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A Note on Labor Force Participation of ~~Married~~ Women:
Philippines, 1968*

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Introduction and Summary

This is an exploratory note on the determinants of labor force participation of married women in the Philippines, based on data from the 1968 National Demographic Survey.[†] Four explanatory variables are considered: income of the husband, the educational level of the woman, presence of young children in the family, and presence of domestic help. The resulting multiple correlation coefficients (and therefore the coefficients of determination) are too low for the linear regression equations to be useful for prediction purposes, although the equations are clearly significant in view of their F-values, but the results suggest a particular hypothesis on labor force participation of married women.

The hypothesis is that there is a "threshold" level of family income relative to which qualitative differences in behavior result. At incomes above the threshold, the quantity of labor supplied to the market

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[†]This survey was undertaken by the Bureau of the Census and Statistics and the U.P. Population Institute.

is greater if the opportunity cost of the wife (as proxied by her educational level) is higher. Below the threshold, however, labor supply is greater if the earning capacity of the wife is less, in order that family income should reach the threshold level.

Theoretical considerations

Suppose that the amount of market labor supplied LW by a married woman is a linear function of the husband's income FYH , her full-time wage FYW , and other factors u :

$$LW = \alpha + \beta FYH + \gamma FYW + u$$

We expect $\beta < 0$ since a higher FYH means a larger family income and, with leisure a normal good, the wife will supply less hours of work on the market and at home.

Regarding γ the "usual" expectation would be that $\gamma > 0$ since a higher FYW means a higher opportunity cost, so that home activities and the consumption of leisure become more costly. On the other hand, a higher FYW implies more family income which may have the net result of deciding on more leisure and supplying less time on the market for wages. The sign of γ is then an empirical question, as J. Mincer has remarked ("Labor Force Participation of Married Women," in Aspects of Labor Economics, New York: National Bureau of Economic Research, 1962, p. 70).

An empirical finding of $\gamma < 0$ thus means that the income effect of a higher wage rate exceeds the substitution effect involved. In this case a higher wage rate leads to less hours supplied on the labor market despite the higher cost of leisure. Looking at it somewhat differently, given the same husband's income, a lower wage rate leads to more hours supplied on the market as if the family were seeking to reach some minimum level of income. We would expect this to be the case where family incomes are low.

The data

The National Demographic Survey of 1968 covered 7,237 households from which the sample of 3,529 used in this paper was obtained. This sample, which had been used for another study on fertility behavior, resulted from observing several criteria of selection. Only those households with complete records, single family of the so-called nuclear type, where the wife had been married only once and whose husband was present in the household, and the wife was under 45 years of age, were included in the sample.

We use the following variables.

LPW: dummy variable for labor force participation of the woman, 1 if in the labor force and 0 otherwise

FYH: annual income of the husband, in thousand pesos

EW: educational level of the wife, coded as follows--

0 = no schooling

1 = finished from one to four years of grade school

2 = five to seven years of grade school

3 = one to three years of high school

4 = high school graduate

5 = one to three years of college

6 = college graduate

PYC: dummy for presence of young children under five years of age, 1 if present and 0 otherwise

PDH: dummy for presence of domestic help, 1 if present and 0 otherwise

Regression results

These results are given below in tabular form in three sets, and LPW is the dependent variable throughout. Set A is based on our sample of 3,529; set B includes as observations only those families where family income FY (taken as the sum of the incomes of the husband and wife) is less than 1.5; and set C is the complement. In each set four equations are reported: the first involves FYH, EW, PYC and PDH as explanatory variables; the second omits PDH while the third omits PYC; and the fourth includes only FYH and EW. The t-values are in parentheses below regression coefficients, R is the multiple

correlation coefficient and F the F-value of the equation. The means of the variables are reported and also the simple correlation coefficients (r) between LPW and the other variables.

A. All (sample size = 3529)

const.	FYH	EW	PYC	PDH	/	R	F
.554	-.0106 (-4.25)	-.0252 (-4.67)	-.0775 (-3.98)	.3446 (8.77)		.176	28.08
.537	-.0070 (-2.82)	-.0119 (-2.27)	-.0805 (-4.09)			.098	11.51
.493	-.0102 (-4.10)	-.0250 (-4.63)		.3473 (8.82)		.163	32.01
.474	-.0066 (-2.65)	-.0116 (-2.22)				.071	8.85
						<u>LPW</u>	
Mean:	1.880	2.38	.766	.054		.434	
r:	-.060	-.055	-.065	.111		1.00	

B. FY < 1.5 (sample size = 1852)

const.	FYH	EW	PYC	PDH	/	R	F
.758	-.2008 (-6.99)	-.0465 (-4.66)	-.1030 (-3.73)	.1039 (0.84)		.235	26.87
.757	-.2007 (-6.99)	-.0455 (-4.59)	-.1036 (-3.75)			.234	35.60
.688	-.2154 (-7.54)	-.0472 (-4.72)		.1159 (0.94)		.219	30.98
.687	-.2154 (-7.54)	-.0461 (-4.64)				.218	46.03
						<u>LPW</u>	
Mean:	.642	1.59	.781	.009		.457	
r:	-.191	-.134	-.113	.005		1.00	

C. $FY \geq 1.5$ (sample size = 1677)

const.	FYH	EW	PYC	PDH	/	R	F
.373	-.0077 (-3.05)	.0064 (0.89)	-.0214 (-0.79)	.3363 (8.23)		.373	20.54
.342	-.0046 (-1.80)	.0238 (3.43)	-.0230 (-0.84)			.342	4.60
.356	-.0076 (-3.01)	.0065 (0.91)		.3366 (8.24)		.216	27.18
.324	-.0045 (-1.76)	.0240 (3.46)				.088	6.55
<u>LPW</u>							
Mean:	3.248	3.25	.750	.104		.388	
r:	-.026	.077	-.021	.203		1.00	

The educational level of the wife, ~~EW~~, is used as a proxy for her earning power, since with individual observations we cannot use actual earnings when some are not in the labor force. We expect PYC to have a negative sign and PDH a positive one. In all three sets, FYH, PYC and PDH have the expected signs, FYH always significantly. In set A, EW has negative signs, indicating an income effect that dominates the substitution effect. This is the opposite of what has been observed by Mincer (loc. cit.) using U.S. data, and the likely explanation seems to be that at low income levels, it were as if families attempt to reach some level of income necessary for subsistence. Beyond such a threshold level, it may well be that the substitution effect would dominate. But below the threshold, a lower wage rate in effect requires the wife

to put in more hours of work in the market in order for the family income to reach the target, given the husband's income.

This conjecture is supported by sets B and C which give regression results for families with annual incomes below and above 1.5 thousand pesos. This figure is close to the median but is otherwise arbitrary. Multiple correlation coefficients are higher in sets B and C compared to A, and EW has somewhat higher t-values in B. In C, EW has positive signs even if not significant when PDH is included (there is some multicollinearity present, the simple correlation coefficient between EW and PDH being .328 in set C).

