

## ECONOMIC AND SOCIAL CORRELATES OF FEMALE EMPLOYMENT AND FERTILITY

By

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### Introduction

Past studies on the relationship between female employment and fertility emphasized different theoretical perspectives, on the one hand, and the various possible causal linkages between the two variables, on the other (22, 45, 46). This paper attempts to integrate these theoretical perspectives into a model where both current female employment and current fertility decisions are jointly determined by a common set of exogenous factors. One innovation of this research is the collection of household survey data which included information (unavailable in past Philippine data sets) on pregnancy and work histories of currently married women, and on economic, social, demographic and socio-psychological factors associated with female employment and fertility.<sup>1</sup>

### Analytical Framework

#### *Theoretical Perspectives*

In a recent review of past research on female work-fertility relationship, Kupinsky (22) identified the various theoretical perspectives adopted by the investigators in understanding the relationship. These perspectives are the (a) psychological, (b) sociological and (c) economic perspectives. A brief presentation of each of these perspectives is given here as a background to the synthesis adopted later.<sup>2</sup>

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<sup>1</sup> The recently conducted Republic of the Philippines Fertility Survey (RPFS) in 1978 contains data on the work history of women, but lacks detailed information on economic and socio-psychological factors associated with female employment and fertility.

<sup>2</sup> This subsection outlines the useful review of Kupinsky (22).

*Psychological Perspectives.* The psychological perspective views the relationship of female work participation and fertility as a matter of balancing the psychological costs and benefits of working and child-bearing. The benefits commonly attributed to working include social interaction, mental stimulation, self-definition, esteem, challenge, and enjoying one's job; the costs, on the other hand, include the lack of time for oneself or one's family, and the interference of working with the task of looking after the children's needs.

Given conditions such as those in developed countries where a permissive attitude prevails toward married women's working, where technological devices facilitate home work, and where the small family is the norm, this perspective argues that a large number of married women would find relatively greater satisfaction in working than in childbearing. This explains the negative association between female employment and fertility commonly observed in developed countries.

*Sociological Perspective.* This perspective emphasizes the female's role as a worker and the normative factors likely to affect that role. Within this broad perspective are three interrelated but analytically separate approaches: the role conflict or incompatibility approach, the sex-role orientation approach and the worker role approach.

Under the role conflict approach, when a married woman enters the labor force, a conflict occurs between her familial role as a mother and homemaker, and her nonfamilial role as worker. To minimize this conflict the woman may reduce her obligations in one role at the expense of the other.

Two types of role conflicts are usually distinguished: normative incongruities and time incongruities. With respect to the first, it is argued that as long as there exists a strong negative normative orientation against married women with young children to enter the labor force, one could attribute the negative relationship between female employment and fertility to their normative incompatibility. Kupinsky notes that while the power of this factor to explain the negative relation between female work and fertility has reportedly weakened in developed countries, it may still be a significant factor in less developed countries, especially in the rural areas.

On the other hand, where the roles of mother and worker cannot readily be combined and when parental surrogates are not readily available, the time conflict factor can significantly explain the negative relation between female work and fertility. This type of role conflict is said to be more characteristic in developed countries or in the modern sectors of developing countries where hours are more regular and work is mostly done outside the home.

The second approach argues that the fertility differences among working women can be attributed to their sex-role orientations, i.e., whether women are so-called "role modern" or "role traditional." The "role traditional" women are more likely to emphasize familialism, placing greater stress on their role as homemakers and mothers. They are likely to view non-familial work as a legitimate extension of their alternative homemaker role only if the economic need is great, as when there is a need to supplement family income to meet minimum subsistence needs. When they do enter the labor force, they are then confronted with role conflict and thereby may restrict their fertility accordingly. When no such crisis exists, however, they are more likely to find greater satisfaction in bearing and rearing large numbers of children.

In contrast to the "role traditional" women, the "role modern" women tend to view work as a legitimate alternative to motherhood, and do not feel that they must work solely on the basis of economic need. This strong motivation to work for non-familial reasons will likely put them into greater conflict with their homemaker role. Thus they are likely to have fewer children than their "role-traditional" counterparts.

The third approach, i.e., worker role approach, is a set of different hypotheses about various aspects of working and the worker role that are related to fertility. Under this approach are the following hypotheses: (a) the subfecundity hypothesis, (b) the previous work experience hypothesis, and (c) the alternative gratification-motivation-commitment hypothesis.

The subfecundity hypothesis states that female labor force participation is selective of women who are subfecund to begin with. Either because of their childlessness or having only a few children, these women have little to do at home (have little role conflict), especially when their children reach school age. They therefore tend to seek non-familial employment to keep busy. The empirical relationship observed will therefore tend to be inverse.

The previous work experience hypothesis, on the other hand, presumes that the longer women have been in the labor force, the more these women will tend to exhibit a more "rational" attitude toward childbearing, and therefore have lower fertility. They are also likely to exhibit a more modern sex-role orientation. In addition, work experience since marriage may give women good job contracts and may also indicate the husband's approval of their worker role; both factors tend to increase their continued labor force participation.

The gratification-motivation-commitment hypothesis takes into consideration the factors that tend to attract and keep women in the

labor force. Researchers have stressed that it is not work per se, but gratifying and rewarding work and commitment to the worker role which result in lower fertility. Hence, if rewarding job opportunities are not available to women, they will more likely remove themselves from their worker role and fulfill their need for accomplishment and gratification through their mother role.

With respect to the motivation for working and its relation to fertility, it is argued that those who work for *other* than financial reasons tend to have lower fertility than those who work for financial reasons. Women who work because of economic necessity sometimes do so because they already have large families or because they anticipate a large family in the future and want to save for the time when this expectation is realized. Women who work for personal reasons, on the other hand, are more likely to view themselves basically as career women who will take limited time out of their worker role to bear children.

Finally, the woman's commitment to her worker role is viewed as an important explanatory factor in the work-fertility relationship. The degree of work commitment tends to differentiate women on a number of fertility-related variables such as the practice of birth control and lower ideal family size.

*Economic Perspective.* Under this perspective, the decision to work or to bear children is based on the balancing of the perceived economic benefits and costs of each alternative. To the extent that the perceived economic benefits of work and opportunity costs of childbearing outweigh the perceived benefits of childbearing, a woman is likely to choose to enter the labor force and restrict her fertility. Under this circumstance, female employment and fertility are observed to vary inversely.

Several hypotheses are indicated under this perspective. First, the greater the opportunity cost of childbearing, measured by the wage rate the woman could potentially receive for her productive work in the labor market, the greater the chances that she will enter the labor market and have relatively low fertility.

Closely related to the opportunity cost hypothesis is the relative income hypothesis which states that the lesser the difference between the incomes of the working wife and her husband, the lower will be her fertility. The reason behind this is that the greater the wife's contribution to family income, the greater is the opportunity cost of dropping out of the labor force to bear and rear children.

A third hypothesis is the income adequacy hypothesis which states that the higher the husband's income (higher than minimum

subsistence levels), the less likely is the woman to work. Conversely, when the husband's income is low, the woman may tend to work more to earn the income needed to maintain minimum subsistence for the family.

In summary, the review of these perspectives suggests that many factors could affect the female work-fertility relationship, and that the importance of these factors could vary in different settings. A general framework is described below which allows for the examination of these factors affecting female work-fertility relationships.

## General Framework

In the broadest sense, female employment and fertility decisions are jointly determined by biological, sociological, socio-psychological, economic and demographic factors which define the circumstances of the woman, the family and the labor market at any given time.

The biological determinants are factors affecting the woman's ability to produce live children on the one hand, and the woman's physical ability to do work, on the other. These include such factors as age, fecundity, and the presence of physical disability. Closely related to these are the demographic determinants which include marital status of the woman, the timing of childbearing (age at marriage and age at first birth), the duration of marriage, and the age-sex composition of the household.

The economic factors refer to the wage rates or earnings of both the husband and the wife, and the structure of the labor market. The potential wage rates of both husband and wife are in turn determined primarily by their stock of human capital (i.e., education and work experience), and the structure of the labor market.

The sociological and socio-psychological factors include both the time incongruities and normative incongruities suggested in the role conflict perspectives, the sex-role orientation of women, and the work commitment of women.

## Data and Measurement

### *Data Source*

The basic data were collected from a multistage stratified sample of 1,926 once-married women of childbearing ages currently living with their husbands in Misamis Oriental, Southern Philippines.<sup>3</sup> The

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<sup>3</sup> The limited geographical coverage of this survey essentially reflects the exploratory and methodological character of this study.

survey was conducted from July to September 1979. To capture areal determinants of female work participation and fertility reflecting possible differences in socioeconomic structures, job opportunities, and access to socioeconomic services, the sample was obtained from three strata, namely: (a) rural barangays, (b) municipal poblacions, and (c) urban poblacion. This stratification also attempted to capture within a one-period survey the expected stages of female work participation associated with economic transformation i.e., starting from work participation in agricultural activities of the village economy, to work participation in service and trade occupation in the town centers, and finally in manufacturing, service and professional occupations in urban settings.

### *Variables*

*Fertility and Female Employment.* Current fertility, (F24), was defined as a dummy variable measured as unity if the woman reported a live birth during the past 24 months from date of interview, and zero otherwise. Based on the procedures of Hout (22), the 24-month period was chosen on the assumption that it would be long enough to iron out biases that may result from small timing failures (e.g., a failure to conceive soon after contraception is discontinued), the spacing effect of lactation, and the temporary separation of spouses that could arise from using annual data. However, the 24-month reference period would not be long enough to obscure the possible simultaneous relationship between fertility and work participation.

Current work participation was defined as the per cent of time the woman worked for pay or profit during the 24 months prior to the interview date (W24). In some of the exploratory analyses done in this study, current work participation was alternatively defined as a dummy variable set equal to unity if the woman worked for pay or profit during the past 24 months, and zero otherwise. The results are similar in terms of signs and significance of the regression coefficients. Hence, only results using the first definition are presented in this report.

*Exogenous Wage Rates.* From the theory of labor supply, we hypothesize that the higher the wage the woman can receive in paid employment, the greater will be her tendency to seek such employment. On the other hand, from a theory of fertility, we hypothesize, that the higher the wage the woman can receive, the greater is the opportunity cost of additional children. Hence, she will tend to reduce demand for additional children. In a parallel role, the higher the income of the husband, or of the family, exclusive of the wife's contribution, the less likely will the women seek paid work to supplement family income. This is the so-called income adequacy hypo-

thesis referred to earlier. On the other hand, the higher the husband's or the family income, the lower the demand will be for children due to the rising relative cost of children vis-a-vis other goods, after some threshold income is reached.

Estimates of female wage rates pose some problems. Firstly, it has been argued that one cannot look at the relationship between *actual* current wages and work participation rates on female employment and fertility, since how much one works (and family size choices) influences the level of the wage. Thus one might observe a negative relationship between women's wages and their fertility simply because the women who choose to have more children will work less, have less work experience and thus will have lower earnings currently than women who choose smaller families (24, p. 146).

Furthermore, women who do not work for pay in the current period would not have data on wage rates.

To estimate the exogenous female wage rate, an instrumental variable procedure was adopted. The wage rate of currently working married women was regressed against such factors as age, education, total work experience, and residence (See Appendix A). The resulting coefficients were then applied to the corresponding characteristics of each woman, including currently non-working women, to obtain their individual predicted wage rate. This approach assumes that the earnings potential of non-working wives (who have no observed earnings) is equal to that of working wives with similar social and demographic characteristics. Several shortcomings of this assumption have been reviewed by Hout (22) and Schultz (32) on the basis of the arguments by Gronau (17), Heckman (2), Turchi (40), and Waite (41). These reviews seem to conclude that there is no satisfactory way of adjusting for all the possible biases. On the other hand, the approach provides a better measure than the use of current wage rate or education as a proxy.

The exogenous wage rate of the husband was likewise estimated by regressing the husband's current wage rates with his age, education, occupation and residence; and applying the coefficients of this regression to the corresponding characteristics of husbands to obtain their predicted wage rate (See Appendix B).

*Residence.* Residence in the current period was defined in terms of three geographical strata: urban (RES 1), municipal poblacion (RES 2), and rural barangays (RES 3). This rural-urban continuum is assumed to reflect differential norms regarding family size and work roles, and differential intensity of family planning service availability, on the one hand, and differential labor market conditions, on the other.

*Work Experience.* The cumulative work experience of the woman during marriage was the proportion of time the woman worked for pay or profit from marriage to date of interview. Operationally, this was the sum of the number of months she reported working for pay or profit in each separate birth interval, divided by the duration of marriage in months.

Work experience represents among others the accumulation of human capital acquired at work as distinguished from that acquired formally in school. As suggested by the sociological perspective, work experience could also represent norms regarding family size and work roles, or attitudes toward childbearing and sex-role orientations, as well as the fact that previous work experience indicates the husband's approval of women's worker role.

In this study, the human capital aspect of work experience was captured in the estimate of the female's exogenous wage rate. The social dimensions of work experience, on the other hand are explicitly introduced into the model specification, as described below, and therefore obviates the need to include work experience as a separate explanatory variable in the employment and fertility equations.

Several social and psychological variables were used in the study to capture elements suggested by the noneconomic approaches in determining female work-fertility relationships. These include role conflicts (both time and normative), work commitment and the degree of husband-wife communication in household decision making. These variables in turn are determined by the characteristics of both the husband and the wife as well as the circumstances surrounding their married life. These determinants could include the ages of both husband and wife, their education, their respective family backgrounds, the work experience of the woman and her relative earning power vis-à-vis her husband, and others. The potential determinants of these social-psychological variables however are unanalyzed in this present study. It is simply assumed that the value of each variable for the woman in question in the current period represents the results of the interaction of past determinants. These variables are treated as exogenous, expected to affect only current behavior which is the focus of this investigation. A more detailed analysis of the determinants of these social-psychological variables is being explored, and the results of this exercise will be described in a later report. These variables and their measurement are described below.

*Role Conflict.* The time incongruities aspect of role conflict (ROLE) was measured as a dummy variable measured as unity if the woman responded positively to the question on whether children interfere or would interfere in their ability to work



outside the home, and zero otherwise. Alternative measures of time conflict have been suggested in the literature, including, the presence of young children and of parental surrogates. The measure used in the present study attempts to capture both aspects at once, by measuring time incongruities in terms of the woman's perception of such incongruities. Such perception, it is assumed, is a more sensitive factor in decision making. Furthermore, the presence of young children and of parental surrogates may inadequately reflect the degree of time incongruities, because even if parental surrogates are available, a woman may still feel strongly about her direct responsibility in child care and may thus be inhibited to work outside the home.

Normative incongruity, the second component of role conflict, was measured in this study in terms of the husband's attitude towards female work, as reported by the wife. The wife was asked whether or not her husband approved (if woman is currently working) or would approve of her working for pay or profit outside the home (if woman is not currently working). The categories of responses were: (a) "approves, he thinks it is good for a woman to work," (b) "disapproves, he thinks a woman should stay at home and take care of the housework and the children," and (c) "indifferent, it is up to the wife to decide." The variable husband's attitude (HATT), was measured as a dummy variable measured as unity if the wife reported that her husband objected to her working or to the possibility of her working, and zero otherwise.

The husband's disapproval of his wife working, as perceived by the wife, was taken to represent the norms about female work in that household. In the Filipino culture, the husband is expected to be the principal economic provider of the household, from which he derives the corresponding status. A disapproval of female work on the ground that a woman's role is to stay at home to care for the children and housework represents a strong normative orientation towards the female role as mother, rather than as worker.<sup>4</sup> This strong normative orientation provides a powerful source of role conflict for women who want to work. It is hypothesized therefore that women who report that their husband objects or would object to their working outside the home, would in fact be inhibited to do so.

*Work Commitment.* The sociological and psychological perspectives which suggest that a greater commitment of the wife to the worker role would result in lower fertility and more work, is tested in this

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<sup>4</sup> Several studies in the Philippines tend to suggest a negative attitude of husbands towards female work especially if the main motivation for work is other than economic necessity (5,8,18). Castillo (8) provides an excellent review of these studies.

model by the use of the measure work commitment index (WCOM). This was defined as the score of the women to ten scaled items which measured her agreement or disagreement to the economic necessity of work and to the social and psychological rewards of working. This index measured the commitment of the women to familial roles as opposed to the need for personal development. The higher the score, the higher is the wife's commitment to work for personal development and psychological satisfactions; conversely, the lower the score, the greater is her commitment to familial roles (See Appendix D).

*Dominance.* The relative husband-wife influence in family decision making has also been suggested to be related to the work-fertility relationship (30). The hypothesis is that the greater the wife's influence in family decision making, the greater control she has over the size of her family and over her ability to seek independent outside work<sup>5</sup>.

This variable (DOM) was measured as the score to scaled questions on who makes the final decision on seven common family issues (See Appendix D). The responses for each issue were scored one (for husband always) to five (for wife always). Hence, the higher the score, the higher is the relative influence of the wife in family decision making.

*Demographic Factors.* In addition to the economic, social and psychological determinants of the female work and fertility relationship, demographic factors such as duration of marriage in years (DMY) and age of wife (AGEW) were considered in the model to reflect exposure to the risk of childbearing and work.

To control for other biological and demographic factors not explicitly incorporated in the empirical models, the sample was restricted to include only (a) women of childbearing ages 15-49 years; (b) once-married women currently living with spouse; (c) women who had at least one live birth; (d) women whose pregnancies all terminated in a live birth; and (e) women who were married at least 24 months prior to the date of interview.

These restrictions attempt to put women in the same family context. The first restriction includes only women who can still have children, while the second insures that married women are similarly exposed to childbearing. The condition of having at least one live birth insures that the women are generally fecund and therefore subfecundity is eliminated albeit imperfectly, as a possible factor in the work-fertility relationship.

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<sup>5</sup>Several studies in the Philippines suggest a more egalitarian decision making between husband and wife. (16,7).

Birth intervals are subject to differential length, among other factors, due to fetal wastage. In the birth interval analysis not reported here but which used this same data set, this confounding factor is therefore eliminated by including only women who reported no fetal wastage in all their pregnancies. Finally, since the current period was defined in terms of a 24-month period prior to interview, only women who were married prior to this current period were included to insure the same context in terms of exposure to current fertility.

Of the total sample of women (1,926) interviewed in-depth, only 1,206 were eligible after these restrictions. The resulting sample therefore further deviates from a truly representative sample of women. Nevertheless the restrictions allow for a better control of the confounding factors that could not otherwise be adequately controlled by statistical procedures alone. The original sample size was deliberately raised in the planning of the survey to allow for possible attrition resulting from such restrictions.

## Results

The results of the analysis of the determinants of current female employment and fertility are summarized in the following tables. The independent variables include the exogenous wage rates of both the wife and the husband (PWAGEF and PWAGEM), the age of the wife, (AGEW), the number of children ever born per year of marriage prior to the current period (PPARITY/DMY)<sup>6</sup> and dummy variables for residence, with residence in rural barangays being the excluded variable (RES 1 = urban and RES 2 = municipal poblacion). In addition, the social variables are time conflict (ROLE), normative conflict (HATT), work commitment (WCOM) and wife's relative dominance in household decision making (DOM).

### *Age Group Analysis*

Table 1 shows the results of the regression for women of all ages, and for each age group of women. In the all-women sample, an exogenous change in female wage rates increased the per cent of time spent in paid employment as expected. However its effect on the probability of current birth is insignificant and contrary to the usual expectations. On the other hand, a change in the male wage rate reduced current female employment and current fertility. The signs of the coefficients are as hypothesized, but only the coefficient on

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<sup>6</sup> This variable rather than just previous parity was used in order to simultaneously control for duration of marriage. It is also less highly correlated with age ( $r = -0.17$ ) than the variable at a previous parity ( $r = 0.68$ ).

female employment is significant. Both variables, disregarding the significance of the coefficients on F24, tended to produce a positive correlation between female employment and fertility.

The coefficients on residence suggest that women in municipal poblacions tend to have lower current fertility and significantly higher work participation than women in either rural or urban settings. The inverse relation between female employment and fertility may therefore be stronger in the municipal poblacion than in urban settings where it is commonly expected. This clearly deserves further investigation.

Women who perceived that children interfere with work had a significantly higher probability of bearing a child in the current period, and a significantly lower work participation. This suggests that women tend to reduce time conflicts not by reducing fertility and increasing the time spent at work as observed in developed countries, but rather by reducing work and increasing fertility. This implies that in a situation like that in Misamis Oriental, an increase in time conflict may not reduce current fertility but in fact may increase it. Thus, while time conflict tends to lead to an inverse relationship between female work and fertility as expected, the mechanism involved seems to be the opposite of that commonly observed in developed countries.

As expected, the husband's attitude towards female work significantly reduced the women's work participation. However, it did not simultaneously increase current fertility as might be expected if women find childbearing an alternative source of satisfaction.

The women's greater role in decision making significantly increased her current work participation and current fertility. The latter effect, while insignificant, was consistent with high fertility norms that characterize Misamis Oriental.

The effect of work commitment on either female employment and current fertility is insignificant, although signs are in the expected direction.

Table 1 also shows the regressions by age cohorts of women, revealing the varying effects of the independent variables by age cohorts. While the effect of both female wage and male wage on current employment is similar in each age cohort as in the all-women sample, their individual effects on current fertility varied in signs by age cohorts. Although insignificant, a positive coefficient of the female wage on fertility is observed among women aged 20-29 and 40-49 while a negative coefficient is observed for women aged 30-39. The positive coefficient of the female wage on the first two groups of

TABLE 1  
 OLS Regression Coefficients on Current Fertility (F24)  
 and Current Female Employment (W24):  
 Women of All Ages and by Age Groups

Independent Variables	Current Fertility (F24)				Current Female Employment (W24)			
	All Ages	20-29	30-39	40-49	All Ages	20-29	30-39	40-49
PWAGEF	0.006	0.054	-0.006	0.014	50.029 <sup>a/</sup>	53.194 <sup>a/</sup>	54.602 <sup>a/</sup>	64.814 <sup>a/</sup>
PWAGEM	-0.045	0.015	-0.074	-0.035 <sup>b/</sup>	-15.386 <sup>a/</sup>	-11.392 <sup>b/</sup>	-15.102 <sup>a/</sup>	-18.802 <sup>a/</sup>
AGEW	-0.032 <sup>a/</sup>	-0.033 <sup>a/</sup>	-0.036 <sup>a/</sup>	-0.034 <sup>a/</sup>	0.429 <sup>c/</sup>	1.433 <sup>c/</sup>	1.112 <sup>c/</sup>	0.467 <sup>c/</sup>
PPARITY/DMY	-0.085 <sup>c/</sup>	-0.182 <sup>a/</sup>	-0.006	0.448 <sup>a/</sup>	-3.938 <sup>b/</sup>	-0.702 <sup>b/</sup>	-22.923 <sup>a/</sup>	-8.954 <sup>a/</sup>
RES 1	-0.007	-0.023	-0.013	-0.005	-5.610 <sup>b/</sup>	-4.931 <sup>a/</sup>	-7.658 <sup>c/</sup>	-1.910 <sup>a/</sup>
RES 2	-0.038	-0.073	-0.004	-0.030	15.642 <sup>a/</sup>	17.294 <sup>a/</sup>	15.122 <sup>a/</sup>	11.909 <sup>a/</sup>
ROLE	0.091 <sup>a/</sup>	0.033	0.144 <sup>a/</sup>	0.062	-7.407 <sup>a/</sup>	-11.488 <sup>a/</sup>	-9.355 <sup>b/</sup>	2.971 <sup>b/</sup>
DOM	0.002	0.005	0.001	0.003	1.106 <sup>a/</sup>	1.918 <sup>a/</sup>	1.031 <sup>b/</sup>	0.246 <sup>a/</sup>
HATT	-0.001*	0.059	-0.025	-0.022	-29.662 <sup>a/</sup>	-28.740 <sup>a/</sup>	-25.512 <sup>a/</sup>	-39.604 <sup>a/</sup>
WCOM	-0.003	-0.004	-0.002	-0.003	0.003	-0.013	0.156	-0.168
Intercept	1.599	1.622	1.671	1.492	29.109	-18.608	13.007	53.340
R <sup>2</sup>	0.250	0.057	0.055	0.134	0.407	0.350	0.403	0.468
F	41.140	3.351	3.928	5.914	83.871	21.809	34.732	29.010
N	1206	387	500	319	1206	387	500	319
Mean	0.417	0.698	0.390	0.119	50.030	42.959	53.974	52.426
Std. Dev.	0.493	0.460	0.488	0.324	47.857	46.313	47.824	48.952

<sup>a/</sup> Significant at the 0.01 level.

<sup>b/</sup> Significant at the 0.05 level.

<sup>c/</sup> Significant at the 0.10 level.

\* Coefficient multiplied by 100.

women may be associated with their relatively lower mean wage rates (see Table 2) compared to women aged 30-39. Although not explicitly considered in this model, the threshold-type hypothesis may be suggested here. Where the earnings of the woman are low, the positive income effect predominates; that is, an increase in earnings increases the ability of women to afford another child. On the other hand, at higher levels of earnings, and hence higher opportunity costs of childbearing, the usual negative substitution effect of an increase in earnings prevails.

On the other hand, the coefficient of the male wage is positive among young women aged 20-29 and negative for the subsequent older cohorts. Again, while the coefficients are insignificant, the results suggest that, controlling for past fertility experience, the effect of the husband's income is to concentrate fertility in the early stages of family formation. At the later stages of family life, the effect of the husband's income is to reduce further births as the usual substitution effect of income predominates.

The simultaneous but opposite effects of time conflicts on fertility and employment appear stronger among women aged 30-39 than among other cohorts. Likewise, the expected opposite effects of work commitment on the two variables are observed only among women aged 30-39.

#### *Parity Analysis*

Tables 3 and 4 represent the OLS regression on current fertility and female employment by parity of woman prior to the current period, to capture parity differences in the effects of the independent variables. Among the more significant parity differences were: a) while the effect of female wage rate is positive throughout, the negative effect of the male wage rate on current female employment is significant only among women of neither very low or very high parities; and (b) time conflict appears to reduce female employment among low and very high parities but increases fertility only among women in the middle parities. The negative effect of work commitment on current employment especially among the high parity women is unexpected and deserves further investigation.

#### *Summary*

This study attempted to test a model wherein a common set of economic and social factors jointly determines current female employment and fertility decisions. These economic and social factors are those commonly suggested by various theoretical perspectives used to understand the relationship between these two variables.

TABLE 2  
Mean and Standard Deviation of Variables Used  
in Equations Shown in Table 1

Variables	Regression			
	All Ages	20-29	30-39	40-49
PWAGEF	-0.075( 0.466)	-0.022( 0.404)	0.058( 0.475)	-0.067( 0.509)
PWAGEM	0.772( 0.538)	0.786( 0.507)	0.832( 0.533)	0.662( 0.567)
AGEW	33.914( 7.441)	25.643( 2.781)	34.064( 2.863)	43.712( 2.825)
PPARITY/DMY	0.418( 0.255)	0.474( 0.362)	0.421( 0.194)	0.347( 0.138)
RES 1	0.311( 0.463)	0.349( 0.477)	0.336( 0.473)	0.226( 0.418)
RES 2	0.347( 0.476)	0.307( 0.462)	0.350( 0.477)	0.389( 0.488)
ROLE	0.328( 3.469)	0.395( 0.489)	0.322( 0.468)	0.254( 0.436)
DOM	21.889( 3.849)	22.180( 3.550)	21.612( 3.871)	21.969( 4.137)
HATT	0.188( 0.391)	0.207( 0.405)	0.194( 0.395)	0.157( 0.364)
WCOM	32.561( 6.286)	31.780( 5.489)	32.828( 6.404)	33.088( 6.905)
W24	50.030(47.859)	42.959(46.314)	53.974(47.824)	52.426(48.952)
F24	0.417( 0.493)	0.698( 0.460)	0.390( 0.488)	0.119( 0.324)

TABLE 3

OLS Regression Coefficients on Current Employment (W24)  
by Previous Parity of Woman

Independent Variables	Parity of Woman			
	1-2	3-4	5-6	7-8
WAGEF	53.714 <sup>a</sup>	53.126 <sup>a</sup>	57.904 <sup>a</sup>	62.146 <sup>a</sup>
WAGEM	-6.843	-13.883 <sup>a</sup>	-17.301 <sup>b</sup>	-14.282
DMY	-0.074	0.343	0.745	1.829 <sup>b</sup>
AGEW	0.391	0.491	-0.093	-1.226
RES 1	-8.258	-8.047	0.932	-9.820
RES 2	15.866 <sup>a</sup>	17.202 <sup>a</sup>	15.784 <sup>b</sup>	16.023 <sup>b</sup>
SOLE	-9.696 <sup>b</sup>	-5.878	-4.109	-23.647 <sup>a</sup>
DOM	1.006 <sup>c</sup>	2.258 <sup>a</sup>	1.285 <sup>c</sup>	-1.155
IATT	-28.001 <sup>a</sup>	-34.916 <sup>a</sup>	-26.295 <sup>a</sup>	-30.360 <sup>a</sup>
VCOM	-0.098	0.018	-0.204	-0.940 <sup>c</sup>
Intercept	26.541	-5.328	37.703	141.921
R <sup>2</sup>	0.336	0.467	0.406	0.436
F	19.404	30.349	15.146	10.723
df	365	336	208	127
Mean	51.137	50.747	54.976	46.260
Std. Dev.	47.678	48.016	47.785	48.001

✓ Significant at the 0.01 level.

✓ Significant at the 0.05 level.

✓ Significant at the 0.10 level.



TABLE 4

OLS Regression Coefficients on Current Fertility (F24)  
by Previous Parity of Woman

Independent Variables	Parity of Woman			
	1-2	3-4	5-6	7-8
PWAGEF	-0.026	-0.035	0.051	0.090
PWAGEM	-0.046	-0.100	-0.057	-0.105
DMY	-0.029 <sup>a/</sup>	-0.026 <sup>a/</sup>	-0.002	-0.022 <sup>a/</sup>
AGEW	-0.013 <sup>b/</sup>	-0.008	-0.030 <sup>a/</sup>	-0.027 <sup>a/</sup>
RES 1	0.010	0.001	-0.014	-0.072
RES 2	-0.036	0.014	-0.045	-0.043
ROLE	0.059	0.108 <sup>b/</sup>	0.126 <sup>b/</sup>	0.114
DOM	0.010	-0.004	0.011	-0.009
HATT	0.114	-0.012	0.019	-0.240 <sup>b/</sup>
WCOM	-0.002	-0.003	0.002	-0.000
Intercept	1.030	1.157	1.133	2.183
R <sup>2</sup>	0.145	0.150	0.190	0.243
F	7.176	6.930	5.844	5.039
N	365	336	208	127
Mean	0.586	0.348	0.255	0.307
Std. Dev.	0.493	0.477	0.437	0.463

<sup>a/</sup> Significant at the 0.01 level.

<sup>b/</sup> Significant at the 0.05 level.

<sup>c/</sup> Significant at the 0.10 level.

Mean and Standard Deviation of Variables Used in Equations Shown in Tables 3 and 4

Variables	Previous Parity of Woman			
	1-2	3-4	5-6	7-8
PWAGEF	0.105(0.419)	0.056(0.485)	-0.033(0.499)	-0.127(0.441)
PWAGEM	0.906(0.495)	0.843(0.546)	0.692(0.548)	0.581(0.496)
DMY	6.933(4.057)	11.931(4.895)	17.230(4.967)	20.232(4.883)
AGEW	29.030(5.443)	33.304(5.798)	37.808(5.724)	40.205(5.121)
RES 1	0.332(0.471)	0.321(0.468)	0.260(0.439)	0.291(0.456)
RES 2	0.351(0.478)	0.375(0.485)	0.370(0.484)	0.307(0.463)
ROLE	0.315(0.465)	0.345(0.476)	0.293(0.456)	0.307(0.463)
DOM	21.863(3.733)	22.015(3.729)	21.750(3.800)	22.008(4.296)
HATT	0.153(0.361)	0.223(0.417)	0.159(0.366)	0.181(0.387)
WCOM	32.258(3.484)	32.173(6.243)	33.365(6.849)	32.937(6.903)
W24	0.586(0.493)	0.348(0.477)	0.255(0.437)	0.307(0.463)
F24	51.137(47.678)	50.747(48.016)	54.976(47.785)	46.260(48.001)

Although these factors reasonably predicted current female employment, it did not do as well, in terms of the significance of the coefficients, on current fertility. Further work is necessary to explore additional factors that jointly affect both decisions.

Some tentative results, however, merit discussion. The positive or weak negative correlation between female employment and fertility observed in our sample, as opposed to the strongly inverse relation commonly observed in developed countries, may be partly explained by the fact that the variables expected to have simultaneous opposite effects on employment and fertility did not operate as strongly in Misamis Oriental where familial commitment among women and the normative orientation toward the mother rather than the worker role are still strong.<sup>7</sup> Thus, for example, one observes that the higher female wage did not have significant negative effect on fertility as it had a significant positive effect on female employment. In some cases the effect on fertility was positive.

Furthermore, the role conflict between female employment and fertility that is expected to partly explain their inverse relation, works in a different fashion in such a setting. Work opportunities that conflict with childbearing and rearing, such as fixed working hours away from home, tend simultaneously to prevent rather than induce large numbers of women from seeking such employment and to increase current fertility. Such a situation would still contribute to an inverse relationship were it not for the fact that role conflict affected the employment and fertility behavior of different groups of women differently, such that for any group under consideration, role (time) conflict reduced employment but did not simultaneously increase fertility, or it increased fertility but did not simultaneously reduce employment significantly.

In summary, the observed correlation between female employment and fertility is therefore expected to vary in signs and magnitude according to the circumstances of the woman, the family, and the labor market. These in turn may be dependent upon a complex of social, economic and psychological factors which requires further investigation.

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<sup>7</sup> The observed correlations between female employment and fertility in the sample were  $r = -0.09, -0.05, -0.07$  and  $0.06$  for all ages, and for each age cohort in ascending order, respectively. On the other hand, the correlations between the two variables were  $r = -0.10, -0.15, -0.15$  and  $-0.02$ , respectively by parity groups.

APPENDIX A

Regression on the Natural Logarithm of the Female Hourly Wage Rates, Working Married Women Aged 15 - 49

Independent Variables	REGRESSION NO.				
	(1)	(2)	(3)	(4)	(5)
AGEW	0.118 <sup>b/</sup>		0.142 <sup>a/</sup>		0.124 <sup>a/</sup>
AGEW <sup>2</sup>	-0.002 <sup>b/</sup>		-0.002 <sup>a/</sup>		-0.002
EDW	0.096 <sup>a/</sup>	0.97 <sup>a/</sup>	0.98 <sup>a/</sup>	0.083 <sup>a/</sup>	0.095 <sup>a/</sup>
TWTOT	0.039 <sup>b/</sup>	0.055 <sup>a/</sup>			
TWTOT <sup>2</sup>	-0.001	-0.002 <sup>b/</sup>			
RES <sup>1</sup>	0.128	0.121	0.104	0.107	0.130
RES <sup>2</sup>	-0.227 <sup>a/</sup>	-0.231 <sup>a/</sup>	-0.222 <sup>a/</sup>	-0.238 <sup>a/</sup>	-0.228 <sup>a/</sup>
WTOT				-0.002	
WTOT <sup>2</sup>				0.00006	
ln TWTOT					0.110 <sup>a/</sup>
Intercept	-2.901	-0.948	-3.280	-0.791	-3.486
R <sup>2</sup>	0.204	0.199	0.194	0.214	0.211
SEE	0.799	0.802	0.804	0.794	0.796
F	23.370	31.358	30.401	34.228	28.221
N	611	611	611	611	611
Mean	0.243	0.243	0.243	0.243	0.243
Standard Dev.	0.896	0.896	0.896	0.896	0.896

✓ Significant at the 0.01 level.

✓ Significant at the 0.05 level.

✓ Significant at the 0.10 level.

TWTOT is the total number of months the woman worked for ay or profit during marriage and EDW is the education of the wife 1 years of highest grade completed. For definition of other variables, see text.

The predicted female wage rate equation adopted was that of regression (2).

APPENDIX B

Regression on the Natural Logarithm  
of the Male Hourly Wage Rates

Independent Variables	REGRESSION	
	1	2
AGEH	0.005	0.021
AGEH <sup>2</sup>	-0.000	-0.000
EDH	0.069 <sup>a/</sup>	0.113 <sup>a/</sup>
OCCH 1	0.516 <sup>a/</sup>	
OCCH 2	0.391 <sup>a/</sup>	
OCCH 3	0.204 <sup>a/</sup>	
OCCH 4	0.364 <sup>a/</sup>	
RES 1	0.046	0.213 <sup>a/</sup>
RES 2	-0.244 <sup>a/</sup>	-0.233 <sup>a/</sup>
Intercept	-0.001	-0.629
$\bar{R}^2$	0.376	0.305
F	79.184	103.266
SEE	0.696	0.735
N	1167	1167
Mean	0.767	0.767
Standard Deviation	0.882	0.882

<sup>a/</sup> Significant at the 0.01 level.

<sup>b/</sup> Significant at the 0.05 level.

<sup>c/</sup> Significant at the 0.10 level.

OCCH 1 = Professionals, managers, etc.

OCCH 2 = Clerical workers

OCCH 3 = Craftsmen, skilled workers

OCCH 4 = Farmer owners

OCCH 5 = Unskilled workers, farm and non-farm

Equation 1 was adopted for estimating PWAGEM.

## APPENDIX C

### Calculation of Work Commitment Index

The work commitment index (WCOM) was measured as the total score of the woman to the following scaled items. Responses to statements 1,3,5,7 and 9 were scored as follows:

- 1 = strongly agree
- 2 = agree
- 3 = neutral
- 4 = disagree
- 5 = strongly disagree

On the other hand, responses to statements 2,4,6,8,10 were scored as follows:

- 5 = strongly agree
- 4 = agree
- 3 = neutral
- 2 = disagree
- 1 = strongly disagree

The 10 scaled items are as follows:

1. A wife should work in order for her family to keep up with the high cost of living.
2. A woman ought to work the same as men do.
3. A woman's place is in the home with the children.
4. By not working, a woman wastes her education.
5. A woman should work to save money for the future needs of the family.
6. Working gives a woman a greater sense of fulfillment.
7. Working wives will lose interest in their homes and families.
8. Working provides a woman with more interesting social contacts.
9. The children will not be provided with adequate care and discipline if the woman works.
10. A working wife feels more useful to society.

The highest mean score is 50 and the lowest is 10. It is assumed that the higher the score, the higher is the woman's commitment to work for non-familial reasons.

All women were asked to respond to these scaled questions, whether or not they were currently working at the time of interview.

### Calculation of the Husband-Wife Dominance Index

The husband-wife dominance index was used to measure the degree of egalitarian decision making in the household. The index was measured as the mean score to seven scaled items in which the woman was asked to respond on who made the final decision on an issue. The scores for the responses were:

- 1 = husband always
- 2 = husband more often than wife
- 3 = husband equally with wife
- 4 = wife more often than husband
- 5 = wife always

The common family issues referred to were the following:

- a. How many children to have
- b. What doctor to have when a child is sick
- c. Whether to purchase or sell an important item for or in the house
- d. Whether the wife should have work outside home
- e. What type of job or work the wife should have
- f. Whether to use family planning methods
- g. What to do with the extra income

A higher mean score suggests the greater role of the woman in family decision making.

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