

## DETERMINANTS OF PAID AND HOME EMPLOYMENT —Life Cycle Stage Perspective—

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In order to understand the employment behavior of women, it is necessary to consider a variety of complex factors. Historically, women have taken primary responsibility for housework and child-care, but this familial role often conflicts with their role as workers and career aspirations. This paper features analysis based on the theoretical framework developed by labor economists wherein women's work at home is considered a crucial factor in determining women's employment decisions (Becker, 1981). Employment behavior of Japanese married women is examined here in a life cycle context. It is assumed that work for the family business or for a women's own account is defined as home employment, as distinct from paid employment. Second, the family life cycle stage is considered to be a unique context in which women make decisions about how to participate in the labor force.

### (1) Home and paid employment

During the post-World War II period, employment opportunities for Japanese women have rapidly expanded in secondary and tertiary industries. One of the prominent phenomena is the massive influx of married women in the paid sector. Since the mid-1970s, there have been more married women than single women who work as paid employees. In Japan, a relatively large proportion of married women are still engaged as family works and self-employed workers. Almost all single women workers are paid employees, while family workers and self-employed female workers are almost always married women. Among married women working in non-agricultural

industries, home employment has consistently remained significant (Table 1).

Most studies on married women employment in Japan have primarily relied on the theoretical framework developed in the U. S. This model is based on the assumption of a dichotomous form of labor force participation: non-participation or participation. Although this assumption is plausible in the U.S. where the majority of working women are paid employees, it is unrealistic in Japan where a high proportion of women are still engaged in home employment (see Hill, 1983).

Home employment is different from paid employment for the following reasons. First, the family business, farm or site of handicraft production are located within or close to the household. Thus, a woman who works in a family business or on a farm may incur minimal, if any, time and money costs upon entering the labor force. Paid employment is associated with costs such as commuting time and child care components which are referred to as the transaction cost. Second, because of the close proximity of workplace and home, role conflicts are substantially reduced. Home workers can combine household responsibilities and economic activity more easily than paid employees whose workplace is distinct from the household. Third, the organization of work is largely informal in home employment and therefore, home workers may have more flexible working schedules than paid employees who are likely to be subject to fixed working schedules. In addition, working in a family business, home handicraft production or other form of self-employment has been a traditionally accepted form of employment for Japanese married women. Thus, in this study, we analyze women's employment behavior in terms of a trichotomous decision: paid employment, home employment, and non-participation.<sup>(1)</sup>

## **(2) Life cycle stage as familial context**

In analyzing home and paid employment as alternative forms of employment, this study aims to examine employment patterns of married women in a life cycle context. Marriage, birth and the

Table 1. Changing Employment Rates of Married Women with Spouse  
by Industry and Sector

	1960	1965	1970	1975	1980	1985
Total <sup>a</sup>	46.4%	48.0%	48.0%	44.7%	48.5%	50.2%
Agriculture	28.0	22.2	14.9	9.9	7.9	6.5
Non-Agriculture	18.4	25.9	33.1	34.8	40.6	43.7
home employment	9.6	11.8	14.8	13.5	14.5	14.0
paid employment	8.8	14.1	18.3	21.3	26.1	29.6

Note 1) a : unemployment rates are excluded.

2) home employment is self-employed (including home handicraft work) and family work.

Source: Population Census of Japan for 1960 and 1965.

"Labor Force Survey" for 1970, 1975 and 1980.

This table is cited from "Female Labor Today", published by Ministry of Labor, 1987.

subsequent decline of child-care responsibilities significantly influence women's employment behavior.

Previous studies on married women's employment consistently indicate that presence and age of children at home are important factors determining their economic activities: women with preschool age children show the lowest participation rates compared to women in other life stages during their working years (see Kupinsky, 1977; Tanaka, 1989). In this study, each family life cycle stage is considered to be a unique context in which women make decisions about their participation in the labor force. Participation patterns are expected to differ across the stages of the life cycle. The determinants of women's employment behavior are examined at each stage and the observed patterns are compared across stages.

In this analysis, four life cycle stages are defined as follows:

Stage 1 : the period between marriage and the birth of the first child.

Stage 2 : the stage when preschool children are present.

Stage 3 : the stage when all children have reached school age, but still live at home as dependents.

Stage 4 : The stage when all children have attained age 18 or become independent.

This paper is organized as follows. The next section features the analytical model used in this study. Then, after describing the data used for this analysis, variable measurements and appropriate analytical methods, the results of this analysis are reported. Finally, the summary of the findings and discussion is presented.

## **ANALYTICAL MODEL**

Previous Japanese studies have been conducted primarily within the framework of female labor supply theory (Furugori, 1981; Hill, 1983 and 1984; Sano, 1972 and 1981; Shimada and Higuchi, 1985; Umetani, 1972). With the exception of Hill, most of these studies did not consider home and paid employment simultaneously as

alternative forms of employment. Although employment patterns are expected to differ between these two forms within a given life cycle stage, how different they are remains uncertain since few studies have been conducted on home employment.

Explanatory variables are as follows: (a) economic variables (wage rates, and family income-assets), (b) attitudinal variables (education, educational difference between husband and wife, and work experience), and (c) demographic variables (the number of children, age of the youngest child, age at marriage, and age). In addition, (d) control variables, the type of household and the size of demand for labor, are introduced into the equations.

**(a) Economic variables**

Basic economic theory of female labor supply specifies two major variables as determinants of married women's employment: women's wage rate and family income/assets.<sup>(2)</sup> In the familial context, women divide their time among leisure, market work and home work in order to maximize the benefits for the family. An increase in family income/assets increases the demand for leisure and therefore decreases the demand for the wife's market work. In other words, a decrease in family income increases the economic pressure to work for additional income. Therefore, the husband's income and non-labor income such as wealth and assets have a negative effect on the wife's market work (income effect).

At the same time, the increase in the wife's wage rate in the market increases the opportunity cost of foregone earnings and therefore the wife is more likely to seek employment (wage effect). The recent increase in women's employment activity is attributed to the wage effect exceeding the income effect. This basic model has been corroborated in numerous empirical studies (Cain, 1966; Bowen and Finegan, 1969; Gronau, 1977; Heckman, 1974 and 1978; Mincer, 1985, see Smith, 1980).

Family income and wage rates are expected, however, to interact with presence or absence of small children (Lehrer and Nerlove, 1980; Waite, 1980). Since young children are more time demanding,

but less expensive than school-aged children, a smaller increase in family income is enough for a mother with preschool children to withdraw from the labor market. On the other hand, a higher increase in wage rates is necessary to induce her to work outside the household since child care costs are expensive. Therefore, the effect of family income will be greater and the effect of wife's wage rate will be smaller in the stage where preschool children are present than in the other stages.

**(b) Attitudinal variables**

Within the framework of female labor supply theory, education is primarily viewed as human capital investment for a market return, and therefore is expected to have a positive effect on women's propensity to work. However, the relation of education to women's employment is not necessarily straightforward. First of all, education is related not only to the wage rate, but also to family income. Education is a resource in the marriage market, and women with higher education tend to marry men with higher education who are more likely to earn higher wages. Thus, education is also negatively related to employment through family income (income effect).

The net effect of education is, then, the sum of the following two countervailing factors: quality of child care (Hill and Stafford, 1974; Leibowitz, 1975) and career orientation (Jusenius, 1977; Waite, 1980). Leibowitz (1975) argues that women with higher educational attainment provide better quality of child care, thus explaining their greater withdrawal rate from the labor force when small children are present. The types and quality of child care available in the market might be less acceptable substitutes for the care of children of better educated women.

The other factor, career orientation, is presumably associated with educational level. Occupations demanding a high skill level are likely to require continuous maintenance and updating of knowledge and skills, and those who meet these requirements in these occupations are highly rewarded, while those whose skills have depreciated because of discontinuous labor force participation are substantially

penalized (Jusenius, 1977). Highly educated women are more likely to pursue their career in professional and technical occupations which demand a high level of skills and thus, are more likely to stay in the labor market even during the child-rearing period (Waite, 1980). Thus, the net effect of education after controlling for wage rates and family income is the sum of these two countervailing factors. The negative net effect of education indicates that education is associated with the quality of child care more than with career orientation.

The negative relationship between education and Japanese women's employment indicates that job opportunities open to highly educated women in Japan are still limited. The job opportunities in the home sector are not structured along the career lines associated with higher education. Therefore, highly educated women are less likely to work in this sector.

A difference in educational attainment between wife and husband is expected to capture the relative cost of their time in home production (Leibowitz, 1975 ; Osawa, 1984). The relative productivity in home production influences the wife's allocation of time between home and market, in that the wife tends to allocate her time more to home production than market production if her husband acquires a much higher education than she. In other words, the educational difference between husband and wife indicates the tendency of the couple towards the division of labor between them (Lehrer and Nerlove, 1980). If so, the difference of educational attainment between husband and wife is expected to have a negative effect on paid employment of women and its effect is largest at the stage with preschool age children.

Finally, experience in one life cycle stage has an important effect on activities in subsequent stages (Mincer and Polachek, 1974 ; Waite, 1980). Especially, work experience in the previous stage will be positively related to women's propensity to work. When family income and wage rates are held constant, past work experience is expected to reflect attitudes toward economic activities.

**(c) Demographic variables**

In previous studies on the U. S., the negative effect of the number of children and the positive effect of the age of children on the mother's employment probability are well established (see Kupinsky, 1977 and Sweet, 1980 for a review of the literature on this subject). As children grow, their demand for time and intensive care from the mother decreases. As the number of children increases, the demand for household production increases.

However, closer examination shows that the relationship between the number of children and employment becomes positive when children reach adolescent ages (Lehrer and Nerlove, 1980; Oppenheimer, 1982). Oppenheimer (1982) argues that the number of children present affects not only the time demands on the mother, but also increases the economic pressures to work. As children grow, they become less time demanding, but more expensive. Consequently, in the stage when all children reach school age, the relationship between the number of children and mother's employment probability becomes positive. Based on this argument, the number of children is hypothesized to have a negative effect on mother's work in the stage with preschool age children and to have a positive effect in the stage with school age children.

The timing of entry into marriage and of movement through the life course may influence the wife's labor force participation behavior (Elder and Rockwell, 1976; Waite, 1980; Lehrer and Nerlove, 1980). Later transition through the life course appears to be negatively related to women's propensity to work, especially when preschool and school age children are present. (Waite 1980). Those who delay marriage and parenthood may accumulate assets which enable them to allocate all of the wife's time to home work after the first birth, if they choose to do so. Late childbearers may also space children closely to complete their families before they become "too old" (Rindfuss and Bumpass, 1978). Close spacing of births makes the wife's activity outside the household difficult and costly when children are young.



#### (d) Control variables

In addition, the type of household and the size of demand for labor are controlled in this analysis. Type of household is defined by the employment status of the household head and consists of two categories: self-employed and employee households. The female labor force participation rates of self-employed households are consistently higher than those of employee households, although the participation rate of this latter group has been increasing in recent decades. During the 1970s, labor force participation rates (LFPRs) among women from self-employed households were about 60%, while LEPRs among women from employee-households were 40% (Ministry of Labor, 1981). This difference in LFPRs is because only women in self-employed households have the opportunity to work as family workers. Wives of self-employed households are often expected to work for the family business since this is traditionally a part of the wife's role (Umemura, 1971; Iga, 1978; Shimada et al., 1981). Therefore, it is necessary to control for differential opportunity to work in the home sector by type of household.

The effect of the size of demand for labor on women's employment has been well studied by economists (Long, 1958; Mincer, 1966; Cain, 1966; Bowen and Finegan, 1969; Furugori, 1980; Shimada et al., 1981). There are two hypotheses related to the size of demand for labor on women's employment. One is the "discouraged worker effect" which occurs when workers are discouraged and withdraw from the labor as the labor demand declines. The other is the "additional worker effect" when marginally attached workers enter the labor force to support declining family income in a recession period. Empirically, women tend to be discouraged in seeking employment as job availability declines. Thus, the size of demand for labor in local labor markets is also controlled in this analysis.

## DATA AND METHOD

### *Data*

The data set used for this study was obtained from an Occupational Mobility Survey in the Tokyo Metropolitan Area, which was sponsored by the National Institute for Employment and Vocational Research. In this study, only currently married women are included in the sample. The sample will be further restricted to women whose husbands are the primary earners, since husband's income was reported only if he was the primary earner in the family. Women with missing values for any of the relevant variables are also excluded. The resulting sample includes 918 women.

### *Measurement*

Measurement of variables is relatively straightforward, except for the variable of woman's wage potential. Since women who are out of the labor force are not remunerated for their labor, it is necessary to predict their expected wages using the information of women who are in the labor force. This causes a selection bias (Gronau, 1974; Heckman, 1974 and 1978). Heckman's two-step estimation method is often used in order to correct this bias.<sup>(3)</sup>

The hourly wage rates for married women are estimated by using education, total years worked in the past and its squared term, and a set of dummy variables for the city size in which respondents live. Past work experience is measured by the proportion of years in the labor force in the previous stage of the life cycle. Logged husband's income is used instead of the actual income. Household ownership is used as a proxy for assets and wealth of the family (Hill, 1983; Osawa, 1984 and 1986). The ratio of the number of applicants for jobs to the number of job openings is used as the indicator of the size of demand for labor (Shimada and Higuchi, 1985). This ratio is available for each prefecture. The type of household is measured as a dummy variable and employee household is coded as the reference group.

*Analytical Procedure*

Since the participation variable is a nominal measure with three categories, a multinomial logit model is estimated using a maximum likelihood procedure (Aldrich and Nelson, 1984). The general model takes the following form:

$$\text{Ln} \frac{P(Y_i=j)}{P(Y_i=J)} = b_k x_k$$

for  $j=1 \dots \dots \dots J-1$

$Y$ =dependent variable

$i$ =ith category of the dependent variable

$b_k$ =parameter of kth independent variable

$x_k$ =kth independent variable

The outcome  $J$  serves as baseline for comparison of the other alternative. The number of parameters obtained in this procedure is  $K(J-1)$ . In this study, the probability of being a non-participant is treated as a baseline.

The signs of the logit coefficients  $b_k$  are not sufficient to determine the direction of change of the corresponding probabilities, but rather indicate their ratios (that is, the odds of one event relative to another). If  $b_k$  is positive, then increases in the independent variable will increase the likelihood of observing alternative  $j$  rather than alternative  $J$  only in terms of relative probabilities. Therefore,  $b_k$  tells only of relative changes and only permits comparison of one pair of alternatives at a time.

**RESULTS**

The means of independent variables and the distribution of employment forms are shown in Table 2. Women with preschool children are more likely to stay out of the labor force, especially out of the paid sector. Existing social and familial conditions make

it difficult for Japanese women to combine childcare responsibilities and employment outside the household. According to the Basic Survey of Social Life, husbands spend little time doing household work regardless of their wives' working status (Prime Minister's Office, 1982). Domestic responsibilities rest fully on the wife's shoulders even when she shares a portion of the family's economic responsibilities.

Correlations between variables are shown in Table 3. Women's education is positively related to both the wage rate and husband's income, except in stage 1. In the stage between marriage and the birth of the first child, education is positively related to the wage rate, but it has no significant relationship with husband's income. This lack of correlation in this stage might be due to two factors. One is that those whose husband's earnings are relatively low tend to delay having children. The other is the wage system in Japan. That is, wage differences by educational level are relatively small upon entry into the labor market.

The results of the trichotomous logit analysis are presented in Tables 4 and 5. Table 4 shows a joint impact of each explanatory variable on the dependent variable. In general, this model does not explain the employment behavior of women in the stage between marriage and the first birth. Only the wage rate is significantly related to employment decisions. Several explanations can be offered. First of all, the sample size is small: 72. Second, women in this stage are more heterogeneous in their characteristics than those in other stages. The average age of these women is slightly older than that in stage 2 and its standard deviation is more than double that of those in other stage. Because rapid economic and social changes have occurred in Japan, the decision making process regarding how to participate in the labor force would differ greatly between childless older women and younger women who have just married. In addition, both women who expect a first birth soon and those who are attempting to postpone pregnancy to a latter time are included in this stage. These heterogeneities are aggravated by the

**Table 2. Means of Explanatory Variables and Distribution of Employment Form by Life Cycle Stage**

Variables:	Stage 1	Stage 2	Stage 3	Stage 4
<b>(a) Economic variables</b>				
Wage Rate	5.890 ( .180)	5.815 ( .180)	5.816 ( .235)	5.767 ( .217)
Logged Hus. Income	14.439 ( .332)	14.587 ( .386)	14.757 ( .446)	14.754 ( .583)
House Owner	.292 ( .458)	.469 ( .500)	.692 ( .463)	.806 ( .397)
<b>(b) Attitudinal variables</b>				
Education	11.778 ( 1.966)	11.681 ( 1.929)	11.240 ( 1.871)	10.819 ( 1.712)
Educ. Diff. (Hus-Wife's)	.750 ( 2.354)	1.084 ( 2.091)	.962 ( 2.048)	.938 ( 1.983)
Work Experience	.526 ( .355)	.169 ( .344)	.206 ( .370)	.290 ( .398)
<b>(c) Demographic variables</b>				
Children	NA	1.870 ( .766)	2.096 ( .731)	2.597 ( 1.155)
Age of Youngest	NA	2.627 ( 1.843)	11.610 ( 3.327)	22.347 ( 3.599)
Age at Marriage	25.403 ( 4.912)	23.870 ( 2.754)	23.839 ( 2.789)	22.951 ( 2.711)
Age	33.014 (10.062)	30.880 ( 4.582)	40.990 ( 4.697)	51.562 ( 4.831)
<b>Distribution of Employment Form:</b>				
Non-participation	50.0%	81.1%	58.7%	57.9%
Paid employment	38.9	7.4	21.3	20.0
Home employment	11.1	11.5	19.9	22.1
(N)	(72)	(407)	(291)	(144)

Note: Standard deviations of means are in parentheses.

Control variables are not listed in this and the following tables.

Table 3. Correlations among Explanatory Variables by Stage

	<i>Stage 1</i>									
<i>Stage 2</i>	Wage	HusInc	Owner	Educ	EdDiff	WkExp	Children	Youngest	MarAge	Age
Wage		.067	-.180	.342***	-.202*	.385***	NA	NA	.235**	.188
HusInc	.114**		.039	-.075	.269**	.067	NA	NA	-.247	.035
Owner	-.105**	.262***		-.115	-.127	-.035	NA	NA	.147	.305***
Educ	.404***	.250***	-.003		-.277**	-.091	NA	NA	-.023	-.291
EdDiff	-.111**	.121**	.012	-.203***		-.134	NA	NA	-.331***	-.172
WkExp	.327	-.033	-.033	.025	-.096*		NA	NA	.157	-.107
Children	-.106**	.196***	.179***	-.210***	-.048	-.011		NA	NA	NA
Youngest	-.028	.087*	.148***	-.092*	.045	.029	.114**		NA	NA
MarAge	.388***	.062	.002	.154***	.022	.039	-.140***	.080		.471***
Age	.219***	.221***	.202***	-.029	.001	.042	.378***	.538***	.588***	

(to continue)

Table 3. — Continued

	Stage 3									
Stage 4	Wage	HusInc	Owner	Educ	EdDiff	WkExp	Children	Youngest	MarAge	Age
Wage	.100*	.523***	-.001	-.273***	.408***	-.220***	-.027	.108*	-.008	
HusInc	.122	.310***	.272***	.254***	.036	-.015	.064	-.024	.040	
Owner	-.102	.240***	-.006	-.020	.051	.009	.116	-.054	.118	
Educ	.464***	.430***	-.006	-.177***	.031	-.173	-.058	.087	-.074	
EdDiff	-.032	.166**	.079	-.057	-.175***	-.012	.106*	-.027	-.001	
WkExp	.322***	.057	-.013	-.018	-.094	.014	-.037	.028	.003	
Children	-.110	-.087	.168***	-.096	-.064	-.121	.065	-.169***	.212***	
Youngest	-.133	-.105	.033	-.051	.174**	-.207**	.010	-.060	.641***	
MarAge	.008	.111	-.169**	-.039	-.049	-.236***	-.175**		.419***	
Age	.196**	-.111	.089	-.062	.057	-.291**	.600***	.243***		

\*p<.1, \*\*p<.05, and \*\*\*p<.01

**Table 4. Chi-Square Test for Independent Variables  
(at df=2)**

Variables:	Stage 1	Stage 2	Stage 3	Stage 4
Wage Rate	4.96*	10.65***	17.35***	14.54***
Logged Hus. Income	2.35	6.85**	3.05	2.36
House Owner	4.00	.73	3.65	1.68
Education	.82	15.22***	13.16***	1.54
Educ. Diff. (Hus-Wife's)	.95	9.63***	.74	.81
Work Experience	2.05	16.32***	29.95***	21.12***
Children	NA	5.62*	5.41*	.14
Age of Youngest	NA	1.71	4.10	1.47
Age at Marriage	2.47	7.02**	.72	2.96
Age	2.89	10.55***	4.76*	3.15

Note: \*p<.1, \*\*p<.05, \*\*\*p<.01



**Table 5. Maximum Likelihood Logit Estimates of the Trichotomous Participation Model at Each Life Cycle Stage**

Variable:	Stage 1		Stage 2		Stage 3		Stage 4	
	Paid	Home	Paid	Home	Paid	Home	Paid	Home
Intercept	-3.612 (18.73)	-140.7* (83.32)	12.262 (13.91)	-30.528*** (11.43)	-3.447 (9.26)	-31.376*** (11.52)	-25.143* (15.17)	-43.113** (20.72)
Wage Rate	4.375 (3.583)	23.706* (12.18)	1.614 (1.802)	5.784*** (1.803)	3.700*** (1.147)	5.185*** (1.558)	7.744*** (2.307)	9.364*** (2.962)
L. Hus. Inc.	-1.222 (1.143)	2.122 (2.653)	-1.896** (.752)	.261 (.538)	-.603 (.534)	.478 (.591)	-1.047 (.682)	-.609 (.917)
Home Owner	-1.719* (.888)	-1.154 (1.586)	-.110 (.455)	.302 (.387)	-.570 (.371)	.331 (.564)	.214 (.747)	1.524 (1.222)
Education	.201 (.224)	.148 (.455)	-.097 (.145)	-.512*** (.132)	-.426*** (.126)	-.361** (.156)	-.235 (.247)	-.402 (.354)
Educ. Diff. (Hus-Wife)	-.154 (.160)	-.105 (.365)	-.100 (.114)	-.311*** (.102)	-.084 (.098)	-.033 (.126)	.057 (.153)	.205 (.228)
Work Exp.	1.760 (1.265)	-.191 (2.442)	2.119*** (.549)	.854* (.488)	1.661** (.702)	3.674*** (.681)	3.163*** (1.164)	6.409*** (1.395)
Children		NA	-.721* (.414)	.449 (.311)	.602** (.272)	.560 (.393)	-.038 (.403)	-.223 (.593)
Youngest		NA	-.151 (.150)	.095 (.133)	.109 (.081)	.212* (.116)	.078 (.145)	.258 (.214)
Age at Mar.	-.106 (.094)	-.527 (.404)	-.354*** (.134)	-.047 (.101)	-.074 (.089)	-.011 (.116)	.185 (.187)	.401* (.256)
Age	.081 (.051)	-.030 (.102)	.280*** (.089)	-.039 (.082)	-.110* (.067)	-.176* (.097)	-.204 (.139)	-.296 (.202)

Note: Standard errors are in parentheses.

\* $p < .1$ , \*\* $p < .05$ , \*\*\* $p < .01$

**Table 6. T-Test for Difference between Coefficients:  
Wage Rate and Work Experience  
(T statistics)**

(1) between coefficients of paid and home employment  
within the stage:

	Wage Rate	Work Experience
Stage 2	2.313***	2.436***
Stage 3	1.086	2.911***
Stage 4	0.610	2.526***

(2) across stages:

	Wage Rate		Work Experience	
	Paid	Home	Paid	Home
Stages 2-3	1.331	.351	.380	4.904***
Stages 3-4	2.534***	1.998***	1.726**	3.185***
Stages 2-4	3.171***	1.678**	1.409	7.848***

\*p<.1, \*\*p<.05, \*\*\*p<.01

small size of the sample. In the following part of this section, then, employment patterns are examined only in and between stages after childbirth.

The model specified in this study is relatively powerful in explaining women's employment in both stages 2 and 3, that is, for women whose children are at home as dependents. For women whose children have reached adult-age, only wage rate and work experience are significant. These two variables are significantly related to employment in every stage after childbirth. Education, women's age and the number of children have significant effects on employment in both stages 2 and 3, while the difference in educational attainment between husband and wife, husband's income and age at marriage are only in stage 2.

Table 5 shows the logit coefficients indicating the effect of the explanatory variables in differentiating each form of employment from non-participation. Wage rates are positively related to the probabilities of working both in the paid and home sectors. The effects of the wage rate on paid employment and home employment are significantly different between stages 3 and 4, and between stages 2 and 4 respectively (see Table 6). The difference in their effects between stages 2 and 3 is not significant for either paid or home employment. Women respond more readily to increases in wage rates as household responsibilities decline, especially after children have reached adulthood.

The difference in the effect of wage rates between paid and home employment is significant only in stage 2. In this stage, the wage rate has no significant effect on paid employment, while it exerts a positive effect on home employment. This no effect on the probability of working in the paid sector supports the argument that higher wage rates are required to draw the mother with preschool children into the formal sector. At the same time, the husband's income is negatively related only to the probability of working in the paid sector in stage 2. A small increase in the husband's income is enough to pull women out of the paid sector when preschool age

children are present.

Home ownership is used as a proxy for non-earnings assets and wealth for the family, but it has a non-significant effect on employment. This is because home ownership also creates a demand for cash income to pay for the loans (Yashiro, 1983). Better measurement of non-earnings assets is necessary in future studies.

Education, in general, is negatively related to the employment of Japanese women when children are present at home as dependents. If the net effect of education after controlling wage rates and husband's income indicates the relative degree of quality of child-care and career orientation, then its negative effect tells us that education is associated with quality of child-care more strongly than with career orientation for Japanese women. In examining the life cycle employment patterns by cohort and educational level, Tanaka (1989) has reported that at the stage with school-age children, a massive increase in participation rates in paid employment was observed only among women with compulsory education. Paid employment opportunities for women who wish to return to work after child-care responsibility declines has increased over time, but these are jobs which do not require higher education and do not hold prospects for career advancement in the future. It is plausible for highly educated women to value their role as educators of their children more than working at a dead-end jobs.

The non-significant effect of education on paid employment in the stage with preschool children is unexpected. This finding suggests that education is equally associated with quality of child-care and career orientation. Two speculations can be provided. One is that quality of child-care associated with education in Japan means children's achievement at school more than their physical and psychological development at preschool stage. The other is that relationship between education and paid employment has been changing among younger cohorts. Relationships among education, employment, presence and age of children are complicated (Waite, 1980). Further examination is necessary in the future studies.

Turning to the effect of educational differences between husbands and wives, the impact is significant only on home employment among women with preschool children. A wife whose husband's educational attainment is much greater than hers is more likely to stay out of the home sector: the division of labor between husband and wife is greater when the husband's market productivity is much greater than hers. Educational differences, however, do not significantly differentiate between the probabilities to work in the paid sector and to stay home.

Work experience in the previous stage is consistently positively related to employment probability in the subsequent stage. Its effect is stronger in stage 4 than in stage 3, and in these stages, it is more strongly related to the probability of working in the home sector than in the paid sector (see Table 6). The impact in stage 2 is somewhat different. Past work experience is positively related, but its effect is stronger on paid employment than on home employment. Those who were more active in the labor force during the childless stage are more likely to be in the paid sector rather than staying at home during the subsequent stage with small children. This finding suggests that work experience might be associated with the cultivation of a positive attitude towards employment activity.

As the hypotheses specified, the number of children negatively affects paid employment in stage 2 and has a positive effect in stage 3. Women with more children are more likely to stay home rather than to work as paid employees when their children are of preschool age. On the other hand, in the stage when all children reached school age, women are more likely to work in the paid sector than to stay at home. Because of increasing educational attainment for children, expenditures for children's education have increased and have consumed a greater proportion of the total Japanese family budget (Brinton, 1984).

The wife's age at marriage has a significant negative effect on paid employment in stage 2, while her present age is positive in the same stage. Women who delay their marriage are less likely to

continue working in the paid sector after bearing children. They are indeed in a hurry to complete their family formation before "it is too late". When age at marriage is held constant, women's age indicates the duration of marriage. The positive effect of age on the probability of working in the paid sector suggests that women who want to keep working in the paid sector tend to delay childbearing until they establish their status in the workplace.

## SUMMARY AND DISCUSSION

The goal of this study is to examine Japanese married women's employment behavior across life cycle stages by treating paid and home employment as distinctive alternative forms of participation. The major findings of this study are as follows. First, it is clear from the results of this analysis that employment patterns differ across stages of the life cycle. Various important variables are differently related to women's employment in different life cycle stages. For example, wage rates are positively related to women's employment in both the paid and home sectors, but their effect is significantly larger in the stage when children become independent than in the stages with dependent children.

The negative effect of husband's income on wife's paid employment is expected to be stronger in the stage with preschool children than in other stages of life cycle. In the data used for this analysis, it is only in this stage that this negative effect is significant. Furthermore, the number of children has a negative effect on mother's paid employment in the stage with preschool children, while it has a positive effect in the stage when school age children are present. These findings support the argument that a woman's family life cycle stage constitutes a unique familial context which influences women's decisions about participating in the labor force.

Second, the results of this study suggest that home and paid employment are distinct forms of employment. In general, the model specified in this study fits mostly for women in the stage with

preschool children, wherein the contrasts between paid and home employment are greatest. Explanatory variables are differently related to these two forms of employment in this stage. Among economic variables, the wage rate is only significantly related to the probability to work in the home sector, while husband's income is only related to the probability of paid employment.

With regards to attitudinal variables, education and educational difference between husband and wife have significant effects only on home employment. On the other hand, the number of children, age at marriage and woman's age are only related to the probability to work in the paid sector. Past work experience is the only variable which is positively related to both home and paid employment, but the degree of its effect significantly differs for these two forms of employment. These findings suggest that differences between home and paid employment need to be more carefully considered in future studies.

Third, formal education is, in general, associated more strongly with quality of child-care than with career orientation for Japanese women. The net effect of education, controlling for wage rates and husband's income, is negative whenever its effect is significant. This study reveals that in Japan, education is not a basis for a long-term career, and is more strongly associated with childbearing and the role of being an educator for children.

Some evidence in the U.S. suggests that only recently has education become strongly associated with career orientation. The gross correlation between education and employment was only weakly positive in the 1950s and 1960s, but it became strongly positive in the 1970s (Oppenheimer, 1982). Furthermore, prior to the 1970s, education seems to have had a non-significant or, if significant, a negative effect on women's employment, when wage potential was held constant (Waite, 1976).

Regarding the negative net effect of education on American women's employment during the 1950s, Waite (1976) argues that during this period, societal expectations for mothers to stay home

with young children were enormous. Since highly educated mothers have higher expectations about the quality of child-care, they are more likely to withdraw from the labor market when children are present. Although the normative structure at the societal level clearly influences women's behavior, it cannot explain the evident changes over time. Growing job opportunities in the U.S. have changed American women's career expectations and they are now more concerned with work outside the household. Consequently, in the U.S. education has become a market resource and is thus strongly associated with career orientation. Career orientation associated with education has been growing over time among American women. Although it is important to understand the societal normative structure in order to explain women's employment at a given point in time, it is more crucial to consider the opportunity structure for women outside the household.

In Japan, middle-aged and older married women have increasingly been pulled into paid sector since the 1960s. However, they are most likely less educated women (Tanaka, 1989). Because of the severe shortage of unskilled youth labor, caused by the prolonged schooling and decline of fertility, the demand for the labor of married women with less education has sharply increased. Although the proportion of married women among female paid employees has continuously increased, their opportunities are usually low-paid and unstable dead-end jobs. Thus, the negative relation between education and employment observed in Japan needs to be understood in the larger social and economic context of gender discrimination.

Fourth, the timing of transitions to marriage and motherhood is closely related to women's employment behavior after childbirth. In this study, women who were active in the labor force during the interval between marriage and the birth of the first child are more likely to work in the paid sector when preschool age children are present. Although those who postponed their marriage to later ages are more likely to withdraw from the labor market after childbirth, the delay of family formation after marriage appears to be a



strategy for women to keep working in the paid sector in the stage with preschool children. That is, as a strategy for career formation, it appears to be advantageous for women to have met marriage partners at relatively younger ages, and to have gained work experience prior to bearing children.

However, in Japan, marriage is oriented towards formation of a family with children. Young women are encouraged to postpone their marriage until they can afford to start having children. The average age at the first marriage was 24.7 for women (and 27.0 for men) in 1975, which is relatively later compared to other advanced industrialized nations. Once married, however, couples start having children rather quickly. Previous studies show that even though effective birth control methods are available in Japan, few couples use them before the first birth (Morgan, Rindfuss and Parnell, 1984). Thus, the strategy for career formation indicated in this study appears to be inconsistent with the general patterns observed in Japanese society.

This study suggests the need for further research in a number of areas. First, replication of this study using more recent data is necessary in order to understand the changes in the way for women to combine family and work. Data used in this study were collected in 1975, and since then, fertility has further dropped, and technological development has transformed office organization.

Second, in this study, home and paid employment are considered to be distinctive forms of employment mainly based on the different location of workplace. However, it is obvious that home or paid employment is not homogeneous. For example, part-time and full-time paid work, which are categorized as paid employment, are quite different. In future studies, it is necessary to fully examine the characteristics of various emerging employment forms, part-time workers, flex-time workers, dispatched workers, etc.

Third, comparisons of the patterns observed in Japan with those in other rapidly developing Asian countries such as Korea and Taiwan may provide further insight in understanding how economic

development is related to women's changes in family and worklife. Although previous Japanese studies tend to explicitly and implicitly utilize Western developed nations as a basis for comparison, Japanese society has more similarities in terms of historical and cultural background with these Asian countries than with Western nations. Comparative studies among Asian countries may provide new insights on the processes and consequences of gender stratification.

### Notes

- (1) Hill (1983) has made a great contribution to the research on Japanese women's labor force participation behavior by distinguishing between the paid and home sectors, but her empirical study has a crucial problem in operationalizing the home sector. That is, the self-employed and home handicraft workers are excluded from the sample and only family workers are considered as workers in the home sector. By definition, family workers are those who work for family businesses run by the household heads (often their husbands), and this employment option is not open to wives whose husbands are paid employees: they have only two alternatives, non-participation or paid employment. This model specification is problematic since family workers are contrasted to and compared with non-participants, the vast majority of whom do not have the option to be family workers. In this study, home handicraft workers and self-employed workers are also considered to be employed in the home sector.

Self-employed workers are considered to be workers in the home sector for the following reasons. Examination of the commuting time of self-employed women shows that more than 80% of them report zero-commuting time, that is, the workplace is at the household. Furthermore, according to the 1980 Japanese Census more than 80% of self-employed women do not hire any employees. As Jaffe and Azumi (1960) claim, family businesses in Japan are characterized by their small-scale and reliance on family labor.

Although male household heads who run the small family businesses can expect their wives to work as family workers, female self-employed workers cannot expect their husbands to work for them and consequently, the scale of their business is typically characterized as marginal. Since most self-employed women work by themselves on a very small scale at home, they can be included as workers in the home sector.

- (2) Mincer (1985) concisely summarizes the basic argument of female labor supply

theory within the framework of the new home economics as follows:

The basic economic model which is the starting point of economists' analyses of women's labor supply centers on the family context of work and leisure decisions. Family members are seen to divide their time among leisure, market work, and home work. Historically, women have had primary responsibility in household production, including especially child care. While an increase in family income increases the demand for leisure, the distribution of work between home and market depends on the individual's relative productivities in the two sectors: the greater the market wage relative to home productivity the greater the shift to market work. (p. S7)

- (3) See Nelson (1984) for a critique of this method and potential distortions of estimations.

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## ライフサイクル就業パターンの決定要因

〈要 約〉

田 中 かず子

急速に増大する女性の労働参加を説明するため、女性の就業行動に関する研究は、特に労働経済学者を中心に積み重ねられてきた。本研究は日本における既婚女性の就業行動を規定する要因を考察することを目的とするが、本研究の特徴は次の二視点である。第一に、職住の場の関係を考慮する。歴史的に女性は性別役割分業のもとに育児や家事一般に第一義的責任を負ってきたため、就業の場が居住の場と分離している場合には、役割葛藤に直面する。ほとんどの者が雇用者として働く西欧諸国とは異なり、日本では特に既婚女性の場合、かなりの者が家族従業者、内職者、自営業者として居住の場と重なりあった場で就業している。そこでこのような就業形態を、雇用就業とは異なる「ホーム就業」と規定し、この二つの就業形態を同時的に考察する。

第二に、ライフステージを、女性の就業行動を規定するユニークな家族コンテキストとみなす。これは、各々のライフステージにおいて、女性の就業パターンは異なるという仮説を設定するものである。女性の就業行動を理解するためには、家族の状況を明確に考慮する必要がある。就業行動を説明する決定要因をステージ毎に比較検討することにより、家族コンテキストの重要性を論じる。

分析には四つのライフステージを規定し、各々のステージにおいて雇用就業、ホーム就業、無就業という三つのカテゴリーをもつ就業形態を被説明変数とするロジット分析をおこなった。その結果、雇用就業とホーム就業とは異なる就業形態であることが支持され、さらに女性の就



業パターンを理解するためには、家族コンテキストを明確に把握する必要があることが示唆された。本分析では、これまで論じられてきた主要説明変数は、特に扶養家族として学齢期前の子供のいるステージと、学齢期の子供のみがいるステージの就業行動の説明に有力であることが判明した。賃金率と夫の収入をコントロールすると、女性の教育背景が就業に負の効果をもつことは、政策的にも注目すべきであろう。今後この領域での研究がさらに積み重ねられることが望まれる。