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Living Arrangements and Family Formation in Japan

Naoki Takayama

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Economic and Social Research Institute
Cabinet Office
Tokyo, Japan

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Naoki Takayama[a]

[a] Cabinet Office, Government of Japan

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Abstract

The decisions to leave home and to marry are critical decisions that are at the foundation of family formation with tradeoffs between the benefits from parental altruism and the advantages of marriage. This research presents a parsimonious heterogeneous agent macroeconomic model and uses large-scale micro data on Japan to study both issues jointly. This paper proposes three possible drivers in the mechanism: (1) the stronger economy of scale in Japan generated by high living cost, (2) the weak bargaining position of women on the living arrangement when they marry, and (3) the gender wage gap and the career interruption cost for women. The results suggest that high living cost discourage people to marry and live without parents and the bargaining structure encourage them to stay single and live with their own parents. The wage structure seems to have relatively weaker effects. In addition, the estimates on the preference suggest that individuals prefer not to live with parents-in-law and desire to leave parents' home, while marrying potential spouse is preferable.

Keywords: Leaving Home, Marriage, Gender Wage Gap, Career Interruption, Japan
JEL classifications: D13, E24, J12, J16, J22, J71

1. Introduction

Leaving home and marriage are critical decisions in the initial stage of family formation. When young adults leave their parents' home, they may enjoy freedom from their parents, but they also lose the benefit of parental altruism. However, when these young adults marry, they gain

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advantages, but they also pay the cost of commitment.

It is still unclear, however, what are the key determinants of the economic cost and benefit of leaving home and marriage in modern economies. Understanding the tradeoffs is crucial to study the mechanism of family formation and its macroeconomic implications. To do so, Japanese society has very interesting and somewhat unique characteristics. From age 25-44, around 30% of Japanese adults are single and living with their parents even after they finish their education. This allows us to jointly analyze the tradeoffs of leaving home and marrying.

This paper utilizes the large-scale micro data of the Employment Status Survey[1] in Japan and finds that college education causes a stark disparity between men's and women's behavior.

Table 1 shows that (1) there are more educated women than educated men, (2) many people live with parents even after marriage, (3) the marriage pattern is assortative, (4) substantially more couples live with husband's parents than wife's parents, and (5) educated women are more likely to be single and live with parents.

This paper proposes three possible drivers in the underlying mechanism behind the decision on the marital and living status: (1) the stronger economy of scale in Japan generated by high living cost, (2) the weak bargaining position of women on the living arrangement when they marry, and (3) the gender wage gap and the career interruption cost for women we can see from the figure 1.

The purpose of this paper is to quantify the contribution of those determinants of the cost and benefit structure when people consider leaving home and marrying. Specifically, the benefit from parental altruism and the advantages of marriage are impossible to directly observe.

[1] The estimates presented in this paper is computed under the sole responsibility of the author, based on the confidential anonymized data of the 2002 Employment Status Survey produced by the Statistics Bureau, the Ministry of Internal Affairs and Communications, the Government of Japan and provided by the National Statistics Center in Japan under the Statistics Act (Act No. 53 of May 23, 2007) in Japan.

Thus, this paper builds a heterogeneous agent macroeconomic model, and the key deep parameters of decisions on family formation are estimated through the method of moments.

The results suggest that high living cost discourage people to marry and live without parents and the bargaining structure encourage them to stay single and live with their own parents. The wage structure seems to have relatively weaker effects. In addition, the estimates on the preference suggest that individuals prefer not to live with parents-in-law and desire to leave parents' home, while marrying potential spouse is preferable.

This paper is related to three strands of literature. First, much empirical research has been conducted on the altruistic link in families. As Altonji et al. (1997) and Hayashi (1995) found, the existence of pure altruism is generally rejected for both the United States and Japan. Namely, resource allocation within a family may depend on the income distribution within the family. However, partial altruism may still have a significant effect and this possibility is considered in this paper. Second, the methodology of this paper is based on family macroeconomics literature. In particular, the strategy to test the hypotheses is similar to Regalia et al. (2010) who study the impact of change in the wage structure on marital status. Third, many sociologists pay attention to leaving home and marriage in Japanese society. Yamada (1999) points out that there are a number of rich young adults in Japan who are single and living with their parents, and he argues that this phenomenon may widen the gap between socioeconomic classes. In addition, Raymo and Iwasawa (2005) suggest that the larger decline of marriage among educated women compared to less educated women is because of improving economic independence of women in the labor market and continued dependence on men after marriage. Thus, women may avoid or delay marriage since they are increasingly independent and want to avoid such dependence on men. This paper contributes to the literature by providing a quantitative explanation of the mechanism of family formation in Japan.

The rest of this paper is organized as follows. In section 2, the model is introduced. Section 3 describes estimations and simulations. Section 4 concludes.

2. Model

In this section, we consider a parsimonious model in which the marital and living arrangements are jointly determined. Each individual lives two periods as young and old. Let the age a be y and o, respectively. When individuals are born, their gender g, levels of education e_g, and match qualities with their own parents θ_g^p are revealed. Those attributes are drawn randomly and unchanging for their entire life. Let q_g denotes (e_g, θ_g^p).

Young individual can participate in the matching mechanism with probability λ_g. In the mechanism, a single female with q_f randomly meets a single male who is a potential spouse with q_m. Then, the female draws the match qualities with the potential spouse θ_f^s and the parents-in-law θ_f^l and the male draws the match qualities θ_m^s and θ_f^l similarly. Let $(\theta_f^s, \theta_f^l, \theta_m^s, \theta_m^l)$ be Q.

Based on (q_f, q_m, Q), they decide to marry or not and whom they live with. Thus, their marital and living status can be one of the following five: single and living independently. (*SI*), single and living with own parents (*SP*), married and living independently (*MI*), married and living with own parents (*MO*), and married and living with parents-in-law (*ML*), as table 2 shows. After the marital and living status is determined, people work and consume. They maintain the marital and living status when they become old, so old people cannot go to the matching mechanism again and there is no divorce.

In the following, the detail of the above are presented from the intra-period utility, the choice of marital and living status, the matching process, to the equilibrium.

2.1. Period Utility

After the marital and living status is determined, individuals work and consume.

2.1.1 Staying Single

Suppose a single female does not get married in a period. She may live without or with her parents. If she lives independently, her period utility is

$$U_{fa}^{SI}(q_f, q_m, Q) = \frac{\left(w_{fae}^S\right)^{1-\sigma}}{1-\sigma},$$

where w is wage which depends on marital status, gender, age and education. In this case, she gets wage for single (S), female (f), her age (a) and her education (e).

If she lives with her parents, her period utility is

$$U_{fa}^{SP}(q_f, q_m, Q) = \frac{\left(\frac{w_{fae}^S}{\phi^{SP}}\right)^{1-\sigma}}{1-\sigma} + \theta_f^p.$$

This appears similar to the previous one, but there are two important differences. First, the economy of scale for singles living with parents is introduced by the equivalence scale ϕ^{SP}. Second, the match quality with her parent θ_f^p is added.[2] Single males gain similarly.[3]

2.1.2 Getting/Staying Married

For married couples, consumption is public between spouses. If a married female lives independently, she gains

$$U_{fa}^{MI}(q_f, q_m, Q) = \frac{\left(\frac{w_{fae}^S + w_{mae}^S}{\phi^{MI}}\right)^{1-\sigma}}{1-\sigma} + \theta_f^S$$

where ϕ^{MI} is the equivalence scale for married couples living independently, and her husband

[2] Note θ_f^p is included in q_f.

[3] Replace f by m.

gains the same except the match quality. The wife evaluates the match quality with her husband θ_f^S and the husband evaluates the match quality with his wife θ_m^S.

When a married couple live with husband's parents, the wife lives with her parents-in-law and gains

$$U_{fa}^{ML}(q_f, q_m, Q) = \frac{\left(\frac{w_{fae}^S + w_{mae}^S}{\phi^{MP}}\right)^{1-\sigma}}{1-\sigma} + \theta_f^s + \theta_f^l,$$

where ϕ^{MP} is the equivalence scale for married couples living with parents, and the husband lives with his own parents and gains

$$U_{ma}^{MO}(q_f, q_m, Q) = \frac{\left(\frac{w_{fae}^S + w_{mae}^S}{\phi^{MP}}\right)^{1-\sigma}}{1-\sigma} + \theta_f^s + \theta_f^p.$$

Those are similar to the one for the married couples living independently. The difference except ϕ is that in addition to the match quality with the spouse, she evaluates the match quality with her parents-in-law and he evaluates the match quality with his own parents.

As for a married couple live with wife's parents, vice versa.

Note as consumption is public within households, the utility is non-transferable between spouses and no spouse can compensate the other when they disagree.[4]

2.2 Choice of Marital and Living Status

The essential problem of the model is choosing the marital and living status X from {*SI*, *SP*, *MI*, *MO*, *ML*}. Since they do not change their marital and living status after they decide it, when a female with q_f meets a male with q_m and the match qualities between them Q are revealed, their value functions for each marital and living status can be written as

$$V_g^X(q_f, q_m, Q) = U_{gy}^X(q_f, q_m, Q) + \beta U_{go}^X(q_f, q_m, Q).$$

[4] This is crucial for the choice of marital and living status in the next subsection.

With this payoff structure, the decision process of the choice of marital and living status is depicted as in Figure 2. The first mover is the male. He can either propose to marry the female or leave. If he leaves, he and she stay single and each of them can separately chooses to live with or without their own parents. The subgame Γ_S corresponds to this separate decision. If he proposes, she can either accept it or leave. If she leaves, again he and she stay single and the subgame from this branch is identical to Γ_S. If she accepts, he chooses to live without parents, with his own parents, or with his parents-in-law. The crucial point is that the male cannot commit to the living arrangement when he proposes. He may say "we will never live with my parents" at first, but that promise may not be kept if he really likes his own parents.

2.3 Matching

Single females and single males meet in random matching mechanism. Let $\pi_g^O\left(B_{q_{g^*}}, B_Q\right)$ be the probability measure of an event a single participating in the mechanism meets a single with $q_{g^*} \in B_{q_{g^*}}$ and match qualities $Q \in B_Q$ are revealed, where B_X denotes a set in the Borel algebra $\mathcal{B}_X$ corresponding to the space of X. Then,

$$\pi_g^O\left(B_{q_{g^*}}, B_Q\right) = \sum_{e^*}\left(\frac{\alpha_{ee^*}\int \pi_{g^*}^{e^*} 1_{(e^*,\theta^p_{g^*})\in B_{q_{g^*}}} dx^S_{g^*e^*}(\theta^p_{g^*})}{\int \pi_{g^*}^{e^*} dx^S_{g^*e^*}(\theta^p_{g^*})}\right)\pi(B_Q),$$

where α_{ee^*} is the probability a person with education level e meets a person with e^*, π_g^e is the share of people with education level e among gender g, $x^S_{ge}(\theta^p_g)$ is the measure of single people with gender g, education e and the match quality $\theta^p_g \in B_{\theta^p_g}$, and $\pi(B_Q)$ is the probability measure of drawing $Q \in B_Q$.

2.4 Equilibrium

A stationary equilibrium in the economy is value function V_g, their corresponding policy functions and measures of people by marital and living status $\{x_{ge}^{SI}, x_{ge}^{SP}, x_{ge}^{MI}, x_{ge}^{MO}, x_{ge}^{ML}\}$ such that

(i) the value and policy functions solve the individuals' problem,

(ii) the marriage outcome is feasible for all combinations of couples:

$$x_{fe_f}^{MI}\left(B_{\theta_f^p}, \left(e_m, B_{\theta_m^p}\right), B_Q\right) = x_{me_m}^{MI}\left(B_{\theta_m^p}, \left(e_f, B_{\theta_f^p}\right), B_Q\right),$$

$$x_{fe_f}^{MO}\left(B_{\theta_f^p}, \left(e_m, B_{\theta_m^p}\right), B_Q\right) = x_{me_m}^{MO}\left(B_{\theta_m^p}, \left(e_f, B_{\theta_f^p}\right), B_Q\right),$$

$$x_{fe_f}^{ML}\left(B_{\theta_f^p}, \left(e_m, B_{\theta_m^p}\right), B_Q\right) = x_{me_m}^{ML}\left(B_{\theta_m^p}, \left(e_f, B_{\theta_f^p}\right), B_Q\right).$$

3. Estimation and Simulation

The parameters to be determined are on the wages, and the distribution of $(q_f,\ q_m,\ Q)$, and the utility.

3.1. Parameters Determined outside the Model

3.1.1 Wages

The wages w_{gae}^S and w_{gae}^M are set as in table 3. This reflects the college premium, the gender wage gap and the cost of career interruption.

3.1.2 Distribution

Table 4 shows the shares of people with education level e, i.e. π_g^e. The distribution of θ_g^p, θ_g^s and θ_g^l are assumed to be common for both female and male and independent normal distributions. The means and standard deviations for those three distributions (μ^p, σ^p),

(μ^s, σ^s) and (μ^l, σ^l) are estimated with the model. Also, we set $\alpha_{ii}/\alpha_{ij} = \alpha$ so that people with the same education level are α times more likely to meet. This α is estimated with the model.

3.1.3 Utility

The scale parameters ϕ^{SP}, ϕ^{MI} and ϕ^{MP} are based on Asano and Wang (2008) who estimate the equivalence elasticity between 0.3 and 0.5. The first adult in a household is counted as 1 and the other adult is counted as 0.4. Setting ϕ^{MI}=1.4 is a direct application of this way of counting. As for the other two, since the adults living with parents are additional members to the households, let ϕ^{SP}=.4 and ϕ^{MP}=1.8. In addition, β and σ are set to .9 and 2 respectively.

3.2 Estimation with Model

To estimate the remaining parameters

$$\Theta = \begin{pmatrix} \mu^p \\ \sigma^p \\ \mu^s \\ \sigma^s \\ \mu^l \\ \sigma^l \\ \alpha \end{pmatrix},$$

this paper relies on the Method of Moments. Let M be the moments computed from the data and $m(\Theta)$ be the moments generated by the model given parameters Θ. The 7×1 vector Θ are estimated as

$$\widehat{\Theta} = \underset{\widetilde{\Theta}}{\operatorname{argmin}} (M - m(\widetilde{\Theta}))' W (M - m(\widetilde{\Theta})),$$

where W is a symmetric positive definite weighting matrix. We set $W = \operatorname{diag}(M)^{-2}$.

3.2.1 Target Moments

As seven parameters are estimated, at least seven target moments are necessary. The moments in table 1 are targeted and there are 14 independent moments considering the feasibility of match. Thus the estimation is substantially overidentified.

3.2.2 The Baseline

The model's performance for hitting the targets can be seen in table 5. The simulated moments generally match with the data moments even though the model is quite parsimonious.

Table 6 shows the estimated parameters. The match quality with parents-in-law tends to be quite negative. The match quality with own parents also tends to be negative but not as distinct as the first one. The match quality with potential spouse has positive mean. Thus, all other things being equal, those estimates suggest that individuals prefer not to live with parents-in-law and desire to leave parents' home, while marrying potential spouse is preferable.

3.3 Simulation

In this subsection, maintaining the estimated parameters unchanged, the model is solved and simulated under a few different settings. This counter-factual simulation allows us to shut down the channels which may be the key determinant of the decision on household formation and to understand the mechanism driving the disparity between male and female as seen in table 1.

3.3.1 OECD Equivalence Scale

First, the equivalence scale is set to the OECD scale rather than Japanese. It follows that the first person is counted as 1 and the other adults are counted as 0.7, and correspondingly the parameters are set ϕ^{SP}=.7, ϕ^{MI}=1.7 and ϕ^{MP}=2.4. We can see that this weakens the scale of economy in households as those are set ϕ^{SP}=.4, ϕ^{MI}=1.4 and ϕ^{MP}=1.8 in the baseline. The

results are presented in table 7 and we can see that people move into *MI* since now living parentlessly is inexpensive and people who marry tend to desire to leave parents house. In addition, as marrying is less connected to living parents (especially in-laws) more people are found to be married.

3.3.2 Commitment

Next, males are assumed to be able to commit on the living arrangement when they propose. Then the extensive-form game can be depicted as in Figure 3. The first mover is still the male and if he does not propose or she leaves, they play as they do in the baseline. In this scenario, however, if he proposes he should offer the integrated plan on marriage and living arrangement, namely living with without parents, with his own parents, or with his parents-in-law. The point is that the offer is ultimate in the sense that if she accept he will not change the plan and this is to capture the nature of commitment. Now she does not have to worry about the situation such as the promise on their living arrangement is broken despite at first he said that we are not going to live with his parents.

Table 8 suggests that people would rather marry than just stay single and live with their own parents. People can gain from marriage without threatened by the risk to end up with uncomfortable living arrangement.

3.3.3 Gender Wage Gap

Finally, we shut down the channel of the gender wage gap. Table 9 shows the case in which the career interruption cost is eliminated by setting wage profile of married females indifferent to the single females, while the gender wage gap in level is maintained. Table 10 corresponds to the case where the gender wage gap when they are young is eliminated but the career

interruption cost is maintained.

Both table 9 and 10 do not present significant change from the baseline, and this suggest that the effect of gender wage gap is relatively weak compared to the above two drivers.

4. Conclusion

This paper is an exploration of the fundamental mechanism behind the household formation, utilizing the characteristics of Japanese society as the variation to identify the key determinants of the cost and benefit structure when people consider leaving home and marrying. It can be seen that building the heterogeneous agent macroeconomic model is crucial to conduct this exploration since it has flexibility to capture the mechanism not only in the dimension of parameters but also the structure of the game played by the agents, without making the model unnecessarily complex. While it is obvious that a single model cannot explain the whole context of a society, the model actually has a capability to hit overidentifiying moments and the estimates of the preference parameters are intuitive as they suggest that individuals do not feel like to live with parents-in-law and desire to leave parents' home, while marrying potential spouse is preferable.

To be concrete, the advantage of the model is that we are able to examine the three different kinds of possible drivers within a unified framework of counter-factual simulation: (1) the stronger economy of scale in Japan generated by high living cost, (2) the weak bargaining position of women on the living arrangement when they marry, and (3) the gender wage gap and the career interruption cost for women.

The counter-factual simulation suggests what are the underlying forces behind the household formation. Firstly, the high living cost substantially discourage people to marry and live without parents. It seems that the living cost is quantitatively important factor for married

couples when decide where to live and this could deter the incentive to marry by connecting marrying and living with parent-in-law. Secondly, the weaker bargaining position of female encourage them to stay single and live with their own parents. The lack of commitment seems to have quantitatively important impact. Lastly but not least, the wage structure does not seem to have strong power to generate quantitative impact via counter-factual simulation. Combined with the second point, the issue seems to be lying in the structure of the bargaining not the value of outside option.

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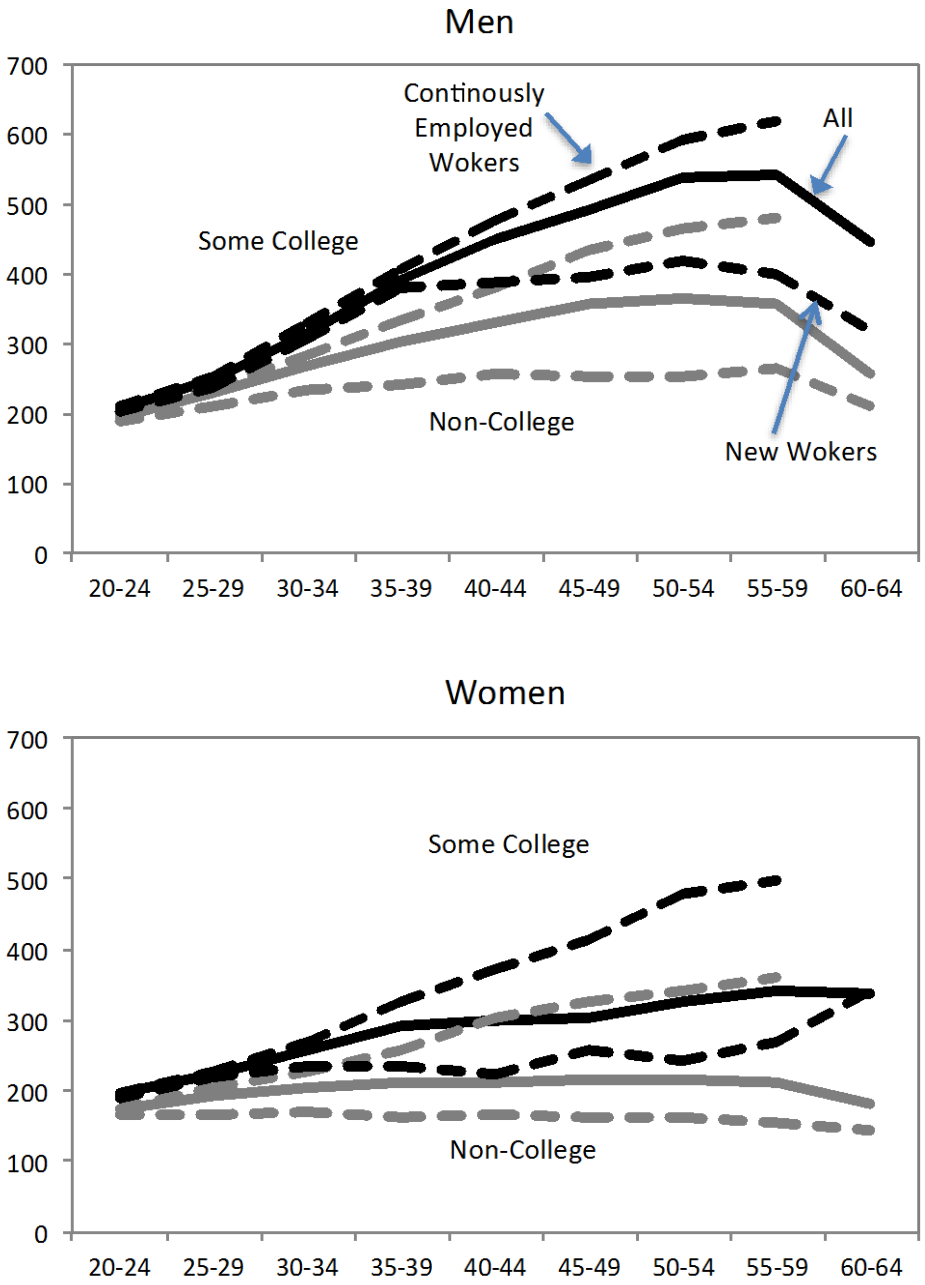

Figure 1: Wage Profile

Source: Ministry of Health, Labour and Welfare, Basic Survey on Wage Structure

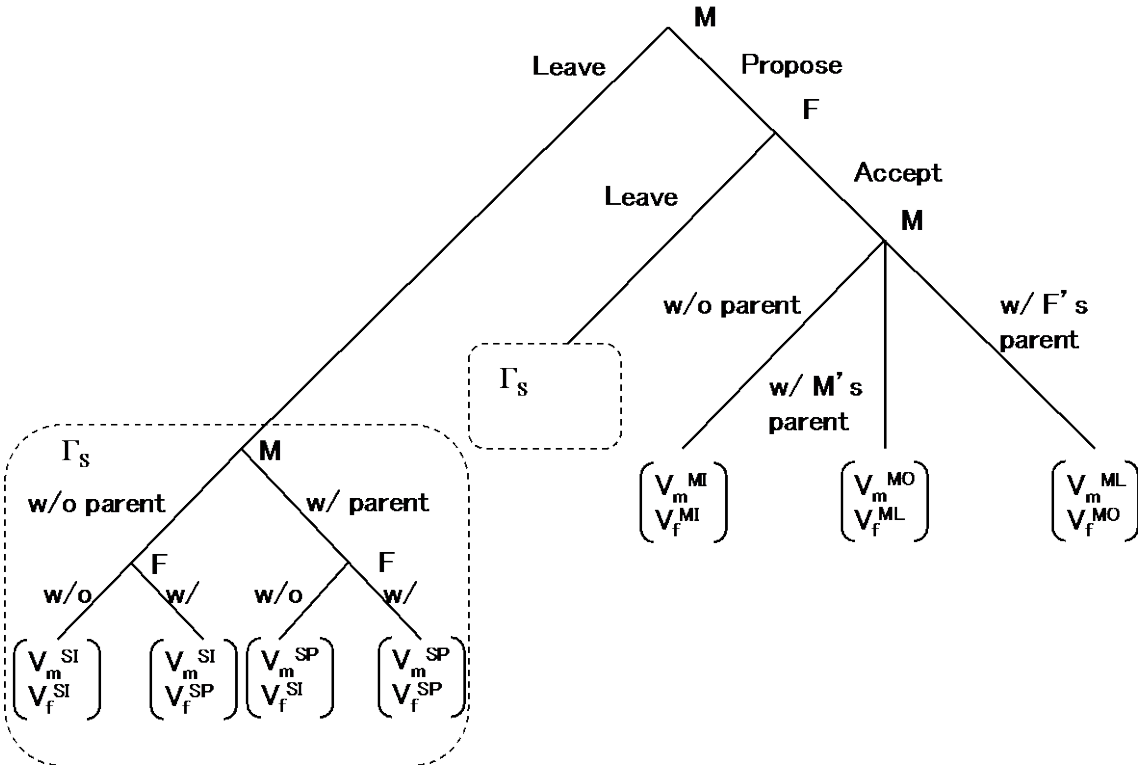

Figure 2: Extensive-Form Game: Lack of Commitment

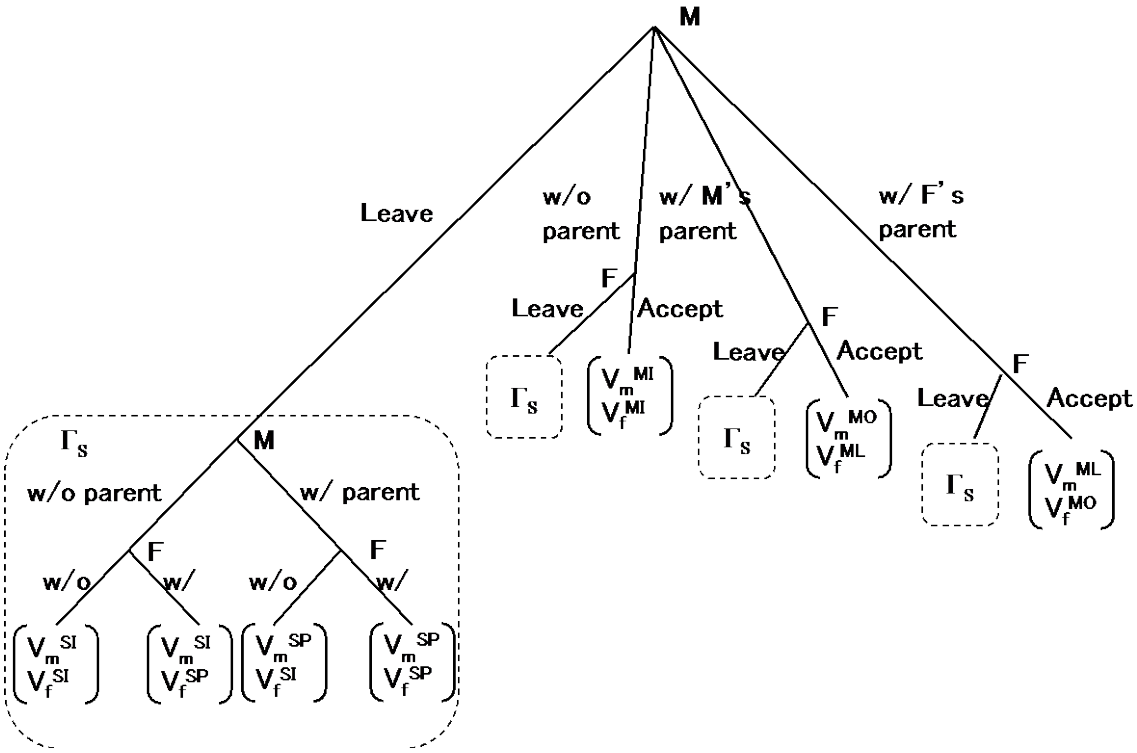

Figure 3: Extensive-Form Game: Commitment

Table 1: Marital and Living Status of Japanese Adults

	Male		Female	
College Education	No	Some	No	Some
Single living w/o parents	3.9	3.3	2.7	6.1
Single living w/ parents	5.6	3.5	3.7	6.6
Married to non-college w/o parents	9.9	4.1	9.9	3.4
Married to some-college w/o parents	3.4	9.4	4.1	9.4
Married to non-college w/ own parents	2.8	0.9	0.6	0.2
Married to some-college w/ own parents	0.7	1.3	0.1	0.2
Married to non-college w/ in-laws	0.6	0.1	2.8	0.7
Married to some-college w/ in-laws	0.2	0.2	0.9	1.3
(Total)	27.2	22.9	25.0	24.8

Source: Confidential anonymized data of the 2002 Employment Status Survey produced by the Statistics Bureau, the Ministry of Internal Affairs and Communications, the Government of Japan and provided by the National Statistics Center in Japan under the Statistics Act (Act No. 53 of May 23, 2007) in Japan.

Table 2: Matrix of Status

	Single	Married
Living Independently	*SI*	*MI*
Living with Own Parents	*SP*	*MO*
Living with parents-in-Law	-	*ML*

Table 3: Wage Structure

		Female		Male	
College Education		No	Some	No	Some
Single	Young	.793	.942	1.000	1.129
	Old	.849	1.117	1.261	1.670
Married	Young	.793	.942	1.000	1.129
	Old	.793	.942	1.261	1.670

Source: Ministry of Health, Labour and Welfare, Basic Survey on Wage Structure

Table 4: Education

	Female		Male	
College Education	No	Some	No	Some
	.502	.498	.544	.456

Source: Same as Table 1

Table 5: Baseline: Data vs Model for Targets

	Data				Model			
	Male		Female		Male		Female	
College education	No	Some	No	Some	No	Some	No	Some
SI	3.9	3.3	2.7	6.1	3.8	3.0	4.5	4.7
SP	5.6	3.5	3.7	6.6	4.7	4.9	3.3	3.6
MI w. non-college	9.9	4.1	9.9	3.4	9.9	3.2	9.9	4.5
MI w. college	3.4	9.4	4.1	9.4	4.5	9.6	3.2	9.6
MO w. non-college	2.8	0.9	0.6	0.2	2.6	0.8	0.5	0.2
MO w. college	0.7	1.3	0.1	0.2	1.1	0.9	0.1	0.3
ML w. non-college	0.6	0.1	2.8	0.7	0.5	0.1	2.6	1.1
ML w. college	0.2	0.2	0.9	1.3	0.2	0.3	0.8	0.9
(Total)	27.2	22.9	25.0	24.8	27.2	22.9	25.0	24.8

Table 6: Baseline: Estimated Parameters

	in-law	own parents	spouse
mean	-5.608	-2.249	1.414
stdev	3.897	2.556	0.885
assortative	1.425		

Table 7: OECD Equivalence Scale

	Baseline				Simulation			
	Male		Female		Male		Female	
College education	No	Some	No	Some	No	Some	No	Some
SI	3.8	3.0	4.5	4.7	4.1	3.8	5.4	4.2
SP	4.7	4.9	3.3	3.6	5.2	2.5	2.8	3.0
MI w. non-college	9.9	3.2	9.9	4.5	11.1	3.9	11.1	4.9
MI w. college	4.5	9.6	3.2	9.6	4.9	11.3	3.9	11.3
MO w. non-college	2.6	0.8	0.5	0.2	1.0	0.3	0.4	0.1
MO w. college	1.1	0.9	0.1	0.3	0.4	0.8	0.1	0.2
ML w. non-college	0.5	0.1	2.6	1.1	0.4	0.1	1.0	0.4
ML w. college	0.2	0.3	0.8	0.9	0.1	0.2	0.3	0.8
(Total)	27.2	22.9	25.0	24.8	27.2	22.9	25.0	24.8

Table 8: Commitment

	Baseline				Simulation			
	Male		Female		Male		Female	
College education	No	Some	No	Some	No	Some	No	Some
SI	3.8	3.0	4.5	4.7	6.1	5.0	3.9	4.4
SP	4.7	4.9	3.3	3.6	0.1	2.1	2.4	2.8
MI w. non-college	9.9	3.2	9.9	4.5	11.1	3.0	11.1	4.6
MI w. college	4.5	9.6	3.2	9.6	4.6	9.8	3.0	9.8
MO w. non-college	2.6	0.8	0.5	0.2	3.2	0.8	0.4	0.1
MO w. college	1.1	0.9	0.1	0.3	1.1	1.8	0.1	0.3
ML w. non-college	0.5	0.1	2.6	1.1	0.4	0.1	3.2	1.1
ML w. college	0.2	0.3	0.8	0.9	0.1	0.3	0.8	1.8
(Total)	27.2	22.9	25.0	24.8	27.2	22.9	25.0	24.8

Table 9: Gender Wage Gap but No Career Interruption Cost

	Baseline				Simulation			
	Male		Female		Male		Female	
College education	No	Some	No	Some	No	Some	No	Some
SI	3.8	3.0	4.5	4.7	3.7	2.9	4.5	4.6
SP	4.7	4.9	3.3	3.6	4.7	4.9	3.3	3.6
MI w. non-college	9.9	3.2	9.9	4.5	10.0	3.2	10.0	4.5
MI w. college	4.5	9.6	3.2	9.6	4.5	9.6	3.2	9.6
MO w. non-college	2.6	0.8	0.5	0.2	2.6	0.8	0.5	0.2
MO w. college	1.1	0.9	0.1	0.3	1.1	0.9	0.1	0.4
ML w. non-college	0.5	0.1	2.6	1.1	0.5	0.1	2.6	1.1
ML w. college	0.2	0.3	0.8	0.9	0.2	0.4	0.8	0.9
(Total)	27.2	22.9	25.0	24.8	27.2	22.9	25.0	24.8

Table 10: Career Interruption Cost but No Other Gender Wage Gap

	Baseline				Simulation			
	Male		Female		Male		Female	
College education	No	Some	No	Some	No	Some	No	Some
SI	3.8	3.0	4.5	4.7	3.9	3.0	4.8	5.1
SP	4.7	4.9	3.3	3.6	4.6	5.4	3.3	3.3
MI w. non-college	9.9	3.2	9.9	4.5	10.0	2.9	10.0	4.5
MI w. college	4.5	9.6	3.2	9.6	4.5	8.4	2.9	8.4
MO w. non-college	2.6	0.8	0.5	0.2	2.6	0.8	0.4	0.2
MO w. college	1.1	0.9	0.1	0.3	1.1	2.0	0.1	0.3
ML w. non-college	0.5	0.1	2.6	1.1	0.4	0.1	2.6	1.1
ML w. college	0.2	0.3	0.8	0.9	0.2	0.3	0.8	2.0
(Total)	27.2	22.9	25.0	24.8	27.2	22.9	25.0	24.8