

Demographic Change and the Effect of Child Care Leave Law and Family Friendly Policy on Work Continuation on Fertility Timing of Mothers: Evidence from Japan

Nobuko Nagase
Professor, Ochanomizu University
Harvard University Sociology Visiting Scholar

Abstract

The paper analysis the effects of introduction of short hour working option after return from parental leave on fertility and work continuation at prebirth employer. Identification is based on Japanese reform mandating firm to give short hour option till child is under three for firms with 101 employees which was extended to smaller firms two years later. Using a national panel survey of 2002 to 2010 with 14150 females in 20 to 34 at the start year, we found significant increase in fertility, especially among highly educated females. Lack of work flexibility may be one of the factor that stagnated female continued work despite the introduction of child care leave as early as 1992 and the enhancement that followed. While the reform promoted work continuation of mothers with higher education, on the other hand, fertility of high school graduate stagnated since the less educated has less access to such entitlement.

Extended Abstract

Japan gives an interesting case as to look into the effect of child care leave law and family friendly policy changes on mother's labor supply as well as on fertility.

One of the puzzles is the stagnancy of mothers who continue work, and stagnating fertility despite favorable law changes regarding child care leave and leave allowances in Japan.

Prior works on the effect of child care leave found positive relations with parental leave and mothers work continuation, such as Baker and Milligan(2008)

for Canada, Klerman and Leibowitz (1997) for US though the effect for US was weak. Waldfogel, Higuchi and Abe(1999) examines for US, Britain and Japan, and found strong evidence for work continuation, a particularly strong effect on Japan using Japanese panel data of 1994 to 1995. For Austria, Laive and Zweimuler(2009) found evidence of increased fertility especially among low wage mothers. Other works pertaining to the leave policy in Japan, found women working at firms with child care leave policy significantly continued their work upon childbirth (Higuchi(1994), Morita and Kaneko(1998), Shigeno and Ohkusa(1998), Higuchi and Abe(1999), Suruga and Cho(2003), Nagase(2003), and Takeishi(2011)) though many study used cross-sectional samples of females who are working. Morita and Kaneko (1998) and Toda (2010) showed that leave policy increase fertility.

Despite such empirical results and the Japanese Diet's continued efforts, however, the puzzle is that aggregate time series data shows almost no sign of increase in job continuation for first time mothers with a child age one for the past twenty years as found in *Fertility Survey of Japan of 1997, 2002, 2005 and 2010*. This is in stark contrast to the trends in many Western developed countries, where more mothers with young children were found to have increase and stronger attachment to labor market. The aggregate data shows that around 75 percent of mothers are out of labor force when their first child is of age one, and it stayed the same from late 1980's to second half of 2000's according to *the Japanese Fertility Survey*. The proportion of women who take child care leave on top of maternity leave increased, from 8 percent in the birth of 1990-94 to 17 percent in 2005-2009, increasing home time of working mothers, but the percentage of women who were in labor force when the child stayed stagnant. These raise an interesting case to investigate.

Our analysis will focus on the following two key questions. First, have the leave entitlements increased the proportion of mothers who return to employment when the child's age is one? Second, do better leave mandated by law increased fertility by lowering opportunity cost of children? Are females with differing educational level affected differently?

The key identifying strategy is to exploit the natural experiment of 2009 when the government announced that firms with employees more than 101 are to

be mandated to give short hour working options for a parent taking care of a child under three upon request from next year, while such mandating lagged two years behind for smaller enterprises.

Our primary data set for this analysis is the *Panel Survey of Adults of 21st Century*, a nationally representative panel survey that follows cohorts of Japanese youth, collected by the Ministry of Health, Labor and Welfare. The survey is conducted annually, and the initial target population was male and females in 20 to 34 and their spouses if married, when it started in 2002. The sample size is 14150 for females and 13743 for males for the first year, and the effective response rate was 82.8% for the first year, and then 82.2, 85.1, 87.9, 89.0, 90.0, 91.3, 92.4, 85.5 percent respectively for the following years. In the following analysis, I will use data of females. The data corrected is on their work status, marriage and child bearing, house work, income and their values about child rearing and marriage.

The driving force that moved the Diet to pass the family friendly policies was the concern for decreasing fertility. The child care leave law of May 1991, effected in April 1992 was the first measure the Japanese Diet took when it found in 1990 that total fertility rate of 1989 was 1.57, that aroused much public interest as a "1.57 Shock". The leave law was enhanced many times after then, with wage replacement of 25% in 1995, 40% in 2001, and 50% in 2008, and mandating short hour option to firms in 2010, that was announced in 2009. At the same time government also extended the period that they gave child allowances though the monthly allowance is relatively low¹ The government also tried to increase child care places with many campaigns but are not as of yet very successful in urban areas.

We give two primary conclusions.

The introduction of short hour working option that eased hours restriction, using difference in difference method we found significantly positive increase in

¹ The allowance the government gave for children was as short as below one in 1992, three in 1993, six in 2000, nine in 2004, but extended to twelve in 2006, though the monthly allowance was as low as 5000 yen (around 50 dollars). It was increased in 2010 to 13000 yen with no income restriction when Democratic Party of Japan had a landslide win, which was short lived and was cut back again in 2013 to be income tested.

fertility for university graduated females, and significantly positive increase in fertility using linear probability model who were employed the previous year at firms with the short hour provision. This means that the work flexibility worked to accelerate birth timing that had been put off.

However, when we look back, the introduction of child care leave, initially lacking in flexibility under Japanese employment system, increased work continuation in micro level, as had many prior studies that investigated working mothers showed, but also worked as to delay marriage and child birth timing, since opportunity cost of quitting became larger due to this new opportunity to continue, more females delayed marriage and birth timing. However, since the leave entitlement was difficult to be used in actuality, many women who wanted children in the end quit work to have children in mid 1990s to early 2000's. This explains the gap why proportion of working mothers stayed stagnant despite the micro level analysis that showed that leave entitlement did increase work continuation when working mothers were investigated. The change in climate slowly came in place, such as the adoption of work and life balance charter by the business, union and government, along with changes in the parental leave law.

We cannot say that the leave provision was the only cause for the increase in fertility among larger firms in 2009 and 2010, but the easing of hour constraint and introducing flexibility did seem to have effect in raising fertility and child birth.

However, when we take a look into the whole population, the result is mixed. There are increasingly larger number of non-standard workers who are loosely attached and do not have entitlement of leave is increasing. The wage of the larger number of male as possible candidate dating partner is also stagnating. The leave entitlement, given mostly to workers with permanent contract may indeed be decreasing such contract for females.

On the whole, when we look into demographic change from 2002 to 2010 using the panel data, we find that fertility hazard, which was much higher for high school graduates as compared to university graduates, decreased for high school graduates during this period. While more educated females gained more flexibility to give birth and also to continue work, the less educated female lost their likelihood to get into marriage and to have children.

The reason we can give for this result is that the setting of Japanese leave entitlement and leave allowance is different from many countries that showed strong positive effect. Canada's leave allowances are given indiscriminately to those whose income decreased after child birth, who had been working previous year and are now taking care of a child. In Austrian case, women who worked two years prior to birth was counted as eligible. In Japanese case, the work history nor participation in employment insurance themselves do not entitle one for the leave or the leave allowance. If one has contract without termination, and worked for more than one year, one is entitled for leave. However, the actual procedure for getting leave allowance needs negotiation with management and human resource division on the day of the leave and the expected return date, since the procedure can only be made through the companies. During the course, one might be suggested a negative connotation on taking the leave. If one is a termed employee, the entitlement becomes very difficult. The law says that one has to have promise from the company that one may come back after the child is of age one and continue work for more than one year then on. This excludes many termed workers, from leave nor allowance entitlement, even though one may be covered in the unemployment insurance.

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