

# INEQUALITY AND HOUSEHOLD LABOR SUPPLY<sup>1</sup>

STEFANIA ALBANESI  
Columbia University, NBER, CEPR

MARIA JOSE PRADOS  
Columbia University

FEBRUARY 14, 2011

## Project Description

The entry of married women into the labor force and the rise in women's relative wages are amongst the most notable economic developments of the twentieth century [6]. These phenomena were particularly pronounced in the 1970s and 1980s, when participation of married women grew from 57% in 1975 to a peak of 76% in 1996 and the male/female ratio in hourly wages dropped from 1.60 to 1.34. Since then, these indicators have stalled, especially for college graduates (see figure 1<sup>2</sup>). This development is puzzling in light of the continued rise in women's educational investments relative to men [7] and their entry into professional occupations [3].

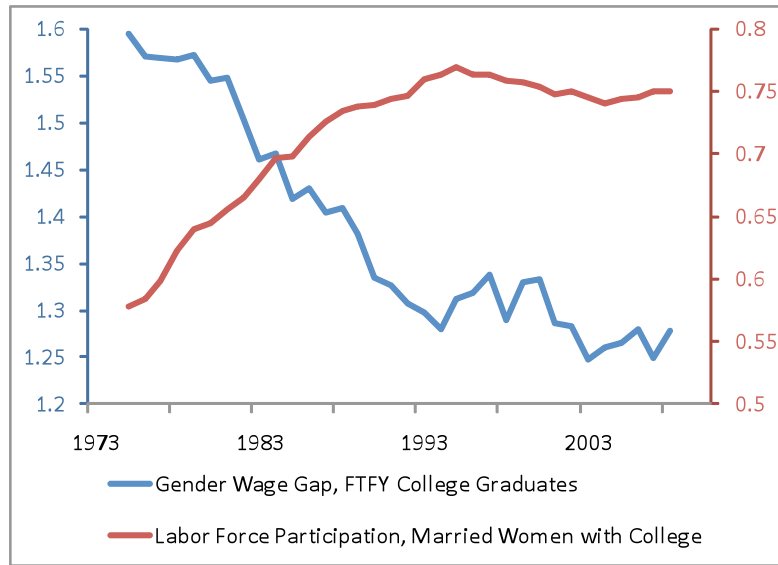


FIGURE 1: Recent trends in female labor force participation and the gender wage gap. College graduates.  
The gender wage gap is defined as the male/female ratio of hourly earnings.

This paper explores the role of the growth in skill premia and wage dispersion for college graduates, which substantially accelerated in the early 1990s [8], especially for men. Our hypothesis is that the growth in wages for highly educated men generated a negative wealth effect on the labor supply of their female spouses, discouraging their participation<sup>3</sup>. At the same time, the rise in wage

<sup>1</sup>Research proposal prepared for the PER GRADUATE STUDENT SUMMER FELLOWSHIPS.

<sup>2</sup>All figures are based on CPS data from the IPUMS [9]. The sample includes those aged between 21 and 65, all races.

<sup>3</sup>We document that the plateau in female hours worked starting in the early 1990s is mostly accounted for by the behavior of participation.

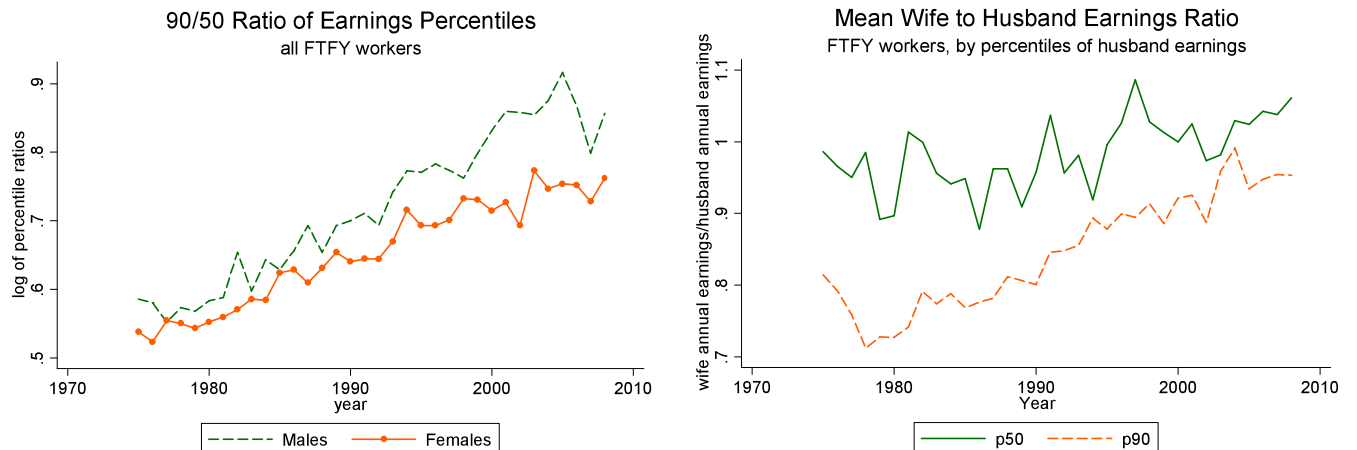


FIGURE 2: Earnings dispersion by gender and wife/husband earnings ratio.  
Left panel: Full time, full year workers. Right panel: Households in which the wife has a college degree.

dispersion for college graduates stalled the progress in female wages, consistent with the strong empirical link between the gender wage gap and wage dispersion, both over time and across countries [4].

Disaggregated evidence on earnings dispersion by gender and labor force participation of wives provides descriptive support for this mechanism. Wage dispersion grew less for females relative to males starting in the early 1990s (figure 2, left panel). The wife/husband earnings ratio in two earner households where the wife has a college degree (figure 2, right panel) is lowest in households with high earning husbands. Moreover, this ratio experienced a clear deceleration starting in the mid-1990s. Finally, participation of married women declined starting in the early 1990s especially in high income households (see figure 3, left panel) and in households in which at least one spouse has a college degree (see figure 3, right panel), whereas it was constant for other households.

Our analysis comprises two components. The empirical analysis extensively documents the behavior of labor force participation and wages of married women in relation to the earnings of their husbands by combined household income and educational attainment of the spouses. The theoretical analysis is based on a general equilibrium quantitative collective [5] model of household labor supply. Such a model can qualitatively reproduce a negative effect on wives's participation of a rise in husbands' earnings with a standard preference specification that allows for wealth effects on labor supply. We will calibrate the distribution of wages by education and gender and the degree of assortative matching to match the distribution of household income and spousal earnings and wives' labor force participation by household type in the US economy in 1990, and conduct several experiments to gauge the quantitative relevance of our hypothesis and possible alternatives.

We will also explore richer versions of the model to examine the role of performance-pay and parental investments in children's education. Performance-pay has been an important factor in the rise in wage dispersion starting in the early 1990s [10] and it can account for a large fraction of the

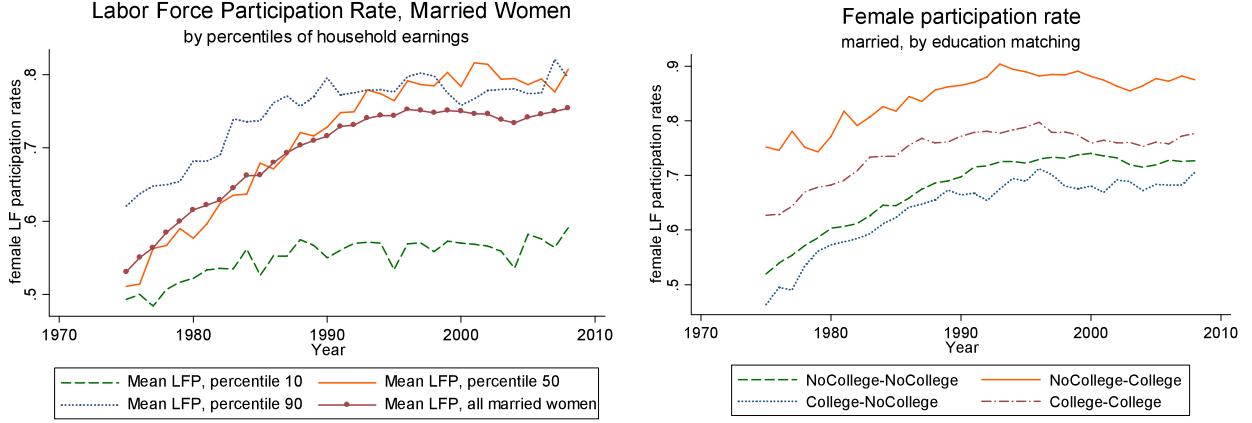


FIGURE 3: Labor force participation of married women by household type.

Left panel: Household type corresponds to percentile of the household labor income distribution. Right panel: Household type corresponds to husband-wife educational attainment.

gender wages gap in professional occupations [2]. The use of performance-pay increases idiosyncratic earnings volatility, which in the presence of non-convexities in labor supply, can further discourage participation of secondary earners. We will explore the quantitative relevance of this mechanism in our model.

The mid-1990s also saw a large rise in the time spent by parents on childcare in the U.S. [1], especially in households with college educated parents [11]. We explore whether this phenomenon can be linked to the rise in the skill premium and the resulting rise in the return of parental investments in children's education, and the decline in the participation of wives in highly educated households in the context of our model.

This paper makes several contributions. The empirical analysis provides novel evidence on female labor market outcomes and on the determinants of household income inequality and its relation to individual income dispersion. Existing studies of earnings inequality either restrict attention to males or abstract completely from the household structure. The theoretical analysis comprises the first attempt to build a quantitative model linking the rise in skill premia and wage inequality for highly educated workers to the recent trends in female labor force participation and gender wage inequality.

## References

- [1] M. Aguiar and E. Hurst. Measuring trends in leisure: The allocation of time over five decades\*. *The Quarterly Journal of Economics*, 122(3):969–1006, 2007. [\(document\)](#)
- [2] S. Albanesi and C. Olivetti. Home production, market production and the gender wage gap: Incentives and expectations. *Review of Economic dynamics*, 12(1):80–107, 2009. [\(document\)](#)
- [3] Sandra E. Black and Chinhui Juhn. The rise of female professionals: Are women responding to skill demand? *The American Economic Review*, 90(2):450–455, 2000. [\(document\)](#)
- [4] F.D. Blau and L.M. Kahn. Wage structure and gender earnings differentials: An international comparison. *Economica*, 63(250):29–62, 1996. [\(document\)](#)
- [5] P.A. Chiappori. Collective labor supply and welfare. *Journal of Political Economy*, 100(3):437–467, 1992. [\(document\)](#)
- [6] C. Goldin. The quiet revolution that transformed women’s employment, education, and family. *The American Economic Review*, 96(2):1–21, 2006. [\(document\)](#)
- [7] C. Goldin, L.F. Katz, and I. Kuziemko. The homecoming of american college women: the reversal of the college gender gap. *Journal of Economic perspectives*, 20(4):133–156, 2006. [\(document\)](#)
- [8] J. Heathcote, K. Storesletten, and G.L. Violante. The macroeconomic implications of rising wage inequality in the united states. 2008. [\(document\)](#)
- [9] Miriam King, Steven Ruggles, Trent Alexander, Donna Leicach, and Matthew Sobek. Integrated public use microdata series, current population survey: Version 2.0. [machine-readable database]. Minneapolis, MN: Minnesota Population Center [producer and distributor], 2009. [2](#)
- [10] T. Lemieux, W.B. MacLeod, and D. Parent. Performance pay and wage inequality. *Quarterly Journal of Economics*, 124(1):1–49, 2009. [\(document\)](#)
- [11] G. Ramey and V.A. Ramey. The rug rat race. *NBER Working Paper*, 2009. [\(document\)](#)