THE DETERMINANTS AND PATTERNS OF MARRIED WOMEN'S LABOR FORCE PARTICIPATION IN KOREA*

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The present study investigates the determinants and patterns of married women's labor force participation in Korea. Married women's employment in Korea is largely determined by age, urban residence, household characteristics of the husband's socioeconomic status, family income, fertility, and the lagged effect of work. Older age, rural residence, inferior household economic condition, and recent work experience are the major positive causes of married women's participation in the market work. On the other hand, younger women with preschool children, who currently reside in urban areas, enjoying better household economic conditions (due to higher socioeconomic status of husbands and/or higher family income) are the groups of women with the smallest probability of working in the market. Married women's employment pattern in Korea shows a pattern typical of less-developed and low-income countries in two aspects: married working women and characterized by a low level of education; the difference between urban and rural areas in terms of work participation pattern in remarkable. Although Korea belongs to the advanced group of currently industrializing countries, she lags behind with other developing countries in terms of married women's employment. Moreover, it is difficult to predict in advance that Korea would have similar experiences as those of contemporary advanced countries.

INTRODUCTION

One of the remarkable changes which appeared in Korean labor market since the 1980's, is that married women's labor force participation has been drastically increasing. Compared to 35.6% in 1980, the rate of married women's participation in the labor market as of 1992 shows 47.0%, an increase of 11.4% point. Contrastingly, the labor force participation rate for male has slightly decreased from 76.4% to 75.3%, and single women's participation rate has also declined from 49.1% to 48.1% during the same period. Therefore, the overall increase of female labor force participation rate from 42.8% in 1980 to 47.3% in 1992 is totally due to the upsurge of married women's participation.

There have not, however, been sufficient attempts to uncover the factors that affect married women's labor supply behavior, including work

participation decisions and employment patterns. Only a few studies (e.g., Hong, 1979; Koo, 1979; Kim and Shim, 1984; Park, 1984; Yang, 1993) have examined FLFP in general, without distinguishing married women as a separate group. This lack of research may be due to the fact that married women's active joining in the labor force is a relatively recent phenomenon.

The present study investigates the determinants and patterns of married women's labor force participation in Korea. The purpose of the study is to test the generalizability of the models developed in the U.S. and other Western industrialized countries. Earlier models and empirical studies exclusively focus on U.S. and Western industrialized countries. Not only are these studies inconclusive in their basic theoretical arguments and empirical findings, but their generalizability across different societies is questionable. Of late, a growing number of studies on FLFP in less-developed countries have been attempted in cross-cultural comparative context, as well as in the form of case studies (e.g., Boserup, 1970; Collver and Langlois, 1962; Wilensky, 1968; Youssef, 1972, 1974; Semyonov, 1980, 1988; Pampel and Tanaka, 1986; Junsay and Heaton, 1989). Despite a great deal of effort, the consensus on the factors that beget cross-national differences has not yet been reached.[1] Although this study does not attempt to be comparative in any rigorous sense by taking the form of a case study, examination of married women's working pattern and related factors in a country culturally and socially very different from the U.S., might provide evidence on the generalizability of the models developed in the U.S. It may also give further clues as to the resolution of the controversy generated by cross-cultural comparative studies.

The findings are expected to provide information concerning the status and conditions of women who join the labor force; the resources and constraints in participation; the relationships between household and female employment; and other relationships affecting women and their work efforts.

LITERATURE REVIEW AND HYPOTHESES

A wide variety of family and individual factors influence women's labor force participation. The factors employed in the framework of the current study are divided into two groups: 1) background variables, and 2)

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[1] The controversy lies in the effect of economic development on the FLFP. Traditionally, the level of economic development has been viewed to exert a positive impact on FLFP (Semyonov, 1988). However, Pampel and Tanaka (1986) argue that recent studies have failed empirically to confirm such a relationship.

household characteristics (included as the explanatory variables).

Background Variables

Age: Cross-sectional studies (e.g., Bowen and Finegan, 1969; Sweet, 1973; Waite, 1976, 1980) showed an inverted U-shaped relationship between married women's labor force participation and age (women aged 14-54). Age is closely interrelated with the presence of young children. The effects of a woman's age on labor force participation behavior appeared to depend upon the number of preschool children (Bowen and Finegan, 1969; Stolzenberg and Waite, 1977). Smith-Lovin and Tickamyer (1978) argue that pressures from the normative timing of life course events mandate early adulthood as a period of family building. This normative pressure is even stronger in Korea. The vast majority of young married women intend to have children and carry out these intentions during the early years of marriage, consequently, showing a relatively lower rate of labor force participation. The participation rate will keep increasing as women complete their fertility and as their children grow, until it drops again about age 50 to 55. Therefore, the impact of age on women's work participation is likely to be curvilinear.

Education: In human capital theory, education is the prime determinant of labor market outcomes (i.e. jobs and earnings). The most popular hypothesis among human capital theorists is based on the idea of opportunity cost. Since education is an investment, and since education and earnings potential are positively related, education raises the opportunity cost of not working and thus, increases the incentive to seek employment. For this reason, educational attainment has been included as a proxy variable for a "positive taste" or "pure preference" for market work (Bowen and Finegan, 1969).

However, Standing (1978: 285) argues, "the mere fact that education improves women's employment opportunities does not mean that they will necessarily wish or be able to take advantage of them". He also raises objections to the opportunity cost argument: 1) There may be an inverse relationship between women's educational attainment and their labor force participation, since educated women typically marry educated men who have potentially high earnings (which tend to reduce women's financial incentives to seek employment); 2) Within the constraints of the nuclear family, the opportunity cost of non-participation in the labor force may even be lower for an educated woman with children, because an educated woman is probably better able to take care of child in the vitally important

early education of her children than a less educated woman (1978: 284).[2] He further emphasizes that this is particularly likely to be the case in low-income countries where institutionalized educational facilities for young children are relatively undeveloped.

Standing (1978) also asserts that education may, to a certain extent, increase the propensity of women to participate in the labor force by raising income aspirations and the degree of dissatisfaction with any given level of family income. However, Standing further contends that since education also raises income and occupational expectations, a positive relationship cannot be presumed because those expectations cannot always be realized. Instead, he presents the "status frustration" effect. The work available to educated women is often of a lower status and is less well paid than that to which they feel entitled and for which their education qualifies them. In many cases they have to accept jobs inferior to those of men with levels of education comparable to or even inferior to their own. This may lead to a pronounced "status frustration" effect, whereby many women who feel entitled to a certain level of income withdraw from the labor force, rather than accept some lower-paying, low-status job. In these circumstances the tendency to withdraw is probably strongest for educated women whose husbands have high-income, high-status jobs. Standing concludes that this status frustration effect may be particularly common in urban areas of low-income countries. It is frequently observed that in such areas, the highest unemployment rate is among young people, who also tend to be the most educated group. For the educated, it may even be rational to withdraw for a short time rather than take a low-paying, low-status job which may have an unfavorable effect on their subsequent earnings potential.

In a comparative study of five developing countries, Smock (1981) examined some outcomes of educational attainment relative to women's overall activity rates and participation in the modern sector. Results of this study do not support the general view that educational attainment is positiviely related to female labor force participation. Instead the study reports a curvilinear relationship regarding overall activitiy rates.

The supporting evidence of curvilinear relationship between education and labor force participation is also found in economic side, especially when it is related with the child-care. Ben-Porath (1973) shows that among Israeli women, the participation rate of women with young children fell as their

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[2]The former argument is consistent with the "income effect"; and the latter argument is consistent with Leibowitz's findings (1975) that wives' educational level is negatively related to the allocation of their time to market work (i.e., women with high education invest more time in child-care activities).

education level rose, but above a certain level of education, the mother's participation rates started to rise.

Place of Residence: Areal influence has to do with areal variations in the acceptability of women working, in the occupational structure and in the local labor market circumstances. In Korea, women in rural areas tend to show higher rate of labor force participation. This is associated with the labor shortage in rural areas due to rural-urban migration, started in the late 1960's. Therefore, it is expected that urban areas are negatively related with work participation.

Parental Background: Many studies conducted in developed countries have identify the strong influence of parental socioeconomic background on future achievement, particularly on one's level of education and occupational status (e.g., Blau and Duncan, 1967; Duncan et.al., 1972; Sewell et.al., 1972, 1980; Roos, 1985). The studies demonstrate that social origin measured by parental socioeconomic status exerts an indirect effect on occupational aspiration and achievement via educational aspiration and attainment as well as a direct effect.[3]

It must be noted that these findings apply primarily to developed countries, especially to the United States. In less-developed societal environments where ascription predominates, this would be even more true, especially for men. However, conditions may be different for women. In societies where traditional attitudes toward female employment dominates and thus women have low status, the advantages of high parental status may be enjoyed mainly by sons. Scarce resources and limited occupational mobility influence parent's decision to favor educational investments in sons rather than daughters (Standing, 1976), which, in turn, discourages women from work participation or puts them in a disadvantageous position in the market.

The Korean people, especially the older generation, tend to view women working negatively and do not put much value on women's socioeconomic status through occupational achievement. The husband's socioeconomic status often represents his wife's status. It is true that parent's socioeconomic status has a positive impact on their daughter's educational attainment. For parents, however, the educational investment in their sons and daughters have different meanings: they tend to encourage and push

[3]Roo's comparative study (1985) on twelve developed countries also found that for both men and women, occupational position depends, to a significant extent, on father's occupation. Although Sewell et al.,'s study (1980) provided contrary evidence of a sharp distinction between men and women's status attainment processes, the impact of parental background remains significant for both men and women.

their sons toward upward mobility by achieving better jobs, whereas they tend to educate their daughters to increase their chances to end up with qualified husbands (i.e., upward mobility through marriage). Therefore, it is expected that father's socioeconomic status has a rather negative impact on daughter's work participation after marriage.

Sex-role socialization studies also support the importance of family background. That is, parents' role behavior affects their children's attitude and future behavior. Specifically, mothers' role behavior and work experiences are expected to influence their daughters' perceptions of dual-role and later labor market behavior (Vogel et. al., 1970; Altman and Grossman, 1977; Steven and Boyd, 1980).[4]

Therefore, it is conceivable that women whose mothers had working experiences are more likely to participate in the market through forming a favorable attitude toward women working.

Age at First Marriage: A woman's age at first marriage may significantly influence her current economic activities. The impact of marital age can be derived from various directions. Early marriage is likely to be related to low educational attainment, low aptitude toward market work, and little or no work experience, which, in turn, lower her later employability. Conversely, women who get married late, are more likely to achieve higher education, to show greater work aspirations, and thus to have more work experience before marriage. Age at first marriage can be a positive indicator of women's preference or tastes for market work. A woman having a greater motivation to pursue a career, may postpone her marriage until she finds a spouse who has a positive attitude toward her work and who is willing to fully support her career. Therefore, it is conceivable that the higher the age at first marriage, the more likely a woman is to participate in the market.

Work Experience before Marriage: Whether or not a woman worked before marriage should influence her future working life, since work participation is a process involving stages of labor force experience.[5] Kahne (1978)

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[4]Vogel et. al's study (1970) shows that daughters of working mothers see adult men and women as sharing more in their activities than do daughters of non-working mothers. Altman and Grossman (1977) also confirms that daughters of working mothers show a high degree of career orientation. Steven and Boyd (1980) found that women whose mothers worked are themselves more likely to join the labor force, and furthermore, their occupations are likely to join the labor force, and furthermore, their occupations are likely to resemble their mother's.

[5]Standing (1978) proposes the greater use of historical approaches in the study of work participation by considering the long-run interactions between individual behavioral patterns and labor market factors. Junsay and Heaton's study (1989) also employ a life-course perspective to describe women's economic participation. They specifically emphasize the timing and process of female labor force experience by exploring the influence of early experience on current aspects of economic behavior.

indicates that studies using data from National Longitudinal Survey (NLS) show a strong relationship between women's work participation and the extent of earlier work experience. Likewise, Rosenzwig (1976) emphasizes that past employment experience is an important correlate of current labor market behavior.

Attitude toward Sex-Role and Market Work: Social psychologists argue that attitude determines behavior (Fishbein and Ajzen, 1975). There is no doubt that a woman's attitude toward sex roles and economic activities influences her own behavior. Women with a positive and favorable attitude toward market work, and with the concept of flexible sex-roles, are more likely to participate in the market.

To sum up, the relationship between background variables and labor market participation patterns is hypothesized as follows:

H1. Age is likely to have a curvilinear relationship with women's work participation and with time devoted to market.
   1) The relationship is likely to be positive as women complete their fertility, gradually being free from child responsibility.
   2) There will be a negative association after reaching the highest participation rate at about their late fifties.

H2. The educational level of women is also likely to be curvilinearly related with labor force participation. That is, the participation is lower among women with medium levels of education, but higher among women with high levels of education and with low levels of education.

H3. A woman in urban areas, is less likely to participate in market work.

H4. The higher the father's occupational prestige, the less likely a woman is to be in the labor force.

H5. If a married woman has a more educated mother, the less likely she is to be participating in the labor force.

H6. The work experience of a woman's mother is likely to increase her probability of labor force participation.

H7. The higher the age at first marriage, the more likely she is to be participating in the labor force.

H8. The more positive attitude toward women's social role a woman has, the more likely she is to participate in the labor market.

H9. The more work experience a woman had before marriage, the more likely she is to participate in the wage labor force.

Household Characteristics

For women, particularly wives and mothers, household conditions are major considerations in making decisions concerning work participation. Economic conditions are of particular importance. Women may decide to work out of economic necessity. When they are faced with economic pressures or economic squeezes, they are likely to work. Economic pressures result either from low family income or from a discrepancy between life-style aspirations (i.e., consumption aspirations) and the available economic resources to afford such aspirations (Oppenheimer, 1982).

Presence of Husband: In a society like Korea with few welfare provisions, there is no reason to question that a married woman without a husband present (separated or divorced) needs self-support and thus, she is more likely to work for economic reasons than a woman with a husband present.

Husband's Socioeconomic Status: Among women with a husband present, husbands' employment status, whether currently employed or unemployed, greatly influences wives' work participation pattern. It is anticipated that women with unemployed husbands are likely to spend more time in market work. Husband's occupational status and educational level (indicating household income level) are often regarded as exerting a negative influence on the wife's decision to work according to the level of economic pressures.

There has been another line of argument. As discussed above, economic pressure might arise out of the relative economic deprivation (i.e., the gap between life-style aspirations and the economic ability to achieve desired consumption goals). Therefore, relative economic status as well as the absolute amount of family income should be considered. Oppenheimer (1982) conceives of occupations as important reference groups, providing life-style models and values. For instance, college professors are more likely to use each other as a reference group for life-styles than they are to use the businessmen or craftsmen they occasionally encounter in the course of their daily activities. Occupation is also the major determinant of one's socioeconomic position in society, and it provides a reference group for the establishment of status-determined life-styles.

However, Oppenheimer's argument is not appropriate for the Korean case. Korea is still a fundamentally male-dominant society and thus, a traditional and conservative concept of sex-role is prevalent. Under such circumstances, work by the wife may threaten men because it symbolizes

the men's own failure or inadequacy. This is even more true among middle and upper classes. Therefore, husband's socioeconomic status is more likely to have negative impact on women's decision on working vs. not working. Yet, among working women, husband's educational level and/or occupational prestige will show a positive influence on wife's occupational status.

Family Income: Generally, married women work to supplement an inadequate family income. Thus, the lower the family income, the greater is the economic pressure for the wife to work. This is often called the "income effect". Numerous studies support the income effect on labor supply behavior. Family income (other than wife's) has been found to have a negative impact on the wife's participation in the labor market (Mahoney, 1961; Cain, 1966; Bowen and Finegan, 1969; Sweet, 1973; Joseph, 1983). An increase in the family's other sources of income would increase the demand for the wife's leisure and home goods, so that eventually the wife could drop out of the labor force and devote her time exclusively between home production, including child care, and leisure.

Presence of Young Children: Presence of young children, particularly those under six years of age, constrains married women's employment, since children are time-intensive, and the very young children are the most time-intensive.[6] Child-care responsibilities demand a substantial amount of wives' and mothers' time, which otherwise could be spent in gainful employment (Mason and Palan, 1981; Smith-Lovin and Tickamyer, 1978).[7] Presser and Baldwin (1980) found that the presence of young children negatively affects married women's labor market activities, especially in less-developed societies where there is a shortage of child-care workers or day-care facilities. Therefore, it is easily hypothesized that married women are less likely to work if they have young children present.

To sum up, the impact of household characteristics on women's labor force participation pattern is hypothesized as follows:

   H10. A woman with a husband present is less likely to participate in the labor force.

   H11. A woman whose husband is currently employed, is less likely to

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   [6]Yet, the negative impact decreases as children get older, since older children are relatively more goods-intensive than time-intensive (Chamnivickorn, 1988).

   [7]Smith-Lovin and Tickamyer (1978) explain that, given the priority of traditional roles, extrafamilial activities will be arranged around them. Normative expectations about childrearing for women traditionally require that precedence be given to the parental role. Moreover, the inflexibilities of young children's schedules make working a less preferred and extremely difficult activity for women.

participate in the labor market.

H12. The higher the family income, the less likely a woman is to participate in the market.

H13. The higher the husband's socioeconomic status, the less likely a woman will be participating in the labor force.

H14. The more young children the mother has, the less likely she is to participate in the labor market.

RESEARCH MODEL, DATA AND METHODS

A Path Model for Married Women's Work Participation

Married women's work participation decisions, compared to those of men, are made by a complex process, influenced by various combinations of factors. Working vs. not working in the labor market is determined by (1) individual background characteristics such as age, educational level, and the socio-economic status of the family of origin, such as father's prestige and mother's educational level; (2) household characteristics, including household income (other than the woman's own), husband's educational level and occupational prestige, and fertility. Also, the contextual effect of region and cohort plays a significant role in married women's employment decisions.

Among the predictors of women's work participation, changes in fertility and household income (net of women's own) are more likely to be determined by the other independent variables in the model. Hence, it would be theoretically better justified if those variables are treated as endogenous variables, rather than as exogenous variables. Figure 1 summarizes a path model which predicts women's employment status.

Four things should be noted about the model. First, there are two lagged effects in the model, fertility in 1980 and employed in 1980, which were available from the survey's socio-demographic information on each household member and the retrospective work history information for women.

Second, the model is a recursive path model, in that there are no reciprocal impacts among endogenous variables. More specifically, the causal arrows from household income to fertility change, and from work to fertility are not considered. I assume that husbands may work more hours (leading to more income) to support a larger family due to an increase in fertility, while the opposite is not likely to be true. Change in household income may affect fertility in the next time period, since the couple may
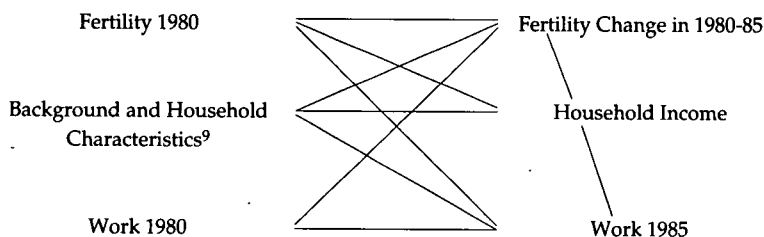
FIGURE 1. A Path Model for Married Women's Work Participation

tend to decide to have an additional child when the economic squeeze is released. Therefore, there is no instantaneous effect of household income on fertility change. The reverse arrow from work to fertility change is omitted, since we deal with the change in fertility (during 1980-85 period) while the fertility in previous time period (1980) is controlled. Removing these two feedback influences allows us to build up a recursive path model, instead of specifying a non-recursive simultaneous equation model.[8]

Third, the model is not fully recursive, since some of the paths from exogenous to endogenous variables are omitted for theoretical reasons. For instance, there is no reason for parental background characteristics to be controlled for in the prediction of fertility change. The effect of religion on work participation is excluded for similar reasons. Also, it is unlikely that the lagged effect of work has a causal impact on current household income net of women's own.[10]

Finally, there are two dummy variables (MISSHHIN and MISSHUSE) added to the model to deal with missing cases. Kim and Curry (1977: 220-21) explain that it is convenient to represent the existence of missing data with dummy indicator variables, and to replace missing information with

[8]I tested those two reverse causal influences by building up a simultaneous equation model. The two-stage least squares technique of estimation shows that those feedback influences are not statistically significant. Furthermore, the rest of the variables in the model remain unchanged in terms of size and statistical significance of their effects.

[9]The background variables included are: age, region, education, religion, age at first marriage, attitude toward work, father's occupational prestige, mother's educational level, and mother's work experiences; Household characteristics include husband's educational level and occupational prestige.

[10]I attempted to estimate the fully recursive model by including all the possible paths from exogenous to each endogenous variable, and from the preceding endogenous variables to later endogenous variables. The results show no significant differences. The coefficients of added impacts (e.g., religion on employment, or parental background on fertility change, etc.) are not only found out to be statistically insignificant, but the effects of the variables already in the model remain about the same. The increment in R-square is also minimal.

the mean value of non-missing observations. In this model, MISSHHIN and MISSHUSE were created as dummy indicator variables, representing missing information on household income and husband's education, respectively.[11]

In sum, of the three endogenous variables, equation (1) for fertility change in 1980-85 is estimated on age, region, education, religion, age at first marriage, attitude toward work, and two lagged effects of work in 1980 and fertility in 1980. Equation (2) for household income is predicted by the combination of age, region, education, father's prestige, husband's income and occupational prestige, fertility in 1980, and changes in fertility during the past five years. Whether a woman is employed or not (equation (3)) is regressed on all the exogenous variables, including the lagged effects of fertility and work, except religion,[12] and the two endogenous variables of fertility change and the level of household income.

Data Source

The present study utilizes data collected from a nation-wide household survey done by Korea Women's Development Institute (KWDI).[13] Nation-wide interviews were conducted between September 11, and October 23, 1985 with married women, including the divorced and separated, between

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[11]The variables of MISSHHIN and MISSHUSE are included in the model as the dummy variables: if an observation has missing information on household income, then MISSHHIN = 1 and 0 otherwise. The value of household income and husband's education for the cases which have a value of 1 for MISSHHIN and MISSHUSE (i.e., cases which have missing information on those two variables), are replaced by the mean of household income and the mean of husband's education of non-missing cases. The missing cases of husband's prestige have been dealt with in a similar way (MISSHUSP), but it is very highly correlated MISSHUSE (.985 with p-value of .0001, see zero-order correlation in Appendix 2). Therfore, it has been dropped to avoid the problem of multicollinearity.

[12]As discussed, religion was found to have no impact on women's employment.

[13]Up to now, the survey by KWDI was the first and the only attempt that carried out at the individual household level, nation-wide. Before then, most studies were done on the basis of aggregate data, such as the population census or "economically active population survey" conducted annually by the Economic Planning Board (Kim and Shim, 1984; Park, 1984).The data from KWDI's survey contains an extensive amount of information on married women's labor force participation and employment pattern in Korea. The questionnaire on "married women's employment condition", as a survey instrument, contains questions on general household circumstances and individual characteristics. For example, items on each household member's personal items and economic activities, the parental background of married women, education and economic activities of both women and their spouses, and fertility were asked. It also includes retrospective information on women's work history by life-cycle period. Time allocation behavior and housework shared between husband and wife were added. Attitude, including that of spouse, on women's social role and women's labor

14 and 65 years of age (and their spouses in 1/5 of the households), and were, completed with 4,316 women and 676 men (KWDI, 1986: 8).

The sample drawn for the survey is the nation-wide self-weighting sample based on the sampling units of the "economically active population survey" by the Economic Planning Board (EPB).[14] Fifty sampling units (which correspond to 1/9 of EPB's units), and thirty-one units (which is equivalent to 1/3 of EPB's units) were selected in urban and rural areas, respectively, on the basis of systematic sampling. From each sampling unit in both urban and rural areas (a total of 81 sampling units), 60 households were extracted. As a whole, one-third of EPB's survey sample was drawn. Among the total respondents of 4,316 married women, 40.5 percent (1,750) were rural inhabitants and 59.5 percent (2,566) were urban residents.

Statistical Methods

By virtue of information on women's work and fertility histories, we are allowed to design a two-wave quasi-panel study of married women's employment in 1985, involving the lagged effects of fertility and employment of previous time period (i.e., 1980). Since information on each household member's socio-demographic status provides women's fertility history, the fertility level in previous time period (1980) as a measure of lagged fertility effect is easily obtained. The employment status in 1980, as a measure of lagged effect of work, is also available by retrospective information on work histories. Controlling for the background and household characteristics, 1) the lagged effects of work and fertility on current employment status; and 2) the causal relationship between fertility change during 1980-85 period and current employment, will be examined by path analytic framework, and estimated by structural equation method.

Contextual effect of region will be examined in two ways. In order to control different regional effect or areal influence, the separate regression analysis between urban and rural as well as a dummy variable analysis will be conducted. The separate analysis allows more comprehensive comparison between areas, including the relative strength of the causal impact among independent variables, and the magnitude of the effect of each independent variable across regions. The dummy variable analysis, on the other hand, permits a direct comparison between urban and rural by

[14]The sample of EPB's survey is a nationwide self-weighting sample, using a stratified two-stage sampling method involving primary sampling units and secondary sampling units. For more detailed information, see *Annual Report of Economically Active Population* (National Bureau of Statistics, EPB, 1986:14-5).

providing the overall mean difference in terms of the dependent variables.

FINDINGS AND DISCUSSION OF THE RESULTS

The analysis was performed for the whole sample and a separate analysis by region was conducted as well. Table 1 reports the results of path analysis of women's employment on the basis of individual and family background, lagged effects of work and fertility, fertility change, and household income for the whole sample. Tables 2 and 3 present the contextual effect of region on the analysis.

Whole Sample

Fertility Change in 1980-85

As the Equation (1) in Table 1 shows, age has the strongest negative (beta = -.425) and significant (p-value < .001) influence on fertility change. The significance level of the age-square variable indicates that the impact is curvilinear, however. This implies that the effect of age on fertility change will differ at different age levels. The age effect can be obtained from the unstandardized regression coefficients of age and age-square.[15] For example, the impact of age on the increases in fertility (i.e. slopes of the curve at different age points) are -.058, -.048 and -.018 at age 25, 30 and 45, respectively. The slope becomes zero at age 54, meaning that the negative impact reaches a minimum at that age and the effect begins reverse. Thus, the degree of negative impact of age on fertility change decreases with age. In other words, the age effect is larger among younger women than older women.

A negative causal impact of urban residence on increase in fertility during the period is not strong, but still significant (beta = .085 with p-value < .001). The zero order correlation of education to fertility change was positive and significant (.347 at p < .001), but when controls for region and age were introduced, the relation disappeared. This implies that education is

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[15]The age-square variable has been created by squaring the deviance from the mean. So, the effect of age can be calculated by the following mathematical derivation:

$$Y = b_1 X_i + b_2 (X_i - X)^2$$
$$dY/dX = b_1 + 2b_2 (X_i - X), \text{ where } X_i = \text{age}, \ X = \text{mean age}$$

The point where dY/dX reaches 0, Y will be the maximum or minimum value.

$$b_1 + 2b_2 (X_i - X) = 0$$
$$X_i = X - b_1 / 2b_2$$

positively associated with urban residence and younger age, and thus the impact of education on fertility is not independent of age and region.

The lagged effect of fertility (fertility 1980) shows a significant strong negative influence on fertility change (beta = -.314 with p-value < .001). Doubtlessly, women who already had more children in 1980 are less likely to have additional children during the 1980-85 period. The lagged effect of working in a previous time period on fertility change is negative (b = -.014), but not significant. The non-significant effect of employment in a previous time period (1980) on current fertility has been also identified by LISREL analysis, which will be discussed later in this chapter. Other exogenous variables such as education, religion, age at first marriage, or attitude show negative effects, but they are not significant. All together, those variables account for about 42 percent of the total variance in fertility change during the 1980-85 period.

Household Income

Equation (2) in the same table estimates household income (excluding women's own income) in 1985.[16] The coefficients of age and age-square depict the curvilinear relationship between income and age. The slopes of the curve at age 25, 40 and 60 are 5.497, .497 and .417. Around age 25, a one-year difference in age would lead to an increase of about 55,000 won (in current won as of 1985, and 75 in U.S. current dollars as of 1990) in monthly family income. For women at around age 60, however, a one-year increase in age would only increase household income by 4,000 won (5 U.S. dollars). Thus, household income increases at a decreasing rate as women get older. The age effect on household income is strong and highly significant. Urban residence and higher education lead women to be in better economic condition. Both fertility variables, fertility in 1980 and fertility change, have both positive influences on household income as well. Not surprisingly, husband's socioeconomic status, as measured by education and occupational prestige are the most powerful predictors of household income (betas of .253 and .194, for husband's education and prestige). Accordingly, MISSHUSE, a proxy for the absence of husband, shows a strong negative impact on household income. All the predictors in the equation in the table are statistically significant. The variables in the equation explain about one-quarter of total variance (R^2 = .254) in household income.

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[16]The unit of household income is 10,000 won, which is equivalent to about $15 (in U.S. current dollars as of 1990).

TABLE 1. Path Analysis of Work Participation on Individual and Family backgound, Fertility Change and Hosehold Income: Whole Sample

Variable	(Eq.1) Fertility 1980-85		(Eq.2) Household Income		(Eq.3) Work 1985	
	b	beta	b	beta	b	beta
Exogenous Variables						
Age	−.028	−.425***	.497	.188***	−.003	−.073**
Age–square	.001	.170***	−.002	−.009	−.600	−.179***
Urban areas	−.131	−.085***	5.929	.096***	−.166	−.164***
Education	−.006	−.032	.690	.099***	−.004	−.034
Education–square					.0005	.019
Protestant	.032	.017				
Catholic	−.015	−.005				
Buddhist	−.009	−.005				
Father's prestige			.622	.034*	−.006	−.021
Mother's education					−.002	−.004
Mother's work experience					−.001	−.001
Age at first marriage	−.001	−.005			−.006	−.047**
Husband's education			1.813	.194***	−.012	−.081***
Husband's occup'l prestige			4.409	.253***	−.012	−.042*
Worked before marriage					−.047	−.046***
Worked in 1980	−.014	−.010			.315	.317***
Attitude toward wok	−.002	−.007			−.006	−.028*
Fertility 1980	−.099	−.314***	1.040	.082**	.012	.055*
MISSHUSE			−19.020	−.211***	.085	.057***
MISSHHIN					−.143	−.110***
Endogenous Variables						
Fertility 1980–85	3.104			.077***	−.072	−.110***
Household income					−.001	−.078***
Intercept	1.936	0	−16.671	0	1.159	0
N	4,010		4,010		4,010	
R–Square	.416***		.254***		.320***	
ADJ R-SQ	.415		.252		.317	

*** P = < .001 ** P = < .01 * P = < .05.

a) The b's are the unstandardized coefficients and betas are the standardized coefficients.

Work Participation

Equation (3) estimates employment status (employed vs. not employed) in 1985. All the variables have a negative causal influence, except for the lagged effects of work and fertility (work in 1980 and fertility in 1980) and

MISSHUSE (which is an indicator of no spouse present). These results allow us to examine the hypotheses which were elaborated above.

Impact of Individual Background. Based on previous research and theories, we predicted the causal influences of various background variables on women's employment behavior. Hypotheses H1 through H9 state the relationship of individual and parental background with women's employment. Age was predicted to have a curvilinear impact on labor force participation (Hypothesis H1), and the finding confirms the expected curvilinear relation of age to employment. The impact of age on employment at different age points can be calculated in a similar manner. At age about 41, the slope reaches zero and the curve shows its maximum, and the sign of the effect reverses. The effect will be positive below that age, and negative above that age. For instance, at ages 25 and 35, the slopes (or the size of the effect) are .027 and .007. On the other hand, at ages 45 and 55, the effects are -.007 and -.017. Therefore, the results support an inverted U-curve relationship of age to women's employment.

Hypothesis H2, drawn from "status frustration" argument by Standing (1975), addresses the curvilinear effect of education on employment status. Although the zero-order correlation between education and work participation shows a significantly negative relationship (−.308 significant at p < .001), when other variables such as age or region are controlled, this correlation disappears. Standing also argues that the status frustration effect is especially true in urban areas of low income countries. Thus, urban residence was expected to be negatively related with women's work participation (Hypothesis H3). The result supports his expectation. Urban areas are associated with younger ages and higher education. Controlling for age and education, however, the negative influence of urban residence remains statistically significant (a b of -.166, significant at p < .001) and relatively strong (beta = −.164), compared to other variables in the equation. This is contrasted to the effect of education, which disappeared after urban residence and other factors were taken into account.

Hypotheses H4 to H6 relate parental background with women's employment after marriage. Based on status attainment theory and predominant traditional attitude towards women's work in Korea, parental socioeconomic status, measured by father's occupational prestige and mother's educational level, was predicted to have a negative effect on women's postmarital employment status. The findings are consistent with the hypotheses, displaying negative coefficients, though they are not statistically significant. I speculate that the general attitude toward married

women's employment is still negative, defining the typical "mother-wife" role as married women's top priority. This is especially true among middle or upper class people. Therefore, parent's background may be a necessary resource for educational achievement, but not for occupational achievement. Hypothesis H6 was drawn from the sex-role socialization approach that the mother's role behavior and work experiences are expected to influence the daughter's perceptions of dual role and later labor market behavior. The zero order correlation of mother's work experience shows a positive relation to women's employment (.106, significant at $p <$ .001), but when other related variables are controlled, the relationship disappears.

In the present path model, work in 1985 (i.e., the final endogenous variable) captures the changes in women's employment during the 1980-85 period, since work in 1980 is controlled. Therefore, the impact of education and other background variables reflects their influences on changes in work patterns; that is, the continuing tendency towards work participation. To measure the pure impact of those variables on working vs. not working in 1985 rather than changes in 1980-85 period, we may have to exclude the variable of work in 1980 in the model. However, since one of the major concerns in this two-wave panel framework is the lagged effect of work, I examine whether or not controlling for the lagged effect of work in 1980 makes any difference. The result (i.e., without work in 1980 in the model), shows little differences, in terms of the size and statistical significance. The influences of women's education and parental background are almost identical and still remain statistically insignificant in both models.

I conjectured that both age at first marriage and work experience before marriage affected women's postmarital employment positively (hypotheses H7 and H9). Late marriage may be a positive indicator of women's preference or tastes for market work, since a woman having greater motivation to pursue her career may postpone her marriage until she finds a spouse who has positive attitude towards her work. Premarital work experience, associated with late marriage, was also expected to be a sign of an aptitude for market work, and an indicator of one's employability. Contrary to my expectations, however, both variables are found out to be negative and statistically significant causes of women's post marital employment status (beta's are −.047 at $p < .01$ and −.046 at $p < .001$, for age at first marriage and work experiences, respectively). Because the zero-order correlation shows a positive relation between these two (.197 at $p < .001$), the effects of these variables are likely to operate in a similar way.

A supplementary analysis, which divides out the types of premarital jobs

that women had, provides some evidence for this anomalous findings (see Appendix 3). Different kinds of work experiences before marriage replaced the single indicator of whether or not they had worked. Since it was suspected that the clerical and factory experiences have some negative influences, jobs were divided into clerical, farming, factory, other kinds of occupation,[17] and no work experience. Clerical jobs are mostly filled by single women and they are not allowed to stay in or return to them after marriage. The job opportunities they often find after marriage are hardly comparable with their past job experiences. This is likely to lead them not to work later. The same is true for factory jobs. Most factories are located in several industrial sites with factory dormitories. Thus, factory jobs are mainly suitable for single women, and married women with families cannot accling to the factory work environment. The results, reported in the Appendix 3, support these speculations. Premarital clerical work experience exerts a significant negative influence on postmarital employment of women, and this is even stronger in urban areas. Factory work experience also has a negative impact, though it is not significant. The effects of the other variables remain about the same. The findings of the impact of premarital work experience, especially clerical job experiences which do not allow women to stay after marriage, imply that institutional factors also exert a significant influence over women's employment. I would interpret such institutional factors as the product of interaction between culture and social structure.

Based on the relationship between attitude and behavior, hypothesis H8 states that women's own attitude toward sex role and married women's participation in the labor market were hypothesized to move to same direction. Strikingly, our results show a negative impact (beta = −.028) which is also statistically significant (p-value < .05). It is difficult to interpret the implication of this finding. We can only tentatively conclude that since a great majority of married women workers in Korea are still considered as supplementary (involuntary, in a sense) workers, who work to make up perceived insufficiencies in family income, women who are currently working have rather negative perception of women working in general and their own working behavior. On the contrary, women who are not presently employed might be relatively insensitive to reality and thus have a myth which conceives of women's work participation as an activity of self-realization.

[17]In the supplementary analysis, other kinds of occupation is the omitted category for dummy variables indicating premarital work experiences.

Household Characteristics. The economic approach to women's labor force participation and the "relative status" argument in the sociological perspective focus on socioeconomic conditions of the household, perceiving married women's employment in the context of household decision-making. Hypotheses H10 through H14 predict the impact of household variables, such as the presence of husband, husband's education and occupational prestige, family income, and, more importantly, fertility level. Each indicator was expected to have a negative influence on women's work participation, and the results strongly support these hypotheses. Absence of spouse (represented by MISSHUSE, a proxy for the presence or absence of husband, which indicates the missing information on husband's education), has a positive and significant impact (b = .085 at p < .001). As expected, both husband's educational level and occupational prestige are found to be negatively related with wife's employment, and the impacts are also statistically significant. It can also be that husband's education has a larger and more significant influence than job prestige (the beta's are –.081 at p < .001, and –.042 at p < .05, respectively).

A great majority of economists stress the income effect on married women's work participation, stating that household income (net of women's own income) is negatively related with women's work decisions. A significant negative impact of family income on women's employment was found (beta = –.078 at p < .001), and it is in favor of the income effect (H12). This is particularly true among Korean women because their main reason for seeking employment is economic necessity. The presence of young children seems to be the most frequently identified constraint on married women's labor force participation. Hypothesis H14 states the negative impact of children. The variable, fertility change in our model, is associated with the number of additional children during 1980-85 period. Thus, it also represents the number of preschool children, not just the presence of young children. As predicted, the significant negative influence has been correctly identified. In fact, fertility is found to be the strongest and the most powerful predictor of married women's employment status, compared to other variables in the model (beta = –.110 at p < .001). This finding is consistent with Presser and Baldwin's finding that the negative effect of young children is very salient in a less-developed society where there is a shortage of child care workers or day-care facilities.

Lagged Effects of Fertility and Employment. Two lagged effects, of fertility in 1980 and work in 1980, both show the significant positive influences on

women's employment. Fertility in 1980 represents the number of children ever born as of 1980. The positive impact of the lagged effect of fertility may be attributed to greater need for extra income due to a larger family. Or, a woman who had more children in 1980 is less likely to have additional children during 1980-85, which in turn leads to a greater probability for work participation. The lagged effect of employment (i.e. work in 1980), on the other hand, has the largest positive impact on women's current employment status (.317 significant at $p < .001$).

Retrospective information on work and fertility histories allow us to expand the model of fertility and employment to a multi-wave panel model involving several different time points beyond a simple two-wave panel of 1980 and 1985. Using the LISREL (Linear Structural Equation Model) method, I attempted to test a four-wave, quasi-panel model over the period of 1970 to 1985, which has a five-year interval between panels. It was expected that results using longitudinal information may provide some clues with which to disentangle the causality between fertility and women's employment, which is difficult to solve by cross-sectional data analysis alone. Unfortunately, no consistent and meaningful pattern of relationship between fertility and work was detected, but two findings should be noted. First, a strong and persistent lagged effect of work through 1970, 1975, 1980, and 1985 was found. Second, the lagged effect of fertility on employment of the next time period (e.g., fertility in 1975 on work in 1980), which was positive, showed a relatively consistent pattern over the entire period. However, the lagged effect of employment on fertility of next period (i.e. work in 1975 on fertility in 1980), which was expected to be negative, was not found to be significant and consistent. This might be due to a relatively longer interval (i.e. five years) between panels. Although the LISREL analysis itself could not result in theoretically interpretable findings, it provided a valuable insight for building the present path model involving two periods of time.

Overall, the path model of married women's work participation seems to fit the data relatively well. The equation for fertility change in 1980-85 is mainly determined by age, urban residence and fertility in 1980. Household income is determined by age, urban residence, education, socioeconomic status of father and husband, and fertility change in 1980-85. Whether or not a married woman is working in the market is largely shaped by age, urban residence, household socioeconomic condition, fertility change and, most notably, work in 1980. The proportions of the variance accounted for by the variables in each equation are 42 percent, 25 percent and 32 percent, respectively. Overall F-tests of each equation itself are statistically significant

(p-value < .001) as well.

An alternative estimation technique for the dependent variable of work participation can be considered. Some researchers (e.g., Goodman) might suggest that since the work participation is a dichotomous categorical variable (participation vs. non participation), the logistic regression estimation (instead of OLS) should be used.[18]

I attempted to model a logistic regression of women's employment status for the current sample. Yet, the results were almost identical with those estimated by OLS, in terms of the magnitude and the level of significance of each coefficient. The results of the logistic regression are reported in Appendix 4.

Urban-Rural Differences

The separate path analysis by region was performed to test the contextual effect of region on women's employment. Tables 2 and 3 present the results for urban and rural areas, respectively. For work participation, urban and rural areas show a slightly different pattern. As shown in Table 2, in urban areas, there are strong negative influences resulting from husband's education (beta = −.103), household income (beta = −.100) and, most notably, fertility change (beta = −.143); all those effects are statistically significant. The positive effect on married women's work participation is mainly found in the lagged effects of work and fertility. Among others, the effect of work in 1980 on current working (beta = .265 with p < .001) is most remarkable.

Similarly, in rural areas (Table 3), the major positive effect is seen in the lagged effect of work (beta = .348) and it is even more remarkable than in urban areas (b's are .272 and .341, in urban and rural areas, respectively). The negative income effect on women's work is hardly found in rural areas. Rural women's work participation decisions seem less responsive to their family income. Contrastingly, the income effect is highly salient in urban areas. Higher family income appears to be a significant negative predictor in urban areas. The most noticeable difference between areas is found in the impact of fertility change. It is greater in urban areas (b = −.094 with p < .001) than in rural areas (b = −.038 with p < .05). Therefore, fertility or child constraints on women's employment is stronger in urban areas compared to

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[18]The procedure of dummy variable analysis for the dichotomous dependent variable is known to involve a number of statistical problems (Goodman, 1972, 1973). One is that the assumption of homoscedasticity is violated by such a variable. This casts some doubt on the validity of tests of significance. Another problem is that although a dichotomous dependent variable is bounded 0 and 1, it is still possible to obtain regression estimates outside this range with the ordinary least square method.

TABLE 2. Path Analysis of Work Participation on Individual and Family Background, Fertility Change and Household Income: Urban Areas

Variable	(Eq.1) Fertility 1980-85		(Eq.2) Household Income		(Eq.3) Work 1985	
	b	beta	b	beta	b	beta
Exogenous Variables						
Age	–.022	–.310***	.612	.191***	–.006	–.124**
Age-square	.001	.128***	.006	.022	–.001	–.185***
Education	–.009	–.051*	.858	.100***	–.002	–.017
Education-square					.0006	.024
Protestant	.014	.007				
Catholic	–.026	–.009				
Buddhist	–.027	–.017				
Father's prestige			.960	.049*	–.005	–.018
Mother's education					–.001	–.001
Mother's work experience					–.006	–.005
Age at first marriage	–.002	–.011			–.008	–.054*
Husband's education			1.756	.165***	–.016	–.103***
Husband's occup'l prestige			5.348	.276***	–.011	–.038
Worked before marriage					–.026	–.026
Worked in 1980	–.000	–.000			.272	.265***
Attitude toward work	–.004	–.012			–.005	–.025
Fertility 1980	–.135	–.370***	2.089	.124***	.014	.058
MISSHUSE			–25.658	–.236***	.122	.079***
MISSHHIN					.124	.053**
Endogenous Variables						
Fertility 1980–85			4.054	.088***	–.094	–.143***
Household income					–.001	–.100***
Intercept	1.748	0	–22.672	0	1.123	0
N	2,393		2,393		2,393	
R-Square	.378***		.253***		.197***	
ADJ R-SQ	.376		.250		.191	

*** P = < .001 ** P = < .01 * P =< .05.
a) The b's are the unstandardized coefficients and betas are the standardized coefficients.

rural areas. This finding is consistent with previous research and my earlier expectation on differential job opportunity structure in urban and rural areas. Jobs offered in rural areas, presumably mostly farming, can be carried out while still undertaking childcare and house work. Besides, since rural areas struggle with labor shortages, married women may have to be more responsive to local market demand and less constrained by familial

TABLE 3. Path Analysis of Work Participation on Individual and Family Background, Fertility Change and Household Income: Rural Areas

Variable	(Eq.1) Fertility 1980-85		(Eq.2) Household Income		(Eq.3) Work 1985	
	b	beta	b	beta	b	beta
Exogenous Variables						
Age	−.036	−.564***	.179	.113*	.000	.003
Age-square	.001	.240***	−.006	−.043	−.001	−.203***
Education	−.000	−.001	.447	.100*	−.004	−.037
Education-square					−.0001	−.004
Protestant	.053	.026				
Catholic	−.018	−.003				
Buddhist	.010	.007				
Father's prestige			−.550	−.037	−.009	−.025
Mother's education					−.006	−.011
Mother's work experience					−.023	−.020
Age at first marriage	−.001	−.006			−6.04	−.041
Husband's education			1.391	.198***	−.006	−.039
Husband's occup'l prestige			1.883	.143***	.001	.003
Worked before marriage					−.049	−.056**
Worked in 1980	−.031	−.019			.341	.348***
Attitude toward work	.001	.004			−.007	−.040*
Fertility 1980	−.064	−.219***	.071	.010	.003	.019
MISSHUSE			−7.686	−.147***	.053	.043
MISSHHIN					−.245	−.272***
Endogenous Variables						
Fertility 1980-85			1.196	.048	−.038	−.065*
Household income					−.000	−.014
Intercept	2.026	0	9.354	0	.968	0
N	1,616		1,616		1,616	
R–Square	.480***		.112***		.391***	
ADJ R-SQ	.477		.107		.384	

*** P = < .001 ** P = < .01 * P = < .05.

a) The b's are the unstandardized coefficients and betas are the standardized coefficients

obligations. Or, employers in rural areas have to make more compromises with married women workers.

To summarize, Table 4 presents the results of hypothesis testing on work participation for selected variables. As shown, overall results support the economic theories focusing on household economic characteristics, and give a partial support for demographic approach emphasizing the negative

TABLE 4. Results of Hypotheses Testing on Work Participation

Variable	Hypothesized Relationship	Theoretical Background	Findings
Age	curvilinear (H1a)	microeconomic theory & demographic approach	confirmed
Education	curvilinear (H2a)	Standing's "status frustration thesis"	disconfirmed
Urban residence	negative (H3)	Standing's "status frustration thesis" & Boserup's argument	confirmed
Father's prestige	negative (H4)	status attainment theory	? (statistically insignificant)
Mother's education	negative (H5)	status attainment theory	? (statistically insignificant)
Mother's work experience	positive (H6)	sex-role socialization	disconfirmed
Age at first marriage	positive (H7)	—	disconfirmed
Attitude toward women's work	positive (H8)	psychological approach	disconfirmed
Premarital work experience	positive (H9)	Kahn & Rosenzwig	disconfirmed
Household income	negative (H12)	microeconomic theory	confirmed
Husband's SES	negative (H13)	Oppenheimer's "relative economic status" thesis	confirmed
Presence of young children	negative (H14)	microeconomic theory & demographic approach	confirmed

influence of fertility on employment. A strong negative income effect on women's employment was found. Also, the negative impact of young children on mother's employment appears to be substantial. On the other hand, hypotheses drawn for sociological perspectives (i.e., status attainment theory and sex-role socialization approach) show a mixed result. Parental background was found to be either negative or statistically insignificant, whereas women's own achievement variable, education, has no impact on their post-marital labor force participation.

SUMMARY AND CONCLUSION

As we have seen, married women's employment in Korea is largely determined by age, urban residence, household characteristics of the husband's socioeconomic status, family income, fertility, and the lagged effect of work. The negative impact of education on women's employment, was found in bivariate relationships (zero-order correlations). However, after controlling for age, region and fertility, the impact of education became neither consistent nor statistically significant. The socioeconomic status of parents does not appear to affect women's employment after marriage. Household economic situation was revealed to have more substantial impacts than background characteristics. In short, older age, rural residence, inferior household economic condition, and recent work experience are the major positive causes of married women's participation in the market work. On the other hand, younger women with preschool children, who currently reside in urban areas, enjoying better household economic conditions (due to higher socioeconomic status of husbands and/or higher family income) are the groups of women with the smallest probability of working in the market.

These results imply two important points. One is the fact that to utilize married women's labor force, various child-care centers which can resolve the major obstacle of their economic activities should be enlarged. The other implication comes from the negative relationship between education level and the amount one works in the market. The unemployment and underemployment of urban women with high education is, to a large extent, related with the discriminatory employment practice in the demand side of the labor market, rather than related with self-selection in the supply side of the market. For these women, enlarging child-caring facilities might be the necessary condition, but not a sufficient condition. Therefore, in order to induce the highly educated women's labor force into the market, discriminatory employment practice against married women should be eliminated.

Married women's employment pattern in Korea shows a pattern typical of less-developed and low-income countries in two aspects. First, married working women are characterized by a low level of education. The main reason for employment is economic need rather than self-fulfillment or self-realization. The difference between urban and rural areas in terms of work participation pattern is remarkable. The overall participation rate is much higher in rural areas. The pattern of the age-profile of employment

participation rates in urban areas shows a double peak pattern, which is a typical pattern in many currently industrializing countries. In contrast, rural areas appear to be in transition from the single peak patterns of older cohorts to double peak patterns among younger cohorts. At a glance, rural women's employment pattern appears to be more similar to contemporary Western industrialized countries, showing relatively high participation in the labor force and a single peak pattern of age-profile of employment. However, rural women's participation pattern in Korea is associated with completely different factors. The high participation rate in rural areas is a "demand-induced", or "forced" phenomenon, reflecting the labor shortage in rural areas due to rural-urban migration, rather than a "supply-induced" or voluntary participation. Furthermore, a single peak pattern of age-profile of employment, which is less affected by fertility, is associated with the type of job opportunity in rural areas. Jobs available in rural areas, mostly farming work, are more compatible with childcare and household chores. Therefore, rural women's participation pattern partly reflects the stage of industrialization in which the nation stands, rather than showing a pattern typical of more advanced societies.

Urban-rural differences in terms of labor force participation shed light on the curvilinear relationship (i.e., U-shaped pattern) between economic development and FLFP, suggested by Pampel and Tanaka (1986) on the basis of Boserup's findings on developing countries and Oppenheimer's conclusion on the U.S. In the traditional societies predominated by agricultural sector, female labor force participation is relatively high. But economic development initially forces women out of the labor force. Industrialization and the emergence of market economies in low-income countries reduces FLFP, because traditional work opportunities of women on farms and in home businesses are lost as labor becomes a market commodity. Furthermore, women have difficulty finding jobs in the industrial sector because of family obligations, competition with males, and sexual discrimination. In advanced nations, on the other hand, there is a positive rather than a negative relationship between development and FLFP. Continued economic growth and expansion of the tertiary sector of industrialized economies, where female-labelled jobs are concentrated, increases the demand for female workers. With the increased supply of middle-aged women freed of childrearing duties, this higher demand brought about by postindustrial growth increases FLFP. Married women's labor force participation in rural Korea reflects the pattern of more traditional or preindustrial societies, whereas urban areas show a pattern of initial stage of industrialization. Therefore, although Korea belongs to the

advanced group of currently industrializing countries, she lags behind with other developing countries in terms of married women's employment. Moreover, it is difficult to predict in advance that Korea would have similar experiences as those of contemporary advanced countries.

APPENDIX 1. Means and Standard Deviations of Selected Variables in the Model

Variable	Aggregate		Urban		Rural	
	Mean	Std.	Mean	Std.	Mean	Std.
Exogenous Variables						
Father's prestige	1.71	1.63	2.00	1.79	1.26	1.25
Mother's education	2.13	2.01	2.33	1.06	1.83	0.83
Mother's work experience(%)	.74	.44	.69	.46	.82	.39
Husband's education	6.05	3.24	6.98	3.26	4.66	2.66
Husband's prestige	2.55	1.73	2.98	1.79	1.92	1.42
Attitude toward work	13.91	2.42	13.88	2.48	13.96	2.33
Fertility 1980	2.77	2.38	2.22	2.07	3.59	2.58
Endogenous Variables						
Fertility change 1980-85	.50	.75	.53	.76	.44	.75
Other household income	36.42	30.19	42.41	34.68	27.55	18.65
Work participation 1985(%)	.56	.50	.43	.50	.75	.44

APPENDIX 2. Zero-order Correlation Coefficients among Variables in the Analysis

	1	2	3	4	5	6	7	8	9	10
1 Age	1.000									
	.000									
2 Age square	.336	1.000								
	.000	.000								
3 Urban	−.192	−.096	1.000							
	.000	.000	.000							
4 Education	−.616	−.266	.374	1.000						
	.000	.000	.000	.000						
5 Protestant	−.054	−.005	.059	.163	1.000					
	.001	.774	.000	.000	.000					
6 Catholic	−.116	−.009	.120	.128	−.119	1.000				
	.463	.556	.000	.000	.000	.000				
7 Buddhist	.159	−.004	−.005	−.131	−.353	−.177	1.000			
	.000	.788	.765	.000	.000	.000	.000			
8 Age at first	−.359	−.300	.193	.437	.066	.074	−.092	1.000		
marriage	.000	.000	.000	.000	.000	.000	.000	.000		
9 Attitude	−.067	.012	−.016	.335	.009	−.007	−.071	.015	1.000	
	.000	.435	.305	.034	.580	.644	.000	.355	.000	
10 Father's	−.172	−.044	.219	.421	.079	.083	−.063	.213	.008	1.000
prestige	.000	.005	.000	.000	.000	.000	.000	.000	.605	.000
11 Mother's	−.423	−.101	.243	.587	.117	.098	−.088	.287	.438	.005
education	.000	.000	.000	.000	.000	.000	.000	.000	.733	.000
12 Mother's	.040	.032	−.145	−.208	.032	−.045	−.004	−.117	−.034	−.422
work exper.	.011	.045	.000	.000	.045	.005	.790	.000	.029	.000
13 Husband's	−.296	−.111	.350	.661	.154	.126	−.080	.306	.018	.386
education	.000	.000	.000	.000	.000	.000	.000	.000	.245	.000
14 Husband's	−.257	−.136	.301	.463	.082	.106	−.067	.219	.031	.275
prestige	.000	.000	.000	.000	.000	.000	.000	.000	.048	.000
15 MISSHUSE	.407	.255	−.052	−.316	−.028	−.012	.070	−.229	−.016	−.086
	.000	.000	.001	.000	.071	.444	.000	.000	.304	.000
16 MISSHUSP	.394	.253	−.052	−.306	−.024	−.011	.066	−.224	−.016	−.083
	.000	.000	.001	.000	.129	.474	.000	.000	.321	.000
17 MISSHHIN	−.036	.013	−.412	−.043	−.018	−.045	.005	.012	−.004	−.039
	.020	.400	.000	.007	.264	.004	.753	.439	.805	.014
18 Work	−.313	−.053	.035	.196	.046	.018	−.070	.197	−.028	.057
experience	.000	.001	.025	.000	.003	.265	.000	.000	.078	.000
19 Work 1980	.148	.085	−.358	−.262	−.066	−.083	−.006	−.114	−.016	−.131
	.000	.000	.000	.000	.000	.000	.707	.000	.311	.000
20 Fertility	.808	.180	−.282	−.610	−.076	−.047	.135	−.494	−.073	−.230
1980	.000	.000	.000	.000	.000	.003	.000	.000	.000	.000

APPENDIX 2. Continued

	11	12	13	14	15	16	17	18	19	20
11 Mother's education	1.000									
	.000									
12 Mother's work exper.	−.291	1.000								
	.000	.000								
13 Husband's education	.469	−.209	1.000							
	.000	.000	.000							
14 Husband's prestige	.335	−.180	4.571	1.000						
	.000	.000	.000	.000						
15 MISSHUSE	−.185	.005	−.005	.000	1.000					
	.000	.746	.001	1.000	.000					
16 MISSHUSP	−.180	.006	.001	.000	.985	1.000				
	.000	.701	.974	1.000	.000	.000				
17 MISSHHIN	−.024	.020	−.046	.007	.034	.039	1.000			
	.135	.210	.003	.636	.029	.014	.000			
18 Work experience	.156	.054	.097	.085	−.153	−.148	.003	1.000		
	.000	.001	.000	.000	.000	.000	.861	.000		
19 Work 1980	−.152	.100	−.248	−.185	.062	.059	−.006	.091	1.000	
	.000	.000	.000	.000	.000	.000	.694	.000	.000	
20 Fertility 1980	−.423	.101	−.363	−.290	.248	.238	−.025	−.261	.200	1.000
	.000	.000	.000	.000	.000	.003	.110	.000	.000	.000

	1	2	3	4	5	6	7	8	9	10
a Fertility 1980–85	−.586	−.013	.062	.347	056	−.001	−.116	.224	.046	.107
	.000	.406	.000	.000	.000	.929	.000	.000	.003	.000
b Household income	−.089	−.079	.241	.326	.068	.064	−.023	.119	.006	.215
	.000	.000	.000	.000	.000	.000	.136	.000	.725	.000
c Work 1985	.181	−.091	−.312	−.308	−.054	−.069	.026	−.174	−.041	−.188
	.000	.000	.000	.000	.001	.000	.093	.000	.009	.000

	11	12	13	14	15	16	17	18	19	20
a Fertility 1980–85	.235	−.002	.169	.139	−.231	−.227	.054	.200	−.084	−.584
	.000	.904	.000	.000	.000	.000	.001	.000	.000	.000
b Household income	.232	−.134	.380	.389	−.175	−.174	−.038	.013	−.164	−.105
	.000	.000	.000	.000	.000	.000	.017	.406	.000	.000
c Work 1985	−.220	.106	−.313	−.251	.088	.084	−.041	−.065	.428	.269
	.000	.000	.000	.000	.000	.000	.009	.000	.000	.000

	a	b	c
a Fertility 1980–85	1.000		
	.000		
b Household income	.081	1.000	
	.000	.000	
c Work 1985	−.216	−.238	1.000
	.000	.000	.000

a) .000 is p-value = < .0001

APPENDIX 3. Supplementary Analysis of Work Participation on Individual and Family Background, Fertility Change and Household Income

Variable	Whole Sample		Urban		Rural	
	b	beta	b	beta	b	beta
Exogenous Variables						
Age	−.004	−.085**	−.006	−.136***	−.0002	−.005
Age-square	−.001	−.171***	−.001	−.173***	−.001	−.198***
Urban areas	−.162	−.160***				
Education	−.001	−.011	.0005	.004	−.005	−.042
Education-square	.0005	.019	.001	.024	−.0001	−.042
Father's prestige	−.005	−.015	−.002	−.009	−.009	−.025
Mother's education	−.001	−.002	.002	.003	−.006	−.012
Mother's work experience	−.005	−.004	−.011	−.010	−.026	−.023
Age at first marriage	−.005	−.042**	−.007	−.048*	−.004	−.038
Attitude toward work	−.005	−.026*	−.004	−.022	−.007	−.039*
Premarital work experience						
No work	.022	.021	.0126	.012	−.010	−.011
Clerical work	−.162	−.010***	−.175	−.124***	−.080	-4.039
Farm work	.004	.003	.042	.042	−.053	−.056
Factory work	−.040	−.029	−.011	−.008	−.096	−.076*
Husband's education	−.012	−.080***	−.015	−.097***	−.006	−.040
Husband's job prestige	−.012	−.041**	−.010	−.037	.001	.002
Worked in 1980	.318	.319***	.277	.270***	.342	.349***
Fertility 1980	.011	.052*	.011	.047	.003	.017
MISSHUSE	.087	.059***	.126	.081***	.053	.044
MISSHHIN	−.141	−.108***	.125	.053**	−.246	−.273
Endogenous Variables						
Fertility 1980-85	−.069	−.105***	−.091	−.138***	−.038	−.065*
Household income	−.001	−.077***	−.001	−.095***	.0003	.013
Intercept	1.108	0***	.988	0***	.988	0***
N	4,010		4,010		4,010	
R-Square	.246***		.210***		.393***	
ADJ R-SQ	.242		.203		.385	

*** P = < 001 ** P = <.01 * P = < .05.

a) The b's are the unstandardized coefficients and betas are the standardized coefficients.

APPENDIX 4. Results of Logistic Regression on Work Participation

Variable	Effect	SE	Chi-square	P-value
Age	.021	.007	8.41	.004
Age-square	.004	.0003	132.67	.0001
Urban areas	1.127	.110	104.48	.0001
Education	.016	.014	1.43	.232
Father's prestige	.033	.029	1.28	.258
Mother's education	.0005	.051	0.00	.991
Mother's work exper.	.005	.099	0.00	.962
Age at first marriage	.041	.130	9.87	.002
Husband's education	.071	.018	16.20	.0001
Husband's prestige	.055	.028	3.87	.049
Household income	.009	.002	28.82	.0001
Fertility 1980	−.089	.035	6.45	.011
Fertility 1980-85	.408	.067	37.23	.0001
Worked before marriage	.273	.088	9.73	.002
Worked in 1980	-1.651	.084	386.44	.0001
MISSHUSE	−.455	.145	9.83	.002
MISSHHIN	1.021	.120	72.26	.0001

Likelihood Ratio Chi-Square 3997.30 (df = 3992, p = .4734)

REFERENCES

Altman, S.L. and Grossman, F.K.: Women's Career Plans and Maternal Employment. *Psychology of Women Quarterly* 1: 365-76, 1977.

Ben-Porath, Y.: Economic Analysis of Fertility in Israel: Point and Counterpoint. *Journal of Political Economy* 81: s202-33, 1973.

Blau, P. and Duncan, O.D.: *The American Occupational Structure*. New York, John Wiley, 1967.

Boserup, E.: *Women's Role in Economic Development*. London, Allen and Unwin, 1970.

Cain, G.: *Married Women in the Labor Force: An Economic Analysis*. Chicago, The University of Chicago Press, 1966.

Cain, G.: Unemployment and the Labor Force Participation of Secondary Workers. *Industrial and Labor Relations* Review 20: 275-97, 1967.

Collver, A. and Langlois, E.: The Female Labor Force in Metropolitan Areas. *Economic Development and Cultural Change* 10: 367-85, 1962.

Duncan, O.D.et al: *Socioeconomic Background and Achievement*. New York, Seminar Press, 1972.

Easterlin, R.: *The Economics and Sociology of Fertility*. Philadelphia, University of Pennsylvania Press, 1973.

Finegan, A.T.: Participation of Married Women in the Labor Force. In *Sex, Discrimination and the Division of Labor*, ed. Lloyd, C.B., New York, Columbia University Press, 1975.

Hong, S.W.: Female Employment and Change in Fertility. *Korea Development Research* 1: 163-76, 1979.

Joseph, G.: *Women at Work: The British Experience*. Oxford, Phillip Allan Publishers, LTD, 1983.

Junsay, A.T. and Heaton, T.B.: *Women Working: Comparative Perspectives in Developing Areas*. New York, Greenwood Press, 1989.

Kahne, H.: Economic Research on Women and Families. *Signs: Journal of Women in Culture and Society* 3: 652-65, 1978.

Kim, S.K. and Shim, K.O.: *Determinants of Female Labor Force Participation in Korea*. Seoul, Korea Development Institute, 1984.

Koo, S.R.: Married Women's Labor Force Participation and Fertility. *Korea Development Research* 1: 131-46, 1979.

Korea Women's Development Institute: *Women's Employment: with Special Emphasis on Married Women*. Seoul, Korea Women's Development Institute, 1986.

Leibowitz, A.: Education, and the Allocation of Women's Time. In *Education, Income and Human Behavior*, ed. Juster, F.T., New York, McGraw Hill, 1975.

Mahoney, T.A.: Factors Determining the Labor Force Participation of Married Women. *Industrial and Labor Relations Review* 14: 563-77, 1961.

Mason, K.O. and Palan, V.T.: Female Employment and Fertility in Peninsular Malaysia: The Maternal Role Incompatibility Hypothesis Reconsidered. *Demography* 18: 549-75, 1981.

Oppenheimer, V.K.: *Work and the Family: A Study in Social Demography*. New York, Academic Press, 1982.

Oppenheimer, V.K.: *The Female Labor Force in the United States*. Berkeley, University of California Press, 1970.

Pampel, F.C. and Tanaka, K.: Economic Development and Female Labor Force Participation. *Social Forces* 64: 599-619, 1986.

Park, S.I.: Earnings Differential between Male and Female, and Problems in Female Labor Market. In *Wage Structure of Korean Economy*, ed. Park, S.I. and Park, H.K., Seoul, Korea Development Institute, 1984.

Presser, H.B. and Baldwin, W.: Child Care as a Constraint on Employment: Prevalence, Correlates and Bearing on the Work and Fertility *Nexus*. *American Journal of Sociology* 85: 1202-13, 1980.

Roos, P.: Gender and Work: *A Comparative Analysis of Industrial Societies*. Albany, State University of New York Press, 1985.

Rosenzweig, M.R.: Female Work Experience, Employment Status, and Birth Expectations: Sequential Decision-Making in the Philippines. *Demography* 13: 339-56, 1976.

Sewell, W., Hauser, R. and Wolf, W.: Sex, Schooling and Occupational Status. *American Journal of Sociology* 86: 551-83, 1980.

Smith-Lovin, L. and Tickamyer, A.: Nonrecursive Models of Labor Force Participation, Fertility Behavior and Sex Role *Attitudes. American Sociological Review* 43: 541-57, 1978.

Smock, A.: *Women's Education in Developing Countries: Opportunities and Outcomes*. New York, Praeger Publishers, 1981.

Sorensen, A.: Women's Employment Pattern after Marriage. *Journal of Marriage and the Family* 45: 311-21, 1983.

Standing, G.: Education and Female Participation in the Labor Force. *International Labor Review* 114: 281-97, 1976.

Standing, G. and Sheehan, G.: *Labor Force Participation in Low-Income Countries*. Geneva, International Labor Office, 1978.

Stevens, G. and Boyd, M.: The Importance of Mother: Labor Force Participation and Intergenerational Mobility of Women. *Social Forces* 59: 186-99, 1980.

Stolzenberg, R. and Waite, L.: Age, Fertility Expectations and Plans for Employment. *American Sociological Review* 42: 769-83, 1977.

Sweet, J.A.: *Women in the Labor Force*. New York, Seminar Press, 1973.

Treiman, D. and Terrel, K.: Sex and the Process of Status Attainment. *American Sociological Review* 40: 174-200, 1975.

Vogel, S.et al: Maternal Employment and Perception of Sex Roles among College Students. *Developmental Psychology* 3: 384-91, 1970.

Waite, L.: Working Wives and the Family Life Cycle. *American Journal of Sociology* 86: 272-94, 1980.

Waite, L. and Stolzenberg, R.M.: Intended Childbearing and Labor Force Participation of Young Women. *American Sociological Review* 41: 235-51, 1976.

Wilensky, H.L.: Women's Work: Economic Growth, Ideology and Social Structure. *Industrial Relations* 7: 235-48, 1968.

Youssef, N.: *Women and Work in Developing Societies*. Berkely, Institute of International Studies, 1974.

Youssef, N.: Differential Labor Force Participation of Women in Latin American and Middle Eastern Countries: The Influence of Family Characteristics. *Social Forces* 51: 135-53, 1972.