

**Female Labor Force Participation Rate in Japan:  
The Causes of the Gender Gap and Its Economic Consequences**

by

Dora Ayumi Solymos

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Supervisor:

Professor Robert Lieli

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## ABSTRACT

This thesis discusses the policy environment and socio-economic conditions in Japan as an example of a highly developed country with seemingly persistent gender inequality. It uses survey data to estimate the reason behind gender inequality in the labor market with the initial hypothesis that it is the social environment that leads to a lower representation of women in the labor force. First, it introduces the main themes surrounding the questions of women's role in economic development and their disadvantaged status in the labor market. Then it applies these themes to the Japanese economy. It can be hypothesized that cultural norms and social views play a powerful role in the employment decisions of individuals. The results seem to support this argument. The thesis does not find any evidence for the importance of fertility and gender based discrimination, however, it seems that married women are much less likely to be in employment than their single counterparts or married men. Attitudes seem to be correlated with employment decisions but only in women. Consequently, in order to achieve meaningful improvements in female labor force participation rates, policymakers may have to focus more on creating change in social norms.

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## INTRODUCTION

Numerous studies by renowned economists and international organizations, such as the IMF and the UN, have argued for the importance of female emancipation for successful economic development. The inequality between the two sexes and women's oppression, both economically and socially, are persistent problems around the world. The role of women's empowerment in industrialization has attracted much interest in academia and in the public discourse alike. A number of seminal works (e.g. *Women's role in economic development* by Ester Boserup) found support for the importance of female participation in developing countries.

However, the situation in developed countries may be less clear as these states face unique problems, such as the issue of aging population, that are strikingly different from the problems explored in development studies. To fill this gap in the literature this thesis discusses the policy environment and socio-economic conditions in Japan, as an example of a highly developed country with seemingly persistent gender inequality.

Japan has been experiencing significant structural changes in its economy. After the bust of the real estate and asset bubble in 1990-1991 the Japanese economy entered a long phase of economic downturn and stagnation. Consequently, the 1990s is often referred to as the "Lost Decade" but it can be argued that it would be more fitting to use "Lost Decades," in plural, since Japan's economic growth today still seems sluggish at best. Moreover, Japan faces a number of socioeconomic problems that may inhibit growth. The country suffers from a serious demographic issue with low birth rates and a rapidly aging population. This threatens to become a substantial

burden on government finances while it retards productivity at the same time. Because it is highly unlikely that Japan could grow productivity through population growth in the short to medium run, the best option may be to support the inclusion of women in the labor force.

However, gender inequality is still a major topic in Japan. According to the World Bank Development Indicators, female participation in the Japanese labor force was around 49 per cent in 2014 (World Bank, 2016). It is below the average in other developed countries which is well illustrated in the World Economic Forum's Gender Inequality ranking where Japan ranked 101<sup>st</sup> out of 145 countries in 2015 (World Economic Forum, 2015).

As a response to these issues Prime Minister Shinzo Abe introduced his economic reform package called "Abenomics" which tries to end the country's long struggle with deflation and economic stagnation. Part of this is an increase in female participation, however the sought-after outcomes have yet to materialize.

At first glance Japan's female labor force participation rates do not seem alarming. However, the overall numbers conceal the peculiar nature of female employment structure in Japan that is distinct from what we usually observe in other developed countries. A relatively high number of women are classified as self-employed and they constitute a large bulk of workers in the informal sector.

So what is the driver behind this persistent gender inequality in the Japanese workforce? Which social and demographic factors influence women's decision to stay out of the labor force? This is the question that this thesis explores by using data from the Japanese General Social Survey (JGSS). The hypothesis is that this is likely to be a supply-side problem which is indicative of an unsupportive cultural and institutional

environment. The impact of cultural norms has been explored in the literature and this thesis develops a model which enables us to measure the impact of social attitudes on employment decisions.

The survey data is used to estimate the impact of social and demographic characteristics on the likelihood employment on the level of individuals. The results indicate that the reason behind gender inequality in the Japanese labor force may be linked to marriage and cultural attitudes in women. This gender gap is cannot be detected between single women and single men. Thus, it seems that the gender gap is related to cultural norms rather than labor market conditions. Furthermore, the number of children does not seem to have a meaningful influence on employment.

These results could have a profound impact on the debate surrounding the policy direction of the Japanese government. Instead of focusing on increasing subsidies to childcare facilities policymakers may have to shift their focus on creating social change. The government could support a change in cultural norms by including gender sensitive education in school curricula and by offering special training opportunities to women to enhance social awareness. It is important to remove barriers to participation such as taxes or benefits that are designed on a family level rather than at the level of individuals. These regulations favor the participation of only one spouse which usually leads to women exiting the labor force. Furthermore, the government could promote a welcoming work environment for women. It is not enough that women are hired but they should be compensated fairly so that they have an incentive to stay in the labor force even after childbirth. Such a policy shift could lead to a parallel improvement in production and consumption.

## CHAPTER 1 – ECONOMIC DEVELOPMENT AND GENDER EQUALITY

The chapter summarizes the main arguments from seminal works in the study of the relationship between economic development and women's status and gives a brief overview of the current status of gender inequality in the global labor market.

### ***1.1 The Role of Women in Economic Development***

Women's role in economic development has been explored extensively in economics research. One of the most cited groundbreaking studies in this field is from Ester Boserup (1965). Boserup focuses on women's role, particularly in the early stages of development and industrialization. She finds that women's position in society, their level of education, and their role in the family may act as important triggers of economic development.

Another major work is from Goldin (1986) which introduced the hypothesis that there may be a U-shaped correlation between economic development and female labor force participation. According to this theory, female labor supply decreases with economic development but after reaching a certain level of prosperity it starts increasing again (Goldin, 1990). Thus female labor supply is highest in the least and the most developed countries while it is relatively lower in countries that are somewhat developed but still have much work to do. Countries with lower income levels may experience higher female labor force participation because women might be obliged to work to sustain their living in the absence of social protection regimes (IMF, 2013). With higher income levels this necessity to work for survival becomes increasingly weak. However, the relationship becomes positive again for high income countries

which may be explained by the higher quality of education and lower fertility rates, characteristic of developed countries, and the more widespread availability of household appliances that enable women to switch from household to market labor activities (UNWomen, 2015).

This line of thought hypothesizes that industrialization brings a change in production that usually implies a shift from more labor intensive to more capital intensive modes of production. In the early stages of development a more capital intensive mode of production may be more suitable for men than then for women because the operation of machines may require more physical strength than simple household production (Goldin, 1986). Thus industrialization may initially put men in an advantage which might explain the downward slope in female labor supply during the initial stages of development (bid.).

Cagaray and Ozler (1995) find evidence for the U-shaped relation of female labor force participation rate and economic development which they refer to as the “feminization U”. Pampel and Tanaka (1986) and Psacharopoulos and Tzannatos (1989) confirm this result in their studies which examines the social characteristics of individuals that may influence women’s decision to join the labor force. Both studies find that education seems to play a crucial role in encouraging female labor force participation.

Olivietti (2013) states that there seems to be a correlation between gender equality and economic development but the direction of the causal link is not clear. Gender equality is likely to be beneficial for economic growth as it tends to be accompanied by increased levels of education and decreased mortality rates (Kabeer



and Natali, 2013). But it can also be argued that economic development may support gender equality. Hence the direction of causation is disputed.

There are scholars who focus on the potential macroeconomic gains of increasing gender equality and the inclusion of women. It is reported by the IMF (2013) that according to Aguirre et al. (2012) an equalization of male and female labor force participation could lead to a 9 per cent increase in the Japanese GDP. At the same time, it must be noted that the gap between female and male employment rates shrank globally during the financial crisis (ibid.).

Additionally, the IMF (2013) points out that increasing female labor force participation may be an effective aid for economic growth for countries struggling with ageing populations. Inclusion of women can support economic growth when the workforce becomes increasingly small due to the increasing withdrawal of previously active people into retirement.

The inclusion of women in wider spheres of professional work could be beneficial from a business perspective as well. Women could provide a wider range of opinions that could be more fitting to markets oriented towards a female consumer basis (CED, 2012; CAHRS, 2011).

## ***1.2 Female Labor Participation Gap around the World***

In a 2013 staff discussion note the IMF reports that women's active contribution to the economy is below its potential worldwide which may shed light on the great loss to human productivity that the global labor participation gender gap imposes. Not only that they are less well represented in the labor market but it seems that their general social and economic position is often inferior that of men's. Women seem to be more likely to live in poverty and work in the informal sector (World Bank, 2011). Moreover,

women tend to have lower access to productive assets as well which may further hinder their ability to contribute to economic productivity (ibid.).

The labor supply of the two sexes may differ not only in terms of stages of economic development but there might also be significant differences in the types of jobs and sectors females tend to work in compared to males. In OECD countries, women seem to be more likely to work in service sector jobs (especially in the fields of health and community service and education) accounting for 80 per cent of female employment (IMF, 2013). The ILO (2010) finds that women are more likely to work part-time than men which reflects the persistent responsibility of women as primary caretakers and unpaid household workers. This phenomenon may restrict women's career paths and place them in higher risk of poverty. Women seem to remain severely underrepresented in senior positions of management and public roles as well (UNWomen, 2015). Moreover, women may be more likely to work in jobs that are associated with lower wages and lower social status (ILO, 2010).

## CHAPTER 2 – THEORIES REGARDING FEMALE PARTICIPATION IN THE LABOR MARKET

Chapter 2 turns to the discussion of women's employment and approaches the problem from a labor economics perspective. For the study of the issue of the gender gap in Japanese labor participation rates we must first understand the general theory surrounding individuals' labor market participation decisions.

It must be added that the concept of being in the labor force may not be entirely clear, the definition may change with time and it may be interpreted in various ways in different jurisdictions. However, regardless of the definition we use, it is generally observed that female labor force participation lags behind that of males'. It has remained at around 50 per cent around the world. Although the gap between male and female participation rates have been declining worldwide, this may be largely due to decreasing male labor force participation rates rather than increasing female rates.

### ***2.1 Theories From Labor Economics: Rational Individuals, Utility Maximization, And Cultural Influences***

Jacob (1962) studies the correlation between income level and the amount of work an individual is willing to take on. According to the author, an increase in income can be linked to an increase in leisure time consumed and a decrease in working hours; moreover, this rule is generally applicable to the whole of the family rather than individual members. Thus an increase in the earnings of one family member may have an impact on the leisure consumption of the entire family. Jacob (1962) goes on to argue that the allocation of leisure and work among family members depends on the relative price of each individual. This is related to the market wage rate and the

marginal productivity of an individual which may differ significantly between each family member. Following this logic, the rational family allocates more work hours and less leisure time to family members who expect a higher market wage rate as the leisure time of these people becomes relatively more expensive for the family.

This theory might explain the lower labor force participation rates of married women. In this context, substitutability of family members may play a crucial role. Depending on the specific circumstances of each family and the period of observation the substitutability of wives may vary. For example, it could be hypothesized that substitutability decreases in the presence of a large number of children in the family or when there are very young children who need constant care.

Hummelsheim and Hirschle (2010) further explores this question by measuring how culture influences women's choice to work or to stay out of the labor force. Cultural norms and social indoctrination have an impact on the level of utility that each individual obtains from engaging in work (Fernandez, 2013). Consequently, women receive information from society and culture and based on this input they make an informed decision as to whether they wish to join the labor force or not. For example, there may be a certain social stigma associated to a specific type of work which may lead to a decrease in female labor force participation. This information may be passed on from one generation to the next but it may change in time if the underlying socioeconomic circumstances change. Therefore, changes in employment structures can have an impact on labor supply through intergenerational learning (Fernandez, 2013).

It has been suggested that culture can play a major role in the labor force participation decisions of women by other scholars as well. Reimers (1985) argues

that ethnic differences may influence female labor force participation in the US. By using two-stage least squares analysis the author finds differences between African American and white American women in terms of their likelihood of labor force participation. This result has been supported by the findings of Oaxaca (1971) as well.

Fernandez, Fogli, and Olivetti (2004) find that whether an individual's mother worked or not has a major impact on female employment decisions. This seems to be especially applicable in cases of husbands who were brought up in households with working mothers. The authors argue that, perhaps unsurprisingly, women who have the predisposition to look for employment tend to marry men who are supportive of female employment. Furthermore, it can be hypothesized that the mother's employment status has an impact on women's employment through social attitudes. Thus, families with working mothers may provide a more liberal environment that enables the construction of ideas related to gender equality. As more men become supportive of women's employment, more families are built on the working mother model, and the more accepted gender equality ideas become throughout society.

## ***2.2 Fertility And Female Labor Force Participation***

Bloom et al. (2009) find that childbirth might reduce the labor supply of women by approximately two years during the period of reproduction. This may adversely affect women's employability as prolonged periods of absence from the labor market can lead to a loss of skills and a lack of professional experience (IMF, 2012). Moreover, numerous studies have found an inverse relationship between the number of children a woman wishes to have and the likelihood that she is employed (such as Blake, 1970; Collver and Langlois, 1962; Collver, 1968; Farley, 1970; Hoffman and Hoffman, 1973;

Weller, 1971; as cited in Bloom et al. 2009). However, the reason behind this correlation is unclear.

Smith-Lovin and Tickmayer (1978) study the relationship between labor force participation, the number of children a woman decides to have and her social attitudes. They conclude that background social conditions seem to be the most salient among the explanatory variables attributed to labor force participation likelihood. Smith-Lovin and Tickmayer (1978) argue that societal expectations may play a major role in the work and fertility decisions of women as having a child is likely to be considered highly valuable by social standards (at least in the US where the study was conducted). Childrearing may be more demanding in terms of time and flexibility than formal employment (*ibid.*). Moreover, it seems that the number of children a woman has may influence her labor force participation but this line of causation is unlikely to be true the other way around (*ibid.*).

In contrast, Waite and Stolzenberg (1976) argue that the number of children a woman wants to have has a relatively small impact on whether she wishes to work at the age of 35 or not. On the other hand, labor force joining decisions can have a crucial influence on fertility. These conflicting results may be due to the fact that Smith-Lovin and Tickmayer (1978) measure actual fertility and employment outcomes, while Waite and Stolzenberg (1976) measure planned employment and fertility. Smith-Lovin and Tickmayer (1978) argue that unplanned parenthood may have an even larger impact on labor force participation than planned decisions. Thus, there may be a big difference in the results observed in the two types of studies. Nevertheless, scholars seem to agree on the theory that there is a large correlation between fertility and employment.

### **2.3 The Effect Of Government Policies**

According to the IMF (2013) women's labor force participation can be severely hindered by government policies. In particular, tax laws that are designed on a household, rather than an individual income basis, may provide a powerful disincentive for non-primary earners to pursue a career (ibid.). Married women tend to be secondary earners who face a significant tax wedge compared to primary earners in countries where family-based taxation is the norm. Hausman (1979) supports the argument that taxes have a negative effect on women's labor force participation. Taxes and welfare provisions lead to nonconvex budget lines which may serve as a powerful disincentive on participation (ibid.). When income support is the main aim tax reduction tends to be linked to childrearing obligations and family income. Thus the IMF (2013) advocates the implementation of individual taxation instead as it may better support labor force participation.

Tax policy has an impact on the supply side of the labor market but there are policies that attempt to invigorate participation through the demand side as well. Measures that target the demand side of the labor force include anti-discrimination laws and other policies that aim to eliminate labor market discrimination. It must be noted, however, that anti-discrimination laws are not always effective. Although, laws that target gender based discrimination have become widely used in OECD countries, observers still find evidence of discriminatory practices (OECD, 2008). Increasing awareness could significantly improve the efficacy of anti-discrimination laws (ibid.).

## CHAPTER 3 – THE JAPANESE ECONOMY AND LABOR MARKET: CURRENT ISSUES AND POLICIES

Japan has been experiencing significant structural changes in its economy. The country faces a number of socioeconomic problems that may inhibit growth. The country suffers from a serious demographic issue with low birth rates and a rapidly aging population. This threatens to become a substantial burden on government finances while it retards productivity at the same time. Because it is highly unlikely that Japan could grow productivity through population growth, the best option may be to support the inclusion of women in the labor force. However, gender inequality is still a major issue in Japan. This chapter introduces the economic environment in Japan in order to gain a better understanding of the underlying issues behind the gender gap in participation rates.

### ***3.1 Economic Environment And Current Policies***

The current Japanese government, led by Prime Minister Shinzo Abe, has set out to pull out the country from the economic stagnation that started after the burst of the real estate bubble almost three decades ago. Abe announced that his economic program, often referred to as Abenomics, would rely on three main approaches to increasing economic growth. These were popularized as the ‘Three Arrows’ of the new policy package.

The third arrow of this program covers structural reforms which concerns women’s employment among other issues. In 2014, Finance Minister Taro Aso announced the ten points of Abenomics’ growth strategy which included the increase



of female labor force participation as the fourth point (Yoshino and Taghizadeh-Hesary, 2014). Among other initiatives, it was announced that the government plans to increase the financial support offered to childcare facilities, thus enabling women to maintain their jobs after childbirth. The provision of affordable childcare services could free women from the obligation of the role as main household workers. It may allow mothers to re-enter the labor market enabling them to preserve valuable employment skills. The effectiveness of the Abenomics policy package is yet to be tangible and it may be too early for observers to be able to draw far reaching conclusions. However, no dramatic improvement in women's social standing has been reported so far.

Moreover, the Japanese tax system is still based on the family model rather than on the individual. As previously discussed, this may have a profound impact on married women's employment decisions. There may be more room for improvement.

Thus it seems topical to examine the reasons behind lagging female labor force participation in Japan as it can help us to evaluate the policy direction of the Abe government. Their current strategy seems to focus on the financial support of mothers however it might be constructive to look at shifting social stances although this may be more difficult to realize. This model in this thesis studies precisely this: namely, the impact of demographic and cultural circumstances on employment status in Japan.

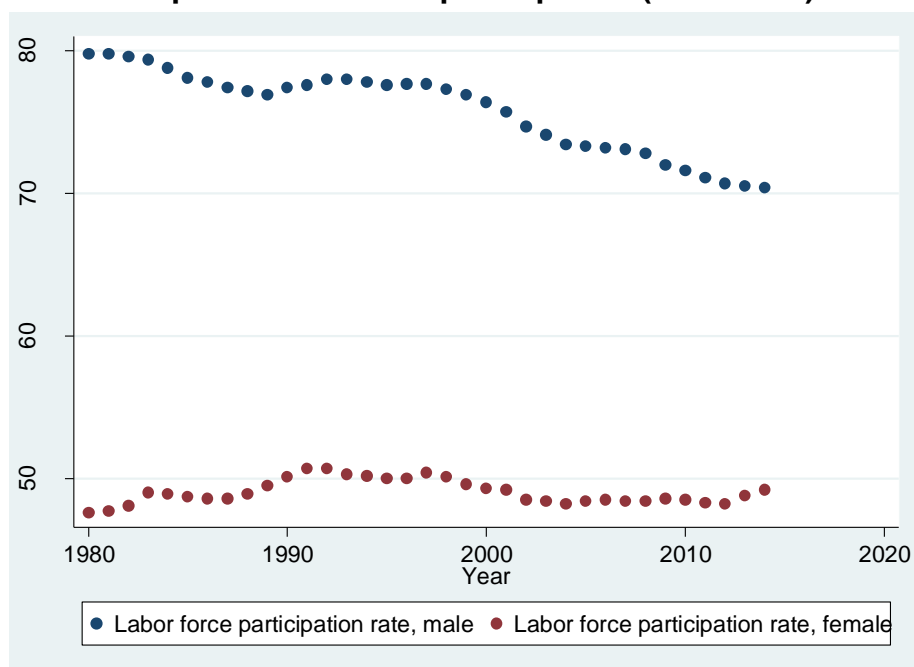
### ***3.2 Women's Position In The Japanese Economy***

At first glance Japan's female labor force participation rates do not seem alarming. However, the overall numbers conceal a peculiar nature of female employment structure that is distinct from what we usually observe in other developed countries. A relatively high number of women are classified as self-employed and they constitute a large bulk of non-regular workers as well. The latter saw a significant

increase in the past two decades. This section gives description of the women's role in the Japanese labor market and explores the possibility that inequality in employment and income may be due to women's unwillingness to join the labor force as full-time workers. This may be caused by long-standing historical and cultural traditions and norms that may persist to today.

According to The Economist (2014), female participation in the Japanese labor force is around 63 per cent. It is below the average in other developed countries which is well illustrated in the World Economic Forum's Gender Inequality ranking where Japan ranks 104<sup>th</sup>. Data from the World Bank Development Indicators shows that the gender gap in labor force participation rates is an ongoing and particularly severe issue in Japan. Graph 1., below, shows the evolution of male and female labor force participation rates from 1980 to 2014. It can be observed that the participation gap has been shrinking in the past three decades but there is still a significant divide between the two sexes in the Japanese labor market. Moreover, much of the decrease in the gender gap seems to be caused by the decrease in the male labor force participation rate, rather than the increase in the female participation.

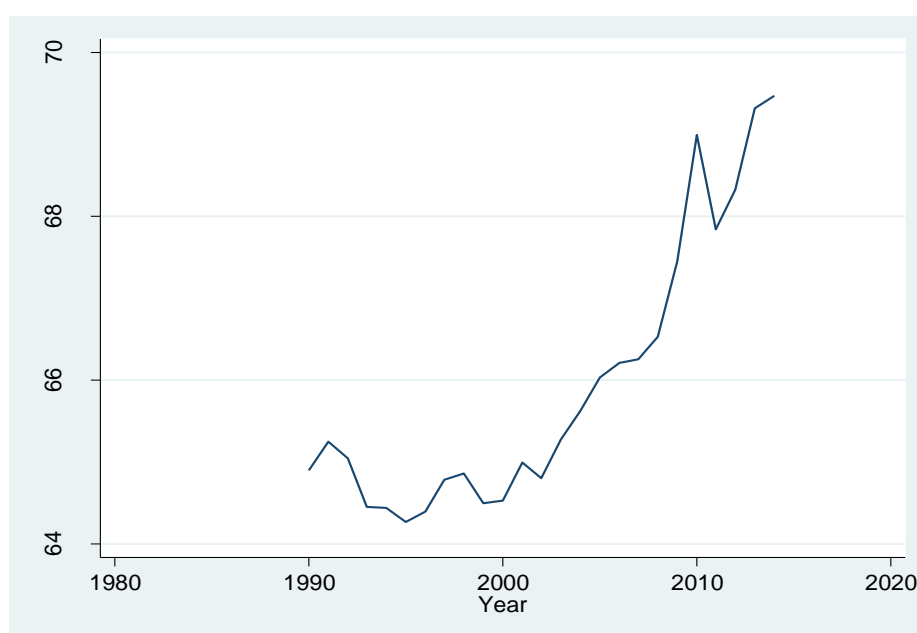
**Graph 1. Labor force participation (1980-2014)**



Source: World Bank (2016).

At the same time it must be acknowledged that the shrinkage in the labor force participation gap has not been trivial. This may be visible in the change in the ratio of female and male labor force participation rates between 1990 and 2014 (graph 2.).

**Graph 2. Ration of female and male labor force participation rates (1990-2014).**



Source: World Bank (2016).

Brinton (1993) offers a very thorough analysis of the socio-economic characteristics of the female labor force in Japan. The author argues that the female participation rate in Japan is similar to the ones observed in Western industrialized nations but this statistic covers a deeper socio-economic gap between men and women. Furthermore, this socio-economic gap might lead to a major hindrance in the efforts towards gender equality in the labor force.

The wage gap between men and women may be indicative of the general bias against women in the Japanese labor market. This wage gap may be especially wide in Japan among developed countries (Matsui et al., 2010). This may be partially explained by the job segregation between the two sexes characteristic of the Japanese labor market.

Lower participation rates and lower wages together lead to a wide income differential, with men earning around 4.5 million yen a year while women do not seem to earn even 2 million yen per year on average according to data from the 2008 and 2010 Japanese General Social Surveys. Thus, as the data indicates, increasing labor force participation does not necessarily mean increasing social and economic position.

This may be supported by the experience in communist countries where gender equality was promoted through women's labor force participation (Brinton, 1993). Despite this, communist and post-communist countries today do not seem to show much higher levels of social and economic equality between the two sexes as indicated by their scores in the World Economic Forum's Global Gender Gap Index (World Economic Forum, 2015).

It can also be argued that Japan has an especially low rate of female labor force participation relative to its level of economic development (Brinton, 1993). It is a highly

industrialized and urbanized country and as such we may expect to see it among the top countries in terms of gender equality. The IMF reports that the Japanese labor market gender gap was at 25 percentage points in 2013 while this metric was around 10 percentage points in most other advanced countries (IMF, 2013). Japanese women tend to be highly educated with higher education levels exceeding the US average (Zhou, 2015). Despite this, a smaller ratio of Japanese women is in employment than in the US.

Observers argue that the Japanese labor market is likely to be based on a model that is biased towards favoring males. More specifically, it has been suggested that generally employers offer work conditions that are more suitable for a married man with a housewife as such type of workers are more flexible in terms of working hours compared to working mothers (Yashiro, 2009). The practices of hiring right after graduation and offering life-time employment all contribute to this bias in the Japanese labor market (ibid.).

This employment model seems to be supported by a social environment that advocates gender specific role division which inhibits the labor force participation of women (Kawaguchi, 2008). These social expectations force women to shoulder household responsibilities making them unable to work full time. At the same time companies offer work styles that are suitable for full time employees which makes it difficult for women to find jobs. Women also complain about s labor supply and demand mismatch in the Japanese labor market (Zhou, 2015). It seems that many women feel that their skills and needs are not matched in the job offerings available to them. This may be due to time and income constraints among other things.

Hill (1983) focuses on women's participation outside of the framework of official employee status. Many women work in family businesses or as home workers who

are often classified as “self-employed” (i.e. people working in the so called “informal sector”). Hill (1983) studies the labor force participation decisions of women in Japan and notes that the number of women who report themselves as self-employed or as family workers is surprisingly high given the country’s level of economic development.

This gender gap in labor force participation might have macroeconomic consequences as well. The IMF (2012) finds that an increase in the Japanese female labor force participation rate to the G7 average could result in a permanent increase in the annual growth rate.

In order to remedy this issue, we must first understand the possible causes. Brinton (1993) argues that the low female labor force participation rate observed in Japan can be traced back to the development of institutions, such as the education system, after the Second World War. These are said to have evolved in a way that disadvantage women. Based on this theory, it could be argued that a fundamental structural reform may be necessary for the government to be able to reinvigorate the Japanese labor market.

Yasuda (2011) uses Japanese General Social Survey data to see the degree of gender-based biases and discriminatory behavior on the employers’ side. The author concludes that employers’ taste-based discrimination is less salient compared to their biases caused by social attitudes when it comes to hiring decisions. Thus, it seems that social attitudes play a key role in the Japanese labor market. This thesis follows Yasuda’s methodology but instead of studying the employers’ attitudes, it approaches the question from the employees’ perspective.

## CHAPTER 4 – DATA AND METHODOLOGY

This chapter focuses on the introduction of the variables and the data source used in the thesis. It also describes the model developed for the analysis of the Japanese labor force. The aim of this analysis is to study the factors influencing the likelihood of whether an individual is employed (or is part of the labor force) or not. Here, I explain the rationale behind the choice of data and the subsequent analysis developed for the purpose of this study.

### **4.1 Dataset And Source**

This study uses data from the Japanese General Social Survey (JGSS)<sup>1</sup> for the empirical analysis of employment trends of the Japanese female population. The use of social survey data seems preferable in this research framework as it allows us to gain an insight into not only the general outlook of the Japanese labor market, but also the characteristics of mainstream social views in Japanese society. It enables us to measure social views at the level of individuals.

The JGSS is based on two-stage stratified random sampling. I took the data for the years 2000, 2001, 2008, and 2010. In this thesis, the data for 2000 and 2001 is pooled and then compared to the pooled data for the years 2008 and 2010. Thus we can also see how attitudes changed during the period.

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<sup>1</sup> The Japanese General Social Surveys (JGSS) are designed and carried out at the Institute of Regional Studies at Osaka University of Commerce in collaboration with the Institute of Social Science at the University of Tokyo under the direction of Ichiro TANIOKA, Michio NITTA, Hiroki SATO and Noriko IWAI with Project Manager, Minae OSAWA. The project is financially assisted by Gakujutsu Frontier Grant from the Japanese Ministry of Education, Culture, Sports, Science and Technology for 1999-2008 academic years, and the datasets are compiled with cooperation from the SSJ Data Archive, Information Center for Social Science Research on Japan, Institute of Social Science, the University of Tokyo. Please refer to the JGSS Homepage (<http://jgss.daishodai.ac.jp>) for any changes to the data.

The JGSS is collected by the Institute of Regional Studies of Osaka University of Commerce and the Institute of Social Science of the University of Tokyo. The data used in this thesis was obtained from the Inter-University Consortium for Political and Social Research database. The JGSS is a nationwide survey which includes adult males and females between the ages of 20 and 89. Each year a sample of around 4500 to 9000 individuals is taken to conduct the survey.<sup>2</sup>

The thesis focuses on the employment decisions of Japanese adults and therefore it seems reasonable to exclude pensioners and people who are unable to work from the dataset for the analysis.

## **4.2 Methodology**

The seminal works of Cain (1966) and Mincer (1962) are the basis of numerous empirical studies on the topic of female labor force participation. Both authors focus on employment as a dummy variable dependent on various socio-economic measures such as sex, female and male earnings, schooling, age, and the number of children. Hill (1983) reports that a substantial number of studies have followed this method such as Bowen and Finegan (1969), Cogan (1975, 1978), Gronau (1973), Heckman (1974, 1980), and Schultz (1980).

The thesis follows this path and treats female employment in Japan as the dependent variable in question and utilizes demographic characteristics and social views as explanatory variables. The model is quite straightforward conceptually; it attempts to measure the impact of social and cultural influences on the labor force

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<sup>2</sup> The sample size was 4500 in 2000 and 2001, 8000 in 2008, and 9000 in 2010.

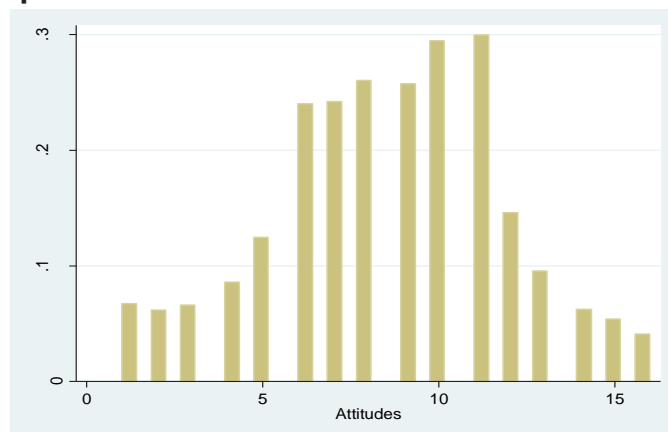


participation decisions of individuals in Japan with a focus on differences between males and females. The data from 2010 and 2008 is pooled for the analysis and the results are then compared to the results of the pooled data from 2000 and 2001. This may enable us to see how employment decisions and social attitudes changed over time. It is reasonable to assume that the periods before and after the global financial crisis may be fundamentally different both from an economic and a sociological point of view.

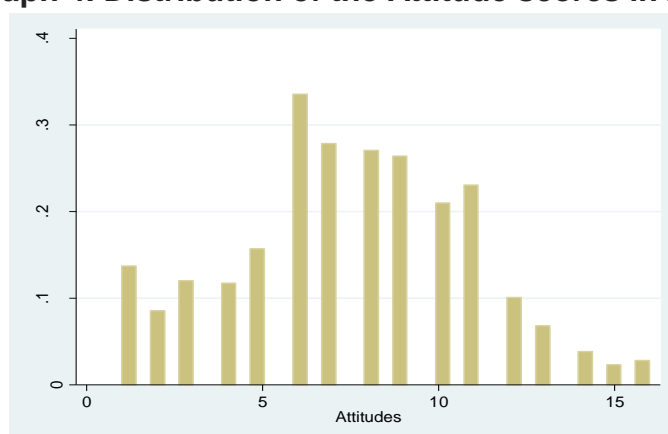
I used eleven explanatory variables to see how they are related to employment. Ten variables are obtained directly from the JGSS with minor modifications (e.g. cleaning of the data) and there is one additional variable labelled as 'Attitudes'. This was created by adding up the scores of five separate survey questions related to personal opinions on gender roles. (The detailed description of the five survey questions is in the appendix.)

The survey questions incorporated in this measure are: "view on wife working", view on connection between women happiness and marriage", "view on gender role", "view connection between men happiness and marriage", and "view on role of wife to help husband". The scores for each question range between 1 and 4 with a score of 1 applied if the respondent chooses "disagree", 2 if he or she chooses "somewhat disagree", 3 if it is "somewhat agree", and a score of 4 if he or she chooses "agree". This way, the survey questions intend to measure how liberal or conservative the respondent's views are. The attitudes variable is a sum of these scores. Hence, the overall attitudes score ranges from 1 to 16 with a lower number representing more liberal opinions and the higher scores showing more traditional views on gender roles.

**Graph 3. Distribution of the Attitude scores in 2000-2001**



**Graph 4. Distribution of the Attitude scores in 2008-2010**



In general, men seem to be more biased towards conservative social views than women but both groups see some decrease in their average score.

**Table 6. Comparison of the Attitudes measure between 2000-2001 and 2008-2010.**

Attitudes 2000-2001					
	Observations	Mean	Std. Dev.	Min	Max
Total	4274	8.53	3.33	1	16
Female	2241	8.03	3.30	1	16
Male	2033	9.08	3.27	1	16
Attitudes 2008-2010					
	Observations	Mean	Std. Dev.	Min	Max
Total	5013	7.50	3.37	1	16
Female	2737	7.19	3.39	1	16
Male	2276	7.88	3.30	1	16

The rest of the variables measure the social and demographic backgrounds of individuals. The Female dummy is a measure for respondents' sex. The Age variable is the age of the respondent at the time of the survey and Age\_2 is the squared value of Age. School\_years represents the number of years of education the respondent received based on the last qualification attained. Total number of children is, as the name suggests, the total number of children the respondent is raising. Then there is one variable that attempts to measure the family and cultural background of the respondent which is denoted as Mother\_work. This is a dummy variable for whether the respondent's mother had a permanent job at the time when the respondent was fifteen years old. The below tables show some descriptive statistics of the variables in the 2000-2001 and the 2008-2010 datasets.

**Table 1. Explanatory variables for the years 2000 and 2001 (total)**

Variable	Observations	Mean	Standard Deviation	Minimum	Maximum
Female	4480	0.53	0.50	0	1
Age	4480	46.16	14.33	20	89
Married	4480	0.75	0.43	0	1
School_years	4443	12.57	2.26	6	18
Income	3024	10.74	3.40	1	19
Total Number of Children	4472	1.61	1.17	0	8
Mother Work at Age 15	4288	0.27	0.44	0	1
Attitudes	4274	8.53	3.33	1	16

Source: Japanese General Social Survey, 2000 and 2001.

**Table 2. Explanatory variables for the years 2008 and 2010 (total)**

Variable	Observations	Mean	Standard Deviation	Minimum	Maximum
Female	6766	0.54	0.50	0	1
Age	6766	47.49	14.37	20	90
Married	6766	0.72	0.45	0	1
School_years	6599	13.75	2.91	6	18
Income	4730	10.21	3.19	1	19
Total Number of Children	6759	1.58	1.17	0	10
Mother Work at Age 15	6524	0.37	0.48	0	1
Attitudes	5013	7.50	3.37	1	16

Source: Japanese General Social Survey, 2008 and 2010.

### 4.3 Hypothesis

Based on previous theoretical studies, it may be expected that cultural norms and social views heavily influence the employment decisions of women in Japan. Chapter 2 introduced the main discussions in the literature surrounding the relationship between social and cultural norms and women's decision to join or stay out of the labor force. It seems likely that cultural influences play a role in the development of labor force participation patterns in individuals thus the thesis aims to quantify this impact.

Another recurring theme in the female labor force participation literature is the effect of childbearing on female employment. Although the line of causation has not been established in the academia, it seems that the majority of seminal works find some correlation between fertility and female labor force participation. Therefore, it may be reasonable to expect some level of correlation between the two measures in the Japanese dataset as well.

Furthermore, it may be instrumental to see how such measures changed between the early 2000s and the end of the decade, by the aftermath of the financial crisis. It might be expected that the influence of various demographic and cultural variables changed due to the changing economic climate.

## CHAPTER 5 – RESULTS AND IMPLICATIONS

In this chapter I discuss the findings of the analysis introduced in the previous chapter and how it relates to the theoretical discussion of female labor force participation. I also offer some policy recommendations drawing from the empirical evidence.

### **5.1 Regression Results**

The model developed in this thesis is a linear probability model with employment on the left hand side and the previously described eleven social and economic variables on the right hand side.

$$\begin{aligned} \text{Employment} = & \alpha + \beta_1 \text{Female} + \beta_2 \text{Age} + \beta_3 \text{Age}^2 + \beta_4 \text{Married} + \beta_5 \text{Married} * \text{Female} + \beta_6 \text{Years} \\ & \text{of Education} + \beta_7 \text{Income} + \beta_8 \text{Number of Children} + \beta_9 \text{Mother's employment} + \beta_{10} \text{Social} \\ & \text{Attitudes} + \beta_{11} \text{Social Attitudes} * \text{Female} + u \end{aligned}$$

First, we can examine the results from 2008-2010 and then we can compare these findings with the regression results from 2000-2001. The first two tables show the results from 2008-2010. The first regression looks at purely demographical variables and thus it does not take into account any cultural influences. We find, that females are less likely to be employed regardless of age and years of education although the latter two seem to be correlated with the probability of an individual's employment as the results are statistically significant. The number of children, however, does not seem to be a strong enough factor. The second regression contains attitudes and other sociological factors as well. Interestingly, the negative correlation between

females and employment disappears, however, we can see that married women are less likely to be employed by approximately 29 percentage points. The sign of correlation also changes for the total number of children as well but the result remains statistically not significant.

**Table 3-4. Regression results for the dataset 2008-2010**

VARIABLES	Employment
Female	-0.267*** (0.009)
Age	0.0311*** (0.002)
Age_2	-0.0003*** (0.000)
School_years	0.000 (0.002)
Total Number of Children	-0.001 (0.005)
Constant	0.313*** (0.055)

Observations 6,593

R-squared 0.161

Robust standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

VARIABLES	Employment
Female	0.162*** (0.030)
Age	0.035*** (0.003)
Age_2	-0.0004*** (0.000)
Married	0.103*** (0.018)
Married_Female	-0.286*** (0.024)
School_years	-0.0046** (0.002)
Total Number of Children	0.007 (0.006)
Mother_work	0.009 (0.012)
Attitudes	0.00560*** (0.002)
Attitudes_Female	-0.0306*** (0.003)
Constant	0.129* (0.072)

Observations 4721

R-squared 0.208

Robust standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

The family background of the respondent, more specifically whether his or her mother worked or not may be positively correlated with employment but the result is not statistically significant. Thus we cannot find support for the theory that the family

background has a major influence on employment decisions as advocated by Fernandez, Fogli, and Olivetti (2004).

However, it seems that attitudes play a crucial role in female employment decisions with a one point increase in the Attitudes score associated to a decrease in the likelihood of employment by around 3 percentage points. Moreover, we find similar results in the 2000-2001 dataset.

**Table 5. Regression results for the dataset 2000-2001**

VARIABLES	Employment
Female	0.137*** (0.035)
Age	0.024*** (0.003)
Age2	-0.0003*** (0.000)
Married	0.067*** (0.018)
Married_Female	-0.328*** (0.026)
School_years	-0.008*** (0.003)
Total Number of Children	0.000 (0.000)
Mother_work	0.007 (0.014)
Attitudes	(0.000) (0.002)
Attitudes_Female	-0.018*** (0.004)
Constant	0.462*** (0.075)

Observations 4070

R-squared 0.16

Robust standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1



The results indicate that the effect of attitudes on females increased between 2000 and 2010. This, however, does not necessarily mean that attitudes became more conservative during the period. In fact, as shown in Chapter 4 in the closer examination of the distribution of the attitudes measure, Japanese society might have become more liberal in 2010 compared to 2000 (graph 3 and 4). This may be also discernible from the descriptive statistics of the Attitudes measure in the two time periods shown in the previous chapter (Table 6).

## **5.2 Policy Implications**

The results may indicate that the main reason for the rather low female labor force participation rate in Japan and the gender gap in employment is unlikely to be a result of pure gender-based discrimination. It seems that it is not women in general who are less well represented in the labor force. It is married women who are the most exposed to this issue. Moreover, social attitudes may play an important role in the decision to enter the labor force. Thus it seems highly likely that social views or cultural norms are one of the main triggers behind lagging gender equality in the labor force in Japan.

From a policy perspective this could imply that a comprehensive educational approach that targets social norms may be more effective than the current child support oriented policy. Government initiatives should instead focus on providing incentives for women to join the labor force and pursue a career of their choice since this may have a profound impact not only on the gender relations in society but the overall economy as well. It has been suggested by the IMF that government policy may have to put a special focus on working towards shifting social norms and traditional views on gender roles in Japan (IMF, 2013).

Policy measures can be classified into two broad categories. Measures that aim to invigorate the supply side of the labor market and measures that target the demand side. The results in this study may point at the importance of supply side incentives in female labor force participation in Japan. Although education may be widely available for women in a highly developed country like Japan, the promotion of trainings targeted at women may still give a boost to female employability (IMF, 2013).

It may also be highly effective to encourage the popularization of paternity leaves. This could be of key importance since with the dispersion of the practice of paternity leaves, women would not have a social obligation to stay at home and shoulder the burden of household work and child rearing which, as mentioned earlier, can place women in a disadvantage compared to men in the labor market (through hindering career development and causing a lag in professional experience).

Income taxes and benefits that are based on the household level instead of the individual level should be replaced as they may pose as additional disincentives to married women. In general, policies that tend to discourage labor force participation of secondary earners should be eliminated. The provision of more flexible working hours and styles may also make it easier for mothers to make the decision to stay in or enter the labor force after childbirth.

Additionally, the role of international organizations should be mentioned as well. International bodies such as the IMF and the World Bank could cooperate to create cross-border gender equality programs that could become an important incentive for countries to further promote female participation thus providing a supporting framework for individual states.

## CONCLUSION

This thesis has described the social and economic background of the gender gap in labor force participation in Japan. This issue is especially topical in Japan where deflation and demographic problems, such as the aging population, might have put an especially high toll on economic growth. First, the thesis gave an introduction of the main themes surrounding the questions of women's role in economic development and their disadvantaged situation in the labor market. Then it moved on to apply these themes to the Japanese economy. It has tested the arguments regarding reasons for low female participation through empirical analysis using social survey data from the Japanese General Social Survey. The results indicate that the role of cultural norms should not be neglected and married women seem to be in an especially disadvantaged position. Policymakers should focus on creating a social climate favorable to working women. This could be achieved through education and training programs and the promotion of paternity leaves. Taxes and benefits that distort the labor force participation of certain family members should be eliminated. This being said, the demand side should not be neglected either. More flexible working hours may allow more wives to stay in the labor force.

## APPENDIX

Variables used for the construction of the Social Attitudes variable:

$$\text{Social Attitudes} = Q4WWJBIA + Q4WNMGA + Q4WWHHX + Q4MNMGA + Q4WWHPHH$$

Below you can find the description of the variables with descriptive statistics from the year 2010 as a sample.

### Q4WWJBIA: View on Wife Working

Do you agree or disagree with the following statements? If a husband has sufficient income, it is better for his wife not to have a job.

		Frequency	per cent
4	Agree	731	14.60%
3	Somewhat agree	1510	30.20%
2	Somewhat disagree	1875	37.50%
1	Disagree	819	16.40%
	No answer	68	1.40%
	Total	5,003	100%

### Q4WNMGA: View on Connection between Women Happiness and Marriage

Do you agree or disagree with the following statements? Without a doubt, a woman's happiness lies in a marriage.

		Frequency	per cent
4	Agree	550	11%
3	Somewhat agree	1866	37.30%
2	Somewhat disagree	1606	32.10%
1	Disagree	881	17.60%
	No answer	100	2%
	Total	5,003	100%

### Q4WWHHX: View on Gender Role

Do you agree or disagree with the following statements? A husband's job is to earn money; a wife's job is to look after the home and family.

		Frequency	per cent
4	Agree	563	11.30%
3	Somewhat agree	1855	37.10%
2	Somewhat disagree	1630	32.60%
1	Disagree	886	17.70%
	No answer	69	1.40%

	Total	5,003	100%
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#### **Q4MNMGA: View on Connection between Men Happiness and Marriage**

Do you agree or disagree with the following statements? Without a doubt, a man's happiness lies in a marriage.

		Frequency	per cent
4	Agree	556	11.10%
3	Somewhat agree	1893	37.80%
2	Somewhat disagree	1580	31.60%
1	Disagree	852	17%
	No answer	122	2.40%
	Total	5,003	100%

#### **Q4WWHPHH: View on Role of Wife to Help Husband**

Do you agree or disagree with the following statements? It is more important for a wife to help her husband's career than to have one herself.

		Frequency	per cent
4	Agree	493	9.90%
3	Somewhat agree	1664	33.30%
2	Somewhat disagree	1956	39.10%
1	Disagree	794	15.90%
	No answer	96	1.90%
	Total	5,003	100%

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