



The effect of work-life balance policies on women employees turnover

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【キーワード】 work-life balance; job tenure; turnover rate; retention rate

【要約】 In this paper, we explore the relationship between work-life balance policies and three outcomes of interest to employers and employees: the job tenure of women employees, turnover rate of women employees and retention rate of new women graduates. In the cross sectional analysis, we find that firms with work-life balance policies such as the full amount of maternity pay practice and flextime system are positively associated with the job tenure of women employees. We also find that the full amount of maternity pay practice has an effect on retention rate of new women graduates. However, we can't find the relationship between maternity pay practice and job tenure of women employees in fixed effects. Even though our hypothesis just receives partial support, our results still suggest that work-life balance policies such as the full amount of maternity pay and flextime system can produce positive outcomes for both employers and employees.

Introduction

Organizational response to work-life conflict of employees is an important issue that has received broad attention from governments, researchers, employers and employee representatives in recent years.

Figure 1 showing the percentage of women over 15 in the labor force by age bracket in Japan in 2006 represents a curve shaped like the alphabetical letter M, with the age brackets 25 to 29 and 45 to 49 being two peaks. It means that a majority of women quit their jobs when they get married or give birth to a child, and re-enter the labor market when their children have grown up.

Even if the child-care leave law was enforced in Japan in April 1992¹, the declining trend of women labor force participation between 25 to 29 and 30 to 34 still exist. It means that only child-care leave system is not enough for the women after their childbirth. Work-life conflict could happen to employees at each stage in life. As a result, the demands of managing work and life balance need to be addressed for many families.

Work-life balance policies now encompass a wide range of programs, including maternity leave, child and family care leave and flexible work arrangements². Firms' adoption of work-life policies have grown significantly in recent years. Yet Firms also are seeking ways to reduce the cost of benefits in the current competitive and cost-conscious

¹ Formally it is called "Law Concerning the Welfare of Workers Who Take Care of Children or Other Family Members Including Child Care and Family Care Leave". The law was established in May 1991.

² Japan Ministry of Health, Labour and Welfare declares some work-life balance policy indexes such as child-care/ family-care system and benefits. See <http://www.mhlw.go.jp/general/seido/koyou/ryouritu/shihyou.html>

climate.

Even though firms have cost-benefit considerations of work-life balance policies, a growing number of studies find that work-life balance policies generate performance benefits for firms by enhancing recruitment and reducing absenteeism and turnover (Helen, 2002). And firms that seek to increase employee morale, commitment and satisfaction, and reduce source of stress and problems at work, will improve their ability to recruit and retain talented and valued employees (Cappelli, 2000).

In this paper, we set out to examine whether firms that adopt various work-life balance policies increase the job tenure and decrease turnover probability of women employees. Different from prior studies that just involve general women employees, we also analyze the effect of work-life balance policies on new women graduates. We draw on the data in 2000, 2005 and 2008 editions of Quarterly Female Employment Report in Japan to examine our assumption.

Prior Literature

Work-life balance policies and outcomes

Some researchers have examined the outcomes of work-life balance policies and they have demonstrated significant and positive outcomes for employers and employees. Organizational solutions to work-life conflict of employees have focused heavily on

specific work-life balance policies and practices, such as child-care services or flexible scheduling.

There are some modest empirical literatures on dependent-care services increased retention rates in the short term, but these studies did not explore long-term attachment to the firm (Youngblood and Chambers-Cook, 1984; Ellen and Victor, 1992).

In addition, a lot of researchers have examined the outcomes of flexible time system. Early studies of absenteeism and turnover found that it was lower among employees who used flextime system. Dalton and Mesch (1990) compared the absenteeism and turnover of employees in two divisions of one company: one with and one without flexible system. Absenteeism fell significantly in the case of employees who used flexible system, but turnover was not affected. Thomas and Ganster (1995) found that employees who used flexible practices had more control over managing work and family demands and had also higher job satisfaction. However, they did not find a significant relationship between these flexible practices and absenteeism. Grover and Crooker (1995) found that employees in companies with organizational work-life balance benefits had higher levels of organizational commitment to the organization and expressed lower turnover intentions, regardless of whether the employee individually benefited from the policy.

More recently, Helen *et al.*(2005) have reported a link between an organization's commitment to work-life balance policies and the employee's commitment to the

organization. This study of civil engineers reported higher commitment, job satisfaction, and lower turnover intention when the employees' perceived their organization to be supportive of work-life balance initiatives. These results provide evidence that work-life balance policies are related to organizational performance in the Australian construction industry.

Work-life balance policies are also reported to: improve organizations' competitiveness by increasing their ability to attract employees (Bruck and Spector, 2002); induce employees to exercise discretionary effort in performing their work; and help employees to be more productive (Konrad and Mangel, 2001). Further, Lambert (2000) reported a positive relationship between the announcement of organizational work-life balance policies and shareholder returns, indicating that investors view family-friendly firms more favorably.

In sum, the prior studies have examined some outcomes associated with work-life balance policies. However, some prior studies have examined only an isolated practice. We set out to examine the outcomes of various work-life balance policies in this paper.

Moreover, because most of prior studies rely on cross sectional data, they cannot and do not control for unobserved firm effects. In this paper, using panel data allows us to control for firm specific effects.

Hypothesis

Prior researches do indicate that work-life balance policies should be significantly related to outcomes of interest to employees and employers, leading to the following hypothesis:

Firms that have access to work-life balance policies will have longer job tenure of women employees, lower turnover rate of women employees and higher retention rate of new women graduates.

Research Method

Data

For this study, the data are drawn from the 2000, 2005 and 2008 editions of Quarterly Female Employment Report in Japan. The survey was conducted in 1998, 2003 and 2006 respectively and the sample sizes that the report offered was 926 in 1998, 986 in 2003 and 1093 in 2006.

The sample of Quarterly Female Employment Report contains information on a wide range of workplace characteristics. This means that controlling for organization size, industry and other characteristics can be introduced to assess whether having particular work-life balance policies is associated with turnover intention of women employees.

This study focus upon the effect of some work-life balance policies in Japanese organizations. Table 1 shows the major work-life balance practices included in the 2000, 2005 and 2008 editions of Quarterly Female Employment Report in Japan.

In 2000 edition, the specific practices were: maternity leave system within the statutory period (6 weeks before childbirth and 8 weeks after childbirth), the full amount of maternity pay, child-care leave system within the statutory period (children under the age of 1), child-care leave benefit, family-care leave system (a total of 93 days), family-care leave benefit and flextime system. The survey in 2005 and 2008 editions just listed work-life balance practices including maternity leave system within the statutory period, the full amount of maternity pay, child-care leave system within the statutory period.

Table 1 also shows the percentage of work-life balance policies have been adopted in Japanese organizations. Because maternity leave system and child-care leave system are compulsory in the Labor Standards Law, we can see that these systems had been adopted in most organizations. Although a part of maternity benefits are required during the maternity leave period in the Health Insurance Law, the adoption of the full amount of maternity pay was very low in these three years.

Similarly, we can see that the adoption of child-care leave benefit, family-care leave benefit and flextime system were also very low in 2000. Particularly less than 5 percent of organizations offered child-care leave benefit. In the other item, only 30 percent of

organizations adopted flextime system. Therefore, giving an analysis of the effect of these work-life balance policies is highly significant.

In order to discuss the specific initiatives of work-life balance policies in our study, we use the variables of maternity pay, child-care leave benefit, family-care leave system, family-care leave benefit and flextime system as work-life balance indexes in 2000 edition. Simultaneously, we use only maternity pay as work-life balance index in 2005 and 2008 editions.

Measures

Dependent variables

In order to analyze the effect of work-life balance policies, we use three measures of dependent variables: the job tenure of women employees, turnover rate of women employees and retention rate of new women graduates who had stayed in their first company for 3 years.³

Independent variables

The Quarterly Female Employment Report in Japan provides information on the types of work-life balances policies available within a company. However, it is not apparent whether all employees are able to take up the policies on offer. Despite the lack of detailed information on the use of work-life balance practices, it seems reasonable to assume that

³ The variables turnover rate and retention rate are replaced by a log odds ratio (logit). $y = \ln(p/(1-p))$

firms with WLB policies are likely to balance employees' work and family lives than those without work-life practices.

As noted earlier, the adoption of some work-life balance policies are still very low in most organizations in our sample. Therefore, giving an analysis of the effect of these work-life balance policies is significant. In this paper, we use work-life balance policies such as maternity pay, child-care leave benefit, family-care leave system, family-care leave benefit and flextime system in 2000 edition as independent variables⁴. And we use only maternity pay as an independent variable in 2005 and 2008 editions.

Control variables

Organization size and industry category are controlled in our analysis. Organization size is measured by the logarithm of the number of full-time workers. In addition, we create dummy variables for industry and we choose manufacturing to be the base group, that is, the group against which comparisons are made.

Moreover, many factors affect the turnover intention of women employees in a company and it is necessary to control for these influences in order to observe the relationship between work-life balance policies and job tenure or turnover rate of women employees. It might be expected that higher women married rate and higher women age would increase job tenure of women employees. Therefore, the variables women married

⁴ We create dummy variables for all work-life balance policies by defining firm with a specific work-life balance policy to be one and zero otherwise.

rate and average women age in a company are used as controls in our study.

Estimation methods

First, we use ordinary least squares (OLS) method in cross sectional data of 2000, 2005 and 2008 editions respectively to test our hypothesis. And then we use four methods: pooled OLS, first differencing, random effects and fixed effects⁵ to test our hypothesis.

$$(1) y_{it} = X_{it}'\beta + \alpha + \varepsilon_{it}$$

where i refers to the firm, and t is time. y_{it} is a dependent variable about job tenure, turnover rate and retention rate of women employees. α is a scalar, β is $K \times 1$ and X_{it} is the it th observation on K independent variables. An OLS provides consistent and efficient estimates for α and β if the assumption of α is a correct specification.

$$(2) y_{it} = X_{it}'\beta + \alpha_i + \varepsilon_{it}$$

where α_i is the unobserved heterogeneity term, assumed to be firm-specific and time-invariant. Since we have panel data of firms, we are able to control for time-constant unobserved heterogeneity which may bias the results from cross sectional studies if these unobserved factors correlate with independent variables. Thus, we can difference the data across two years⁶ and then we also present random and fixed effects models in data of

⁵ In the first differencing and random effects methods, we can include industry dummy variables, but these drop out of the fixed effects analysis.

⁶ We just have the data of turnover rate and retention rate of women employees in 2005 and 2008 editions. We first use a pooled cross section and then we difference all variables.

three years⁷. The random effects estimator is only valid if α_i is uncorrelated with the independent variables. Later we will test the validity of the random effects estimator by a Hasuman test.

Results

Summary statistics

The means and standard deviations for the variables used in the analysis are presented in Table 2. Our analysis focuses on three different types of variables. The first set of variables represents firm characteristics. The next set of variables represents various work-life balance policies. The final set of variables represents turnover intention of women employees such as job tenure, turnover rate and retention rate.

We report only the variables turnover intention here. In Table 2, we can see that there is a decreasing trend in tenure gap between men and women. In addition, there is a decreasing trend in turnover rate of women employees and an increasing trend in turnover rate of men employees, although the change between 2005 and 2008 is few. With regard to retention rate of new men and women graduates, we can see that it is on an increasing trend.

Findings

⁷ Because we have the data of job tenure of women employees in 2000, 2005 and 2008 editions , we can use panel data methods.

(I) Cross sectional analysis

Findings for predicting the effect of work-life balance policies on job tenure, turnover rate and retention rate of women employees are reported in Table 3 and Table 4.

To consider our hypothesis, we first report the effect of work-life balance policies on the job tenure of women employees and then we report the effect of work-life balance policies on the turnover rate of women employees and retention rate of new women graduates.

First, hypothesis predicted that firms with work-life balance policies would have longer job tenure of women employees. We display only the result of OLS regression on 2000 edition⁸. In Table 3, the coefficient on child-care leave benefit and family-care leave benefit are insignificant in model 2 and model 4 respectively. Contrary to expectations, child-care leave benefit and family-care leave benefit policies do not have an impact on the job tenure of women employees. However, the variables maternity pay and family-care leave system are very statistically significant at 1% level in model 1 and model 3 respectively. It means that adoption of maternity pay and family-care leave system is predictive of higher women tenure. For our sample, flextime system is also an important component of work-life balance policies. As expected, flextime system is associated with higher job tenure of women employees. The coefficient on flextime system is statistically

⁸ Actually, we have run the cross section analysis on 2000, 2005 and 2008 editions respectively. We only report the result of OLS on 2000 edition here.

significant at 1% level in model 5. It appears that adopting of flextime system increase the job tenure of women employees.

We included all independent variables together in model 6 simultaneously. In all work-life balance indexes, only the coefficients on maternity pay and flextime system are significant in model 6. It means that only maternity pay and flextime system policies are associated with higher women tenure if we adopt all work-life balance policies at the same time.

We also find that almost every control variables: women married rate, average women age and men tenure are positively related to the job tenure of women employees and the coefficients are all significant at 1% level in all models (model 1-model 6).

To explore our issue further, we reestimated the equations using tenure gap between men and women rather than women tenure. In Table 3, we can see that although most coefficients on control variables are significant in model 7, with regard to WLB variables, only the coefficient on flextime system is statistically significant in all work-life balance indexes. It appears that adopting of flextime system decreases the tenure gap between men and women.

Second, hypothesis also predicted that firms with work-life balance policies would have lower turnover rate of women employees and higher retention rate of new women graduates.

In our analysis in 2005 edition, we just use maternity pay as a work-life balance index. And because we have the data of turnover rate of women employees and retention rate of new women graduates in 2008 edition⁹, we use independent variable maternity pay in 2005 edition and dependent variable turnover rate and retention rate in 2008 edition to undertake our analysis¹⁰.

The result of OLS regression on 2005 edition is in Table 4. The coefficient on maternity pay is statistically significant in women tenure models (model 1 and model 2). This result is the same with the result of OLS regression on 2000 edition.

In Table 4, the difference between model 3 and model 4 is that we added the men turnover rate in model 4. Because we consider that firms with higher men turnover rate are associated with an increased probability of women turnover rate.

With regard to the turnover rate of women employees, organizations with smaller size are more likely to report higher women turnover rate. And organizations with lower women married rate and average women age are also associated with higher women turnover rate. We further find that turnover rate of men employees are positively related to the turnover rate of women employees, as predicted.

However, we can see that the coefficient on maternity pay is insignificant in model 3 and model 4. Contrary to expectation, maternity pay has no impact on turnover rate of

⁹ More precisely, the survey of 2008 edition was conducted in 2006 but the data of turnover rate was in 2005.

¹⁰ Therefore, it becomes a single cross sectional data. Instead of running the cross section analysis on 2005 and 2008 editions respectively, this data set solves the problem of causal relationship.

women employees.

Meanwhile, hypothesis also predicted that firms with work-life balance policies would have higher retention rate of new women graduates.

The difference between model 5 and model 6 in Table 4 is that we added the men retention rate in model 6. Because we consider that firm with higher men retention rate is associated with an increased probability of women retention rate.

Compare the result to model 3 and model 4, we find that less than half coefficients of control variables are significant in model 5 and model 6. Although organizations with larger size are more likely to report higher retention rate of new women graduates, women married rate and average women age are almost have no effect on retention rate of new women graduates.

However, we can see that the coefficient on the maternity pay is significant at 5% level both in model 5 and model 6. The result is different from the model 3 and model 4. With regard to retention rate of new women graduates, adopting of maternity pay policy tend to increase the retention rate of new women graduates. Thus we can say that hypothesis receive partial support in our study.

(II) Panel data analysis

Because we have the data of turnover rate of women employees and retention rate of new women graduates only in 2005 and 2008 editions, we first use pooled OLS on the two years and then difference the data across the two years. Besides, we have the data of job tenure of women employees in 2000, 2005 and 2008 editions, so we first use pooled OLS on the three years and then we use random effects and fixed effects methods.

(i) Pooled OLS

The result of pooled OLS on 2005 and 2008 editions is in Table 5. In pooled cross section, we added the year dummy variable in all models (the base year is 2005) and added the variables overtime and women on the main career track rate¹¹ in model 2, model 4 and model 6. We expect that overtime is negatively related to the job tenure of women employees and women on the main career track rate is positively related to the job tenure of women employees

The coefficient on year dummy variable is statistically significant at 1% level only in women turnover rate models (model 3 and model 4) and the sign of coefficient is minus. It means that other factors fixed, the turnover rate of women employees in 2008 is lower than that in 2005.

The coefficient on overtime is statistically significant at 1% level only in model 2. It means that firms with longer overtime on average are associated with lower job tenure of

¹¹ Different from women on the minor career track who work typically as support staff members handling miscellaneous tasks, women on the major career track have the similar career track with general men employees.

women employees. However, we can't find a significant relationship between overtime and turnover rate or retention rate of women employees. In addition, the coefficient on the main career track rate of women employees is statistically significant at 5% level in model 2 and is statistically significant at 10% level in model 4. It appears that firms with higher women on the main career track rate are associated with longer job tenure of women employees and lower turnover rate of women employees.

In our analysis of pooled OLS on 2005 and 2008 editions, we used just maternity pay as a work-life balance index. We first report the effect of maternity pay on job tenure of women employees and then on turnover rate of women employees and retention rate of new women graduates.

In Table 5, the coefficient on maternity pay is statistically significant at 1% level in women tenure models (model 1 and model 2). It means that adopting the maternity pay policy increase the job tenure of women employees. However, the coefficient on maternity pay is not statistically significant in women turnover models and new women graduates retention rate models (model 3 - model 6). Therefore, adopting work-life balance policies is not associated with turnover rate or retention rate of women employees in pooled OLS models.

(ii) First differencing

An analysis using a single cross section or just a pooling of the cross sections will produce biased and inconsistent estimators. To remove unobserved firm effect, we difference all variables. Therefore, we regress the change in dependent variables on the change in all independent variables.

Table 6 shows the result of using OLS after first differencing. We just focus on the coefficient on maternity pay change¹². The coefficient on maternity pay change is statistically significant at 1% level only in model 5¹³. It means that firms with maternity pay system in 2005 and without that system in 2008 decrease the retention rate of new women graduates.

(iii) Pooled OLS, random effects, and fixed effects

We use also three methods: pooled OLS, random effects, and fixed effects to test our hypothesis in the data of 2000, 2005 and 2008 editions. The estimation results are in Table 7. We can see that the coefficient on the maternity pay is significant at 1% level both in the pooled OLS and random effects models¹⁴. And for almost all variables, the estimators have the same sign between pooled OLS and random effects models. When we eliminate the unobserved effect entirely by using fixed effects, the maternity pay premium falls notably and the coefficient on the maternity pay is not significant in fixed effects model.

¹² We create new dummy variables with regard to maternity pay change in first differenced equation. Four groups are allowed: ① firms without maternity pay system in 2005 and 2008 ② firms without maternity pay system in 2005 and with that system in 2008 ③ firms with maternity pay system in 2005 and without that system in 2008 ④ firms without maternity pay system in 2005 and 2008. We choose ① to be a base group.

¹³ It is in the case of firm with maternity pay system in 2005 and without maternity pay system in 2008.

¹⁴ The random effects estimator is preferred when we use Breusch and Pagan Lagrange-multiplier test (LM test).

The Hausman test tends to receive the fixed effects estimators and if random effects model is used, then the estimators are generally inconsistent. Therefore, in the fixed effects estimation, firms with maternity pay system can't explain the job tenure of women employees.

Conclusion

In this paper, we have examined whether various work-life policies influence women employees' intention to stay or quit the company. If organizational practices can help employees integrate work and life demands and in turn lower their voluntary turnover rates, then employer's investment in work-life balance practices is more cost-justified.

Several findings are noteworthy. First, in the cross sectional estimate, flextime system is a stronger predictor of women tenure and the strongest predictor of tenure gap between men and women. Organization size, a part of industry dummies, average women age, women married rate and men tenure are also associated with significantly higher women tenure and lower tenure gap between men and women.

Moreover, we find that full amount of maternity pay and family-care leave system also tend to increase the job tenure of women employees although the predictors of these coefficient are not significant in tenure gap model (see Table 3).

Secondly, because we just can discuss the effect of the full amount of maternity pay

system that is limited by sampling design in 2005 and 2008 editions of Quarterly Female Employment Report in Japan, we find that the coefficient on maternity pay is also significant in women tenure models and has no impact on tenure gap between men and women (Table 4). With regard to turnover rate of women employees, maternity pay has no impact on women turnover rate, whether we add the variable of men turnover rate or not. On the other hand, the maternity pay has an effect on retention rate of new women graduates by comparing the different result with turnover rate of women employees. One interpretation is possible: for new women graduates, full amount of maternity pay is an attractive policy to enable them to stay with the same company if they plan to have childbirth. But our study can't sort out this interpretation.

Thirdly, we find that in using first differencing, maternity pay change has an effect on retention rate of new women graduates. Firms that adopting the maternity pay system in 2005 but withdrawing that system in 2008 decreases the retention rate of new women graduates. It probably implies that the behavior of adopting the maternity pay system at first but withdrawing that system later will affect the new women employees' decision of staying in the same company.

Finally, the maternity pay system has no effect on job tenure of women employees in the fixed effects model although it actually has effect in all cross sectional and pooled OLS models. It is considered that the cross sectional analysis could lead to bias.

Because we used just a specific policy to predict job tenure of women employees by using fixed effects model, it probably means that only maternity pay can't explain the job tenure of women employees and perhaps it is necessary to add other work-life balance policies to examine outcomes. For example, even if maternity pay can be required during the maternity leave period for women employees, if other work-life conflicts happen after their childbirth and firms don't adopt appropriate work-life balance policies to solve work-life conflicts, women employees would quit the company.

Future Research

Based on our analysis, it is believed that this article contributes to the work-life balance literature in several ways. First, we have provided empirical support for the idea that full amount of maternity pay system has an effect on higher retention rate of new women graduates even though it is in the case of the cross sectional analysis. Different from the prior studies, work-life balance policies explains retention rate of new women graduates rather than turnover rate of women employees in our study¹⁵.

Secondly, using panel data allows us to control for firm specific effects. Although we find the maternity pay system has no effect on job tenure of women employees in the fixed effects model, we are able to control for time-constant unobserved heterogeneity

¹⁵ In our study, the definition of retention rate of women employees is that new women graduates stay in the same company 3 years after their first work or not.

which may bias the results from cross sectional studies if these unobserved factors correlate with work-life balance policies.

Thirdly, rather than focusing on a limited set of formal or informal work-life policies alone, we have examined the effect of various work-life policies on the job tenure of women employees. In sum, our findings are suggestive of a future research agenda.

A limitation to this study is the use of detailed information about each organization. As noted earlier, Quarterly Female Employment Report in Japan provides information on the types of work-life balances policies available within a company. However, it is not apparent whether employees are able to use the policies on offer. Future research needs to evaluate the effect of different types of work-life balance policies on employees. For example, what kind of work-life balance policies bring about a reduction in work-life conflict, an increase in employee loyalty or a reduction in turnover, eventually an increase in financial performance.

The formation of appropriate work-life balance policies will be integral to the creation of flexible workplaces conducive to the attraction, motivation and retention of highly-valued employees. We suggest that the adoption of a wide range of work-life balance policies, to deal with a variety of employee needs and demands, will have the potential to produce positive outcomes for the organization.

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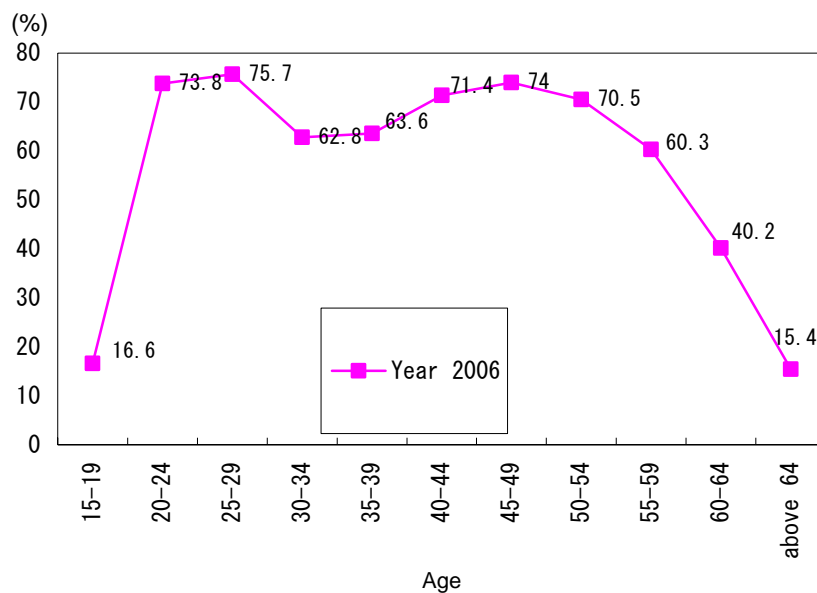
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Figure 1. Women labor force participation rate by age bracket



※ The data is from Ministry of Internal Affairs and Communications in Japan 「Labor Force Survey」

Table 1. Organizations with work-life balance policies adopted

Work-life balance policies	2000	2005	2008
	yes (%)	yes (%)	yes (%)
maternity leave system	99.89	99.39	99.82
full amount of maternity pay	27.77	19.92	22.85
child-care leave system	99.46	98.42	97.96
child-care leave benefit	4.91		
family-care leave system	50.81		
family-care leave benefit	10.37		
flextime system	29.76		

Table 2. Summary Statistics

Variable	2000			2005			2008		
	Obs	Mean	Std. Dev.	Obs	Mean	Std. Dev.	Obs	Mean	Std. Dev.
<i>organization size</i>									
log(all employees)	921	7.616	1.019	935	7.304	1.016	987	7.163	0.985
log(men)	921	7.334	1.064	935	7.027	1.078	987	6.893	1.049
log(women)	921	5.966	1.074	935	5.597	1.120	987	5.444	1.061
<i>Industry</i>									
media	926	0.049	0.215	986	0.054	0.226	1093	0.054	0.226
consulting	926	0.013	0.113	986	0.016	0.126	1093	0.012	0.108
telecommunications	926	0.043	0.203	986	0.104	0.306	1093	0.105	0.307
trading	926	0.092	0.289	986	0.079	0.270	1093	0.076	0.265
finance	926	0.135	0.342	986	0.094	0.292	1093	0.101	0.301
energy	926	0.018	0.134	986	0.015	0.122	1093	0.013	0.113
services	926	0.189	0.392	986	0.248	0.432	1093	0.234	0.424
<i>other characteristics</i>									
women married rate	639	21.891	13.983	657	25.878	15.108	699	27.533	16.362
men age	910	38.671	3.630	897	38.043	4.222	919	38.826	4.027
women age	910	30.592	3.731	897	31.730	3.894	919	32.800	4.042
<i>WLB policies</i>									
maternity leave	925	0.999	0.033	976	0.994	0.078	1085	0.998	0.043
maternity pay	922	0.278	0.448	969	0.199	0.400	1068	0.228	0.420
child-care leave	922	0.995	0.073	885	0.984	0.125	1078	0.980	0.141
child-care benefit	916	0.049	0.216						
family-care leave	864	0.508	0.500						
family-care benefit	588	0.104	0.305						
flexitime	924	0.298	0.457						
<i>turnover intention</i>									
men job tenure	895	15.209	4.548	863	13.838	5.335	872	14.430	5.094
women job tenure	895	8.610	3.449	863	9.026	4.193	872	10.018	4.557
tenure gap	895	6.599	3.718	863	4.812	3.335	872	4.412	3.362
men turnover rate				410	3.945	3.735	578	4.239	4.228
women turnover rate				426	9.260	5.672	580	8.826	6.202
men retention rate				517	84.525	14.833	692	85.489	14.439
women retention rate				500	76.330	21.632	661	77.763	21.609

Table 3. WLB policies and job tenure of women employees (2000 survey only)-OLS

Dependent variable	1. women tenure						2. tenure gap
	[1]	[2]	[3]	[4]	[5]	[6]	[7]
Control variables							
organization size	0.323 (0.087)***	0.323 (0.089)***	0.27 (0.092)***	0.295 (0.112)***	0.251 (0.087)***	0.208 (0.108)*	0.456 (0.192)**
industry (base:manufacturing)							
media	0.617 (-0.741)	0.795 (0.743)	0.707 (0.785)	1.114 (0.579)*	0.979 (0.722)	1.056 (0.578)*	-2.133 (0.869)**
consulting	-0.42 (0.320)	-0.197 (0.323)	-0.37 (0.368)	-0.455 (0.401)	-0.183 (0.289)	-0.739 (0.347)**	-4.421 (0.914)***
telecommunications	-0.067 (0.210)	0.001 (0.206)	0.064 (0.230)	-0.349 (0.288)	0.069 (0.221)	-0.367 (0.343)	-4.215 (0.790)***
trading	0.171 (0.179)	0.236 (0.187)	0.261 (0.207)	0.082 (0.302)	0.36 (0.193)*	0.259 (0.308)	-1.098 (0.638)*
finance	0.096 (0.181)	0.308 (0.166)*	0.324 (0.182)*	0.354 (0.224)	0.556 (0.187)***	0.344 (0.282)	-1.488 (0.638)**
energy	0.872 (0.359)**	0.962 (0.379)**	0.722 (0.378)*	0.747 (0.376)**	0.889 (0.362)**	0.67 (0.308)**	-0.914 (1.135)
services	0.253 (0.197)	0.263 (0.200)	0.208 (0.206)	0.406 (0.276)	0.398 (0.199)**	0.485 (0.265)*	-2.405 (0.497)***
women married rate	0.595 (0.105)***	0.597 (0.106)***	0.552 (0.108)***	0.593 (0.139)***	0.573 (0.100)***	0.579 (0.130)***	-0.586 (0.166)***
women age	0.513 (0.044)***	0.516 (0.045)***	0.523 (0.046)***	0.581 (0.055)***	0.507 (0.044)***	0.571 (0.053)***	-0.352 (0.053)***
men tenure	0.236 (0.020)***	0.243 (0.021)***	0.234 (0.021)***	0.238 (0.026)***	0.247 (0.019)***	0.241 (0.024)***	
WLB variables							
maternity pay	0.399 (0.150)***					0.538 (0.203)***	0.434 (0.410)
child-care benefit		-0.199 (0.339)				-0.094 (0.491)	0.65 (0.984)
family-care leave			0.407 (0.148)***			0.19 (0.196)	0.496 (0.430)
family-care benefit				0.055 (0.344)		-0.184 (0.246)	0.374 (0.645)
flexitime					0.603 (0.162)***	0.611 (0.196)***	-0.838 (0.378)**
Constant	-12.574 (1.513)***	-12.689 (1.531)***	-12.609 (1.577)***	-14.296 (1.893)***	-12.251 (1.499)***	-13.944 (1.815)***	14.084 (2.403)***
Observations	619	615	575	374	617	366	366
Adjusted R-squared	0.77	0.77	0.77	0.79	0.79	0.81	0.27

***indicates significance at 1% level; **indicates significance at 5% level; *indicates significance at 10% level.

Robust standard errors are in parentheses.

WLB is an abbreviation for work-life balance.

Table 4. The effect of WLB policies (2005 survey only) - OLS

Dependent variable	1. women tenure		2. women turnover rate		3. new women graduates retention rate	
	[1]	[2]	[3]	[4]	[5]	[6]
Control variables						
organization size	0.682 (0.155)***	0.331 (0.132)**	-0.122 (0.048)**	-0.027 (0.041)	0.322 (0.071)***	0.267 (0.074)***
industry (base:manufacturing)						
media	-0.635 (0.686)	-0.328 (0.630)	-0.41 (0.211)*	-0.457 (0.128)***	0.091 (0.358)	0.172 (0.494)
consulting	-2.17 (0.645)***	-0.509 (0.602)	-0.037 (0.272)	-0.071 (0.258)	0.047 (0.373)	-0.357 (0.248)
telecommunications	-0.861 (0.294)***	0.356 (0.261)	-0.073 (0.104)	-0.29 (0.094)***	-0.02 (0.160)	-0.069 (0.163)
trading	0.796 (0.387)**	0.62 (0.354)*	-0.184 (0.117)	-0.201 (0.093)**	0.161 (0.225)	-0.002 (0.223)
finance	-0.198 (0.405)	-0.148 (0.374)	0.214 (0.157)	0.308 (0.137)**	-0.176 (0.220)	-0.167 (0.232)
energy	2.388 (0.965)**	1.282 (0.839)	-0.74 (0.247)***	-0.095 (0.121)	-0.731 (0.195)***	-0.817 (0.224)***
services	-0.968 (0.468)**	0.06 (0.356)	0.079 (0.126)	-0.071 (0.103)	-0.46 (0.162)***	-0.321 (0.178)*
women married rate	1.124 (0.192)***	0.82 (0.172)***	-0.268 (0.057)***	-0.204 (0.049)***	0.097 (0.090)	0.118 (0.090)
women age	0.641 (0.066)***	0.501 (0.061)***	-0.06 (0.016)***	-0.054 (0.013)***	-0.023 (0.024)	-0.056 (0.026)**
men tenure		0.343 (0.033)***				
men turnover				0.385 (0.043)***		
men retention						0.246 (0.072)***
WLB variable						
maternity pay	1.08 (0.331)***	0.626 (0.301)**	-0.165 (0.107)	-0.119 (0.098)	0.329 (0.167)**	0.411 (0.166)**
Constant	-13.962 (2.121)***	-12.428 (1.925)***	0.038 (0.596)	0.617 (0.503)	-0.407 (0.959)	0.533 (1.006)
Observations	447	440	288	283	229	198
Adjusted R-squared	0.69	0.77	0.37	0.53	0.14	0.23

***indicates significance at 1% level; **indicates significance at 5% level; *indicates significance at 10% level.

Robust standard errors are in parentheses.

All independent variables in 2005 edition were conducted in 2003 and the dependent variables were conducted in 2005.

The variables turnover rate and retention rate are replaced by a log odds ratio (logit).

Table 5. The effect of WLB policies (2005 and 2008) - Pooled OLS

Dependent variable	1. women tenure		2. women turnover rate		3. new women graduates retention rate	
	[1]	[2]	[3]	[4]	[5]	[6]
Control variables						
year	0.097 (0.102)	0.167 (0.128)	-0.244 (0.049)***	-0.299 (0.059)***	0.042 (0.081)	-0.004 (0.103)
organization size						
log(women)	-0.147 (0.069)**	-0.208 (0.091)**	-0.085 (0.034)**	-0.085 (0.043)**	0.208 (0.058)***	0.138 (0.075)*
log(men)	0.487 (0.075)***	0.656 (0.101)***	-0.027 (0.036)	0.038 (0.047)	-0.107 (0.062)*	-0.076 (0.081)
industry (base:manufacturing)						
media	-0.21 (0.269)	-0.475 (0.402)	-0.273 (0.149)*	-0.075 (0.209)	0.744 (0.263)***	0.756 (0.370)**
consulting	-1.312 (0.444)***	-1.342 (0.595)**	-0.291 (0.215)	-0.126 (0.266)	0.186 (0.330)	-0.201 (0.436)
telecommunications	-0.538 (0.178)***	-0.561 (0.225)**	-0.132 (0.080)*	-0.093 (0.099)	0.195 (0.135)	0.305 (0.177)*
trading	0.154 (0.183)	0.343 (0.230)	0.054 (0.082)	0.173 (0.100)*	0.207 (0.135)	0.326 (0.175)*
finance	0.065 (0.217)	0.493 (0.304)	0.38 (0.110)***	0.279 (0.138)**	0.071 (0.179)	0.392 (0.237)*
energy	0.86 (0.524)	0.531 (0.670)	0.134 (0.299)	0.185 (0.291)	0.583 (0.386)	0.445 (0.436)
services	-0.255 (0.146)*	-0.652 (0.180)***	0.23 (0.072)***	0.305 (0.086)***	-0.212 (0.116)*	-0.085 (0.144)
women married rate	0.423 (0.068)***	0.433 (0.089)***	-0.051 (0.035)	-0.06 (0.041)	0.109 (0.052)**	0.137 (0.073)*
women age	0.665 (0.018)***	0.649 (0.023)***	-0.025 (0.008)***	-0.01 (0.010)	-0.014 (0.013)	0.001 (0.017)
men tenure	0.206 (0.011)***	0.16 (0.013)***				
men turnover			0.411 (0.031)***	0.419 (0.035)***		
men retention					0.405 (0.043)***	0.354 (0.056)***
overtime		-0.027 (0.007)***		0.004 (0.003)		0 (0.005)
women on main carrer track rate		0.488 (0.195)**		-0.173 (0.091)*		-0.185 (0.157)
WLB variable						
maternity pay	0.663 (0.145)***	0.81 (0.183)***	0.065 (0.071)	0.074 (0.083)	0.034 (0.118)	0.13 (0.146)
Constant	-17.122 (0.688)***	-16.671 (0.904)***	0.344 (0.355)	-0.493 (0.428)	0.398 (0.526)	0.338 (0.712)
Observations	1242	770	607	403	477	308
Adjusted R-squared	0.83	0.83	0.43	0.44	0.27	0.24

***indicates significance at 1% level; **indicates significance at 5% level; *indicates significance at 10% level.

Robust standard errors are in parentheses.

The variables turnover rate and retention rate are replaced by a log odds ratio (logit).

Table 6. The effect of WLB policies (2005 and 2008) - First Differencing

Dependent variable	1. women tenure		2. women turnover rate		3. new women graduates retention rate	
	[1]	[2]	[3]	[4]	[5]	[6]
Control variables						
organization size						
log(women)	-0.977 (0.186)***	-2.653 (0.475)***	1.277 (0.537)**	0.491 (0.711)	0.247 (0.956)	0.63 (1.226)
log(men)	0.392 (0.262)	1.989 (0.455)***	-0.584 (0.572)	0.19 (0.867)	0.462 (1.088)	1.383 (1.405)
women married rate	-0.084 (0.103)	0.191 (0.153)	0.019 (0.189)	0.124 (0.215)	0.097 (0.336)	0.154 (0.369)
women age	0.46 (0.032)***	0.5 (0.045)***	0.026 (0.066)	0.102 (0.072)	0.202 (0.113)*	0.232 (0.158)
men tenure	0.193 (0.039)***	0.164 (0.053)***				
men turnover			0.325 (0.086)***	0.427 (0.087)***		
men retention					0.688 (0.153)***	0.484 (0.200)**
overtime		0.002 (0.013)		-0.015 (0.017)		0.042 (0.032)
women on main carrer track rate		-0.374 (0.322)		0.085 (0.496)		-1.31 (1.214)
maturity pay change (base: 05 no, 08 no)						
05 no, 08 yes	0.21 (0.304)	-0.227 (0.445)	0.133 (0.527)	-0.561 (0.606)	-0.517 (0.847)	0.419 (0.992)
05 yes, 08 no	0.254 (0.487)	0.666 (1.018)	0.308 (0.678)	0 (0.678)	-3.005 (1.573)*	0 (0.678)
05 yes, 08 yes	-0.082 (0.137)	-0.039 (0.204)	0.315 (0.225)	0.363 (0.296)	0.334 (0.404)	-0.098 (0.542)
Constant	0.27 (0.074)***	0.175 (0.101)*	-0.43 (0.130)***	-0.674 (0.151)***	-0.3 (0.235)	-0.34 (0.297)
Observations	393	196	114	68	62	32
Adjusted R-squared	0.43	0.52	0.17	0.27	0.29	0.36

***indicates significance at 1% level; **indicates significance at 5% level; *indicates significance at 10% level.

Robust standard errors are in parentheses.

We regress the change in dependent variables on the change in all independent variables.

Table 7. The effect of WLB policies (2000, 2005 and 2008)
- Pooled OLS, Random effects and Fixed effects

Dependent variable	women tenure		
	Pooled OLS	Random Effects	Fixed Effects
Control variables			
organization size			
log(women)	-0.109 (0.056)*	-0.232 (0.066)***	-1.393 (0.172)***
log(men)	0.462 (0.060)***	0.584 (0.072)***	0.621 (0.215)***
industry (base:manufacturing)			
media	0.011 (0.229)	-0.107 (0.284)	
consulting	-1.013 (0.357)***	-1.434 (0.470)***	
telecommunications	-0.42 (0.153)***	-0.677 (0.193)***	
trading	0.189 (0.142)	0.11 (0.180)	
finance	0.164 (0.167)	0.369 (0.206)*	
energy	0.809 (0.383)**	0.942 (0.451)**	
services	-0.091 (0.113)	-0.266 (0.138)*	
women married rate	0.473 (0.052)***	0.361 (0.052)***	0.018 (0.079)
women age	0.624 (0.014)***	0.652 (0.014)***	0.657 (0.021)***
men tenure	0.214 (0.009)***	0.155 (0.009)***	0.016 (0.013)
WLB variable			
maternity pay	0.588 (0.110)***	0.573 (0.126)***	0.115 (0.250)
Constant	-15.938 (0.555)***	-16.272 (0.597)***	-8.675 (1.415)***
Diagnostic Test			
Number of observation	1861	1861	1861
Number of groups	1195	1195	1195
R-sq:			
within		0.6349	0.7155
between		0.8153	0.5414
overall		0.8123	0.5677
F test that all $u_i=0$	F(1194, 660) =4.29 Prob > F = 0.0000		
Breusch and Pagan Lagrangian multiplier test	Chi2(1)=179.94 Prob > Chi2= 0.0000		
Hausman specification test	Chi2(6)=324.54 Prob > Chi2= 0.0000		

***indicates significance at 1% level; ** at 5% level; * at 10% level.

Values in parentheses are standard errors of the estimated parameters.