment, and less likely to have been married or have children.[7] These differences are distinctly sharper among blacks than among whites. A major difference between the two periods was in labor market conditions: average unemployment rates were more than 2 percentage points higher during the 1973–78 period than during the 1968–73 period.

Hours of work were higher in the later period by nearly 17 percent among whites and by 13 percent among blacks. Hours of work increased 30 percent for the white mothers, compared with 13 percent for the nonmothers. Proportionately greater increases in hours worked among mothers are also apparent among blacks: average hours worked increased by 19 percent for black mothers, but by only about 5 percent for black nonmothers.[8]

Hours worked equations were estimated separately for whites and blacks and, within each race group, the samples were further stratified according to whether there was a preschool child at home at any time during the 5-year period. The effects of the explanatory variables on hours of work for young women are shown in table 2. Almost all of the estimated coefficients for whites had the expected signs, and most of the coefficients are statistically significant. Educational attainment, husband's earnings, and fertility status are the most important determinants of hours worked.[9] The equations for blacks, while based on distinctly fewer numbers of cases, also have coefficients whose signs largely conform to our *a priori* expectations and that are frequently significant. Educational attainment and fertility status are key determinants of hours worked among blacks. Health status of mothers and school attendance among nonmothers are also significant influences on labor supply of blacks throughout the decade.

There is evidence of changing behavior for women with given socioeconomic or demographic characteristics. Contrary to our expectations, no significant change appears in the impact of young children on hours of work.[10] Among whites, for both mothers and nonmothers, being married and husband's earnings had significantly smaller inhibiting effects on a wife's labor supply during the 1973–78 period. The impact of educational attainment on hours worked also changed significantly for both groups, but in opposite directions: among those who were not mothers, schooling was less strongly related to hours worked in the later period, but among mothers, the coefficient was almost twice as large for 1973–78 as it was for 1968–73.

Among blacks, the comparison across periods of the effects of particular factors on hours worked yields results that are similar to those for whites. No significant change appears in the impact of young children on hours of work, but differences in educational attainment became less important among nonmothers (significantly so) and more important among mothers. In addition, among nonmothers, the negative impact of husband's earnings on hours worked during the early period had disappeared by the end of the later period.

Table 1. Mean values of variables for 20- to 24-year-old women, by race and presence of young children

Variable	White						Black					
	Total		No preschooler present		Preschooler present		Total		No preschooler present		Preschooler present	
	1968–73	1973–78	1968–73	1973–78	1968–73	1973–78	1968–73	1973–78	1968–73	1973–78	1968–73	1973–78
Estimated hours worked	4,987	5,833	6,426	7,241	2,973	3,851	5,192	5,860	6,489	6,846	4,459	5,307
Educational attainment	12.7	12.9	13.5	13.8	11.5	11.7	11.2	12.0	12.0	12.7	10.7	11.6
Age	24.3	25.1	23.9	24.9	24.7	25.4	24.2	25.0	24.0	24.8	24.4	25.1
Proportion of period enrolled in school	.069	.113	.106	.163	.019	.042	.043	.106	.070	.135	.028	.091
Proportion of years in period married, spouse present	.741	.700	.628	.613	.901	.823	.551	.447	.380	.352	.647	.501
Proportion of years married times husband's average earnings (thousands)	10.3	9.7	8.5	8.4	12.7	11.6	5.0	4.8	3.8	3.7	5.6	5.4
Proportion of period with preschooler at home	.347	.333	0	0	.832	.801	.532	.468	0	0	.833	.731
Health problem which limited amount or kind of work	.179	.143	.157	.129	.211	.164	.217	.161	.220	.133	.215	.176
Migration across county lines during period	.473	.427	.565	.472	.343	.363	.289	.224	.370	.271	.243	.198
Average unemployment in area	5.2	7.3	5.2	7.3	5.3	7.3	5.3	7.6	5.1	7.4	5.4	7.7
Sample size	931	1235	543	722	388	513	277	504	100	181	177	323

Table 2. Effects of variables on hours worked by 20- to 24-year-old women, by race and presence of young children

[t-statistics in parentheses]

Variable	White				Black			
	No preschooler present		Preschooler present		No preschooler present		Preschooler present	
	1968–73	1973–78	1968–73	1973–78	1968–73	1973–78	1968–73	1973–78
Educational attainment	365.1 (5.30)	209.6 (3.69)	275.2 (2.94)	505.8 (5.43)	693.6 (5.65)	324.2 (3.49)	214.7 (1.77)	452.1 (4.34)
Age	226.4 (2.16)	133.3 (1.51)	27.5 (0.23)	149.8 (1.34)	300.2 (1.38)	413.8 (2.38)	−62.4 (−0.33)	111.0 (0.75)
Proportion of period enrolled in school	−2408.7 (−2.92)	−822.1 (−1.57)	799.2 (0.39)	357.8 (0.31)	−5843.9 (−3.57)	−2657.4 (−2.49)	3355.5 (1.28)	−1808.8 (−1.53)
Proportion of years married times husband's average earnings	−209.0 (−10.47)	−111.6 (−7.13)	−202.3 (−7.55)	−123.6 (−5.97)	−149.2 (−2.20)	4.9 (0.11)	−12.9 (−0.22)	−0.4 (−0.01)
Proportion of period with preschooler at home	—	—	−3038.2 (−3.85)	−2717.8 (−4.79)	—	—	−3255.9 (−2.60)	−3604.1 (−5.20)
Health problem which limited amount or type of work	−525.6 (−1.39)	−825.1 (−2.26)	−315.4 (−0.81)	−470.7 (−1.14)	−398.1 (−0.54)	−1209.3 (−1.64)	−2004.4 (−3.04)	−2302.9 (−4.36)
Migration across county lines during period	−1297.6 (−4.69)	−404.7 (−1.63)	212.6 (0.63)	−322.8 (−1.01)	−318.8 (−0.50)	−1274.7 (−2.33)	600.4 (0.96)	−739.5 (−1.44)
Average unemployment rate in area	96.3 (0.96)	−199.4 (−2.52)	4.8 (0.05)	−215.0 (−2.20)	−186.9 (−0.80)	−88.2 (−0.61)	−246.1 (−1.48)	−174.7 (−1.61)
Constant	−1560.9	3837.2	4170.3	−505.9	−6906.8	−6060.3	7984.0	1980.1
$\bar{R}^2$	.212	.090	.158	.146	.300	.130	.123	.168
F ratio	21.87	11.21	10.04	11.96	7.08	4.84	4.09	9.13
Sample size	543	722	388	513	100	181	177	323

Among both whites and blacks, then, there is a pattern of reduced impact on wife's labor supply of being married and husband's earnings, lesser effect of educational attainment among nonmothers, and greater effects of schooling among mothers. Several factors should be noted in this regard. Trends in divorce in the United States have sharply reduced the likelihood that young women will spend virtually all of their adult lives as married women. As increasing proportions of young women recognize that they may be required to support themselves as adults, their incentive to retain close ties to the labor market after marriage grows. From this perspective, then, trends toward greater marital instability should result in a weaker influence of marriage or of a husband's high earnings on a woman's labor supply.[11]

The diverse changes in the impact of schooling on young women's hours of work reflect the fact that a major role of the schooling variable in the estimated labor-supply equations is to serve as a proxy for the market wage. Viewing educational attainment as a proxy for the wage implies that the labor supply of nonmothers is becoming more inelastic with respect to their wages, while labor supply of mothers is becoming more elastic. The lesser responsiveness to wages of hours of work of nonmothers means that women without children are behaving increasingly like men (whose labor supply is typically rather inelastic with respect to their wages). Among mothers, by contrast, traditional patterns of extensive withdrawal from the labor market associated with childbearing and child rearing are breaking down.[12] Hence, whereas in the past, the labor supply of young mothers was quite low and relatively insensitive to wage rates, the results here suggest that not only is the general level of labor supply of young mothers rising, but also the sensitivity (that is, responsiveness) to wages is rising. Thus, while there is an obvious trend toward greater work activity among mothers, it is the better-educated—that is, the high-wage—mothers who are leading the way. To the extent that schooling also proxies for important nonwage attributes of work (for example, more pleasant or more interesting jobs), the tendency for better-educated young mothers to work is further reinforced. This is particularly likely to be the case if (as seems plausible) governmental efforts during the past decade aimed at reducing labor market discrimination against women have been more successful in enhancing opportunities for better-educated women, compared with their lesser-educated counterparts.[13] □

FOOTNOTES

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[1] The National Longitudinal Surveys of Young Women began in 1968,

covering a panel of more than 5,000 young women age 14–24 in 1968. By 1978, more than 75 percent of the original panel were still being interviewed. For further information, see *The National Longitudinal Surveys Handbook* (Columbus, Center for Human Resource Research, The Ohio State University, 1982). This paper is a condensed version of a longer report entitled, "Trends in the Employment of Young Women: Evidence from the National Longitudinal Surveys," which is available from the Center for Human Resource Research.

[2] See Frank L. Mott, "The Changing Roles of Women," in Frank L. Mott, ed., *The Employment Revolution* (Cambridge, MIT Press, 1982); David Shapiro and Joan E. Crowley, "Aspirations and Expectations of Youth in the United States, Part 2: Employment Activity," *Youth and Society 14*, September 1982, pp. 33–58; and Linda J. Waite, "Projecting Female Labor Force Participation from Sex Role Attitudes," in Ralph E. Smith, ed., *Women in the Labor Force in 1990* (Washington, The Urban Institute, 1979).

[3] For documented research on how a woman's attitudes toward employment condition the likelihood of her being employed when she has small children, see Frank L. Mott, Anne Statham, and Nan L. Maxwell, "From Mother to Daughter: the Transmission of Work Behavior Patterns Across Generations," in Frank L. Mott, ed., *The Employment Revolution* (Cambridge, MIT Press, 1982).

[4] Such an effect might be linked to governmental efforts aimed at reducing labor market discrimination against women. For example, see David Shapiro and Lois B. Shaw, "Growth in the Labor Force Attachment of Married Women: Accounting for Changes in the 1970's," *Southern Economic Journal 50*, forthcoming.

[5] For example, see James J. Heckman, "Shadow Prices, Market Wages, and Labor Supply," *Econometrica 42*, July 1974, pp. 679–94.

[6] While data are available from annual interviews to cover each year between 1968 and 1973, the less frequent schedule of interviews after 1973 resulted in gaps in the available work histories. In particular, for the period from 1973 to 1978, data are available only for 3 years (1974–75 and 1976–78). Consequently, not only were ratios used for certain variables (as described in the text), but in addition, estimated total hours worked over the 5-year period 1973–78 were calculated by multiplying hours worked during the three available years by 5/3 (so as to provide a 5-year measure comparable to that for the 1968–73 period).

[7] Because the data for the 1973–78 period are drawn from interviews at the end of years 2, 4 and 5 rather than from all 5 years, the average age is higher for those in the 1973–78 period. This age difference biases somewhat the comparison of marital, fertility, and enrollment statuses, underestimating the changes in each of these variables. That is, had data been available for each year during the 1973–78 period, the average age and, consequently, the proportion of years married and proportion of years with children all would have been lower, while the proportion of years in school would have been higher. By the same token, the age difference serves to exaggerate slightly the change in educational attainment.

[8] Data on the percentage of individuals within each race/fertility status group who did not work at all are consistent with the data on mean hours worked among whites. For the 1968–73 period, 27 percent of white mothers and 5 percent of white nonmothers did not work; the comparable figures for the 1973–78 period were 22 percent and 4 percent, respectively. Among blacks, by contrast, there were slight increases over time in the percentages of nonworkers: while 15 percent of mothers and 4 percent of nonmothers did not work during the 1968–73 period, the corresponding figures were 17 percent and 8 percent, respectively, for the 1973–78 period.

[9] Chow tests confirmed that the sets of coefficients of the hours worked equations differ significantly by fertility status.

[10] Statements about statistically significant changes in coefficients across periods are based on a formal statistical test for such changes in which a pooled equation with interaction terms was estimated for each fertility status group. In addition to the significant changes mentioned in the text, we also found that for the childless white women, there were statistically significant changes in the coefficients of the migration and unemployment variables, while for the black mothers the change in the coefficient of the enrollment variable is statistically significant.

This conclusion concerning the absence of a change in the effect of young children on work hours holds also in equations covering the total sample (that is, not stratifying by fertility status). One might argue that estimation of separate equations for mothers and nonmothers could mask a reduction in the impact of young children on labor supply. However, it is clear from the equations in which mothers and nonmothers were pooled that there is no evidence of such a reduction, either among whites or among blacks.

[11] The evidence indicating that marital status/husband's earnings is less important among blacks than among whites is quite consistent with the argument here because, traditionally, marital instability has been higher among blacks.

[12] For evidence in this regard, see David Shapiro and Frank L. Mott, "Labor Supply Behavior of Prospective and New Mothers," *Demography*, May 1979, pp. 199–208; and Frank L. Mott and David Shapiro, "Complementarity of Work and Fertility Among Young American Mothers," *Population Studies 37*, July 1983.

[13] It is important to note that, to a considerable degree, the increase in hours due to demographic changes was, for most of the groups in this analysis, counterbalanced by a depressing effect on hours worked due to the changing impact of areal unemployment between the two 5-year periods. If the economy had been as strong during 1973–78 as it had been during 1968–73, the trend in hours of work might well have been sharper and more dramatic than it actually was.

NLRB v. Yeshiva University: a positive perspective

CLARENCE R. DEITSCH AND DAVID A. DILTS

NLRB v. Yeshiva University[1] may soon stand beside such other landmark U.S. Supreme Court decisions as *Loewe v. Lawlor*[2] and *United States v. Hutcheson*[3] both in terms of controversy provoked and the number of resulting learned articles written by labor relations scholars and practitioners. The articles have, for the most part, either focused upon the normative issues of whether the Court erred in its reasoning and why,[4] or upon the closely related issue of the proper tack the National Labor Relations Board should have taken in its arguments before the Court.[5] This report examines the *Yeshiva* decision from a positive perspective; the debate as to whether Justice Lewis Powell and the Court were right or wrong is put aside in order to analyze the impact of the decision upon union organization of private-sector institutions of higher education.

Union membership: a rational decision

Students of labor relations have long recognized that the secular behavior of trade union membership is influenced by a number of different variables, including the economic ones that determine the benefits and costs associated with union membership. Thus, an employee's decision to join a labor organization can be assumed to be rational and dependent "upon his subjective assessment of the expected benefits to be obtained from union membership as against

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