

Marriage and fertility in China and Japan



Manting Chen

St Antony's College

University of Oxford

A thesis submitted for the degree of

Doctor of Philosophy in Sociology

Trinity 2018

Word Count: 72,555

Acknowledgement

My thesis writing journey was not without its challenges. This work would not have been possible without the constant support of a great number of people. First and foremost, my thanks go to my supervisor, Dr. Man Yee Kan, who placed great trust and belief in me right from the start of this degree. Her devoted mentorship and patient guidance have motivated me through ups and downs. Her depth of knowledge, rigorous scholarship, and diligence will continue to inspire me. I would also like to thank the members of my examination and reading committee, Professor Jonathan Gershuny, Professor Takehiko Kariya, Professor Melinda Mills, Professor Christiaan Monden, Dr. Patrick Präg, Megan Scott, Liliana Andriano, Riley Taiji, John Kenny, for their invaluable comments.

I would like to express my gratitude and dedicate this thesis to my parents. Their loving support, unconditional trust and encouragement are my source of strength and bravery, without which I would not be able to strive towards higher goals in education and life. I also want to thank all my other family members, especially my grandparents, for their unparalleled love.

For the personal support he gave me over the course of this journey, I must express my gratitude to Rocco Juanlei Hu. I would like to thank him for cooking me breakfast every day, for proof reading countless pages of my work till midnight, and for growing up with me. I enjoyed every minute of these three years with him. I feel extremely fortunate to have his love, support, patience, and encouragement.

Many thanks due to my fellow graduate students from the Department of Sociology and St Antony's College. I want to thank Muzhi Zhou and Dr. Xuejie Ding for their generous help and support. The precious lessons and experience they so generously shared with me made my academic journey smoother and less lonely.

I am very grateful to all my friends. Special thanks to Dr. Qian Xu for her close friendship and selflessly sharing her time and emotions with me. Special thanks to Yudong Liu for providing me with unfailing help and kindness. Special thanks to Jinglan Liu and Hanzhang Xia for always being there for me.

Finally, I would like to thank the Chinese Scholarship Council for so generously extending the funding without which my academic journey would not be possible.

Marriage and Fertility in China and Japan

Abstract

Declining family formation among women and closely related trends such as postponed marriages, rising age at first childbirth, and low fertility rates have been observed in modern China and Japan. In this light, understanding the determinants of women's marriage and fertility decisions carries important sociological and policy implications. However, most of the extant research is impeded by lack of theory and a poor understanding of local cultural and institutional contexts. Existing research largely involves generating statistical relationships between socioeconomic status related variables and family formation outcomes. This methodology is insufficient for explaining the phenomenon in China and Japan where family formation is also influenced by context-specific factors such as gendered norms in the family and workplace. There is also a knowledge gap on how the relationships between these variables varies across China and Japan, which have had undergone similar but non-identical economic and demographic transformations.

I use data from the Chinese General Social Survey, the Japanese Social Stratification and Mobility Survey, the East Asia Social Survey, and the Panel Study of Family Dynamics to address the following questions: 1) How do son preference, co-residence with parents and education affect women's second births in China? 2) How are the labour market conditions of women and their husbands at the point of marriage associated with women's transition to motherhood in Japan? 3) How do parental roles in the matching process change women's family formation decisions in China and Japan? The key findings are that firstly, context-

specific factors, such as son preference in China, have a large and significant effect on family formation. Secondly, other parties, such as parents, play an important role in women's family formation in these societies. Thirdly, there is a substantial degree of heterogeneity in the way that these factors contribute to family formation in China and Japan.

Table of Contents

CHAPTER 1. INTRODUCTION AND OUTLINE OF THE STUDIES	1
1.1 Background	1
1.1.1 <i>A comparative view between China and Japan</i>	9
1.1.2 <i>The overall fertility situation of China and Japan</i>	18
1.1.3 <i>Married women in China and Japan: Fertility and dilemma</i>	21
1.2 Research Questions and Plans.....	26
CHAPTER 2: MARRIED WOMEN’S SECOND CHILDBIRTH IN COMTEMPORARY CHINA: THE EFFECT OF SON PREFERENCE, THE EXTENDED FAMILY, AND EDUCATION	32
2.1 Introduction	32
2.1.1 <i>The Chinese context and fertility</i>	33
2.1.2 <i>Second Childbirth as a Gendered Decision</i>	51
2.1.3 <i>Research Plan</i>	59
2.2 Background and Hypotheses	62
2.2.1 <i>Son preference</i>	62
2.2.2 <i>Co-residence with older generations</i>	66
2.2.3 <i>Education and the competing effect between two genders</i>	71
2.3 Data and Methods.....	75
2.3.1 <i>Data</i>	75
2.3.2 <i>Variables</i>	76
2.3.3 <i>Methods</i>	80
2.4 Results	84
2.4.1 <i>Descriptive statistics and Kaplan–Meier survival analysis</i>	84
2.4.2 <i>Son preference and women’s second childbirth</i>	89
2.4.3 <i>Co-residence with older generations</i>	96
2.4.4 <i>Education and the competing effect between women and men</i>	99
2.5 Conclusion	102
CHAPTER 3: BECOMING A MOTHER: MARRIED WOMEN’S LABOUR MARKET CONDITIONS AND TRANSITION TO MOTHERHOOD IN JAPAN.....	107
3.1 Introduction.....	107
3.2 Background	110
3.2.1 <i>Married women’s employment and fertility in Japan</i>	110
3.2.2 <i>Women’s labour force participation and marriage in Japan</i>	115
3.3 Hypotheses	120
3.3.1 <i>Women’s employment status at marriage and transition to motherhood</i>	120
3.3.2 <i>Women’s working conditions at marriage</i>	125
3.3.3 <i>Women’s occupation at marriage</i>	136
3.3.4 <i>Husband’s labour market conditions at marriage</i>	139
3.4 Data and Methods	142
3.4.1 <i>Data</i>	142
3.4.2 <i>Methods</i>	143

3.4.3 Variables	146
3.5 Results and Discussion.....	155
3.5.1 Descriptive statistics and Kaplan–Meier survival analysis.....	155
3.5.2 Women’s employment status at marriage and transition to motherhood.....	158
3.5.3 Women’s working conditions at marriage with refined categories.....	162
3.5.4 Husband’s labour market conditions at marriage and women’s motherhood.....	168
3.6 Conclusion	177
CHAPTER 4: BRING PARENTS BACK IN: WOMEN’S MATCHING PROCESS AND FAMILY FORMATION IN CHINA AND JAPAN.....	182
4.1 Background	182
4.1.1 Social contexts.....	191
4.1.2 Highlighting parental roles	196
4.1.3 Linking matching to family formation	202
4.1.4 Mediating the effect of education with parental involvement.....	210
4.1.5 Other social contexts of family formation in China and Japan.....	212
4.2 Analytical Strategy.....	216
4.2.1 Data.....	216
4.2.2 Variables	219
4.2.3 Methods	222
4.3 Results	224
4.3.1 Descriptive analysis.....	224
4.3.2 Matching and Marriage	225
4.3.3 Matching and Motherhood.....	232
4.3.4 Matching and Second Childbirth.....	238
4.4 Conclusion and Discussion	245
CHAPTER 5. CONCLUSION	252
5.1 Comparison Revisited: The Chinese and Japanese Contexts.....	252
5.2 Summary of Findings.....	256
5.3 Future Research Directions	269
APPENDICES	272
REFERENCES.....	289

List of Tables

Table 1-1: Summary of Research Questions and Plans.....	27
Table 2-1: Definition and Measurement of Variables	82
Table 2-2: Descriptive Statistics of Variables	85
Table 2-3: Gender of Women's First Child by Women's Son Preference	89
Table 2-4: Cox Regression Results of Women's Second Childbirth in China	90
Table 3-1: Reasons to Leave the Previous Job for Women who were Previously Employed but Not-Employed at Marriage.....	148
Table 3-2: Descriptive Statistics of Variables	153
Table 3-3: Cox Regression Results of Married Women's First Childbirth in Japan: Employment Status.....	162
Table 3-4: Cox Regression Results of Married Women's First Childbirth in Japan: Working Conditions.....	163
Table 3-5: Cox Regression Results of Married Women's First Childbirth in Japan: Occupation Type.....	172
Table 3-6: Cox Regression Results of Married Women's First Childbirth in Japan: Husbands' Labour Conditions.....	174
Table 4-1: Baseline Model of Women's Transition to Marriage in China and Japan	227
Table 4-2: Full Model of Women's Transition to Marriage in China and Japan.....	228
Table 4-3: Interacting Women's Education with Parental Influence on Marriage Decisions.	230
Table 4-4: Comparison of Effects of Matching-Related Variables on Women's Transition to Marriage Between Three Samples.....	232
Table 4-5: Baseline Model of Women's Transition to Motherhood in China and Japan	234
Table 4-6: Full Model of Women's Transition to Motherhood in China and Japan..	236

Table 4-7: Interacting Women's Education with Parental Influence on Motherhood Decisions	237
Table 4-8: Comparison of Effects of Matching-Related Variables on Women's Transition to Motherhood Between Three Samples	238
Table 4-9: Baseline Model of Women's Transition to Second Childbirth in China and Japan	241
Table 4-10: Full Model of Women's Transition to Second Childbirth in China and Japan	242
Table 4-11: Interacting Women's Education with Parental Influence on Second Childbirth Decisions	243
Table 4-12: Comparison of Effects of Matching-Related Variables on Women's Transition to Second Childbirth Between Three Samples	244

List of Figures

Figure 1-1: The Total Fertility Rate in China and Japan, 1960-2015.....	20
Figure 2-1: The Total Fertility Rate in China, 1949-2015.....	39
Figure 2-2: Kaplan-Meier Survival Estimate of Married Women’s Hazard Risk to Second Birth in China	88
Figure 3-1: Four Situations of Married Women’s Work History	109
Figure 3-2: Gap Between Job Quitting and Marriage for Women Who Were Previously Employed But Not-Employed at Marriage.....	148
Figure 3-3: Kaplan-Meier Survival Estimate of Married Women’s Transition to First Childbirth in Japan.....	156
Figure 3-4: Married Women's Average Age at First Marriage and First Childbirth in Japan, by Marriage Cohort	157
Figure 3-5: Proportion of Employed Women at Marriage in Japan, by Marriage Cohort	158
Figure 3-6: Married Women's Education and Employment Status at Marriage.....	159
Figure 3-7: Distribution of Occupation at Marriage by Education for Japanese Women	173
Figure 4-1: The Conceptual Framework for Women’s Matching and Family Formation	210
Figure 4-2: Kaplan-Meier Survival Estimate on Women’s Transition to Marriage, by Region.....	226
Figure 4-3: Kaplan-Meier Survival Estimate on Women’s Transition to Motherhood, by Region.....	233
Figure 4-4: Kaplan-Meier Survival Estimate on Women’s Transition to Second Childbirth, by Region.....	239

Chapter 1. Introduction and Outline of the Studies

Background

This thesis aims to elucidate our understanding of women's marriage and fertility in China and Japan from various perspectives, including individual preferences, labour market conditions and matching methods. I focus on the Chinese and Japanese cases within the broader context of East Asian fertility decline, and utilise insights from the perspectives of women in China and Japan to help better understand the family formation process in both countries.

The past few decades have witnessed a worldwide decline in the Total Fertility Rates (TFR) to a below-replacement level. The TFR refers to the total number of children an average woman would have in her life if she were to survive until the end of her reproductive years according to currently observed age-specific fertility rates. According to the World Fertility Patterns 2015 released by the United Nations, 46 per cent of the world's population lives in countries with fertility levels lower than 2.1 children per woman, the number typically required for population replacement. These low-fertility regions comprise all of Europe and North America, as well as many countries in Asia (East Asia in particular), Latin America and the Caribbean, with the respective average TFR being 1.6, 1.9, 2.2 and 2.2. Among these regions, a very low fertility at or below 1.6 TFR is found in North East Asia, East Europe and South Europe. According to the prevailing "demographic transition" model of population change, fertility decline results from falls in illness and mortality rates when parents are consequently able to see more children survive to maturity for a given number

of childbirths (e.g., Chesnais, 1992; Lesthaeghe, 2010; Lesthaeghe & Neidert, 2006; Mason, 1997; Van de Kaa, 1996). However, fertility rates have continued to decline in many countries despite having hit the replacement level. This decline is worrying in the long run. As pointed out by McDonald (2002), a TFR of 1.3 sustained over a century's time can lead to a 1.5% shrink in population size per year and a population only 25% of its original size in the end of the century. Although migration and increased labour force participation can potentially solve social and economic problems brought by fertility decline and population ageing for countries with moderately below-replacement level fertility rates, one cannot rely wholly on migration when TFR falls below 1.6 (McDonald, 2002; United Nations, 2001), a rate already found in many advanced industrialised countries.

Castles (2003) summarised two types of responses scholars have raised in response to the challenges posed by below-replacement level fertility. Firstly, some are skeptical whether current low fertility will persist in the long run (e.g., Bongaarts & Feeney, 1998; Goldstein, Sobotka, & Jasilioniene, 2009; Lesthaeghe & Moors, 2000). The TFR only captures the fertility behaviour of women at the time of measurement, and this fertility behaviour is not necessarily invariant to changing preferences over family planning decisions. According to this line of reasoning, the current below-replacement TFR may only be temporary and will swing back up once factors driving the delayed first marriages and first childbirths among women worldwide abate. Secondly, others take the internationally heterogeneous TFR rates to be indicative of the fact that different factors may cause low fertility in different countries (e.g., Lesthaeghe & Willems, 1999; Kohler, Billari & Ortega, 2002; McDonald, 2002). As such, it is important to study the factors that affect fertility rates in different countries in

order to understand solutions that take into account the cross-national variance in fertility. Studies advocating this view have devoted great effort to researching how factors associated with women's fertility decisions and behaviours, such as women's changing economic participation and workplace policies conducive to motherhood, lead to different fertility outcomes. This view also puts pressure on governments to identify and implement policies that can curb the current fertility decline and bring fertility levels back to above-replacement levels.

The policy implications of the second type of response to below-replacement level of fertility have ignited a global debate over anti-natalist and pro-natalist policies. Anti-natalist policies are policies against human reproduction and are typically implemented in times of overpopulation, famine, and resource depletion. An influential rationale for such policies is that rapid population growth hinders the economic development of a country in the long run, because a large population diverts resources that could have been devoted into productivity-enhancing activities to mere sustenance purposes (Coale & Hoover, 1958; Currais, 2000; Khatun, 2009). A low fertility level thus allows governments to focus on economic growth by increasing investment in more technologically productive economic activities. Persuaded by such arguments, some governments of developing countries with high fertility rates and fast population growth implemented stringent anti-natalist policies. The most well-known anti-natalist policy is the one-child policy conceived and introduced by the Chinese government in 1979. Each household faced a quota of one child, with exemptions for individuals of ethnic minority groups or families living in some rural areas that fulfilled certain criteria. Failure to comply with the one-child policy could incur severe

legal and social penalties, such as monetary fines, job dismissal, and forced sterilisation in extreme cases. The policy succeeded in its immediate aims, with the Chinese fertility rate dropping significantly after the policy was made operational. Another example of state anti-natalist policies is India, where the government initiated family planning policies in 1960. Instead of setting a birth quota for families, the Indian government attempted to reduce the fertility rate by encouraging education and constructing hospitals. However, these policies did not succeed because of limited reach in the densely-populated rural areas and a rejection of modern contraceptive methods due to religious reasons. The Indian population is still growing, though at a slower pace. In late 1960s, the Singaporean government also introduced a family planning scheme which encouraged smaller families through public campaigns, promotion of contraception, legalisation of abortion and sterilisation under certain circumstances, and the doling out of social benefits provided exclusively to small-sized families. The consequent fall in Singapore's fertility rate has been attributed to the anti-natalist policies.

Supporters of pro-natalist policies argue, on the other hand, that childbearing and childrearing are critical to ensure national strength and healthy economic development, on the view that economic prosperity requires the large pool of workers and consumers that a large population size provides. These arguments seem to gain support from the problems accompanied with fertility decline worldwide in some developed countries in which the ageing population, lack of skilled and young labour force, decreasing tax revenues, and the increasing pension burdens worsened the strain on the national coffers. To promote fertility, pro-natalist policies typically incentivise individual reproduction decisions and behaviours

with monetary and social support packages, including tax reduction and free, subsidized or state-provided childcare for families with more children. More radical pro-natalist policies may also support limiting access to abortion and contraception. Based on this view, many governments implemented pro-natalist policies in their effort to prevent population decline and reverse the trend of falling fertility rates over the recent decades. France, for example, first introduced pro-natalist policies that provide monetary incentives for mothers to stay at home for childcare and banned the sale of contraceptives. Although there have been changes regarding specific policies, the French government continued its pro-natalist policies which encourage women's childbirth through monetary subsidies, paid parental leaves, quality state-provided childcare, and tax exemptions. Other European countries, such as the Nordic countries, Germany, Italy, and North American countries have all introduced pro-natalist policies. The Japanese government have also tried to increase its constantly low fertility level by creating pro-natalist laws like the "childcare law" and "family care leave law" which allow parents to receive longer paid leaves and shorter working hours. Moreover, some countries who used to have anti-natalist policies have reversed their policy stances in recent years due to drastic declines in fertility. For instance, Singapore called an end to its family planning policies in the early 1990s and initiated a series of pro-natalist campaigns and policies which aim to encourage reproduction particularly among middle-class elites through increased child benefits, monetary subsidy, match-making schemes, and longer paid parental leaves. The government provides financial benefits and tax exemptions for female graduates to have three or more children (the slogan "have three or more if you can afford it"). Since 1987, China has also begun

loosening up its fertility restrictions, with the most recent policy amendment being the abolishment of the one-child policy and the implementation of a universal two-child policy in 2016.

Aside from fertility policies, women's increasing educational attainment, economic participation rate, and rising career aspirations have also contributed to the declining fertility rate and later marriages and childbirths in industrialised countries (e.g., Anderson & Kohler, 2013; Raymo et al., 2015; Shirahase, 2000). Many societies exhibit an inverse relationship between women's fertility and their educational and career achievements and aspirations. It is hard for mothers to pursue a regular career because in many societies, women's primary responsibilities revolve around the family, and the opportunity cost women face when they quit their jobs increase with education. This dichotomy between work and family is particularly entrenched in societies where the domestic labour division is heavily gendered, and parental childcare is almost exclusively done by mothers. However, empirical evidence from some countries suggest that women can pursue both career and motherhood if certain features of the labour market, the family, and the state combine to create a working mother-friendly society (e.g., Brewster & Rindfuss, 2000; Esping-Andersen, 1999; Hank & Kreyenfeld, 2002).

The accessibility of alternative modes of childcare for mothers is one important aspect of a working mother-friendly society. In general, there are three models of childcare. These are "social-networks care", "institutional care", and "(private) child-minders" as summarised by Hank and Kreyenfeld (2002). Social-networks care is provided by a couple's social network from friends to relatives, especially grandparents. This type of

childcare is normally free of charge. However, its accessibility depends on a couple's proximity to their parents, and the economic and health conditions of their parents. Institutional care consists of care provided by public and private childcare systems. Public childcare is provided by local governments or publicly subsidised non-profit organisations, and is available at relatively low fees compared to private childcare centres offered by commercial organisations. Unfortunately, while public childcare is common in social-democratic welfare regimes in many European countries, women from countries that lack comprehensive social welfare systems can find public childcare inaccessible. The final type of childcare is obtained from private child-minders, such as baby-sitters and nannies, and is an informal childcare arrangement that is less regulated than institutional childcare. Private child-minders are typically hired at an hourly or daily basis for in-home childcare service, thus is relatively expensive compared to other modes of childcare. As childcare provided by private child-minders is seldom subsidised, its accessibility largely depends on one's household income. Unequal access to the three types of childcare means that the ability for women to reconcile childrearing and career development through finding alternative modes of childcare is not evenly distributed across households of different socio-economic backgrounds and regions.

At both the state and individual level, there are important factors that affect women's choices concerning marriage and childbirth and explain fertility decline worldwide. However, the relationship between variables at the macro- and micro-levels and women's fertility decisions and behaviours varies according to the social, economic, and political context of a region. To understand fertility in a particular region, close attention to context

is required. In my dissertation, I focus on two important countries in East Asia, namely China and Japan.

The significant fertility drop to well below-replacement level in industrialised societies is accompanied by a major change of the traditional cross-national fertility patterns, and the “lowest-low fertility” level in East Asia has received much attention. The term “lowest-low fertility” was coined to describe a period TFR below 1.3 by Kohler, Billari, and Ortega (2002, 2006). While countries with family-oriented cultural traditions and little economic participation of women used to be countries with high fertility rates, the situation has been completely reversed (Castles, 2003; Raymo et al., 2015). The top ten countries or regions with lowest fertility rate reported by the United Nations in 2015 are no longer primarily in Europe, despite their concentration in Europe before the 1990s. By the 2010–2015 time period, half of the top ten lowest fertility countries or regions were in Southeast and East Asia¹ (United Nations, 2015). As a result of the drastic fertility decline in contemporary East Asia, the TFR in the region has reached a historic low. Japan, South Korea, Taiwan and China have reached—and have since stayed at—below-replacement TFR since 1957, 1983, 1985 and 1990 respectively (Korea Statistical Information Service, 2014; National Bureau of Statistics of China, 2016; National Institute of Population and Social Security Research², 2014; Taiwan Ministry of the Interior, 2014). After hitting the below-replacement level, fertility decline in these countries or regions accelerated, bringing them

¹ They are Taiwan, Hong Kong, Macao, Singapore, and South Korea.

² NISSR thereafter.

into the list of “lower than the lowest” fertility countries.

In this dissertation, I focus on studying married women’s marriage and fertility decisions in China and Japan. I chose my foci because China and Japan share not just significant similarities, but also crucial differences brought by historical divergence. I aim to examine how women’s family formation decisions differ with various factors, such as factors within household and in the workplace in the two countries.

A Comparative View between China and Japan

Existing comparative research on marriage and fertility in China and Japan often adopt a largely macro-level perspective by focussing on issues such as development patterns of demography and policy regimes, thus neglecting factors relating to decision-making processes of individuals. There is also a dearth of research that takes a comparative view to how women in different contexts may make different types of marriage and fertility decisions. In both China and Japan, where women have historically faced institutional oppression, the increase in work and education opportunities for women have led them to contest for more autonomy and life opportunities. This has important implications for how they approach marriage and fertility decisions. Thus, understanding and comparing women’s marriage and fertility decisions and the factors relevant to the decision-making process in China and Japan contains important demographical, sociological, and policy implications for both countries. This thesis contributes to the existing studies by outlining the factors that affect women’s family formation decisions in China and Japan, taking great care to highlight either commonalities or differences across the Chinese and Japanese

contexts.

This thesis analyses women's family formation in China and Japan. In doing so, it situates China and Japan at a stage of modernisation distinctive from the so-called Western industrialised societies. Both late comers in industrialisation, China and Japan went through the transition from agricultural to service-based economies at a rapid speed. Meanwhile, Chinese and Japanese societies share similar values pertaining to family and culture in the East Asian context, such as the importance of family lineage emphasised in the Confucian ideals and the gender norms which suggest that women's main duties are in domestic sphere. In the following sections, I provide the macro-level social backgrounds of China and Japan by highlighting five factors: demographic changes, economic development, gender equity level, family structure, and political intervention.

Demographic Transition

In recent decades, both China and Japan have gone through drastic demographic changes featured the most prominently by late marriages and low fertility rates. In China, the mean ages at first marriage for women and men had increased from 20.2 and 21.4 in 1970 to 23.9 and 26 in 2010 respectively, while Japanese women's and men's mean age at first marriage increased from 24.2 and 26.9 in 1970 to 28.8 and 30.5 in 2010 (Chen & Li, 2014; Li & Wang, 2014; Raymo et al., 2015). The situation is worse in metropolitan cities. In Beijing, for example, the average age at first marriage for women was 26.7 in 2011 (Gao & Wu, 2012; Gui, 2017). In terms of fertility rate, China and Japan experienced rapid decline in the Total Fertility Rate (TFR) at different times, with Japan being around two decades

earlier than China (Raymo et al., 2015; Reher, 2011). While the TFR has been below-replacement level since 1979 in Japan, it did not reach the same level until 1990 in China. Both China and Japan are now characterised by extremely low fertility rates (TFR below 1.5).

Because of the low fertility level and the increasing life expectancy, both Chinese and Japanese societies face an expanding aging population. Japan's population aging began in 1950s. However, the population was aging at a relatively slow rate before the 1970s (Lee & Mason, 2011; NIPSSR, 2010). After the 1970s, the speed at which Japanese population age gradually accelerated. By 1990, citizens over 65 years old had accounted for 12.1% of the whole population. In 2010, this proportion reached 22.1%. China's population aging began later than it did in Japan. In 1953, the proportion of people over 65 years old was only 4.4%. However, the Chinese population started to age from the 1980s (Cai, 2010; Du, Zhai & Chen, 2005). By 2001, the proportion of the elderly population aged 65 and over in China accounted for 7.1% of the total population. This indicates that China has completed its transition to an aging society. In 2010, the population aged 60 and over in mainland China accounted for 8.87% of the total population (Chinese National Bureau of Statistics, 2010).

Economic Development

Overall, the Japanese economy is more developed compared to that in China. China only started to open up and develop a market economy since 1978, much later than the Japanese Meiji Reform which launched a new era of the capitalist economy in late 19th century. In

2011, Japan's Gross Domestic Production (GDP) per capita was 45,903 dollars, whereas China's GDP per capita was only 5,430 dollars. Japan has also transitioned to a service-based economy since the 1970s, four decades earlier than China (Japanese Statistics Bureau, 2011; Chinese National Bureau of Statistics, 2010). In addition, while industries that are considered essential (such as coal, oil and gas) are mostly owned by the state in China, they are largely privately-owned in Japan. Although the Chinese economic structure is more diverse than the export-led Japanese economy, the Japanese market is characterised by less government control and censorship (Lockwood, 2015; Zhu, 2012). As such, citizens living in different economic structures can develop different mindsets and lifestyles in China and Japan.

Nevertheless, China's rapid economic growth after 1978 show similar patterns with Japan's economic growth after Japan's post-war economic recovery. Japan's economic development started to accelerate and entered a period of rapid growth in 1955. Between 1955 and 1972, Japan's Gross National Production (GNP) growth rate remained at more than 10% per year (Hartwell, 2017; Lockwood, 2015). China experienced a similar period of rapid economic growth between 1978 and 2010, during which China's GDP increased by 9.8% on average every year (Liang & Chen, 2013). After this period of rapid development, the economic growth rate slowed down and entered a period of low-speed development for both countries. In Japan, this period lasted from 1973 to 1985 before the economy stagnated because of Japanese asset price bubble. In China, this low-speed development period of economy started from 2011 and is expected to end at around 2025. Moreover, China is experiencing the adjustment of industries similar to what Japan did

since 1950s. In recent years, the proportion of labourers has increased significantly in the tertiary industry in China.

Gender Equity Level

I refer to the Global Gender Gap Index to measure the gender equity level of Chinese and Japanese societies. The Global Gender Gap Index was first introduced by the World Economic Forum in 2006 and benchmarks national gender gaps on economic, education, health and political criteria. It ranges from 0 to 1, with the higher values reflecting higher levels of gender equality. Based on data from the Global Gender Gap Report in 2017, China and Japan scored 0.674 and 0.657 respectively, ranking the 100th and the 114th out of the 144 countries included in the report. This suggests that men and women are slightly more equal in China than in Japan, at least in terms of the gender gap. Notably, both countries were ranked down compared to their rankings in 2006 when China was listed the 63rd and Japan the 80th. The gender gap is worsening in the two countries.

Moreover, China scored 0.654 in economic participation and opportunities, significantly higher than Japan's 0.580 and the world average 0.585. This indicates that the gender gap in the labour market is smaller in China than that in Japan. In 2017, the proportions of unpaid work per day for women and men were 59.2% and 11.6% in Japan, and 44.6% and 18.9% in China. There is more gender equality in labour force participation in China compared to that in Japan, suggesting that women are more likely to participate in economic activities in China. Women were also much more likely to continue working after marriage and childbirth in China than in Japan. In addition, the gender gaps among

professional and technical workers was particularly small in China, ranking the highest of all countries. However, both countries were still ranked relatively low among the 144 countries in economic participation and opportunities, with China ranked the 78th and Japan the 114th.

Family Structure

In general, China and Japan share very similar family patterns. In modern Chinese and Japanese societies, the nuclear family structure is the most common living pattern (Brinton, 2001; Raymo et al., 2015; Yang & Li, 2009). While more than 50% of households are nuclear families in both countries, there is a high prevalence of extended living arrangements with parents among adult children before marriage. Over time, the proportion of never-married adult children co-residing with their parents has stayed at around 70% for both China and Japan (NIPSSR, 2015; Raymo et al., 2015; Wang, 2006). Never-married adult daughters are more likely to live with parents than never-married sons (Raymo et al., 2015). As young adults are getting married and leaving the parental home at increasingly late ages, the duration of this co-residence with parents prior to marriage becomes longer in recent years (Raymo et al., 2015; Yi et al., 1994). Some scholars argue that this delayed age of home-leaving is a result of the limited familial emphasis on independence in East Asian culture (Yamada, 1996). In addition to this culture norm, many believe that adult children are more reluctant to leave parental home because of the costs of living, housing, and education are rising and the welfare system remains relatively weak (Park & Sandefur, 2005; Zhang, 2004). Meanwhile, the consumption aspirations become increasingly high in China and Japan, causing more pressure of home-leaving for young people (Mu & Xie,

2014; Yamada, 1999).

Overall, the proportion of extended family households with married adult children is decreasing in contemporary China and Japan. In the past, patrilineal and patrilocal extended families after marriage are common, because women are expected to move into their husbands' family household to live with parents-in-laws after marriage. For example, 47% of newly-married couples were in patrilocal co-residence in 1940s in China (Zhang, 2004). Though co-residence with parents after marriage has declined significantly in modern societies, some newly-married couples choose to stay at parental home due to high costs of living and housing (Cohen, 1976; Guo, 2000; Zeng, 1986). Moreover, couples may choose to live with and take care of their aged parents. In 2010, more than 20% of Chinese households lived with at least one senior aged 65 and above (General Census Office, 2010). In Japan, 34% of elders lived in three-generation households in 2000 (Shirahase, 2015).

Furthermore, the number of one-person households is growing despite the prevalence of co-residence with parents prior to marriage. In China, one-person households increased from 5% in 1990 to 15% in 2010 (Cheung & Yeung, 2015; Feng et al., 2013). Similar patterns in Japan have been observed. Living alone among women and men aged 25–29 increased from less than 8% to 17% in 1985 to 17% and 26% in 2010 respectively.

In addition, single-parent families and childless families are on the rise in China and Japan. In Japan, the proportions of single-mother households increased from 3.9% in 1980 to 9.5% in 2010 (NIPSSR, 2012). The proportion of single-father households is 1.6% in 2010 in Japan. Among Chinese households in 2010, around 7% are single-parent families with at

least one never-married children under the age of 18 (Wang, 2006). In terms of childless families, only 6.2% of Japanese couples married for 15 to 19 years are childless, while over 75% of these couples have two or more children (NIPSSR, 2017). Based on data from the 2016 China Family Panel Studies, around 7% of married couples, including the newly married young couples, are childless in 2015 in China. Notably, nonmarital childbearing is at very low level in both China and Japan. There are only 2% of births registered to unmarried mothers in Japan (Raymo et al., 2015). In China, childbirth outside marriage was not allowed to register with the *hukou* (the Chinese household registration system) until 2017. Overall, single-parent families and childless families are significantly less common than other forms of household structures in China and Japan.

Political Intervention

Contemporary China is different from Japan in political structure. As a one-party-state with much centralised political power, the Chinese government is more able to forcefully implement and sustain public policies to achieve one goal in the long run than the more democratic government can (King et al., 2013). More importantly, the Chinese and Japanese state governments have implemented different social and public policies based on their own political concerns. Below I emphasis the differences in the political intervention concerning fertility and gender ideology of the two countries.

From encouraging childbirth to strict birth control to the relaxation of birth control, China's family planning policies have undergone several drastic changes with regard to the government's attitudes towards childbirth. In the implementation of family planning

policies, birth quota, which is a restriction on the total number of children allowed to be born in each family, is utilised to achieve state's population size objective. The quota went from being advisory to mandatory, and became more restrictive in terms of how many children each woman was advised or allowed to have. As the most well-known family planning policy in China, the one-child policy which was implemented in the 1980s is believed to significantly contribute to China's fertility decline after the 1980s by many. The one-child policy was relaxed in 2013 and replaced by a two-child policy in 2016. The effectiveness of the new family planning policies in encouraging couples to have a second child remains a question so far.

The Japanese government also carried out a series of family planning policies in 1950s to cope with the post-war baby boom. However, unlike China, these policies mainly involved educating citizens about contraceptive methods and financial subsidies instead of a stringent birth quota (Rosenbluth, 2007). More importantly, in responding to the declining trend of fertility, the Japanese government started to formulate and implement policies to encourage childbirth much earlier than China (Ogawa, 2003; Rosenbluth, 2007). In 1991, the Japanese government launched the pro-natal Creating an Environment for Rearing Healthy Children policy which increased monthly child allowances. In 1994, the Angel Plan was established to offer support for both childrearing and work and reduce childrearing costs. In recent years, the Japanese government continued to implement social policies and initiate programs to raise fertility. However, the total fertility rate is still on the decline.

In terms of gender ideology, "liberating women" was one of the most important social and

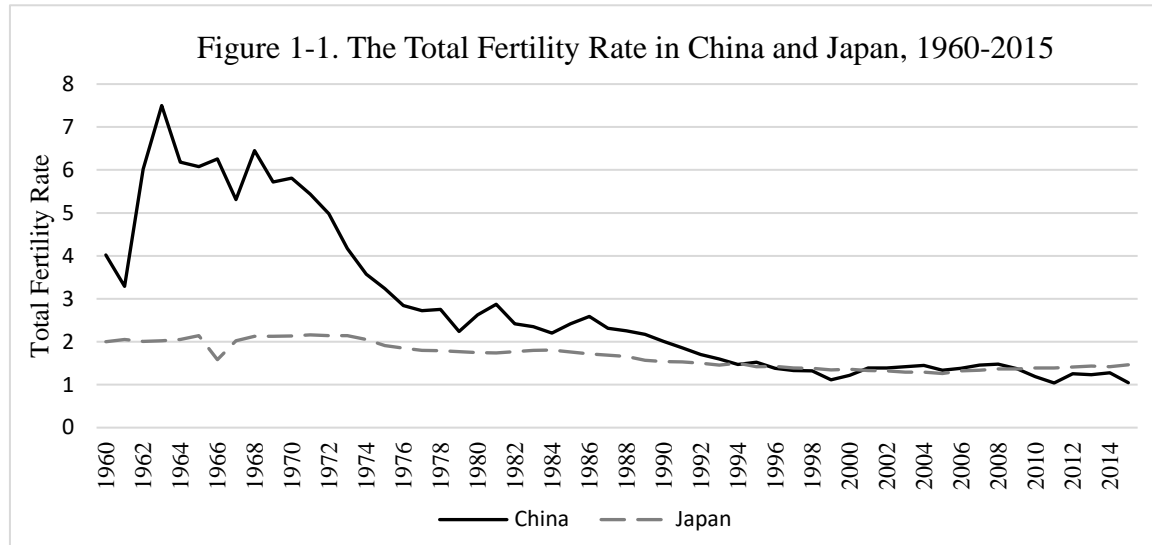
political agendas in China since 1949 (Leung; 2003; Yu & Xie, 2011). Chinese women have been encouraged to contribute to the country's economy and support their families like men did. Government propaganda also emphasised improving women's status within the family while stating that women's economic and social status is as equal as that of men. In addition, a dual-worker family structure was both politically encouraged and necessary because individual salary was too low to support a whole family before China opened up in 1978. This political intervention in gender ideology has been rather successful in increasing women's labour participation rate and status within family and in society.

There has never been such forceful political movements on women's status initiated by the government in Japan. Although women are also encouraged to participate in work by social policies, they are seldomly encouraged to be family breadwinners (Rosenbluth, 2007). In short, compared to China, Japan has experienced less political intervention into family traditions and gender ideology.

The Overall Fertility Situation of China and Japan

Although the transition to low fertility in China began a few decades later than it did in Japan, the TFRs in China and Japan have been similar in recent years (see Figure 1-1). For example, in 2010, the TFR was around 1.2 per woman in China and 1.4 in Japan (NIPSSR, 2014; National Bureau of Statistics of China, 2010). The rapid drop in fertility in modern China seems to have pushed China to face a fertility situation similar with that of Japan: postponed marriage, increasing age at first childbirth, and low fertility rate (Basten & Jiang, 2015; Raymo et al., 2015).

Both the Chinese and Japanese governments are struggling to cope with the consequences that come with the declining fertility rate. A shrinking population jeopardises the fiscal health of countries when the number of tax payers and consumers decreases (Ma, 2012). While lower population density coupled with higher productivity can mean better quality of life and environment for a country's inhabitants, such a reduction in scale may affect the country's geopolitical standing. More importantly, both Chinese and Japanese societies are aging rapidly due to increasing life expectancy which creates tremendous pressure on the social welfare system, by increasing the demand for public care, public pension systems, and public nursing (Chen & Powell 2012; Takahashi, 2011). Moreover, the overwhelming population of retirees and the lack of young labour force has exerted a strong negative influence on the Chinese and Japanese economies. Because the comparative advantage of Chinese economy lies in labour-intensive commodities, the lack of young labour force can be devastating to China's future economic growth (Cai & Wang, 2006). In Japan, productivity would fall as the population ages, since an increasingly older workforce, locked in by the Japanese practice of lifetime employment, would limit the career advancement opportunities for young people (Ono, 2010).



Source: 2016 China Statistical Yearbook, National Bureau of Statistics of China; 2015 Fertility Level Worldwide, World Bank

However, the similar fertility situations in China and Japan arise out of different historical and social reasons. Most evidently, although fertility decline in China started prior to the one-child policy, its implementation is believed by many to have accelerated the decline of the fertility rate in China (Cai, 2008; Hesketh et al., 2005; Poston, 2000). In Japan, fertility fell as a result of economic development and modernisation in the mid-20th century rather than due to political intervention (Thornton, 2001, 2013). According to some scholars, what sets the Japanese case apart from the Chinese one is the greater degree of developmental idealism in the former. Developmental idealism is characterised by a desire to emulate the ideals of western modernity, including the notion of the “modern family”. According to this view, the western ideal of the “modern family” as characterized by low fertility, nuclear families, late marriages and a relatively equal gender division of labour, is a necessary and salutary consequence of societal development (Billari, 2004; Ghimire et al., 2006; Goldscheider, Bernhardt & Lappegård, 2015; Thornton, 2001, 2013). Japan, as the first East Asian country to undergo modernisation, and which has also experienced great post-

WWII economic growth, has been influenced to a great degree by these familial ideals of western modernity (Thornton et al., 2012), far more than China has, the latter having only “modernised” much later. While the Chinese TFR figure is still decreasing year on year, Japan has reached a low fertility plateau with no significant fluctuation in TFR observed in the last 20 years.

Nonetheless, China has experienced very similar demographic transition patterns compared to what Japan did 30 years ago due to its recent economic and social modernisation (Ma, 2012). This makes it easier to draw comparisons and find causal similarities in both countries today.

Married Women in China and Japan: Fertility and Dilemma

In this section, I discuss married women’s choices concerning family formation in relation to traditional gender norms, which are realised in highly gendered expectations about domestic labour division and parenting, and gender-related differences in labour market in China and Japan.

I focus on married women rather than women in general in seeking to understand fertility and family in China and Japan, because non-marital childbearing is uncommon in both countries. In Japan, only 2% of children are registered as having come from unmarried mothers, much lower than the overall OECD average of 36.3% (OECD, 2013). The percentage of childbirth outside of marriage is also much lower in China than in many other countries (Cai, 2010; Chu & Yu, 2010). In China, the official permission is required for both marriage and childbearing. In Chinese and Japanese societies, childbearing is closely

linked with marriage both socially and economically (Raymo et al., 2015). Although the Japanese society does not necessarily hold negative attitudes against non-marital childbearing (Bumpass et al. 2009; Rindfuss et al. 2004), marriage is still seen as the default life choice and a prerequisite for childrearing in China and Japan (Hermminki, 2005; Hertog & Iwasawa, 2011). Hertog and Iwasawa (2011) found that in Japan, 90% of premarital pregnancies lead to shot-gun marriages made to ensure that the child is born within marriage. In both China and Japan, most women have their first child soon after marriage (Raymo et al., 2015). Illegitimate children also suffer from social stigma and legal discrimination (Hermminki, 2005; Hertog, 2009).

Married women in China and Japan are under great pressure to fulfil their family responsibilities. Traditional Chinese and Japanese societies with shared Confucian ideals uphold patriarchal values such as male superiority and relegate women to the domestic sphere (Chi & Li, 2014; Greenhalgh, 1985; Hashimoto & Ikels, 2005; Hu & Scott, 2016; Robertson, 1989; Zhang et al., 2005). For instance, the importance attached to traditional models of motherhood in Japan, which emerged from the elite samurai class during the thirteenth to seventeenth centuries, limited the role of women to the roles of stay-at-home mother and wife (*ryosaikenbo*) (Goode, 1993; Rosenbluth, 2007). More importantly, in modern societies, the patriarchal values are embedded in family and employment systems and social policies which have institutionalised norms and expectations for married women to prioritise family responsibilities over their careers. In both China and Japan, married women's internalised constraints are reflected in highly asymmetric gender relations within marriage, such as the unbalanced domestic gender division of labour and the preference for

assortative marriage (either status homogamous or female hypergamous) (Greenhalgh, 1985; Dong & An, 2015; Oshio et al., 2013). Endorsed and reinforced by men in power in both public and private spheres, these gendered norms and assumptions have put married women at a severe socially and economically disadvantageous position relative to their spouses (Braunstein & Folbre, 2001; Rosenbluth, 2007). Because of how difficult it was and is to struggle against these norms, women have developed the tendency to internalise these constraints (such as female submissiveness and restrictive family roles) as their preferences (Folbre, 2005; Morley, 1992; Sen, 1990).

On the other hand, women are also under increasing pressure to develop their careers in modern society. The increasing educational and economic opportunities for women and the high cost of raising children increase women's opportunity cost of staying at home and favour female labour force participation (Brinton, 2001; Chen & Li, 2014; Guo, 2008; Rosenbluth, 2007; Raymo & Iwasawa, 2005; Shirahase, 2000; Yu, 2005). This is supposed to be the case especially in China and Japan, where investing in children is a strong social norm and where educational competition among children is consequently very fierce (Chen & Li, 2014; Raymo et al., 2015).

However, it is hard for women to participate in the labour market and fulfil their family responsibilities at the same time (Brinton, 2001; Chen, 2006; Entwisle & Chen, 2002; Shirahase, 2007). This is due to at least two factors. In the workplace, there are gender differences and discrimination that put women in disadvantageous positions in China and Japan. Women are often paid less, and it is difficult for women to climb up the corporate ladder due to both vertical and horizontal discrimination based on gender stereotypes.

Vertical and horizontal discrimination in occupational segregation refer to women being concentrated at lower-ranked jobs and lower-status professions or sectors of economic activity respectively. A lack of complete welfare system and policies to help women achieve work-life balance makes it even harder for women to grasp opportunities outside home. At home, men who face declining economic security may choose to keep the wives at home even if doing so harms the overall family finances, just to maintain men's dominant domestic bargaining power over women (Braunstein & Folbre, 2001; Raymo & Iwasawa, 2005; Kan & Hertog, 2017). Moreover, men tend to have extremely long working hours, especially in Japan, thus put more pressure on women attending housework and childcare. Therefore, it seems like married women in China and Japan are caught in a dilemma. On the one hand, they adopt the social norm and wish for motherhood. On the other hand, they also feel trapped and isolated at home. It is critical to recognise this dilemma in order to understand married women's fertility decision making in China and Japan. As a result, the low fertility rate and late childbirth in these two societies reflects a situation in which women have difficulty attaining at least one of their desired life outcomes (Rosenbluth, 2007). While western feminist groups celebrate women's low fertility as a sign of female empowerment as they become free from their reproductive role and become more able to advance in other realms (e.g., Kirk, 1996; Inglehart & Norris, 2003), the low fertility rate and late childbirth in Japan and China may not be easily characterized by such analyses.

This conflict between childbearing and other life alternatives of married women is constantly evolving in contemporary Japanese and Chinese societies. The belief that having children is the most important goal of marriage is changing (Choe et al., 2014; Raymo et

al, 2015; Wu & Xie, 2013). According to McDonald (2000), changing attitudes toward women's roles that clash with the relatively fixed role and expectations of women in domestic sphere can result in women's declined fertility. There are, of course, country-level variations in the outcome and causes of married women's fertility in China and Japan. Compared to Japan, China has made smaller changes in gender role ideology in the last few decades, and the average age at first childbirth for Japanese married women is much higher than for Chinese married women (Guo, 2008; Matthews & Hamilton, 2009; Yeung & Hu, 2013). Moreover, while son preference is on the decline, it still has a significant effect on married women's fertility decision in China (Jiang, 2016; Zhu et al., 2009). In contrast, the effect of son preference on married women's fertility behaviours has weakened significantly in contemporary Japan because the economic growth that Japan has experienced expands opportunities for both sons and daughters, narrowing the gap between the marginal return of raising a son and that of raising a daughter (Brinton, 2001). However, it is harder for Japanese married women to keep a work-life balance than their Chinese counterparts, since modern China has historically and politically been more prone to the dual-earners family structure (Brinton, 2001; Yu, 2005).

To understand women's family formation choices within such institutional contexts, overreliance on Western sociological theory – which analyses marriage and fertility as a matter of individual choice (Cherlin, 2004; Giddens, 1991) – would provide an imperfect picture of the way women exercise and understand their own agency in the face of persistent gender inequalities. They exercise this agency by critically evaluating the cultural representations and models of living given to them by society, and then

appropriating those they find of personal value to them in devising their own standards and strategies for motherhood, parenting and career progression (Holloway, 2010). For instance, women in Japan adapt to gendered barriers in work and pressure from family and society to have children by postponing marriage in general and avoiding marriage with sexist men (Nemoto, 2008). In other words, they seek to address their sense of limited options by holding out on marriage and continuing to search for better alternatives. In China, the replacement of the One-Child Policy with the Two-Child Policy has led to greater pressure being put on Chinese women by their families to have two children. However, many Chinese women have hesitated to have a second child, citing an unwillingness to put in the additional sacrifice of freedom, energy and money (Wang & Hesketh, 2018). Chinese women also creatively repurpose existing social norms and institutions to their own advantage in balancing their personal and social obligations. For instance, younger career women in China utilize the close-knit ties within the Chinese nuclear family to pursue both career and family by relying heavily on their parents to take care of their children (Wang & Hesketh, 2019).

Overall, China and Japan offer unique contexts for understanding how married women's career and family aspirations play out and lead to fertility consequences in societies with entrenched gender inequality.

Research Questions and Plans

This thesis adopts an article-style and is comprised by three empirical article chapters.

Despite being three separate and independent empirical articles, these three chapters share a common topic and aim to examine the factors that are associated with married women’s family formation decision, particularly those concerning childbirths, in contemporary China and Japan. Table 1-1 briefly summarises the three research questions I discuss in the three chapters.

Table 1-1. Summary of Research Questions and Plans

Research Topic	Data	Methods
Chapter 2: Married Women’s Second Childbirth in Contemporary China: Effect of Son Preference, Extended Family, and Education	2012 China General Social Survey	Event-History Analysis
Chapter 3: Becoming a Mother: Married Women’s Labour Conditions and Transition to Motherhood in Japan	1985, 1995, 2005 Social Stratification and Mobility Survey	Event-History Analysis
Chapter 4: Bring Parents Back in: Women’s Matching Process and Family Formation in China and Japan	East Asia Social Survey (EASS) 2006 family module; Panel Study of Family Dynamics 2004 China module	Event-History Analysis

Chapter 2 revisits the relationship between married women’s son preference, education, and living arrangements and the probability of having a second child within the context of an active one-child policy (the survey was completed in 2012). The universal two-child policy and the recent trend of relaxation in China’s family planning policies has brought second childbirth into the centre of many research topics. However, few research attempts to understand second childbirth from women’s perspective. Chapter 2 provides important views to understand Chinese women’s choices concerning whether to have a second child and its timing in the Chinese context. Moreover, Chapter 2 has important fertility policy

implications in China. In general, the relationship between the one-child policy and women's second childbirth in China is complicated to a significant degree by the factors studied in this chapter. The outcome of the new fertility stimulating policies focusing on releasing restrictions may not be as successful as some would expect. There needs to be policies targeting different aspects (e.g., a better social welfare system) in order to solve social problems resulted from the low fertility level in China. Therefore, Chapter 2 provides practical policy evaluation and comparison by shedding light on how other characteristics of married women shape fertility decisions just before the policy reformation, though it does not capture the policy change to a two-child policy in 2015.

Chapter 3 examines the association between gendered labour market decisions and women's transition to motherhood in Japan, underlying the importance of a more female-friendly labour market in encouraging women to make early transition to motherhood. In detail, Chapter 3 studies how women's employment status, employment type, industrial sex segregation, corporation size, occupation, and partner's employment correlate with women's transition to first birth. By addressing these five specific aspects of labour market conditions, Chapter 3 distinguishes between the different dimensions of labour to deepen the current understanding of the relationship between married women's labour and motherhood in Japan. Moreover, Chapter 3 explores the nuanced relationships between these aspects of labour and married women's transition to motherhood. These aspects of labour and their interesting correlations with fertility provide a more well-rounded picture of women's labour market conditions at marriage in Japan.

Together, Chapter 2 and 3 provide a broad understanding of how factors within the

household and in the workplace affect the way women make fertility decisions in contemporary Chinese and Japanese societies. In understanding how married women in China and Japan make fertility decisions, Chapter 2 and Chapter 3 both draw on the work of McDonald (2000, 2009, 2013). McDonald's gender equity theory of fertility change (2000, 2009, 2013) highlights the conflict between increasing opportunities for women outside the family and sclerotic change in expectations and obligations within it. Although the majority of McDonald's work focuses on explaining variation in fertility rates in Western Europe, McDonald (2009) has highlighted the relevance of this framework for understanding demographic change in East Asia. This framework provides a strong basis for understanding evidence of growing socio-economic differences in fertility and for evaluating ideas about potentially diverging destinies (McLanahan, 2004) in China and Japan within the East Asian context.

Chapter 3 examines and establishes a direct relationship between women's matching types and the timing of getting married and giving births in China and Japan by highlighting the role parents play in women's family formation decisions in China and Japan. While still focusing on women's family formation decisions, Chapter 3 has a wider research scope than Chapter 1 and Chapter 2 in two ways. Firstly, Chapter 3 includes three stages of women's family formation, namely marriage, first birth, and second birth, rather than just looking into first birth or second birth. Secondly, Chapter 3 adopts a comparative view between China and Japan and emphasises the shared family values rooted in traditional cultures of both societies.

More importantly, Chapter 3 puts great emphasis on the role parents play in their daughters'

matchmaking and family formation processes. Parents are important for women's family formation in China and Japan because family formation is regarded as a family responsibility in traditional Chinese and Japanese culture, in contrast to Western societies where marriage and childbirth are considered domains of purely personal choice (Gui, 2017; Tian & Davis, 2014). The Chinese and Japanese family system has traditionally enforced the notion of filial piety, a lineage-based hierarchical power structure that leaves offspring subordinate to parental authority. Parent-arranged marriages were common in China up until the middle of the twentieth century (Brown et al., 2012; Fei 1939; Yang 1959). In Japan, more than half of all marriages before the 1960s were arranged marriages (NIPSSR, 2017). However, acceptance of the idea that matching is largely a matter of personal choice has slowly been gaining traction in China and Japan in modern times, although the specific forms and processes involved differ across both societies due to their distinct development paths. Thus, while it is important to study the role parents play in matching and family formation in China and Japan, there is also significant scope for an analysis of how that role diverges from one society to the next.

My three empirical article chapters, despite being independent from each other, collectively elucidate our understanding of women's fertility and family formation processes in China and Japan from various perspectives. These perspectives include individual preferences, labour market conditions and matching methods. They also enrich the available pool of empirical evidence to gendered theories of family formation by including valuable and understudied cases from China and Japan. I will conclude the findings of these three empirical chapters, summarise the lessons learnt from these chapters, and give suggestions

for future research in the conclusion chapter (Chapter 5).

Chapter 2: Married Women's Second Childbirth in Contemporary China: The Effect of the Son Preference, Extended Family, and Education

Introduction

China, the most populous country in the world, has seen a significant decline in its Total Fertility Rate (TFR) from 6 children per woman to well below the replacement level over the course of the past half century (Zhao & Chen, 2011; Zhao & Guo, 2010). According to the 2016 China Statistical Yearbook compiled by National Bureau of Statistics of China, in 2015 China's TFR hit 1.04³, the lowest in the world. Among countries with low fertility rates, China is unique in implementing a series of stringent family planning policies (FPP), with the one-child policy being the most well-known. However, the extent to which such policy restrictions contribute to China's fertility drop is disputed among scholars. Some believe that the birth quota accounts for the large proportion of fertility decline in China (e.g., Gu et al., 2007; Lavelly & Freeman, 1990; Wang, 2012; Yang & Chen, 2004; Zheng et al., 2009); whereas others argue that the effect of China's family planning policies has been partially measured and overestimated (e.g., Basten & Jiang, 2015; Cai, 2010; Narayan & Peng, 2006; Schultz & Zeng, 1995). Nonetheless, the ongoing debate over the impact of China's FPP shows that the gendered perspective of fertility in China needs much more

³ The figure is much lower than the estimation provided by other sources (e.g., 1.6 by World Bank). The lower than expected number may be explained by three reasons: 1) Women systematically delay childbirth due to various social factors and economic opportunities brought about by high growth periods. The average age of birth for women in 2015 is about one year older than that in 2014. To cope with this effect, the Tempo Adjusted TFR, known as TFR', was introduced. I will not expand on TFR' in this paper; 2) The sampling error. From 2000 to 2014, the National Bureau of Statistics sampling the fertility rate fluctuated around 0.1. A large part of this fluctuation comes from sampling errors; 3) Bias sampling in the form of under-reporting childbirth. This problem is even more pronounced during the national census which was held every 10 years. But the number of such cases is limited.

attention than what previous research has assigned it, and beyond fertility restrictions, women's fertility decisions and behaviours in China requires more complicated and nuanced explanation. For instance, traditional norms of son preference—rooted in notions of male superiority—still play an important role in how women in China make childbearing decisions (Cai, 2011; Morgan et al., 2009; Poston, 2002; Zhu et al., 2009). Moreover, the bundle of cultural expectations put on a Chinese woman by her parents and in-laws to have more children earlier may be intensified when she is living in close proximity to them (Chen, 2006; Chen, Short & Entwisle, 2000; Chen et al., 2011; Ji et al., 2015). Furthermore, a woman's level of education relative to her husband may be crucial in determining the amount of say she has in familial decisions, childbirth included (Hu, 2010; Jejeebhoy, 1995). In this paper, I plan to emphasise the gendered decision-making process, and explore how son preference, an extended family structure, and education affect married women's transition to having a second childbirth within the context of family planning restriction in contemporary China.

In this section, I present an overview of the key context, concepts, and theories pertaining to women's fertility in contemporary China. This includes the evolution of Chinese family planning policies, the local characteristics of China that affect fertility, such as the urban-rural difference and the *hukou* system, and how these specific characteristics affect China's fertility in the context of family planning. I will then present a gendered perspective on how and why Chinese women make fertility decisions on the familial and individual levels.

The Chinese Context and Fertility

Since the establishment of People's Republic of China in 1949, China's family planning policies have undergone several drastic changes with regard to the government's attitudes towards childbirth. Historians and demographers summarised the change of Chinese FPP into different phases. Here I employ the four-phase overview summarised by Wang (2012) based on the work of Yang (2004): 1) no FPP (1949-1961); 2) mild and narrow implementation (1962-1970); 3) strong and wide implementation (1971-1980); 4) One-child policy (1980-2016). In addition, a fifth phase can be added to the list with the most recent policy change in January 2016: 5) Two-child policy (2016-present). In all five phases, birth quota, which is a restriction on the total number of children allowed to be born in each family, is utilized to achieve state's population size objective. Although the quota went from being advisory to mandatory, and became more restrictive in terms of how many children each woman was advised or allowed to have, the strength of policy enforcement fluctuated depending on the social and political context of each phase. Nonetheless, even when implemented least strictly, China's FPP is tougher for Han-people and people living in urban area than for their ethnic minority and rural-residing counterparts.

China's FPP has its historical roots in the population boost during the first phase (1949-1961) (see Figure 2-1). When first established in 1949, the Chinese government did not have a clear estimate of the size of Chinese population, and used the figure (470 million) calculated by the National Government Period. Influenced by the pro-fertility policy of the Soviet Union, the supreme leader Mao Zedong propagated the view that a large population is beneficial for China, both in official documents and public newspapers. Moreover, the Korean War created a demand for military manpower which highlighted the positive side

of a larger population. To that end, the Chinese government of the time strictly limited women from receiving contraception and abortion, glorified mothers with many children, and provided monetary subsidies to large-sized families (Wang, 2012; Yang, 2004). The situation changed slightly in 1953, when China held its first national population census, which shocked the Chinese government by revealing that China had 580 million people, over 100 million more than the figure arrived at by the Nationalist government. Furthermore, the end of the Korean War reduced the need for manpower. During this period, the Chinese government first started to publicly discuss family planning policies, though no substantial policies were put in place. However, the onset of Great Leap Forward campaign, which aimed to transition China from an agricultural economy to a communist society by increasing labour inputs via population growth, was followed by a great famine between 1958-1961, which caused a negative annual population growth, temporarily allayed any desire for population control. China's TFR quickly picked up and soared after the famine (see Figure 2-1).

After 1962, the number of births in China rose rapidly, and the government once again felt the need to control fertility. In 1962, the CPC Central Committee and the State Council issued the "Directive on the Promotion of Family Planning." This officially marked the beginning of China's family planning policies. From 1962 to 1965, the Premier Minister Zhou Enlai also repeated the importance and necessity of family planning in a series of occasions, and for the first time referred to the goal of controlling the population. FPP in this phase was characterized by setting population growth goals, encouraging late marriage, researching and developing contraceptive methods, and educating people about birth

control knowledge and technology (Wang, 2012; Yang & Gaydos, 2010). There was no unanimous policy across the country, and specific policies varied by province. For example, people from the five autonomous regions were exempted from the FPP. Nevertheless, the ideal birth quota for a family was set to be around three. Having more than three children was not formally penalised, but could negatively affect the individual's political and social status, as the government successfully pushed forward many influential movements promoting fertility control (Wang, 2012). Local governments would also monetarily subsidise small-sized families. During this phase, family planning work was strongly promoted in urban areas, but less so in rural areas where most of the population resided. The enforcement of family planning policies was largely disturbed by the onset of the Cultural Revolution in 1966, even if they still remained on paper. This situation did not change until the beginning of 1970s when people born during the baby boom of 1950s entered into and caused pressures in the labour market. Birth control once again became an urgent need of the Chinese government. In 1971, the government issued a report to reignite the implementing of FPP and managed to put in place a package of blanket policies nationally, most famously known as "late, long, few" (*wan, xi, shao*). "Late" referred to late marriage (the recommended marriage age for men and women are 25 and 23 respectively) and late fertility (women are advised to give birth after 24); "Long" referred to more than three years of birth interval between two children; "Few" referred to the birth quota of two children per couple. While small-sized families continued to be subsidised financially, those who did not comply with FPP would receive substantial penalties such as a fine or a loss in food distribution. The 1971 report signified the start of more stringent

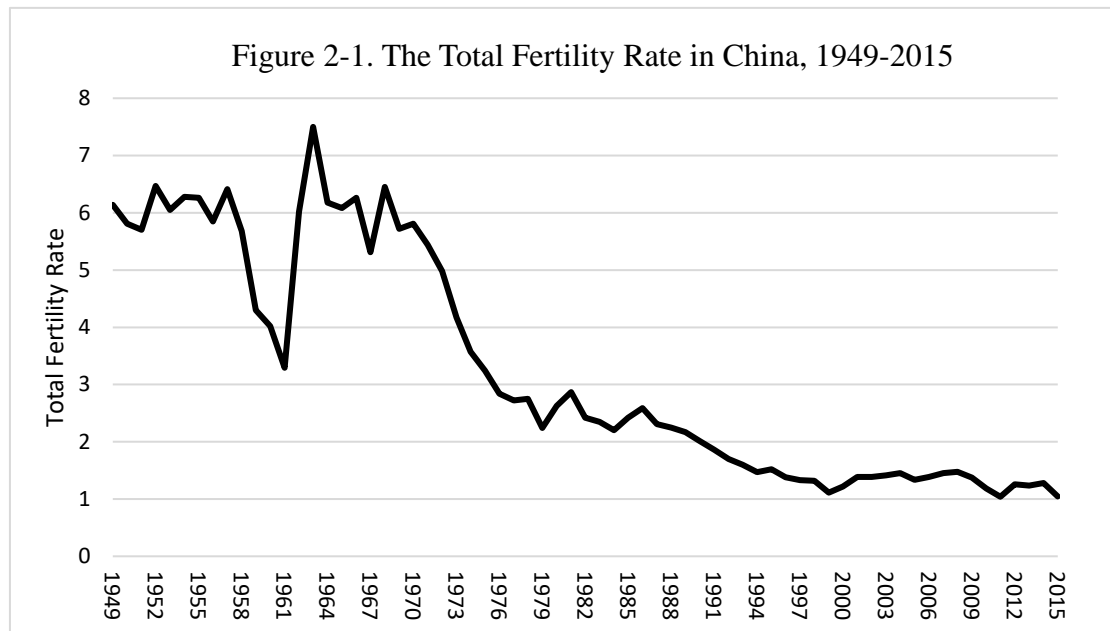
and widely implemented family planning restrictions. Since 1971, China's FPP gradually covered all Han-people regardless of where they live and started to spread to rural areas, though still with a few exceptions. After 1975, under the direction of Mao Zedong, many areas strengthened the enforcement of family planning policies, including the distribution of free contraceptive methods to individuals, the conduct of population theory training courses, changes to secondary school curriculum to include classes on late marriage and birth control, and so on. During the third phase (1971-1980), there was an overall decline of the TFR in China (see Figure 2-1)

The stringent one-child policy was believed to be a natural evolution of the previous FPP in 1980s (Yang, 2004). Conceived in 1979 and heavily propagandized in 1980s, the one-child policy set a strict one-child quota to every family. More importantly, during this phase, FPP was officially included in the Chinese constitution and legislated by both central and local governments. The one-child policy was enforced through legal methods such as one-child subsidy, monetary penalties, and demotion or even dismissal. As a result, the one-child policy received great success among urban Han-ethnic families. However, in rural areas people largely resisted its implementation to the extent that the government had to relax the one-child policy for rural people: for example, from around 1985, rural households were allowed to have two children provided their first child was a girl in regions with strong son-preference. FPP in this phase also started to cover ethnic minority Chinese nationals, albeit in a less strict manner, allowing them to have two or even more children under certain conditions (for instance, when an individual is from an ethnic group with small population). In general, though at rates that varied across ethnic groups, China's TFR

continued to decrease among all ethnic groups in all areas (see Figure 2-1).

Coming out of the 1990s, China's TFR declined to a historical low relative to 1949 terms and has remained below the replacement fertility level. With the 2000s came problems caused by the low TFR, such as the healthcare and public finance burdens brought about by ageing society and labour force. In response, China's fertility restriction has loosened up in recent decades through a series of policies proposed and implemented by local governments. Before 2010, a selective two-child policy was carried out in most provinces: if both partners were the only children of their families of origin, the couple were allowed up to two children⁴. In 2013, the Chinese central government decided to implement a separate two-child policy in its effort to gradually adjust the fertility policy to promote a balanced development of population in the long run. The separate two-child policy states that a couple is allowed to have up to two children so long as one partner of the couple is an only child of their family of origin. The most recent change to the one-child policy occurred in October 2015, when the Fifth Plenary Session of the 18th Central Committee of the Communist Party of China proposed to implement a two-child policy and abolish the one-child policy. From January 2016 onwards, the one-child policy was officially replaced by a universal two-child policy which unconditionally raised the birth quota for every family from one to two.

⁴ Henan was the last province to implement this policy. This policy was effective in Henan province from 2011.



Source: 2016 China Statistical Yearbook, National Bureau of Statistics of China

However, it is unclear what effect this policy change has had or will have on the Chinese women’s decision to give birth to a second child (Bai, 2014; Wetzstein, 2014; Zhuang, 2014). On the one hand, some believe that soon there will be an increase of second childbirth followed by rising fertility rate in China. This view is premised on the belief that the Chinese one-child policy, which was implemented in the 1980s and effectively curbed reproduction by fines, dismissal of family members, and even forceful abortion in some cases—acted as a valve restraining pent-up demand for childbearing in China; the removal of which would unleash demand-side forces for a second child (Ding & Hesketh, 2006; Hesketh et al., 2005). On the other hand, others believe that the relaxation of the one-child policy would not lead to an increase in the number of second-child births anytime soon in China, due to other social and economic problems in Chinese society (Basten & Gu, 2013; Basten & Jiang, 2015; Peng, 2011). Firstly, a rapidly ageing Chinese population—due in no small part to the one-child policy, which led many Chinese families to take a “4-2-1”

structure (four grandparents, two parents and one child”—has created enormous pressure on the young to take care of the old, detracting from their willingness and ability to have more children (Chen & Powell, 2012; Zhang & Goza, 2006). Moreover, skyrocketing costs of living and childcare in urban cities, together with the traditional expectation of high investment in children for mothers, have deterred many young women from entering parenthood (Basten & Jiang, 2015). As such, having a second child may be too much of a burden for young women. Furthermore, it is possible that the decline of TFR is a general trend over later cohorts, as observed in Western countries who have gone through industrialisation and population transition earlier (Bongaarts, 2002). Using a new and complete measure of FPP, Wang (2012) also pointed out that even though FPP can largely explain fertility level shift for all cohorts, its ability to explain fertility decline over cohorts is very limited. It would be a very slow and long process even if the fertility rate were to start to increase. The above reasons may perhaps explain why the relaxation of fertility policies in recent years has not achieved the desired effect. In 2012, women became eligible to have a second child if they or their spouses were the only child of the original family. However, only a quarter of the expected number of babies were actually born after this policy relaxation (Basten & Jiang, 2015; Peng, 2011; Zhuang, 2014).

Apart from family planning policies, there are other China-specific environmental factors that affect Chinese women's fertility decision and behaviours in their own ways. I will briefly discuss several key issues below to more context necessary to understanding women's fertility in China. These Chinese-specific characteristics include the urban-rural divide, Hukou system, housing situation, different modes of childcare, and the traditionally

strong investment in children. These issues together form the background against which Chinese women make their individual decisions regarding marriage and fertility.

First and foremost, despite its sheer size, China's population used to be distributed unevenly across urban and rural areas, with the majority of the population living in the latter before the accelerated urbanisation process in the new millennium⁵. The Chinese government conceived and adopted distinct development paths for urban and rural areas and focussed primarily on developing the urban economy, thus widening and entrenching the urban-rural divide across various dimensions from income earned to gender relations, differences which extant before the establishment of the country (Chen & Lin, 2013; Lu & Chen, 2004; Jacka, 2014; Sicular et al., 2007; Zhao, 1999). Although the latest statistics released by the 2016 China Statistics Yearbook showed that the number of people in urban areas has exceeded that of their rural counterparts, the deep urban-rural divide stays. The income gap is the most visible difference between urban and rural areas, and contributed substantially to the overall income inequality of China (Knight & Song, 1999; Sicular et al., 2007). Since the implementation of Deng Xiaoping's Reform and the opening-up policies in the 1980s, the ratio of average household income per capita in urban areas to that in rural areas rose from 2.1:1 to 2.7:1 in 2015 (China Statistics Yearbook, 2016). If the physical income and subsidies are counted as part of an individual's income, China would be listed as one of the countries with the largest urban-rural income gap in the world (Chen & Lin, 2013; Lu & Chen, 2004; Knight & Song, 1999; Sicular et al., 2007). Coming hand

⁵ From the first national census in 1953 to the one in 2000, the urban-rural population ratio increased roughly from 1:12 to 1:2 according to the National Bureau of Statistics of China.

in hand with the income gap is the lack of economic opportunities in rural areas where agricultural industry is the dominant and supporting pillar of the local economy (Chen & Lin, 2013). Even with support from local government and the development of agricultural technologies in modern times, farming in China is still largely experience-based and dependent on geographic and climactic conditions (Lu & Chen, 2004). In contrast, diverse industries and large market in urban areas produce promising economic opportunities that attract the younger generations. Moreover, rural China suffers from a severe scarcity of educational resources. School infrastructure and teaching equipment are simple and crude, and teachers draw very poor salaries, especially in more remote regions where the educational environment is even worse. Consequently, China has seen a brain drain of qualified teachers from rural areas to urban areas in search of a better career. Therefore, the quality of education cannot be guaranteed and the higher education enrolment rates in rural areas remains low (Brown & Park, 2002; Hannum, 2003; Zhang, 2002). As educational qualifications are highly relevant to an individual's future opportunities and lifetime income in China, the lack of educational resources makes it harder for rural people to make significant economic advances during their lifetimes. According to Lu and Chen (2004), education inequality alone accounts for around 35% of urban-rural income gap. Furthermore, social welfare system in Chinese rural areas is in no comparison to that of urban areas. The absence of pension and trusted healthcare system means that people may not be able to afford unexpected interruptions such as sudden illness in life (Croll, 1999; Hebel, 2003).

The urban-rural divide is closely correlated with women's situation and fertility, especially

with regard to the relative likelihood of a second childbirth, in rural China. In general, it is not easy for progressive and gender-equal ideologies and values to penetrate rural areas due to the self-sustained agricultural economy and relatively closed environment (Li, 2004; Matthews & Nee, 2000). As a result, patriarchal gender norms which privilege men and are deeply rooted in traditional cultural values are still closely held in rural China (Entwisle et al., 1995; Li, 2004; Liu & Chan, 1999; Matthews & Nee, 2000). Son preference is therefore more visible and prevalent in rural areas than that in urban cities and this exerts a strong effect on rural people's fertility behaviours. A woman without a son is sometimes marginalised or even stigmatised by her family and community (Das Gupta et al., 2003; Feldman et al., 2007; Zhu, Lu & Hesketh, 2009). In the mid-1980s, the Chinese government had to relax the FPP for some rural areas where strong son preference causes a high demand for second or more childbirth. Moreover, people living in rural areas can have very precarious living conditions at old age because of low income, scarce economic opportunities and educational resources, and lack of social welfare system. Therefore, raising children, sons in particular, to provide against old age (*yang er fang lao*) is a common mindset and practice among rural people, especially women who are less independent because of their limited economic and social resources (Feldman et al., 2007; Yu, 2011; Yu, 2012). Rural women also receive less educational resources than men because the marginal return of education for sons who are expected to take care of parents is higher, which leads parents to allocate more resources to educating their sons (Wu, 2013; Zheng, 2011). Although the Chinese government has devoted much effort to improving economic situation and social welfare system in rural areas in recent years, the preference

for more children continues to affect women's fertility choice significantly and contribute to the relatively high second childbirth rate in rural China (Hao & Qiu, 2011; Zheng & Lian, 2006). I will expand on the specific correlation between son preference and women's fertility in the next section.

A second important factor that affects China's fertility situation is the *hukou* (household registration) system. The Chinese *hukou* system, which dates back to ancient China when it was first implemented as a means to collect and manage population data, is a system of household registration that labels each individual as a resident of an area and contains other identifying information such as parents, spouse, etc. The strict *hukou* system, which makes a distinction between urban and rural *hukou* types, was implemented in 1958 to control rural influx into urban cities and restrict unplanned population movement between urban cities. This system used to directly affect women's fertility decisions because children born outside the state plan or marriage were not allowed to register with a *hukou* thus were not protected by the law⁶. Moreover, parents' *hukou* type and registered region matters for the decision to have and raise a child. This is not only because the Chinese FPP varies for urban and rural *hukou*, but also because a child's *hukou* strongly affects his or her future resources and opportunities. The *hukou* system was also used as the primary means of resource allocation and the provision of subsidies and public goods including healthcare and education to subsets of the population. Thus, it has deeply shaped much of Chinese economy and society. Since over time, the *hukou* system's function exceeded simple

⁶ The situation has now changed. According to the amended Marriage Law in 2001 and a policy released in January 2017, children born outside of the state plan or marriage can register with a *hukou* and are protected equally as other children by the law.

population mobility control to extend to various forms of social engineering, the far-reaching and multidimensional aspects of the *hukou* led it to evolve into the de-facto identification document of an individual (Chan & Zhang, 1999). Only individuals with a local *hukou* can enjoy the benefits provided by the local government.

However, the introduction and continuation of the *hukou* system brought along many economic and social problems. At a societal level, the dichotomised urban-rural *hukou* exacerbated the urban-rural economic development divide and income gap (Wang & Cai, 2008). On the individual level, the importance of *hukou* in accessing education and job opportunities limited individuals' ability to transcend the circumstances of their birthplaces. More importantly, the restriction of rural-urban migration enforced by the *hukou* system has led to shortages in labour supply when the Reform and Opening-up policy in 1978 led to the burgeoning of China's labour-intensive service and construction industries. Realising this, the Chinese government has been reforming the *hukou* system over the past three decades. One of the most important changes involves gradually replacing the urban and rural *hukou* with a resident *hukou*, thereby defining an individual's registered locale by where he or she works or studies rather than by birthplace, starting from some areas in early 2000s with the goal to encompass the whole country in a few decades.

The reformation of the *hukou* system and economic opportunities brought China's rapid economic growth led the government to liberalize labour mobility within the country. Nowadays, an individual's actual residence status does not necessarily match their *hukou* status. People born with a rural *hukou* can easily obtain a residence permit and live in urban areas, especially migrant workers who work and live in urban cities—and gain urban

residency permits in the process— while holding a rural *hukou*. According to the 2015 Monitoring Survey of Migrant Workers released by the National Bureau of Statistics of China, there were 277 million migrant workers in China by 2015, out of which 33.6% are women. However, the large number of people with rural *hukou* in urban areas did not eradicate all the privileges and inequalities associated with *hukou* status. An individual's *hukou* status is still highly relevant to critical resources such as education, housing, and healthcare in urban areas, especially in metropolitan cities where migrant workers congregate in order to benefit from the abundant job opportunities. For instance, many such migrant workers struggle to secure sufficient educational resources for their offspring, who will not have the same *hukou*-based educational advantages as their counterparts whose parents were born with an urban *hukou* (Wong et al., 2007). Nevertheless, for many, living in urban areas still makes a difference with or without *hukou* when making their fertility decisions. On the one hand, cities provide much better physical and educational infrastructure for children than the countryside can. On the other hand, not everyone can afford childrearing in urban areas because of the high living costs and a lack of access to social welfare.

Moreover, the housing situation also plays a significant role in the Chinese context when families make fertility decisions. Owning a house is a very important part of the family formation process in China, especially for men who are expected to be the breadwinner of the family. According to traditional Chinese social conventions, preparing for new housing, sometimes even just a room, is considered to be a necessary precursor of a couple's marriage (Davis & Harrell, 1993; Fan & Huang, 1998; Logan, Bian & Bian, 1999; Riley,

1994). This convention is still prevalent in modern China, and is probably because house-buying behaviour still bears important social meanings: being able to afford a house signals that an individual is ready to settle down financially and psychologically. Many also believe that buying a house also implies a life more stable than renting one, and a stable life provides an ideal environment for married life and childrearing. Empirical studies on China support the view that couples living in owned houses are more likely to give birth to children than those living in rented houses (Zheng, 2011; Zheng & Lian, 2006). One other important aspect of a couple's housing situation in the context of fertility is the size of housing. The size of housing is related to the household's capacity to support more children, since more children will need more space (Pan & Xu, 2012). The fertility rate and the number of children per couple is higher in cities where housing is more spacious (Pan & Xu, 2012). It is even sometimes the case that parents feel compelled to buy a larger home upon the second childbirth with the money from the resale of older homes.

However, the housing price has been rocketing in China since 2004. In first-tier cities such as Beijing, Shanghai and Guangzhou where the demand for housing and people's purchasing power are extremely high, very few young people can afford buying a small house even with mortgage, let alone a big one. It is common for those who cannot afford buying a house to either wait till they save enough money, or live with their parents upon marriage. Consequently, these practices have led to an overall delay in marriage and childbirth. Furthermore, studies have found that housing prices are negatively correlated with the fertility level in both mainland China and Hong Kong (Pan & Xu, 2012; Yi J. & Yi X., 2008). Pan and Xu argued that housing price affects fertility via "housing price

constraint” and “housing area constraint”. The former refers to the notion that expensive housing crowds out the money needed for raising children thus reduces a couple’s willingness to have children, because house-buying and childrearing are both expensive activities and families tend to have a limited budget. The latter term refers to the thesis that high housing price decreases the number of children desired by a reducing the number of square feet of housing per dollar, and thus makes it harder to comfortably house a given number of children under budget constraints.

Fourthly, the tendency for parents to invest heavily in children’s education is another important determinant of fertility decisions in the Chinese context. It is an entrenched norm in Asian societies generally for parents to invest strongly in their children’s education (Anderson & Kohler, 2013; Chi & Qian, 2016; Chung & Choe, 2001; Lei, 2005; Tilak, 2002). As Chung and Choe (2001) pointed out, there is a significant and long-existing culture of “educational credentialism” in Asian culture, especially in East Asia where Confucian ideology has had and continues to have a profound influence political systems and social structure. One aspect of such thinking is the seeing intellectual cultivation and personal virtue as closely linked in practice—that good education shapes and perfects an individual’s character. Higher education provides a crucial bridge for individuals to learn useful social and life skills, and serves as a trusted proof of the person’s character and ability. Influenced by this thinking, labour markets in Asia largely favour students from the most prestigious institutions. It is also easier for students with better educational outcomes to thrive later in life. As a result, parents incur high education expenditures, particularly for private and after-school education, to boost children’s educational outcomes.

In China, the highly competitive educational system, strong cultural emphasis on education, and unusually close relationship between educational outcomes and other important life outcomes such as career advancement or marriage, has led to an educational investment arms race between parents of school-going children. The competition for dream schools is ruthless: the enrolment rate of students in top universities is extremely low as a proportion of the whole population because of China's large population. In 2016, 9.7 million students participated in the NCEE (NCEE stands for National College Entrance Exams) which is the only way for a secure entrance to a university in China. Less than 1% of the candidates were admitted by top-tier universities. Consequently, parents go to great lengths secure better educational resources for their children. Sometimes this effort is purely financial: some parents send children to expensive after-school education so that their children are not left behind by other children who have access to elite cram schools. However, in many cases, parents take added effort in securing their children better educational experiences. For example, many parents buy and move into properties in key school districts in mega cities such as Beijing and Shanghai where public primary and secondary school enrolment is based on residential districts. Schools in some school districts are better than those in other districts. They frequently are willing to do so even if housing prices near school districts have been surging due to high demand, and even if the property is shabby and inconvenient for the family. Some parents even choose to migrate to less-populated rural provinces to secure their children a higher chance of getting into a good university. Every university in China is assigned an intake quota based on province, and the necessary NCEE scores for admission for students in each province depends on the scores of the other

applicants from that province. This makes it less competitive for students from small, rural and lowly-populated provinces such as Gansu or Qinghai to get into a good university than students from densely populated provinces such as Henan and Shandong. Therefore, some parents of wealth and power choose to move their children's hukou to rural provinces through property investment and other methods. In China, as revealed by the 2006 National Household Compulsory Education Expenditure Survey, the average education expenditure of urban families on one child during the nine-year compulsory education was 3654 yuan per semester, of which out-of-school expenditures constituted 76%. Chi and Qian (2016) also found that household expenditure on out-of-school education expenditure significantly contributes to increasing household education expenditure. Thus, while compulsory education programs effectively reduce in-school education expenditure for Chinese households, it hardly changes the soaring education investment outside school. In recent years, household expenditure on children's education continues to increase and is a growing driver of educational inequality (Chi & Qian, 2016; Gustafsson & Shi, 2004; Li, 2000).

The prevailing trend of high educational investment in children has several implications on the fertility decisions of a household. For one, higher per-child expenditure reduces the number of children desired by a household, as successive children occupy an ever larger share of a limited household budget. This is consistent with the quantity quality trade-off theory (Becker, 1960; Becker & Lewis, 1973; Willis, 1974). Parents may not want a second child out of fear that doing so would dilute the educational resources of the family and potentially worsen the educational outcome of each child. Moreover, couples may postpone

the timing of first childbirth before the household accumulates some capital to be invested in children. This phenomenon also exerts an upward pressure on the age gap between children as parents seek to minimize the economic pressure of the household over a given period. Both the delayed first childbirth and increasing age gap between children combine to make subsequent childbirths less likely.

Overall, the Chinese FPP, urban-rural divide, hukou system, housing situation, as well as strong educational investment in children provide important macro-level context to crucial to understanding fertility in China.

Second Childbirth as a Gendered Decision

The China's low contemporary TFR, followed by the subsequent liberalisation of the Chinese FPP, from the one-child policy to a separate two-child policy, and then to a universal two-child policy, has led to great academic, political and social interest in second childbirths in China. While research focusses on issues such as the number of new-born second children, few research projects have looked at the second childbirth from the perspective of Chinese women (Jiang, Li Y., & Sánchez-Barricarte, 2016). In particular, few studies have explored how the gendered labour market and gendered division of labour affect women's decision to have a second child.

As is common in other East Asian countries, childbearing and childrearing are highly gendered in China. According to prevailing norms about the gendered division of labour, women are expected to be the primary or even sole caregivers of a family's children whereas men are tasked to provide economically for the family (Croll, 2013; Cooney &

Ding, 1999; Kan & Hertog, 2017; Yoeh & Huang, 2005). Given the fact that women are to a large extent the only ones directly engaged in the child-raising process, it would be fruitful to examine how the decision to have a second childbirth depends on the perspectives of Chinese women. The aspects of second-childbirth decision-making I am explicitly concerned with in this study include both whether to have a second child and when to do so.

The gendered labour market would also have important implications in understanding whether and how soon Chinese women choose to have a second child. In China, women participate in the economy at relatively higher proportions when compared to their counterparts in other East Asian countries, with the World Bank putting its 2016 female labour force participation at 63.3%. Undeniably, the rapid industrialisation and growth of the Chinese economy have brought about a shortage in labour supply and thus unprecedented and abundant job opportunities for women. More importantly, this high labour participation rate has historical and political roots in the government's policies to encourage dual-career families through the provision of child care and social security systems back in 1978 in line with the Communist Party's gender egalitarian labour policies (Dasgupta, Matsumoto & Xia, 2015). Against this backdrop, however, is a widening pay gap between women and men in China since the 1980s, especially among high-income individuals (Chi & Li, 2014; Tang & Long, 2013). According to the World Bank's latest data, women earn on average 35% less than men for similar types of work in 2016. While Appleton, Song and Xia (2014) attributed the worsened wage gap to economic reforms, Dasgupta et al. (2015) argued that the wage gap between men and women with similar socio-economic background in China

stems from discrimination and gender stereotypes, because 91% of the wage gap appears to be “un-explained” in their decomposition analysis. Moreover, both vertical and horizontal discrimination can be found in the Chinese labour market. It is much harder for Chinese women to obtain a management position than men. In China, only 17% of all legislators, senior officials, and managers were women in 2016, and less than 18% of Chinese organisations have women in their leadership or management board (The World Economic Forum, 2016). In terms of horizontal discrimination, women are more likely to be sorted into low productivity sectors (Dasgupta et al., 2015; Ngo, 2002; Shu, 2005). Shu (2005) also found that in China, industries or roles undergo feminisation, or female sex segregation, as the relative wage of an industry or certain type of work decreases. This coheres with the “queuing” perspective proposed by Reskin (1993). Furthermore, the mandatory retirement ages for women, despite varying across sectors and types of jobs, tend to be five to ten years earlier than those of men in China. As a result, a woman may find her career development disadvantaged relative to male employees due to possessing a smaller total amount of working years even if she does not take maternity leave. She would also, on average, end up financially worse off than male employees as early retirement reduces the total amount of pension and social security benefits she would get to enjoy in retirement.

The disadvantages that women face in the Chinese labour market make it very hard to achieve a balance between career development and fertility-related activities. Young women who aim to climb the corporate ladder would not want their careers disrupted by childbearing and thus miss potential advancement opportunities, especially when such

opportunities are relatively rarer for women than men. Moreover, in some cases, mothers coming back from maternity leave find their previous positions filled by new employees, and as a result likely suffer a decrease in wages. This conflict between career and childbearing would strongly dissuade women from having second child, because giving birth to two children would mean having one's career disrupted twice, and cause further decline of wage and job opportunities. According to the 2016 Working Mothers Living Conditions Survey conducted by Zhilian, one of the largest human resources firms in China, 58.71% of working women who have not had a second child do not want a second child because of concerns over career development, including changed work position, decreased chance of promotion and pay-rise, reduced work status as a mother, and lower career expectations from others. The unfavourable job market prospects facing working mothers may worsen with the implementation of the universal two-child policy in China, companies may adjust the opportunities given to women as a whole downwards when they anticipate more disruptions to the woman's career than before (Dong & Zhao, 2017). Therefore, young working women are inclined to either not to have a second child, or delay their second childbirth.

Another gendered macro-level factor that affects Chinese women's transition to second childbirth is the gendered division of domestic labour and parenting responsibilities in China. According to traditional social conventions influenced by Confucian values, women are, first and foremost, mothers and care-takers, while men take on the role of the breadwinner (Brinton, 2001). The Chinese idiom "*xiang fu jiao zi*" (to support one's husband and educate children) expresses the highly domestic nature of traditional gendered

expectations about women's primary duties. Women who prioritise their careers over family duties are penalised by marginalisation in the marriage market. Although such pressures have eased as the number of career-focused women has increased over time, the expectation on women to take care of the family lingers in today's society: the domestic labour division and parenting are still largely gendered in most Chinese households. In spite of the high female labour participation rate, women still devote much more time doing housework and child-caring than men. Dong and Zhao (2017) found that the 21 hours spent per week on unpaid domestic work by the average Chinese woman is more than double the 10 hours per week contributed by men. Thus, the 'liberalisation' of work for women in China has perhaps not so paradoxically led them to bear the brunt of both social and family duties. Moreover, even when men do help with housework, they tend to do the more idiosyncratic, ad-hoc and outdoors-related work such as repairing broken pipes and mowing the lawn, and leave women to do more mundane, regular and labour-intensive chores such as house cleaning, laundering, and dish-washing (Li R., 2017; Yang, 2006; Yang, 2014). The childcare and parenting aspects of domestic labour are also gendered. While mothers are in charge of picking-up after their children, cooking, and homework instruction, fathers' role in parenting typically involve taking the children out for excursion or sports (Chang, Chen & Ji, 2011; Jankowiak, 1992).

Traditional values and social conventions aside, the gendered division of domestic labour, can also be explained by a range of the following theories. The most commonly applied and discussed theories in China are the economic dependency theory, utility maximisation theory, and gender display theory. Economic dependency theory states that the economic

dependency of women on men compels wives to exchange their unpaid labour for the husband's economic support (e.g., Brine, 1994; Delphy 1984; Hobson, 1990; Sorensen & McLanahan, 1987). Based on this view, Chinese wives continue to perform most of the domestic tasks because the gender pay gap in labour market reduces the earning potential of most married women relative to their spouses, which makes them economically dependent on the latter, and thus more willing to accept a more domestic role in the family. The utility maximisation theory starts from the premise that partners in a family are rational agents who make personal and collective decisions that maximize the family utility (Becker, 1965, 1981). The utility maximisation theory, just like the economic dependency theory, infers the fact that Chinese women play a more domestic role from the fact that they face worse job market prospects than men. Households, when maximizing their budget set to push out their utility possibility frontiers, engage in intra-family specialization and trade. The gender-unequal labour market give women a comparative advantage in domestic work, and men a comparative advantage in full-time employment. By having the women invest most of their time and effort in domestic work, and men seeking to make as much money as possible, the family enjoys a larger absolute amount of either 'good' than if either party put more effort in the task in which they had a comparative disadvantage. It is worth noting that both the economic dependency and utility-maximisation perspective do not explicitly incorporate a priori gendered expectations, but rather seek to show how initial endowments and labour market features, combined with some account of how agents make decisions or bargain, lead agents to generate these gendered outcomes.

However, whilst the economic dependency predicts that the amount of housework women

perform is inversely related to their earning potential relative to their husbands, some empirical research thrown into question the veracity of the theory's predictions. Research in Western countries has shown that women in fact tend to do more housework when their husbands earn relatively less (e.g., Bianchi, Robinson & Milkie, 2006; Evertsson, 2004; Hook, 2010; Killewald & Gough, 2010; Kolpashnikova, 2017). In China, studies have shown that the amount of housework wives perform are invariant to the relative income potential between husband and wife (Kan & He, 2018; Kan & Hertog, 2017; Yang, 2014). The apparent inadequacy of the economic dependency theory in accounting for these discrepancies suggests the gender display theory as a natural alternative explanation for the phenomenon. The gender display theory states that individuals seek to inhabit roles and behaviours that symbolize their assigned gender. According to the theory, women remain in the domestic sphere and do house work because these tasks and roles are symbolic manifestations of femininity which they seek to perform, whereas earning money and providing for the family are seen as masculine (Gupta, 2007; Sullivan, 2011; West & Zimmerman, 1987). From this perspective, the gendered domestic labour division may derive not simply from exchanging economic relations or maximising household utility functions, but from the socially embedded gender relations that regulate symbolic displays of masculinity and femininity (Evertsson, 2004; Yang, 2006; Yang, 2014). These performances of gender are most prominently contrasted when one considers the different parental roles mothers and fathers tend to play: mothers undertake more feminine, nurturing roles such as education, and fathers tend to be in charge of stereotypically masculine activities such as sports or expeditions.

The gendered domestic labour division and parenting affects a woman's decision to have a second child in several ways. The expectation that women have to bear the bulk of domestic responsibilities means they are disproportionately burdened by the additional children, especially when they are unable to find additional assistance from their husbands. This makes the women that face these gendered expectations think twice about having an additional baby. Li (2017) found in his latest study that in China, the amount of time spent on and proportion of housework done by women increases significantly over the second or more child in her family. Thus, the gendered housework division can worsen with the second childbirth. Li (2017) also pointed out that among women who quit their job after giving birth to the second child, 74.4% did so because of burdens of childcare. However, only 23.2% of men, employed or not, are contributing significantly to the childcare of their second child. Moreover, alternative modes of childcare can be either too expensive (private childcare service) or inadequate (state and intergenerational childcare) in China (Chen, 2017). Public childcare facilities tend to be over-crowded and inaccessible due to the lack of an efficient social welfare system. The retirement age in recent years also limit help from grandparents because they may still be working. As a result, women are likely to refrain from or delay giving birth to a second child.

Overall, pronounced gender discrimination in the labour market and gendered parenting norms put women in constant fertility dilemma, thus lead to unique considerations of women that are very different from men when making decisions regarding second childbirth. In addition to the macro-level factors I discussed above, there are important micro-level factors that have not received as much attention in their influence on Chinese

women's second childbirth. I will focus on these factors in the next section.

Research Plan

This study contributes to the growing body of literature studying second childbirth in China by approaching second childbirth from women's perspective, taking into consideration several key micro-level factors alongside broader macro-level factors. The weaker than expected relationship between the relaxation of the one-child policy and the subsequent increase in births has encouraged lines of argument that posit that other factors—such as son preference, socio-economic status, marriage, and family pressure—are crucial to understanding fertility in China over and above what stat (Attané, 2001; Cai, 2010; Guo, 2008). This study responds to the need of a gendered and more nuanced explanation which takes both these micro-level factors and the specific characteristics in the Chinese context into consideration.

Firstly, some believe that women with son preference tend to give birth to more children regardless of the policy restriction (Morgan et al., 2009). Women who have a preference for sons would want at least one son over the course of their childbearing careers. In certain rural areas where strong demand for sons is expressed, women with a daughter are permitted to have a second child since 1988. Outside of those areas, women who have a strong preference for sons may keep giving birth until they have a son, even if they have to pay the fines/shoulder the consequences.

Secondly, living with one's extended family might affect women's fertility behaviour, particularly when women co-reside with their parents or in-laws (Chen, 2005; Chi & Hsin,

1996; Davis, 1955; Davis & Blake, 1956). In China, many women live with their seniors from older generations, especially from the paternal side. On the one hand, parents and parents-in-law tend to provide both monetary and childcare support for women in China, because of norms of filial piety which places value on passing down the family legacy via childbearing (Chen, 2005; Chen, Liu & Mair, 2011; Chen, Short & Entwisle, 2000; Silverstein, Cong, & Li, 2006). On the other hand, filial piety also puts pressure on the young to care for the old due to a lack of a well-established welfare system, and encourages obedience to the older generation's wishes (Chen, 2005; Chen & Short, 2008; Davis, 1955; Maurer-Fazio, 2011). Many young women submit to pressure exerted on them by the older generation to start having children at a young age regardless of their own interests or preferences (Chen, Short & Entwisle, 2000; Chen, Liu & Mair, 2011). Earlier age at first birth for women is empirically associated with a higher possibility of other childbirth on parity (Guo, 2008), the presence of an older generation in an extended family may be positively associated with a greater rate of second births.

Thirdly, since education is a form of embodied economic capital—and embodied economic capital is important to fertility decisions—it is important to look at married women's educational achievements⁷ in order to understand women's fertility choice. Studies have found that though women with higher educational attainment would possess more resources for child raising, higher education is negatively associated with fertility (Chang

⁷ Married women's labour force participation is also expected to affect fertility (Brewster & Rindfuss, 2000; Brinton, 2001). There are many complicated aspects of labour force participation, including employment status (employed/unemployed), job type (full time/part time), and occupation. This chapter mainly focuses on education. Individual occupation will be controlled in the models.

et al., 2005; Galor & Weil, 1993; Michael, 1973). One might ask, however, whether women's education is more important than men's education in explaining fertility since, on the one hand, fertility is a decision jointly made by a couple, and men have traditionally had more say in that relationship (Abadia, 1996; Jejeebhoy, 1995; Kandiyoti, 1988; Mason, 1984; Mason, 1987), while on the other, women have acquired more autonomy and influence in modern society (Mason, 1984; Mason, 1987). Thus, it is important to look at women's education within marriage in comparison to that of men's in order to explain women's decision to give second childbirth.

Understanding women's second childbirth has important policy implications for future fertility policies in China. However, studies on how women's transition to second childbirth varies with individual, marital, and family level factors are not readily available. This paper aims to explain women's second birth in the context of fertility planning restriction by answering three questions. Firstly, how, if at all, is son preference correlated with women's second childbirth? Secondly, what is the relationship between living with their extended family and women's decision to have a second child? Thirdly, how is married women's education associated with their second childbirth in comparison with their spouses?

The rest of the chapter is organised as follows: I first provide a literature review for three sets of hypotheses relevant to fertility behaviour and its correlation with son preference, extended family, and education and marriage. I then introduces the data and methods I use to test the three hypotheses. Next, I report the results of the analysis of hypothesised factors affecting women's second birth. Lastly, I conclude with a summary of the findings of this chapter, discusses its limitations, and raises inquiries for future research.

Background and Hypotheses

Son Preference

Rooted in the notion of male superiority, son preference is a typical feature of patrilineal family systems prevalent in countries from East and South Asia to Middle East and North Africa (Arnold, Choe & Roy, 1998; Bairagi & Langsten, 1986; Clark, 2000; Graham & Larsen, 1998; Park & Cho, 1995). In these systems of patriarchy, the marriage system functions as a type of family reformation that involves expelling women from their natal family. In countries like Korea and Japan, it is normal for a woman to change her surname to her spouse's surname after marriage, formally signifying her transferral of membership to her spouse's family. Daughters are seen as offspring that are born to leave the roost. In such patriarchal systems, son preference on the part of parents is widespread and practiced in a variety of ways.

The existence of preference for sons in patriarchal societies is well-supported by sociological theory. According to an influential theoretical framework on fertility determinants, children hold a special value as security assets for their mothers under unfavourable economic conditions (Cain, 1985). For instance, in developing countries where financial assets such as life and unemployment insurance are underprovided or plain non-existent, children fulfil the need for annuity especially for elderly parents. More importantly, when women are more economically dependent on men due to patriarchal structures that restrict the economic independence of women, they can insure themselves against losing the economic support of husbands by having more sons.

This need for insurance from sons is compounded by the fact that the patrilineal transfer of a woman to her husband's family implies that the spouse's family becomes a woman's priority. She is expected to prioritise providing care to her husband's family over her biological parents. In contrast, men stay in their natal families after marriage to carry the family name, continue the family bloodline, and care for the old (Morgan et al., 2009; Poston, 2002). Thus, the marginal return of investment on daughters can be close to zero, whereas investment on sons has far better returns on parents' lives, especially during the twilight years. In a sense, son preference represents a way for parents to seek for a future socio-economic security and stability in a patriarchal society.

Cain suggests using bounded rationality theory from neo-classical economics to model how reproductive decisions relate to old-age insecurities (Cain, 1985). The result is what he calls the Lexicographic Safety First (LSF) model of fertility, a set of lexicographic decision rules based on the imperative to put "safety first". Lexicographic decisions rules are ones according to which agents not only act to maximise net returns according to some pre-defined notion of utility but do so under the constraint that net returns do not fall below some pre-specified level.

In the context of reproductive decisions, parents are utility maximisers subject to the constraint that the likelihood of insufficient support and life quality does not fall below some pre-specified probability. In other words, parents' first priority is to make adequate provision for the future with reasonable certainty. Choices of how to adjust fertility in utility maximizing ways after accounting for time and commodity costs of children are only considered after this baseline requirement is satisfied. These baseline requirements or

constraints for parents, Cain proposes, are defined in terms of a certain number of surviving children. The exact number and type of children required depends in turn on a variety of factors, such as the probability of child survival and probability of child default. More crucially for this thesis, in the sex of the child also matters to framing security targets in countries that have patriarchal social and economic structures. In societies in which women are excluded from mainstream economic activities and thus are more dependent on men, parents will place a greater premium on sons. Thus, Cain's LSF predicts that son preference would persist in these types of societies.

Some have argued that as societies develop economically, affluence and the social welfare system have helped the elderly become more self-reliant, rendering the reason for son preference less compelling (Brinton, 2001; Chang et al., 1987; Chu & Yu, 2010). However, data from abundant empirical studies on gender and family suggest that son preference still exists even in modern societies, especially in less developed areas (Cain, 1984; Clark, 2000; Das Gupta et al., 2003; Guilmoto, 2012; Lin & Adserà, 2013; Zhu et al., 2009). For example, Attané (2001) suggested that preference for sons might have even been encouraged in rural China as a response to neoliberal economic reforms that reduced economic and managerial dependence on the state, and increased household responsibility over these aspects of life. According to the latest Chinese population census (General Census Office, 2010), China's sex ratio at birth is 108:100, with the ratio being as high as 114:100 in certain cities. This has resulted in a severe deficit of marriageable women, squeezing a large number of Chinese men out of marriage market (Guilmoto, 2012). Researchers have attributed the highly skewed sex ratio to son preference in the patrilineal family system which leads to

the underreporting of female infants, sex selective abortion, and female infanticide (Chu, 2001; Yang & Wang, 2009; Zhu et al., 2009). Even in places where parents do express an ideal gender-balanced sex composition of children, they are likely to value sons more than daughters.

The Repetition Mechanism

Some studies suggested that son preference incentivises women to conceive more frequently, thus increasing the probability of second childbirth and individual fertility rate. Using a decomposition formula of total fertility rate, Morgan (2003) reported a positive correlation between son preference and total fertility rate. In his study on China's below-replacement level of fertility, Morgan claimed that women tend to continue giving birth in order to achieve the desired number of sons. This 'repetition mechanism' occurs when women repeatedly get pregnant in a bid to conceive a son and has the effect of raising the probability with which they have a second child. In many cases, having one son is not considered enough. Overall, women with son preference are more likely to give birth to more children compared to those who are more gender-neutral because of this repetition mechanism (Morgan, 2009). Moreover, this increasing effect of son preference on women's fertility level is more prominent when the first child is a daughter for women with son preference. In line with Morgan's findings, Chinese scholars found that women with a daughter are more likely than women with a son to have another child (Cai et al., 2010; Choe et al., 1992; Li & Cooney, 1993; Poston, 2002). After analysing data from 1985 fertility survey in Hebei and Shaanxi provinces in China, Wen (1993) also concluded that individuals are more likely to conform to the one-child policy if their first child is a boy

rather than a girl. Although the consequences of breaching the one-child policy vary from case to case, Wen's study indicates that Chinese families see having sons as more important than complying with the fertility policy restriction. In this regard, son preference increases women's second childbirth.

Hypothesis 1: In China, women with son preference are more likely to transition to second childbirth at a relatively faster rate.

Co-residing with Older Generations

In China, despite overall reductions in family size in modern societies, patrilineal and patrilocal extended families remain common (Cohen, 1976; Guo, 2000; Zeng, 1986). Women are expected to move into their husbands' family household to live with parents-in-laws after marriage to continue the patriarchal family line. According to the 2010 Census of China, more than 30% of Chinese households live with at least one senior aged 65 and above (General Census Office, 2010). Within the extended family structure, older generations exert strong influence on young women's life decisions. The dominant Confucian patriarchal ideology in China emphasises a clearly defined and hierarchical relationship between generations. In its extreme form, Confucian ideology offers the older generation absolute authority over most aspects of the younger generation's lives (Hershock & Ames, 2012; Rozman, 2002; Park & Cho, 1995). This authority is expressed in terms of and exercised through the concept of filial piety (*xiao*), which involves obedience to the senior's instructions (see e.g., Deutsch, 2006; Hwang, 1999; Lai, 2010; Zhan & Montgomery, 2003). Moreover, many young women are economically dependent

on their parents, especially in their early entrance to marriage (Chen & Li, 2014; Raymo, 2003; Raymo et al., 2015; Zeng, 1986; Zhan & Montgomery, 2003). Although family ties can extend well beyond the boundary of the household, co-residence arguably binds the old and young generations together more tightly than any other form of family living arrangement (Bian et al., 1998; Davis & Blake, 1956; Silverstein, Cong & Li, 2006). By living together, family members tend to rely on and derive a sense of security from familiarity with one another's personalities, daily routines, and emotional and economic needs (Davis, 1955).

Empirically, co-residing with parents in developing countries (especially in Asia) induces fast transition to and high rates of second childbirth due to the shared childcare and encouragement of early childbearing (Burch & Gendell, 1970; Chi & Hsin, 1996; Davis, 1955; Weinstein et al., 1990). This holds despite the recent discussion over the potentially reduced help from older generations because of the delayed retirement age in China (Chen, 2017). One of the most important ways parents and parents-in-law affect women's fertility within an extended family structure is through intergenerational interaction. In China, it is the norm for grandparents to provide essential care for grandchildren (Chen, 2006). As a consequence of the Communist government's program to forcefully form "working couple families", women's labour force participation is very high in China (Zhu & Guang, 1991). While mothers are expected to be the childcare providers, there is a paucity of social welfare policies that give working mothers more time and space for childcare (Chen, Short & Entwisle, 2000). For example, Chen (2006) made a reference to Chinese women's intense work-life conflict. In urban areas where women are most likely

to work in waged jobs, mothers suffer from short maternity leave and fixed working schedules. Although in rural areas, seasonal agricultural fieldwork makes it possible for women to care for children, women often find other work activities to support the family, and are thus unable to provide their children full time care (Entwisle & Chen, 2002). Moreover, women in China retire relatively early (50 for blue-collar females, 55 for white-collar females), creating a large group of grandmothers who are available for and more than happy to care for grandchildren (Cooke, 2003). Although the government has been discussing the extension of women's retirement age, there has not yet been any unified policy effectively keeping women at work for longer. Therefore, with grandparents' help (especially that of grandmothers), women are more likely to give birth to the second child early because they are able to balance work and childcare.

More importantly, the Confucian ideology and filial piety culture in China stresses family continuity. Being childless or sonless is the worst offense to filial piety ("*bu xiao you san, wu hou wei da*"), and it is believed that more sons can bring more luck to the family (*duo zi duo fu*). Such culture has at least two results regarding intergenerational relationships in China. Firstly, Chinese grandparents tend to encourage their children (daughters, in particular) to get married and have children early. Demographic research in recent years has put great emphasis on the role fertility attitudes and values play in reproduction behaviours (Barber & Axinn, 1998). The fertility attitudes and the preference for grandchildren of parents and parents-in-law affect women's fertility rate and child number parity progression (Coombs, 1978). Women who live in geographical proximity to their parents or in-laws are subject to more supervision and control by them,

and may be socialized through daily interaction to be share similar fertility attitudes (Weinstein et al., 1990). The intergenerational effect can be particularly prominent when women co-reside with parents or parents-in-law in China. Like their peers in other Asian countries, Chinese women are expected to prioritise their family role over the other roles they play, and are judged in terms of the success of their husbands and children instead of their own careers (Brinton, 2001; Chen et al., 2011). There also exists strong cultural and social disgrace for women who choose not to or even just postpone the entrance into marriage and motherhood (Brinton, 2001). Therefore, parents and parents-in-law urge young women to get married and have children. Many women who live with their extended family surrender to parental pressure to give birth to children early, increasing the possibility for second childbirth (Barber & Axinn, 1998; Xu, 2007).

Another result of the family values in the Confucian ideals is that Chinese grandparents are very willing to share the economic costs of grandchildren (Davis, 1955; Davis & Blake, 1956; Zheng, 2000), since grandchildren are culturally treasured in Chinese families. Moreover, the 4-2-1 structure (four grandparents, two couples, and one grandchild) is now common in Chinese families three decades after the implementation of the one-child policy (Basten & Jiang, 2015). As the number of grandchildren of a family has decreases, the amount of investment one's grandparents put in each grandchild increases. Although the 4-2-1 structure arguably puts more burden on women to care for the old, detracting from their ability to provide care for the young, this burden only really becomes serious later in marriage when seniors become too old to attend to their own basic life needs. Living with parents also reduces the time and effort women spend on

traveling to care for the old. As such, living with parents can lead to high rate of and fast transition to women's second childbirth (Chen, 2006; Davis, 1955).

Moreover, the extent to which living with an extended family correlates with women's fertility behaviours can vary in patrilocal and matrilocal residence patterns. While women who live with their own parents receive more support from their family of origin, those who live with parents-in-law face more pressure to have sons and potential conflicts in interacting with mothers-in-law (Morgan & Rindfuss, 1984; Yang & Short, 2007). These kinds of difficulties—which are particularly pronounced for women who live with parents-in-law that come from areas where patriarchal values and heavy son preference are strong—give women tremendous pressure to have more sons as soon as possible in order to consolidate their position in the household and to ease the relationship between them and parents-in-law (Yang & Short, 2007).

Hypothesis 2: Women who live with parents, particularly parents-in-law, tend to make an earlier transition to second childbirth than those who do not.

Education and the Competing Effect between two Genders

Women's Education and Women's Second Childbirth

Research has shown that educational qualifications are associated with fertility behaviour. Education and other forms of embodied economic capital have a well-researched association with individual reproduction behaviours (Becker, 1960; Birdsall & Jamison, 1983; Guo, 2000; Guo, 2008; Zhu et al., 2009). However, although women's fertility is commonly assumed to be jointly made by both women and their spouses, it is unclear

whether women and men's individual educational achievements carry the same weight in women's fertility decision-making process. In order to make such comparison, it is important to first understand how women's education affects women's second childbirth within marriage.

Jejeebhoy (1995) argued that the relationship between women's education and fertility is dynamic: as the society develops over time, the shape of the relationship changes from curvilinear to inverse and from sharply inverse to moderately inverse. For example, in the least developed countries with little gender egalitarianism, a small increase in education may increase fertility level by enabling women to better achieve their objective of having more children. However, this effect falls when women's priorities change with social development. In China, empirical studies have revealed that there is a generally inverse relationship between women's education and fertility rate, suggesting that the higher the woman's educational attainment, the less likely she is going to have her second child (Abadian, 1996; Guo, 2008; Jiang et al., 2016; Lavelly & Feedman, 1990). This negative effect of education on women's second childbirth can happen for several possible reasons. Firstly, education enables women to make decisions based on their own evaluations of the likely consequences of certain actions. As higher education translates into competitiveness and better job opportunities in the labour market for women, it increases the opportunity cost of unemployment. Therefore, women with higher educational attainment are more reluctant to choose to take a break from their career and have children (Michael, 1973). Moreover, women's higher education is often associated with higher income in China, especially after the 1978 Economic Reformation (Li, 2003). The Chicago-Columbia school

(Becker, 1960; Becker & Lewis, 1973; Willis, 1974) argued that as incomes rise, people become more wary of the trade-off between “quality” and quantity brought by the dilution of resources in reproductive choice. All else being equal, the more resources you want to invest in each child (quality), the fewer children you must necessarily have. The quality quantity trade-off effect on fertility can be rather prominent in China, especially among highly educated and well-paid Chinese women. The intense competition Chinese children face in future job market demands more and better educational investment. Making matters worse is the fact that the cost of living and the price of education in China have been increasingly rapidly (Basten & Jiang, 2015). Furthermore, highly educated women are more able to break loose from traditional beliefs and withstand parental pressure for more children than their less well-educated counterparts (Chang et al., 2005; Jejeebhoy, 1995). However, although the wide development gap between urban and rural areas in China means that while the relationship between education and fertility can vary, little has been researched empirically. Since having more children is more important to women in rural China than women in urban cities, the way education affects fertility can present a “reverse-U” pattern in rural China. That is, women with middle-level education will have peak possibility of giving second childbirth (Jejeebhoy, 1995).

Hypothesis 3a: Women’s education is negatively associated with women’s second childbirth in urban China; the hazard rate of women having a second child in rural China follows an inverted “U-shaped” relationship as it rises and falls with income.

The Competing Effect of Women and Men’s Education

Since education functions as a form of embodied economic capital that affects gender equity, women's educational level determines the gender power relations within marriage to a large extent (Ghuman, 2006; Kandiyoti, 1988). Many theories of fertility determination point to different aspects of women's embodied economic capital relative to men's (see e.g., Cain, 1984; Gage, 1995; Mason, 1987; Sen & Grown, 2013). Cain (1984) theorised that children are a potential source of social security that men seek control of by exploiting their wives' economic dependency. Similarly, Caldwell (1982) sees children as a potential source of wealth negotiated between male and female family members. In East Asia, women compete with men over who has more say in fertility decisions as a means of reclaiming autonomy in a patriarchal system (Ghuman, 2006; Kandiyoti, 1988). Thus, it is important to study women's ability to influence fertility through their own education vis-a-vis men in order to understand how much women's education actually affects women's second childbirth. Previous studies that have focused on women's relative status to men's within family overlook the possibility that women's bargaining power increases with social status gained by rising education and income (Hu, 2010; Mason, 1987). I believe that when women's increasing bargaining power is taken into account, women's relative position to men may not matter as much, when competing with men over fertility decision power, so long as they pass certain threshold of education. As such, this chapter looks at women's education separately from that of men's.

For women with lower education, the effect of women's education may not be as important as that of men's education in China. A low level of education may not be able to offer women enough independency to overcome the patriarchal culture and gender hierarchy. In

traditional Chinese marriage, less educated women tend to be more economically and culturally dependent on their husbands. As a result, men gain more influence over reproductive choice through women's fear of marriage breaking up (Gage, 1995; Hu, 2010; Mason, 1987; Zhu et al., 2009). The pregnant wife can be forced to abort the unborn baby if the man is not ready to enter fatherhood. Moreover, lower education often indicates low decision-making power of women within marriage (Hu, 2010). This low decision-making power, especially as it pertains to the use of contraceptives and how family resources are invested, leads to women's lack of discourse regarding childbirth. On the contrary, women's education may exert a larger effect on women's second childbirth than men's education when the women are highly educated. Highly educated women are more likely to subvert the traditional gender power dynamics in fertility decision making process within marriage by possessing bargaining power both in and out of marriage (Kandiyoti, 1988). The potential higher degree of economic dependency and social mobility that comes with higher level of education enables women to better assess the costs and benefits of childbearing and prioritising their individual utility over marriage utility (Jejeebhoy, 1995). Moreover, since women are the ones who actually bear the baby and men do not get to choose to be pregnant, women with more autonomy are in a better position to make use of their biological advantage in fertility decision making (Bongaarts & Potter, 2013). Furthermore, according to Song (2000), as women's educational attainment increases, the proportion of family expenditure on children's education and clothes raises. Meanwhile, the proportion of family expenditure on alcohol and cigarettes decreases significantly. Song's study (2000) suggests that highly educated women possess more bargaining power

over domestic issues than their husbands.

Hypothesis 3b: A woman's level of education is a better predictor of her hazard rate of second childbirth than her husband's education, but only when she has obtained higher education (above high school level).

Data and Methods

Data

This chapter is based on data from the 2012 Chinese General Social Survey (CGSS). Launched in 2003 and led by Renmin University in China, CGSS is the earliest nationally representative continuous survey project run by an academic institution in mainland China. The CGSS 2012 utilized a multistage sampling design which included 100 cities across China to ensure a sample representative of the Chinese population. In each household, one member is randomly selected to be the respondent. This data set provides detailed information of the respondent's socio-economic condition, the respondents' spouses' socio-economic conditions, fertility intention, and fertility history. Respondents of the survey were not affected by the universal two-child policy, as the survey was carried out before the policy was announced in 2015. Nevertheless, the one-child policy has been loosened significantly in local policies under different conditions since the 2000s. Data from this recent and nationally representative survey still enable us to understand women's intention and behaviours regarding second childbirth in the Chinese context with relaxing fertility policies.

The CGSS 2012 surveyed adults aged 18 and above. The original sample size was 9,183.

After excluding male respondents, the sample size was reduced to 4,247. After excluding women who were either unmarried or childless, the sample size came down to 3,559⁸. Finally, after dropping missing values⁹, the sample size reduced to 3,010.

Variables

Dependent Variables

The dependent variable is the women's transition to having a second child, namely the risk or hazard (as termed in Event History Analysis) of women giving birth to a second child after her first birth. This hazard rate also reveals how fast a woman makes the transition. I also utilize a dummy variable to indicate whether the second childbirth occurred. The occurrence of second childbirth signifies the occurrence of the event in the model. The survival time is the number of months from the women's first birth to second birth. If the second childbirth had not occurred by the end of the survey or by the time the women turn age 45, the survival time would be the number of months from the women's first childbirth to the time the survey ended or to age 45¹⁰, whichever comes earlier.

Independent Variables

⁸ I restrict my samples to women with at least one child. In reaching this stage, women should have made several steps of choices, such as the decision to get married and have a first child. Though I do not intend to focus on decision-making in each of these steps, I provide some descriptive statistics before the detailed analyses of second childbirth in Appendices. This includes 1) the marital status and number of children of all women in this data (Table a2-1); 2) percentages of unmarried women and women without children by age (Table a2-2); 3) women's number of children by marital status (Table a2-3); 4) characteristics of women who are ever married but have no children (the distribution of their ages, education, occupations, and *hukous*) (Table a2-4).

⁹ Missing values consist of missing first and second childbirth information, missing partners' information, and few cases of missing responses to *hukou* status and occupation.

¹⁰ Age 45 is set because women are unlikely to have children above this age due to biological constraints. I have tried to set this age as 42 to 48, the results do not change significantly.

My independent variables are son preference, the education level of women and their partners, an extended family structure with seniors, and other variables that may affect women's second childbirth. Son preference is jointly indicated by two variables: a woman's stated preference for sons and the sex of her first child. Women's preference for sons is a variable with three categories: "son preference", "gender neutral", and "daughter preference". This information is derived from the response to the question "If not restricted by the fertility policy, how many children would you like to have? How many sons? How many daughters?". The respondent is marked with "son preference" or "daughter preference" if the intended number of children of one sex outnumbers that of the other. The respondent is marked "gender neutral" if the respondent answered "gender does not matter". This indicator of son preference has been adopted in previous research (Das Gupta et al., 2003; Lin & Adserà, 2013). However, since many women in China do value sons more than daughters while at the same time consider a family with one son and one daughter to be ideal (Zheng, 2011a), I also use the sex of women's first child to help measure a woman's son preference in addition to the intended number of children of different sexes. This is because women with strong son preference may conduct self-selective abortion to make sure the child is a boy, or are more likely to have a second child if the first child is a girl (Jiang et al., 2016).

The influence of an extended family structure is measured by a categorical variable: do not live with parents or parents-in-law, live with parents, and live with parents-in-law¹¹. Studies

¹¹ Among all couples who live with their parents and parents-in-law, 52% live in urban areas and 48% live in rural areas. Therefore, living with older generations does not confound with residence areas.

have found that grandparents are more able to influence the young when both live together in an extended family structure than when they do not (Chen, Short & Entwisle, 2000; Chen et al., 2011).

The education of women relative to their spouses is measured by women's educational attainment and their spouses' educational attainment. According to the Sixth National Population Census of China, while around 88% of Chinese people complete primary school education, the majority end their education in high school (General Censors Office, 2015s). As such, I categorise women and their partners' education into three levels, namely no education, compulsory education (up to secondary school) and vocational school, and high school education and above¹².

There are three types of controlled variables in this paper. The first type is one-child policy measured by a dummy variable "First Birth Before One-child policy" and "First Birth After One-child policy". Since the one-child policy came to effect in the 1980s, women who gave birth to their second child after 1980 are categorised as having given birth after the one-child policy. Some women in the survey had experienced the one-child policy while others did not. Respondents belong to the former category if they gave birth before the one-child policy was implemented in the 1980s, or to the latter if their children were born afterwards.

The second type of controlled variable measures the complementary fertility information which is indicated by the woman's marriage cohort. I grouped women into four marriage

¹² In China, most people finish compulsory education (up to secondary school) at 15. Then they go to vocational school (takes two years) or regular high school (takes three years) if they do not quit school. Any education beyond secondary school counts as above secondary school of education. Therefore, the youngest women in this chapter (19 years old) should have obtained their above secondary education. The special cases whose education is censored in the sample are very uncommon, thus have little impact on the results.

cohorts according to the year they got married to capture the effect of changing times. The four groups are “Married before 1980”, “Married in 1980s”, “Married in 1990s”, and “Married after 2000”. I did not include women’s age at first childbirth because I used women’s age at first childbirth to calculate whether a woman’s childbirth is affected by the one-child policy. In a sense, the effect of women’s age at first childbirth is partially captured by the one-child policy variable. The last type of controlled variable I look at pertains to women’s social background and includes *hukou* status (the household registration type), residence areas, economic activity and sector, and ethnicity¹³. *hukou* status is indicated by a binary term “Rural” or “Urban”. China’s fertility policy varies according to *hukou* status, allowing women with rural *hukou* from certain provinces to have a second child if the first child is a boy. However, many of those who hold a rural *hukou* are attracted by opportunities in large cities and move to live in urban areas, contributing to China’s urbanisation (Gong et al., 2012). Therefore, it is important to differentiate a respondent’s *hukou* status and actual residence area. There is a large divide between residing urban and rural Chinese in terms of reproduction behaviour. People live in rural areas are more inclined to have a second child (Schultz & Zeng, 1995; Zheng et al., 2009). There are four categories in economic activity and sector: unemployed, agricultural, non-agricultural/private sector, and non-agricultural/public sector. Women’s employment is traditionally seen as incompatible with reproduction and is correlated with low fertility rate when women try to choose both a career and caring for children (Brewster & Rindfuss,

¹³ The 2012 CGSS has women’s occupation history, changing *hukou* status information, and residence history. The variables here reflect women’s situation after first childbirth and before second childbirth.

2000; Brinton, 2001; Chen, 2006; Stone, 2007). Moreover, in China, non-agricultural workers in public sectors face strict government scrutiny and harsh penalties. For such workers, compliance with the one-child policy is tied to their opportunities for career advancement. In some cases, failure to conform to the fertility policy can lead to losing any advancement opportunity for a very long time or even being removed from one's position. I also include respondents' ethnicity in this paper indicated by a binary term "Han Ethnicity" and "Ethnic Minority", because ethnic minorities in China are exempted from fertility planning restriction.

Methods

This research aims to estimate how women's transition to second childbirth varies with key micro-level variables in the Chinese context. I plan to use Event-History Analysis in this chapter¹⁴. The EHA methods analyses the time to an event while focusing on the event outcome. It is important to notice that the data is right-censored, and EHA methods are more suited to dealing with censored data compared to conventional statistical models. Individuals are right-censored if they have not given birth to a second child by the end of survey (October 2012); we do not know whether they would give birth, and if they did, when they would. EHA mitigates right-censoring by making the assumption that censoring is random and that the processes governing censoring and occurrence of events are independent of one another. More importantly, EHA methods analyse the critical time

¹⁴ To complement the EHA models, I also run the data with logistic models with the dependent variable being "whether the woman has had a second child". The independent variables are the same as used in the EHA models. The results do not differ from the results derived from the EHA methods.

element of women's second childbirth: it provides an estimate of how fast the average woman transits from the first to the second childbirth and the hazard rate of a woman giving birth to the second child. EHA analysis also allows us to interpret the length of the interval between two childbirths as indicative of the family's fertility patterns: the longer the interval, the less likely for a second childbirth to happen; the shorter the interval, the stronger the desire to have a second child is (Jiang et al., 2016; Zheng et al., 2009). Shorter intervals can also lead to higher overall fertility rate, because it leaves more time for women to produce more children before menopause.

In this chapter, I use the multivariate Cox hazard regression (semi-parametric) models to analyse the relationship between independent variables and women's rate of having a second child in China. I also made sure all models pass the PH assumption test.

Table 2-1. Definition and Measurement of Variables

Variable	Definition and Measurement
<i>Women's Second Birth</i>	
If Second Birth Occured	Dummy variable: 1 = yes, 0 = no
Survival Time	Number of months (first childbirth to second childbirth or till the end of the survey if censored)
<i>Son Preference</i>	
Son Preference	Reference Category: Gender Balance
Daughter Preference	2 = with daughter preference
Son Preference	3 = with son preference
First Child's Sex	Dummy variable: 0 = daughter, 1 = boy
<i>Older Generation</i>	
Live with Older Generation	Reference Category: Do not Live with Older Generation
Live with Parents	2 = live with parents, 0 = do not live with
Live with Parents-in-law	3 = live with parents-in-law, 0 = do not live with
<i>Education</i>	
Women's Education	Reference Category: Primary Education and Below
Secondary/Vocational Education	2 = secondary/vocational education
Above Secondary Education	3 = above secondary education
Spouses' Education	Reference Category: Primary Education and Below
Secondary/Vocational Education	2 = secondary/vocational education
Above Secondary Education	3 = above secondary education
<i>One Child Policy</i>	
Influence of One-Child Policy	Dummy variable: 1 = given birth after one child policy, 0 = before
<i>Complementary Fertility Information</i>	
Age	Woman's age at the end of the survey
Marriage Cohort	Reference Category: Married before 1980
Married in 1980s	2 = married in 1980s, 0 = no
Married in 1990s	3 = married in 1990s, 0 = no
Married after 2000	4 = married after 2000, 0 = no
<i>Social Background</i>	
Hukou Status	Dummy variable: 1 = rural hukou, 0 = urban hukou
Residence Area	Dummy variable: 1 = live in rural areas, 0 = live in urban areas
Economic Activity and Sector	Reference Category: Non-Agriculture/Public Sector
Non-Agriculture/Private Sector	2 = non-agriculture/private sector
Agriculture	3 = agriculture sector
Unemployed	4 = unemployed
Ethnicity	Dummy variable: 1 = Han ethnicity, 0 = ethnic minority

Data Source: China General Social Survey, 2012

Cox regression is flexible in that it makes no assumption about the shape of the hazard function but makes a strong assumption about how covariates affect the shape of the hazard function between groups over time (Blossfeld et al., 2012; Cox, 1992).

Cox proportional hazard regression models are superior to other Maximum-Likelihood models in at least two ways: 1) they do not require the definition of specific time distributions; 2) they are capable of handling stratified analysis. I thus use the Cox models to explain how different covariates affect women's second childbirth. The Cox proportional hazard method can be expressed as

$$\log h(t) = a(t) + b_1X_1 + b_2X_2$$

where $h(t)$ is the hazard rate, $a(t)$ represents the baseline hazard function of time, X_1 denotes the time-constant variables, and X_2 denotes time-varying variables. It is worth noting that $a(t)$ has no specific definition because the Cox model calculates with Partial-Likelihood Estimation which allows the function of time without specific definition of functional form. The Cox proportional hazard model assumes that the hazard rate is a logistic function of the covariates that affect the parameters

$$h_i(t) = h_0(t) \times e^{[b_k X_{ik}(t)]}$$

where $h_i(t)$ denotes the hazard rate of individual i at time point t , $h_0(t)$ represents the baseline hazard function of time, and $X_{ik}(t)$ stands for the covariates affecting individual i 's event occurrence at time point t . $X_{ik}(t)$ can be constant or time-variant.

In a study conducted by Jiang et al. (2016), in addition to Cox hazard regression models,

Kaplan–Meier survival analysis (non-parametric) was also used to estimate the survival time from the first to the second childbirth. The K-M survival analysis makes no assumption about the shape of the hazard function, but it is not able to handle multivariate regressions. In this chapter, I use the K-M model to showcase basic trends.

The Kaplan-Meier survival analysis estimates survival cases after time t based on the multiplied result of survival rate and survival time can be express as

$$S(t) = \prod_{j=t_0}^t \left\{ \frac{(n_j - d_j)}{n_j} \right\}$$

where n_j denotes the observed cases who have not failed nor censored starting from time t , and d_t are the failure cases within time t .

In the results section, I present the coefficient rather than hazard ratio in the tables, while reporting the hazard ratio rather than the coefficient in the analysis. This is because coefficient can show the direction of the relationship more straightforwardly, whereas the hazard ratio reveals the extent to which two variables associate with each other.

Results

Descriptive Statistics and Kaplan–Meier Survival Analysis

Table 2-2 presents descriptive statistics of the sample and the proportions of married women who had and had not given second childbirth in each category. According to Table 2-2, the average age at first childbirth of married women with a second child is 23.53, 1.14 years younger than that of those with only one child by the time the survey ended. More

importantly, the average survival time from first childbirth to second childbirth is 58.93 months. Here the Kaplan-Meier survival analysis is used to delineate the status of second childbirths among married Chinese women, as shown in Figure 2-2. The steepest decline of the proportion of women who have not given birth to a second child is observed between the first 12 months to 24 months. When the survival time reached 60 months, approximately 29% of married women had given birth to the second child. Given that only 40.40% of married women had given birth to a second child in the sample, most married women who chose to have a second child gave birth to that second child within 60 months after their first birth. When the survival time reached around 96 months, the trend of decline starts to slow down and eventually stops at around 216 months of survival time.

Table 2-2. Descriptive Statistics of Variables

Variable	Total		Second Birth - Yes		Second Birth - No		p value
	N	% or Mean	N	% or Mean ¹	N	% or Mean ¹	
Women's Second Birth							
If Second Birth Occurred							
No	1,794	59.60%					
Yes	1,216	40.40%					
Survival Time	3,010	119.01	1,216	58.88	1,794	159.76	0.00 ³
Son Preference							
Son Preference							0.01 ²
Gender Balance	2,343	77.84%	971	41.44%	1,372	58.56%	
Daughter Preference	301	10.00%	102	33.89%	199	66.11%	
Son Preference	366	12.16%	143	39.07%	223	60.93%	
First Child's Sex							
Girl	1,301	43.22%	585	44.97%	716	55.03%	0.00 ²
Boy	1,709	56.78%	631	36.92%	1,078	63.08%	

(Continues)

Table 2-2 (Continued)

Variable	Total		Second Birth - Yes		Second Birth - No		p value
	N	% or Mean	N	% or Mean ¹	N	% or Mean ¹	
<i>Older Generation</i>							
Live with Older Generation							0.07 ²
Do not Live with Older Generation	2,405	79.90%	997	41.46%	1,408	58.54%	
Live with Parents	187	6.21%	52	27.81%	135	72.19%	
Live with Parents-in- law	418	13.89%	167	39.95%	251	60.05%	
<i>Education</i>							
Women's Education							0.00 ²
Primary Education and Below	1,056	35.08%	684	64.77%	372	35.23%	
Compulsory Education	1,001	33.26%	379	37.86%	622	62.14%	
Above Secondary Education	953	31.66%	153	16.05%	800	83.95%	
Spouses' Education							0.00 ²
Primary Education and Below	913	30.33%	512	56.08%	401	43.92%	
Compulsory Education	1,078	35.81%	480	44.53%	598	55.47%	
Above Secondary Education	1,019	33.85%	224	21.98%	795	78.02%	
<i>One Child Policy</i>							
Influence of One-Child Policy							0.00 ²
Give Birth before One-Child Policy	1,036	34.42%	507	48.94%	529	51.06%	
Give Birth after One- Child Policy	1,974	65.58%	709	35.92%	1,265	64.08%	
<i>Complementary Fertility Information</i>							
Marriage Cohorts							0.00 ²
Married before 1980	475	15.78%	265	55.79%	210	44.21%	
Married in 1980s	856	28.44%	356	45.59%	500	58.41%	
Married in 1990s	878	29.71%	395	44.99%	483	55.01%	
Married after 2000	801	26.61%	200	24.97%	601	75.03%	

(Continues)

Table 2-2 (Continued)

Variable	Total		Second Birth - Yes		Second Birth - No		p value
	N	% or Mean	N	% or Mean ¹	N	% or Mean ¹	
<i>Social Background</i>							
Hukou Status							0.00 ²
Rural Hukou	1,831	60.83%	951	51.94%	880	48.06%	
Urban Hukou	1,179	39.17%	265	22.48%	914	77.52%	
Residence Area							0.00 ²
Live in Rural Areas	1,154	38.34%	709	61.44%	445	38.56%	
Live in Urban Areas	1,856	61.66%	507	27.32%	1,349	72.68%	
Economic Activity and Sector							0.00 ²
Non- Agriculture/Public Sector	767	25.49%	122	15.91%	645	84.09%	
Non- Agriculture/Private Sector	1,129	37.52%	374	33.13%	755	66.87%	
Agriculture	768	25.52%	538	70.05%	230	29.95%	
Unemployed	345	11.47%	182	52.75%	163	47.25%	
Ethnicity							0.00 ²
Han	2,716	90.23%	1,035	38.11%	1,681	61.89%	
Ethnic Minority	294	9.77%	181	61.56%	113	38.44%	

Data Source: China General Social Survey, 2012

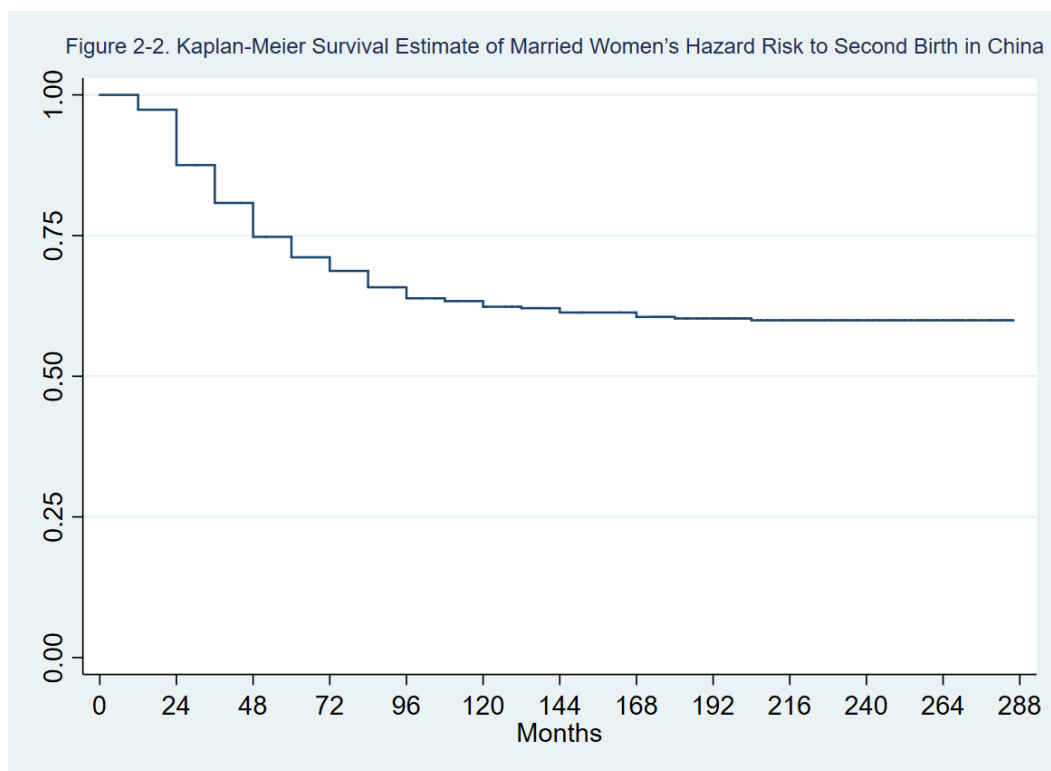
¹ The sum of each percentage in a row is 100%

² p-value: results of Pearson's Chi squared test of independence between a certain variable and second childbirth

³ One-way analysis of variance (ANOVA) to compare means of the two samples by occurrence of second childbirth

By the end of the 2012 China General Social Survey, 40.40% of married women have had more than one child. There are very few cases of women having more than two children, indicating that a small family size has become the norm in China. Notably 44.97% of married women whose first child is a girl, had already given birth to a second child. This proportion is around 9% higher than those whose first child is a boy. 39.07% of women who show son preference chose to have a second child, 2.4% less than those who are gender

neutral and around 5% more than those who have daughter preference. However, the situation is much worse when looking at sex of first children by mothers' preference (see Table 2-3). Table 2-3 shows that among married women with son preference, 86.07% have a male first child, though on average only 56.75% of married women have a boy as the first child. Moreover, the proportion of women with a second child in marriage decreases significantly (from 64.84% to 16.05%) as women's education increases. The more highly educated married women in China are, the less likely they are to have a second child. Furthermore, Table 2-2 also shows that the proportion of married women who had a second child also declines as their partners' education increase, though to smaller extent. In addition, 6.21% and 13.89% of married women live with their parents and parents-in-law respectively. Among those who live with parents or parents-in-law, 39.95% had a second child.



Source: 2012 China General Social Survey

Table 2-3. Gender of Women's First Child by Women's Son Preference

Preference	First Child's Sex		Total
	Male	Female	
Gender Neutral	1,295	1,048	2,343
	55.27%	44.73%	100%
Daughter Preference	99	202	301
	32.89%	67.11%	100%
Son Preference	315	51	366
	86.07%	13.93%	100%
Total	1,709	1,301	3,010
	56.78%	43.22%	100%

Data Source: China General Social Survey, 2012

Son Preference and Women's Second Childbirth

Table 2-4¹⁵ shows the results from three Cox regression models, examining the

¹⁵ To avoid problems of multicollinearity and test the robustness of the models, I have tried to 1) remove the marriage

relationships between married women having a second child and different factors in a Chinese context. Model 1 shows how son preference correlates with married women's second childbirth. According to Model 1, married women whose first child is a boy is much less likely to make fast transition to giving birth to another child compared to those who had a firstborn daughter. This suggests that all else being equal, married women are more likely to make a fast transition to having a second child if they desire for sons. This finding is in line with the findings supporting the "repetition mechanism" in previous research (Cai et al., 2010; Choe et al., 1992; Li & Cooney, 1993; Poston, 2002).

Table 2-4. Cox Regression Results of Women's Second Childbirth in China

Variable	Model 1		Model 2		Model 3	
	Coefficient	SE	Coefficient	SE	Coefficient	SE
<i>Son Preference</i>						
Son Preference (reference: gender balance)						
Daughter Preference	-0.113	0.176	-0.114	0.176	-0.138	0.176
Son Preference	-0.230*	0.105	-0.230*	0.105	-0.239*	0.105
First Child's Sex (reference: girl)						
Boy	-0.432***	0.066	-0.431***	0.066	-0.448***	0.066
<i>Extended Family</i>						
Live with Older Generation (reference: no)						
Live with Parents			-0.142	0.144	-0.166	0.144
Live with Parents-in-Law			0.012	0.089	0.010	0.089
<i>Education</i>						
Women's Education (reference: no education)						
Compulsory Education					-0.527***	0.105
Above Secondary Education					-1.083***	0.13

cohort variable from the full model; 2) remove the year of first childbirth variable from the full model; 3) run an interaction term between the two son preference variables and the year of first childbirth variable. The results do not change significantly compared to the results presented in this chapter. I have attached the results in Table a2-5 in Appendices.

Spouses' Education						no statistical significance
<i>Interaction Terms</i>						
<i>Son Preference x First Child's Sex (reference: gender balance x girl)</i>						
Daughter Preference x Girl	0.279	0.216	0.278	0.216	0.226	0.216
Son Preference x Girl	-0.337	0.219	-0.337	0.219	-0.310	0.219
<i>Women's Education x Residence Areas (reference: no education x live in rural)</i>						
Compulsory Education x Live in Rural Areas					0.256	0.135
Above Secondary Education x Live in Rural areas					0.951***	0.219
<i>One Child Policy</i>						
Year of First Birth (reference: before one-child policy)						
After One-Child Policy	-0.328**	0.111	-0.326**	0.111	-0.341**	0.111
<i>Complementary Fertility Information</i>						
Marriage Cohort (reference: married before 1980)						
Married in 1980s	-0.271*	0.111	-0.268*	0.111	-0.199	0.113
Married in 1990s	-0.285	0.164	-0.280	0.164	-0.143	0.165
Married after 2000	-0.629**	0.219	-0.618**	0.219	-0.606**	0.22
<i>Social Background</i>						
Hukou Status (reference: urban hukou)						
Rural Hukou	0.475***	0.087	0.475***	0.087	0.288**	0.088
Residence Area (reference: live in urban areas)						
Live in Rural Areas	0.339***	0.082	0.339***	0.083	0.056	0.099

(Continues)

Table 2-4 (Continued)

Variable	Model 1		Model 2		Model 3	
	Coefficient	SE	Coefficient	SE	Coefficient	SE
Economic Activity and Sector (reference: non-agriculture/public)						
Sector						
Non-Agriculture/Private	0.158	0.093	0.158	0.093	0.191*	0.094
Agriculture	-0.289**	0.096	-0.286**	0.097	-0.185	0.096
Unemployed	-0.956***	0.127	-0.952***	0.127	-0.653***	0.131
Ethnicity (reference: Han ethnicity)						
Ethnic Minority	0.470***	0.083	0.475***	0.083	0.453***	0.083
Observation	3010		3010		3010	

*** p<0.001, ** p<0.01, * p<0.05

Data Source: China General Social Survey, 2012

However, the hazard ratio for married women who exhibit son preference to have a second child is 0.79 times of the hazard ratio for those who have gender neutral preference. In other words, married women who prefer sons tend to make slower transition to second birth compared to women with gender neutral preferences. This indicates that the son preference may reduce the hazard rate and lead to delayed second childbirth of Chinese women. This is aligned with the effect of the “selecting mechanism” suggested by Park and Cho (1995): In a low fertility context, son preference reduces the number of childbirths and the actual individual fertility rate through prenatal sex determination technologies. Based on empirical data and analysis from Korea, Park and Cho (1995) argued that the effect of son preference on women’s second birth is closely associated with the family size norm. When small families become the norm in society, sex-selection technologies play a greater important role in helping women achieve the intended sex composition of children. Three years after the one-child policy was implemented, China’s fertility rate dropped to below replacement level. A small family size seems to have become the norm in China. As suggested by a number of studies in China, some women would rather have only one child even if they are exempted from the birth control policy, or at least delay the timing of second childbirth due to economic pressure (Zheng et al., 2009; Basten & Jiang, 2015). Moreover, even though prenatal sex determination by ultrasound is illegal in China, sex-identification technologies are widely available and accessible even in rural China through *guanxi* (private connections) and backdoor services to cater to demand driven by son preference (Chu, 2001; Zeng et al., 1993). Therefore, rather than trying their luck to get a son by having more children and breaching the one-child policy, many women choose

instead to use prenatal sex determination and sex-selective abortion to satisfy their son preference within their one child quota. Empirical research based on regional data and different analytical models show that son preference decreases women's probability of having second childbirth via sex selective abortion, supporting a "selection mechanism" (Cai, 2011; Guo, 2008; Yang & Wang, 2009).

The "selection mechanism" works in a different direction from the "repetition mechanism". However, according to Model 1, they both work among married women in China. In order to gain a more comprehensive understanding of how son preference affects married women's second childbirth, it is important to remember that 86.07% of women with son preference were reported to have already had a male first child in China, around 30% higher than the average proportion of married women in general. Moreover, it is worth noting that the implementation of one-child policy is negatively correlated with Chinese women's second childbirth at a statistically significant rate. With the one-child policy, the hazard risk for married women to have a second child decreases by 20%, suggesting that women do take the one-child policy into consideration when they make fertility decisions. This information is particularly helpful because we can then delineate two different ways through which son preference is correlated with the women's rate of having a second child. Firstly, married women tend to undergo sex-selective abortions to satisfy their preference for sons and comply with the one-child policy. This tendency to plan for one child might be due to social norms about small family size and the cost of childrearing (Park & Cho, 1995; Basten & Jiang, 2015). The first effect works through the "selection mechanism" which explains the unusually high male first child rate among married women with son

preference (Guo, 2008; Park & Cho, 1995; Zheng et al., 2009). However, some women with son preference choose not to conduct or have no access to sex-identification and selection technologies. They are then driven to the second alternative, which involves giving birth to a second child as soon as possible to try their luck at having a son as suggested by the “repetition mechanism” (Cai et al., 2010; Morgan, 2009; Poston, 2002). There can be many reasons behind the choice between the two alternatives on different levels. For example, on the individual level, the woman can be pro-life or just want more children in general. More detailed information of women is required to further study different decision-making process of women with son preference.

Moreover, women who prefer daughters are about as likely as “gender neutral” women to have a second child. The interaction terms between son preference and the sex of first child are not statistically significant either.

The findings corroborate the predictions of Cain’s LSF theory as applied to developing countries with patriarchal social and economic structures. The theory predicts that Chinese mothers would exhibit son preference due to a combination of patriarchal norms that render women economically dependent on men and insufficiently developed capital and insurance markets in China. The in-sample results show that women are in fact going to great lengths to fulfil their son preference. This perhaps suggests that children, and sons in particular, perform an important role as security assets that guarantee the futures of women in a society that does not afford them enough protection and agency.

Furthermore, these findings suggest that understanding fertility decisions requires going

beyond trying to simply analyse how women fulfil individual preferences based on some exogenous set of choices. Instead, one has to pay close attention to how women's status in the societies in which they have to live shapes the very incentive structures according to which they have to plan important decisions. When women who face great economic risk and insecurity have more sons, it may not so much be because they have some innate preference for them but because they need to hedge against these risks in the absence of well-developed insurance markets and egalitarian attitudes towards women's work.

The results also support the primacy of the sociology of family in assessing these outcomes of individual decisions such as having a child. Much can be gained by analysing fertility in terms of close parent-child ties that link both parties in structures of mutual investment and support.

In addition, Model 1 shows that the one-child policy, women's complementary fertility information, and social background are all associated with women's second childbirth significantly. According to Model 1, the implementation of the one-child policy negatively associates with women's rate of having a second child, in line with the findings reported by previous empirical studies¹⁶. More recent marriage cohorts are more inclined to postpone producing a second child than the previous cohorts. The hazard risk for women who married after 2000 to have a second child is only 0.53 times of that for women who married before 1980. Moreover, having a rural *hukou* status and rural residence

¹⁶ Some argue that the one-child policy only applies to the poor, because wealthy women can buy themselves out of its influence (self-select) (Hesketh et al., 2005; Basten & Jiang, 2015). However, this argument is not supported by data in this study. Wealth does not deprive the effect of the one-child policy significantly, and the one-child policy should still apply to most people.

significantly increases married women's likelihood of having a second child, compared to their urban counterparts. The hazard risk for women with rural *hukou* to have a second child is 1.61 times of that for those with urban *hukou*, and women who reside in rural areas are 1.40 times as likely as those who live in urban areas to give birth to a second child. Working women in general are less likely to have more than one child than unemployed women. Women who work in non-agricultural, public sector jobs are only about 0.37 times as likely as unemployed women to have a second child. Women who work non-agricultural jobs in the private sector are also less likely to have a second child compared to the unemployed women, but the effect scale is almost two times smaller than that facing women employed in the in public sector. In China, due to the lack of a welfare system and policies that help women balance career and motherhood, married women face intense work-life conflict (Chen, Short & Entwisle, 2000; Chen, 2006). Working women do not prefer to have more than one child. Although public sector jobs tend to provide better employee welfare, women holding such jobs would jeopardize their careers if they had more than one child. This explains why women working in the public sector are less likely to have a second child than unemployed women. It is worth noting women who are engaged in agricultural work exhibit roughly the same hazard rate of having second children as unemployed women. This is probably because a) agricultural work tends to have more flexible hours; b) most women who are engaged in agricultural work live in rural areas. Furthermore, the hazard rate for ethnic minorities to have a second child is 1.60 times of that for Han women, because ethnic minorities are exempted from the one-child policy due to the special status accorded to their cultural traditions.

Overall, son preference may trigger two distinct mechanisms through which married women made decisions regarding second childbirth towards different directions. On the one hand, son preference negatively associates with women's second childbirth rate if the woman is able to satisfy her son preferences with her first child through sex-selective abortion. This, in other words, is the "selection mechanism". On the other hand, those who do not have a male first child tend to give second childbirth as soon as possible to satisfy their preference for sons through the "repetition mechanism". Therefore, findings in this chapter only support Hypothesis 1 partially. Both the "selection mechanism" and the "repetition mechanism" affect women's transition to second childbirth in China.

Co-residing with Older Generations

Model 2 shows how Chinese women's decision of having a second child alters when living with older generations (parents or parents-in-law). The hazard risk of women who live with parents or parents-in-law to have a second child is significantly different from that of those who do not live with older generation. In line with Zheng's research (2000), this chapter found that in extended families of both patrilocal and matrilocal residence patterns, the effect of parents and parents-in-law on women's transition to second child are not statistically significant.

This is surprising given the foregoing discussion on parental influence and family norms in China, according to which one would predict that living with one's parents would have a statistically significant effect on women's transition to second child. This discrepancy might be explained by the following factors:

Firstly, the model does not control for the health condition of parents. Parents and parents-in-law in bad health condition may impose more caring burdens on the young rather than providing help. Thus, children living in with these parents would be dissuaded, all else being equal, from having an additional child. Due to limitations in the data, Model 2 does not control for seniors' health condition¹⁷.

Secondly, because of skyrocketing housing prices in Chinese cities in recent years, young women may live with seniors simply because neither they nor their parents can afford a new “wedding house” yet. Therefore, the economic help women can obtain from older generations can be rather limited. Although older generations can take care of the children, the very real economic pressure that childbearing still brings may in the end dissuade women from having a second child. Furthermore, the specific ways parents and parents-in-law interact with women on a daily basis remain unknown in each household. There may be various dynamics in the intergenerational relationships: some can be peaceful, whereas others are full of conflicts between different values caused by generation gaps. Compared to women who live apart from the older generation and who still receive seniors' help for childcare¹⁸, women who live with older generations (especially with mothers-in-law) may face more intergenerational conflicts that affect their fertility decision. For example, when exposed to day to day interactions with their parents or in-laws, many modern mothers question the way grandparents care for and educate grandchildren in China (Li, 2000; Sun,

¹⁷ When I controlled for the seniors' age to proximate their health condition, I found the results were not statistically significant.

¹⁸ According to Chen (2006), families' lines and help extend well beyond co-residence.

2002). As shown in the result, in order to measure the influence of older generations on women's reproductive behaviours, it is not enough to merely focus on co-residence with seniors.

Thirdly, due to the limited data, this thesis only looks at co-residential status at the time of survey, not at the time of marriage. It could be the case that couples who did not live with their parents at time of first childbirth, and thus were not influenced by that environment, only moved back in with their parents later. This would have somewhat muted the effect on the variable in question.

In conclusion, living with the older generation does not influence the women's transition from having one child to two significantly. This finding does not support Hypothesis 2. Further studies are required in order to understand what the effects of older generations on women's fertility is and how such effects come into being.

Education and the Competing Effect between Women and Men

Model 3 examines the relationship between women's education and their decision to have a second child¹⁹. In general, women's education is negatively associated with women's second childbirth at high statistical level of significance in Model 3, confirming the observed inverse relationship between educational level and fertility rate in previous studies (Lavelly & Feedman, 1990; Abadian, 1996; Guo, 2008; Jiang et al., 2016). When controlling for other factors, the hazard risk for women who have obtained secondary or

¹⁹ I did not report the detailed results for spousal education here to make it simpler for readers. I have attached the full results in Table a2-6 in Appendices.

vocational school level of education to have a second child is 58% of that for those who have only attended primary school or have received no education. The risk decreases to 32% for women who have acquired high school or above level of education comparing with those with primary or below education. Women with higher education are more reluctant to have a second child than their less educated counterparts, probably due to the rising opportunity cost of childbearing (Chang et al., 2005; Jejeebhoy, 1995; Michael, 1973). However, as Jejeebhoy (1995) pointed out, there exists a gap between developed and less developed areas. In the Chinese context, the corresponding gap can be observed in the urban/rural division. The interaction terms between residence area and education in Model 3 show that the higher educational attainment is, the more likely are rural Chinese women to have a second child. This positive correlation is exactly the opposite to the general effect of education on women's second childbirth in China. In rural China, women who obtained secondary or vocational education and women with high school and above education are respectively 1.30 and 2.63 times as likely to have a second child as women who only have primary and below education. There are several reasons why this is so. One reason why education is positively related to fertility in rural areas is that education enhances individuals' ability to realise their goals (Jejeebhoy, 1995). In rural areas where having more children is still largely favoured by women, higher education better enables women to prepare for childbirth and motherhood. Furthermore, since the opportunity cost and economic pressures inherent in having a second child are lower for rural women relatively to urban women because of the relative low salaries and cost of living in rural areas. Besides, women who have obtained high school education and above may be more likely to move

to live in urban areas, leaving very few of them in rural China. Hence, instead of the inverse-U shaped relationship that Jejeebhoy (1995) observed in developing areas, the relationship between education and fertility is positive in rural China.

More importantly, after explaining the association between women's education and women's second childbirth, I then compare such association with that of men's education by taking women's spouses' education into consideration. The results suggest that women's spouses' education has no significant effect on women's second childbirth, regardless of the women's educational level. Women's education associates with women's second childbirth more significantly than men's education does.

On the other hand, some studies show that it is the couple's combined embodied economic capital that matters in women's decision to give second childbirth, rather than each individual's level of education taken separately (Guo, 2008; Pan & Ning, 2010). According to rational choice theories, couples make decisions to maximise the utility function of marriage (Becker, 1965). As such, couples accumulate and optimise embodied economic capital within a framework of altruism in order to make the fertility decision best for the marriage (Barro & Becker, 1989). This view implies that an increase in education of the couple in general (regardless who caused such increase) will lead to a stronger effect on women's second childbirth. However, the results of Model 3, imply that although mostly seen as a joint decision made by the couple, women's decision to give second childbirth is influenced more by their own education levels than that of their partners.

It may be surprising, given the prevalence of hypergamy, that Chinese women hold more

say in the second-childbirth. This is consistent, however, with qualitative research on the Two Child Policy in China that highlights how modern Chinese women are increasingly unwilling to make sacrifices on time, freedom and money in order to fulfill their childbirth obligations. The increasing economic and social opportunities available to women in modern China has led to women improvising a host of measures – hesitation and delaying tactics with regard to marriage and second childbirth, increasing reliance on their parents to take care of their children – to further their personal goals and aspirations (Wang & Hesketh, 2018).

Generally speaking, education is negatively associated with married women's transition to second childbirth. However, this negative association varies in rural and urban areas. In rural areas, higher levels of educational attainment increase women's probability of having a second child. Therefore, Hypothesis 3a is partially supported. Moreover, since the effect of women's spouses' education on fertility is not significant, the findings do not support Hypothesis 3b.

Conclusion

The drastic decline in the total fertility rate (TFR) in modern China has brought about, and will continue to worsen severe social issues such as ageing society, lack of labour force opportunities, and a surplus of unmarried men (Chen & Powell, 2012; Guilmoto, 2012; Basten & Jiang, 2015). To cope with these issues, the National Health and Family Planning Commission of China has implemented a package of policies to gradually ease fertility restrictions and encourage women to have more children. In the end of 2015, China

replaced its 30-year-old one-child policy with a two-child policy. However, some suspect that this would stimulate Chinese women's fertility (Basten & Jiang, 2015; Peng, 2011; Zhuang, 2014). After all, Chinese families may have already adapted to the small family size norm by now and will not reproduce more even with the restrictions lifted. Therefore, more comprehensive and up to date knowledge about factors affecting Chinese women's fertility is required in order to understand the current fertility situation in China (Basten & Jiang, 2015; Jiang et al., 2016). To do so, I looked at how individual son preference and marriage, and older generation's influence in an extended family structure are associated with married Chinese women's decision of having a second child, using data from the 2012 CGSS.

I found that son preference associates with Chinese married women's transition to having a second child through two mechanisms: the selection mechanism and the repetition mechanism. Married women who prefer sons may either employ sex-selective technologies and abortions to make sure their only child is a boy, or try to have a boy by giving birth to a second child as soon as possible if their first is a girl, and they have no access or are unwilling to employ prenatal sex-selective methods. Moreover, living with an extended family is not correlated significantly with a woman's chance of having a second child. The more highly educated an urban-dwelling woman is, the more likely she is to delay or not to have a second child, though the opposite trend is observed in rural women. More importantly, women's spouses' education does not interfere with women's chance to have a second childbirth significantly in China, regardless of women's education level. This suggests that the extent to which a couple's combined education aids or impedes the

family's decision to have a second child largely depends on the woman's education, not the man's. Although fertility decisions are commonly viewed as joint decisions made by the couple, this study shows that Chinese women play a more important role than men in deciding their fertility.

The study presented in this chapter has made four distinct contributions to the field of study. Firstly, this chapter has important fertility policy implications in China. In general, the relationship between the one-child policy and women's second childbirth in China is complicated to a significant degree by the factors studied in this chapter. The outcome of the new fertility stimulating policies focusing on releasing restrictions may not be as successful as some would expect. There needs to be policies targeting different aspects (e.g., a better social welfare system) in order to solve social problems resulted from the low fertility level in China. Secondly, this study contributes to a rising body of literature focusing on second childbirth in China by approaching second childbirth from women's perspective with considerations of the specific characteristics of Chinese society. The universal two-child policy and the recent trend of relaxation in Chinese FPP has brought second childbirth into the centre of many research topics. However, few research attempts to understand second childbirth from women's perspective. This study provides important views to understand Chinese women's choices concerning whether to have a second child and its timing in the Chinese context. Thirdly, whereas most previous studies focused in either the individual level (son preference and individual education) or family level (marriage and family) in analysing married women's fertility level, this study includes analysis from both, while utilizing up-to-date large-scale survey data on contemporary

Chinese society. Fourthly, it brings new insights to the research agenda on son preference, family structure, and gender equality (especially married women's relative position to men) within marriage. Whereas previous studies focus only on either the selection or the repetition mechanism of son preference, this chapter demonstrates how these two mechanisms work together to satisfy different women's preference for sons. Moreover, this chapter also uses living arrangements with the extended family as a means to gauge the older generation's effect on women's second childbirth. Furthermore, aside from examining the relationship between women's education and the phenomenon in question, it also measures the relative women's education against that of men's.

The study has some limitations. First, son preference is measured by the sex proportion of women's idea child composition. However, although some women claim to want equal number of sons and daughters, they may still value sons more. The CGSS does not include certain questions—such as “if you can only have one child, what sex do you want your child to be”—that better capture women's son preference. Nevertheless, I found alternatives, such as measuring the sex of women's first child, to capture son preference in models. Secondly, the 2012 CGSS does not include the complete fertility history of female correspondents in. There is no information about women's abortion history, and women were not required to separate adopted children from their biological children. However, the latter is relatively minor because adoption is still not common in China. Thirdly, the data does not include women's economic condition at the time of birth though women's occupation and rural/urban *hukou* and residence status can capture women's economic condition partially. Furthermore, some women might have hidden their fertility history

from the researcher for fear of the one-child policy which was still in place at the time when the survey was carried out. Nonetheless the data should still be trustworthy, because I compared the data from 2012 CGSS to other similar data sets. The proportion of women who have given birth to a second child and the gender ratio of children are not dissimilar.

This thesis leaves room for further studies. There are further complications in the relationship between inter-generational interactions and women's fertility that I did not manage to include in this thesis due to a lack of data. For example, it is very likely that parents' health and economic conditions, seniors' proximity to women, and the conflict between the old and young generations all affect women's fertility. New datasets in China are starting to include such information, making it possible for future research. Moreover, married women's labour force participation, which is another important form of embodied economic capital did not receive much emphasis in this chapter. This is because women's labour force participation involves different dimensions (such as employment/unemployment and full-time job/part time job) which are hard to deconstruct in a more comprehensive model explaining fertility in this chapter. In the next chapter, I will focus on married women's labour force participation and fertility.

Chapter 3: Becoming a Mother: Married Women's Labour Market Conditions and Transition to Motherhood in Japan

Introduction

Japan has one of the lowest fertility rates in the world with a Total Fertility Rate (TFR) that has been consistently under the replacement level ever since 1957 (NIPSSR, 2014). In 2013, Japan's Total Fertility Rate was approximately 1.4 children per woman, one of the lowest fertility rates in East Asia (NIPSSR, 2014; World Bank, 2013). Interestingly, over the past three decades, Japanese married women's ideal number of children has decreased from 2.6 to 2.4, whereas their expected number of children remained at around 2.1 (Matsumoto & Yamabe, 2013; Raymo et al., 2015). The two most common explanations given by Japanese women that account for this gap are the high cost of childrearing and a physical inability to have more children due to age (Matsumoto & Yamabe, 2013; Raymo et al., 2015; Retherford et al., 1996). Given their family planning objectives, we would expect Japanese married women to keep working after marriage in order to bolster family finances for more than one child, and to start giving birth to children at an early age so as to not be left behind by their biological clock. However, the opposite trend is true for Japanese married women. Instead of staying in work, married Japanese women tend to exit the labour market after giving birth to children and only re-enter when the child is older (Brinton, 2001; Brinton & Lee, 2001; Raymo et al., 2015 Shirahase, 2007). Moreover, the average age at first childbirth for Japanese women was 30.3 in 2012, even later than that of women in many Western countries including the United Kingdom, the United States, and the Scandinavian countries (Central Intelligence Agency, 2016). Japanese women are postponing their

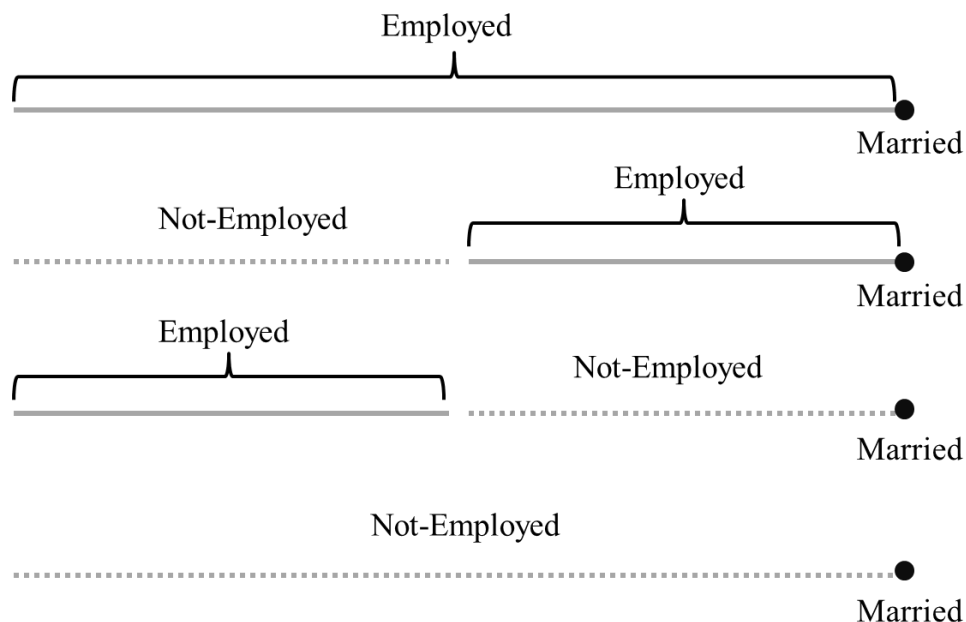
childbirth rather than moving it forward despite their ticking biological clock.

On the surface level, it looks almost as if married Japanese women choose to sacrifice their ability to reach their ideal number of children for life goals. According to Hakim's preference theory (1991, 1998), whether or not women end up spending most of their time on family or career is largely determined by their preferences. However, when analysing the market for female labour, applying such supply-side arguments without considering the demand-side factors would be ignoring the conflicts and pressures that reduce Japanese married women's economic potential and delay their childbearing. Married women's low fertility may actually reflect a labour market that disadvantages women and has insufficient female welfare provision, especially in Japan, a patriarchal society where the government and large corporations have actively been undermining married women's ability to incorporate work to their life (Rosenbluth, 2007). Therefore, it is crucial to provide a detailed analysis of the labour market on Japanese married women's low fertility.

In this study, I draw on Rosenbluth's study of the political economy of Japan's low fertility (2007), to explore how marriage functions as an institution through which the gendered labour market is associated with women's fertility behaviour in Japan. To be more specific, I study whether and how Japanese women's employment status and workplace conditions (part-time/full-time employment, industrial sex segregation, corporation size, occupation) at the point of marriage correlate with their transition to first childbirth. I also look at how husbands' occupation and corporation size are associated with women's motherhood in Japan.

This study makes empirical contributions to the study of how women’s labour market conditions affect their transition to motherhood. Firstly, I introduce a novel measurement of a woman’s employment at marriage using the conceptual framework demonstrating the possible situations of married women’s work history as shown in Figure 3-1. Previous research about married women’s labour in Japan has demonstrated that most women leave employment at the time of marriage. As a result, they failed to understand what women’s labour situation really is at the time of marriage. In this study, I consider all four possible situations of married women’s work and describe the women’s labour market condition according to the specific situation of the women’s work history. This way I manage to depict a more nuanced picture of Japanese married women’s labour market conditions and their relationship with these women’s transition to motherhood.

Figure 3.1. Possible Situations of Married Women’s Work History



Secondly, I address the lack of suitable measurements of women’s labour market conditions at time of marriage by constructing novel measures of employment status, workplace

environment and occupation at time or marriage, based on employment right before marriage. I also improve the construct validity of key measures of labour market conditions by creating refined multiple-item measures. By doing so, I utilize a range of variables that make more comprehensive and fine-grained distinctions about subjects' labour market conditions than is provided in existing data.

Thirdly, my study is one of the first studies combining two decades of Japanese Social Stratification and Mobility Survey (SSM) data from 1985 to 2005 in studying fertility in Japan. This allows me to capture a greater extent of intertemporal variation in the relationship between labour market conditions and married women's transition to motherhood by including data from more marriage cohorts. The above aspects of my study enable me to make a richer and more meaningful analysis of the labour-fertility relationship than has previously been possible.

The following sections provide a general background of women's employment, marriage, fertility, and their relationships in Japan. Next, I offer four sets of hypotheses together with relevant theories before I move on to talk about data and methods. I report the results and discussion in the last section.

Married Women's Employment and Fertility in Japan

Japan's labour market is not the most ideal for women despite the fact that the total female participation rate in labour market is quite high. According to OECD employment data released in 2017, Japan's female employment rate has increased significantly since 2012, reaching 64.7% in 2015, where it exceeded the OECD average of 58.5%. World Bank data

(2017), on the other hand, indicates that female labour participation in Japan hit 49% in 2015, equivalent to the world average. However, women's labour participation rate was reported to be much lower than that of their male counterparts, which was at 81.7% in the same year. Moreover, the total working hours worked by Japanese women is kept low because of a relatively high female part-time employment rate (36.9% of all women's employment in 2015) (OECD, 2017). In 2015, women accounted for two-thirds of part-time employment and dispatched workers in Japan. This figure includes part-time employment or dispatched workers. Furthermore, the number of female non-regular workers has been rising. Non-regular workers are paid around 60% less than regular workers and have limited access to on-the-job training. Additionally, only 9% of all employees with management responsibility in corporate sectors were women. The large number of female non-regular workers and the rarity female management contributed to Japan's gender pay gap which was ranked as the third largest in the world by the OECD in 2017. The gender differences in the labour market are worse for married women who tend to withdraw from employment upon marriage or childbirth and thus exhibit a relatively low employment rate in Japan.

In general, the relatively low labour force participation among married women in Japan, especially mothers, is mainly due to the lack of an efficient public childcare system, tax incentives, and a corporate culture of long working hours (OECD, 2017). Firstly, public childcare is not easily accessible for households in Japan due to the limited space available and a shortage of childcare personnel, particularly qualified nursery teachers. The government budget for children's early education and care is less than half of that in some

European social welfare regimes, despite some recent increases. Moreover, overly tight regulatory practices enforced by local governments over private childcare companies have prevented private sector supply from addressing market demand unmet by overcrowded public childcare centres. As such, it is hard for mothers to seek help from alternative childcare centres when they are at work. Secondly, the government tax and social security system actively encourages women to work part-time or be a full-time housewife in Japan. According to the system, if the second earner of a household makes an income below certain threshold, he or she can receive a tax exemption, whilst the main earner can claim a spousal tax reduction. In practice, as women are paid much less than men in the labour market in Japan, wives tend to end up the secondary earners, and thus are incentivised to work on low wage jobs with flexible working hours. Women who have husbands with a high enough income may choose to not work at all because the spousal tax reduction may bring an amount of money so large that there is little point in having a second earner for the household. Although the government plans to raise the threshold for the policy from 1.03 million to 1.5 million Yen (around 9,900 GBP) in 2018, the effect of this policy remains. A third reason for the low labour force participation by Japanese women can be attributed to the working culture in Japan, which is notorious for demanding hard work and long working hours from employees. Almost all jobs in Japan involve an implicit expectation for overtime work, and getting off work early is frowned upon. This makes it incredibly difficult for employees to juggle work and family responsibilities, which deters many married women from entering the labour market since married women are expected to prioritise their family duties by husbands and the society.

Empirically, married women's labour force participation has been found to be negatively associated with fertility at the individual level in most industrialised societies, though the direction of the causal relationship is still up for debate (Cramer 1980). Japanese women's labour force participation over their life course forms an M-shaped curve which is notoriously steep: many women quit their jobs at childbirth and only restart working later when the child is less dependent. This work pattern of women is closely tied to changes in their family status (Rindfuss, Cooksey & Sutterlin, 1999). In most industrial countries including Japan, the impact of women's labour force participation on childbearing behaviour tends to be relatively long-term, whereas the impact of childbearing on women's labour force participation stops when children reach school age (Waite & Stolzenberg, 1976). Married Japanese women have to take their disadvantaged position into account when making their labour market participation plans in ways that inhibit fertility. For example, Japanese new mothers typically leave the labour market for prolonged period of time due to the strong emphasis on motherhood and women's childrearing responsibility (Hsiung & Ogasawara, 1999; Ogasawara, 1998). When mothers do return to the labour market, they tend to end up in worse and more precarious jobs than before (Brinton, 1989; Brinton & Lee, 2001; Rani, 2003; Rosenbluth, 2007; Shirahase, 2007). In order to fulfil their career goals and amend the economic harm having their first child wrought on their careers, Japanese married women end up delaying or even reducing the number of children they have subsequently.

However, the above analysis does not imply that being employed has to be negatively correlated with fertility for women. On the contrary, the association needs not be negative

as long as women can “have it all” and do not have to function within a societal and economic structure that imposes significant opportunity costs on childbearing in terms of career and vice versa (Brewster & Rindfuss, 2000; Esping-Andersen, 1999; Hank & Kreyenfeld, 2002). As Rosenbluth (2007) pointed out, fertility of married women in industrialised world tends to experience three stages: Fertility is high when the political left and labour unions are weak, declines with the increasing power of union, and rises again when the left and labour political power has passed a certain threshold. This view implies that the low fertility of Japanese married women is a reflection of insufficient female welfare that makes the labour market more accessible to women and provides essential help for women to balance between work and family responsibilities. Previous research based on the industrialised world found that the relationship between country-level female labour force participation rates and fertility has been positive or at least not inverse in the past few decades (Brewster & Rindfuss, 1996; Lee & Lee, 2014; Rindfuss, Benjamin & Morgan, 2000). In Japan, empirical evidence of married women in agricultural sectors show that female labour force participation rates and fertility are positively correlated for married women who reside in relatively rural areas where the labour market is more accessible to married women (Brinton, 1993; Rosenbluth 2007; Shimada & Higuchi, 1985). Although this positive relationship in rural areas does not put much upward pressure on the overall fertility level in the highly-urbanised Japan, evidence of this kind further demonstrates that working women do not always tend to have fewer children (Lee & Lee, 2014). It is likely that Japanese married women may only choose to delay and reduce fertility because the labour market structure has made combining work and family life difficult (Raymo &

Iwasawa, 2005; Raymo, Musick & Iwasawa, 2015; Rosenbluth, 2007). Of course, the positive relationship at a country-level does not necessarily translate into individual-level effects. Nevertheless, this argument provides new explanatory insight into how Japanese married women's labour force participation may affect their fertility on an individual-level. The specific features that make the Japanese labour market inaccessible to married women and their impact on married women's fertility need to be studied in order to figure out the actual relationship between married women's labour force participation and fertility.

Women's Labour Force Participation and Marriage in Japan

Notably, previous studies have attributed the decline in fertility mainly to delayed marriages and the low marriage rate of the younger generation in Japan (see e.g., Atoh, 2001; Jones, 2007; Kaneko, 1999; Retherford, 2001; Tsuya, 2015). In Japan, where the age at first marriage was 30.9 and 29.4 for men and women in 2013 respectively, and where childbirth outside marriage is still very uncommon (Hertog & Iwasawa, 2011; Raymo et al., 2015; Statistics Bureau, 2015), the low fertility rate is hardly surprising. The fact that women in Japan are marrying later and less often is largely attributed to the inaccessibility of Japan's labour market for women, a major factor explaining Japan's low fertility rate.

Traditional family values about marriage as the default life choice for women, reinforced by the patriarchal attitudes, are adhered to in general by many Japanese citizens, especially women (Hertog & Iwasawa, 2011; Ogawa & Ermisch, 1996; Retherford, Ogawa & Matsukura, 2001). However, marriage has become less common for women in modern Japanese society. In general, there are two major explanations for the increasing

unpopularity of marriage among women in Japan, namely women's economic independence theory and the mismatched marriage market theory.

The economic independence theory states that marriage has become less attractive to Japanese women due to the high opportunity cost and reduced gains from marriage (e.g., Blossfeld, 1995; Ono, 2003; Raymo, 2003; Raymo & Iwasawa, 2005). The neo-classical economic approach represented by Becker argued that sex-specific norms incentivises couples to marry and contributes to stable marriages, because men and women gain utility from each other's work (Becker & Lewis, 1973). Women rely on men for food and shelter, while men rely on women for domestic labour supply. In Japan, gender specialisation remains a basic feature of marriage (Raymo & Iwasawa, 2005; Tsuya et al., 2005). Most Japanese women are expected to quit their jobs after marriage so that they can better fulfil their family responsibilities that are supposed to be a higher priority for women (Retherford et al., 2001). Moreover, the domestic labour division is very skewed in Japan, where women do most of the housework and childcare duties with little help from their husbands (Geist, 2005; Kamo, 1994; Kan & Hertog, 2017; Sechiyama, 2013; Tsuya et al., 2012). For example, Kan and Hertog (2017) found that while the only 2% of men report daily involvement in meal preparation, laundry, and domestic cleaning, 91% of women cook on daily basis. Only 4.4% and 3.4% of men claim that they do laundry and domestic cleaning daily, in contrast to the 88% and 47% of women who do so respectively. Some argue that Japanese men tend to spend long hours working and commuting on daily basis, thus are not available for assisting household chores (Kamo, 1994). However, even in cases when husbands are at home, women still perform much more housework than their partners. The

average amount of time Japanese women spend on housework drastically increases after marriage, while men's time allocated to housework hardly changes with marriage (Tsuya et al., 2012).

This gendered domestic labour specification serves as part of a gender-stratified system that entrenches the boundary between family and the outside world and confines women to the "female sphere" (Berk, 1985; Kamo, 1994). Married Japanese women are expected to manage the domestic housework and childcare, even when there is little help available, before they attend to other lesser priorities. Hence, it is very hard for Japanese women to combine career and marriage due to excessive work obligations on the one hand, and the limited support and welfare women receive from their husbands and government on the other (Boling, 2007; Brinton, 2001; Folbre, 1994; Kenjoh, 2007). As the Japanese economy continues to develop and provide more career opportunities for women, the opportunity cost of giving all that up and going into marriage increases, disincentivizing women from entering into marriage (Raymo, 2003). Empirically, the relationship between women's economic resources and marriage in Western countries is either positive or insignificant (Sweeney, 2002). However, the association between Japanese women's economic resources and marriage is still disputed (Fukuda, 2009), if not completely negative (Ono, 2003). Marriage, and its associated baggage of economically-limiting gendered expectations and constraints, has become less attractive to well-educated Japanese women (Bumpass et al., 2009; Rindfuss et al., 2004).

The mismatched marriage market theory attributes the phenomenon of declining and delayed marriage to a shortage of suitable spouses (Raymo & Iwasawa, 2005). Although

some well-educated women opt out of marriage for career reasons, marriage is, at the end of the day, still desirable, to the majority of Japanese women (Atoh, 2001; Retherford & Ogawa, 2006). According to the 15th Japanese National Fertility Survey in 2015, 89.3% of Japanese women aged 18-34 intend to marry someday. As such, the majority of women get their careers disrupted and economic power undermined at some point by getting married, however much they delay their marriage. These disruptions increase their economic dependence on their husbands (Hobson, 1990). Thus, many women, when choosing their marriage partners, exhibit hypergamy or at least status homogamy in order to procure economic security and maintain their socio-economic status after marriage, particularly in large urban cities where the cost of living and raising children is very high (Yamada, 1996). However, on the other hand, men have less incentive to marry women with strong pre-marriage earning power as their wives' economic contribution is likely to be undermined after getting married for reasons discussed earlier. The different spouse selection criteria for men and women squeeze women of high status and men of low status out of the marriage market (Lichter et al., 1992; Lichter et al., 1995). As women's educational attainment increases in modern Japan, this problem is likely to worsen in the long run. The mismatched marriage market theory, when utilized alongside the economic independence theory, helps us better understand the condition of modern Japanese women—that they are still generally economically reliant on men despite growing opportunities for themselves.

It is important to recognise that both the economic dependence theory and the mismatched marriage market theory are closely related to or even rooted in the disadvantaged position women face in the Japanese labour market. It seems quite clear that the difficulty for

women to balance work/life responsibilities is at the core of the two theories. Were Japanese women able to achieve work-life balance, marriage and reproduction would not be seen as such a severe obstacle to women's aspirations and future plan. Consequently, there would be less of a conflict between the desire to grasp educational and occupational opportunities and having more children (McDonald, 2000, 2009, 2013), and also less of a marriage market mismatch as men would not discount as much the expected earnings of their future wives. Declining fertility is not always a sign of women's empowerment. In a society in which women value both childbearing and other goals, but are hindered from achieving the former, declining fertility might instead indicate that women are limited in the attainment of their objectives. When the terms and chances of employment for women increases, so does the opportunity cost of having children. All else being equal, this leads to a downward pressure on female fertility. However, having in place work policies that better enable women to balance childcare with work reduces the opportunity cost of having children. If this latter effect outweighs the former, one could theoretically see why an increase in fertility is not logically incompatible with an increase in women's total workforce participation. More importantly, as women's labour outside home becomes more remunerative, the gendered norms and specialisations that constrain women tend to become destabilised (Badgett et al., 2000; Geddes & Lueck, 2002; Rindfuss et al., 1996). This would further ease the tension between work and life for women and create conditions under which women are more able to freely decide whether they want to include marriage and fertility into their life plans. Therefore, it is fair to conclude that the lack of childcare facilities and family-friendly policies in Japan is central to Japan's delayed and declined

marriage and fertility. The latter two issues are the direct or indirect result of the former to a certain extent.

This chapter explores the association between gendered labour market decisions and women's transition to motherhood in Japan, underlying the importance of a more female-friendly labour market in encouraging women to marry and give birth to children early. To be more specific, I aim to understand how women's employment status, employment type, industrial sex segregation, corporation size, occupation, and partner's employment correlate with women's transition to first childbirth.

Hypotheses

Women's Employment Status at Marriage and Transition to Motherhood

The notoriously steep M-shaped curve of Japanese women's labour force participation over their life course leads to a low minimum employment rate for married women, especially for married women with young children. Indeed, it is common for women to exit the labour market after marriage or first childbirth and only restart working later when the child is less dependent. While married women's employment rate is found to be increasing in Western countries such as the United States over the recent decades (Leibowitz & Klerman, 1995; Rosenfeld, 1996), this trend has not been observed among newlywed Japanese women. More than half of women left their premarital jobs upon marriage, and the proportion of working women in marriage has hardly risen since 1996 (Brinton, 2001; Yu, 2005). Japanese women quit jobs at marriage mainly because they find it hard to balance work and family life due to the excessive demand for time and effort required for career

advancement in Japan on the one hand, and the societal expectation for women to prioritise family responsibilities on the other. Economic participation is often seen as incompatible with family life for married women in Japan.

The incompatibility of participation in labour market and family duties suggests a negative relationship between employment status at marriage and married women's transition to motherhood at the individual-level in Japan. Japanese women who remain employed at the time of marriage tend to delay giving birth to their first child for a myriad of reasons. Firstly, married women have experienced the great difficulties in balancing work and marriage life, and thus would have a realistic understanding of how much childbearing and childrearing activities can compete with the time and energy spent in work, and would try to avoid such activities until later. This argument is in line with the "learning hypothesis" proposed by White and Kim (1987) in a study of mothers in the United States. Although the hypothesis mainly predicts mothers' lower second childbirth rate after their experience with first children, Japanese married women can go through this learning process through marriage itself due to the gendered domestic labour division in most Japanese marriages, which leaves the large bulk of housework to women. Becoming a mother adds the pressure of childcare on top of the already difficult task of balancing work with marriage life, and significantly increases the domestic workload for married women. As such, working married women are more likely to postpone motherhood than their unemployed counterparts. Secondly, the opportunity cost of childbearing, which is a time-intensive process, is much higher for women who stayed in paid work upon marriage than that of those who do not work. In Japan, the disruption of career from childbearing activities leads

to forgone wages, less on-the-job trainings, and missed promotion opportunities. Working women also face reduced wages and chances for promotion post-childbirth. Moreover, the male-centric Japanese working culture of long working hours, frequent overtime work, and little personal time makes it very hard for women to spare time for childcare, especially earlier on in their career track (Brinton, 2001; Yu, 2005;). Childrearing is highly demanding and requires strict time and energy commitment that is unaffordable for women who want to pursue careers in Japan, where the labour market puts women in a disadvantageous positions and career advancement opportunities are rare for women (Ogawa & Ermisch, 1996; Rosenbluth, 2007). Furthermore, women are confronted with so-called “maternity harassment”, namely the pressure of being discharged or demoted by employers, when they try to take maternity leave in Japan (Ryan, 2015). Thirdly, due to the lack of alternative modes of childcare such as public or private day-care centres in Japan, the burden of childcare is so heavy that it may break the balance that married women have managed to achieve between work and family life before childbirth. While Japanese men seldom help with childcare activities at home as a result of the traditional gender roles, cross-generational childcare is possible but dependent on women’s proximity to parents and parents-in-law, meaning that it is not available for every household. Public childcare is cheap but hard to access due to shortages of space and personnel, and there are not enough affordable private childcare options due to local government regulations. Consequently, mothers have no choice but to take childcare responsibilities on their own, and experience constant interruptions to plans in both work and life. Therefore, being employed at the time of marriage is very likely to be negatively associated with women’s transition to

motherhood in Japan.

In addition to married women's employment status, another individual-level factor that is frequently mentioned when discussing women's delayed and declined fertility in Japan is increasing education levels. In the 1960s, Japanese women's enrolment in senior high school has increased dramatically, reaching 97% that exceeded the figure for men by 1997. Women's advancement rate to universities also increased from 6.5% in 1970 to 12.5% in 1975. By the end of 1997, 26% and 22.9% of women were enrolled in universities and junior colleges respectively (Shirahase, 2000). The figure further increased in the 2000s. According to the OECD, 61% of Japanese women aged between 25-34 hold a tertiary level qualification in 2014, 12% higher than the percentage in 2012. It is argued that the increase in higher education enrollment among Japanese women correlates with Japan's fertility fall (Osawa, 1998; Rosenbluth, 2007; Shirahase, 2000). Women's higher education level is believed to have increased economic opportunities for women to work in professional jobs while altering their traditional gender-role values. Consequently, this leads to delayed marriage and decreasing motherhood among women in their twenties (Atoh, 2001). Shirahase's research (2000) confirms the role that education plays in Japanese women's decisions on when to get married and choosing whether to get married at all. Moreover, highly educated women tend to delay family formation due to the economic pressure caused by strong educational investment in children, as highly educated women are more likely to invest heavily in children's education in order to increase the chance of children attaining high level of education (Shirahase, 2010).

More importantly, education may consolidate the negative relationship between women's

employment status at marriage and their transition to childbirth in Japan (Shirahase, 2000; Tsuya & Mason, 1995). There are two potential mechanisms through which education interferes with the interplay between married women's employment status and motherhood. The first mechanism is that higher education results in a higher opportunity cost for married women's career to be disrupted by childbirth. Higher educated women who are employed upon marriage have invested a significant amount of time and effort in education in addition to job searching and career building. The extra and constant investment in educational activities has a cumulative effect that competes with childbearing when women are making future life plans (Hoem, 1996). Thus, higher educated women employed at marriage may further delay the transition to motherhood to give way to career development compared to their less educated counterparts. Moreover, similar with other East Asian countries, "educational credentialism" which gives high status to individuals with high education prevails in Japanese society (Ishida, 1993). The Japanese labour market is also largely influenced by educational credentialism, leading it to favour students with higher qualifications. Women with higher education therefore have greater human capital which means they are more likely to successfully establish herself with an employer and obtain career advancement opportunities compared to women with less education. Therefore, having career development disrupted by childbearing, especially during an individual's early career, results in a higher opportunity cost for married women with higher education. The second mechanism through which education consolidates the negative relationship between women's employment status at marriage and childbirth is that women with higher education tend to reject the traditional gender norms that confine married women to family

roles (Shirahase, 2000; Tsuya & Mason, 1995). The idea of withdrawing from the labour market and returning home as mothers is less attractive for higher educated women who are employed at the time of marriage. That is to say, working married women with higher education are more likely to prioritise individual and career advancement instead of family responsibilities, thus postponing childbirth compared those with less education who are not working at marriage.

Hypothesis 1a: In Japan, women who are employed at marriage are more likely to delay childbearing than those not employed at marriage

Hypothesis 1b: In Japan, higher educated women who are employed at marriage delay childbearing compared to their less educated and not-employed counterparts.

Women's Working Conditions at Marriage

Previous research from industrialised countries has argued that women tend to postpone plans of childbirth after marriage if their working conditions and workplace characteristics make it difficult to incorporate family responsibilities into work (Brewster & Rindfuss, 2000; Desai & Waite 1991; Glass & Camarigg 1992; Glass & Riley 1998). Following this line of arguments, a closer look into Japanese married women's working conditions and workplace characteristics is necessary in order to reveal a more nuanced picture of the relationship between women's economic participation at marriage and motherhood. Married women's working environment, career path, and advancement opportunities vary with workplace characteristics, including employment type, firm size, and gender ratio. In Japan, women tend to construct a timetable of the life course that lacks flexibility (Higuchi,

2001; Shirahase, 2000). For example, marriage is the precondition for childbirth, and career development and motherhood are bound to a specific timetable. As such, Japanese married women adjust fertility options, such as the number of children to have and the timing for childbirth, to adapt to the dynamics of work brought by different workplace characteristics. In return, the choice of working conditions may also reflect married women's fertility plan in Japan. Overall, it is important to understand the patterns of and relationships between married women's workplace characteristics and transition to motherhood.

One of the most pivotal features of working conditions is the difference between standard and non-standard work arrangements (termed as "employment type" in this paper). There are many categories of non-standard employment, such as part-time jobs, dispatched jobs, or temporary jobs, out of which part-time employment has constantly been the dominant form. Over the recent decades, part-time employment has increased rapidly, particularly among women, in advanced industrial countries including Japan (Blossfeld & Hakim, 1997; Houseman & Osawa, 1995; Yu, 2002). In Japan, women were hired mainly in part-time positions. According to the Japanese Internal Affairs and Communications Ministry, 56.5% of working women in Japan are in part-time jobs in 2013, in contrast to only 21.3% of working men. The figure is expected to be even higher for married women. Adopting Hakim's theories (1995, 1996), some argue that Japanese women concentrate in part-time positions because they prioritise nonmarket activities. However, many disagree with this view and argue that Japanese women, especially those who are married with children, are channelled into part-time positions by the systematic barriers that obstruct married women's access to full-time jobs in labour market, as many married women are pressured

by their family responsibilities to take on relatively short working hours and flexible work schedules that are incompatible with Japanese work culture of full-time positions and the male-centric labour market (Nagase, 1997; Rosenfeld & Birkelund, 1995; Yu, 2002).

Nonetheless, part-time employment at marriage is believed to be positively correlated with transition to motherhood because of its features and relevant social policies. The opportunity cost of childbearing is relatively low for part-time employees. Part-timers are paid significantly less than full-timers, and have fewer career development opportunities. In fact, there is no clear advancement path for married women doing part-time jobs due to the unstructured nature of such jobs, and these women find no corporate ladder to climb up. It is also relatively easy to find a part-time job or even switch between several part-time positions, because less training is required in a part-time job and there is a growing demand for part-time jobs in Japan. Therefore, disruption to part-time employment from childbearing and childrearing activities does not incur as a high opportunity cost in terms of forgone wages and missed advancement opportunities for women doing part-time jobs at marriage as it does for those in full-time employment at marriage in Japan. Moreover, the flexible work schedule and less demanding workload of part-time jobs leaves room for married women to prepare for and later cope with motherhood. The flexible schedule not only means more time to deal with domestic responsibilities for married women, but also enables women to adjust their work plan to fit in the time-intensive childbearing activities. More importantly, married women doing part-time jobs are likely to receive a tax exemption as the second earner of the household according to the Japanese labour policy. Compared to women with full-time status at marriage, the marginal return to every unit of

time spent on work after the tax exemption is higher for married women with part-time positions. Thus, part-time jobs may help married women to achieve an optimal balance between monetary gains and time and energy spent in work, and this balance can better enable married women's transition to motherhood. Furthermore, in Japan, the large female labour influx into part-time positions has meant that they are female-dominated occupations, as part-time employment provides lower wage returns to individual qualifications than full-time employment (Yu, 2002). As a result, part-time jobs tend to reflect and reinforce traditional gender roles which encourage married women to prioritise roles in family and become mothers early. The consequential low social status attached to part-time jobs can also push married women's aspirations away from work to focus on domestic issues, including childbirth.

Hypothesis 2a: Compared to those who worked full-time at marriage, women with a part-time job at marriage are more likely to enter motherhood.

The next relevant workplace characteristic is the size of the corporation at which married women work. In Japan, the largest difference between large corporations and small firms is defined by the lifetime employment system. The lifetime employment (*shushinkoyo*) policy is the most significant feature of Japanese large organisations, and is practised by large corporations as well as some government sectors. The unconstrained Japanese capitalist market allows large firms to foster cross shareholding among *keiretsu* firms (Japanese corporate groups) and bond ties to main banks, thereby stabilizing firms' capital costs. As a result, firms are able to guarantee lifetime employment to their core workforce (Aoki, 1994; Ireland & Aoki, 1984). Before the asset bubble burst in the early 1990s, the

demand for labour exceeded the supply as the economy grew more rapidly than the labour force could keep up with. Offering lifetime employment was one way in which Japanese corporations competed for hotly demanded labour. The lifetime employment benefited large Japanese firms and economy by encouraging investment in skills-training: Workers unworried about unemployment were willing to receive firm-specific skill development, and employers can in return invest in large amount of training of their employees without the fear of losing their well-trained workers (Hoshi, Kashyap & Scharfstein, 1991).

However, as the new institutional analysis of Japanese economy has pointed out, the functionalist views that speak highly of the lifetime employment policy ignores its negative implications for women (Estevez-Abe, 2007). The cost to employers of hiring women is higher than that of men with lifetime employment than without. The potential leave women take for pregnancy and childcare decreases their earning power for the company and reduces the expected return of the company's investment on them. If the woman never re-enters the company, or enters another company, the investment on that woman will be altogether lost. This concern of employers is common in industrialised economies (England 2005), but it is particularly strong in Japan where men constantly build up the firm-specific skills over the course of their life long career but women do not. In addition, large Japanese companies place a premium on firm-specific skills, which, in conjunction with their belief that women are more likely to leave a job for childbearing and homemaking purposes, increases the perceived cost of hiring a woman. This creates an unfriendly attitude towards women in the workplace, which in turn feeds into workplace policies that are if not outright discriminatory towards women, then at best do not take their welfare into account.

Moreover, firms who make life commitments to their core workers need an expendable part in their labour force structure in order to cope with business-cycle ups and downs (Rosenbluth, 2007). On the one hand, firms are incentivised to make it even harder for women to get in the core workforce by reinforcing women's social label as housewives because in doing so they can reduce women's labour force to an even cheaper category (Aoki, 1984). On the other hand, due to the need of expendable labour and the relatively high cost of employment of mothers, women who have their career interrupted by childbearing activities are very likely to end up in this buffer zone of temporary contracts that do not provide job security and economic stability. Furthermore, for women who do make it into the core workforce, the fast pace, high intensity, and fierce competition inherent in the nature of work leave little time or energy for childbearing. In addition, the prevalent Japanese working culture in these large firms which takes the form of extremely long working hours and non-existent leave makes it harder for female employees to find time to have children. The exceeding amount of time and effort women in large corporations devote into work also pushes the opportunity cost of career disruptions brought by childbirth.

Working Japanese women's predicaments are exacerbated by the policies and attitudes of the Japanese government and its relationship with big business in Japan. By supporting the practice of lifetime employment by deflecting and ignoring public calls for labour reform legislation, the government upholds firms' businesses practices of having a fixed, permanent employee base and a secondary, expendable workforce that expands or contracts based on the business cycle. As women tend to be disproportionately relegated to the latter

class of jobs where they face strong disadvantages in the workforce, female employees have to work even harder than men to avoid being allocated to the expendable sectors and obtain career advancement opportunities. Therefore, it is almost impossible for Japanese women working in a large firm to make their way up on the corporate ladder while providing for childcare responsibilities, especially early in their career track. Although in recent years Japanese government started to implement welfare policies that would benefit women, such effort failed to outweigh Japanese political parties' promises to business to minimise welfare expenditures which exerts a downward pressure on welfare payments that help women balance work and childbearing. There is still an absence of an effective welfare system that enforces policies such as paid paternity leave or childcare services provided by companies. Married women still find it incredibly hard to combine work in large corporations with childrearing.

As such, women working in large corporations at marriage are more likely to delay motherhood, compared to those in small-and-middle-sized companies where the working environments tend to be better for women's welfare, because these firms are more female-friendly and require shorter working hours, despite the overall scarcity of career advancement opportunities.

Hypothesis 2b: Women working in larger corporations at marriage are more likely to postpone having first childbirth.

In Japan, women used to be either hired into different industries or occupations from men, or directed to different career tracks even if they perform the same job as men (Shuto, 2009).

This sex-segregation of Japanese labour market has a long history, and it is still prevalent in Japan today, albeit to a lower degree (Brinton & Ngo, 1993; Nishikawa, 1997; Shuto, 2009). According to the data from the Japanese Management and Coordination Agency, over 50% of Japanese industries are dominated by either male or female workers. This industrial sex-segregation is incorporated in the horizontal gender discrimination experienced by Japanese working women, in the sense that female-dominated industries often share common features that are generally looked down upon in the labour market including low skill or qualification requirements, low wages, and short-term contracts caused by feminisation (Shuto, 2009). Moreover, even within female-dominated industries represented by nursing, social welfare, education-support, hospitality and other service industries, women are concentrated in less prestigious positions, or even the bottom positions (Brinton, 2001; Rosenbluth, 2007; Shuto, 2009). For example, while a predominant proportion of kindergarten teachers in Japan are women, only 10% to 20% of university faculty members were comprised of women, with very few women holding managerial responsibilities as of 2013 (Gender Equity Bureau, 2013). Some women have been fighting to change the situation by breaking the gendered wall of different industries. Since 1990s, women started to enter industries and occupations previously exclusive to men in Japan (Shuto, 2009). However, sex-segregation in Japanese labour market has persisted.

The relationship between married women's labour participation and motherhood is expected to vary across women in industries with different gender ratios, because of the dissimilar features and working environments in female-dominated and male-dominated

industries. On the one hand, studies from Western industrialised countries such as Netherlands and Sweden have found evidence for a positive relationship between working in female-dominated jobs or industries and women's earlier transition to motherhood (Begall & Mills, 2012; Hensvik & Nilsson, 2010). Women are more likely to enter motherhood in female-dominated jobs and industries for several reasons. Firstly, previous research in advanced industrialised economies has demonstrated that a larger proportion of females in a workplace (Davis & Kallenberg, 2006; Goodstein, 1994) or industry (Cook & Minotte, 2008) tends to lead to more pro-family workplace policies, which are conducive to fertility. In other words, female-segregated industries tend to have shorter and more flexible working hours and provide day-care centres which allow married women to combine work and childrearing. Secondly, according to neo-classical economic theory, this also applies to lower-wage jobs which do not traditionally have such pro-family workplace policies in place, if these jobs possess compensating differentials such as flexible working hours and shorter hours from part-time work (Anker, 1997; Filer, 1985). This is the case because these jobs are disproportionately demanded by married women rather than men, given that these differentials provide more utility to the former in a society in which women bear most of the child-raising burdens. Thirdly, women who plan to have children may self-select themselves into industries with low costs of withdrawal (Polachek, 1981). Since these jobs tend to require less human capital, one can predict that women with intentions to have more children would be disproportionately represented in these jobs (Desai & Waite, 1991). Based on these three reasons, a positive relationship between working in female-dominated industries at marriage and women's transition to first childbirth is expected in

Japan as well.

On the other hand, working in male-dominated industries at the time of marriage may be negatively associated with women's first childbirth. In Japan, male-dominated industries tend to exhibit male-centric working culture and practices, which include long working hours, frequent over-time work, and inflexible work schedules which conflict with the requirements imposed by the time-intensive childbearing activities. Female workers can hardly change this male-centric environment to accommodate their needs because women are underrepresented in those industries and have limited discourse. Closely related to the male-centric culture and practices is that male-dominated industries also tend to demonstrate gender discrimination towards women on various aspects. As women are seen as somewhat unfit for positions in male-dominated industries, employers favour male workers in terms of career advancement opportunities like raises and promotions. Therefore, female workers tend to dedicate more time and effort into work so that they can compete with male workers under the gender bias that favours men. Disruption to career because of childbearing can be detrimental and incur a very high opportunity cost to career development. This is particularly the case if we assume that married women who self-select into male-dominated industries are more inclined to obtain relatively strong career objectives and aspirations. Consequently, married women working in male-dominated industries at marriage are less likely to have time or energy to give birth to children. Moreover, the Japanese industrial relations model is largely characterised by its lifetime employment and seniority pay systems (OECD, 1973). However, as pointed out by Shuto (2009), both lifetime employment and seniority pay systems are norms mainly for men,

while women's employment is commonly associated with short-term contracts and unstable wages. Thus, the norms of lifetime employment and seniority pay systems are much more prominent in male-dominated industries. Since such norms are often associated with obstacles for female workers to thrive and there is a lack of social welfare that supports women to incorporate childcare responsibilities into career, married women in male-dominated industries tend to postpone motherhood in pursuing of career.

Hypothesis 2c: Married women in female-dominated industries are more likely to enter motherhood than those in gender-neutral industries, whereas women in male-dominated industries at marriage tend to postpone their transition to first childbirth compared to women in gender-neutral industries at marriage.

Women's Occupation at Marriage

Following women's workplace characteristics and working conditions at the time of marriage, there is naturally the question of whether differences in specific occupational status is associated with reproductive behaviour regarding first childbirth. For example, one could compare those in professional positions against those working as unskilled manual workers at marriage. There are very few studies making a direct connection between women's occupation and childbirth in Japan. The most relevant study would be that Shirahase (2000), which found insignificant correlation between Japanese women's occupation and transition to motherhood using the occupational variable as classified by the EGP category. She argued that occupational status is achieved through education, and controlling education accounts for the effect of occupation as a whole. However, such a

view neglects the specific job features and working conditions associated with an occupation's status.

Moreover, other research on women's occupation and first marriage in Japan suggest that women in higher professional positions have lower tendencies to marry, implying late childbirth, when compared to their blue-collar counterparts (e.g., Kojima, 1995; Raymo, 2003). Raymo (2003) attributes such negative correlation to the high opportunity cost because of the high social prestige and economic resources of higher professional positions in Japan. As it is very hard for Japanese women to break the glass ceiling and enter higher professional positions, disruptions to career due to childrearing activities can generate a tremendous opportunity cost for them in terms of forgone wages, missed advancement opportunities, and lower career expectations from employers. It is commonly believed that women who prioritise childcare over work will destroy their career prospects. Higher professional positions such as doctors and CEOs are also very male-centric in Japan in the sense that it requires working extra-long hours and lacks social welfare support for women to incorporate their family responsibilities into work. Although women doing higher professional occupations are more financially capable of buying private day-care services, childbearing and childrearing still demand more time and energy than they can offer. Thus, women with higher professional occupations may delay the transition to childbirth.

In addition, empirical studies on Western industrialised countries including Netherlands, Germany, Britain, Spain, and Sweden have consistently found a positive relationship between women working in occupations that involve caring and interpersonal skills and childbirth rate (Begall & Mills, 2012; Dribe & Stanfors, 2010; Zabel, 2006; Martin-Garcia,

2010). There are two pivotal mechanisms through which such positive relationship comes into being: “Working conditions” and “self-selection” as termed by Begall and Mills (2012). The working conditions mechanism looks beyond social status and prestige of a certain occupation by focusing on the workplace characteristics and working environment (Cooney & Uhlenberg, 1989; Dribe & Stanfors, 2010). Occupations that involve caring and interpersonal skills such as healthcare, nursing, and teaching are seen as more suitable for women because they provide a clear career track that would hardly be disturbed by childcare and allow women to better combine work and family responsibilities by offering paid maternity leave and relatively flexible working hours. For example, nurses with young children can arrange their work shifts according to what is required by childcare. Another example is that mother who work as teachers generally have two holidays in a year that overlap the holidays of their children, and thus face fewer conflicts between work and childcare. The second mechanism, “self-selection”, refers to a situation in which women self-select into occupations that are attached to gender-stereotypical images of feminine features in terms of traditional and social gender roles (Brinton, 2001; Hakim, 2003; Yu, 2002). Occupations emphasizing caring and interpersonal skills are traditionally considered as “feminine” because caring and interpersonal communication are often regarded as feminine traits from a gender-stereotypical perspective. Women tend to self-select themselves into these gender-typical occupations because of their feminine traits, and arguably cause occupational sex segregation (Anker, 1997; Brinton, 2001; Charles, 2005; Lippa, 2010; Smyth & Steinmetz, 2008). Studies from Western countries have found that women in these feminine occupations are more accepting of traditional gender values and

responsibilities, and thus have higher fertility intentions (O'Connell, Betz & Kurth, 1989). More importantly, empirical data shows that women in traditional female occupations such as healthcare and communicative positions show earlier transition to motherhood, though this may also be attributed to women with preference for family responsibilities self-selecting into these occupations while those without such a preference select themselves out (Begall & Mills, 2012). Nevertheless, following previous empirical findings from advanced industrialised countries, women in occupations emphasising caring and interpersonal skills are expected to enter motherhood earlier than those in other occupations in Japan.

Hypothesis 3a: Women with higher professional occupations at marriage tend to delay transition to motherhood in Japan;

Hypothesis 3b: Women with occupations emphasising caring and interpersonal skills at marriage are more likely to make fast entrance into motherhood in Japan.

Husbands' Labour Market Conditions at Marriage

In addition to women's labour market conditions, the employment status and workplace characteristics of their husbands are also closely related to married women's fertility intentions and behaviours in Japan (Kan & Hertog, 2017; Matsui, Ohsawa & Onglatco, 1995). There are generally two ways through which husbands' labour market conditions are correlated with women's transition to motherhood and childbirth: the gendered division of domestic labour based on the different traditional family roles for men and women, and educational homogamy. The skewed domestic labour division based on gender roles posits

husbands in a critical place in supporting the childrearing activities of the households. According to the traditional gendered family roles in Japan, husbands do “outside work” as breadwinners who provide for the family, while wives manage the “inside work”. That is, husbands are burdened with the economic responsibilities of the household, and husbands’ employment and occupational status is indicative of the family’s economic conditions to a large extent. Husbands who were not employed are less capable of providing a stable economic environment for childbearing and childrearing activities. This leads to Hypothesis 4a, women whose husbands were not employed at the time of marriage are less likely to make earlier transitions to motherhood compared to those whose husbands were employed at marriage.

Apart from employment status, husbands’ working conditions and occupation also have important implications for the gendered domestic labour division which affects married women’s transition to childbirth (Ishii-Kuntz, 2013; Nagase & Brinton, 2017). While previous research has associated women’s low fertility in East Asia with the traditional family values and gender inequality (Chen & Li, 2014; Suzuki, 2013; McDonald, 2009), Kan and Hertog (2017) found a direct link between fathers’ participation in domestic work and women’s fertility intentions in Japan, South Korea, and Taiwan. Husbands’ contribution to overall housework is positively correlated with married women’s preferred number of children. Kan and Hertog (2017) further argued that the lower fertility level among women in societies with gender inequality such as Japan can be attributed to women feeling overburdened by responsibilities of the “second shift” with little help from husbands. In Japan, the male-centric practices that are attached to certain working

conditions and workplace characteristics of men can actively block husbands from helping with domestic work that reduces the pressure of childcare for their wives (Nagase & Brinton, 2017). One of the most typical male-centric practices in Japanese labour market is the extremely long working hours. The number of overtime hours worked by regular workers remains very high in contemporary Japan. In practice, a firm's management and labour union can agree to an unlimited amount of overtime (Rosenbluth, 2007). This is particularly the case for husbands in higher grade professions or managerial positions of large corporations. Although such jobs provide better economic returns for the households, the long working hours, fast work pace, and large workload limit husbands' contribution to housework and childcare. Moreover, the male-centric practices in higher occupations and large corporations can entrench the patriarchal gender norm which suggests that domestic labour is "feminine" and of low social status. Husbands working in environments that constantly exposes them to such patriarchal values may be more reluctant to help with housework and childcare than those who work in more gender-equal environment. Thus, women whose husbands hold occupations with male-centric practices receive less help from husbands in terms of domestic works, and tend to delay transition to motherhood.

Furthermore, Japan has been described as having one of the highest levels of educational homogamy among many industrialised countries (Miwa, 2007; Smits, Ultee & Lammers, 1998). As highly educated individuals are very likely to be sorted with individuals who have obtained a similar level of education in a marriage, husbands' educational attainment reflects the wives' educational level to some degree in Japan. Moreover, education is a strong proxy to occupational status in Japanese society where educational credentialism

prevails, and individuals in professional/managerial positions or in large corporations tend to have higher educational achievement. As a result, husbands who hold higher grade professional/managerial positions or work in large corporations are very likely to marry women with higher educational levels. Since there is an established negative relationship between women's education and childbirth, it is reasonable to expect that women whose husbands are in higher grade occupations or large firms tend to make slower transition to childbirth and have lower overall fertility rate compared to those whose husbands are in less prestigious occupational positions, as hypothesised by Shirahase (2000). Therefore, Hypothesis 4b and 4c suggest that women whose husbands hold positions in higher grade professional or managerial positions/in large corporations tend to delay transition to motherhood compared to those whose husbands work in other occupations/smaller-sized corporations.

Hypothesis 4a: Women whose husbands were not employed at the time of marriage tend to make slower transition to childbirth.

Hypothesis 4b: Women whose husbands held higher grade professional or managerial occupations at marriage are more likely to postpone transition to motherhood in Japan.

Hypothesis 4c: Women whose husbands work in large corporations at marriage tend to delay transition to first childbirth in Japan.

Data and Methods

Data

Social Stratification and Mobility Survey (SSM) is a nationwide cross-sectional survey of Japanese adult individuals selected by multi-stage random sampling. As one of the largest traditional Japanese national surveys, SSM has been conducted every ten years since 1955²⁰ with similar structures and questions, thus allows comparison among cohorts over a long period of time. Funded by the Japanese Ministry of Education, Science, Sports and Culture, SSM aims to describe and explain the changing working patterns and attitudes, individual social status, social mobility, and consciousness on class and inequality with nationally representative samples. SSM surveys contain detailed information on respondents and their spouses' complete working history (every piece of work an individual has done up until the interview was recorded), socio-economic condition, and fertility situation, in addition to basic demographic information such as age and sex. The complete fertility history of respondents and detailed information of respondents' children was asked since 2005, before which only information of the respondents' first and last child was available.

To boost the sample size, I pool data from the 1985, 1995, and 2005 surveys²¹ and control for the period effect in models. The age range of respondents is from 20 to 70. Altogether, there are 9,869 respondents in the three surveys, including 5,961 females and 3,908 males²².

²⁰ The latest one, the 2015 survey, is expected to be released next year or the year after.

²¹ I tried to run models with each year's data. The results do not change significantly from the results from this chapter. It is worth noting that I cannot add the earlier surveys to this research, because the earlier ones did not sample any female. Female respondents only started to be included in the survey from 1985.

²² The SSM 1985 and 1995 data do not contain a weight factor, neither has the SSM committee calculated weights for the two data sets. However, we are lack of detailed technical information on the SSM survey design, and only minimal discrepancy was found when comparing to the distribution in the corresponding Japanese Census (Ishida, 1993). Therefore, I did not weigh the data. This practice is in accordance with what previous Japanese researchers have done.

The sample is restricted to ever-married females²³, and the total sample size is 4,664²⁴.

Methods

This paper adopts Event History Analysis (EHA) which enables us to study the way events take place and the determinant factors required for certain events to occur, while dealing with the right-censoring problem of the data (Yamaguchi, 1991). EHA models can reveal the possible causal relationship between different events, because EHA data contain clear time order at which different events occur. Moreover, the analysis considers two aspects of a given event; first, the probability of the event occurring, and second, the speed at which the event occurs. Understanding the speed at which first childbirth happens would help this paper in particular, since childlessness is very uncommon, and women are assumed to have at least one child in Japanese society (Raymo et al., 2015; Rosenbluth 2007). It is also established that the speed at which women transitions to their first birth is highly correlated with the number of children one may have (Kohler, Billari & Ortega, 2002; Marini & Hodsdon, 1981). Although EHA is the most commonly used in longitudinal datasets, the complete fertility and working history of women (person-month observations) offered by SSM surveys allows us to employ the method even though the datasets are cross-sectional. I use the date of marriage as the respondent's data entry point, the birth of the first child (the occurrence of the event) as the data exit point, and the survey year as the end of observation. The problem here is that the data may be right-censored, namely many women

²³ I excluded unmarried women because childbirth outside marriage is still very uncommon in Japanese society. Only seven such cases were reported among the 9,869 respondents.

²⁴ 1,223 cases in 1985, 1,150 cases in 1995, and 2,291 cases in 2005.

may not have given birth during the observation period. This could be because a) the event has not happened yet (e.g., women gave birth to children after the observation); or b) the respondent does not have the ability to trigger the event anymore (e.g., ligation surgery or women's decreased reproduction ability after age 45). EHA methods are suited to dealing with right-censored data under the assumption that censoring is random and that the censoring mechanism and occurrence of events are independent of one another. In this paper, I chose the multivariate Cox hazard regression to do time discrete model analysis. I include women's employment status and their working conditions as time-varying covariates. The model estimated is the below:

$$\text{Log} \left\{ \frac{P_{it}}{1 - P_{it}} \right\} = \alpha_t + x_{it1}\beta_1 + \dots + x_{itk}\beta_k$$

P_{it} is the hazard rate, and α_t denotes the baseline hazard function of time. $x_{it(1-k)}$ stands for the covariates affecting individual i 's event occurrence at time point 1 to time point t . α_t denotes the baseline hazard function of time. The Cox regression models make no assumption about the shape of the hazard function (Cox, 1972; Blossfeld et al., 2007). The above equation means that the hazard rate of the first childbirth at certain month (the occurrence of the event) is the result of a variety of factors during observation, including both time-varying and time-constant covariates.

Notably, this model may underestimate the standard error, because the person-month observation data structure has increased the amount of observation of every woman, and the data were collected with multi-stage sampling methods. I adopt Huber-White method to correct the standard error. I also made sure all models pass the PH assumption test.

In accordance with the previous research, I also use the Kaplan–Meier survival analysis (non-parametric) to demonstrate the basic trends and estimate the survival time from marriage to first childbirth (Zhang, 2011; Jiang et al., 2016).

In the results section, I present the coefficient rather than hazard ratio in the tables, while reporting the hazard ratio rather than the coefficient in the analysis. This is because coefficient can show the direction of the relationship more straightforwardly, whereas the hazard ratio reveals the extent to which two variables associate with each other.

Variables

Dependent Variables

The dependent variable is the probability of women having their first child, namely the risk or hazard (as termed in Event History Analysis) of women giving birth to their first child after marriage. The occurrence of first childbirth signifies the occurrence of the event in the model. If the first childbirth has not occurred by the end of the survey, the survival time is the number of months from the women's first childbirth to the time the survey ended or to the time the women reach age 45, whichever comes earlier²⁵.

*Independent Variables*²⁶

My primary explanatory variables capture various dimensions of Japanese married

²⁵ This is because women are very unlikely to have children after age 45 due to biological constraints. I set the age limit as 43–48 and found the results do not change significantly.

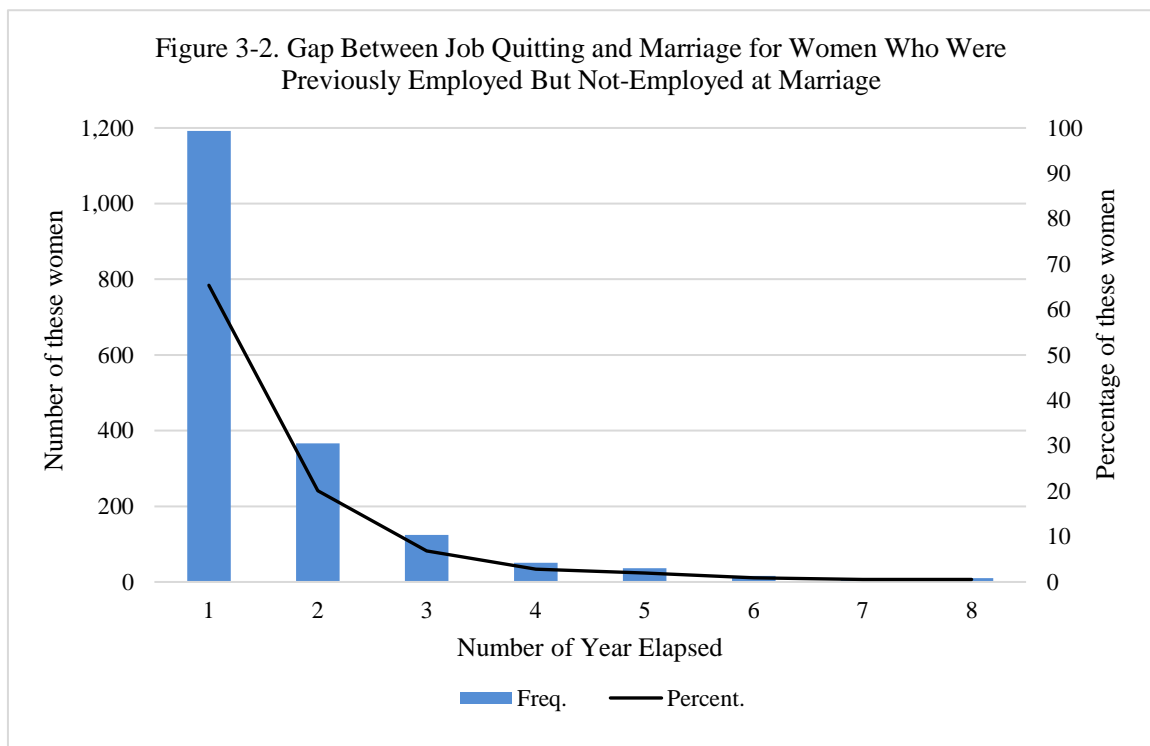
²⁶ I have run proportional-hazard assumption tests on target variables. The assumption is not violated. The only exception is that the predictor education shows a significant test result, indicating some violation of the proportional-hazard assumption. However, I choose to leave it in the model based on prior research (e.g., Shirahase, 2000; Raymo, 2003).

women's labour market conditions at the time of marriage. These labour market conditions include employment status, working conditions that affect individual women's day to day work experience (employment type, corporation size, and industry gender ratio), and occupation type. I recode employment status as a binary variable, indicating whether the woman was employed at the time of marriage.

In Japan, it is a social convention for women to quit at marriage to fulfil the gendered domestic labour division which posits women as the caretaking housewives. Even the proportion of working wives has increased recent years, the percentage of women who are not employed at marriage remains high. The relatively low labour market participation rate of women at marriage often leads sociologists to conclude that women's marriage and fertility is at odds with women's labour force participation. This misconception has had the unfortunate effect of limiting research into the deep structural factors that complicate the relationship between married women's labour market conditions and their fertility.

However, the complete and detailed working history provided by the SSM survey allows us to solve this issue from a different perspective. Figure 3-2 displays the time elapsed between quitting one's job and getting married for women who were employed prior to marriage but not employed at the time of marriage. According to Figure 3-2, more than 85% percent of such women got married within three years after quitting their jobs. Moreover, in the latest 2005 SSM survey, all respondents were asked why they left their previous job. Among women who were employed prior to marriage but not employed at marriage, over 90% left their previous job for marriage and family reasons (see Table 3-1), indicating that those women might quit very soon before or after the decision to get married. The above

data have made it possible to construct a set of new variables that capture the labour market conditions of this subset of women. I construct these variables using the following decision rule (see Figure 3-1): a) if a woman was employed at the time of marriage, use the features of her job at marriage; b) if a woman was not employed at marriage, but she had worked before marriage, use the features of her previous job; c) if a woman had never worked before marriage, I categorise her as “not worked before marriage”.



Data Source: Social Stratification and Mobility Survey 1985, 1995, 2005

Table 3-1. Reasons to Leave the Previous Job for Women who were Previously Employed but Not-Employed at Marriage

	Freq.	Percent.
Leave for Marriage/Fertility Reasons	891	76.48%
Leave for other reasons	274	23.52%
Total	1,165	100%

Data Source: Social Stratification and Mobility Survey 1985, 1995, 2005

Using the above method, I construct four new women's labour market condition variables (three working conditions and one occupation type) termed as "constructed variable" in this chapter. The first one is women's employment type at marriage, including three categories: "full-time job", "part-time job", and "not worked before marriage".

The second constructed variable, corporation size, consists of six categories: "small firms/0-29 employees", "medium firms/30-299 employees", "large firms/300-999 employees", "mega firms/above 1000 employees", "government sector", and "never worked before marriage". I follow the Japanese Small and Medium Enterprise Agency's criteria in defining corporations of different sizes.

The third constructed variable that captures working conditions is the gender ratio of the industry in which the woman works. Due to limitations in the data, I only used gender ratio in the industry rather than the gender ratio in the occupation. I pull industry gender ratio data from the report by the Japanese Minister of Labour every five years from 1930 to 2005, then assign the industry gender ratio to respondents based on the corresponding industries of the individual and year the individual started to work. For example, if the respondent started to work in certain industry in 1954, the sex ratio of the industry of her occupation will be calculated using the 1955 industry sex ratio²⁷. The average female ratio across all industries from 1930-2005 in Japan is approximately 41%. The figure does not exceed 55% for most industries. Therefore, I define industries with less than 40% female workers as

²⁷ Note that before 2000 some service industries, such as "entertainment industry" and "catering and accommodation industry", were grouped under a general "service industry" category, thus were not given specific sex ratios. For women working in those industries at marriage, I assign the sex ratio of the general service industries of the corresponding years to them.

male-dominated industries, 40%-55% as gender-neutral industries, and above 55% female-dominated industries. Those who had not worked before marriage are still categorised as “not worked before marriage”.

The last constructed variable is occupation type. Earlier studies relied on crude categorizations of occupation types, dividing working women into those working in “professional”, “clerical”, “sales/service”, “agriculture”, and “production” or the more obscurely defined “white-collar” and “blue-collar” jobs (e.g., Brinton, 2001; Higuchi, 2001; Lee & Hirata, 2001; Raymo, 2003; Shirahase, 2007; Yu, 2002). However, these categorizations, which cleave more to differences in industry, fail to capture important heterogeneity in the skills, income and class associated with jobs women may hold exist within the same industry. Under the old categorization, female CEOs of large multinationals, who experience vastly different employment conditions than that of female secretaries, were likewise classified as professionals. To capture a richer and more accurate picture of women’s occupation types, I construct my occupation type variable by combining the European Socio-economic Classification (ESeC) with the British Standard Occupational Classification 2010 (SOC2010). I expand the occupation type variable to include the following eight categories: 1) “higher grade professional”, positions that cover all higher grade professions and are regulated through a full service relationship. This category also includes higher grade administrative and managerial occupations. The typical example of this category is scientists, higher education teaching professionals, and CEOs for large corporations; 2) “lower grade professional/higher technical”. The skills required for these occupations are more readily transferable and less organizationally specific than

that for higher grade professionals. It is worth noting that most occupations in this category commonly emphasise on caring and interpersonal skills, thus are considered “feminine” from a traditional gendered perspective. Typical examples are teachers, nurses, and healthcare workers²⁸; 3) “intermediate”. These positions often involve employees following bureaucratically defined rules with emphasis not on innovation but efficiency. The career structure of these positions is not comparable to the previous two categories. Some examples are administrative associate professionals, government social benefits officials, and office clerks; 4) “small employers/own account workers/self-employed”. This category refers to non-professional occupations, namely self-employed and own account workers, and farmers. Typical examples are small restaurant owners, farmers, and fishers; 5) “lower service/sales/clerical”. These occupations are regulated via a modified labour contract. The overall employment contracts are less attractive than that of intermediate occupations because of the expansion and high part-time work percentage. Typical occupations are retail assistants, shop workers, and care workers; 6) “lower technical”, or the “skilled workers”. Positions involve firm-specific skills or skills in short supply of the labour market. The employers of these occupations often monitor employees’ work quality closely. Example occupations are tool-makers, fitters, and plumbers; 7) “routine/semi-routine”. Employees of these positions are paid based on the amount of work they have done or the time they have spent. The employers can easily monitor and replace the employees’ labour without lowering the production rate. Typical examples are cleaners,

²⁸ I tried to single out a category for healthcare and teaching professions following Begall and Mills (2012). However, the sample size for this category is too small to have any meaningful results. Therefore, I decided to combine all these occupations into one category.

assemblers, and porters and messengers; and 8) “not worked before marriage”. This richer form of classification would better capture the variation of skills, income and class associated with Japanese working women’s occupation. With the current data it is not possible to construct a separate variable for women’s managerial position, because fewer than 1% of women (less than 40 cases) were in a managerial position at the time of marriage. However, the combined classification of occupations using SOC 2000 and the ESeC allows for some managerial positions to be included.

In addition to married women’s labour market conditions at marriage, I construct two variables describing women’s partners’ labour market conditions. They are partner’s occupation at marriage, and partner’s corporation size at marriage. For partner’s occupation and corporation size, I follow the classification mentioned in the previous paragraphs (eight categories of occupation and six categories of corporation size). Ideally, I would like to add partners’ working hours to this study, because many scholars have argued that partners’ working hours negatively affects women’s fertility choice. However, this information is not readily available in the data. Since working hours tend to vary with different occupations and corporation size, I hope to capture the effect of partners’ changing working hours as much as possible by including partners’ occupation and corporation size to my models.

Furthermore, I control several demographic and socio-economic variables that may affect the relationship between married women’s labour market conditions and their first

childbirth²⁹. Firstly, I control survey year, because I have merged data collected from three years across three decades (1985, 1995, 2005). Controlling for survey year also makes it possible for us to see the changing trend over time. Secondly, I include the respondents' age at first marriage and marriage cohort. I divided respondents into five marriage cohorts using ten-year intervals as follows: those who married before 1970s, married in 1970s, married in 1980s, married in 1990s, and married after 2000. Thirdly, I control the respondents' education which is offered as a variable with four categories by the SSM data. They are a) before high school; b) high school; c) technical school/junior college (*tanki daigaku*); and d) university and above. Since the advancement rate to high school exceeded 95% among Japanese women since 1990s (Shirahase, 2000), it is understandable for the education variable to not differentiate categories below high school level. Most Japanese women have finished education before marriage. Fourthly, I look at women's housing situation and co-residence with parents. In Japan, the rocketing housing price, especially in big cities, is of the central concern for most people's future life planning. Many women consider living in an owned house, which implies stable life and comfortable living environment, to be the premise of giving birth to children. Therefore, I construct three variables for housing conditions in Japan: a) living in an owned house; b) living in a rented house; and c) living in a public/government house. Moreover, I take household residence pattern into consideration, and made a distinction between paternal-parents co-residence

²⁹ On top of the variables in this paragraph, I added four variables to the existing models: 1) geographic region; 2) husbands' education; 3) total time in employment prior to marriage; 4) industry gender ratio as a continuous variable. None of the variables appears significant and affects the results of other variables significantly (Please refer to Table a3-1 in Appendices for detailed results). I could not control for the urban-rural divide because of the limited information provided by my data. However, the insignificance of region variable indicates that the urban-rural divide here should not drastically interfere with the results of this research.

and maternal-parents co-residence (“living with paternal-parents”, “living with maternal-parents”, and “do not live with parents”).

Table 3-2. Descriptive Statistics of Variables

Variable	Total		Variable	Total	
	N	% or Mean		N	% or Mean
Women's First Childbirth			Large Firm	845	18.12%
If First Birth Occured			Mega Firm	815	17.47%
Yes	4,343	93.12%	Government Sector	506	10.85%
No	321	6.88%	Unemployed at Marriage	210	4.50%
Survival Time	4,664	39.05	Occupation Type		
Women's Labour Conditions at Marriage			Higher Grade Professional	654	14.02%
Employment Status			Lower Grade Professional / Higher Technical	321	6.88%
Employed at Marriage	2,442	52.36%	Intermediate	1,050	22.51%
Not Employed at Marriage	2,222	47.64%	Small Employers / Own Account Workers / Self-Employed	526	11.28%
Constructed Terms			Lower Service / Sales / Clerical	311	6.67%
Employment Type			Lower Technical	1,369	29.35%
Full-Time Job	2,893	62.02%	Routine / Semi-Routine	223	4.78%
Part-Time/Flexible-Time Job	1,143	24.51%	Unemployed at Marriage	210	4.50%
Not Worked Before Marriage	628	13.46%	Controlled Variables		
Corporation Size			Survey Year		
Small Firm	1,967	42.17%	1985	1,223	26.22%
Medium Firm	844	18.10%	1995	1,150	24.66%
Large Firm	306	6.56%	2005	2,291	49.12%
Mega Firm	611	13.10%	Age at Marriage	4,664	24.18
Government Sector	308	6.60%	Marriage Cohort		
Not Worked Before Marriage	628	13.46%	Married Before 1970	2,183	46.81%

(Continues)

Table 3-2 (Continued)

Variable	Total		Variable	Total	
	N	% or Mean		N	% or Mean
Industry Gender Ratio			Married in 1970s	1,051	22.53%
Male-Dominated Industries	731	15.67%	Married in 1980s	789	16.92%
Female-Dominated Industries	484	10.38%	Married in 1990s	485	10.40%
Gender-Neutral Industries	2,821	60.48%	Married after 2000	156	3.34%
Not Worked Before Marriage	628	13.46%	Housing Situation		
Occupation Type			Living in Owned House	3,755	80.51%
Higher Grade Professional	184	3.95%	Living in Rented House	541	11.60%
Lower Grade Professional / Higher Technical	351	7.53%	Living in Public/Government Housing	368	7.89%
Intermediate	1,568	33.62%	Co-residence with Parents		
Small Employers / Own Account Workers / Self-	418	8.96%	Live with Parents	286	6.13%
Employed			Live with Parents-in-laws	776	16.64%
Lower Service / Sales / Clerical	410	8.79%	Do Not Live with Parents	3,602	77.23%
Lower Technical	666	14.28%	Education		
Routine / Semi-Routine	439	9.41%	Before High School	1,349	28.92%
Not Worked Before Marriage	628	13.46%	High School	2,484	53.26%
<i>Partners' Labour Conditions at Marriage</i>			Technical School/College	509	10.91%
Corporation Size			University and Above	322	6.90%
Small Firm	1552	33.28%			
Medium Firm	736	15.78%			

Data Source: Social Stratification and Mobility Survey 1985, 1995, 2005

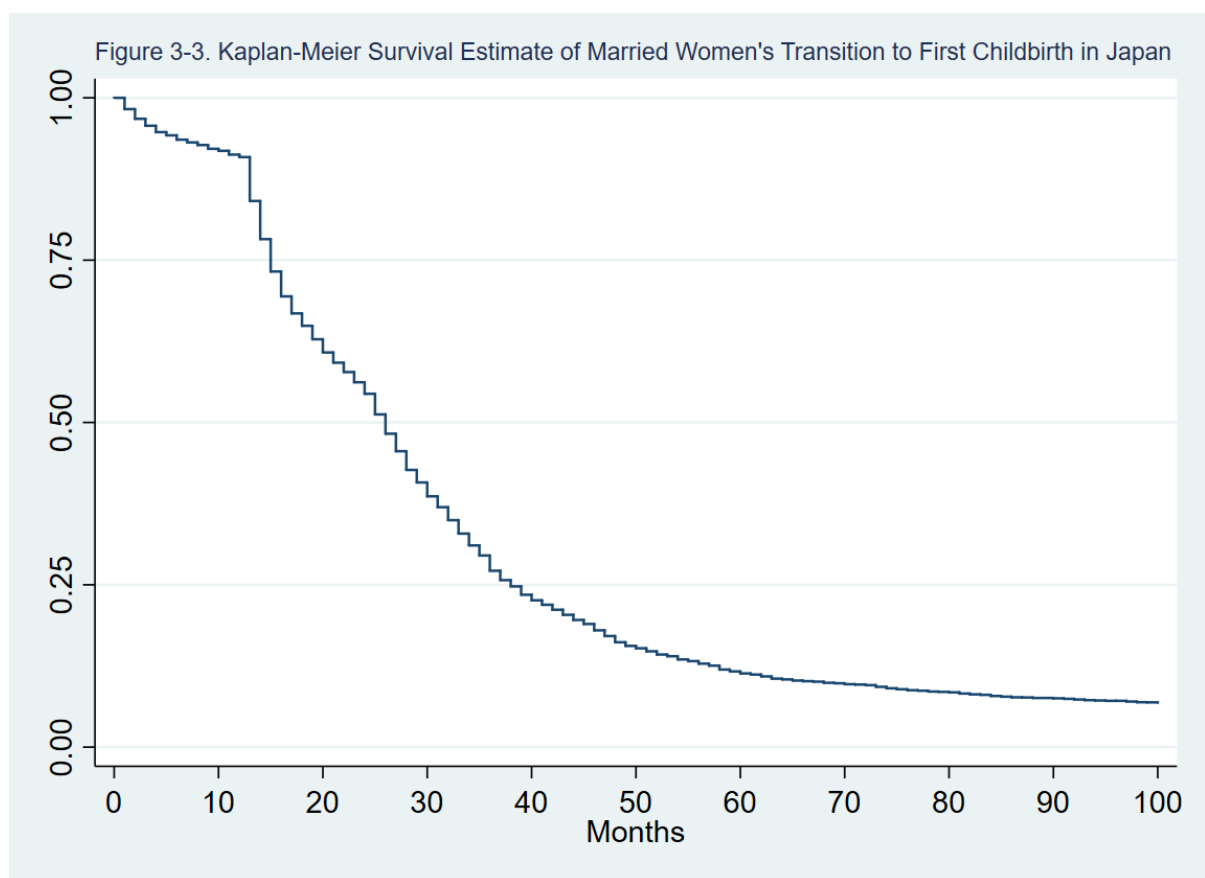
Although only the 2005 survey asked the question “what was your reason to leave your previous job”, I construct the question into a two-category variable (“for marriage and fertility reasons” and “not for marriage and fertility reasons”) and kept it. This is because this variable indicates the reasons for women to choose a certain job, and would enable me to run a robust test at least within the 2005 sample to mitigate the possible self-selection or endogeneity problem of my models. For example, one may argue that women who are more willing to give birth to children would choose to work or choose certain type of jobs and working conditions on purpose, so they can leave and give birth to children at any point easily. Controlling for reasons for women to leave the previous job can largely solve the problem raised by this argument.

Results and Discussion

Descriptive Statistics and Kaplan–Meier Survival Analysis

Table 3-2 contains the descriptive statistics of this study’s variables. According to Table 3-2, 93.12% of married women have had at least one child by the end of the 1985, 1995, or 2005 Japanese Social Stratification and Mobility survey. The high proportion of first childbirth among married women in Japan indicates that it is a norm for women to give birth to at least one child sooner or later after marriage. Even though the average family size in Japan is small, modern Japanese society still considers childlessness abnormal. Moreover, the average survival time from marriage to first childbirth is 39.05 months. Here I used the Kaplan-Meier survival analysis to illustrate how quickly married women in Japan transition to their first childbirth. As observed in Figure 3-3, the proportion of married

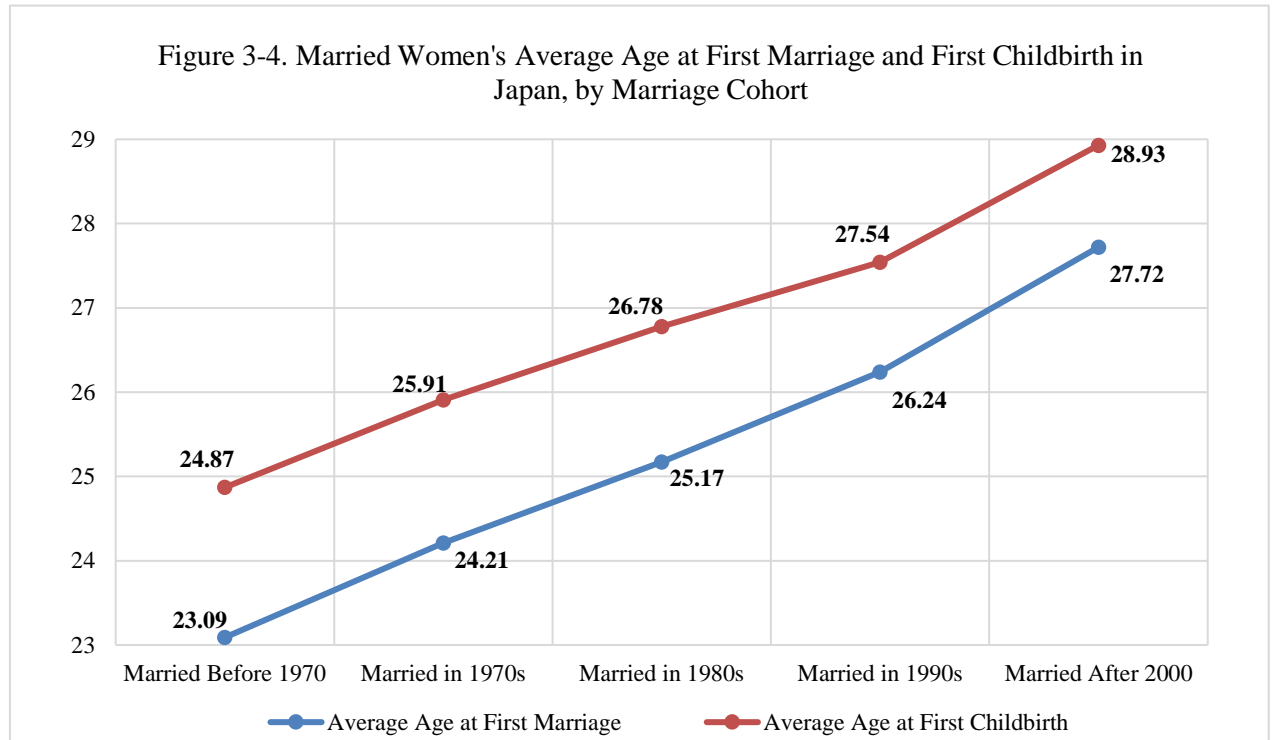
women who had not had any children declines the most drastically from the 12th month to the 36th month. Within 36 months after marriage, around 75% of women had already given birth to their first child. In other words, most women had their first child within three years of marriage. When the survival time reached around 48 months, more than 85% of women had completed their transition to first childbirth and the survival curve continues to flatten out.



Data Source: Social Stratification and Mobility Survey 1985, 1995, 2005

I also plot the average age at first marriage and first childbirth of married Japanese women against marriage cohort groups. Figure 3-4 shows that both the age at first marriage and first childbirth have been increasing in marriage cohorts. The Japanese women who married before 1970 were on average 23.09 years old when they got married, and 24.87 years old

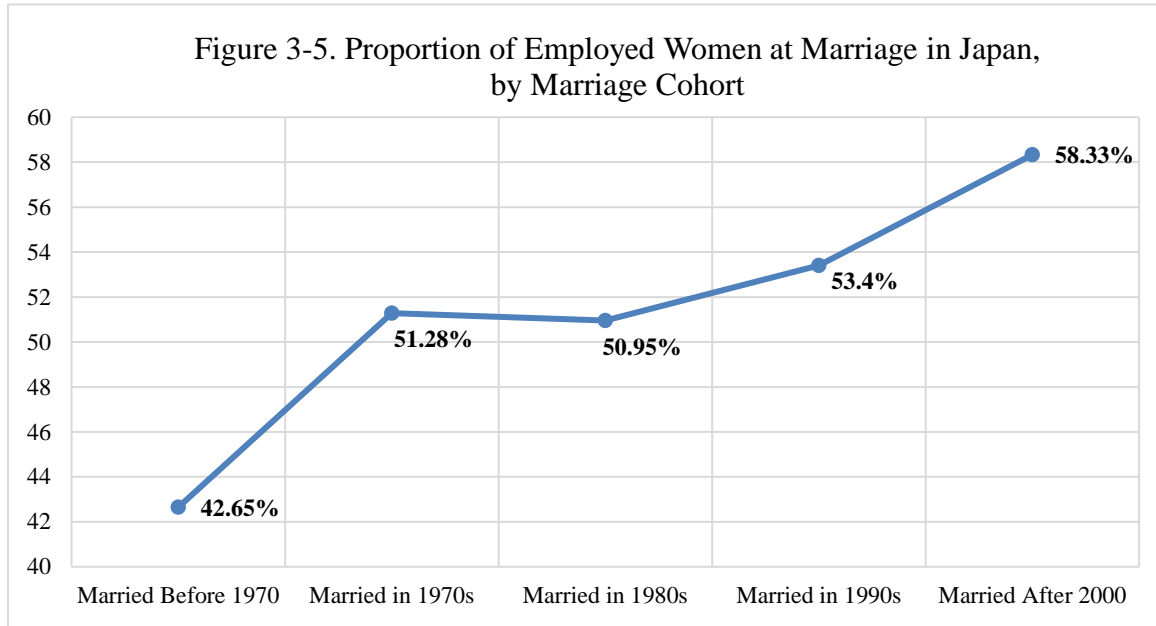
when they had their first child. These figures rise to 27.72 and 28.93 respectively for women who married after 2000. Clearly, Japanese women from successive generations tend to delay their marriage and childbirth compared to their forebears.



N=4,664

Data Source: Social Stratification and Mobility Survey 1985, 1995, 2005

Figure 3-5 depicts how the proportion of women who were employed at marriage changes across marriage cohorts. Altogether, around 48% of married Japanese women included in the survey reported being employed at the time of marriage. This proportion generally increases in successive marriage cohorts, with the only exception being a minor (approximately 0.3%) decline between the 1970s and the 1980s marriage cohort. While only 42.65% of women who married before 1970 were employed at marriage, the percentage increases by more than 15% to 58.33% for women who married after 2000. More women are employed at the time of marriage among younger generations, suggesting that increasingly fewer women quit their jobs for family formation purposes.



N=4,664

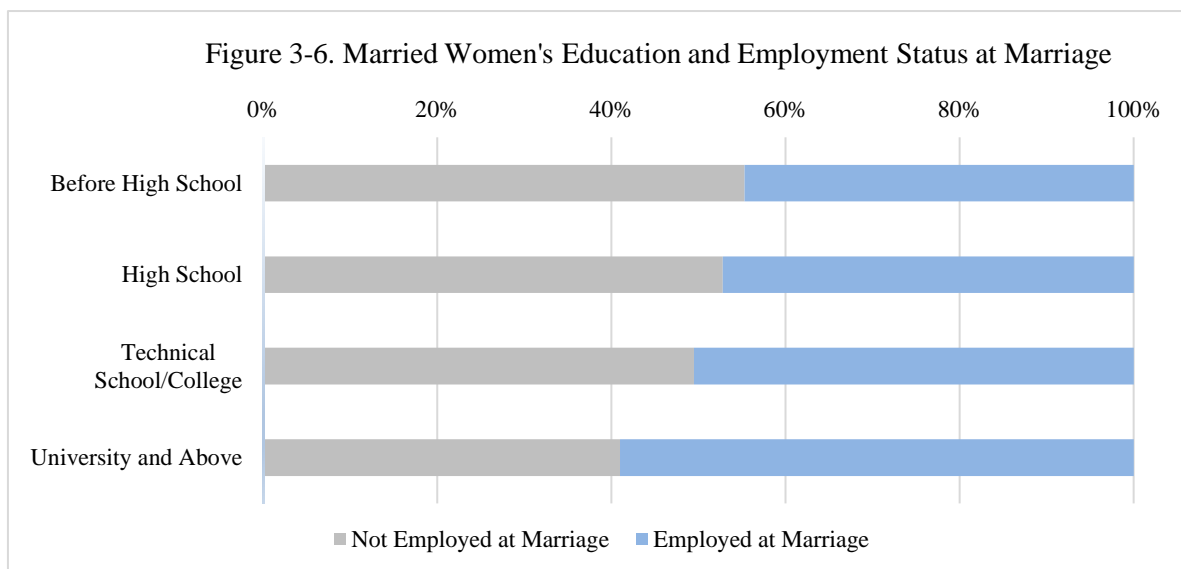
Data Source: Social Stratification and Mobility Survey 1985, 1995, 2005

Women's Employment Status at Marriage and Transition to Motherhood

Table 3-3³⁰ presents the results from Cox regression models examining the relationship between women's employment status at marriage and the transition to motherhood. Model 1 is a basic model that utilizes a woman's employment status at the time of marriage as the explanatory variable. According to Model 1, women who were employed at marriage are significantly more likely to delay giving birth to the first child, as compared to their not employed counterparts. This result is consistent with many previous studies (e.g., Bianchi, 2000; Cramer, 1980; Matsumoto & Yamabe, 2013; Nomaguchi, 2006; Raymo et al., 2015). On another note, education is negatively associated with women's transition to motherhood. As shown in Model 1, holding a degree from university and above level is negatively

³⁰ To avoid issues of multicollinearity and test the robustness of the models, I removed marriage cohort from models in Table 3 and found the results remain unchanged. Please refer to Table a3-2 Appendices for detailed results of this test.

associated with transition to first childbirth at a high level of statistical significance, *ceteris paribus*. Figure 3-6 shows women's employment status at marriage by educational category in Japan. It is very clear from Figure 3-6 that as educational attainment increases, the proportion of women who were employed at marriage rises correspondingly. Around 45% of women who have obtained education lower than a high school degree than high school degrees were employed at marriage, whereas almost 60% of those who have attained university and above degree-level education did so.



N=4,664

Data Source: Social Stratification and Mobility Survey 1985, 1995, 2005

I then introduce an interaction term between women's education and employment status at marriage to look at the relationship between women's employment status at marriage and first childbirth in conjunction with women's education. Model 2 presents the results. After adding the interaction term, neither women's employment status at marriage nor women's education stays statistically significant on its own, in contrast to the significant result of the interaction term. The interaction of the two variables indicates that the more educated

women who were employed at marriage were, the larger the delay between their marriage and first childbirth. Compared to non-working married women with before high school education, working women with higher education tend to postpone motherhood. While the correlation is not significant for women with high school and technical school/college education, the correlation becomes statistically significant for women who have obtained university and above level of education.

Table 3-3 also presents the effects of the controlled variables on women's transition to first childbirth. As shown in Table 3-3, the later a woman enters marriage, the later she is likely to become a mother. Shirahase (2000) emphasises the importance of the negative correlation between age at first marriage and women's transition to childbirth in Japan, as this negative correlation confirms marriage as the precondition for childbirth in Japanese women's life planning, and indicates that women in Japan tend to make inflexible plans over their life course which creates many conflicts, such as choosing to work or to marry, to work or to have children, that lead to late marriage and motherhood. Women's biological clock is closely relevant to the negative relationship between women's age at first marriage and motherhood. Moreover, compared to women married before 1970, those who married after 1980 show significant delays to motherhood, and the significance and extent of delays increase in later marriage cohorts. The birth hazard risk of women married after 2000 in Japan is only 0.65 times that of those married before 1970. This delay of motherhood over later cohorts contributes to Japan's very low fertility level in recent decades. Furthermore, women living in rented property are less likely to give birth to children early compared to those living in owned property, though the transition rate does not differ significantly

between those living in public/government housing and those in private housing. Interestingly, owning a house does not necessarily prepare women for childbirth financially as it normally comes with heavy mortgage that needs to be paid on monthly basis, but is more of a signal of stable life and living environment. Thus, the positive impact of owning a house highlights the significance of life stability in women's transition to motherhood. In addition, married women who live with their parents tend to make faster transition to motherhood than those who do not, whereas co-residing with parents-in-law does not have a significant effect on motherhood. The different relationships between patrilocal and matrilineal multi-generational households and women's transition to childbirth suggests the roles women's parents play may differ from that of husbands' parents in that women receive more help from their own parents.

In summary, married women's education consolidates the correlation between women's employment status at marriage and transition to motherhood. Working married women with university and above educational qualifications are significantly more likely to delay their first childbirth compared to non-working married women with before high school education. The findings support Hypothesis 1.

Table 3-3. Cox Regression Results of Married Women's First Birth in Japan: Employment Status

Variable	Model 1		Model 2	
	B	SE	B	SE
Women's Labour Conditions at Marriage				
Employment Status (reference: Not Employed at Marriage)				
Employed at Marriage	-0.165***	0.030	-0.061	0.061
Controlled Variables				
Survey Year (reference: 1985)				
1995	-0.086	0.064	-0.092	0.063
2005	-0.189***	0.050	0.192***	0.049
Age at First Marriage	-0.034***	0.006	0.033***	0.006
Marriage Cohort (reference: Married before 1970)				
Married in 1970s	-0.041	0.054	-0.041	0.054
Married in 1980s	-0.190*	0.078	-0.187*	0.077
Married in 1990s	-0.352**	0.109	-0.338**	0.108
Married after 2000	-0.418**	0.162	-0.405*	0.161
Housing Situation (reference: Living in Owned House)				
Living in Rented House	-0.152**	0.055	-0.148**	0.055
Living in Public/Government Housing	-0.016	0.056	-0.013	0.056
Co-residence with Parents (reference: Do Not Live with Parents)				
Live with Parents	0.130**	0.041	0.128**	0.042
Live with Parents-in-laws	0.046	0.070	0.047	0.070
Education (reference: Before High School)				
High School	-0.002	0.044	0.041	0.055
Technical School/College	-0.03	0.062	0.039	0.083
University and Above	-0.167*	0.070	0.015	0.093
Interaction Terms				
Education * Employment Status (reference: Before High School * Not Employed at Marriage)				
High School * Employed at Marriage			-0.133	0.072
Technical School/College * Employed at Marriage			-0.096	0.106
University and Above * Employed at Marriage			-0.340**	0.122
Observation	4,664		4,664	

*** p<0.001, ** p<0.01, * p<0.05

Data Source: 1985, 1995, 2005 Social Stratification and Mobility Survey in Japan

*Women's Working Conditions at Marriage*Models 3, 4, and 5 (see Table 3-4³¹) display the relationship between three dimensions of

³¹ To avoid issues of multicollinearity and test the robustness of the models, I removed marriage cohort and education from models in Table 4. The results of these tests remain unchanged from the results reported here (see Table a3-3 in

women's working conditions at marriage and women's transition to first childbirth. The three dimensions are: (i) employment type (Model 3); (ii) corporation size (Model 4), and; (iii) whether the industry is gender neutral, male-dominated, or female-dominated (Model 5). I have controlled women's employment status at marriage and the interaction terms between all the labour market conditions of women at marriage and education to ensure the robustness of the models. The interaction terms between women's labour market conditions and education are statistically insignificant.

Table 3-4. Cox Regression Results of Married Women's First Childbirth in Japan: Working Conditions

Variable	Model 3		Model 4		Model 5	
	B	SE	B	SE	B	SE
Employment Status (reference: Employed at Marriage)						
Not Employed at Marriage	-0.105	0.072	-0.089	0.071	0.023	0.079
<i>Women's Working Conditions at Marriage</i>						
Employment Type (reference: Full-Time Job)						
Part-Time/Flexible-Time Job	0.158*	0.071				
Not Worked Before Marriage	0.112**	0.034				
Corporation Size (reference: Small Firm)						
Medium Firm			-0.063	0.093		
Large Firm			0.013	0.174		
Mega Firm			-0.272*	0.135		
Government Sector			-0.173	0.164		
Not Worked Before Marriage			-0.071	0.094		
Industry Gender Ratio (reference: Gender-Neutral Industries)						
Male-Dominated Industries					-0.249*	0.100
Female-Dominated Industries					-0.306	0.166
Not Worked Before Marriage					-0.012	0.088

(Continues)

Table 3-4 (Continued)

Variable	Model 3		Model 4		Model 5	
	B	SE	B	SE	B	SE
Controlled Variables						
Survey Year (reference: 1985)						
1995	-0.084	0.065	-0.108	0.065	-0.084	0.065
2005	-0.190***	0.050	-0.197***	0.050	-0.190***	0.050
Age at First Marriage	-0.034***	0.006	-0.034***	0.006	-0.033***	0.006
Marriage Cohort (reference: Married before 1970)						
Married in 1970s	-0.049	0.055	-0.038	0.055	-0.048	0.055
Married in 1980s	-0.204**	0.079	-0.188*	0.079	-0.205**	0.079
Married in 1990s	-0.365***	0.110	-0.334**	0.110	-0.368***	0.110
Married after 2000	-0.444**	0.163	-0.411*	0.163	-0.431**	0.164
Housing Situation (reference: Living in Owned House)						
Living in Rented House	-0.147**	0.055	-0.154**	0.055	-0.149**	0.055
Living in Public/Government Housing	-0.016	0.056	-0.020	0.057	-0.020	0.056
Co-residence with Parents (reference: Do Not Live with Parents)						
Live with Parents	0.120**	0.042	0.123**	0.042	0.119**	0.042
Live with Parents-in-laws	0.056	0.070	0.048	0.070	0.050	0.070
Education (reference: Before High School)						
High School	0.074	0.067	0.061	0.077	0.049	0.064
Technical School/College	0.068	0.094	0.130	0.111	0.061	0.089
University and Above	0.197	0.116	0.067	0.150	0.081	0.112
Interaction Terms						
Education x Employment Status	Controlled		Controlled		Controlled	
Education x Employment Type	Controlled					
Education x Corporation Size			Controlled			
Education x Industry Gender Ratio					Controlled	
Observation	4,664		4,664		4,664	

*** p<0.001, ** p<0.01, * p<0.05

Data Source: 1985, 1995, 2005 Social Stratification and Mobility Survey in Japan

We first look at Model 3. As shown in Model 3, part-time jobs are positively correlated with women's transition to motherhood: women with part-time work status at marriage are significantly more likely to enter motherhood than women with full-time status at marriage.

The hazard ratio of first childbirth for women working in part-time jobs is 1.17 times that

of those who work in full-time jobs. Moreover, the hazard risk of transition to motherhood for women who never worked prior to marriage is higher than those working full-time at marriage. The results are in line with the view that opportunity cost in terms of forgone wages and missed advancement opportunities is much lower for women who have never worked before marriage or are doing part-time jobs at marriage compared to those in full-time employment at marriage in Japan. In addition, the flexible work schedule and less demanding workload of part-time jobs (or not working at all) leaves room for married women to prepare for and later cope with motherhood.

I next look at how the size of the corporation a woman works for is associated with her first childbirth in Model 4. According to Model 4, working in small corporations (with less than 30 employees), in medium-sized corporations (with 30-299 employees), large corporations (with 300-999 employees), and government sectors at the time of marriage does not make a difference in terms of women's decision to have the first child. It is working in mega-corporations (with more than 1000 employees) at marriage that is negatively correlated with women's first childbirth. To be more specific, the hazard ratio for women in mega-firms to transit to motherhood is only 0.76 times that for those in small firms at the time of marriage. Married women in mega-firms delay their motherhood compared to their smaller-sized counterparts, in line with the arguments raised by Rosenbluth (2007). It is worth noting that the relationship between married women in large firms and transition to motherhood is not significant. This indicates that women's situations differ in large-corporations and mega-corporations, despite the potentially similar size of the two types of companies, and the fact that they both provide two career tracks for women: the career

track (*sogo shoku*) which leads to professional work, and the non-career track (*ippan shoku*) which only involves non-professional assistant work. This difference in effect of company size on women's transition to motherhood can be explained by the more intense competition and the more elastic labour of women in the career track of mega-firms compared to that of large-firms. In general, mega-firms implement more prominent lifetime employment systems, and require longer working hours and more intense internal competitions for professionals than large-firms. Therefore, female employees in the career track of mega-firms have little time and energy to take care of their children, and the opportunity cost for childbearing activities is very high (Rosenbluth, 2007). Moreover, labour supply in the career track is highly elastic in mega-firms, and women who are already in disadvantageous positions in mega-firms can be even more easily replaceable than those in large-firms, thus more fearful of losing their jobs because of childbearing activities (Rosenbluth, 2007). Unfortunately, the SSM survey does not specify the career track of respondents in large and mega firms, leaving room for future research to further investigate when more detailed data become available.

Finally, I examine the relationship between the industry gender ratio and married women's transition to first childbirth in Model 5. Interestingly, women who work in gender-neutral industries at marriage are the most likely to give birth to first child early compared to those in non-gender-neutral industries (in male-dominated and female-dominated industries). The hazard ratios for those in male-dominated industries to become mothers early are 0.77 times of that of those in gender-neutral industries at marriage, confirming the expected negative relationship between working in male-dominated industries and married women's

transition to motherhood.

However, according to the results, married women in female-dominated industries also tend to postpone, instead of taking an early entry into, motherhood compared to those in gender-neutral industries, though the correlation is of only very marginal statistical significance ($P < 0.1$). This result is different from findings in other advanced industrialised countries where the relationship is positive. This negative correlation suggests that there are features unique to female-dominated industries in Japan that make motherhood less likely. This is explained by the relatively low bargaining power women in these industries possess because of they are typically less-skilled and thus more replaceable than men in the same industry, which makes it harder for these women to secure welfare and other benefits that are conducive to motherhood. In Japan, workplace dynamics and relevant policies are largely dictated by intrinsic discrimination towards women derived from values of gender inequality (Rosenbluth, 2007). The working environment tends to be the harshest to women at workplaces that reinforce the most radical gender stereotypes and biases. Female-dominated industries include the hotel/food, life-style related service, entertainment and medical/social welfare industries. In these industries in Japan, female labour tends to be cheap and easily replaceable, thus women are not valued and do not receive much welfare. In contrast, gender-neutral industries where more egalitarian values prevail are likely to have better welfare and workplace policies for women to combine work and family responsibilities. Moreover, women also tend to concentrate at the lower rungs of these industries—for instance, women occupy the majority of the nursing jobs in the healthcare industry, causing individual female labourers to not carry much bargaining

power in female-dominated industries. These factors culminate in a situation in which there isn't enough support for women working in female-dominated industries to enter motherhood significantly earlier than those in gender-neutral industries.

In conclusion, women's working conditions at marriage are significantly associated with the transition to motherhood. Women with full-time work status at marriage are significantly more likely to postpone motherhood compared to women with part-time status at marriage. Moreover, women working in mega-sized corporations at marriage are less likely to enter motherhood early than those in small firms. Married women in male-segregated industries also tend to delay their first childbirth compared to those in gender-neutral industries. The findings support Hypothesis 2a, 2b, and the latter half of 2c.

Women's Occupation at Marriage with Refined Categories

Model 6 (see Table 3-5³²) shows how different women's occupations may affect transition to motherhood differently. The findings show that there is no statistically significant difference in the transition to motherhood between women in most occupation types, i.e. whether or not women hold jobs in higher grade professional, low grade sales/service/clerical, lower technical, or routine/semi-routine makes no statistically significant difference to when they have their first child compared to women with intermediate occupations at the time of marriages. These results are consistent with the findings from Shirahase (2000). Following Shirahase's arguments, Figure 3-7 shows the

³² To avoid issues of multicollinearity and test the robustness of the models, I removed marriage cohort and education from models in Table 5. The results of these tests remain unchanged from the results reported here. Please refer to Table a3-4 in Appendices for detailed results.

distribution of occupations by education levels. According to Figure 3-7, women with higher educational attainment tend to concentrate on higher levels of occupations, while those with lower education concentrate on lower levels of occupations. In other words, education indeed captures a substantial part of occupational variation among married women. Therefore, controlling for education has deprived the effect of occupation on married women's childbirth to a large extent.

However, education does not tell the entire story. There are two occupational categories that are positively associated with married women's transition to childbirth at a statistically significant level, even after controlling for education. They are Lower Grade Professional/Higher Technical and Self-Employed/Own Account workers. According to the classification, Lower Grade Professional/Higher Technical occupations mostly contain jobs that emphasise on caring and interpersonal skills as represented by healthcare workers, nurses, and teachers, while Self-employed/Own Account workers largely refer to jobs in relation to farming, forestry and fish cultivation. The birth hazard rates for married women in these two types of occupations to make fast entry into motherhood are respectively 1.46 and 1.26 times that of female intermediate workers.

The fact that women who are engaged in Lower Grade Professional/Higher Technical occupations at marriage can be explained by the family-friendly working conditions together with women's significant bargaining power because of the relatively high skills required by these occupations. These jobs, such as nursing and teaching, are often seen as "feminine" or female-dominant in contemporary Japanese society as they involve high caring and interpersonal skills, and are characterised by family-friendly workplace

characteristics such as flexible working hours, which makes it easy for women to combine work and childcare. This is in line with the working conditions mechanism which emphasises the role family-friendly features of an occupation play in women's early transition to motherhood. More importantly, women working in lower grade professionals/higher technical occupations at marriage have more bargaining power to demand for better welfare benefits that enable them to achieve work-life balance. Compared to other traditionally feminine occupations such as clerical jobs, lower grade professionals/higher technical occupations, such as nurses and teaching, require more specific higher levels of skills that are obtained through years of professional training, thus it is harder to replace labours of these occupations.

This result builds on findings from previous research that associate feminine or female-dominated occupations with early motherhood based on the assumption that the working conditions are better for women in such occupations by emphasising the importance of women's bargaining power for better welfare benefits. The finding points out that a higher concentration of females does not necessarily make a workplace more family-friendly, which is supported my earlier results demonstrating the negative effect of working in female-dominated industries at marriage on a woman's transition to motherhood. Whether a workplace is family friendly is instead more closely associated with the amount of bargaining power female employees possess, which increases in the level and or rarity of skills required for the job. According to this explanation, women who were in female-dominated industries and are slow in transitioning to their first childbirth delay motherhood because most women employed in female-dominated industries work in low-skill

occupations and consequently have low bargaining power to secure the conditions optimal for having children.

Moreover, while occupations with caring and interpersonal skills are traditionally “feminine” jobs from a gender-stereotypical perspective, farming and fishing are commonly dominated by males, thus the latter cannot be accounted by the self-selection mechanism that attribute faster transition to childbirth to women self-selecting into certain gendered attitudes of work and family roles and socialisation. There could be three explanations for the positive effect of working in these male-dominated occupations. Firstly, farming, forestry and fish cultivation are more closely related to the individuals’ family life and having children is part of the essential requirements of working in these industries in many cases. In a sense, family is a unit of production for people working in agriculture and fishing industries in Japan. As a result, married women would expect to have children, especially sons, who could take over their occupations as new members of the family. Secondly, the flexible working hours and regular off-seasons for agricultural and finishing occupations in a year create an ideal environment for women to plan for and transition to childbirth with little pressure from work, despite the domination of men. This can be evidence for working condition mechanism to work alongside and even outweigh self-selection mechanism in affecting married women’s motherhood in Japan. Secondly, as most farming, forestry and fish cultivation is still concentrated in rural areas in Japan, the positive association between working in these occupations at marriage and women’s first childbirth may also capture the urban-rural difference in Japan to some extent. However, the effect of urban-rural difference should be limited because the urban-rural divide in

Japan is relatively small. There are many other lower level occupations distributed in rural areas as well (e.g., some manual labours), but does not show such positive correlation with women's early entry into motherhood.

Table 3-5. Cox Regression Results of Married Women's First Childbirth in Japan:
Occupation Type

Variable	Model 6	
	B	SE
Employment Status (reference: Employed at Marriage)		
Not Employed at Marriage	-0.130	0.072
<i>Women's Occupation Type at Marriage</i>		
Occupation Type (reference: Intermediate)		
Higher Grade Professional	-0.163	0.219
Lower Grade Professional / Higher Technical	0.380*	0.176
Small Employers / Own Account Workers / Self-Employed	0.285*	0.129
Lower Service / Sales / Clerical	-0.090	0.173
Lower Technical	0.039	0.124
Routine / Semi-Routine	0.017	0.140
Not Worked Before Marriage	0.028	0.131
<i>Controlled Variables</i>		
Survey Year (reference: 1985)		
1995	-0.066	0.069
2005	-0.163**	0.053
Age at First Marriage	-0.034***	0.006
Marriage Cohort (reference: Married before 1970)		
Married in 1970s	-0.052	0.055
Married in 1980s	-0.199*	0.081
Married in 1990s	-0.368**	0.114
Married after 2000	-0.438**	0.167
Housing Situation (reference: Living in Owned House)		
Living in Rented House	-0.148**	0.055
Living in Public/Government Housing	-0.010	0.057
Co-residence with Parents (reference: Do Not Live with Parents)		
Live with Parents	0.121**	0.042
Live with Parents-in-laws	0.054	0.070

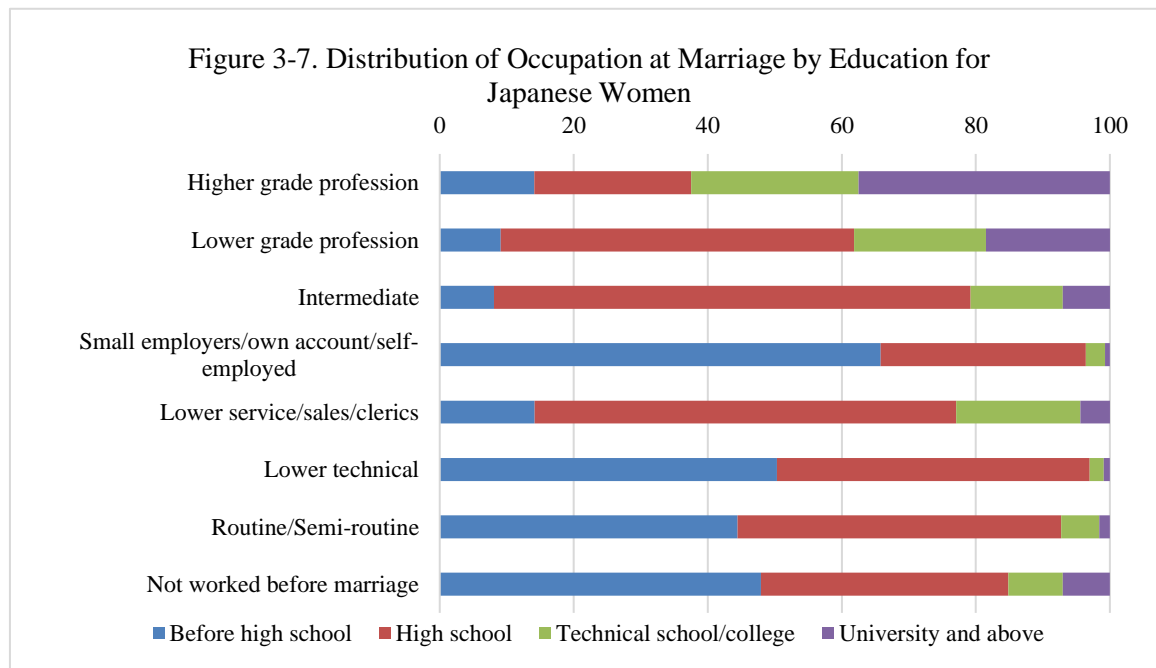
(Continues)

Table 3-5 (Continued)

Variable	Model 6	
	B	SE
Education (reference: Before High School)		
High School	0.053	0.121
Technical School/College	0.016	0.140
University and Above	0.111	0.159
Interaction Terms		
Education x Employment Status	Controlled	
Education x Occupation Type	Controlled	
Observation	4,664	

*** p<0.001, ** p<0.01, * p<0.05

Data Source: 1985, 1995, 2005 Social Stratification and Mobility Survey in Japan



N=4,664

Data Source: Social Stratification and Mobility Survey 1985, 1995, 2005

Overall, the birth hazard rate of women working in higher grade professional occupations at marriage is not significantly different from those in intermediate occupations, whereas women working in lower grade professional/higher technical at marriage make faster transition to motherhood than their intermediate counterparts. Although there is no

evidence of Hypothesis 3a, the results do support Hypothesis 3b.

Husbands' Labour Market Condition at Marriage and Women's Motherhood

Model 7 and Model 8 in Table 3-6³³ show the correlations between husbands' labour market conditions and women's first childbirth. According to Table 3-6, husbands' employment status at the time of marriage is positively associated with women's transition to motherhood. Women whose husbands were not employed at marriage tend to delay first childbirth compared to those whose husbands were employed. This indicates that being employed and the relatively stable economic environment attached to it contribute to women's fast transition to motherhood.

Table 3-6. Cox Regression Results of Married Women's First Childbirth in Japan: Husbands' Labour Conditions

Variable	Model 7		Model 8	
	B	SE	B	SE
Employment Status (reference: Employed at Marriage)				
Not Employed at Marriage	-0.070	0.061	-0.075	0.061
<i>Husbands' Occupation Type at Marriage</i>				
Occupation Type (reference: Intermediate)				
Higher Grade Professional	0.014	0.053		
Lower Grade Professional / Higher Technical	0.025	0.063		
Small Employers / Own Account Workers /	0.095	0.059		
Self-Employed				
Lower Service / Sales / Clerical	-0.009	0.060		
Lower Technical	0.044	0.043		
Routine / Semi-Routine	0.132	0.078		
Not Employed at Marriage	-0.197*	0.092		

(Continues)

³³ To test the robustness of models in Table 6, I tried to include women's occupation and corporation size. The results do not change significantly compared to results presented here (see Table a3-5 in Appendices).

Table 3-6 (Continued)

Variable	Model 7		Model 8	
	B	SE	B	SE
Corporation Size (reference: Small Firm)				
Medium Firm			-0.083	0.047
Large Firm			-0.146**	0.045
Mega Firm			-0.102*	0.043
Government Sector			-0.060	0.053
Not Employed at Marriage			-	0.089
			0.298***	
Controlled Variables				
Survey Year (reference: 1985)				
1995	-0.146*	0.066	-0.135*	0.065
	-	0.051	-	0.050
2005	0.221***		0.222***	
	-	0.006	-	0.006
Age at First Marriage	0.035***		0.034***	
Marriage Cohort (reference: Married before 1970)				
Married in 1970s	-0.018	0.055	-0.018	0.054
Married in 1980s	-0.141	0.078	-0.150	0.078
Married in 1990s	-0.275*	0.109	-0.287**	0.109
Married after 2000	-0.320*	0.163	-0.331*	0.162
Housing Situation (reference: Living in Owned House)				
Living in Rented House	-0.145**	0.055	-0.143**	0.055
Living in Public/Government Housing	-0.011	0.057	-0.002	0.057
Co-residence with Parents (reference: Do Not Live with Parents)				
Live with Parents	0.119**	0.042	0.117**	0.042
Live with Parents-in-laws	0.061	0.069	0.068	0.069
Education (reference: Before High School)				
High School	0.052	0.055	0.045	0.055
Technical School/College	0.059	0.085	0.057	0.084
University and Above	0.046	0.096	0.043	0.094
Interaction Terms				
Education x Employment Status			Controlled	
Observation		4,664		4,664

*** p<0.001, ** p<0.01, * p<0.05

Data Source: 1985, 1995, 2005 Social Stratification and Mobility Survey in Japan

Moreover, there is no significant relationship between husbands' occupation and women's hazard risk of first childbirth. This result is consistent with that of the research done by Shirahase (2000). Shirahase (2000) attributed this insignificant relationship to a major

effect of women's age at first marriage which overshadows that of husbands' occupation, and argued that women's reproductive behaviours are largely decided by the age at which women undertake the life event of marriage because of the construction of an inflexible time schedule for life events in Japan. Thus, the nature of husbands' jobs, as well as that of women's jobs, does not change the arrangements of childbirth after marriage in any ways. However, such an argument is not consistent with the findings in this research. By controlling more workplace characteristics, this research shows that in addition to age at first marriage, many other factors are closely correlated with women's decision to enter motherhood after marriage. Therefore, the insignificant relationship between husbands' occupation and women's motherhood should not be studied alone. While the occupation variable contains different features among various occupations, it does not capture the variation inside each occupation.

Model 8 provides evidence for a negative relationship between husbands' firm size and women's transition to first childbirth. Although there is no significant difference in terms of transition to motherhood between women whose husbands were in government sectors/medium-sized firms and those whose husbands were in small firms, the hazard rate of first childbirth is much lower for women with husbands working in large and mega-sized corporations compared to those with husbands in small firms. This suggests that male-centric practices such as long working hours are worsened as the size of the company grows. Large and mega-sized firms tend to have larger workloads and longer working hours which reduce husbands' ability to help with domestic work and childcare responsibilities compared to small firms. Therefore, women whose husbands were in large and mega-sized

firms at marriage are significantly more likely to postpone motherhood than those whose husbands were in small firms.

In conclusion, in Japan, women whose husbands were not employed at the time of marriage tend to postpone motherhood, so do women whose husbands were working in large corporations. However, husbands' occupation does not affect married women's transition to first childbirth. The findings support Hypothesis 4a and 4c, but not 4b.

Conclusion

This study challenges the prevailing academic consensus that women's labour force participation necessarily hinders marriage and childbirth in Japanese society. To be more specific, this paper explored how the relationship between Japanese married women's labour market conditions at marriage and their transition to first childbirth varies along various dimensions including: (i) women's employment status; (ii) working conditions; and (iii) occupation type. The study makes use of the 1985, 1995 and 2005 Japanese Social Stratification and Mobility (SSM) survey data. The findings from this study indicate that in Japan, married women's education enhance the correlation between women's employment status at marriage and transition to first childbirth. Higher educated working women are less likely to make a fast entry into motherhood compared to their lower educated and not employed counterparts. Moreover, there are significant relationships between women's workplace characteristics and working conditions and transition to motherhood. Firstly, women who work part time at marriage are more likely to give birth to their first child early than those who hold full-time jobs. Secondly, women work in male-

dominated industries at marriage tend to postpone motherhood compared to those in gender-neutral industries. Thirdly, women who held jobs in mega-sized corporations at marriage are less likely to enter motherhood early than those in small firms. Furthermore, I found that women working in lower grade professional/higher technical occupations with an emphasis on caring and interpersonal skills at marriage make a faster transition to motherhood than their intermediate counterparts. Women in own account/self-employed jobs, particularly farming, forestry and fishing, are also more likely to transition to their first childbirth than those with intermediate occupations. In addition, while married women's husbands' occupation type at marriage do not correlate with the hazard rate of women's transition to first childbirth, the size of the corporation in which husbands work at marriage is negatively associated with married women's motherhood. Women whose husbands were not employed at marriage also tend to delay childbirth compared to those whose husbands hold jobs at the time of marriage.

My original contribution to the academic literature is four-fold. Firstly, by introducing a novel measurement of a woman's employment at marriage, a feature that is missing from typical demographic data on Japan, I am able to explore the relationship between Japanese women's labour market conditions at marriage and their fertility. As previous research has demonstrated that most women leave employment at the time of marriage, studies about married women's labour in Japan failed to understand what women's labour situation really is at the time of marriage. They assumed that work and fertility are largely exclusive, and thus are unable to closely examine the relationship between married women's labour market condition and fertility in Japan. However, having noticed that most women who

were not employed at marriage had a working history before marriage, and the time elapse between them quitting their jobs and getting married is rather small, I took the analysis one step further by using the labour market conditions right before marriage for those who were not employed at the time of marriage.

Secondly, when talking about married women's labour in Japan, previous studies often either have unclear definitions or limit the meaning of the term "labour" to women's employment status and occupation type exclusively. I distinguished between the different dimensions of labour to deepen the current understanding of the relationship between married women's labour and motherhood in Japan by addressing the five specific aspects of labour, namely employment status, employment type, corporation size, industry gender ratio, and occupation type. More importantly, I also explored the nuanced relationships between these aspects of labour and married women's transition to motherhood. These aspects of labour and their interesting correlations with fertility provide a more well-rounded picture of women's labour market conditions at marriage in Japan.

Thirdly, previous research about women's labour in Japan sticks to a conventional yet crude categorisation of women's occupation type. Such categorisation has no reference to skills involved in different jobs, thus is weak in capturing the nuance and variation of women doing different occupations in modern Japan where jobs are highly specialised. To improve on these problems, I constructed eight new occupation type categories based on the European Socio-economic Classification (ESeC) and the British Standard Occupational Classification 2010 (SOC 2010). The new occupation type variable not only offers more detailed and specific categories of women's occupation in Japan, but also captures the

socio-economic variation suggested in each category.

Lastly, whereas previous studies with cross-sectional data often make use of one survey, I have pulled data from three Japanese SSM surveys over two decades from 1985 to 2005. This allows me to show the trend across a large range of marriage cohorts, and how the effect of women's labour force participation on motherhood changes over time in Japan. I hope the latest 2015 SSM survey can be released before I finalise this study. I will add the data from the 2015 survey once it becomes available.

Whereas certain limitations in my Japanese language skills and access to Japanese language journal articles constituted barriers to a complete and comprehensive review of Japanese language research on the topic, I managed to familiarize myself with the measurements and categorization used in the mostly highly-cited Japanese language studies on the topic (e.g., Kaneko, 2004; Shida, Seiyama & Watanabe, 2000; Shirahase, 2008). In comparison, the uniqueness of the contributions I make in constructing the variables that explain women's family formation decisions – based on Begall and Mills' 2012 framework in their study of family formation in the Netherlands – still stand. The chief innovation in the framework is that it utilizes woman-centered variables that are both fine-grained and comprehensive, containing more than usual detail on the features of occupations that would affect women's life decisions. For example, the new framework emphasizes the communication and interpersonal skills required by work that women find optimal to childrearing – these variables were seldom emphasized or even addressed in earlier research in both Japanese and English-language research.

One of the biggest challenge of this study is the problem of self-selection, or endogeneity. Although the primary research purpose of this research is to demonstrate the important work-childbirth patterns in marriage, and how married women's labour market conditions are associated to motherhood in Japan, the self-selection problem may hinder future research that is dedicated into understanding causality and its directions. The first possible case of self-selection is that this study only considers married women. Since marriage and childbirth are closely related in Japan, women who choose to get married might be the women who self-select into childbearing activities. However, the purpose of this study is to look at the patterns and relationships between labour market and married women's transition to motherhood, rather than to understand how all women make fertility decisions. Although the latter provides a broader picture of Japanese women's fertility, studying the former is very important because of married women's complicated situations in the labour market in Japan. In addition, I controlled age at first marriage in my models, thus to some extent mitigated married women's self-selection into childbirth because women who are less willing to have children tend to postpone marriage. The second issue is that women who are more willing to enter motherhood early would probably opt for certain type of labour market conditions to better fulfil their family responsibilities. For instance, some women may have self-selected into sex-segregated occupations or female-dominated industries which do not necessarily provide any advantage for women in terms of economic gains or career development but are more flexible in terms of their demand on women's time. Therefore, the negative effect of certain labour market features on married women's fertility may be weakened by the flexible working schedule and less demanding workload

of certain jobs. Though the focus of this research is to reveal the relationships between the key variables instead of finding causality and its directions, this self-selection issue is worth paying attention to because it alters the emphasis of analysis to some degree. Solving this issue is also crucial for a further analysis of causality and the mechanisms underneath.

Unfortunately, this problem cannot be fixed easily by introducing fixed effect models since the SSM survey data are not panel data. Instead, I have two ways to minimise the potential damage: a) women who prioritise families and have self-selection issues are assumed to be more likely to quit at the time of marriage. Therefore, I controlled women's different preferences as an unobserved factor to some extent by controlling women's employment status at marriage; b) the 2005 survey contains a question asking women's reasons for quitting their previous job. This question shows women's preference explicitly. Therefore, I constructed a binary variable to indicate whether a woman left their job before marriage for family formation reasons. Then I managed to run a separate set of models with the binary variable using the 2005 data exclusively to check the robustness. The results do not change significantly compared to the models presented in this chapter. However, as the sample size for the 2005 survey is very small, some categories even only contain less than 50 individuals, the statistical significance of the 2005 models remains unclear. Hopefully the 2015 survey would contain this question as well, so I can conduct robustness check on larger data and produce more reliable analysis. Nevertheless, this research has revealed meaningful and important work-childbirth patterns in marriage and relationships between married women's labour market conditions and transition to motherhood in Japan.

Chapter 4. Bring Parents Back in: Women's Matching Process and Family Formation in China and Japan

Background

In contemporary China and Japan, women's family formation decisions are complicated by conflicting sets of values, opportunities and constraints. On the one hand, family formation in the sense of getting married and giving birth to children has traditionally been a universal role and aspiration for women in Chinese and Japanese societies (Chen & Li, 2014; Ji, 2015; Li & Wang, 2014; Liu, 2008; Raymo et al., 2015). In both countries, women generally prefer marriage over singlehood or cohabitation. According to the Sixth Chinese Population Census conducted in 2010, over 99.6% of Chinese women above age 50 were married at some point in their life. In Japan, around 90% of currently single women intend to marry someday (NIPSSR, 2017). Moreover, childlessness is uncommon and largely stigmatized in these societies even though family size has been shrinking. As a whole, married Chinese women consider 1.9 to be the ideal number of children (Wang & Zhang, 2017; Zhang et al., 2016). Only 6.2% of Japanese couples married for 15 to 19 years are childless, while over 75% of these couples have two or more children (NIPSSR, 2017). Notably, most childbirths happen within marriage in both China and Japan. Women who have child outside of marriage face negative social stigma and may even be economically penalized by the state through tools such as taxation (Guo, 2008; Hertog & Iwasawa, 2011; Raymo et al., 2015).

On the other hand, family formation is on the decline among women in modern China

and Japan. Several similar trends have been observed in both societies: postponed marriages, increasing age at first childbirth, and low fertility rates (Basten & Jiang, 2015; Chen & Li, 2014; Raymo et al., 2015; Zhao & Zhang; 2018). In China, women's mean age at first marriage has increased from 20.2 in 1970 to 23.9 in 2010, while Japanese women's mean age at first marriage increased from 24.2 in 1970 to 28.8 in 2010 (Li & Wang, 2014; Raymo et al., 2015). The figures continue to rise. In 2011, the average age at first marriage for women in Beijing is 26.7 (Gao & Wu, 2012; Gui, 2017). In 2015, women on average marry at age 29.1 in Japan (NIPSSR, 2017). Moreover, from 1970 to 2010, women's average age at first birth increased by approximately four years in both countries. Women in 1970, on average, gave birth to the first child at age 21.7 in China and 25.6 in Japan. In 2010, the figures rise to 26.2 and 29.3 in China and Japan respectively (Raymo et al., 2015). The Total Fertility Rates (TFRs) in China and Japan have also been similarly low at a below-replacement level in recent years. Although the transition to low fertility in China began a few decades later than it did in Japan, the TFR figures for both countries have stabilised at around 1.5 since the 1990s.

In this chapter, I examine how various aspects of the matching process are associated with key family formation outcomes in the Chinese and Japanese contexts. The matching process is the process through which individuals are matched to their partners. This process can either include or exclude the involvement of other parties. In this chapter, I sometimes use the phrase “matchmaking process” instead of “matching process” to emphasise the presence of external involvement in matching, such as when a married

couple was introduced by their parents. Traditional analyses of the family formation process assume that it begins with marriage and neglect to account for how the preparation for family formation already starts with the matching process. Since these societies still consider marriage and childbirth to be the default life options for women, being able to find a partner is of central importance. However, there is no guaranteed success in matching, and each match does not necessarily lead to marriage or even a stable long-term relationship. Individuals may take a few matches to settle down. Consequently, the speed at which women are matched to their chosen partners affects the timing at which they enter different family formation stages. This has large implications for many important aspects of life, such as family dissolution, educational and occupational attainment, wealth, and health (Barber & Axinn, 1998; Booth & Edwards, 1985; Hogan, 1978; Marini, 1978; Rindfuss, 1991; Teti et al., 1987).

Apart from forming a family, women seek successful matches for various other reasons. Firstly, matching is an efficient way of increasing or at least maintaining their socioeconomic status. Filter theory postulates that individuals tend to choose partners with similar characteristics and socioeconomic background, such as ethnicity, education, and social class (Fu & Heaton, 2008; Smits, Ultee, & Lammers, 1998; Kalmijn, 1998). Pairing up with a partner from a similar background expands an individual's assets and social capital. While filter theory focuses on the homogamous nature of matching, social exchange theory explicitly models matching as the market outcome of a trading process between individuals endowed with a certain market price. (Gui, 2017; Homans & Merton,

1961; Smith & Hamon, 2012). The market price of an individual is determined by the individual's wealth, human and social capital, physical appearance, personality, and so on. Each individual in the marriage market makes trading decisions that maximise their utilities based on their own market price and what others have to offer. Secondly, a stable match not only provides opportunities for regular and safer sex, but also offers long-term intimacy and emotional support for people. In a stable match, partners build an understanding of and trust in each other with time through "historical continuity of companionship" and "shared memories" (Oppenheimer, 1988, pp 570). The understanding and trust between partners generate a sense of security and belonging and serve as a stable source of intimacy and emotional support for individuals.

These two reasons feature prominently in Smits and Park's (2009) analysis of educational homogamous matching in contemporary China and Japan. In general, educational homogamy in China and Japan has been declining in recent decades (Chen & Li, 2014; Smits & Park, 2009; Miwa, 2005). However, there are fluctuations and inconsistencies across different time periods and groups of people (Han, 2010; Smits & Park, 2009). Smits and Park (2009) propose another perspective on educational homogamous matching and argue that different social segments match for different reasons and purposes. People with the highest level of education have a high market price and maintain their socioeconomic status by exercising a high degree of social closure in determining their pool of eligible mates. These people tend to only marry those of similar educational backgrounds. In contrast, people with the lowest level of education have low

market price and are squeezed out from the marriage market. The best option available for these individuals is to maintain their current socio-economic situation by marrying those of the same educational level. Although educational homogamy accounts for the majority of matches among people at both extreme ends of the education spectrum, it has been continuously declining for people in the middle. Smits and Park suggest that the declining trend of educational homogamous matching among people in the middle educational categories shows the increasing prioritization of romantic love and emotional needs over socioeconomic status in these individual's matching decisions.

Regardless of the reasons and purposes of each match, the matching process itself plays a vital role in women's family formation decisions. For one, women rely heavily on matching to establish a satisfactory marriage in modern societies. As Oppenheimer (1988) pointed out, there are generally two ways for an individual to achieve a satisfactory marital match: a selective matching process before marriage and adaptive socialisation after marriage. One method receives more importance when the other method becomes hard to access (Oppenheimer, 1988). For example, in ancient China where women were not allowed to select their own matches or even meet their spouse before marriage, adaptive socialisation after marriage was overwhelmingly important for marital happiness. However, in modern societies, a selective matching process is more accessible and cost-efficient than the post-marital socialisation. Adaptive socialisation is more demanding in terms of communication and compromise whereas in selective matching process, couples tend to have matched only after selecting for compatibility. Couples who

underwent adaptive socialisation also face a lot of uncertainties ranging from irreconcilable personal differences between couples to domestic violence in the post-marital socialisation and thus face a heightened risk of the marriage failing. Consequently, marriages held together by adaptive socialisation may entail high economic and social costs (Chen & Li, 2014). Therefore, it is understandable that women rely on selective matching instead of adaptive socialisation to form a happy family.

Moreover, early matching often indicates early family formation, and vice versa. This is especially the case when there is a great reliance on matching to achieve satisfactory marriages (Oppenheimer, 1988). Because individuals rely on selective matching instead of post-marital adaptive socialisation to achieve a happy marriage, they end up committing a large amount of time and energy to the matching process. The sooner an individual starts the selective matching process, the earlier he or she is likely to find a partner and enter marriage and parenthood. In societies with traditional sex-specific roles, i.e. men as breadwinners and women as domestic carers, women reach matching maturity much earlier than men (Li & Wang, 2014; Oppenheimer, 1988; Oppenheimer, 1997; Oppenheimer, Kalmijn, & Lim, 1997). This means women are ready to start the selective matching process and enter a stable match earlier than men. This is because in such societies women are valued in the marriage market primarily for their reproductive abilities and home management skills. These traits are perceived to peak when women enter early adulthood. However, the value of men who are expected to support the family in the marriage market depends to a large extent on their lifetime career opportunities

which may not be clear at early stage of their adulthood (Oppenheimer, 1988; Oppenheimer, Kalmijn, & Lim, 1997). As a result, women are much more able to afford the time and energy spent on selective matching than men at a younger age. Therefore, women tend to match and marry earlier compared to men in societies where gender roles are highly differentiated. As societies become more gender progressive with time, sex-specific roles may dissolve. In societies with equal social expectations and job opportunities for women and men, women share the same career uncertainties with men during early adulthood (Oppenheimer, 1988; Oppenheimer, 1997). Thus, in more progressive societies, women delay engaging in the time and energy-consuming matching process, and consequently postpone family formation.

Furthermore, the ways in which matches are facilitated reflect a society's culture of family formation. There are mainly two types of matching, depending by how it is facilitated: self-initiated matching and introduced matching. In self-initiated matching, individuals meet their partners and decide to enter into a match by themselves. Individuals can meet their partners at school, the workplace, a social event, and so on. There are no third-parties interfering with the individuals' love lives directly. Therefore, self-initiated matching requires a large degree of individual agency. Societies in which self-initiated matching is the dominant form of matching often have a dating culture which allows the individual to opt in and out of relationships easily. In contrast, introduced matching involves other parties playing a role in the matching process, since individuals are introduced to their partners by other parties such as a matchmaker.

Arranged marriage is an extreme form of introduced matching in which individuals are matched to spouses by parents or other senior members of the family. Arranged marriages give little room for autonomy and individual agency. Overall, the facilitators of an individual's matching also exercise more influence over the individual's family formation in societies where introduced matching is prevalent.

However, few existing studies try to establish a direct relationship between the types of matching process women experience and the timing of family formation in the Chinese and Japanese contexts. The large body of literature focusing on the determinants of homogamous marriage in China and Japan (Brinton, 2001; Chen & Li, 2014; Han, 2010; Miwa, 2005; Qian & Qian, 2017; Raymo et al., 2015; Raymo & Iwasawa, 2005; Raymo & Xie, 2000), neglect to consider how different aspects of the matching process affect the the type of matching (i.e. homogamous or not). On the other hand, research that examines the matching process itself do not make any attempt to link the matching process and women's timing of family formation (Applbaum, 1995; Gui, 2017; Ishikawa, 2010; Riley, 1994; Tian & Davis, 2014; Zhang & Sun, 2014). In her qualitative field research, Gui (2017) examined the parent-organised matchmaking market in Beijing through fieldwork and found that Chinese parents often press their adult daughters for marriage when their daughters reach a certain age. Tian and Davis (2014) also discover that greater reliance on parents leads to a higher likelihood of homogamy in China. Ishikawa (2010) analyses and emphasises the role of matchmaking agencies in facilitating international marriage among Japanese adults. In addition, some studies focus exclusively on Western contexts. For

instances, studies of American cities show that parental resources and grandparents' preference for grandchildren encourage adults to enter cohabitation and marriage (Axinn & Thornton, 1992; Barber & Axinn, 1998). Oppenheimer (1988, 1997) also argues that a delayed matching process leads to postponed family formation among women in modern Western societies with decreased gender specification. However, the applicability of these studies to the Chinese and Japanese contexts are impeded by the lack of theory that takes into account empirical differences in the local cultural and institutional contexts in East Asia vis-à-vis the West, let alone the heterogeneity across the Chinese and Japanese contexts.

This chapter explore three themes. First, I establish statistical relationships between women's matching types and the timing of different stages of family formation in China and Japan and supply explanations for these relationships, paying special care to highlighting the role of parents in matching. Second, I compare the Chinese and Japanese contexts and assess how the relationship between the matching process and family formation differs between China and Japan. Following previous studies, I split my China sample into urban and rural subsamples using the household registration (*hukou*) system as a binary variable (Han, 2010; Wu & Treiman, 2007; Yu & Xie, 2011). I do so because in China, where the rural population is large, urban areas and rural areas face large enough differences in economic, cultural and institutional contexts to be analysed separately. I treat Japan as one sample because the rural population in Japan only accounts for 20% of its total population, and the urban-rural gap in Japan is not as

prominent as it is in China. Therefore, I have three subsamples to compare: urban China, rural China, and Japan. Third, I look at whether parental involvement in women's family formation decisions mediates the well-established relationship between education as an indicator of socioeconomic status and women's timing of family formation in China and Japan.

Social Contexts

There are important contextual differences in the matching process between Western and Chinese and Japanese societies. In the past, arranged marriages were not uncommon in the West, especially among the landed gentry. These types of matchings were heavily influenced by class or wealth considerations and tended to be patriarchally organised. For instance, in ancient Rome, the marriages of daughters were executed as property contracts between leading patriarchs (Barrow, 2000; Ciren et al., 2016; Nussbaum, 2013). Up to the 19th century in the United Kingdom, arranged marriages between families was an important means of transferring wealth and status across families in a heavily stratified and class-conscious society (Ciren et al., 2016; Stone, 1979). In the contemporary West, however, the matching process has become a lot more heterogenous and driven by individual preferences. The number of arranged marriages has decreased sharply, and self-initiated matching has become the primary means by which individuals find their partners. The dominance of self-initiated matching has also given rise to a dating culture in which individuals enjoy significant agency in their romantic lives which use to enter or exit relationships easily.

Consequently, the matching process of individuals in Western societies can be fruitfully understood in terms of individual utility maximization (Becker, 1973; Oppenheimer, 1988). Oppenheimer (1988) analyses the mate selection process in the West using job-search theory. According to the model, individuals who are looking for a mate typically do not keep searching for a ‘perfect match’ and choose to settle down eventually with someone they deem ‘good enough’. This is because in the model, each searcher is faced with an unrevealed distribution of potential partners of which only a small proportion represent a “perfect” match. When searching is costly, it may be prudent for the searcher to decide on a minimally acceptable match and marry the first partner that meets this requirement, where the utility associated with the minimally acceptable match is determined at the point where the marginal cost of searching equals the marginal expected benefit of the next partner.

Most recent studies model matching in Western societies through an individual choice framework. These studies tend to focus on how various demographic or socioeconomic differences between partners affects individual life satisfaction or the probability of divorce (Blossfeld, 2009; Kalmijn, 1998; Schwartz, 2013). For example, education is believed to be one of the primary criterion according to which individuals select their partners, because individuals seek to maximize individual well-being economically and socially, and education is a strong signal for career opportunities, earning potential, shared cultural interests, and lifestyle (Han, 2010; Kalmijn, 1991, 1998; Lewis & Oppenheimer, 2000; Smits, Ultee & Lammers, 1998, 2000).

One exception to the individual choice framework in the sociological literature on Western societies can be found in the use of linked life analysis of matching in life course theories. Linked life theory posits that couples consider the impact of the matching on various aspects of each other's life courses, such as career, lifestyle, place of domicile etc., while making decisions about matching and family formation (Bengtson, Elder, & Putney, 2012; Settersten, 2015). Instead of modelling individual decision-makers as concerned only with their utility, linked life analysis explicitly includes joint utility with partners in each individual's decision calculus. However, existing linked life analyses have not considered modelling the effect of third-parties' on matching and family formation.

In contrast to Western societies where marriage is considered a personal choice, traditional Chinese and Japanese culture considers family formation a family responsibility. The place of special cultural significance that the family occupies in Chinese and Japanese societies has its roots in Confucian philosophy, according to which lineage connects family members across time and space (Eastman, 1988; Sugimoto, 2014; Thornton & Lin, 1994). The family also constitutes a unit of religious veneration and rituals utilized to worship ancestors remain common practice in these societies (Chen & Li, 2014; Hendry, 2010). The elevation of the family is more than symbolic, and individuals are expected to subordinate their personal interests to those of the family (Chen & Li, 2014; Riley, 1997; Tian & Davis, 2014). Cultural views about the primacy of the family were promoted by the political elite, who utilised the metaphor of the family to legitimise a top-down social order. For example, the *Ie* (family) system in Japan, a

long-established set of established family norms, was conceived of and implemented by Edo and Meji era rulers who sought to cement their rule over the social and political spheres (Hashimoto & Traphagan, 2008; Hendry, 2010).

As a result, matching has traditionally been regarded as a means to continue the family line, form family alliances, and provide for the old, rather than as a way to achieve romance and love in China and Japan. In the past, arranged marriages controlled by family elders were used as an important strategy for family success (Riley, 1994). Family elders employed their superior knowledge of their social environment and the socioeconomic status of the families around them to devise marriages that would bring the most benefit to the family as a whole (Tian & Davis, 2014; Watson & Ebrey, 1991). Arranged marriage was common in China up until the middle of the twentieth century (Brown et al., 2012; Fei, 1939; Yang, 1959). In Japan, more than half of all marriages before 1960s were arranged marriages (NIPSSR, 2017). This was particularly the case for young women. Women's status has always been inferior in traditional patriarchal Chinese and Japanese families where women were expected to confine themselves to their household and be submissive to their fathers, husbands, and sons (Chen & Li, 2014; Raymo et al., 2015). Therefore, these women have the least control over their marriage.

Although matching in contemporary China and Japan has been increasingly driven by personal choice rather than other considerations, the family members and other parties still exert a significant degree of influence in facilitating successful matches. Following economic and social developments in modern China and Japan, individualistic attitudes

vis-à-vis the family have taken root and individuals are beginning to select their partners based on ideals about romantic love (Coontz, 2005; Gui, 2017; Retherford & Ogawa, 2006). Policy changes have also helped guide this transition along. In 1950, the Chinese government prohibited arranged marriages and began a public campaign to discourage the practice. Japan, the first East Asian country to modernise and industrialise, introduced a series of reforms in public policy and family law to discourage arranged marriages and promote individualistic values about family formation (Chen & Li, 2014; Thornton & Lin, 1994). However, many young people from both countries find it hard to meet a suitable partner on their own due to long work hours, sex-segregated workplaces, the lack of a dating culture and dating market, and a strong preference for status homogamy or even female hypergamy (Raymo et al., 2015; Smits & Park, 2009; Thornton & Lin, 1994; Tsay & Wu, 2006; Xu, Ji & Tung, 2000). As a result, the family and other parties continue to intervene in people's matching. In China, arranged marriages are still practiced, particularly among underprivileged communities in rural areas (Wang, 1999). Although stronger forms of parental influence on matching such as arranged marriages are no longer widely-practiced in metropolitan Chinese cities, family elders still push their adult children to marry once they reach a certain age. Parent-arranged blind-dates and matchmaking markets are common in big Chinese cities (Gui, 2017; Tian & Davis, 2014). Parents also maintain veto rights over children's mate selection (Friedman, 2006; Whyte, 1993). In Japan, individuals are found to endorse more parental influence over mate choice than those from cultures espousing more individualistic values (Dubbs, Buunk, & Taniguchi, 2013). Japanese young people also increasingly rely on friends or peers for

finding their match. Matching activities (*kon katsu*) organised by friends and peers, such as *machikon* (matchmaking parties) and *gokon* (group blind dates), are very popular among young Japanese. In 2012, approximately 600,000 people participated in over 2,000 *machikon* events held in Japan (Kumagai, 2016). In 2015, 30.8% of married couples were introduced to their partners by friends or siblings (NIPSSR, 2017). People also turn to agencies and parents for potential suitors in Japan. According to a report by the Japanese Love and Marriage Institute released in 2018, around 11.3% of couples who married in 2016 used matchmaking agencies. 6.4% of married couples met their partners through arranged marriage (NIPSSR, 2017).

Highlighting Parental Roles

Parents are particularly important to individuals' life decisions in Chinese and Japanese cultures. The Chinese and Japanese family system has traditionally enforced the notion of filial piety, a lineage-based hierarchical power structure that leaves offspring subordinate to parental authority. In contrast, more equal relationships between the different generations are central in Western families (Chen & Li, 2014; Fei, Hamilton & Zheng, 1992; Raymo et al., 2015; Yang, 1988). These hierarchical family relationships were efficient in organising family members' lives and coordinating production during East Asia's agrarian past, because success in agriculture leans heavily on the personal experience and knowledge that family elders accumulate over the course of their lives. Therefore, parents have a large say in or even full control over individuals' matching. In China, ancient emperors upheld filial piety as the fundamental rule according to which

individuals have to live up to. Ideologies surrounding “ruling the country with filial piety” (*yi xiao zhi guo*) and “filial piety comes first among all virtues” (*bai shan xiao wei xian*) solidify parental authority (Cui & Li, 2010; Hwang, 1999). Filial piety also spread from China to Japan in the sixth century and was adopted as a guiding principle for interpersonal conduct up till the fifteenth century (Cui & Li, 2010; Wang, 1992). In both countries, parents have long been directly arranging or at least facilitating their children’s marriage (Chien & Yi, 2012; Raymo et al., 2015; Retherford et al., 2001; Xu & Whyte, 1990). In the past, legitimate matches had to be facilitated by parents. Marriages against parental will were not legally and socially recognised. Moreover, the filial piety not only requires that children be obedient to their parents, but that they be responsible for providing care to their parents in their old age. These relationships of mutual, intergenerational dependence were supported by governments and result in a lack of state welfare legislation and provision for family care. Since the children are expected to take care of the old, parents are incentivised to be involved in their children’s family formation, as children’s spousal choice and the ways in which they form their family would have a direct impact on their personal welfare when they grow old.

In contemporary China and Japan, traditional family values have undergone drastic changes since the 20th century, but ties between parents and children stay strong (Bian, Logan & Bian, 1998; Raymo & Ono, 2007; Riley, 1994; Yu & Kuo, 2016; Zhang, 2004). Parents still play a significant role in young people’s family formation decisions through various types of intergenerational relationships and interactions. Firstly, extended

intergenerational cohabitation leads to the continuation of parental involvement in children's lives. Co-residence between parents and adult children is rather common in China and Japan, especially in metropolitan cities where housing prices and life expenses are very high (Chu, Xie & Yu, 2011; Logan & Bian, 1999; Raymo & Ono, 2007; Yu & Kuo, 2016; Zhang, 2004). Young people live with their parents to enjoy domestic services offered by parents without being obliged to pay for housing or food (Raymo, 2003, 2015; Tsuya & Mason, 1995; Yamada, 1999). In the context of marriages with a high level of gender-specification, extended co-residence may have different effects on men's and women's family formation decisions (Raymo et al., 2015). For men, living with parents makes supporting a newly-formed family as the breadwinner less attractive, though it also enables men to form their own families through increased savings. For women, living with parents disincentivises them from engaging the significantly increased domestic responsibilities after marriage, since such responsibilities are mostly managed by parents in extended co-residence (Raymo & Ono, 2007). As such, adult children living with parents delay transition to adulthood and are less incentivised financially to get married and form their own family. Parents also prefer to keep their children in closer proximity for strong emotional closeness by offering help in various forms, especially when the number of children in the household is small (Kojima, 1990; Silverstein, Cong, & Li, 2006).

Secondly, parents can use their resources to bargain for a bigger say in their children's family formation decisions, as people in early adulthood rely on their parents for

economic and manpower support in modern Chinese and Japanese societies (Axinn & Thornton, 1992; Chen & Li, 2014; Raymo, 2003; Tian & Davis, 2010). Yang and Li (2009) found that parental support to adult children in both economic and other forms is more common in Japan than in China. In Japan, 41.6% of parents provide economic support to their adult children, while 45.9% of parents offer their adult children support in other forms. In China, the percentages of parents supporting their adult children in economic and other forms are down to 33.7% and 41.7% respectively. In modern society, young adults become dependent on their parents due to prolonged education, uncertain career opportunities, and high life expenses. Parents can, for example, prevent or delay a marriage by not offering financial support. This is particularly so for women in China and Japan where women's employment rate is increasing while the sex-specific social expectation for women to take care of housework and children remains strong. These women are especially reliant on their parents for assistance in taking care of the children and managing housework. Therefore, these parents have a lot of leverage over their children's family formation decisions.

Thirdly, parents transmit their preferences, aspirations, and values to children through socialisation in the parental home which is the primary environment in which children grow up (Barber & Axinn, 1998; Buunk, Park & Dubbs, 2008; Hynie, Lalonde & Lee, 2006; Perilloux, Fleischman & Buss, 2011). Previous research has found that parental preference for grandchildren affects their own children's childbearing decisions and encourages early childbirth for daughters (Barber & Axinn, 1998; Hynie, Lalonde & Lee,

2006). Experience in parental home also strongly influences children's marital behaviours (Axinn & Thornton, 1992).

Fourthly, parental approval of a particular matching is strongly linked to whether it successfully leads to marriage and the quality of marriage in China and Japan, where there is a lack of a dating culture (Applbaum, 1995; Pimentel, 2000; Tokuhiko, 2009). In China, 66% of men and 77% of women never dated anyone apart from their spouse before marriage (Pimentel, 2000). In Japan, 69.8% and 59.1% of single men and women have never had any relationship with the opposite sex (NIPSSR, 2017). In this circumstance, parents help their children by finding, assessing, and even introducing potential partners to their children using their social connections. Matches approved by parents are found to have a higher success rate and quality by empirical studies in China (Pimentel, 2000). Although parental control over children's family formation has greatly decreased in modern China and Japan, parental approval and input still carry great social and practical significance and is expected and valued by young adults.

In addition, the Chinese one-child policy results in greater parental participation in children's lives in China, whether it be performing more childcare work or taking a more active interest in their children's goals and interests, including especially their child's choice of spouse (Fong, 2006; Gui, 2017; Short et al., 2001; Sun, 2012; Wang, 2011). This is because the one-child policy raises the stakes of the only child's marriage since failure to secure one would end the family lineage. Moreover, singleton children would have to be able to shoulder the financial and personal costs of their elderly parents in due

time (Raymo et al., 2015).

It is worth noting that there is heterogeneity within Chinese and Japanese societies concerning the role of parents and family. The relationship between individual autonomy over life choices and parent-controlled decisions in Japan lies somewhere between that of Chinese and Western societies. On the one hand, Japan and China share common historical roots that not only generates similar social and cultural values, but also produces similar social structures, gender norms and family formation patterns that are still significantly distinct from that in Western societies (Brinton, 2001; Chen & Li, 2014; Hashimoto & Traphagan, 2008; Raymo et al., 2015; Rozman, 2014; Takeda, 2011). In contrast to Western societies where individual autonomy is highly emphasised, the Japanese *Ie* system prioritise a family with strong kinship ties. The parent-child hierarchical relationship also traditionally receives much more importance in Japan than in the West, where filial piety as a societal code of conduct was widely accepted in Japanese societies before the 15th century. The traditional culture that centres around the family and parental roles clearly shows that there is more parental involvement in children's life decisions than in the West. On the other hand, the family and hierarchical parent-child relationships were not historically as important in Japan compared to China. In fact, filial piety was only imported together with Confucian ideology from China to Japan after the 5th century. After the concept of filial piety was imported, it underwent different adaptations and interpretations in the Japanese cultural and social environment. While in China the idea of filial piety puts more emphasis on the obedience of the

younger generation to the family elders, in Japan it instead lays emphasis on the need to pay a debt of gratitude to parents in the form of providing for them as they age (Cui & Li, 2010; De Vos, 1960; Wang, 1992). Therefore, traditionally parents have had less control over young people's life in Japan than in China. Moreover, Japan experienced modernisation and industrialisation decades earlier than China and was consequently more deeply affected by notions of Western individualism. The Meiji Reform in 19th century even encouraged the adoption of Western lifestyle and ideologies among its citizenry. As a result, parental involvement in young people's life declined more significantly than it did in contemporary China. Today, while respecting and caring for parents is still considered a virtue in Chinese societies, it is much less of the case in Japan.

Linking Matching to Family Formation

In this section, I discuss the possible relationships between women's matching and the timing of the different stages of family formation in China and Japan. I focus on two features of the matching process, namely whether the matching was done romantically, and the type of parental involvement in the matching process. I also provide potential mechanisms that explain the outcomes of the possible relationships.

I begin by examining how self-initiated matching is associated with women's timing of family formation. Romantic matches are ones that are based on affection between two individuals without the direct influence of external parties. In this chapter, matches facilitated or directly influenced by any external parties, such as parent-arranged and

friends-introduced matches, are all classified as non-romantic. Depending on the mechanisms that are at work in a specific social context, women's self-initiated matching can be associated with early or postponed marriage and childbirth compared to non-self-initiated matching in China and Japan. There are two main mechanisms driving the positive relationship between women's self-initiated matching and timing of family formation. Firstly, social influences from the West have emphasised individual autonomy and promoted love marriages as the ideal for marriage formation in modern China and Japan, and has resulted in young people viewing self-initiated matching as their first matching option (Applbaum, 1995; Ciren et al., 2016; Pimentel, 2000; Xu & Whyte, 1990). In modern literature and social narratives, the idea of love itself and the freedom to love are both highly valued and closely linked to an individual's lifetime happiness. In contrast, non-romantic types of matching are dismissed as outdated products from the past. Therefore, non-self-initiated matching is treated as a back-up option for people who do not succeed in the self-initiated matching market. As a result, the average age of married couples that met through self-initiated matching ought to be lower than the average for non-self-initiated matching. This is supported by data from Japan. Japanese women as a whole first met their marriage partners on when they were 24.8 on average, whereas the figure for Japanese women in love marriages is 24.1 (NIPSSR, 2017). Since matching is the first step towards family formation, women who are matched to their partners romantically marry and consequently have children earlier than those who end up with non-self-initiated matching.

Secondly, women are incentivised to have shorter courtship in self-initiated matching than in non-self-initiated matching in China and Japan where gender specification still exists in social norms. Although romantic matches are primarily based on affection, a successful transition from relationships to marriages involves practical considerations aside from pure emotional attachment. In fact, young adults in modern China and Japan conceive of love as largely a form of stable companionship. Practical conditions such as partners' education, income, and family background still matter in making long-term relationships (Pimentel, 2000). Therefore, once a relationship is formed because of love, individuals need to assess partners' suitability in other aspects. To increase the success rate of the assessment in a romantic match, women are incentivised to shorten the courtship, because women's most valued traits decrease rapidly with age in societies where women's primary duty is expected to be in the domestic domain. For example, younger age and physical appearance are the two most valued assets of women in China and Japan, and they both decrease quickly with time (Chen & Li, 2014; Gui, 2017; Han, 2010; Tian & Davis, 2014). In contrast, non-romantic matches are already made based on the similarity and suitability of the prospective couple's conditions and family backgrounds. Once a match is made, there are much fewer hurdles for women to cross than those in romantic matches. Therefore, the courtship in non-romantic matches tend to be shorter.

There are several criticisms one may bring against the two mechanisms I discussed above. The first is that non-self-initiated matching may not necessarily take the back seat due to

the increasing difficulty of finding a suitable partner on one's own in modern China and Japan. Finding a good match takes more time due to the increasingly common marriage drought and squeeze in the marriage market (Applbaum, 1995; Raymo & Iwasawa, 2005). However, prolonged education and the importance of a career in modern societies leave little time and energy for individuals to seek out romantic partners. The lack of a dating culture and small social circles also makes it more difficult to find a match romantically. As pointed out by Iwasawa (2007), the fall of manager-facilitated matchmaking activities at the workplace (*syokuen kekkon*) has led to a decline in marriage in Japan. Second, the incentives for women to shorten courtship and marry as early as possible has been decreasing as sex-specific roles are dissolving or at least alleviating, especially in more developed areas in China and Japan. In these places women are increasingly valued on traits that grow over time, such as education and career prospects. Therefore, women are under less pressure to form a family at a young age. Third, assuming that the gender specification still widely exists in China and Japan, it is also possible for women in non-romantic matches to shorten courtship as much as they do in romantic matches. This is because even though the success rate of non-romantic matches is higher than that of romantic-matches due to matched partners' family backgrounds and conditions, the availability of eligible males tends to decline sharply as women age (Goldman, Westoff & Hammerslough, 1984; Oppenheimer, 1988; Raymo & Iwasawa, 2005). In other words, as women grow older in societies where their most valued traits are reproductive ability and physical appearance, the amount of men who are willing to enter the matching process with them decreases.

These doubts suggest two mechanisms may drive the negative relationship between women's self-initiated matching and the timing of family formation. Firstly, self-initiated matching reflects the individualised life course for women and is thus associated with postponed family formation. Romantic matches happen for various reasons. For example, stable matches provide long-term intimacy and emotional support for people, as well as opportunities for regular and safer sex. Women can enter and exit romantic relationships based on their own will without any plans. This individualised life course postpones the formation of a stable family. In contrast, non-romantic matches occur mostly for the purpose of family formation. The fact that one explicitly seeks or agrees to be introduced to others for a partnership indicates that the person is ready for a long-term relationship in preparation for family formation. Therefore, women in romantic matches are less likely to settle down and form a family early compared to those in non-romantic matches who have clearer goals to achieve than those in romantic matches.

Secondly, women in romantic matches give more relative weight than women in non-romantic matches to affection and interpersonal compatibility compared to the pragmatic requirements for long-term marital stability such as spousal wealth. The criteria for affection and interpersonal compatibility are sometimes arbitrary and hard to meet. Therefore, when searching for romantic matches, women use a set of preferences that would be more personal and fine-grained than those of women who have accepted non-romantic marriages and have outsourced a large part of mate selection to a third party. Moreover, individuals are more likely to have more knowledge of their own preferences

than third parties, and so when choosing on their own behalf they would have more highly specific requirements. As a result, women in romantic matches tend to be more discriminating in their choice of partner than women in non-romantic marriages, thus taking more time to settle down than the latter. More importantly, the emotional attachment and affection emphasised in love relationships result in a growing proportion of women in romantic matches who put off getting married with their chosen partners while both work towards building their career and financial capital in preparation for marriage and childrearing. In other words, women in romantic matches tend to spend more time working with their partners to adjust and improve their practical conditions for better quality of post-marriage life, instead of simply assessing the suitability of their partners. In contrast, women in non-romantic matches are less likely to work with or wait for their partners to achieve better practical conditions for marriage. They tend to already select or have selected for them matches who are already prepared for marriage, leading to early marriages.

I also examine the relationship between parent-introduced matching and women's timing of family formation, since parents were involved in children's family formation decisions in a stronger sense than other parties in traditional Chinese and Japanese societies. Nowadays, parents are much less likely to exercise complete control over their adult children's family formation choices. In general, matches facilitated by parents reflect children's acceptance of traditional East Asian family values that emphasise close kinship ties and family lineage continuation when adult children willingly yield their right of

mate-selection to parents, or strong parental influence on children's life decisions when children are pushed into matches with partners selected by their parents. The two scenarios are not complementary to each other, thus can be both reflected in different stages of a women's decision-making process regarding entrance to matches introduced by her parents.

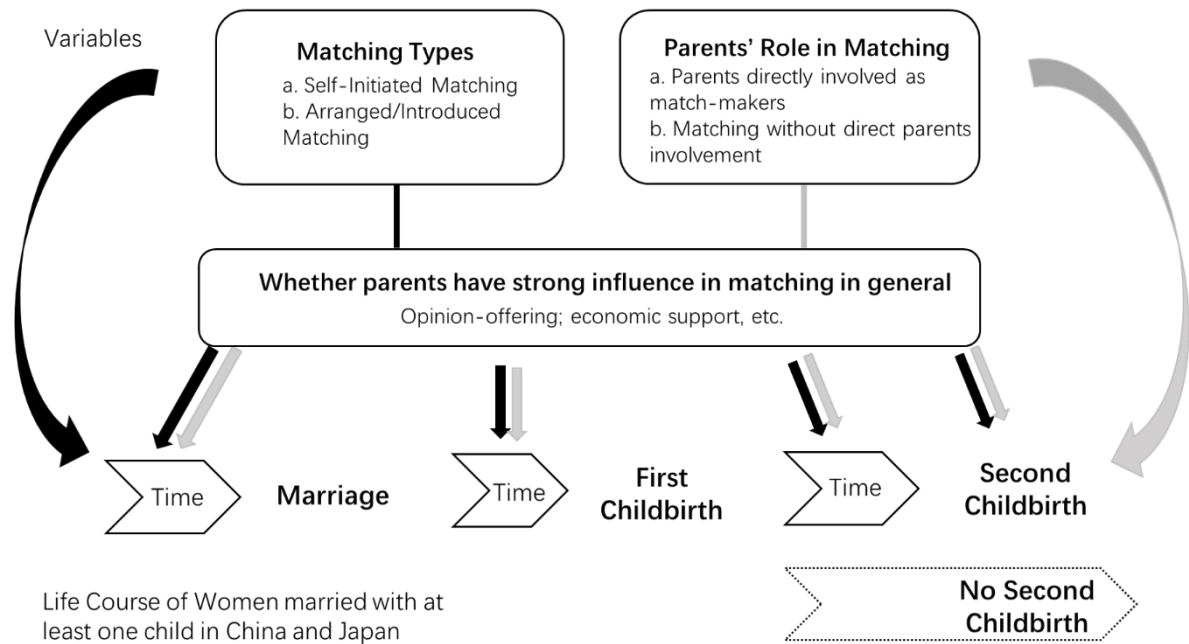
Nevertheless, in either scenario, parent-introduced matches are expected to be positively associated with women's timing of family formation. Women who actively seek for and willingly accept parent-introduced matches accept that marriage should be decided by parents and exhibit a high level of conformity of filial piety. Therefore, they are more likely to adhere to traditional East Asian family values than those who reject matches of such form. In China and Japan, a higher acceptance of traditional family values is associated with early family formation among young adults as it encourages them to give birth to as many children as possible, as early as possible, especially for women whose main responsibilities are expected to be childbearing and childrearing (Brinton, 2001; Chen & Li, 2010; Gui, 2017; Hendry, 2010). This is especially the case in China where to failure to supply a descendent to carry on the family name is seen as the worst violation of filial piety, and more children are believed to bring more luck to a family.

Moreover, women who are pushed into parent-facilitated matches tend to form families more quickly than those who do not marry partners introduced by parents. The fact that parents can persuade women to accept matches against their own will suggests that parents exert a direct and strong influence on their life decisions. In other words, parental

preferences are largely reflected in these women's own family formation process. Parents tend to wish their children to marry and have children early in China and Japan mainly because of three reasons. Firstly, marriage and childbirth are considered important parts of what it means to be an adult in Chinese and Japanese cultures. Only when the child forms a family would the parents feel they have successfully fulfilled the duty of raising the child. Secondly, marriage and childbirth are believed to be an inherent part of a complete life, the absence of which would cause unhappiness later in life. For example, children may suffer from loneliness when they age if they do not have partners to live with or children to take care of them. Therefore, parents are eager to see their children form their own families. Thirdly, parents want to ensure that the family lineage will be passed down through their children giving birth to younger generations. The earlier children form a family, the more likely parents are to witness or even help with raising the younger generations. As a result, women in parents-introduced matches where there is strong parental involvement and influence tend to enter marriage and motherhood earlier compared to those who are not in such matches.

Based on the above analysis, Figure 4-1 shows a conceptual framework of women's matching process and family formation decisions.

Figure 4-1. Parental Involvement in Matching and Women's Family Formation



Mediating the Effect of Education with Parental Involvement

The lingering parental involvement in children's family formation decisions clashes with the expanding individualism in modern China and Japan. The coexistence of these two phenomena creates intricate dynamics for women's decision-making process. Therefore, it is important to consider how of parental influence and women's increasing personal agency interact when studying women's timing of family formation in China and Japan.

Studies based on Western societies have largely attributed less and later marriages and fertility among women in modern times to women's increasing education and career opportunities (e.g. Becker, 1981; Becker & Lewis, 1973; Blossfeld & Huinink, 1991; Goldstein & Kenney, 2001). Becker uses a neo-classical economic decision model to argue that sex-specific norms incentivise individuals to marry, because men and women gain utility from each other's work (Becker, 1973). Women rely on men for food and

shelter, while men rely on women for domestic labour supply. However, the improved economic independence of women brought about by their increasing education and career opportunities reduce women's benefits from family formation. Moreover, the rising investments in women's education increases the opportunity cost of childbirth for women, especially when mothers receive little help from their husbands and are forced to spend an unaffordable amount of time and energy on childcare because of the sex-specific differentiation of labour in the family (Becker, 1981; Oppenheimer 1988).

The negative relationship between women's education and timing of family formation is supported by empirical evidence in China and Japan. Women's educational attainment has increased greatly in recent decades in both societies. Consequently, the conflict between family formation and alternative lifestyles is becoming more intense as China and Japan share the same gender-specific social norms that expect women to constantly prioritise family responsibilities over their careers. In China, studies have found that women tend to delay their marriage and childbirth as their educational attainment increases (Chen & Li, 2014; Guo, 2000; Guo, 2008; Jiang et al., 2016; Lavelly & Feedman, 1990; Li & Wang, 2014; Zhu et al., 2009). In Japan, family formation has also become less attractive to highly educated Japanese women due to the high opportunity cost and reduced gains from marriage (Bumpass et al., 2009; Blossfeld, 1995; Ono, 2003; Raymo, 2003; Raymo & Iwasawa, 2005; Retherford et al., 2001; Rindfuss et al., 2004).

However, parental involvement in women's matching and family formation decisions may alleviate the inverse relationship between education and women's timing of marriage

and motherhood. In China and Japan, parents tend to encourage early marriage and childbirth as they are more likely to value traditional family values than the younger generations. Parents also provide external help for the family formation process of highly educated women, helping them reduce the cost of searching for a mate and making domestic labour and childcare support more readily accessible. This means that the association between parental involvement and women's timing of family formation may be the opposite of the inverse relationship between education and women's timing of family formation. Moreover, while higher education improves women's individual autonomy in China and Japan by increasing their life options, it does not necessarily rule out the effect of parental involvement in women's family formation decisions. This is because women may have already internalised parental preferences through socialisation in the home environment (Axinn & Thornton, 1992; Barber & Axinn, 1998). This internalisation process begins even before they start education. Therefore, highly educated women may not postpone marriage and motherhood as much when parents are involved in their matching and family formation process. The extent to which parental involvement alleviates the negative effect of education depends on the strength of parental involvement.

Other Social Contexts of Family Formation in China and Japan

In addition, there are two important micro-level factors that are correlated with women's family formation decisions in Chinese and Japanese contexts. They are the age difference between partners and son preference. I discuss these two factors and their relationships

with women's timing of marriage and second childbirth in that order.

Marriages composed of older husbands and younger wives are the more desirable form of pairing in East Asia (Casterline, Williams & McDonald, 1986). A large age difference between the male spouse and female spouse is known as age hypergamy in the sociological literature. The phenomenon is argued to be the result of traditional social and economic structures in pre-industrial societies, which tend to feature families with young wives largely relegated to the domestic sphere supported by an older husband tasked with earning wages (Mu & Xie, 2014; Poppel, Liefbroer & Vermunt, 2001). This led men to hold greater power in the marriage market, which they then use to exercise their preference for youth in their wives (Barbieri et al., 2005; Cain, 1993; Poppel, Liefbroer & Vermunt, 2001). Therefore, the more prevalent the age hypergamy, the more patriarchal the family systems in these societies are. Moreover, age hypergamy is used to achieve status hypergamy, as older individuals tend to have accumulated better cultural and social resources. Status hypergamy is further reinforced by gender discrimination in the labour market and patriarchal traditions in China and Japan (Hong, 2006; Ji, 2014; Jones & Gabhaju, 2009; Mu & Xie, 2014; Zhang, Hannum, & Wang, 2008). In China, landmark political events and policy changes such as the Communist Revolution in 1949 and 1950 Marriage Law raised the status of women in what was traditionally a hypergamous society. However, the empirical data show that the mid-20th Century fall in hypergamy relative to homogamy reversed starting in the 1970s and sharply increased after the economic boom of the 1990s (Mu & Xie, 2014). In Japan, women's desire for status

hypergamy has remained strong over time (Nemoto, 2008; Raymo & Iwasawa, 2005; Yamada, 2005). Empirically, Japanese women are twice as likely to expect higher educational attainment from their partners compared to men (Raymo & Iwasawa, 2005).

A positive age difference between the male and female in a marriage accelerates the family formation process as it reflects the readiness of the male to start a family. In China and Japan, the still-existing economic dependency of women on men caused by social norms and disruption of women's career favours the creation of families in which men have more human capital than women (Ji, 2014; Mu & Xie, 2014; Raymo et al., 2015; Raymo & Iwasawa, 2005). Therefore, men at a more advanced life stage are in a better position compared to younger males to start stable families. However, families face delays with regard to starting families when the male is younger. An older woman is more likely to be at a more advanced life stage compared to the man, thus may have to wait until the man feels sufficiently advanced in his education and career to form a family. Furthermore, the amount of time that it takes for younger men to be ready for marriage might lead to marital instability and the postponement of family formation. This is because physical appearance and youth are highly sought after by men in the marriage market in China and Japan, and the decline in those traits in the wives of younger men during the postponement of family formation leads to a higher probability of failure in these matches, when men leave the matching to find a younger partner (Gui, 2017; Tian & Davis, 2014; Raymo & Iwasawa, 2005).

Another factor is son preference, a typical feature of patrilineal family systems prevalent

in China and Japan (Brinton, 2001; Park & Cho, 1995). In these systems of patriarchy, it is believed that only men can carry the family name, continue the family bloodline, and care for the old (Poston, 2002; Morgan et al., 2009). In contrast, daughters are excluded from their natal family and transfer their membership to husbands' families after marriage. In such a system, sons are considered inherently superior to daughters. Moreover, the marginal return of investment on daughters can be close to zero as the daughters marry off, whereas investment on sons generates significant returns on parents' lives since sons are the ones who take care of elderly parents.

Data from abundant empirical studies on gender and family suggest that son preference continues to exist in modern China, especially in less developed areas (Attané, 2001; Chu, 2001; Yang & Wang, 2006; Zhu et al., 2009). In China, married women undergo sex-selective abortions to satisfy their preference for sons and comply with the one-child policy. In this case, second birth may not happen at all. However, not all women with son preference choose to conduct or have access to sex-identification and selection technologies. Some women choose to give birth to a second child as soon as possible to try their luck at having a son (Cai, 2010; Morgan et al., 2009; Poston, 2002). As a result, these women transition to second birth at a faster speed than women without son preference.

However, while women from less developed areas in China still prefer sons, son preference has weakened largely in contemporary Japan (Brinton, 2001). This is because Japan experienced modernisation and industrialisation much earlier than China

did. The economic development has helped the elderly become more self-reliant, rendering the reason for son preference less compelling (Brinton, 2001; Chang et al., 1987).

Analytical Strategy

In this chapter, I divide women's family formation into three stages, namely getting married, first birth, and second birth, and analyse each stage separately. In analysing each stage, I first provide some descriptive statistics regarding women's matching types and timing of entering this stage in rural China, urban China, and Japan. I then present three Event History Analysis models in sequence. These three models are 1) a basic model that shows how key matching-related variables are associated with women's timing of transition to this stage; 2) a full model that includes controlled variables on top of the basic model; 3) an interactive model that includes an interaction term between parental influence and education. After analysing these three models, I test whether the differences across rural China, urban China and Japan are statistically significant by adopting the composition analysis with both "high" and "low" approaches (Xie & Shauman, 1998; Yu & Xie, 2011).

In the following sections, I introduce the data, variables, and main methods employed in this chapter.

Data

This study analyses data from the Chinese and Japanese modules of the 2006 East Asian

Social Survey. The East Asian Social Survey (EASS) is a two-yearly social survey project that examines diverse aspects of social life in East Asian regions based on four cross-national general social surveys: Chinese General Social Survey (CGSS), Japanese General Social Survey (JGSS), Korean General Social Survey (KGSS), and Taiwan Social Change Survey (TSCS). The 2006 East Asian Social Survey focuses on family dynamics and provides information pertaining to matching, marriage, family formation, and fertility. The questionnaire also collected detailed demographic and socioeconomic information about the respondents and their families of origin and spouses. There are three major advantages to using the Chinese and Japanese modules of the 2006 EASS over other surveys for this study. Firstly, the unified sampling methods and survey questions offer standard measures of the targeted variables of this study, thus making it possible to compare data from China and data from Japan. Secondly, the 2006 EASS family module contains specific questions relating to the matching process in China and Japan, such as the ways of matching and parents' role in matching. These questions are of central interest to this study, but do not appear in most surveys. Thirdly, it is possible to conduct Event History Analysis with the cross-sectional 2006 EASS data, because the data include complete retrospective data on individuals' marriage and fertility history. The sample of the 2006 EASS family module is married individuals with at least one child. In examining women's situation and choice regarding marriage and fertility, this study confined the sample to women. After omitting observations with missing values, the final sample consisted of 774 women from urban China, 552 women from rural China,

and 832 women from Japan¹.

Additionally, this study utilised data from the Chinese module of the 2004 Panel Study of Family Dynamics (PSFD). The 2004 PSFD Chinese module collected demographic and family-related data from the Shanghai, Fujian, and Zhejiang provinces. More importantly, this survey is one of the very few surveys that provides information regarding individuals' matching process. There are three reasons to include the 2004 PSFD China survey into this study². First, the questions in this survey that pertain to key variables, such as respondents' matching process, marriage, fertility history and socioeconomic background, are similarly phrased to those in the 2006 EASS survey. Therefore, the measures and ways of interpretation are alike in the two surveys. Second, the 2004 PSFD China survey share a similar sampling and survey method with the 2006 EASS China module. They both used a stratified multistage random sampling procedure to select one respondent from each household, and interviewed respondents face to face. Lastly, the PSFD China survey included in this study was conducted in 2004, close to the year when the 2006 EASS China module was conducted. Despite only being conducted in the three southeast coastal provinces of mainland China, previous studies based on data from the 2004 PSFD China survey show that the data can be used for research on China, mainly because these three provinces are densely populated (e.g., Xie, 2011). After harmonising the 2004 PSFD

¹ Notably, sample size is rather small in this study, thus may reduce significant level and magnitude of effects of key variables. As such, I will prioritise studying the signs of coefficient in the analysis.

² I searched through and considered most available Chinese surveys. However, only the 2004 PSFD China survey meets all the requirements to provide the additional data for this study.

China data with the 2006 EASS China data and merging the two data³, the sample size of China in this study is boosted to 1,462 (urban) and 1,283 (rural)⁴.

Variables

Dependent Variables

The key dependent variables are women's transition to marriage, motherhood, and second childbirth in urban China, rural China, and Japan. They are three binary indicators taking the value 1 in the month when marriage or birth occurred and represents the risk or hazard (as termed in Event History Analysis) of Chinese and Japanese women getting married, becoming mothers, and giving birth to the second child during the specific monthly interval t to birth episode j , conditional on the fact that the events did not occur before time interval t (Steele, 2005; Steele, Kallis & Goldstein, 2005). The occurrence of marriage, first birth, and second birth signifies the occurrence of the event in the corresponding models. Notably, in this study, all respondents have experienced the first two events (marriage and motherhood) as the sample is limited to married women with at least one child.

I used three sets of separate models to study women's transition to marriage, motherhood, and second childbirth respectively. The survey year serves as the end of observation in all three sets of models. In the first set of models, I set women's 15-year-old birthday as the

³ The harmonisation process includes limiting the sample of the 2004 PSFD China survey to married women with at least one child, recoding key variables, and changing variable names.

⁴ I did three sensitivity tests to show the 2004 PSFD China data can be added to this study. I compared results from the merged data to that from the 2006 EASS data and found that the results did not change significantly. I also tried to control the survey ID and found that the results stayed unchanged.

data entry point, and date of marriage as the data exit point⁵. In the second set of models, the date of marriage became the data entry point, and the date of first childbirth was the data exit point. In the last set of models, the date of first childbirth naturally turned into data entry point, with the date of second childbirth or age 45 as the data exit point. Women are at risk until they either give birth to their second child, are censored by reaching age 45 years or the interview date. If the second childbirth had not occurred by the end of the survey or when the women reached age 45 (whichever happens first), the survival time would be the number of months from the women's first childbirth to the time the survey ended or to the month the women turned 45⁶. The transition to first birth is analysed separately from the transition to second birth because the decision to have an additional child involves different considerations from the decision to have a first child (Schoen et al.,1999; Thomson, 1997). Moreover, I employed Huber-White method to correct for the potentially underestimated standard error caused by the person-month observation data structure and the multi-stage sampling and data-collection methods.

Matching-Related Variables

My primary explanatory variables capture two dimensions of women's matching process in China and Japan. The two dimensions are matching types and the degree of parental influence on mate-selection. Matching type is indicated by how various matches are made. It consists of three categories: 1) Parent-Introduced Matching; 2) Others-Introduced

⁵ I tested the robustness of the results by estimating the model with different entry ages (16 and 18) and found no substantial differences.

⁶ I tried to set the age limit to 43-48 and found the results remain unchanged.

Matching; 3) Self-initiated matching. This variable provides a more detailed measurement of matching type than that offered by the National Institute of Population and Social Security Research (NIPSSR) for two reasons. Firstly, the NIPSSR classification only offers two matching types, namely love marriage and arranged marriage. Arranged marriage can be made by both parents and match-making agencies. Therefore, it is hard to differentiate the role parents play in individuals' matching process with the NIPSSR classification. Secondly, the NIPSSR defines love matching based on where couples meet. However, this definition does not capture the situation in which couples were introduced to each other for romantic purposes at regular places, such as school or workplace.

Moreover, I measure parents' general influence on matching according to respondents' self-estimation. Examining parents' general influence on matching allows me to look at the indirect but important involvement of parents in mate-selection process. Such involvement includes various aspects from parental economic support to opinion-offerings. It exists regardless of who introduced the matching. Respondents who reported parents for having strong or very strong influence on their mate-selection are grouped into the "parents as strong influencer" category, in contrast to the "parents as weak influencer" category where the rest of the respondents are.

Controlled Variables

I control for household income, education, and age difference between partners for all estimations. I include the log value of household annual income at the year of interview

and completed years of schooling by the time of the interview to indicate the socioeconomic background of respondents. I choose to use years of schooling as the metric for education because China and Japan have very different educational systems. I also control for the age difference between the couple. There are four categories of the couple age gap variable: 1) husband younger; 2) same age; 3) husband older for less than five years; and 4) husband older for more than five years. Moreover, I take the respondents' age at marriage and marriage cohorts into consideration when examining women's transition to childbirth. Marriage cohorts are divided into four categories: 1) married before 1970; 2) married in the 1970s; 3) married in the 1980s; 4) married in the 1990s and after. Furthermore, I include the first child's sex in models when studying women's transition to second childbirth.

Method

I chose multivariate Cox hazard regression models to estimate the direct effect of the matching process on women's transition to marriage, motherhood, and second childbirth.

I also made sure all models pass the PH assumption test. The model writes:

$$\text{Log} \left\{ \frac{P_{it}}{1 - P_{it}} \right\} = \alpha_t + x_{it1}\beta_1 + \dots + x_{itk}\beta_k$$

P_{it} is the hazard rate, and α_t denotes the baseline hazard function of time. $x_{it(1-k)}$ stands for the covariates affecting individual i 's event occurrence at time point 1 to time point t . α_t has no specific definition because the Cox model calculates with Partial-Likelihood Estimation which allows the function of time without specific

definition of functional form (Yamaguchi, 1991). The Cox proportional hazard model assumes that the hazard rate is a logistic function of the covariates that affect the parameters:

$$h_i(t) = h_0(t) \times e^{[b_k x_{ik}(t)]}$$

$h_i(t)$ denotes the hazard rate of individual i at time point t , $h_0(t)$ represents the baseline hazard function of time, and $x_{ik}(t)$ stands for the covariates affecting individual i 's event occurrence at time point t .

The Cox regression models have several attractive properties for this study. First, Cox regression models make no assumption about the shape of the hazard function (Blossfeld et al., 2012; Cox, 1972; Yamaguchi, 1991). In practice, the Partial-Likelihood Estimation can be expressed as the function of covariates as follows:

$$PL = \prod_{i=1}^I \left\{ \frac{e^{\sum_k b_k x_{ik}(t_i)}}{\sum_{j \geq i} e^{\sum_k b_k x_{jk}(t_i)}} \right\}^{\delta_i}$$

t_i is the time point when event i occurred or is right-censored. δ_i is a dummy variable. δ_i is 1 when event i occurred, and is 0 when event i was right-censored. The baseline hazard function $h_0(t)$ does not appear in this final equation. Therefore, there is no need to define specific forms of time distribution of hazards in Cox regression models. Second, Cox regression analysis reveals the speed at which the targeted event happens. This is particularly helpful in this study which examines women who were already married with at least one child. For this sample group, “how fast” is a much more valuable question to ask than “whether”, as the respondents are all married mothers. Third, as a type of

Event-History Analysis, Cox regression models are suited to dealing with right-censored data under the assumption that censoring is random and that the censoring mechanism and occurrence of events are independent of one another. The data of this research can be right-censored, thus the occurrence of this event would not be recorded in the data. Using Cox regression models solves this issue conveniently (Yamaguchi, 1991).

Following previous research, I would add the Kaplan–Meier survival analysis (non-parametric) to my analysis in order to demonstrate the basic trends of survival time.

The model writes:

$$S_{(t)} = \prod_{j=t_0}^t \left\{ \frac{(n_j - d_t)}{n_j} \right\}$$

n_j represents the observed cases who have not failed nor censored starting from time t , and d_t are the failure cases within time t .

In the results section, I present the coefficient rather than hazard ratio in the tables, while reporting the hazard ratio rather than the coefficient in the analysis. This is because coefficient can show the direction of the relationship more straightforwardly, whereas the hazard ratio reveals the extent to which two variables associate with each other.

Results

Descriptive Analysis

On average, 25.9% of women in the sample met their spouses on their own in China, while 45.8% of these women did so in Japan. The proportion of self-initiated matching

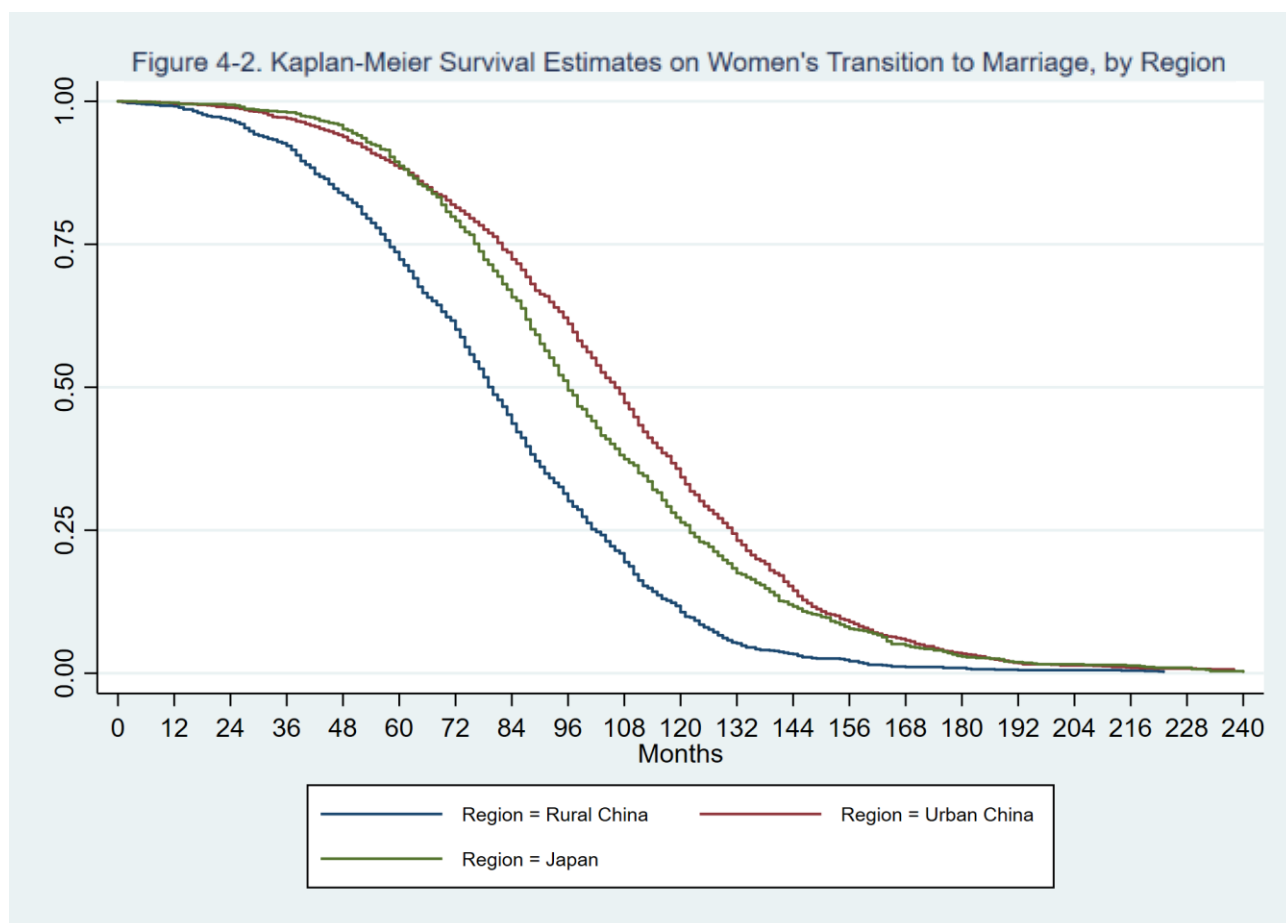
among married women is the lowest in rural China, where only 17.85% of these women select their husbands themselves. In urban China, the figure rises to 32.97%. Moreover, the percentages of matchings introduced or arranged by parents are similar in rural China and Japan. In rural China and Japan, parents are the match-makers of 20.11% and 21.02% of matches for married women respectively, as opposed to 14.5% in urban China. Furthermore, parents' influence on mate-selection is the strongest in rural China, and the weakest in urban China. 23.38% of married women who have already had one child in rural China reported parents as strong matching influencers, whereas only 14.34% and 9.78% did so in Japan and urban China.

Matching and Marriage

In this section, I look at how matching types and strong parental influence on marriage decisions are associated with women's timing of marriage in rural China, urban China, and Japan. Figure 4-2 demonstrates the results from the Kaplan-Meier survival analysis for how long it had taken for women in the sample to get married since age 15⁷. As observed in Figure 4-2, among women in the sample, those from rural China get married the earliest, followed by those from Japan. Women from urban China marry the latest. Within 102 months after age 15, around 75% of women from rural China had already got married. However, over 50% of women from Japan and urban China did not enter

⁷ Some previous studies set the starting time of observation for marriage as timing of finishing high school (see e.g., Raymo, 2003; Shirahase, 2000; Shirahase, 2009). However, the proportion of Chinese female high school graduates is less than 30% among all women. The low proportion introduces bias if set as the starting time of observation of women's occurrence of marriage.

marriage until 108 months after age 15, namely age 24.



Data Source: East Asian Social Survey, Panel Study of Family Dynamics

Table 4-1 presents a basic model with the two matching-related variables. For the rural China sample, self-initiated matching shows a significant negative sign, while matching made by others is insignificant at the 0.1 level. The situation in urban China is similar. Matches made both by other people and by oneself are significantly associated with later marriages compared to those made by parents. This suggests that in China, among women in the sample, those in parent-introduced matches tend to marry earlier than those who are not. However, such a trend does not hold in Japan where others-introduced and romantic matches are positively associated with the timing of marriage, indicating that women in these two types of matches marry earlier than those in parent-introduced

matches. Nevertheless, in all three regions, mate-selection with a strong parental influence shows a significant positive sign. Women whose matching process is strongly affected by parents tend to marry earlier compared to those under weaker parental influence in both China and Japan.

Table 4-1. Baseline Model of Women's Transition to Marriage in China and Japan

Variables	China				Japan	
	Rural		Urban		B	SE
	B	SE	B	SE		
Matching Type						
(Reference: Parents-Introduced Matching)						
Others-Introduced Matching	-0.110	0.071	-0.285**	0.094	0.130+	0.070
Self-Initiated matching	-0.239*	0.098	-0.361***	0.097	0.254**	0.089
Parents' Influence on Matching						
(Reference: Not Strongly Influenced by Parents)						
Strongly Influenced by Parents	0.368***	0.072	0.223*	0.107	0.314***	0.083
Observations	1,283		1,462		823	

*** p<0.001, ** p<0.01, * p<0.05, + p<0.1

Data Source: East Asian Social Survey, Panel Study of Family Dynamics

Table 4-2 shows the full model with controlled variables and interaction terms between matching-related variables. Results from Table 4-2 are consistent with the results from Table 4-1. In rural and urban China, self-initiated matching is still negatively associated with women's transition to marriage meaning that having parents directly involved as match introducers induces early marriages. In addition to romantic matches, women in others-introduced matches in urban China show a faster transition to marriage compared to those in parents-introduced matches. In Japan, the trend for women in romantic matches to marry earlier compared to those in parents-introduced matches remains, though at a less significant level. Others-introduced matches does not receive statistical significance in Japan. Moreover, strong parental influence on the matching process

increases the hazard ratio of early marriage across all three areas, though insignificantly in urban China.

Table 4-2. Full Model of Women's Transition to Marriage in China and Japan

Variables	China				Japan	
	Rural		Urban		B	SE
	B	SE	B	SE		
Matching Type						
(Reference: Parents-Introduced Matching)						
Others-Introduced Matching	-0.121	0.101	-0.231*	0.109	0.130	0.093
Self-Initiated matching	-0.194+	0.177	-0.289**	0.111	0.180+	0.107
Parents' Influence on Matching						
(Reference: Not Strongly Influenced by Parents)						
Strongly Influenced by Parents	0.193*	0.084	0.107	0.208	0.623***	0.156
Matching Type x Parents' Influence						
Others-Introduced Matching x Strongly Influenced by Parents	0.198	0.203	-0.077	0.263	-0.356	0.293
Self-Initiated matching x Strongly Influenced by Parents	0.258+	0.214	-0.893+	0.490	-0.447*	0.209
Years of Schooling						
	-0.036***	0.008	-0.090***	0.009	-0.065***	0.012
Couple Age Difference						
(Reference: Partner Younger)						
Same	0.214*	0.085	0.283**	0.099	0.192	0.135
Partner Older_Less than 5 Years	0.547***	0.079	0.515***	0.089	0.449***	0.113
Partner Older_5 Years or More	0.949***	0.110	0.692***	0.113	0.634***	0.125
Log Annual Household Income						
	-0.009	0.037	-0.013	0.043	-0.015	0.014
Observations	1,283		1,462		823	

*** p<0.001, ** p<0.01, * p<0.05, + p<0.1

Data Source: East Asian Social Survey, Panel Study of Family Dynamics

Despite the insignificant positive relationship between parental influence on marriage decisions and timing of marriage in urban China, the interaction term between self-initiated matching and strong parental influence shows a significant negative sign. This negative sign of the interaction term is also found in Japan. This indicates that the association between strong parental influence and women's transition to marriage decreases when the matches were made romantically, suggesting that women who met

their partners on their own tend to marry later compared to those who did not, even if there is strong influence of parents on this self-initiated matching in both urban China and Japan. In contrast, self-initiated matching enhances the positive association between strong parental influence and women's timing of marriage in rural China. Women tend to get married earlier if their matchings are done romantically as well as being influenced strongly by parents, compared to those who only possess one of the two conditions.

In addition to matching-related variables, Table 4-2 also shows that education is negatively associated with women's timing of marriage in all three areas. The longer women stay in education, the later they tend to get married. Household income is also negatively associated with women's entrance into marriage, though at an insignificant level. Moreover, the age difference between partners and women is positively correlated with women's transition to marriage in both China and Japan. Women with older partners are more likely to marry early compared to those with younger partners. The older women's partners are, the earlier the timing of marriage.

Table 4-3 adds an interaction term between education and strong parental involvement in matching. Across all three areas, highly educated women tend to postpone marriage compared to those with lower educational attainment. However, this negative relationship is alleviated by interacting education with strong parental involvement in rural China. That is, rural women with higher educational attainment and strong parental influence tend to marry earlier than those who with lower education and are also influenced strongly by parents. Notably, the interaction terms between education and parental

influence do not show any significance in urban China and Japan.

Table 4-3. Interacting Women's Education with Parental Influence on Marriage Decisions

Variables	China				Japan	
	Rural		Urban		B	SE
	B	SE	B	SE	B	SE
Matching Type						
(Reference: Parents-Introduced Matching)						
Others-Introduced Matching	-0.122	0.101	-0.232*	0.109	0.018	0.107
Self-Initiated matching	-0.198+	0.115	-0.291**	0.111	0.190+	0.106
Parents' Influence on Matching						
(Reference: Not Strongly Influenced by Parents)						
Strongly Influenced by Parents	0.172	0.234	0.175	0.328	0.838**	0.268
Matching Type x Parents' Influence						
Others-Introduced Matching x Strongly Influenced by Parents	0.200	0.204	-0.064	0.260	-0.376+	0.210
Self-Initiated matching x Strongly Influenced by Parents	0.291+	0.149	-0.909+	0.504	-0.389+	0.231
Years of Schooling	-0.034***	0.009	-0.089***	0.008	-0.034***	0.010
Couple Age Difference						
(Reference: Partner Younger)						
Same	0.190*	0.084	0.298**	0.099	0.235	0.145
Partner Older_Less than 5 Years	0.530***	0.077	0.501***	0.091	0.479***	0.122
Partner Older_5 Years or More	0.926***	0.110	0.698***	0.113	0.693***	0.139
Log Annual Household Income	-0.008	0.052	-0.014	0.050	-0.015	0.014
Years of Schooling x Parental Influence						
Year of Schooling x Strongly Influenced by Parents	0.028*	0.013	-0.010	0.029	-0.021	0.189
Observations	1,283		1,462		823	

*** p<0.001, ** p<0.01, * p<0.05, + p<0.1

Data Source: East Asian Social Survey, Panel Study of Family Dynamics

To test whether the differences across the three areas are statistically significant, I use the composition analysis with both “high” and “low” approaches (Xie & Shauman, 1998; Yu & Xie, 2011) to show some paired comparison results in Table 4-4. I pair every sample with each of the other samples to create three paired comparisons. I then combine the two samples in a paired comparison and construct a dummy variable indicating the different

samples. For the “low” method, I begin by running the full model in Table 4-3 with interaction terms between all variables in the full model and the sample dummy. I mark this model as Model i . I then run Model i without the three interactions between the three matching-related variables and the sample dummy, and mark the outcome as Model $(i-k)$. Here I introduce value D_{low} defined as:

$$D_{low} = \exp^{\beta^i} - \exp^{\beta^{i-k}}$$

where β^i denotes the coefficients of the three matching-related variables from Model i , and β^{i-k} denotes the coefficients of these variables from Model $(i-k)$ which excludes the sample dummy interaction terms k from Model i . D_{low} is expected to be greater than 0 if the difference between the two samples in the paired comparison is statistically significant. For the “high” method, I first run the full model with the sample dummy and mark this model as Model $(m+k)$. I then add three interaction terms between the three matching-related variables and the sample dummy to Model $(m+k)$ and mark it as Model m . I introduce value D_{high} defined as:

$$D_{high} = \exp^{\beta^{m+k}} - \exp^{\beta^m}$$

where β^{m+k} denotes the coefficients of the three matching-related variables from Model m , and β^m denotes the coefficients of these variables from Model m which adds the sample dummy interaction terms k from Model $(m+k)$. If D_{high} is greater than 0, the difference between the two samples in the paired comparison is statistically significant. It should be noted that D_{low} and D_{high} are expected to vary between 0 and $(\exp^{\beta^m} -$

exp^{β^i}).

According to the results of the composition analysis that is presented in Table 4-4, the effects of self-initiated matching, parent-introduced matching, and matching with strong parental influence are statistically different across all three areas.

Table 4-4. Comparison of Effects of Matching-Related Variables on Women's Transition to Marriage Between Three Samples

	<u>Rural China vs</u>		<u>Rural China vs</u>		<u>Urban China vs</u>	
	<u>Urban China</u>		<u>Japan</u>		<u>Japan</u>	
	"Low"	"High"	"Low"	"High"	"Low"	"High"
<i>Matching Type</i>						
(Reference: Parents-Introduced Matching)						
Others-Introduced Matching	0.067	0.046	0.059	0.078	0.039	0.069
Self-Initiated matching	0.085	0.047	0.074	0.086	0.047	0.050
<i>Parents' Influence on Matching</i>						
(Reference: Not Strongly Influenced by Parents)						
Strongly Influenced by Parents	0.021	0.054	0.014	0.042	0.018	0.041

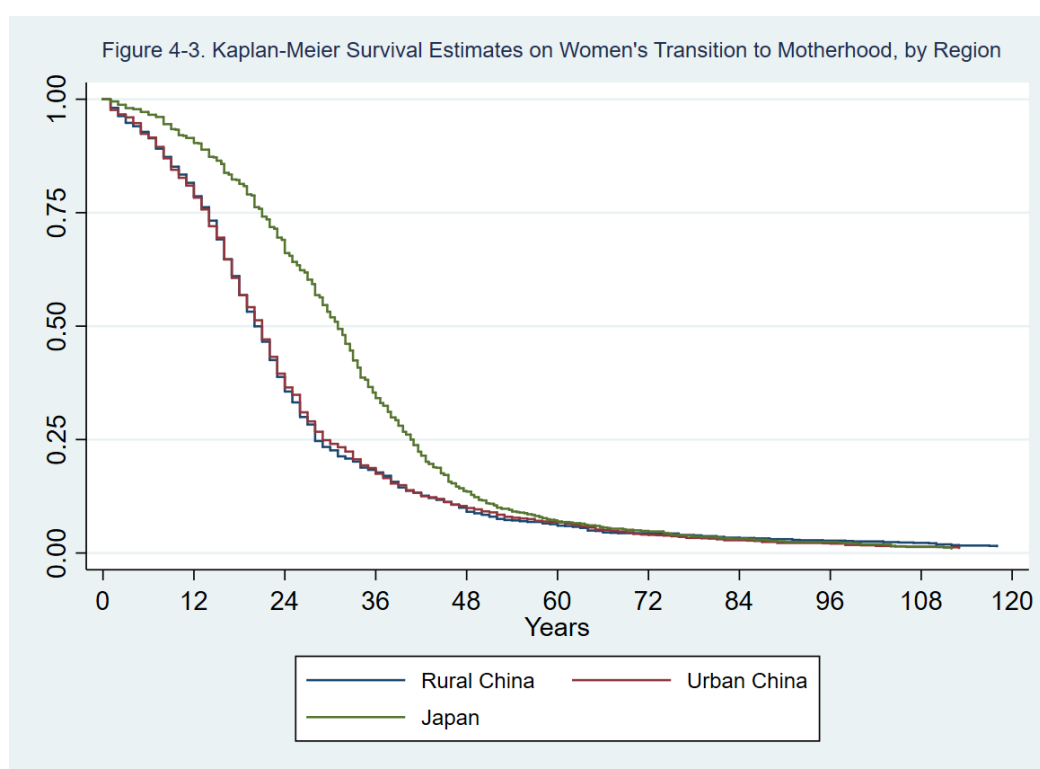
Data Source: East Asian Social Survey, Panel Study of Family Dynamics

In conclusion, married women who met their partners romantically tend to marry later than those in parents-introduced matches in China. In contrast, the opposite trend holds in Japan. Moreover, women in matches that are strongly influenced by parents tend to marry earlier than those who are not in all three areas, though less significantly in urban China.

Matching and Motherhood

The following analysis focuses on how matching types and strong parental influence on marriage decisions are associated with women's timing of first births in rural China, urban China, and Japan.

Figure 4-3 displays the results from the Kaplan-Meier survival analysis for how long women in the sample enter motherhood after marriage. As shown in Figure 4-3, these women from rural and urban China become mothers at a similar rate. Women give birth to their first children later in Japan. While half of women from rural and urban China enter motherhood within the first 20 months since marriage, most women from Japan only become mothers in the first 30 months since marriage. Within approximately 30 months and 40 months after marriage, over 75% of women from China and Japan have completed the transition to motherhood respectively.



Data Source: East Asian Social Survey, Panel Study of Family Dynamics

Table 4-5 shows the baseline model with the three matching-related variables. In China, romantic matches decrease the hazard ratio of early first birth compared to

parents-introduced matches. This suggests that Chinese women in love matches tend to enter motherhood significantly later than those in parent-introduced matches. However, in Japan, romantic matches are not significantly associated with married women's transition to first childbirth at 0.1 level. Moreover, the hazard ratio of transition to motherhood does not significantly differ between women in others-introduced matches and those in parent-introduced matches. Furthermore, in rural China, women whose family formation decisions are strongly influenced by parents show a tendency of early transition to motherhood, compared to those without strong parental involvement. This tendency is not observed in urban China and Japan.

Table 4-5. Baseline Model of Women's Transition to Motherhood in China and Japan

Variables	China				Japan	
	Rural		Urban		B	SE
	B	SE	B	SE	B	SE
Matching Type						
(Reference: Parents-Introduced Matching)						
Others-Introduced Matching	-0.082	0.066	-0.104	0.080	-0.106	0.094
Self-Initiated matching	-0.191*	0.088	-0.150+	0.084	-0.128	0.090
Parents' Influence on Matching						
(Reference: Not Strongly Influenced by Parents)						
Strongly Influenced by Parents	0.195*	0.098	0.056	0.091	0.090	0.101
Observations	1,283		1,462		823	

*** p<0.001, ** p<0.01, * p<0.05, + p<0.1

Data Source: East Asian Social Survey, Panel Study of Family Dynamics

The results from a full model⁸ in Table 4-6 change only a little compared to results from the baseline model. According to Table 4-6, in both rural and urban China, women in romantic matches become mothers later than those in parents-introduced matches, while others-introduced matches stay insignificant. Parental influence on marriage decisions is

⁸ Includes controlled variables and interaction terms between matching types and parents' influence on matching.

still positively associated with early motherhood in rural China. However, the interaction term between self-initiated matching and strong parental influence is significantly positive, indicating that in rural China, women who report heavy influence of parents on their matching process tend to enter motherhood earlier when they are in love matches, compared to those who are under strong parental influence on their marriage decisions but are in parents-introduced matches. In contrast, neither strong parental influence nor its interaction term with matching types is significantly associated with married women's transition to motherhood in urban China. None of the match-related variables show any significance in Japan.

Table 4-7 introduces an interaction term between education and strong parental involvement in matching based on the model from Table 4-6. In both China and Japan, years of schooling is negatively associated with women's transition to motherhood. However, strong parental involvement alleviates this negative association in rural China. In other words, when being strongly affected by parents regarding marriage decisions, highly educated women tend to become mothers earlier than those with less educational attainment in rural China. Notably, strong parental influence on marriage decisions becomes significant in urban China after controlling for the interaction term between education and parental influence.

Table 4-6. Full Model of Women's Transition to Motherhood in China and Japan

Variables	China				Japan	
	Rural		Urban		B	SE
	B	SE	B	SE		
Matching Type						
(Reference: Parents-Introduced Matching)						
Others-Introduced Matching	-0.110	0.099	-0.052	0.087	-0.076	0.107
Self-Initiated matching	-0.166*	0.083	-0.142*	0.071	-0.077	0.106
Parents' Influence on Matching						
(Reference: Not Strongly Influenced by Parents)						
Strongly Influenced by Parents	0.393**	0.119	0.064	0.167	0.237	0.244
Matching Type x Parents' Influence						
Others-Introduced Matching x Strongly Influenced by Parents	0.269	0.271	0.051	0.205	0.135	0.215
Self-Initiated matching x Strongly Influenced by Parents	0.242+	0.133	0.488	0.292	0.254	0.260
Years of Schooling						
	-0.039***	0.007	-0.021**	0.008	-0.042***	0.008
Couple Age Difference						
(Reference: Partner Younger)						
Same	0.099	0.101	-0.066	0.106	0.344*	0.168
Partner Older_Less than 5 Years	0.103	0.085	0.043	0.092	0.522***	0.096
Partner Older_5 Years or More	0.285**	0.101	-0.075	0.107	0.507***	0.113
Log Annual Household Income						
	0.153***	0.029	0.027	0.024	-0.017	0.014
Marriage Cohort						
(Reference: Married before 1970)						
Married in 1970s	0.394**	0.131	-0.002	0.141	-0.114	0.120
Married in 1980s	0.284*	0.124	-0.217+	0.127	-0.246*	0.124
Married after 1990	0.097	0.124	-0.444	0.126	-0.385**	0.128
Age at Marriage						
	0.042***	0.011	0.017+	0.010	-0.013	0.014
Observations	1,283		1,462		823	

*** p<0.001, ** p<0.01, * p<0.05, + p<0.1

Data Source: East Asian Social Survey, Panel Study of Family Dynamics

Table 4-7. Interacting Women's Education with Parental Influence on Motherhood Decisions

Variables	China				Japan	
	Rural		Urban		B	SE
	B	SE	B	SE		
Matching Type						
(Reference: Parents-Introduced Matching)						
Others-Introduced Matching	-0.120	0.099	-0.052	0.087	-0.067	0.107
Self-Initiated matching	-0.173*	0.083	-0.150+	0.089	-0.066	0.107
Parents' Influence on Matching						
(Reference: Not Strongly Influenced by Parents)						
Strongly Influenced by Parents	0.314*	0.137	0.515*	0.223	0.271	0.311
Matching Type x Parents' Influence						
Others-Introduced Matching x Strongly Influenced by Parents	0.238	0.254	0.054	0.206	0.196	0.217
Self-Initiated matching x Strongly Influenced by Parents	0.326+	0.182	0.490	0.413	0.299	0.262
Years of Schooling	-0.024**	0.008	-0.046**	0.016	-0.083**	0.030
Couple Age Difference						
(Reference: Partner Younger)						
Same	0.071	0.103	-0.039	0.104	0.344	0.168
Partner Older_Less than 5 Years	0.091	0.086	0.044	0.087	0.563***	0.135
Partner Older_5 Years or More	0.299**	0.102	-0.074	0.107	0.553**	0.160
Log Annual Household Income	0.159***	0.029	0.026	0.039	-0.015	0.014
Marriage Cohort						
(Reference: Married before 1970)						
Married in 1970s	0.393**	0.131	0.006	0.140	-0.108	0.120
Married in 1980s	0.281*	0.125	-0.206	0.127	-0.235+	0.125
Married after 1990	0.099	0.124	-0.435**	0.126	-0.375**	0.128
Age at Marriage	0.039***	0.010	0.025**	0.009	0.011	0.014
Years of Schooling x Parental Influence						
Year of Schooling x Strongly Influenced by Parents	0.019*	0.009	0.002	0.020	0.021	0.019
Observations	1,283		1,462		823	

*** p<0.001, ** p<0.01, * p<0.05, + p<0.1

Data Source: East Asian Social Survey, Panel Study of Family Dynamics

Table 4-8 displays the results from the “low” and “high” composition analyses to test the statistical significance of the differences across the three areas. Although self-initiated matching is insignificant in all three areas, matching types and parents’ direct and indirect influence on matchings are still associated with married women’s motherhood differently across the three areas.

Table 4-8. Comparison of Effects of Matching-Related Variables on Women's Transition to Motherhood Between Three Samples

	<u>Rural China vs</u>		<u>Rural China vs</u>		<u>Urban China</u>	
	<u>Urban China</u>		<u>Japan</u>		<u>vs Japan</u>	
	"Low"	"High"	"Low"	"High"	"Low"	"High"
<i>Matching Type</i>						
(Reference: Parents-Introduced Matching)						
Others-Introduced Matching	0.021	0.052	0.047	0.042	0.016	0.046
Self-Initiated matching	0.024	0.039	0.058	0.029	0.033	0.065
<i>Parents' Influence on Matching</i>						
(Reference: Not Strongly Influenced by Parents)						
Strongly Influenced by Parents	0.017	0.024	0.018	0.032	0.025	0.019

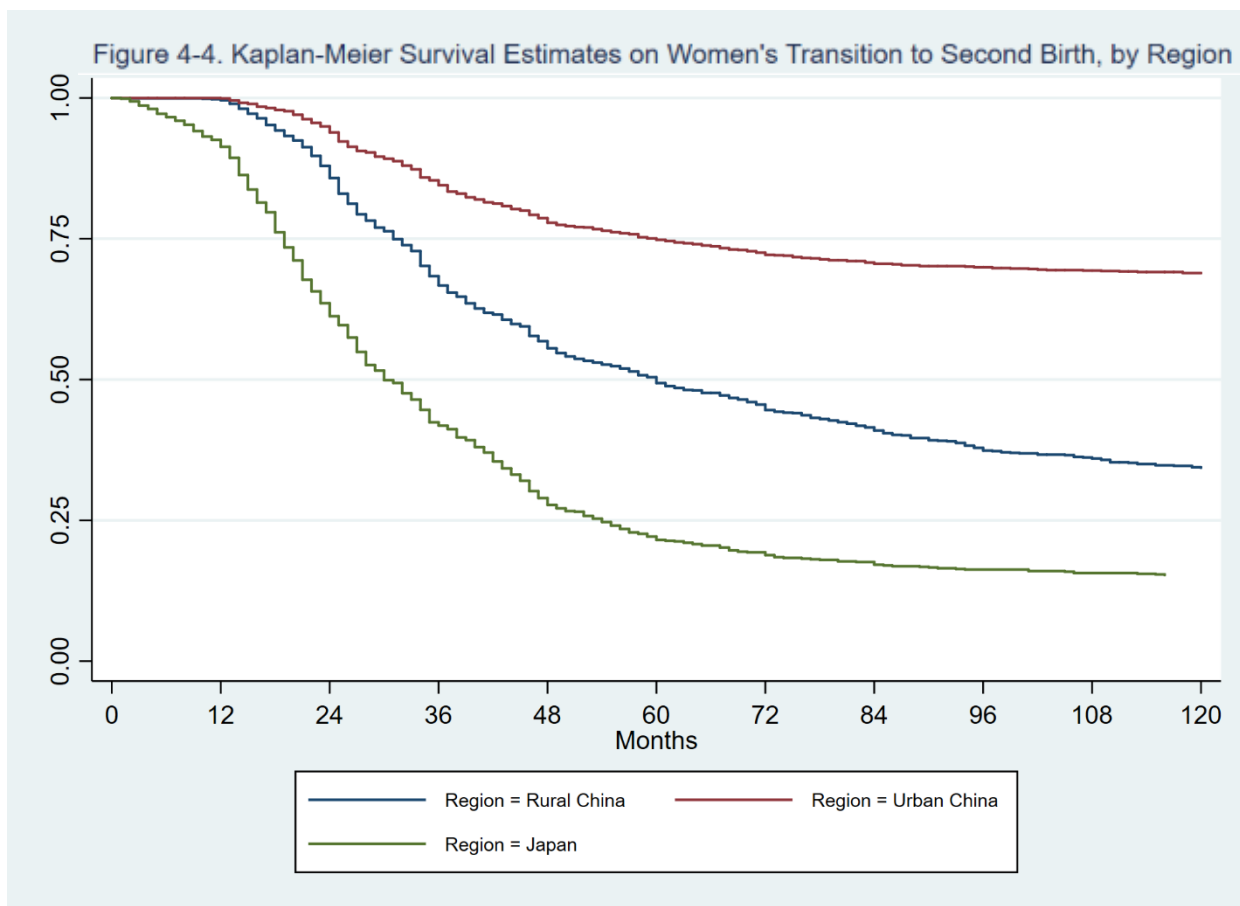
Data Source: East Asian Social Survey, Panel Study of Family Dynamics

Overall, women in romantic matches show a significantly higher hazard ratio of transition to motherhood than those in parent-introduced matches in both rural and urban China. Parents play a particularly important role in rural China in the sense that women whose marriage decisions were strongly affected by parents tend to give first birth significantly earlier than those who are not. Data from Japan do not show such associations between parents’ direct and indirect involvement in the matching process and women’s transition to motherhood.

Matching and Second Childbirth

This section is devoted to study how matching types and strong parental influence on

marriage decisions are associated with women's timing of second births in rural China, urban China, and Japan.



Data Source: East Asian Social Survey, Panel Study of Family Dynamics

Figure 4-4 shows the Kaplan-Meier survival analysis for how soon married women transition to second childbirth from first childbirth. The proportion of women who have a second child is the largest in Japan, followed by rural China, then urban China. More than 80% of married women choose to have another child within 10 years of having their first children, while the figure falls to around 65% and 30% in rural and urban China respectively. This is understandable because the Chinese One-Child Policy was implemented more stringently in urban China than in rural China. In the first 30 months after first childbirth the survival estimate for rural Chinese women lies underneath the

survival estimate for Japanese women, where the former has a gentler slope than the latter. Thus, in that period women from rural China transit to the second childbirth faster than women from Japan do. However, at approximately the 30th month after the first childbirth, the survival estimates cross, and women in Japan continue to transit to second childbirth faster than women in rural China.

Table 4-9 and 4-10 are the baseline models and full models for married women's transition to second childbirth respectively. According to Table 4-9, parents as match-makers and strong influencers on matching decisions are positively associated with married women's transition to the second birth in both rural and urban China. In these two areas, women in love matches tend to give birth to the second children significantly later than those in parents-introduced matches; so do women with strong parental influence on marriage decisions compared to those without. However, while these association become weaker, though still significant in Table 4-10 for rural China, they are deprived by the interaction term between matching types and parental influence for urban China. In urban China, women in romantic matches tend to marry earlier when women's matching decisions are heavily influenced by their parents compared to their counterparts with less parental influence on matching. The interactive association between matching types and parental influence on marriage decisions is not significant in rural China. Moreover, in both Table 4-9 and Table 4-10, matching-related variables are insignificant at 0.1 level and the magnitude of the coefficient is small for Japan, indicating the associations between matching types and strong parental influence in matching process

and married women's transition to second childbirth are insignificant in Japan.

Table 4-9. Baseline Model of Women's Transition to Second Childbirth in China and Japan

Variables	China				Japan	
	Rural		Urban		B	SE
	B	SE	B	SE		
Matching Type						
(Reference: Parents-Introduced Matching)						
Others-Introduced Matching	-0.303***	0.082	-0.430***	0.123	-0.160	0.102
Self-Initiated matching	-0.429***	0.118	-0.835***	0.143	-0.141	0.098
Parents' Influence on Matching						
(Reference: Not Strongly Influenced by Parents)						
Strongly Influenced by Parents	0.388***	0.082	0.561***	0.137	0.170	0.105
Observations	1,283		1,462		823	

*** p<0.001, ** p<0.01, * p<0.05

Data Source: East Asian Social Survey, Panel Study of Family Dynamics

In addition, Table 4-10 includes a variable indicating the sex of respondents' first child. It is worth noting that while there is a positive relationship between the first child being a girl and early transition to the second childbirth in rural and urban China, this relationship does not hold in Japan. This difference between China and Japan reveals that the son preference is more common in China than that in Japan. Parents from China are also more likely to encourage daughters to have more sons compared to parents from Japan.

In Table 4-11, we add an interaction between education and strong parental influence on women's decisions of family formation. The results of the interaction term are similar to that shown in Table 4-3. In all three areas, women delay the second birth as their education increases. In rural China, however, the delay is lessened by strong parental involvement. Nevertheless, the interaction terms between education and strong parental influence are insignificant in urban China and Japan.

Table 4-10. Full Model of Women's Transition to Second Childbirth in China and Japan

Variables	China				Japan	
	Rural		Urban		B	SE
	B	SE	B	SE		
Matching Type						
(Reference: Parents-Introduced Matching)						
Others-Introduced Matching	-0.141	0.107	-0.113	0.158	-0.123	0.119
Self-Initiated matching	-0.239**	0.091	-0.255	0.167	-0.140	0.121
Parents' Influence on Matching						
(Reference: Not Strongly Influenced by Parents)						
Strongly Influenced by Parents	0.226*	0.109	-0.099	0.266	-0.318	0.186
Matching Type x Parents' Influence						
Others-Introduced Matching x Strongly Influenced by Parents	-0.070	0.481	0.293	0.314	0.105	0.246
Self-Initiated matching x Strongly Influenced by Parents	0.187	0.154	1.398**	0.448	0.355	0.257
Years of Schooling	-0.032***	0.008	-0.090***	0.012	-0.051***	0.009
Couple Age Difference						
(Reference: Partner Younger)						
Same	-0.128	0.136	0.067	0.211	0.083	0.154
Partner Older_Less than 5 Years	-0.136	0.120	-0.021	0.178	0.206	0.122
Partner Older_5 Years or More	-0.054	0.134	-0.014	0.188	0.199	0.133
Log Annual Household Income	0.026	0.073	-0.022	0.081	0.007	0.014
Marriage Cohort						
(Reference: Married before 1970)						
Married in 1970s	-0.246*	0.104	-0.885***	0.122	0.123	0.087
Married in 1980s	-0.545***	0.105	-1.920***	0.160	0.132	0.102
Married after 1990	-1.283***	0.121	-2.351***	0.205	-0.232*	0.116
Age at Marriage	-0.104***	0.016	-0.125***	0.190	-0.011**	0.005
Sex of First Child						
(Reference: Boy)						
Girl	0.614***	0.072	0.384***	0.098	0.053	0.064
Observations	1,283		1,462		823	

*** p<0.001, ** p<0.01, * p<0.05

Data Source: East Asian Social Survey, Panel Study of Family Dynamics

Table 4-11. Interacting Women's Education with Parental Influence on Second Childbirth Decisions

Variables	China				Japan	
	Rural		Urban		B	SE
	B	SE	B	SE		
Matching Type						
(Reference: Parents-Introduced Matching)						
Others-Introduced Matching	-0.120	0.124	-0.103	0.160	-0.131	0.122
Self-Initiated matching	-0.228*	0.102	-0.238	0.169	-0.113	0.121
Parents' Influence on Matching						
(Reference: Not Strongly Influenced by Parents)						
Strongly Influenced by Parents	0.845*	0.431	-0.299	0.327	-0.531	0.545
Matching Type x Parents' Influence						
Others-Introduced Matching x Strongly Influenced by Parents	-0.124	0.171	0.234	0.297	-0.065	0.245
Self-Initiated matching x Strongly Influenced by Parents	0.060	0.319	1.401**	0.033	-0.321	0.258
Years of Schooling	-0.048***	0.010	-0.075***	0.015	-0.032***	0.005
Couple Age Difference						
(Reference: Partner Younger)						
Same	-0.154	0.138	-0.037	0.213	0.084	0.173
Partner Older_Less than 5 Years	-0.245*	0.124	-0.209	0.186	0.234	0.138
Partner Older_5 Years or More	-0.291*	0.139	-0.292	0.202	0.194	0.153
Log Annual Household Income	0.031	0.042	-0.022	0.071	0.007	0.014
Marriage Cohort						
(Reference: Married before 1970)						
Married in 1970s	0.012	0.114	-0.594***	0.135	0.118	0.104
Married in 1980s	-0.375**	0.109	-1.696***	0.169	0.123	0.119
Married after 1990	-1.054***	0.016	-2.154***	0.215	-0.280*	0.133
Age at Marriage	-0.108***	0.016	-0.121***	0.019	-0.012	0.014
Sex of First Child						
(Reference: Boy)						
Girl	0.591***	0.072	0.384***	0.102	0.075	0.075
Years of Schooling x Parental Influence						
Year of Schooling x Strongly Influenced by Parents	0.038+	0.020	0.043	0.033	0.020	0.022
Observations	1,283		1,462		823	

*** p<0.001, ** p<0.01, * p<0.05, + p<0.1

Data Source: East Asian Social Survey, Panel Study of Family Dynamics

The “low” and “high” composition analyses from Table 4-12 show that the differences

across rural China, urban China, and Japan are statistically significant.

Table 4-12. Comparison of Effects of Matching-Related Variables on Women's Transition to Second Childbirth Between Three Samples

	<u>Rural China vs</u>		<u>Rural China vs</u>		<u>Urban China vs</u>	
	<u>Urban China</u>		<u>Japan</u>		<u>Japan</u>	
	"Low"	"High"	"Low"	"High"	"Low"	"High"
<i>Matching Type</i>						
(Reference: Parents-Introduced Matching)						
Others-Introduced Matching	0.024	0.037	0.051	0.048	0.053	0.047
Self-Initiated matching	0.029	0.045	0.039	0.037	0.075	0.030
<i>Parents' Influence on Matching</i>						
(Reference: Not Strongly Influenced by Parents)						
Strongly Influenced by Parents	0.042	0.053	0.072	0.049	0.068	0.045

Data Source: East Asian Social Survey, Panel Study of Family Dynamics

In summary, women in romantic matches tend to postpone second childbirth compared to those in parent-introduced matches, while strong parental influence on marriage decisions is positively associated with early second childbirth in rural China. In urban China, strong parental influence alleviates the negative association between self-initiated matching and transition to second childbirth. These trends are not found in Japan. Therefore, in China, especially rural China, parents play a more important role in women's decision to give second birth than in Japan.

I show a series of auxiliary analyses to test the robustness of this study in Table a4-1 in Appendices. Based on the full models, I test the following situations: 1) removing the marriage cohort variable; 2) removing the education variable; 3) separating matching-related variables in two sets of models; 4) adding the survey ID variable for the Chinese data; 5) adding women's and partners' parental family income at the time of

marriage for the Chinese data⁹; 6) adding the partners' education variable; 7) controlling for province-level fixed effects. The coefficients of matching-related variables do not change much. This suggests that the results of this study are quite robust under alternative specifications.

Conclusion and Discussion

Several aspects of parental involvement have large and statistically significant effects on women's family formation decisions in China and Japan. Parent-facilitated matchmaking is strongly associated with timing of marriage for married women in rural China, urban China, and Japan, though in different directions. Moreover, across all three areas, these women tend to marry earlier if their marriage decisions are strongly influenced by their parents, compared to those without parental influence on marriage decisions. In rural and urban China, the importance of parents to the matching process even extends beyond marriage to childbirth. Both parents-introduced matches and strong parental influence on marriage decisions are associated with an early transition to first and second births among married women, though less significant in urban China than in rural China. The results suggest that strong family-oriented values held by the older generations in East Asia may speed up the family formation processes of the younger generation. This is consistent with the view that parental preference, such as desires for grandchildren, directly affect children's family formation behaviours (Axinn & Thornton, 1992; Barber & Axinn, 1998).

⁹ This information is only available in the Chinese data.

Despite the general importance of parental involvement in the matching process in women's family formation decisions, there are heterogeneities across the three studied areas. To begin with, the mechanisms behind the statistically significant associations between parents-introduced matches and women's entry into marriage are rather different in China and Japan. In rural and urban China, women in parent-introduced matches tend to marry earlier than those in romantic matches. This is explained by the fact that married Chinese women with at least one child and who went through parent-introduced matches show strong intent to settle down, especially compared to those in romantic matches who do not plan too far ahead and take longer to get ready for family formation. In contrast, Japanese women in romantic matches tend to enter marriage earlier than those in parent-introduced matches. However, it would be incorrect to conclude from this that the situation in Japan is the opposite of that in China in that it is romantic matches rather than parent-introduced matches that are closely related to a strong intention to form a family among married women in Japan, because strong parental influence on marriage decisions is still positively associated with the timing of marriage in Japan. Therefore, the negative association between parent-introduced matches and transition to marriage shows that getting parents involved as matchmakers is the last resort for married women in Japan. These women would only choose to enter such matches once they have failed to match to partners romantically.

Moreover, parental involvement in the matching process plays a stronger role in women's timing of childbirth in rural China than in urban China and Japan. While

parent-introduced matches and strong parental influence on marriage decisions are significantly associated with women's timing of marriage and childbirth in China, they become insignificant after marriage in Japan. This also supports the idea that women only choose to go for parents-introduced matches after they have failed to match romantically, because after marriage one does not need to seek external support to find a new partner anymore in order to have children. In addition, strong parental influence on marriage decisions does not mediate how education is associated with the timing of family formation in urban China and Japan, whereas it alleviates the negative association between education and transition to family formation in rural China. This suggests that strong parental influence on marriage decisions is particularly important in family formation among married women in rural China.

This study makes three important contributions. Firstly, this the first study that emphasizes the role of parents in women's family formation decisions in China and Japan.

The empirical relationship between parent's involvement in the matching

process and the family formation processes of their daughters has received scant attention in the academic literature, with the small exception of some demographers who have suggested that family values associated with parents and parental home may constitute a key determinant of young people's family formation processes (Barber & Axinn, 1998; Goldscheider & Goldscheider, 1993; Preston, 1986; Thornton & Fricke, 1987). I tease out parental involvement in women's family formation process by identifying parents-introduced matches and adding general parental influence on

individuals' marriage decisions. These two dimensions of parental involvement manage to capture parental role in the matching process across direct and indirect aspects. The results of this study provide stronger and more fine-grained empirical evidence about the strength of parental role in family formation processes, especially in the Chinese and Japanese social contexts in which families are traditionally structured in a hierarchical manner that sanctions more parental involvement in children's family formation decisions.

Secondly, my study tests if the empirical observation that education and women's timing of family formation is inversely related is robust to the Chinese and Japanese contexts when parental influence in the matching process is taken into account. Western theories that take for granted that education increases the autonomy of women and that family formation processes can thus be analysed as the result of individual decision-making by women may not be fully appropriate for the East Asian context in which family formation is regarded as such a family responsibility that parents may be involved in the matching process. Instead, my study, which explicitly analyses how parental roles interact with education, provides an account of family formation that gives room for both expanding individualism and lingering parental involvement, providing a richer and more accurate understanding of women's family formation decisions in the Chinese and Japanese contexts. The findings show that strong parental influence on marriage decisions alleviates the negative association between education and transition to family formation in rural China, but not in urban China and Japan. This result demonstrates the different

social dynamics in rural China where parents still play an irreplaceably central role in women's family formation compared to urban China and Japan.

Thirdly, the comparative perspective that I present on China and Japan, and on rural and urban China, bear on broader academic debates on the similarities and differences between China and Japan, and rural and urban China. Comparing parental role in women's family formation in China and Japan is both interesting and meaningful. On the one hand, many scholars believe that China and Japan share an emphasis on the importance of family lineage and puts the older generation in a superior position relative to the younger generation (Brinton, 2001; Chen & Li, 2014; Chu & Yu, 2010; Raymo et al., 2015). On the other hand, some argue that modern Japan has long adopted the individualistic values from Western societies and the traditional family values are less of the case in Japan than in China nowadays (Hashimoto & Ikels, 2005). The similarities and differences found between Chinese and Japanese societies in this study provide empirical evidence to this debate and have important policy implications in dealing with women's tendency to delay family formation in recent years in both two countries. In addition, I separate urban and rural China samples to produce a more accurate description of China

This study has three main limitations. Firstly, matching-related questions were only asked to married women in China and Japan because of the way the EASS survey was designed. Therefore, the sample of this study is limited to these women. It is worth noting that these women may be the ones who self-select into family formation activities. However,

understanding the relationships between matchmaking and family formation among married women has important sociological meanings on its own, since over 90% of women do end up getting married and having at least one child in China and Japan (Chen & Li, 2014; Ji, 2015; NIPSSR, 2017; Raymo et al., 2015). Secondly, it would be better if there were questions asking about co-residence patterns and financial supports offered by parents to quantify parental influence. However, the self-reported question on the extent to which parents affect respondents' marriage decisions serves as a helpful proxy to the indirect influence from parents. Thirdly, the data lacks information for more controlled variables to examine deeper into the mechanisms behind the associations found in this study, such as the length and number of courtships. Nonetheless, this study reveals important associations between matchmaking and family formation with an emphasis on parental roles, and provides guidance for future studies on this topic.

This study leaves room and points direction for future research. Further work needs to be done in understanding the specific mechanisms behind the association between parental involvement in matchmaking and women's family formation decisions. For example, there could be several different mechanisms behind parents' central importance in women's family formation in rural China. For one, women in rural China may have less chance of meeting others. Another mechanism would be that traditional family values that emphasise parental authority is better preserved in rural areas. Each of these mechanisms has its own important social indications. Moreover, this study is limited by the availability of suitable data sets. Fortunately, more surveys containing larger sample

groups are being produced, such as the new family module of EASS survey and the new couple module of China Family Panel Studies. Data from the Japanese National Fertility Survey are very suitable for this study, though it is not open to public use currently. Future research can improve by utilising these surveys once they are made available.

Chapter 5. Conclusion

Comparison Revisited: The Chinese and Japanese Contexts

The relationship between China and Japan extends much more beyond geographical proximity. Through more than a thousand years of historical contact, China and Japan developed close economic, political, and cultural connections. Both as late comers in industrialisation, China and Japan went through the transition from agricultural to service-based economies at a rapid speed. Meanwhile, Chinese and Japanese societies share similar values pertaining to family and culture in the East Asian context. When thinking about the futures of the two countries, one can generate important and meaningful social and policy implications via the comparison of both cases.

Chinese and Japanese societies share important social and historical similarities which provide common ground for similar policies and enable the two countries to learn from each other when they view each other as a type of testing lab for policies. These similarities range from demographic transition patterns to family values. Firstly, both China and Japan have gone through drastic demographic changes featured the most prominently by late marriage and low fertility rate in recent decades. Moreover, China and Japan experienced rapid decline in the Total Fertility Rate (TFR) at different times (Raymo et al., 2015; Reher, 2011). Both China and Japan are now characterised by extremely low fertility rates (TFR below 1.5). Secondly, China's rapid economic growth after 1978 show similar patterns with Japan's economic growth after Japan's post-war economic recovery. Japan's economic development started to accelerate and entered a

period of rapid growth in 1955. China experience a similar period of rapid economic growth between 1978 and 2010 (Liang & Chen, 2013). After this period of rapid development, the economic growth rate slowed down and entered a period of low-speed development for both countries. Moreover, China is experiencing the adjustment of industries similar to Japan did since 1950s. In recent years, the proportion of labours working has increased significantly in the tertiary industry in China. Thirdly, the gender equity levels in China and Japan are relatively low compared to Western countries. According to the 2017 Global Gender Gap Report, China ranked the 100th and Japan the 114th out of the 144 countries included in the report in terms of gender equality. It is worth noting that the gender gap may be worsening in the two countries, because both countries were ranked down compared to their rankings in 2006 when China was ranked the 63rd and Japan the 80th. Fourthly, China and Japan share very similar family structures. In modern Chinese and Japanese societies, the nuclear family structure is the most common living pattern (Brinton, 2001; Raymo et al., 2015; Yang & Li, 2009). There is a high prevalence of extended living arrangements with parents among adult children before marriage in both countries, while co-residing with parents after marriage is much less common. Moreover, the number of one-person households is growing despite the prevalence of co-residence with parents prior to marriage. Single-parent families and childless families are also on the rise in China and Japan, though nonmarital childbearing is still at very low level. Fifthly, both China and Japan are trying to encourage fertility through implementation of social and public policies. China relaxed its stringent one-child policy in 2013 and replaced it by a two-child policy later in 2016. Started much

earlier than China, the Japanese government launched a series of policies supporting for both childrearing and work and reduce childrearing costs to boost fertility. Lastly, Chinese and Japanese societies sharing similar family and gender norms in the context of similar social hierarchies and patriarchal values (Brinton, 2001; Chen & Li, 2014; Hashimoto & Traphagan, 2008; Raymo et al., 2015; Rozman, 2014; Takeda, 2011). For example, the Confucian ideology emphasises the importance of family lineage (Raymo et al., 2015). This tradition puts the older generation in a superior position relative to the younger generation due to the former having fulfilled their duty in passing down the family line (Chen & Li, 2014; Chu & Yu, 2010). Filial piety, which makes caring for one's parents a moral obligation, is reinforced by the cultural practice of deifying ancestors (Whyte, 2004). Although this is less of the case in Japan (Hashimoto & Ikels, 2005), senior authority still exists in the *senbai-kouhai* culture (the culture of different levels of seniority) at schools and workplaces (Sano, 2014; Rohlen, 1979).

There are, of course, significant differences between China and Japan. Contemporary China is different from Japan in economic development and political structure. Firstly, the Japanese economy is more developed compared to that in China. China only started to open up and develop a market economy since 1978, much later than the Japanese Meiji Reform which launched a new era of the capitalist economy in late 19th century. Japan has also transitioned to a service-based economy since the 1970s, four decades earlier than China. In addition, while industries that are considered essential (such as coal, oil and gas) are mostly owned by the state in China, they are largely privately-owned in

Japan. Although the Chinese economic structure is more diverse than the Japanese economy, the Japanese market is characterised by less government control (Lockwood, 2015; Zhu, 2012). Secondly, men and women are more equal in China than in Japan in terms of the economic participation and opportunities. Based on the Global Gender Gap Index released in 2017, China scored 0.654 in economic participation and opportunities, significantly higher than Japan's 0.580 and the world average 0.585. There is more gender equality in labour force participation in China compared to that in Japan, suggesting that women are more likely to participate in economic activities in China. Women are also more likely to continue working after marriage and childbirth in China than in Japan. Thirdly, contemporary China is different from Japan in political structure. As a one-party-state with much centralised political power, the Chinese government is more able to forcefully implement and sustain public policies to achieve one goal in the long run than the more democratic government can (King et al., 2013). More importantly, the Chinese and Japanese state governments have implemented very different social and public policies based on their own political concerns. For example, while political intervention in gender ideology to raise women's economic and social status was one of the most significant social forces in China, Japan has experienced less political intervention into family traditions and gender ideology. Lastly, Japan shows a higher degree of developmental idealism than China does, despite the shared family traditions of the two countries. According to developmental idealism which is characterised by a desire to emulate the ideals of western modernity, the western ideal of the "modern family" featured by late marriages, low fertility, and nuclear families is a necessary and

beneficial consequence of societal development (Thornton, 2001, 2013). As the first East Asian country to undergo modernisation, Japan has been influenced to a great degree by these familial ideals of western modernity (Thornton et al., 2012), far more than China does. As a result, the Japanese family values may move away from the traditional East Asian family values which emphasises family lineage to a larger degree than China did.

This thesis analyses women's family formation in China and Japan in comparison. In doing so, it situates China and Japan at a stage of modernisation distinctive from the so-called Western industrialised societies. The differences between the two countries do not make grouping China and Japan together into one research project too problematic. Firstly, as explained in an earlier paragraph, both countries share remarkably similar social and cultural traits that bear directly on the issue of family and fertility. Secondly, by examining the differences that persist in both countries in spite of their similarity, we can obtain new insights into family formation in these countries.

Summary of Findings

This thesis adopts an article-style and is comprised by three empirical article chapters. Despite being three separate and independent empirical articles, these three chapters share a common topic and aim to examine the factors that are associated with married women's family formation decision, particularly those concerning childbirths, in contemporary China and Japan.

Recent demographic changes in China and Japan, including postponed marriages,

increasing age at first childbirth, and low fertility rates, have brought about and will continue to exacerbate social problems such as an ageing society, lack of labour force opportunities, and a surplus of unmarried men (Basten & Jiang, 2015; Chen & Powell, 2012; Guilmoto, 2012). To address these issues, both Chinese and Japanese government have implemented a series of policies to encourage marriage and childbirth among young women. In China, the previously stringent fertility restrictions have been gradually eased. In the end of 2015, China replaced its 30-year-old one-child policy with a two-child policy. In Japan, the Japanese government has also launched programs that aim to make starting a family more attractive by increasing state support for childrearing for working mothers such as making public childcare system more accessible.

However, these policies did not significantly boost marriage and fertility in both countries. Age at first marriage continues to rise, and the fertility rate remains below replacement. I postulate that the inefficacy of these policies can be at least partly attributed to the lack of comprehensive and up to date knowledge about women's family formation decisions in the two countries. How important are the factors that drive women's decisions on having a second child in the context of fertility restriction in China? How do women's labour market conditions influence women's fertility decisions in Japan? My later chapter seeks to answer these questions. Chapter 2 explores how son preference, an extended family structure, and education affect married women's transition to having a second childbirth in the context of family planning restrictions in contemporary China. Chapter 3 studies how the gendered labour market is associated with women's fertility behaviour in Japan.

Chapter 2 identifies three important factors affecting women's decision to have more than one child in China, namely son preference, co-residence with parents, and education. Data from abundant empirical studies suggest that son preference still exists in China, especially in the less developed areas (e.g., Lin & Adserà, 2013; Zhu et al., 2009). According to the latest Chinese population census (General Census Office, 2010), China's sex ratio at birth is 108:100, with the ratio being as high as 114:100 in certain areas. Researchers have attributed the highly skewed sex ratio to son preference in the patrilineal family system which leads to the underreporting of female infants, sex selective abortion, and female infanticide (Chu, 2001; Yang & Wang, 2006; Zhu et al., 2009). Even in places where parents do express an ideal gender-balanced sex composition of children, they are likely to value sons more than daughters. Moreover, co-residing with parents or in-laws is rather common in China, particularly among newly married couples (Cohen, 1976; Guo, 2000; Zeng, 1986). Women are expected to move into their husbands' family household to live with parents-in-laws after marriage. In fact, more than 30% of Chinese households live with at least one senior aged 65 and above (General Census Office, 2015). This extended family structure affects young women's life decisions mainly via traditional family values and economic dependence on parents. The traditional family values in China emphasise a hierarchical relationship between generations, and demand obedience to the senior's instructions (Zhan & Montgomery, 2003). Many young women are also economically dependent on their parents, especially in their early entrance to marriage (Zeng, 1986; Zhan & Montgomery, 2003). As a result, parents are likely to exert a significant influence on women's decision to have a second child.

Furthermore, since education is a form of embodied economic capital that is important to fertility decisions, it is important to examine how married women's educational achievements change their fertility choices. Women's higher education is not only found to be associated with higher income in China, but also enables women to make decisions based on their own evaluations of the likely consequences of certain actions (Li, 2003). Highly educated Chinese women are more able to break loose from traditional beliefs and gender norms (Chang et al., 2005; Jejeebhoy, 1995).

There are several important findings from Chapter 2. Firstly, I found that son preference associates with Chinese married women's transition to having a second child through two mechanisms: the selection mechanism and the repetition mechanism. Married women who prefer sons may either employ sex-selective technologies and abortions to make sure their only child is a boy, or try to have a boy by giving birth to a second child as soon as possible if their first is a girl, and they have no access or are unwilling to employ prenatal sex-selective methods. Secondly, living with an extended family is not correlated significantly with a woman's chance of having a second child. Thirdly, the more highly educated an urban-dwelling woman is, the more likely she is to delay or not to have a second child, though the opposite trend is observed in rural women. More importantly, women's spouses' education does not interfere with women's chance to have a second childbirth significantly in China, regardless of women's education level. This suggests that the extent to which a couple's combined education aids or impedes the family's decision to have a second child largely depends on the woman's education, not the man's.

Although fertility decisions are commonly viewed as joint decisions made by the couple, this study shows that Chinese women play a more important role than men in deciding their fertility.

Chapter 2 has important fertility policy implications in China. In general, the relationship between the one-child policy and women's second childbirth in China is complicated to a significant degree by the factors studied in this chapter. The outcome of the new fertility stimulating policies focusing on releasing restrictions may not be as successful as some would expect. There needs to be policies targeting different aspects of society in order to solve social problems resulted from the low fertility level in China. For instance, in conjunction with current efforts to boost gender equality via education, policymakers who intend to encourage childbirth should allocate a greater number of birth quotas in areas with stronger son preference and making access to pre-natal sex selection surgery more strict.

Moreover, this chapter contributes to the growing body of literature studying second childbirth in China by approaching second childbirth from women's perspective, taking into consideration several key micro-level factors alongside broader macro-level factors. The weaker than expected relationship between the relaxation of the one-child policy and the subsequent increase in births has encouraged lines of argument that posit that other factors—such as son preference, socio-economic status, marriage, and family pressure—are crucial to understanding fertility in China over and above what stat (Attané, 2001; Cai, 2010; Guo, 2008). This chapter responds to the need of a gendered and more

nuanced explanation which takes both these micro-level factors and the specific characteristics in the Chinese context into consideration.

Chapter 3 studies whether and how Japanese women's employment status and workplace conditions (part-time/full-time employment, industrial sex segregation, corporation size, occupation) at the point of marriage correlate with their transition to first childbirth. It also looks at how husbands' occupation and corporation size are associated with women's motherhood in Japan. Japan's labour market is not the most ideal for women. According to data from the World Bank (2017), women's labour participation rate is much lower than that of their male counterparts in Japan. In 2015, the female labour participation rate was 49% in Japan, while the figure for males was 81.7%. Moreover, the total working hours worked by Japanese women is kept low because of a relatively high female part-time employment rate (36.9% of all women's employment in 2015) (OECD, 2017). In 2015, women accounted for two-thirds of part-time employment and dispatched workers in Japan. This figure includes part-time employment or dispatched workers. Furthermore, only 9% of all employees with management responsibility in corporate sectors were women. The large number of female non-regular workers and the rarity female management contributed to Japan's gender pay gap which was ranked as the third largest in the world by the OECD in 2017. The gender differences in the labour market are worse for married women who tend to withdraw from employment upon marriage or childbirth and thus exhibit a relatively low employment rate in Japan.

It is important to note that Japanese women's labour force participation over their life

course forms an M-shaped curve which is notoriously steep: many women quit their jobs at childbirth and only restart working later when the child is less dependent. This work pattern of women is closely tied to changes in their family status (Rindfuss, Cooksey & Sutterlin, 1999). Married Japanese women have to take their disadvantaged position into account when making their labour market participation plans in ways that inhibit fertility. For example, Japanese new mothers typically leave the labour market for prolonged period of time due to the strong emphasis on motherhood and women's childrearing responsibility (Hsiung & Ogasawara, 1999). When mothers do return to the labour market, they tend to end up in worse and more precarious jobs than before (Brinton, 1989; Brinton & Lee, 2001; Rani, 2003; Rosenbluth, 2007; Shirahase, 2007). In order to fulfil their career goals and amend the economic harm having their first child wrought on their careers, Japanese married women end up delaying or even reducing the number of children they have subsequently.

The findings from Chapter 3 indicate that in Japan, married women's education enhance the correlation between women's employment status at marriage and transition to first childbirth. Higher educated working women are less likely to make a fast entry into motherhood compared to their lower educated and not employed counterparts. Moreover, there are significant relationships between women's workplace characteristics and working conditions and transition to motherhood. Firstly, women who work part time at marriage are more likely to give birth to their first child early than those who hold full-time jobs. Secondly, women work in male-dominated industries at marriage tend to

postpone motherhood compared to those in gender-neutral industries. Thirdly, women who held jobs in mega-sized corporations at marriage are less likely to enter motherhood early than those in small firms. Furthermore, I found that women working in lower grade professional/higher technical occupations with an emphasis on caring and interpersonal skills at marriage make a faster transition to motherhood than their intermediate counterparts. Women in own account/self-employed jobs, particularly farming, forestry and fishing, are also more likely to transition to their first childbirth than those with intermediate occupations. In addition, while married women's husbands' occupation type at marriage do not correlate with the hazard rate of women's transition to first childbirth, the size of the corporation in which husbands work at marriage is negatively associated with married women's motherhood. Women whose husbands were not employed at marriage also tend to delay childbirth compared to those whose husbands hold jobs at the time of marriage.

Chapter 3 makes empirical contributions to the study of how women's labour market conditions affect their transition to motherhood. Firstly, I introduce a novel measurement of a woman's employment at marriage using the conceptual framework demonstrating the possible situations of married women's work history, whereas previous research about married women's labour in Japan failed to understand what women's labour situation really is at the time of marriage. In this study, I consider all four possible situations of married women's work and describe the women's labour market condition according to the specific situation of the women's work history. Secondly, I address the lack of suitable

measurements of women's labour market conditions at time of marriage by constructing novel measures of employment status, workplace environment and occupation at time of marriage, based on employment right before marriage. I also improve the construct validity of key measures of labour market conditions by creating refined multiple-item measures. Thirdly, my study is one of the first studies combining two decades of Japanese Social Stratification and Mobility Survey (SSM) data from 1985 to 2005 in studying fertility in Japan. This allows me to show the trend across a large range of marriage cohorts, and how the effect of women's labour force participation on motherhood changes over time in Japan.

The findings in Chapter 3 point towards policy implications for raising fertility levels. Labour policy that would reduce the burden on female employees – such as more flexible working hours and labour market conditions, and compulsory paternity leave – would make it easier for women to achieve a work-life balance that would reduce the conflict between their fertility and career goals.

Chapter 4 extends the analysis of the previous chapters by introducing more factors that drive women's fertility decisions and behaviours. More specifically, it examines how the roles parents play in women's matching process affect their family formation decisions. There are three themes of Chapter 4. First, I examine and establish a direct relationship between women's matching methods and the timing of different stages of family formation in China and Japan, and highlight the role of parents. Second, I compare the Chinese and Japanese contexts and assess how the relationship between the parental roles

in the matching process and women's family formation differs between China and Japan. Third, I look at whether parental involvement in women's family formation decisions mediates the well-established relationship between education as an indicator of socioeconomic status and women's timing of family formation in China and Japan.

The matching process plays a vital role in women's family formation decisions. Women rely heavily on matching to establish a satisfactory marriage in modern societies. Early matching often indicates early family formation, and vice versa. However, few existing studies try to establish a direct relationship between women's different types of matching and the timing of family formation in the Chinese and Japanese contexts.

The parental role in the matching process is particularly important to individuals' family formation decisions in Chinese and Japanese cultures. In both countries, legitimate matches had to be facilitated by parents in the past. In contemporary China and Japan, traditional family values have undergone drastic changes since the 20th century, but ties between parents and children stay strong (Riley, 1994). Parents still play a significant role in young people's family formation decisions through various types of intergenerational relationships and interactions. Firstly, the extended intergenerational cohabitation leads to the continuation of parental involvement in children's lives. Secondly, parents can use their resources to bargain for a bigger say in their children's family formation decisions, as people in early adulthood rely on their parents for economic and manpower support in modern Chinese and Japanese societies (Axinn & Thornton, 1992; Chen & Li, 2014; Raymo, 2003; Tian & Davis, 2010). Thirdly, parents transmit their preferences,

aspirations, and values to children through socialisation in the parental home which is the primary environment in which children grow up. Fourthly, parental approval of a particular matching is strongly linked to whether it successfully leads to marriage and the quality of marriage in China and Japan, where there is a lack of a dating culture (Applbaum, 1995; Pimentel, 2000).

There is, however, heterogeneity within Chinese and Japanese societies concerning the role of parents and family. The family and hierarchical parent-child relationships were not historically as important in Japan compared to China. Moreover, while in China the idea of filial piety emphasises the obedience of the younger generation to the family elders, in Japan it instead lays emphasis on the need to pay a debt of gratitude to parents in the form of providing for them as they age (Cui & Li, 2010; De Vos, 1960; Wang, 1992). Therefore, traditionally parents have had less control over young people's life in Japan than in China. Japan also experienced modernisation and industrialisation decades earlier than China and was consequently more deeply affected by notions of Western individualism. As a result, parental involvement in young people's life declined more significantly than it did in contemporary China. Today, while respecting and caring for parents is still considered a virtue in Chinese societies, it is much less of the case in Japan.

Results from Chapter 4 show that several aspects of parental involvement have large and statistically significant effects on women's family formation decisions in China and Japan. Parent-facilitated matchmaking is strongly associated with timing of marriage for married women in rural China, urban China, and Japan, though in different directions. Moreover,

across all three areas, these women tend to marry earlier if their marriage decisions are strongly influenced by their parents, compared to those without parental influence on marriage decisions. In rural and urban China, the importance of parents to matchmaking even extends beyond marriage to childbirth. Both parents-introduced matches and strong parental influence on marriage decisions are associated with an early transition to first and second births among married women, though less significant in urban China than in rural China.

However, there is heterogeneity across the three studied areas. To begin with, the mechanisms behind the statistically significant associations between parents-introduced matches and women's entry into marriage are rather different in China and Japan. In rural and urban China, women in parent-introduced matches tend to marry earlier than those in romantic matches. This is explained by the fact that married Chinese women and who went through parent-introduced matches show strong intent to settle down, especially compared to those in romantic matches who do not plan too far ahead and take longer to get ready for family formation. In contrast, Japanese women in romantic matches tend to enter marriage earlier than those in parent-introduced matches. However, it would be incorrect to conclude from this that the situation in Japan is the opposite of that in China in that it is romantic matches rather than parent-introduced matches that are closely related to a strong intention to form a family among married women in Japan, because strong parental influence on marriage decisions is still positively associated with the timing of marriage in Japan. Therefore, the negative association between

parent-introduced matches and transition to marriage shows that getting parents involved as matchmakers is the last resort for married women in Japan. These women would only choose to enter such matches once they have failed to match to partners romantically. Furthermore, strong parental influence on marriage decisions is particularly important in family formation among women in rural China. This is because strong parental influence on marriage decisions does not mediate how education is associated with the timing of family formation in urban China and Japan, whereas it alleviates the negative association between education and transition to family formation in rural China.

Chapter 4 makes three important contributions. Firstly, this is the first study that emphasises the role of parents in women's family formation decisions in China and Japan. I tease out parental involvement in women's family formation process by identifying parents-introduced matches and adding general parental influence on individuals' marriage decisions. These two dimensions of parental involvement manage to capture parental role in matchmaking across direct and indirect aspects. Secondly, this chapter tests if the empirical observation that education and women's timing of family formation is inversely related is robust to the Chinese and Japanese contexts when parental influence in matchmaking is taken into account. Western theories that analysed the family formation process as the result of individual decision-making by women may not be fully appropriate for the East Asian context in which family formation is regarded as such a family responsibility. Instead, this chapter, which explicitly analyses how parental roles interact with education, provides an account of family formation that gives room for both

expanding individualism and lingering parental involvement, providing a richer and more accurate understanding of women's family formation decisions in the Chinese and Japanese contexts. Thirdly, the comparative perspective that I present on China and Japan, and on rural and urban China, bear on broader academic debates on the similarities and differences between China and Japan, and rural and urban China. The similarities and differences found between Chinese and Japanese societies in this study have important policy implications in dealing with women's tendency to delay family formation in recent years in both two countries.

The results presented in Chapter 4 suggest several pro-fertility policy implications. As China develops in socioeconomic terms and catches up with Japan, the role of parents in Chinese family formation decisions would decrease. This creates a vacuum into which the state can step into, by, for instance, by bringing down housing prices and rentals and making it easier for young people to start families.

Future Research Directions

This thesis points towards several important directions for future research. Firstly, future research can benefit from going beyond focussing on generic factors within single-society case studies and including more countries in explicitly comparative analytical and empirical frameworks. This is because the particularities of the family system and gendered schemas play an important role in women's family formation processes. For instance, certain family system and gender schemas are common to East Asian countries, though with some degree of heterogeneity. Ideally, these countries should include more

East Asian countries and societies such as Taiwan, South Korea, and Singapore. Incorporating these countries into a comparative analysis can not only help researchers and policymakers arrive at finer-grained analyses and policy recommendations, but also contribute to the larger debate over whether and the extent to which a pan-Confucian state exists.

Secondly, there is a need for a shift in research emphasis from more developed western societies, whose recent pasts have not been marked by widespread social transformation, to developing countries that are in the midst of vast socioeconomic and cultural change. In other words, contextual differences can vary across not just space but time. Studies that shed more light on the latter will be enabled by releases of longitudinal data on detailed family dynamics by developing societies. This presents new and exciting opportunities for sociology and public policy researchers. The resulting integrative studies will better reveal how family formation varies across time and space, leading to a deeper understanding of the phenomenon in question.

Thirdly, improvements in data quality and comprehensiveness broadens the scope for empirical research. This thesis was limited by the need to use only cross-sectional data due to lack of availability of sufficiently comprehensive longitudinal data. Fortunately, many longitudinal data are being collected in various countries. For example, the China Family Panel Studies (CFPS) data was only available for two waves over two years at the beginning of my study. However, there are already four waves available across six years by mid-2018. In future research, I will be able to explore potential casual relationships

and address selection bias with the help of structural equation models and fixed effect models. Furthermore, even if the data in question are not longitudinal, the release of more up to date data from the new EASS family module, the SSM 2015, and the CFPS 2018) provide new opportunities to get more recent measurements on effect of specific social and policy changes on women's family formation behaviours. In particular, using data after 2015 would be crucial to testing the extent to which women's fertility decisions changed after the implementation of the two-child policy in China.

Fourthly, future work is still needed to understand the specific mechanisms behind women's family formation decisions. This can be done by trying to identify new individual-level and macro-level factors that explain women's family formation, and examining how the former varies with the latter. There is, in particular, an opportunity to identify factors other than individual preference and labour market conditions to explain the remaining variation in women's marital and birth timings. In this way, future research would deepen and add nuance to the findings uncovered in this thesis, thus producing more sociological and political implications. Additionally, qualitative research methods such as interviews can be used in future studies to help establish theoretical frameworks that explain women's marriage and fertility behaviours. In doing so, future research may reveal in greater detail the sociological mechanisms involved in women's family formation process.

Appendices

Table a1-1. Women's Marital Status

	Number	Percentage
Unmarried	364	8.55%
Ever Married	3883	91.45%
Total	4247	100%

Data Source: China General Social Survey, 2012

Table a1-2. Women's Number of Children

	Number	Percentage
No Children	507	11.91%
Have Children	3741	88.09%
Total	4247	100.00%

Data Source: China General Social Survey, 2012

Table a1-3. Women's Number of Children by Marital Status

	No Children	Have Children
Unmarried	99.18%	0.82%
Ever Married	3.77%	96.23%

N=5,745

Data Source: China General Social Survey, 2012

Table a1-4. Characteristics of Married Women without Children

<i>Age Distribution</i>	
18-25	37.24%
26-35	36.73%
36-45	13.78%
46 and above	12.24%
<i>Education Distribution</i>	
No Edu	15.31%
Compulsory	21.43%
Higher	63.27%
<i>Occupation Distribution</i>	
Unemployed	42.56%
Agriculture	41.54%
Non-Agriculture/Private Sector	5.64%
Non-Agriculture/Public Sector	10.26%
<i>Hukou Distribution</i>	
Urban Hukou	50.51%
Rural Hukou	49.49%

N=146

Data Source: China General Social Survey, 2012

Table a2-5. Cox Regression Results of Women's Second Childbirth in China

Variable	Model 4		Model 5		Model 6	
	B	SE	B	SE	B	SE
<i>Son Preference</i>						
Son Preference (reference: gender balance)						
Daughter Preference	-0.130	0.176	-0.120	0.176	-0.041	0.193
Son Preference	-0.236*	0.105	-0.230**	0.105	-0.109*	0.048
First Child's Sex (reference: girl)						
Boy	-0.452***	0.066	-0.441***	0.066	-0.339**	0.102
<i>Extended Family</i>						
Live with Older Generation (reference: no)						
Live with Parents	-0.166	0.144	-0.142	0.129	-0.169	0.145
Live with Parents-in-Law	0.010	0.089	0.021	0.092	0.013	0.089
<i>Education</i>						
Women's Education (reference: no education)						
Compulsory Education	-0.365***	0.073	-0.516***	0.106	-0.523***	0.106
Above Secondary Education	-0.819***	0.121	-1.078***	0.13	-1.084***	0.13
<i>Interaction Terms</i>						
<u>Son Preference x First Child's Sex (reference: gender balance x girl)</u>						
Daughter Preference x Girl	0.238	0.216	0.216	0.216	0.265	0.218
Son Preference x Girl	-0.326	0.219	-0.308	0.219	-0.199	0.231
<u>Women's Education x Residence Areas (reference: no education x live in rural)</u>						
Compulsory Education x Live in Rural Areas	0.213	0.135	0.246	0.135	0.255	0.135
Above Secondary Education x Live in Rural Areas	0.899***	0.219	0.959***	0.219	0.967***	0.22
<u>Son Preference x Year of First Birth (reference: gender balance x before one-child policy)</u>						
Daughter Preference x Before One-Child Policy					-0.284	0.293
Son Preference x Before One-Child Policy					-0.268	0.247

(Continues)

Table a2-5 (Continued)		Model 4		Model 5		Model 6	
Variable	B	SE	B	SE	B	SE	
<u>First Child's Sex x Year of First Birth (reference: girl x before one-child policy)</u>							
Son x Before One-Child Policy					-0.161	0.125	
One Child Policy							
Year of First Birth (reference: before one-child policy)							
After One-Child Policy	-0.347**	0.111			-0.319*	0.13	
Complementary Fertility Information							
Marriage Cohort (reference: married before 1980)							
Married in 1980s			-0.169	0.114	-0.134	0.114	
Married in 1990s			-0.305	0.189	-0.122	0.166	
Married after 2000			-0.461**	0.167	-0.333*	0.166	
Social Background							
Hukou Status (reference: urban hukou)							
Rural Hukou	0.324***	0.089	0.284**	0.088	0.284**	0.088	
Residence Area (reference: live in urban areas)							
Live in Rural Areas	0.229**	0.082	0.187**	0.069	0.179**	0.062	
Occupation (reference: non-agriculture/public)							
Non-Agriculture/Private Sector	0.163	0.094	0.182	0.096	0.202	0.113	
Agriculture	-0.194*	0.097	-0.199*	0.094	-0.171	-0.097	
Unemployed	-0.690***	0.132	-0.660***	0.131	-0.640***	0.132	
Ethnicity (reference: Han ethnicity)							
Ethnic Minority	0.447***	0.083	0.450***	0.083	0.453***	0.083	
Observation		3,010		3,010		3,010	

*** p<0.001, ** p<0.01, * p<0.05

Data Source: China General Social Survey, 2012

Table a2-6. Cox Regression Results of Women's Second Childbirth in China (Full Results of Model 3 with Spouses' Education)

Variable	Model 3	
	B	SE
<i>Son Preference</i>		
Son Preference (reference: gender balance)		
Daughter Preference	-0.138	0.176
Son Preference	-0.239*	0.105
First Child's Sex (reference: girl)		
Boy	-0.448***	0.066
<i>Extended Family</i>		
Live with Older Generation (reference: no)		
Live with Parents	-0.166	0.144
Live with Parents-in-Law	0.010	0.089
<i>Education</i>		
Women's Education (reference: no education)		
Compulsory Education	-0.527***	0.105
Above Secondary Education	-1.083***	0.130
Spouses' Education (reference: no education)		
Compulsory Education	0.050	0.070
Above Secondary Education	0.026	0.099
<i>Interaction Terms</i>		
<u>Son Preference x First Child's Sex</u> (reference: gender balance x girl)		
Daughter Preference x Girl	0.226	0.216
Son Preference x Girl	-0.310	0.219
<u>Women's Education x Residence Areas</u> (reference: no education x live in rural)		
No Education x Live in Rural Areas	0.256	0.135
Compulsory Education x Live in Rural areas	0.951***	0.219
<i>One Child Policy</i>		
Year of First Birth (reference: before one-child policy)		
After One-Child Policy	-0.341**	0.111

(Continues)

Table a2-6 (Continued)

Variable	Model 3	
	B	SE
<i>Complementary Fertility Information</i>		
Marriage Cohort (reference: married before 1980)		
Married in 1980s	-0.167	0.113
Married in 1990s	-0.143	0.165
Married after 2000	-0.352	0.220
<i>Social Background</i>		
Hukou Status (reference: urban hukou)		
Rural Hukou	0.288**	0.088
Residence Area (reference: live in urban areas)		
Live in Rural Areas	0.056	0.099
Occupation (reference: non-agriculture/public)		
Non-Agriculture/Private	0.191*	0.094
Sector		
Agriculture	-0.185	0.096
Unemployed	-0.653***	0.131
Ethnicity (reference: Han ethnicity)		
Ethnic Minority	0.453***	0.083
Observation	3,010	

*** p<0.001, ** p<0.01, * p<0.05

Data Source: China General Social Survey, 2012

Table a3-1. Cox Regression Results of Married Women's First Childbirth in Japan - Auxiliary

Variable	Model 1		Model 2		Model 3		Model 4	
	Coefficient	SE	Coefficient	SE	Coefficient	SE	Coefficient	SE
Employment Status (reference: Employed at Marriage)								
Not Employed at Marriage	-0.110	0.065	-0.141*	0.07	-0.065	0.067	0.043	0.074
Total Time in Employment Before Marriage					-0.063	0.072		
<i>Women's Working Conditions at Marriage</i>								
Industry Gender Ratio							-0.017	0.079
<i>Controlled Variables</i>								
Survey Year (reference: 1985)								
1995	-0.145*	0.067	-0.195**	0.074	-0.135	0.066	-0.187	0.098
2005	-0.250***	0.052	-0.271***	0.054	-0.233***	0.050	-0.237**	0.076
Age at First Marriage	-0.032***	0.006	-0.035***	0.006	-0.033***	0.006	-0.036***	0.008
Marriage Cohort (reference: Married before 1970)								
Married in 1970s	-0.064	0.057	-0.030	0.06	-0.055	0.056	-0.177*	0.081
Married in 1980s	-0.218**	0.081	-0.161	0.088	-0.209**	0.080	-0.333**	0.116
Married in 1990s	-0.402***	0.114	-0.327**	0.123	-0.404***	0.112	-0.604***	0.158
Married after 2000	-0.472**	0.168	-0.384*	0.178	-0.479**	0.166	-0.585**	0.164
Housing Situation (reference: Living in Owned House)								
Living in Rented House	-0.139*	0.057	-0.139*	0.058	-0.152**	0.057	-0.128**	0.039
Living in Public/Government Housing	-0.011	0.057	-0.014	0.059	-0.016	0.057	-0.056	0.098
Co-residence with Parents (reference: Do Not Live with Parents)								
Live with Parents	0.145***	0.043	0.144***	0.043	0.143**	0.043	0.189**	0.059
Live with Parents-in-laws	0.033	0.073	0.029	0.074	0.031	0.072	0.074	0.104

(Continues)

Table a3-1 (Continued)

Variable	Model 1		Model 2		Model 3		Model 4	
	Coefficient	SE	Coefficient	SE	Coefficient	SE	Coefficient	SE
Education (reference: Before High School)								
High School	0.054	0.058	0.034	0.062	0.002	0.045	0.053	0.102
Technical School/College	0.062	0.087	0.047	0.091	0.029	0.064	0.049	0.142
University and Above	0.056	0.098	0.042	0.101	-0.132	0.072	-0.245	0.170
Geographic Location (reference: Kanto Areas)								
Hokaidou Areas	0.068	0.084						
Tohoku Areas	-0.053	0.074						
Chubu Areas	0.015	0.076						
Kansai Areas	-0.066	0.079						
Chugoku and Shikoku Areas	0.029	0.084						
Kyushu and Okinawa Areas	0.046	0.081						
Husband Education (reference: Before High School)								
High School			-0.036	0.073				
Technical School/College			-0.072	0.122				
University and Above			-0.173	0.174				
Interaction Terms								
Education * Employment Status (reference: Before High School * Not Employed at Marriage)								
High School * Employed at Marriage	-0.057	0.082	-0.094	0.077	-0.107	0.074	-0.167	0.099
Technical School/College * Employed at Marriage	0.001	0.116	-0.036	0.111	-0.047	0.109	0.022	0.140
University and Above * Employed at Marriage	-0.283*	0.131	-0.312*	0.127	-0.345**	0.126	-0.693***	0.175

(Continues)

Table a3-1 (Continued)

Variable	Model 1		Model 2		Model 3		Model 4	
	Coefficient	SE	Coefficient	SE	Coefficient	SE	Coefficient	SE
Education * Industry Gender Ratio (reference: Before High School * Industry Gender Ratio)								
High School * Industry Gender Ratio							0.008	0.087
Technical School/College * Industry Gender Ratio							0.103	0.096
University and Above * Industry Gender Ratio							0.125	0.139
Observation	4,664		4,664		4,664		4,664	

*** p<0.001, ** p<0.01, * p<0.05

Data Source: 1985, 1995, 2005 Social Stratification and Mobility Survey in Japan

Table a3-2. Cox Regression Results of Married Women's First Childbirth in Japan: Employment Status - Robust

Variable	Test			
	Model 1		Model 2	
	Coefficient	SE	Coefficient	SE
<i>Women's Labour Conditions at Marriage</i>				
Employment Status (reference: Not Employed at Marriage)				
Employed at Marriage	-0.179***	0.031	-0.080	0.062
<i>Controlled Variables</i>				
Survey Year (reference: 1985)				
1995	-0.199	0.210	-0.201	0.163
2005	-0.289***	0.056	-0.299	0.049
Age at First Marriage	-0.043***	0.005	-0.042***	0.005

(Continues)

Table a3-2 (Continued)

Variable	Model 1		Model 2	
	Coefficient	SE	Coefficient	SE
Housing Situation (reference: Living in Owned House)				
Living in Rented House	-0.158**	0.056	-0.155**	0.056
Living in Public/Government Housing	-0.009	0.057	-0.005	0.057
Co-residence with Parents (reference: Do Not Live with Parents)				
Live with Parents	0.151***	0.042	0.149***	0.042
Live with Parents-in-laws	0.037	0.072	0.037	0.072
Education (reference: Before High School)				
High School	-0.046	0.044	0.101	0.076
Technical School/College	-0.053	0.064	0.085	0.085
University and Above	-0.105*	0.049	0.093	0.095
Interaction Terms				
Education * Employment Status (reference: Before High School * Not Employed at Marriage)				
High School * Employed at Marriage			-0.124	0.075
Technical School/College * Employed at Marriage			-0.079	0.109
University and Above * Employed at Marriage			-0.372**	0.125
Observation	4,664		4,664	

*** p<0.001, ** p<0.01, * p<0.05

Data Source: 1985, 1995, 2005 Social Stratification and Mobility Survey in Japan

Table a3-3. Cox Regression Results of Married Women's First Childbirth in Japan: Working Conditions - Robust Test

Variable	Model 3		Model 4		Model 5	
	Coefficient	SE	Coefficient	SE	Coefficient	SE
Employment Status (reference: Employed at Marriage)						
Not Employed at Marriage	-0.233***	0.072	-0.227***	0.033	-0.151***	0.040
Women's Working Conditions at Marriage						
Employment Type (reference: Full-Time Job)						
Part-Time/Flexible-Time Job	0.118*	0.054				
Not Worked Before Marriage	0.090***	0.012				
Corporation Size (reference: Small Firm)						
Medium Firm			-0.071	0.063		
Large Firm			-0.078	0.059		
Mega Firm			-0.129**	0.048		
Government Sector			-0.128	0.074		
Not Worked Before Marriage			-0.196	0.121		
Industry Gender Ratio (reference: Gender-Neutral Industries)						
Male-Dominated Industries					-0.140**	0.049
Female-Dominated Industries					-0.101*	0.048
Not Worked Before Marriage					-0.136	0.123
Controlled Variables						
Survey Year (reference: 1985)						
1995	-0.209*	0.101	-0.204*	0.098	-0.197*	0.089
2005	-0.295***	0.042	-0.301***	0.042	-0.264***	0.036
Age at First Marriage	-0.045***	0.005	-0.045***	0.005	-0.044***	0.005
Housing Situation (reference: Living in Owned House)						
Living in Rented House	-0.160**	0.056	-0.166**	0.056	-0.161**	0.056
Living in Public/Government	-0.015	0.057	-0.012	0.057	-0.013	0.057
Housing						
Co-residence with Parents (reference: Do Not Live with Parents)						
Live with Parents	0.148**	0.043	0.149***	0.043	0.152***	0.042
Live with Parents-in-laws	0.053	0.057	0.049	0.072	0.049	0.072
Observation		4,664		4,664		4,664

*** p<0.001, ** p<0.01, * p<0.05

Data Source: 1985, 1995, 2005 Social Stratification and Mobility Survey in Japan

Table a3-4. Cox Regression Results of Married Women's First Childbirth in Japan: Occupation Type and Partners' Labour Conditions - Robust Test

Variable	Model 6	
	Coefficient	SE
Employment Status (reference: Employed at Marriage)		
Not Employed at Marriage	-0.241***	0.034
<i>Women's Occupation Type at Marriage</i>		
Occupation Type (reference: Intermediate)		
Higher Grade Professional	0.042	0.092
Lower Grade Professional / Higher Technical	0.083*	0.039
Small Employers / Own Account Workers / Self-Employed	0.237**	0.072
Lower Service / Sales / Clerical	0.015	0.055
Lower Technical	0.031	0.047
Routine / Semi-Routine	0.082	0.061
Not Worked Before Marriage	-0.089	0.098
<i>Controlled Variables</i>		
Survey Year (reference: 1985)		
1995	-0.167	0.177
2005	-0.261	0.045
Age at First Marriage	-0.043***	0.005
Housing Situation (reference: Living in Owned House)		
Living in Rented House	-0.162**	0.056
Living in Public/Government Housing	-0.009	0.058
Co-residence with Parents (reference: Do Not Live with Parents)		
Live with Parents	0.140**	0.043
Live with Parents-in-laws	0.051	0.071
Observation	4,664	

*** p<0.001, ** p<0.01, * p<0.05

Data Source: 1985, 1995, 2005 Social Stratification and Mobility Survey in Japan

Table a3-5. Cox Regression Results of Married Women's First Childbirth in Japan: Husbands' Labour Conditions

Variable	Model 7		Model 8	
	Coefficient	SE	Coefficient	SE
Employment Status (reference: Employed at Marriage)				
Not Employed at Marriage	-0.199*	0.097	-0.164*	0.067
<i>Husbands' Occupation Type at Marriage</i>				
Occupation Type (reference: Intermediate)				
Higher Grade Professional	0.031	0.054		
Lower Grade Professional / Higher				
Technical	0.025	0.065		
Small Employers / Own Account Workers				
/ Self-Employed	0.060	0.064		
Lower Service / Sales / Clerical	0.010	0.061		
Lower Technical	0.061	0.044		
Routine / Semi-Routine	0.113	0.081		
Not Employed at Marriage	-0.198*	0.096		
Corporation Size (reference: Small Firm)				
Medium Firm			-0.079	0.049
Large Firm			-0.136**	0.046
Mega Firm			-0.047*	0.022
Government Sector			-0.032	0.045
Not Employed at Marriage			-0.279**	0.093
<i>Women's Occupation Type at Marriage</i>				
Occupation Type (reference: Intermediate)				
Higher Grade Professional	0.095	0.099		
Lower Grade Professional / Higher				
Technical	0.092*	0.048		
Small Employers / Own Account Workers				
/ Self-Employed	0.248***	0.074		
Lower Service / Sales / Clerical	0.029	0.056		
Lower Technical	0.037	0.05		
Routine / Semi-Routine	0.081	0.064		
Not Employed at Marriage	-0.044	0.059		
Corporation Size (reference: Small Firm)				
Medium Firm			-0.065	0.043
Large Firm			-0.055	0.058
Mega Firm			-0.140**	0.049
Government Sector			-0.091	0.067
Not Worked Before Marriage			-0.151	0.166

(Continues)

Table a3-5 (Continued)

Variable	Model 7		Model 8	
	Coefficient	SE	Coefficient	SE
<i>Controlled Variables</i>				
Survey Year (reference: 1985)				
1995	-0.177*	0.071	-0.197**	0.068
2005	-0.243***	0.055	-0.271***	0.052
Age at First Marriage	-0.034***	0.006	-0.035***	0.006
Marriage Cohort (reference: Married before 1970)				
Married in 1970s	-0.042	0.056	-0.031	0.056
Married in 1980s	-0.169*	0.082	-0.167*	0.079
Married in 1990s	-0.336**	0.114	-0.332**	0.112
Married after 2000	-0.389*	0.169	-0.395*	0.168
Housing Situation (reference: Living in Owned House)				
Living in Rented House	-0.144*	0.057	-0.144*	0.057
Living in Public/Government Housing	-0.007	0.059	-0.005	0.058
Co-residence with Parents (reference: Do Not Live with Parents)				
Live with Parents	0.124**	0.044	0.131**	0.043
Live with Parents-in-laws	0.049	0.071	0.056	0.071
Education reference: Before High School				
High School	0.052	0.055	0.050	0.057
Technical School/College	0.059	0.085	0.065	0.086
University and Above	0.046	0.096	0.098	0.098
<i>Interaction Terms</i>				
Education x Employment Status (reference: Before High School * Not Employed at Marriage)				
High School x Employed at Marriage	-0.029	0.076	-0.066	0.076
Technical School/College x Employed at Marriage	0.028	0.112	-0.012	0.109
University and Above x Employed at Marriage	-0.305*	0.129	-0.328*	0.127
Observation	4,664		4,664	

*** p<0.001, ** p<0.01, * p<0.05

Data Source: 1985, 1995, 2005 Social Stratification and Mobility Survey in Japan

Table a4-1. Auxiliary Analysis Including Other Controlled Variables and Measurements

		Marriage			First Birth		Second Birth			
		China		Japan	China		Japan	China		Japan
		Rural	Urban		Rural	Urban		Rural	Urban	
Removing the marriage cohort variable	Matching Type									
	(Reference: Parents-Introduced Matching)									
	Others-Introduced Matching	-0.141	-0.202*	0.030	-0.143	-0.036	-0.109	-0.174	-0.142	-0.104
		(0.118)	(0.095)	(0.180)	(0.129)	(0.060)	(0.154)	(0.133)	(0.199)	(0.101)
	Self-Initiated Matching	-0.184+	-0.324**	0.171+	-0.184*	-0.108*	-0.095	-0.213**	-0.303	-0.109
		(0.104)	(0.124)	(0.099)	(-0.092)	(0.052)	(0.131)	(0.080)	(0.204)	(0.095)
Parents' Influence on Matching										
(Reference: Not Strongly Influenced by Parents)										
	Strongly Influenced by Parents	0.183	0.209	0.852**	0.437**	0.079	0.204	0.271*	-0.061	-0.284
		(0.275)	(0.392)	(0.274)	(0.133)	(0.207)	(0.211)	(0.129)	(0.164)	(0.168)
Removing the education variable	Matching Type									
	(Reference: Parents-Introduced Matching)									
	Others-Introduced Matching	-0.134	-0.268*	0.033	-0.125	-0.065	-0.091	-0.17	-0.140	-0.156
		(0.111)	(0.126)	(0.197)	(0.113)	(0.109)	(0.129)	(0.130)	(0.197)	(0.152)
	Self-Initiated Matching	-0.185+	-0.265**	0.178+	-0.121*	-0.169*	-0.048	-0.266**	-0.282	-0.175
		(0.105)	(0.101)	(0.103)	(0.061)	(0.082)	(0.066)	(0.100)	-0.190	(0.152)
Parents' Influence on Matching										
(Reference: Not Strongly Influenced by Parents)										
	Strongly Influenced by Parents	0.157	0.148	0.851**	0.422**	0.070	0.263	0.196*	-0.061	-0.345
		(0.236)	(0.277)	(0.274)	(0.128)	(0.183)	(0.272)	(0.093)	(0.164)	(0.204)

(Continues)

Table a4-1
(Continued)

		Marriage			First Birth		Second Birth			
		China		Japan	China		Japan	China		Japan
		Rural	Urban		Rural	Urban		Rural	Urban	
Separating matching-related variables in two sets of models	Matching Type (Reference: Parents-Introduced Matching)									
	Others-Introduced Matching	-0.186 (0.155)	-0.280* (0.132)	0.037 (0.221)	-0.136 (0.123)	-0.051 (0.086)	-0.102 (0.144)	-0.168 (0.129)	-0.155 (0.218)	-0.152 (0.148)
	Self-Initiated Matching	-0.237* (0.102)	-0.318** (0.121)	0.202* (0.099)	-0.196* (0.098)	-0.172* (0.083)	-0.104 (0.144)	-0.221** (0.083)	-0.234 (0.157)	-0.187 (0.163)
	Parents' Influence on Matching (Reference: Not Strongly Influenced by Parents)									
	Strongly Influenced by Parents	0.214+ (0.113)	0.145 (0.272)	0.853** (0.275)	0.431** (0.131)	0.050 (0.131)	0.210 (0.217)	0.182* (0.087)	-0.122 (0.329)	-0.348 (0.206)
	Including the survey ID variable for the <u>Chinese data</u>	Matching Type (Reference: Parents-Introduced Matching)								
Others-Introduced Matching		-0.130 (0.108)	-0.236* (0.111)		-0.118 (0.106)	-0.041 (0.069)		-0.183 (0.14)	-0.145 (0.204)	
Self-Initiated Matching		-0.192+ (0.109)	-0.278** (0.106)		-0.175* (0.088)	-0.167* (0.081)		-0.268** (0.100)	-0.212 (0.143)	
Parents' Influence on Matching (Reference: Not Strongly Influenced by Parents)										
Strongly Influenced by Parents		0.162 (0.243)	0.187 (0.350)		0.404** (0.123)	0.077 (0.201)		0.244* (0.116)	-0.070 (0.189)	

(Continues)

Table a4-1
(Continued)

		Marriage			First Birth			Second Birth			
		China		Japan	China		Japan	China		Japan	
		Rural	Urban		Rural	Urban		Rural	Urban		
Including women's and partners' parental family income at the time of marriage for the Chinese data	Matching Type	(Reference: Parents-Introduced Matching)									
	Others-Introduced Matching	-0.126	-0.251*		-0.114	-0.059		-0.091	-0.110		
		(0.105)	(0.118)		(0.103)	(0.099)		(0.07)	(0.154)		
	Self-Initiated Matching	-0.185+	-0.277**		-0.175*	-0.177*		-0.285**	-0.255		
		(0.105)	0.106)		(0.088)	(0.086)		(0.107)	(0.172)		
	Parents' Influence on Matching	(Reference: Not Strongly Influenced by Parents)									
	Strongly Influenced by Parents	0.188	0.163		0.386**	0.050		0.237*	-0.099		
		(0.282)	(0.306)		(0.117)	(0.131)		(0.113)	(0.267)		
	Including the partners' education variable	Matching Type	(Reference: Parents-Introduced Matching)								
		Others-Introduced Matching	-0.134	-0.246*	0.022	-0.122	-0.039	-0.051	-0.173	-0.063	-0.165
		(0.112)	(0.116)	(0.132)	(0.110)	(0.065)	(0.072)	(0.132)	(0.088)	(0.161)	
Self-Initiated Matching		-0.212+	-0.298**	0.215+	-0.158*	-0.179*	-0.117	-0.232**	-0.211	-0.118	
		(0.120)	(0.114)	(0.125)	(0.079)	(0.087)	(0.162)	(0.087)	(0.142)	(0.103)	
Parents' Influence on Matching		(Reference: Not Strongly Influenced by Parents)									
Strongly Influenced by Parents		0.159	0.167	0.813**	0.406**	0.057	0.208	0.187*	-0.056	-0.355	
		(0.238)	(0.313)	(0.262)	(0.124)	(0.149)	(0.215)	(0.089)	(0.151)	(0.21)	

(Continues)

Table a4-1
(Continued)

		Marriage			First Birth		Second Birth			
		China		Japan	China		Japan	China		Japan
		Rural	Urban		Rural	Urban		Rural	Urban	
Controlling for province-level fixed effects	<i>Matching Type</i> (Reference: Parents-Introduced Matching)									
	Others-Introduced Matching	-0.136 (0.113)	-0.244* (0.115)	0.023 (0.138)	-0.124 (0.112)	-0.043 (0.072)	-0.026 (0.037)	-0.138 (0.106)	-0.113 (0.159)	-0.073 (0.071)
	Self-Initiated Matching	-0.205+ (0.116)	-0.278** (0.106)	0.240+ (0.139)	-0.173* (0.087)	-0.169* (0.082)	-0.032 (0.044)	-0.239** (0.09)	-0.255 (0.172)	-0.095 (0.083)
	<i>Parents' Influence on Matching</i> (Reference: Not Strongly Influenced by Parents)									
	Strongly Influenced by Parents	0.183 (0.275)	0.171 (0.321)	0.883** (0.284)	0.402** (0.122)	0.068 (0.178)	0.191 (0.198)	0.226* (0.108)	-0.099 (0.267)	-0.345 (0.204)

*** p<0.001, ** p<0.01, * p<0.05, + p<0.1

Standard errors are in parentheses

Data Source: East Asian Social Survey, Panel Study of Family Dynamics

References

- Abadian, S. (1996). Women's autonomy and its impact on fertility. *World Development*, 24(12), 1793-1809.
- Allendorf, K., Thornton, A., Mitchell, C., Young-DeMarco, L., & Ghimire, D. J. (2017). Early Women, Late Men: Timing Attitudes and Gender Differences in Marriage. *Journal of Marriage and Family*, 79(5), 1478-1496.
- Anderson, T., & Kohler, H.-P. (2013). Education fever and the East Asian fertility puzzle: A case study of low fertility in South Korea. *Asian Population Studies*, 9(2), 196-215.
- Anker, R. (1997). Theories of occupational segregation by sex: An overview. *Int'l Lab. Rev.*, 136, 315.
- Aoki, M. (1984). *The co-operative game theory of the firm*: Oxford university press.
- Aoki, M., & Patrick, H. (1996). The Japanese main bank system: Its relevance for developing and transforming economies. *Journal of Japanese Studies*, 22(2).
- Apostolou, M. (2015). Parent–offspring conflict over mating: Domains of agreement and disagreement. *Evolutionary Psychology*, 13(3), 1474704915604561.
- Applbaum, K. D. (1995). Marriage with the proper stranger: Arranged marriage in metropolitan Japan. *Ethnology*, 34(1), 37-51.
- Appleton, S., Song, L., & Xia, Q. (2014). Understanding urban wage inequality in China 1988–2008: Evidence from quantile analysis. *World Development*, 62, 1-13.
- Arnold, F., Choe, M. K., & Roy, T. K. (1998). Son preference, the family-building process and child mortality in India. *Population Studies*, 52(3), 301-315.
- Atoh, M. (2001). Very low fertility in Japan and value change hypotheses. *Age*, 25, 29.
- Attane, I. (2001). Chinese fertility on the eve of the 21st century: Fact and uncertainty. *Population: An English Selection*, 71-100.
- Axinn, W. G., & Thornton, A. (1992). The influence of parental resources on the timing of the transition to marriage. *Social Science Research*, 21(3), 261-285.
- Badgett, L., Davidson, P., Folbre, N., & Lim, J. (2000). *Breadwinner dad, homemaker mom: An interdisciplinary analysis of changing gender norms*. Paper presented at the Annual Meeting of the American Sociological Association, Washington, DC.
- Bai, J. (2014). Jiedu dandu lianghai zhengce [Elucidating policy permitting couples to have a second birth if one spouse is an only child]. Retrieved from <http://ft.people.com.cn/directList.do?fid=141>

- Bairagi, R., & Langsten, R. L. (1986). Sex preference for children and its implications for fertility in rural Bangladesh. *Studies in family planning*, 17(6), 302-307.
- Baochang, G., Feng, W., Zhigang, G., & Erli, Z. (2007). China's local and national fertility policies at the end of the twentieth century. *Population and development review*, 33(1), 129-148.
- Barber, J. S., & Axinn, W. G. (1998). The impact of parental pressure for grandchildren on young people's entry into cohabitation and marriage. *Population Studies*, 52(2), 129-144.
- Barbieri, M., Hertrich, V., & Grieve, M. (2005). Age difference between spouses and contraceptive practice in sub-Saharan Africa. *Population*, 60(5), 617-654.
- Barro, R. J., & Becker, G. S. (1989). Fertility choice in a model of economic growth. *Econometrica: journal of the Econometric Society*, 481-501.
- Barrow, R. (2000). *The Romans*. Shanghai: Shanghai Renmin Press.
- Basten, S., & Gu, B. (2013). *Childbearing preferences, reform of family planning restrictions, and the low fertility trap in China*: Working Paper 61, Oxford Centre for Population Research Working Paper. Department of Social Policy and Intervention, University of Oxford.
- Basten, S., & Jiang, Q. (2015). Fertility in China: An uncertain future. *Population Studies*, 69(sup1), S97-S105.
- Becker, G. S. (1960). An economic analysis of fertility *Demographic and economic change in developed countries* (pp. 209-240): Columbia University Press.
- Becker, G. S. (1965). A Theory of the Allocation of Time. *The economic journal*, 493-517.
- Becker, G. S. (1981). *A Treatise on the Family*. Cambridge: Harvard University Press.
- Becker, G. S., & Lewis, H. G. (1973). On the Interaction between the Quantity and Quality of Children. *Journal of political economy*, 81(2, Part 2), S279-S288.
- Begall, K., & Mills, M. C. (2012). The influence of educational field, occupation, and occupational sex segregation on fertility in the Netherlands. *European sociological review*, 29(4), 720-742.
- Bengtson, V. L., Elder Jr, G. H., & Putney, N. M. (2012). The life course perspective on ageing: Linked lives, timing, and history. *Adult lives: A life course perspective*, 9-17.
- Berk, F. S. (1985). The gender factory: The apportionment of work in American households. *New York: Plemen*.

- Bian, F., Logan, J. R., & Bian, Y. (1998). Intergenerational relations in urban China: Proximity, contact, and help to parents. *Demography*, 35(1), 115-124.
- Bian, F., Logan, J. R., & Bian, Y. (1998). Intergenerational relations in urban China: Proximity, contact, and help to parents. *Demography*, 35(1), 115-124.
- Bianchi, S. M. (2000). Maternal employment and time with children: Dramatic change or surprising continuity? *Demography*, 37(4), 401-414.
- Bianchi, S. M., Robinson, J. P., & Milke, M. A. (2006). *The changing rhythms of American family life*: Russell Sage Foundation.
- Billari, F. (2004). Becoming an adult in Europe: A macro (/micro)-demographic perspective. *Demographic research*, 3, 15-44.
- Birdsall, N., & Jamison, D. T. (1983). Income and other factors influencing fertility in China. *Population and development review*, 651-675.
- Blossfeld, H.-P. (1995). The new role of women: family formation in modern societies.
- Blossfeld, H.-P. (2009). Educational assortative marriage in comparative perspective. *Annual Review of Sociology*, 35, 513-530.
- Blossfeld, H.-P., Golsch, K., & Rohwer, G. (2012). *Event history analysis with Stata*: Psychology Press.
- Blossfeld, H.-P., & Hakim, C. (1997). Introduction: A comparative perspective on part-time work. In H.-P. Blossfeld & C. Hakim (Eds.), *Between Equalization and Marginalization* (pp. 1-21). New York: Oxford University Press.
- Blossfeld, H.-P., & Huinink, J. (1991). Human capital investments or norms of role transition? How women's schooling and career affect the process of family formation. *American journal of sociology*, 97(1), 143-168.
- Bockover, M. I. (2003). Rethinking Confucianism: Past and Present in China, Japan, Korea, and Vietnam. *China Review International*, 10(2), 337-350.
- Boling, P. (2007). Policies to support working mothers and children in Japan. In F. M. Rosenbluth (Ed.), *The political economy of Japan's low fertility* (pp. 131-154): Stanford University Press.
- Boling, P. (2008). Demography, culture, and policy: Understanding Japan's low fertility. *Population and development review*, 34(2), 307-326.
- Bongaarts, J. (2002). The end of the fertility transition in the developed world. *Population and development review*, 28(3), 419-443.
- Bongaarts, J., & Feeney, G. (1998). On the quantum and tempo of fertility. *Population and development review*, 271-291.

- Bongaarts, J., & Potter, R. E. (2013). *Fertility, biology, and behavior: An analysis of the proximate determinants*: Academic Press.
- Booth, A., & Edwards, J. N. (1985). Age at marriage and marital instability. *Journal of Marriage and the Family*, 67-75.
- Braunstein, E., & Folbre, N. (2001). To honor and obey: efficiency, inequality, and patriarchal property rights. *Feminist Economics*, 7(1), 25-44.
- Brewster, K. L., & Rindfuss, R. R. (2000). Fertility and women's employment in industrialized nations. *Annual Review of Sociology*, 26(1), 271-296.
- Brines, J. (1994). Economic dependency, gender, and the division of labor at home. *American journal of sociology*, 100(3), 652-688.
- Brinton, M. C. (1989). Gender stratification in contemporary urban Japan. *American Sociological Review*, 549-564.
- Brinton, M. C. (1993). *Women and the economic miracle: Gender and work in postwar Japan* (Vol. 21): Univ of California Press.
- Brinton, M. C. (2001). *Women's working lives in East Asia*: Stanford University Press.
- Brinton, M. C., & Lee, S. (2001). Women's education and the labor market in Japan and South Korea. *Women's working lives in East Asia*, 125-150.
- Brinton, M. C., & Ngo, H.-Y. (1993). *Age and sex in the occupational structure: A United States-Japan comparison*. Paper presented at the Sociological Forum.
- Brown, M. J., Bossen, L., Gates, H., & Satterthwaite-Phillips, D. (2012). Marriage mobility and footbinding in pre-1949 rural China: a reconsideration of gender, economics, and meaning in social causation. *The Journal of Asian Studies*, 71(4), 1035-1067.
- Brown, P. H., & Park, A. (2002). Education and poverty in rural China. *Economics of Education Review*, 21(6), 523-541.
- Bumpass, L. L., Rindfuss, R. R., Choe, M. K., & Tsuya, N. O. (2009). The institutional context of low fertility: The case of Japan. *Asian Population Studies*, 5(3), 215-235.
- Burch, T. K., & Gendell, M. (1970). Extended family structure and fertility: some conceptual and methodological issues. *Journal of Marriage and the Family*, 227-236.
- Buunk, A. P., Pollet, T. V., & Dubbs, S. (2012). Parental control over mate choice to prevent marriages with out-group members. *Human nature*, 23(3), 360-374.
- Buunk, A. P., & Solano, A. C. (2012). Mate guarding and parental influence on mate

- choice. *Personal Relationships*, 19(1), 103-112.
- Cai, F., & Wang, M. (2006). Challenge facing China's economic growth in its aging but not affluent era. *China & World Economy*, 14(5), 20-31.
- Cai, Y. (2008). An assessment of China's fertility level using the variable-r method. *Demography*, 45(2), 271-281.
- Cai, Y. (2010). China's below-replacement fertility: government policy or socioeconomic development? *Population and development review*, 36(3), 419-440.
- Cai, Y. (2011). China's lowest low fertility in the global context: Opportunities and challenges. In F. Wang, X. Peng, & B. Gu (Eds.), *Globalisation and low fertility: China's choice* (1st ed., pp. 53-64): Routledge.
- Cain, M. (1984). Womens status and fertility in developing countries: son preference and economic security.
- Cain, M. T. (1993). Patriarchal structure and demographic change.
- Caldwell, J. C. (1982). Theory of fertility decline.
- Casterline, J. B., Williams, L., & McDonald, P. (1986). The age difference between spouses: variations among developing countries. *Population Studies*, 40(3), 353-374.
- Castles, F. G. (2003). The world turned upside down: below replacement fertility, changing preferences and family-friendly public policy in 21 OECD countries. *Journal of European social policy*, 13(3), 209-227.
- Central Intelligence Agency. (2016). Mother's mean age at first birth. In *The World Factbook*. Retrieved 4 April 2016, from <https://www.cia.gov/library/publications/the-world-factbook/geos/br.html>
- Chan, K. W., & Zhang, L. (1999). The hukou system and rural-urban migration in China: Processes and changes. *The China Quarterly*, 160, 818-855.
- Chang, C., Lee, C., McKibben, S., Poston, D. L., & Walther, C. S. (2005). *Fertility, family planning and population policy in China*: Routledge.
- Chang, L., Chen, B., & Ji, L. (2011). Attributions and attitudes of mothers and fathers in China. *Parenting*, 11(2-3), 102-115.
- Chang, M., Freedman, R., & Sun, T. (1987). Trends in fertility, family size preferences, and family planning practices in Taiwan, 1961-85. *Studies in family planning*, 18(6), 320-337.
- Charles, M. (1992). Cross-national variation in occupational sex segregation. *American Sociological Review*, 483-502.

- Charles, M. (2005). National skill regimes, postindustrialism, and sex segregation. *Social Politics: International Studies in Gender, State & Society*, 12(2), 289-316.
- Chen, B., & Lin, Y. (2013). Development strategy, urbanisation, and the urban-rural income divide in China [Chinese]. *Chinese Sociological Research*, 4(81), 102.
- Chen, B., Zhang, P., & Yang, R. (2010). Government investment in education, human capital investment and income gap between urban and rural Areas in China [in Chinese]. *Management World*, 1, 36-43.
- Chen, F. (2005). Residential patterns of parents and their married children in contemporary China: A life course approach. *Population Research and Policy Review*, 24(2), 125-148.
- Chen, F. (2006). The impact of family structure on fertility. In D. L. Poston, C.-F. Lee, C.-F. Chang, S. L. McKibben, & C. S. Walther (Eds.), *Fertility, family planning, and population policy in China* (1st ed., pp. 53-64): Routledge.
- Chen, F., Liu, G., & Mair, C. A. (2011). Intergenerational ties in context: Grandparents caring for grandchildren in China. *Social Forces*, 90(2), 571-594.
- Chen, F., & Short, S. E. (2008). Household context and subjective well-being among the oldest old in China. *Journal of Family Issues*, 29(10), 1379-1403.
- Chen, F., Short, S. E., & Entwisle, B. (2000). The impact of grandparental proximity on maternal childcare in China. *Population Research and Policy Review*, 19(6), 571-590.
- Chen, S., & Powell, J. L. (2012). *Aging in China: Implications to social policy of a changing economic state* (Vol. 2): Springer Science & Business Media.
- Chen, X. (2017). Social welfare factors that affect fertility intention of second childbirth of urban women in China [in Chinese]. *Women's Studies*(1), 30.
- Chen, Y. C. C., & Li, J. (2014). Family change in East Asia. In J. Treas, J. Scott, & M. Richards (Eds.), *The Wiley Blackwell Companion to the Sociology of Families* (pp. 61-82). Chichester, UK: Wiley.
- Chen, Z., & Deng, C. (2007). An Analysis of Factors Affecting Fertility Desire of Chinese Women [in Chinese]. *Chinese Journal of Population Science*, 6, 43-48.
- Chesnais, J.-C. (1992). The demographic transition: Stages, patterns, and economic implications. *OUP Catalogue*.
- Chi, P. S., & Hsin, P.-L. (1996). Family structure and fertility behavior in Taiwan. *Population Research and Policy Review*, 15(4), 327-339.
- Chi, W., & Li, B. (2014). Trends in China's gender employment and pay gap: Estimating

- gender pay gaps with employment selection. *Journal of Comparative Economics*, 42(3), 708-725.
- Chi, W., & Qian, X. (2016). Human capital investment in children: An empirical study of household child education expenditure in China, 2007 and 2011. *China Economic Review*, 37, 52-65.
- China Statistics Yearbook. (2016). Retrieved January 1, 2017, from <http://www.stats.gov.cn/tjsj/ndsj/2016/indexeh.htm>
- Cherlin, A. J. (2004). The deinstitutionalization of American marriage. *Journal of marriage and family*, 66(4), 848-861.
- Choe, M. K., Bumpass, L. L., Tsuya, N. O., & Rindfuss, R. R. (2014). Nontraditional Family-Related Attitudes in Japan: Macro and Micro Determinants. *Population and development review*, 40(2), 241-271.
- Choe, M. K., Guo, F., Wu, J., & Zhang, R. (1992). Progression to second and third births in China: Patterns and covariates in six provinces. *International Family Planning Perspectives*, 130-149.
- Chu, C. C., Xie, Y., & Yu, R. R. (2011). Coresidence with elderly parents: A comparative study of southeast China and Taiwan. *Journal of Marriage and Family*, 73(1), 120-135.
- Chu, C. C., & Yu, R.-R. (2010). *Understanding Chinese families: A comparative study of Taiwan and Southeast China*: Oxford University Press.
- Chu, J. (2001). Prenatal sex determination and sex-selective abortion in rural central China. *Population and development review*, 27(2), 259-281.
- Chung, Y. S., & Choe, M. K. (2001). Sources of family income and expenditure on children's private, after-school education in Korea. *International Journal of Consumer Studies*, 25(3), 193-199.
- Ciren, C., Liang, D., Luo, X., Xia, Y., Yan, X., & Yang, Y. (2016). From arranged marriage to autonomous marriage: marriage liberalization in India, Ancient Rome, United Kingdom and China. *International journal of humanities and social science*, 6(1), 114-120.
- Clark, S. (2000). Son preference and sex composition of children: Evidence from India. *Demography*, 37(1), 95-108.
- Coale, A. J., & Hoover, E. M. (1958). *Population growth and economic growth in low-income countries*: Princeton, NJ: Princeton University Press.
- Cohen, M. L. (1976). *House united house divided*: Columbia University Press.
- Cook, A., & Minnotte, K. L. (2008). Occupational and industry sex segregation and the

- work–family interface. *Sex Roles*, 59(11-12), 800-813.
- Cooke, T. (2003). *Full, full, full of love*: Candlewick.
- Coombs, L. C. (1978). How many children do couples really want? *Family planning perspectives*, 10(5), 303-308.
- Cooney, R. S., & Di, J. (1999). Primary family caregivers of impaired elderly in Shanghai, China: kin relationship and caregiver burden. *Research on Aging*, 21(6), 739-761.
- Cooney, T. M., & Uhlenberg, P. (1989). Family-building patterns of professional women: A comparison of lawyers, physicians, and postsecondary teachers. *Journal of Marriage and the Family*, 749-758.
- Coontz, S. (2005). The new fragility of marriage for better or for worse. *The Chronicle of Higher Education*, 51.
- Corijn, M., Liefbroer, A. C., & de Jong Gierveld, J. (1996). It takes two to tango, doesn't it? The influence of couple characteristics on the timing of the birth of the first child. *Journal of Marriage and the Family*, 117-126.
- Cowhey, P. F., & McCubbins, M. (1995). *Structure and Policy in Japan and the United States: An Institutionalist Approach*: Cambridge University Press.
- Cox, D. R. (1992). Regression models and life-tables *Breakthroughs in statistics* (pp. 527-541): Springer.
- Cramer, J. (1980). Fertility and female employment: Problems of causal direction. *American Sociological Review*, 167-190.
- Croll, E. J. (1999). Social welfare reform: Trends and tensions. *The China Quarterly*, 159, 684-699.
- Croll, E. J. (2013). *Feminism and Socialism in China (Routledge Revivals)*: Routledge.
- Cui, S., & Li, H. (2010). *Comparing filial piety in China and Japan*. Paper presented at the Northeast Asia Forum.
- Currais, L. (2000). From the Malthusian regime to the demographic transition: Contemporary research and beyond. *Economica*, 7(3), 75-101.
- Dalton, E., & Dales, L. (2016). Online Konkatsu and the gendered ideals of marriage in contemporary Japan. *Japanese Studies*, 36(1), 1-19.
- Dan, P. (2010). Ning Man-xiu College of Economics & Management Nanjing Agricultural University, Nanjing 210095, Fujian Agriculture and Forestry University, Fujian 350002; Income Level, Income Structure and the Childbearing Intention of Chinese Rural Women: An Empirical Study Based on CHNS Data [J]. *South China Population*, 3.

- Das Gupta, M., Zhenghua, J., Bohua, L., Zhenming, X., Chung, W., & Hwa-Ok, B. (2003). Why is son preference so persistent in East and South Asia? A cross-country study of China, India and the Republic of Korea. *The Journal of Development Studies*, 40(2), 153-187.
- Dasgupta, S., Matsumoto, M., & Xia, C. (2015). *Women in the labour market in China*. Retrieved from
- Davis, A. E., & Kalleberg, A. L. (2006). Family-friendly organizations? Work and family programs in the 1990s. *Work and Occupations*, 33(2), 191-223.
- Davis, D. S., & Harrell, S. (1993). *Chinese families in the post-Mao era* (Vol. 17): Univ of California Press.
- Davis, K. (1955). Institutional patterns favoring high fertility in underdeveloped areas. *Eugenics Quarterly*, 2(1), 33-39.
- Davis, K., & Blake, J. (1956). Social structure and fertility: An analytic framework. *Economic development and cultural change*, 4(3), 211-235.
- De Vos, G. (1960). The relation of guilt toward parents to achievement and arranged marriage among the Japanese. *Psychiatry*, 23(3), 287-301.
- Delphy, C. (1994). *Changing women in a changing Europe: Is 'difference' the future for feminism?* Paper presented at the Women's Studies International Forum.
- Department of Statistics, Taiwan (2014). Retrieved March 3, 2016, from the Ministry of the Interior, Taiwan: <http://www.moi.gov.tw/stat/index.aspx>
- Desai, S., & Waite, L. J. (1991). Women's employment during pregnancy and after the first birth: Occupational characteristics and work commitment. *American Sociological Review*, 551-566.
- Deutsch, F. M. (2006). Filial piety, patrilineality, and China's one-child policy. *Journal of Family Issues*, 27(3), 366-389.
- Ding, Q. J., & Hesketh, T. (2006). Family size, fertility preferences, and sex ratio in China in the era of the one child family policy: results from national family planning and reproductive health survey: British Medical Journal Publishing Group.
- Dong, X., & An, X. (2015). Gender Patterns and Value of Unpaid Care Work: Findings From China's First Large-Scale Time Use Survey. *Review of Income and Wealth*, 61(3), 540-560.
- Dong, X., & Zhao, Y. (2017). *Working women's second childbirth in China [in Chinese]*. Paper presented at the The Care Economy, Women's Economic Empowerment, and China's Inclusive Growth Forum.

- Drabe, M., & Stanfors, M. (2010). Family life in power couples.: Continued childbearing and union stability among the educational elite in Sweden, 1991–2005. *Demographic research*, 23, 847-878.
- Dubbs, S. L., Buunk, A. P., & Taniguchi, H. (2013). Parent-offspring conflict in Japan and parental influence across six cultures. *Japanese Psychological Research*, 55(3), 241-253.
- Eastman, L. E. (1988). Family, field, and ancestors. *New York: Oxford UP*.
- England, P. (2005). Gender inequality in labor markets: The role of motherhood and segregation. *Social Politics: International Studies in Gender, State & Society*, 12(2), 264-288.
- Entwisle, B., & Chen, F. (2002). Work patterns following a birth in urban and rural China: A longitudinal study. *European Journal of Population/Revue européenne de Démographie*, 18(2), 99-119.
- Entwisle, B., Henderson, G. E., Short, S. E., Bouma, J., & Fengying, Z. (1995). Gender and family businesses in rural China. *American Sociological Review*, 36-57.
- Esping-Andersen, G. (1999). *Social foundations of postindustrial economies*: Oxford University Press.
- Estevez-Abe, M. (2007). Gendering the varieties of capitalism: gender bias in skills and social policies. *The political economy of Japan's low fertility*, 63-86.
- Evertsson, M., & Neramo, M. (2004). Dependence within families and the division of labor: Comparing Sweden and the United States. *Journal of Marriage and Family*, 66(5), 1272-1286.
- Fan, C., & Huang, Y. (1998). Waves of rural brides: Female marriage migration in China. *Annals of the Association of American Geographers*, 88(2), 227-251.
- Fei, X. (1939). *Peasant Life in China: A Field Study of Country Life in the Yangtze Valley*. London: Routledge.
- Fei, X., Hamilton, G. G., & Zheng, W. (1992). *From the soil: The foundations of Chinese society*: Univ of California Press.
- Feldman, M. W., Tuljapurkar, S., Li, S., Jin, X., & Li, N. (2007). Son preference, marriage, and intergenerational transfer in rural China *Allocating public and private resources across generations* (pp. 139-162): Springer.
- Filer, R. K. (1985). Male-female wage differences: The importance of compensating differentials. *ILR Review*, 38(3), 426-437.
- Folbre, N. (1994). *Who pays for the kids?: gender and the structures of constraint* (Vol. 4): Taylor & Francis US.

- Folbre, N., Lee, W., Roemer, J., & Van Der Straeten, K. (2005). Add Gender and Spin: Rethinking Political Coalitions in the US. *unpublished paper, Department of Economics, University of Massachusetts Amherst.*
- Frenette, A. (2006). Only Hope: Coming of Age under China's One-Child Policy. *Contemporary Sociology, 35*(1), 24.
- Friedman, S. (2006). *Intimate politics: Marriage, the market, and state power in southeastern China* (Vol. 265): Harvard Univ Council on East Asian.
- Fu, X., & Heaton, T. B. (2008). Racial and educational homogamy: 1980 to 2000. *Sociological Perspectives, 51*(4), 735-758.
- Fukuda, S. (2009). Shifting economic foundation of marriage in Japan: The erosion of traditional marriage. *Max Planck Institute for Demographic Research Working Paper.*
- Gage, A. J. (1995). Women's socioeconomic position and contraceptive behavior in Togo. *Studies in family planning, 26*4-277.
- Galor, O., & Weil, D. N. (1993). *The gender gap, fertility, and growth*. Retrieved from
- Gao, Y., & Wu, H. (2012). Impact of migration on average age at first marriage in Beijing. *Population research, 36*(5), 58-68.
- Geddes, R., & Lueck, D. (2002). The gains from self-ownership and the expansion of women's rights. *The American Economic Review, 92*(4), 1079-1092.
- Geist, C. (2005). The welfare state and the home: Regime differences in the domestic division of labour. *European sociological review, 21*(1), 23-41.
- Gender Equality Bureau, Cabinet Office. (2013). *White Paper on Gender Equality*. Retrieved from www.gender.go.jp/about_danjo/whitepaper/index.html
- General Census Office. (2010). Population statistics. Retrieved from <http://www.stats.gov.cn/tjsj/pcsj/rkpc/6rp/indexch.htm>
- Ghimire, D. J., Axinn, W. G., Yabiku, S. T., & Thornton, A. (2006). Social change, premarital nonfamily experience, and spouse choice in an arranged marriage society. *American journal of sociology, 111*(4), 1181-1218.
- Ghuman, S. J., Lee, H. J., & Smith, H. L. (2006). Measurement of women's autonomy according to women and their husbands: Results from five Asian countries. *Social Science Research, 35*(1), 1-28.
- Giddens, A. (1991). *Modernity and self-identity: Self and society in the late modern age*. Stanford university press.
- Glass, J., & Camarigg, V. (1992). Gender, parenthood, and job-family compatibility.

- American journal of sociology*, 98(1), 131-151.
- Glass, J. L., & Riley, L. (1998). Family responsive policies and employee retention following childbirth. *Social Forces*, 76(4), 1401-1435.
- Goldman, N., Westoff, C. F., & Hammerslough, C. (1984). Demography of the marriage market in the United States. *Population Index*, 5-25.
- Goldscheider, F., Bernhardt, E., & Lappegård, T. (2015). The gender revolution: A framework for understanding changing family and demographic behavior. *Population and development review*, 41(2), 207-239.
- Goldscheider, F. K., & Goldscheider, C. (1993). Leaving home before marriage. *Ethnicity, Familism and Generational Relationships*. Madison, WI: University of Wisconsin Press.
- Goldstein, J. R., & Kenney, C. T. (2001). Marriage delayed or marriage forgone? New cohort forecasts of first marriage for US women. *American Sociological Review*, 506-519.
- Goldstein, J. R., Sobotka, T., & Jasilioniene, A. (2009). The end of “lowest-low” fertility? *Population and development review*, 35(4), 663-699.
- Gong, P., Liang, S., Carlton, E. J., Jiang, Q., Wu, J., Wang, L., & Remais, J. V. (2012). Urbanisation and health in China. *The Lancet*, 379(9818), 843-852.
- Goode, W. J. (1993). *World changes in divorce patterns*: Yale University Press.
- Goodkind, D. (2006). *Marriage squeeze in China: Historical legacies surprising findings*.
- Goodstein, J. D. (1994). Institutional pressures and strategic responsiveness: Employer involvement in work-family issues. *Academy of Management journal*, 37(2), 350-382.
- Graham, M. J., Larsen, U., & Xu, X. (1998). Son preference in Anhui province, China. *International Family Planning Perspectives*, 72-77.
- Greenhalgh, S. (1985). Sexual stratification: The other side of " growth with equity" in east Asia. *Population and development review*, 265-314.
- Gu, B., Wang, F., Guo, Z., & Zhang, E. (2007). China's local and national fertility policies at the end of the twentieth century. *Population and development review*, 33(1), 129-148.
- Gui, T. (2017). “Devalued” Daughters Versus “Appreciated” Sons: Gender Inequality in China’s Parent-Organized Matchmaking Markets. *Journal of Family Issues*, 38(13), 1923-1948.

- Guilmoto, C. Z. (2012). Skewed sex ratios at birth and future marriage squeeze in China and India, 2005–2100. *Demography*, 49(1), 77-100.
- Guilmoto, C. Z. (2012). Son preference, sex selection, and kinship in Vietnam. *Population and development review*, 38(1), 31-54.
- Guo, Z. (2000). Family patterns. In X. Peng & Z. Guo (Eds.), *The Changing Population of China* (1st ed., pp. 98-111). Oxford: Blackwell Publishers.
- Guo, Z. (2008). China's low fertility and its determinants [in Chinese]. *Population research*, 32(4), 1-12.
- Gupta, S. (2007). Autonomy, dependence, or display? The relationship between married women's earnings and housework. *Journal of Marriage and Family*, 69(2), 399-417.
- Gustafsson, B., & Shi, L. (2004). Expenditures on education and health care and poverty in rural China. *China Economic Review*, 15(3), 292-301.
- Hakim, C. (1991). Grateful slaves and self-made women: fact and fantasy in women's work orientations. *European sociological review*, 7(2), 101-121.
- Hakim, C. (1995). Five feminist myths about women's employment. *British Journal of Sociology*, 429-455.
- Hakim, C. (1996). *Key issues in women's work: female heterogeneity and the polarisation of women's employment* (Vol. 4): A&C Black.
- Hakim, C. (1998). Developing a sociology for the twenty-first century: Preference Theory. *The British Journal of Sociology*, 49(1), 137-143.
- Hakim, C. (2003). A new approach to explaining fertility patterns: Preference theory. *Population and development review*, 29(3), 349-374.
- Hamilton, G. G. (1990). Patriarchy, patrimonialism, and filial piety: A comparison of China and Western Europe. *British Journal of Sociology*, 77-104.
- Han, H. (2010). Trends in educational assortative marriage in China from 1970 to 2000. *Demographic research*, 22, 733-770.
- Hang-Yue, N. (2002). Trends in occupational sex segregation in urban China. *Gender, technology and development*, 6(2), 175-196.
- Hank, K., & Kreyenfeld, M. (2002). Modes of childcare and the difficult compatibility of childrearing and employment in (Western) Germany. *Dorbritz, Jürgen; Otto, Johannes*.
- Hannum, E. (2003). Poverty and basic education in rural China: Villages, households, and girls' and boys' enrollment. *Comparative education review*, 47(2), 141-159.

- Hao, J., & Qiu, C. (2011). A comparative analysis of the fertility level of urban and rural areas in China since 2000 [in Chinese]. *South China Population*, 26(5), 27-33.
- Hashimoto, A., & Ikels, C. (2005). Filial piety in changing Asian societies. In M. Johnson (Ed.), *Cambridge Handbook of Age and Ageing*. Cambridge, UK: Cambridge University Press.
- Hashimoto, A., & Traphagan, J. W. (2008). *Imagined Families, Lived Families: Culture and Kinship in Contemporary Japan*: Suny Press.
- Hebel, J. (2003). Social welfare in rural China. *The Journal of Peasant Studies*, 30(3-4), 224-251.
- Hemminki, E., Wu, Z., Cao, G., & Viisainen, K. (2005). Illegal births and legal abortions—the case of China. *Reproductive Health*, 2(1), 5.
- Hendry, J. (2010). *Marriage in changing Japan: Community & society*: Routledge.
- Hensvik, L., & Nilsson, P. (2010). Buddies and babies: social ties and fertility at work. IFAU-Institute for Labour Market Policy Evaluation Working Paper Series 2010.
- Hershock, P. D., & Ames, P. D. H. R. T. (2012). *Confucian cultures of authority*: SUNY Press.
- Hertog, E. (2009). *Tough choices: Bearing an illegitimate child in Japan*: Stanford University Press.
- Hertog, E., & Iwasawa, M. (2011). Marriage, abortion, or unwed motherhood? How women evaluate alternative solutions to premarital pregnancies in Japan and the United States. *Journal of Family Issues*, 32(12), 1674-1699.
- Hesketh, T., Lu, L., & Xing, Z. W. (2005). The effect of China's one-child family policy after 25 years: Mass Medical Soc.
- Higuchi, Y. (2001). Women's Employment in Japan and the Timing of Marriage and Childbirth. *The Japanese Economic Review*, 52(2), 156-184.
- Hobson, B. (1990). No exit, no voice: Women's economic dependency and the welfare state. *Acta sociologica*, 33(3), 235-250.
- Hobson, B. (1990). No exit, no voice: Women's economic dependency and the welfare state. *Acta sociologica*, 33(3), 235-250.
- Hoem, B. (1996). Some features of recent demographic trends in Sweden.
- Hogan, D. P. (1978). The variable order of events in the life course. *American Sociological Review*, 573-586.
- Holloway, S. D. (2010). *Women and family in contemporary Japan*. Cambridge

University Press.

- Homans, G., & Merton, R. (1961). *Social behaviour: Its elementary forms*. New York: Harcourt, Brace & World.
- Hong, Y. (2006). Marital decision-making and the timing of first birth in rural China before the 1990s. *Population Studies*, 60(3), 329-341.
- Hook, J. L. (2010). Gender inequality in the welfare state: Sex segregation in housework, 1965–2003. *American journal of sociology*, 115(5), 1480-1523.
- Hoshi, T., Kashyap, A., & Scharfstein, D. (1991). Corporate structure, liquidity, and investment: Evidence from Japanese industrial groups. *The Quarterly Journal of Economics*, 106(1), 33-60.
- Houseman, S., & Osawa, M. (1995). Part-time and temporary employment in Japan. *Monthly Lab. Rev.*, 118, 10.
- Hsiung, P., & Ogasawara, Y. (1999). Office Ladies and Salaried Men: Power, Gender, and Work in Japanese Companies. *Contemporary Sociology*, 28(6).
- Hu, J. (2010). Income, Relative Status and Childbearing Willing of Chinese Women [in Chinese]. *South China Population*, 25(4).
- Hu, Y., & Scott, J. (2016). Family and gender values in China: Generational, geographic, and gender differences. *Journal of Family Issues*, 37(9), 1267-1293.
- Huang, F., Jin, G. Z., & Xu, L. C. (2012). Love and money by parental matchmaking: evidence from urban couples in China. *The American Economic Review*, 102(3), 555-560.
- Hwang, K. K. (1999). Filial piety and loyalty: Two types of social identification in Confucianism. *Asian Journal of Social Psychology*, 2(1), 163-183.
- Hynie, M., Lalonde, R. N., & Lee, N. S. (2006). Parent-child value transmission among Chinese immigrants to North America: The case of traditional mate preferences. *Cultural Diversity and Ethnic Minority Psychology*, 12(2), 230.
- Ireland, N., & Aoki, M. (1985). The Co-operative Game Theory of the Firm. *The economic journal*, 95(380).
- Ishida, H. (1993). Social mobility in contemporary Japan *Social Mobility in Contemporary Japan* (pp. 1-24): Springer.
- Ishii-Kuntz, M. (2013). Work environment and Japanese fathers' involvement in child care. *Journal of Family Issues*, 34(2), 250-269.
- Ishikawa, Y. (2010). Role of matchmaking agencies for international marriage in contemporary Japan. *Geographical review of Japan series B*, 83(1), 1-14.

- Iwasawa, M., & Mita, F. (2007). Boom and Bust in Marriages between Coworkers and the Marriage Decline in Japan. *Japanese Economy*, 34(4), 3-24.
- Jacka, T. (2014). *Rural women in urban China: Gender, migration, and social change*: Routledge.
- Jankowiak, W. (1992). Father-child relations in urban China. *Father-child relations: Cultural and biosocial contexts*, 345-363.
- Jejeebhoy, S. J. (1995). Women's education, autonomy, and reproductive behaviour: Experience from developing countries. *OUP Catalogue*.
- Ji, Y. (2015). Asian families at the crossroads: A meeting of east, west, tradition, modernity, and gender. *Journal of Marriage and Family*, 77(5), 1031-1038.
- Jiang, Q., Li, Y., & Sánchez-Barricarte, J. J. (2016). Fertility intention, son preference, and second childbirth: Survey findings from Shaanxi Province of China. *Social Indicators Research*, 125(3), 935-953.
- Jiang, T. (2001). The history and current situation of marriage customs in Japan. *Northwest University Newspaper*, pp. 137-140.
- Jin, X., Guo, Q., & Feldman, M. W. (2015). Marriage squeeze and intergenerational support in contemporary rural China: Evidence from X county of Anhui province. *The International Journal of Aging and Human Development*, 80(2), 115-139.
- Jones, G. W. (2007). Delayed marriage and very low fertility in Pacific Asia. *Population and development review*, 33(3), 453-478.
- Jones, G. W., & Gubhaju, B. (2009). Factors influencing changes in mean age at first marriage and proportions never marrying in the low-fertility countries of East and Southeast Asia. *Asian Population Studies*, 5(3), 237-265.
- Junhong, C. (2001). Prenatal sex determination and sex-selective abortion in rural central China. *Population and development review*, 27(2), 259-281.
- Kalmijn, M. (1991). Status homogamy in the United States. *American journal of sociology*, 97(2), 496-523.
- Kalmijn, M. (1998). Inter-marriage and homogamy: Causes, patterns, trends. *Annual Review of Sociology*, 24(1), 395-421.
- Kamo, Y. (1994). Division of household work in the United States and Japan. *Journal of Family Issues*, 15(3), 348-378.
- Kan, M. Y., & He, G. (2018). Resource bargaining and gender display in housework and care work in modern China. *Chinese Sociological Review*, 50(2), 188-230.
- Kan, M.-Y., & Hertog, E. (2017). Domestic division of labour and fertility preference in

- China, Japan, South Korea, and Taiwan. *Demographic research*, 36, 557-588.
- Kaneko, R. (2004). "Shoshika katei ni okeru fufu shusseiryoku teika to bankonka, kogakurekika, oyobi shusseiki kodo no sokutei" [Decline in the fertility rate among married couples, the delay in marriage, the increased level of education, and the measurement of fertility behaviour]. *Jinko Mondai Kenkyu* [Research on Population Problems] 60: 37-54.
- Kandiyoti, D. (1988). Bargaining with patriarchy. *Gender & society*, 2(3), 274-290.
- Kaneko, R. (1999). Below-replacement fertility in Japan: trends determinants and prospects. *Population Bulletin of the United Nations*(40-41), 266-291.
- Kenjoh, E. (2007). Employment options: Japan in comparative perspectives. In F. M. Rosenbluth (Ed.), *The Political Economy of Japan's Low Fertility*: Stanford University Press.
- Khatun, M. (2009). Global Crisis in Fertility Theory: What Went Wrong? *Canadian Social Science*, 4(3), 9-19.
- Killewald, A., & Gough, M. (2010). Money isn't everything: Wives' earnings and housework time. *Social Science Research*, 39(6), 987-1003.
- King, G., Pan, J., & Roberts, M. E. (2013). How censorship in China allows government criticism but silences collective expression. *American Political Science Review*, 107(2), 326-343.
- Knight, J. (1995). Municipal matchmaking in rural Japan. *Anthropology Today*, 11(2), 9-17.
- Knight, J., & Song, L. (1999). The rural-urban divide: Economic disparities and interactions in China. *OUP Catalogue*.
- Kohler, H. P., Billari, F. C., & Ortega, J. A. (2002). The emergence of lowest-low fertility in Europe during the 1990s. *Population and development review*, 28(4), 641-680.
- Kohler, H.-P., Billari, F. C., & Ortega, J. A. (2006). Low fertility in Europe: Causes, implications and policy options. *The baby bust: Who will do the work*, 48-109.
- Kojima, H. (1990). Coresidence of young adults with their parents in Japan: do sib size and birth order matter? *The Journal of Population Studies*, 13, 15-26.
- Kojima, H. (1995). Marriage, fertility, child rearing, and employment. *Women's life cycle and employment behavior*, 61-87.
- Kolpashnikova, K. (2017). American Househusbands: New Time Use Evidence of Gender Display, 2003–2016. *Social Indicators Research*, 1-19.
- Korean Statistical Information Service (2013). Retrieved March, 3, 2016, from:

http://kosis.kr/statisticsList/statisticsList_01List.jsp?vwcd=MT_ZTITLE&parentId=A

- Kumagai, F. (2016). *Family issues on marriage, divorce, and older adults in Japan*: Springer.
- Lai, D. W. (2010). Filial piety, caregiving appraisal, and caregiving burden. *Research on Aging*, 32(2), 200-223.
- Lavelly, W., & Freedman, R. (1990). The origins of the Chinese fertility decline. *Demography*, 27(3), 357-367.
- Lee Cooke, F. (2003). Equal opportunity? Women's managerial careers in governmental organizations in China. *International Journal of Human Resource Management*, 14(2), 317-333.
- Lee, G. H., & Lee, S. P. (2014). Childcare availability, fertility and female labor force participation in Japan. *Journal of the Japanese and international economies*, 32, 71-85.
- Lee, Y.-J., & Hirata, S. (2001). Women, work, and marriage in three East Asian labor markets: The cases of Taiwan, Japan, and South Korea. *Women's working lives in East Asia*, 96-124.
- Lei, W. (2005). Expenditure on Private Tutoring for Senior Secondary Students: Determinants and Policy Implications [J]. *Education and Economy*, 1, 39-42.
- Leibowitz, A., & Klerman, J. A. (1995). Explaining changes in married mothers' employment over time. *Demography*, 32(3), 365-378.
- Lesthaeghe, R. (2010). The unfolding story of the second demographic transition. *Population and development review*, 36(2), 211-251.
- Lesthaeghe, R., & Moors, G. (2000). Recent trends in fertility and household formation in the industrialized world. *Review of population and social policy*, 9(1), 121-170.
- Lesthaeghe, R., & Willems, P. (1999). Is low fertility a temporary phenomenon in the European Union? *Population and development review*, 25(2), 211-228.
- Lesthaeghe, R. J., & Neidert, L. (2006). The second demographic transition in the United States: Exception or textbook example? *Population and development review*, 32(4), 669-698.
- Lewis, S. K., & Oppenheimer, V. K. (2000). Educational assortative mating across marriage markets: Nonhispanic whites in the United States. *Demography*, 37(1), 29-40.
- Li, C. (2003). How does education affect income [in Chinese]. *Sociological Research*, 3.

- Li, H. (2000). Empirical study of China's urban household education expenditure [in Chinese]. *Education and Economy*, 4, 1-7.
- Li, H. (2002). Advantages and Disadvantages of inter-generational education [in Chinese]. *Shandong Education*, 11.
- Li, H., Yao, X., Zhang, J., & Zhou, L.-A. (2005). Parental childcare and children's educational attainment: evidence from China. *Applied Economics*, 37(18), 2067-2076.
- Li, J. (2004). Gender inequality, family planning, and maternal and child care in a rural Chinese county. *Social Science & Medicine*, 59(4), 695-708.
- Li, J., & Cooney, R. S. (1993). Son preference and the one child policy in China: 1979–1988. *Population Research and Policy Review*, 12(3), 277-296.
- Li, J., & Wang, X. (2014). Age at first marriage, matching, and marriage stability: a research based on CFPS 2010 data. *Social Science*, 3, 80-88.
- Li, S., & Jiang, Q. (2006). China 's son preference and marriage squeeze - a comprehensive analysis of first marriage and remarriage market [in Chinese]. *Population and economy*(4), 1-8.
- Li, X. (2017). *The effect of childcare on domestic labour division [in Chinese]*. Paper presented at the Study of Sociology and Gender Conference, Sichuan.
- Lichter, D. T., Anderson, R. N., & Hayward, M. D. (1995). Marriage markets and marital choice. *Journal of Family Issues*, 16(4), 412-431.
- Lichter, D. T., McLaughlin, D. K., Kephart, G., & Landry, D. J. (1992). Race and the retreat from marriage: A shortage of marriageable men? *American Sociological Review*, 781-799.
- Lin, T.-c., & Adserà, A. (2013). Son preference and children's housework: the case of India. *Population Research and Policy Review*, 32(4), 553-584.
- Lippa, R. A. (2010). Sex differences in personality traits and gender-related occupational preferences across 53 nations: Testing evolutionary and social-environmental theories. *Archives of sexual behavior*, 39(3), 619-636.
- Liu, J. (2008). *The study on the age at first marriage pattern of urban and rural female in China*. Paper presented at the Proceeding in 2008 International Symposium on Contemporary Labor Economics.
- Liu, M., & Chan, C. (1999). Enduring violence and staying in marriage: Stories of battered women in rural China. *Violence against women*, 5(12), 1469-1492.
- Lockwood, W. W. (2015). *Economic Development of Japan*: Princeton University Press.

- Logan, J. R., Bian, Y., & Bian, F. (1999). Housing inequality in urban China in the 1990s. *International Journal of Urban and Regional Research*, 23(1), 7-25.
- Lu, M., & Chen, Z. (2004). Urbanization, urban economic policies and urban-rural income gap [in Chinese]. *Economic Research*, 6(3), 8.
- Ma, L. (2012). Comparing aging population in China, Japan, and South Korea (in Chinese). *International Observer*(3).
- Marini, M. M. (1978). The transition to adulthood: Sex differences in educational attainment and age at marriage. *American Sociological Review*, 43, 483-507.
- Marini, M. M., & Hodsdon, P. J. (1981). Effects of the timing of marriage and first birth of the spacing of subsequent births. *Demography*, 18(4), 529-548.
- Martín García, T. (2010). The Impact of Occupational Sex-Composition on Women's Fertility in Spain. *European Societies*, 12(1), 113-133.
- Masahiro, Y. (1999). *The Age of Parasite Singles*. Tokyo: Chikuma Shinsho.
- Mascie-Taylor, C. (1986). Assortative mating and differential fertility. *Biology and Society*, 3(4), 167-170.
- Mason, K. O. (1984). The status of women: A review of its relationships to fertility and mortality.
- Mason, K. O. (1987). *The impact of women's social position on fertility in developing countries*. Paper presented at the Sociological forum.
- Mason, K. O. (1997). Explaining fertility transitions. *Demography*, 34(4), 443-454.
- Matsumoto, Y., & Yamabe, S. (2013). Family size preference and factors affecting the fertility rate in Hyogo, Japan. *Reproductive Health*, 10(1), 6.
- Matthews, R., & Nee, V. (2000). Gender inequality and economic growth in rural China. *Social Science Research*, 29(4), 606-632.
- Matthews, T. J., & Hamilton, B. E. (2009). Delayed childbearing: more women are having their first child later in life. *NCHS data brief*(21), 1-8.
- Maurer-Fazio, M., Connelly, R., Chen, L., & Tang, L. (2011). Childcare, eldercare, and labor force participation of married women in urban China, 1982–2000. *Journal of human resources*, 46(2), 261-294.
- McDonald, P. (2000). Gender equity in theories of fertility transition. *Population and development review*, 26(3), 427-439.
- McDonald, P. (2002). *Low Fertility: Unifying the Theory and the Demography*. Paper presented at the meeting of the Population Association of America.

- McDonald, P. (2009). Explanations of low fertility in East Asia: A comparative perspective *Ultra-low fertility in Pacific Asia: Trends, causes and policy issues*: Routledge, Taylor & Francis Group.
- McDonald, P. (2013). Societal foundations for explaining fertility: Gender equity. *Demographic research*, 28, 981-994.
- McLanahan, S. (2004). Diverging destinies: How children are faring under the second demographic transition. *Demography*, 41(4), 607-627.
- Michael, R. T. (1973). Education and the derived demand for children. *Journal of political economy*, 81(2, Part 2), S128-S164.
- Mincer, J. (1958). Investment in human capital and personal income distribution. *Journal of political economy*, 66(4), 281-302.
- Miwa, S. (2007). Long-Term Trends in Status Homogamy. In Y. Sato (Ed.), *Deciphering Stratification and Inequality* (pp. 60-140): Trans Pacific Press.
- Morgan, S. P. (2003). Is low fertility a twenty-first-century demographic crisis? *Demography*, 40(4), 589-603.
- Morgan, S. P., & Rindfuss, R. R. (1984). Household structure and the tempo of family formation in comparative perspective. *Population Studies*, 38(1), 129-139.
- Morgan, S. P., Zhigang, G., & Hayford, S. R. (2009). China's below-replacement fertility: Recent trends and future prospects. *Population and development review*, 35(3), 605-629.
- Morley, L. (1992). *Women's studies, difference, and internalised oppression*. Paper presented at the Women's Studies International Forum.
- Mu, Z., & Xie, Y. (2014). Marital age homogamy in China: A reversal of trend in the reform era? *Social Science Research*, 44, 141-157.
- Nagase, N. (1997). Wage Differentials and Labour Supply of Married Women in Japan: Part-time and Informal Sector Work Opportunities. *The Japanese Economic Review*, 48(1), 29-42.
- Nagase, N., & Brinton, M. C. (2017). The gender division of labor and second births: Labor market institutions and fertility in Japan. *Demographic research*, 36, 339.
- National Bureau of Statistics of China. (2012). *Tabulation on the 2010 Population Census of the People's Republic of China*. Beijing: China Stat. Press
- National Health and Family Planning Commission. (2013). *Xuexi guanche zhongyang 'jueding' jing-shen, jianchi jihua shengyu jiben guoce, zhubu tiaozheng wanshan shengyu zhengce [Learn the central Government's spirit of*

determination, insist on the nation's basic principles of family planning, take incremental steps to adapt and enhance family planning policies]. Retrieved 26 February 2016, from <http://www.nhfpc.gov.cn/jczds/s3578/201311/2113e68c25704b6c927bc722059e751e.shtml>

National Institution of Population and Social Security Research (NIPSSR). (2014). Recent Demographic Statistics. Tokyo: NIPSSR [in Japanese]. <http://www.ipss.go.jp/syoushika/tohkei/Popular/Popular2014.asp?chap=0>

National Institution of Population and Social Security Research (NIPSSR). (2014). Recent Demographic Statistics. Tokyo: NIPSSR [in Japanese]. <http://www.ipss.go.jp/syoushika/tohkei/Popular/Popular2014.asp?chap=0>

National Institute of Population and Social Security Research (NIPSSR). (2015). Marriage Process and Fertility of Married Couples Attitudes toward Marriage and Family among Japanese Singles, The Fifteenth Japanese National Fertility Survey in 2015. http://www.ipss.go.jp/ps-doukou/e/doukou15/Nfs15R_points_eng.pdf

National Institute of Population and Social Security Research (NIPSSR). (2017). The 15th Japanese National Fertility Survey: Summary of the survey results on married couples/singles. http://www.ipss.go.jp/ps-doukou/e/doukou15/Nfs15_gaiyoEng.html

Nemoto, K. (2008). Postponed marriage: Exploring women's views of matrimony and work in Japan. *Gender & society*, 22(2), 219-237.

Nishikawa, M. (1997). *Occupational sex segregation*. University of Oxford.

Nomaguchi, K. M. (2006). Time of one's own: Employment, leisure, and delayed transition to motherhood in Japan. *Journal of Family Issues*, 27(12), 1668-1700.

Nussbaum, M. C., & Sihvola, J. (2002). *The Sleep of Reason: Erotic experience and sexual ethics in Ancient Greece and Rome*: University of Chicago Press.

O'connell, L., Betz, M., & Kurth, S. (1989). Plans for balancing work and family life: Do women pursuing nontraditional and traditional occupations differ? *Sex Roles*, 20(1), 35-45.

OECD. (1973). *Manpower Policy in Japan*. Paris: OECD.

OECD. (2013). OECD Family Database. Paris: OECD. Retrieved August 20, 2014. <http://www.oecd.org/els/family/database.htm#INDICATORS>

OECD. (2014). Country Note: Education at a Glance, Japan, <https://www.oecd.org/edu/Japan-EAG2014-Country-Note.pdf>

OECD. (2017). OECD Employment Surveys: Japan, OECD Publishing, Paris. <http://www.oecd.org/eco/surveys/economic-survey-japan.htm>

- Ogasawara, Y. (1998). *Office ladies and salaried men: Power, gender, and work in Japanese companies*: Univ of California Press.
- Ogawa, N., & Ermisch, J. F. (1996). Family structure, home time demands, and the employment patterns of Japanese married women. *Journal of Labor Economics*, 14(4), 677-702.
- Ono, H. (2003). Women's economic standing, marriage timing, and cross-national contexts of gender. *Journal of Marriage and Family*, 65(2), 275-286.
- Ono, H. (2010). Lifetime employment in Japan: Concepts and measurements. *Journal of the Japanese and international economies*, 24(1), 1-27.
- Oppenheimer, V. K. (1988). A theory of marriage timing. *American journal of sociology*, 94(3), 563-591.
- Oppenheimer, V. K. (1997). Women's employment and the gain to marriage: The specialization and trading model. *Annual Review of Sociology*, 23(1), 431-453.
- Oppenheimer, V. K., Kalmijn, M., & Lim, N. (1997). Men's career development and marriage timing during a period of rising inequality. *Demography*, 34(3), 311-330.
- Osawa, M. (1998). *Atarashii kazoku no tame no keizaigaku (Economics for New Family)*. Tokyo: Chûô Kôron.
- Oshio, T., Nozaki, K., & Kobayashi, M. (2013). Division of household labor and marital satisfaction in China, Japan, and Korea. *Journal of Family and Economic Issues*, 34(2), 211-223.
- Pan, D., & Ning, M. (2010). Income Level, Income Structure and the Childbearing Intention of Chinese Rural Women: An Empirical Study Based on CHNS Data. *South China Population*, 25(3), 45-50.
- Pan, L., & Xu, J. (2012). Housing price and fertility rate. *China Economic Journal*, 5(2-3), 97-111.
- Park, C. B., & Cho, N.-H. (1995). Consequences of son preference in a low-fertility society: imbalance of the sex ratio at birth in Korea. *Population and development review*, 59-84.
- Peng, X. (2011). Fertility transition and its socioeconomic impacts in China. *Fertility and Public Policy: How to Reverse the Trend of Declining Birth Rates*.
- Perilloux, C., Fleischman, D. S., & Buss, D. M. (2011). Meet the parents: Parent-offspring convergence and divergence in mate preferences. *Personality and Individual Differences*, 50(2), 253-258.
- Pimentel, E. E. (2000). Just how do I love thee?: Marital relations in urban China.

Journal of Marriage and Family, 62(1), 32-47.

- Polachek, S. W. (1981). Occupational self-selection: A human capital approach to sex differences in occupational structure. *The review of Economics and Statistics*, 60-69.
- Poppel, F. v., Liefbroer, A. C., Vermunt, J. K., & Smeenk, W. (2001). Love, necessity and opportunity: changing patterns of marital age homogamy in the Netherlands, 1850–1993. *Population Studies*, 55(1), 1-13.
- Poston, D. L. (2000). Social and economic development and the fertility transitions in mainland China and Taiwan. *Population and development review*, 26, 40-60.
- Poston Jr, D. L. (2002). Son preference and fertility in China. *Journal of Biosocial Science*, 34(3), 333-347.
- Preston, S. H. (1986). Changing values and falling birth rates. *Population and development review*, 12, 176-195.
- Qian, Y., & Qian, Z. (2014). The gender divide in urban China: Singlehood and assortative mating by age and education. *Demographic research*, 31, 1337-1364.
- Ramseyer, J. M., & Rosenbluth, F. M. (1993). *Japan's political marketplace*. Cambridge, Mass.: Harvard University Press.
- Rani, U. (2003). *Women's employment in the Japanese economy [in Japanese]*. Chiba, Japan: Institute of Developing Economies, Japan External Trade Organization.
- Raymo, J. M. (2003). Educational attainment and the transition to first marriage among Japanese women. *Demography*, 40(1), 83-103.
- Raymo, J. M. (2003). Premarital living arrangements and the transition to first marriage in Japan. *Journal of Marriage and Family*, 65(2), 302-315.
- Raymo, J. M. (2015). Living alone in Japan: Relationships with happiness and health. *Demographic research*, 32, 1267-1298.
- Raymo, J. M., & Iwasawa, M. (2005). Marriage market mismatches in Japan: An alternative view of the relationship between women's education and marriage. *American Sociological Review*, 70(5), 801-822.
- Raymo, J. M., Iwasawa, M., & Bumpass, L. (2009). Cohabitation and family formation in Japan. *Demography*, 46(4), 785-803.
- Raymo, J. M., Musick, K., & Iwasawa, M. (2015). Gender equity, opportunity costs of parenthood, and educational differences in unintended first births: Insights from Japan. *Population Research and Policy Review*, 34(2), 179-199.
- Raymo, J. M., & Ono, H. (2007). Coresidence with parents, women's economic resources,

- and the transition to marriage in Japan. *Journal of Family Issues*, 28(5), 653-681.
- Raymo, J. M., Park, H., Xie, Y., & Yeung, W.-j. J. (2015). Marriage and family in East Asia: Continuity and change. *Annual Review of Sociology*, 41, 471-492.
- Raymo, J. M., & Xie, Y. (2000). Temporal and regional variation in the strength of educational homogamy. *American Sociological Review*, 65(5), 773-781.
- Reskin, B. (1993). Sex segregation in the workplace. *Annual Review of Sociology*, 19(1), 241-270.
- Retherford, R. D., & Ogawa, N. (2006). Japan's baby bust: Causes, implications, and policy responses. *The baby bust: Who will do the work*, 5-47.
- Retherford, R. D., Ogawa, N., & Matsukura, R. (2001). Late marriage and less marriage in Japan. *Population and development review*, 27(1), 65-102.
- Retherford, R. D., Ogawa, N., & Sakamoto, S. (1996). Values and fertility change in Japan. *Population Studies*, 50(1), 5-25.
- Riley, N. E. (1994). Interwoven lives: Parents, marriage, and Guanxi in China. *Journal of Marriage and the Family*, 791-803.
- Rindfuss, R. R. (1991). The young adult years: Diversity, structural change, and fertility. *Demography*, 28(4), 493-512.
- Rindfuss, R. R., Benjamin, K., & Morgan, S. P. (2000). *How do marriage and female labor force participation affect fertility in low-fertility countries?* Paper presented at the Annual Meeting Population Association of America, Los Angeles.
- Rindfuss, R. R., Brewster, K. L., & Kavee, A. L. (1996). Women, work, and children: Behavioral and attitudinal change in the United States. *Population and development review*, 457-482.
- Rindfuss, R. R., Bumpass, L. L., Choe, M. K., & Tsuya, N. O. (2004). Social networks and family change in Japan. *American Sociological Review*, 69(6), 838-861.
- Rindfuss, R. R., Cooksey, E. C., & Sutterlin, R. L. (1999). Young adult occupational achievement: Early expectations versus behavioral reality. *Work and Occupations*, 26(2), 220-263.
- Robertson, J. (1989). Gender-bending in paradise: Doing "female" and "male" in Japan. *Genders*(5), 50-69.
- Rohlen, T. P. (1979). *For harmony and strength: Japanese white-collar organization in anthropological perspective* (Vol. 9): Univ of California Press.
- Roos, P. A. (1985). *Gender and work: A comparative analysis of industrial societies*: SUNY Press.

- Rosenbluth, F. M. (2006). *The political economy of Japan's low fertility*: Stanford University Press.
- Rosenbluth, F. M. (2007). Low fertility. In F. M. Rosenbluth (Ed.), *The Political Economy of Japan's Low Fertility*: Stanford University Press.
- Rosenfeld, R. A. (1996). Women's work histories. *Population and development review*, 22, 199-222.
- Rosenfeld, R. A., & Birkelund, G. E. (1995). Women's part-time work: A cross-national comparison. *European sociological review*, 11(2), 111-134.
- Rozman, G. (1991). Comparisons of modern Confucian values in China and Japan. *The East Asian region: Confucian heritage and its modern adaptation*, 157-203.
- Rozman, G. (2002). Can Confucianism survive in an age of universalism and globalization? *Pacific Affairs*, 11-37.
- Rozman, G. (2014). *The East Asian region: Confucian heritage and its modern adaptation* (Vol. 1179): Princeton University Press.
- Ryan, K. (2015). Maternity Harassment in Japan. *The Diplomat*.
- Sano, K. (2014). The study of the Senpai-Kouhai culture in junior high schools in Japan. *Sociological Insight*, 6(1), 59-68.
- Schoen, R., Astone, N. M., Kim, Y. J., Nathanson, C. A., & Fields, J. M. (1999). Do fertility intentions affect fertility behavior? *Journal of Marriage and the Family*, 790-799.
- Schultz, T. P., & Zeng, Y. (1995). Fertility of rural China. Effects of local family planning and health programs. *Journal of Population Economics*, 8(4), 329-350.
- Schwartz, C. R. (2013). Trends and variation in assortative mating: Causes and consequences. *Annual Review of Sociology*, 39, 451-470.
- Sechiyama, K. (2013). *Patriarchy in East Asia: a comparative sociology of gender*: Brill.
- Sen, A. (1990). Gender and Cooperative Conflicts. In I. Tinker (Ed.), *Persistent Inequalities: Women and World Development*: Oxford University Press.
- Sen, G., & Grown, C. (2013). *Development crises and alternative visions: Third world women's perspectives*: Routledge.
- Settersten Jr, R. A. (2015). Relationships in time and the life course: The significance of linked lives. *Research in Human Development*, 12(3-4), 217-223.
- Shida, K., Seiyama, K. and Watanabe, H. (2000). "Kekkon shijo no henyo" [Change in the marriage market] in K. Seiyama ed. *Nihon no Kaiso Shisutemu* 4:

- jenda/shijo/Kazoku [Class Stratification System of Japan 4: gender, market, family], Tokyo: Tokyo Daigaku Shuppankai.
- Shimada, H., & Higuchi, Y. (1985). An analysis of trends in female labor force participation in Japan. *Journal of Labor Economics*, 3(1, Part 2), S355-S374.
- Shirahase, S. (2000). Women's increased higher education and the declining fertility rate in Japan. *Review of population and social policy*, 9, 47-63.
- Shirahase, S. (2007). Women's economic status and fertility: Japan in cross-national perspective. In F. M. Rosenbluth (Ed.), *The Political Economy of Japan's Low Fertility*: Stanford University Press.
- Shirahase, S. (2008) “Kodomo no iru setai no Keizai kakusa ni kan-suru kokusai hikaku” [International comparison of economic differentials among households with children]. *Shakai Seisaku Gakkai-shi* [Journal of the Social Policy Study] Vol. 19: 3-20.
- Shirahase, S. (2009). Marriage as an association of social classes in a low fertility rate society: towards a new theory of social stratification *Social class in contemporary Japan* (pp. 75-102): Routledge.
- Shirahase, S. (2010). Marriage as an Association of Social Classes in a Low Fertility Rate Society. In H. Ishida & D. H. Slater (Eds.), *Social Class in Contemporary Japan: Structures, sorting, and strategies* (pp. 57-83). Oxon: Routledge.
- Short, S. E., Fengying, Z., Siyuan, X., & Mingliang, Y. (2001). China's one-child policy and the care of children: An analysis of qualitative and quantitative data. *Social Forces*, 79(3), 913-943.
- Shu, X. (2005). Market transition and gender segregation in urban China. *Social Science Quarterly*, 86(s1), 1299-1323.
- Shuto, W. (2009). Occupational sex segregation and the Japanese employment model: case studies of the railway and automobile industries. *Japan Labor Review*, 6(1), 21-35.
- Sicular, T., Ximing, Y., Gustafsson, B., & Shi, L. (2007). The urban–rural income gap and inequality in China. *Review of Income and Wealth*, 53(1), 93-126.
- Silverstein, M., Cong, Z., & Li, S. (2006). Intergenerational transfers and living arrangements of older people in rural China: Consequences for psychological well-being. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 61(5), S256-S266.
- Smith, S., & Hamon, R. (2012). *Exploring Family Theories*. New York: Oxford University Press.

- Smits, J., & Park, H. (2009). Five decades of educational assortative mating in 10 East Asian societies. *Social Forces*, 88(1), 227-255.
- Smits, J., Ultee, W., & Lammers, J. (1998). Educational homogamy in 65 countries: An explanation of differences in openness using country-level explanatory variables. *American Sociological Review*, 264-285.
- Smits, J., Ultee, W., & Lammers, J. (2000). More or less educational homogamy? A test of different versions of modernization theory using cross-temporal evidence for 60 countries. *American Sociological Review*, 65(5), 781-788.
- Smyth, E., & Steinmetz, S. (2008). Field of study and gender segregation in European labour markets. *International Journal of Comparative Sociology*, 49(4-5), 257-281.
- Song, L. (2000). Gender effects on household resource allocation in rural China. *Chinese Economy*, 33(4), 68-95.
- Song, Y., & Dong, X. (2013). Gender and occupational mobility in urban China during the economic transition *Labor Market Issues in China* (pp. 93-122): Emerald Group Publishing Limited.
- Sorensen, A., & McLanahan, S. (1987). Married women's economic dependency, 1940-1980. *American journal of sociology*, 93(3), 659-687.
- State Statistical Bureau. (2015). Main Features in the Sixth General Census in China. Beijing: Chinese Statistics Publishing House.
- State Statistical Bureau. (2015). Monitoring report of migrant workers. http://www.stats.gov.cn/tjsj/zxfb/201704/t20170428_1489334.html
- Statistics Bureau, Ministry of Internal Affairs and Communications. (2015). Statistical Handbook of Japan. In Statistics Japan: <http://www.stat.go.jp/english/data/handbook/c0117.htm>
- Steele, F. (2005). Event history analysis. ESRC National Centre for Research Methods Briefing Paper. *NCRM Methods Review Papers (NCRM/004)*. Bristol, UK: University of Bristol.
- Steele, F., Kallis, C., & Goldstein, H. (2005). Multilevel discrete-time event history analysis. *London: Centre for multilevel modelling, University of London*.
- Stone, L. (1979). *The family, sex and marriage in England 1500-1800* (Vol. 43): Citeseer.
- Stone, P. (2007). *Opting out?: Why women really quit careers and head home*: Univ of California Press.
- Sugimoto, Y. (2014). *An introduction to Japanese society*: Cambridge University Press.

- Sullivan, O. (2011). An end to gender display through the performance of housework? A review and reassessment of the quantitative literature using insights from the qualitative literature. *Journal of Family Theory & Review*, 3(1), 1-13.
- Sun, H. (2002). Five Mistakes of Inter-generational Education [in Chinese]. *Children's Study*, 4, 30-33.
- Sun, P. (2012). *Who would marry my daughter? The parent-organized matchmaking markets in Shanghai*. Beijing: China Social Science Press.
- Suzuki, T. (2013). Low fertility and population aging in Japan and Eastern Asia *Low Fertility and Population Aging in Japan and Eastern Asia* (pp. 1-87): Springer.
- Sweeney, M. M. (2002). Two decades of family change: The shifting economic foundations of marriage. *American Sociological Review*, 132-147.
- Takahashi, S. (2011). Economic Globalization And Changes In Family Formation As The Cause Of Very Low Fertility In Japan *Imploding Populations in Japan and Germany* (pp. 97-114): Brill.
- Takeda, H. (2011). Reforming families in Japan: Family policy in the era of structural reform *Home and family in Japan: Continuity and transformation* (pp. 46-64).
- Tang, Y., & Long, W. (2013). Gender Earnings Disparity and Discrimination in Urban China: Unconditional Quantile Regression. *African Journal of Science, Technology, Innovation and Development*, 5(3), 202-212.
- Teti, D. M., Lamb, M. E., & Elster, A. B. (1987). Long-range socioeconomic and marital consequences of adolescent marriage in three cohorts of adult males. *Journal of Marriage and the Family*, 499-506.
- The World Economic Forum. (2016). *The Global Gender Gap Report 2016*. p. 142.
- Thomson, E. (1997). Couple childbearing desires, intentions, and births. *Demography*, 34(3), 343-354.
- Thornton, A. (2001). The developmental paradigm, reading history sideways, and family change. *Demography*, 38(4), 449-465.
- Thornton, A. (2013). *Reading history sideways: The fallacy and enduring impact of the developmental paradigm on family life*: University of Chicago Press.
- Thornton, A., Binstock, G., Yount, K. M., Abbasi-Shavazi, M. J., Ghimire, D., & Xie, Y. (2012). International fertility change: New data and insights from the developmental idealism framework. *Demography*, 49(2), 677-698.
- Thornton, A., & Fricke, T. E. (1987). *Social change and the family: Comparative perspectives from the West, China, and South Asia*. Paper presented at the

Sociological forum.

- Thornton, A., & Lin, H.-S. (1994). *Social change and the family in Taiwan*: University of Chicago Press.
- Tian, F., & Davis, D. (2014). Bringing Parents Back in: Assortative Mating in Shanghai. In D. Davis & S. Friedman (Eds.), *Wives, Husbands, Lovers: Marriage and Sexuality in Hong Kong, Taiwan, and Urban China* (pp. 99-124): Stanford University Press.
- Tilak, J. B. (2002). *Determinants of household expenditure on education in rural India*: National Council of Applied Economic Research New Delhi.
- Tokuhiro, Y. (2009). *Marriage in contemporary Japan*: Routledge.
- Tsuya, N. O. (2015). Below-Replacement Fertility in Japan: Patterns, Factors, and Policy Implications *Low and Lower Fertility* (pp. 87-106): Springer.
- Tsuya, N. O., Bumpass, L. L., Choe, M. K., & Rindfuss, R. R. (2005). Is the gender division of labour changing in Japan? *Asian Population Studies*, 1(1), 47-67.
- Tsuya, N. O., Bumpass, L. L., Choe, M. K., & Rindfuss, R. R. (2012). Employment and household tasks of Japanese couples, 1994–2009. *Demographic research*, 27, 705.
- Tsuya, N. O., & Mason, K. O. (1995). Changing gender roles and below-replacement fertility in Japan. *Gender and family change in industrialized countries*, 139-167.
- United Nations (2001) Replacement Migration: *Is It a Solution to Declining and Ageing Populations?* (ST/ESA/SER.A/206). New York: Department of Social and Economic Affairs, Population Division.
- United Nations. (2015). *World Fertility Patterns 2015 Data Booklet*. New York: Department of Social and Economic Affairs, Population Division.
<http://www.un.org/en/development/desa/population/publications/pdf/fertility/world-fertility-patterns-2015.pdf>
- Van de Kaa, D. J. (1996). Anchored narratives: The story and findings of half a century of research into the determinants of fertility. *Population Studies*, 50(3), 389-432.
- Waite, L. J., & Stolzenberg, R. M. (1976). Intended childbearing and labor force participation of young women: Insights from nonrecursive models. *American Sociological Review*, 235-252.
- Wang, E., & Hesketh, T. (2018). Exploring women's decisions about childbearing after the lifting of the one-child policy. *Culture, health & sexuality*, 1-14.
- Wang, F. (2012). Family Planning Policy in China: Measurement and Impact on Fertility. *Working paper*.

- Wang, G., & Zhang, L. (2012). An evaluation of the Chinese fertility policy [in Chinese]. *Sociological Research*, 5, 119-140.
- Wang, J. (1992). Confucian ideals and filial piety in ancient Japan. *Japanese Studies*, 2, 1.
- Wang, J. (2011). Education, human capital and marriage squeeze - also on the "leftover female" phenomenon [in Chinese]. *Chinese Journal of Urban Studies*, 6(3), 180-185.
- Wang, M., & Cai, F. (2008). The course and prospect of the reform of household registration system [in Chinese]. *Guangdong Social Sciences*, 6, 19-26.
- Wang, Z. (1999). *Women in the Chinese enlightenment: Oral and textual histories*: Univ of California Press.
- Ward, M. P., & Butz, W. P. (1980). Completed fertility and its timing. *Journal of political economy*, 88(5), 917-940.
- Watson, R. S., & Ebrey, P. B. (1991). *Marriage and inequality in Chinese society* (Vol. 12): Univ of California Press.
- Weinstein, D. E., & Yafeh, Y. (1995). Japan's corporate groups: Collusive or competitive? An empirical investigation of keiretsu behavior. *The Journal of Industrial Economics*, 359-376.
- Weinstein, D. E., & Yafeh, Y. (1998). On the costs of a bank-centered financial system: Evidence from the changing main bank relations in Japan. *The journal of Finance*, 53(2), 635-672.
- Weinstein, M., Sun, T.-H., Chang, M.-C., & Freedman, R. (1990). Household composition, extended kinship, and reproduction in Taiwan: 1965–1985. *Population Studies*, 44(2), 217-239.
- Wen, X. (1993). Effect of son preference and population policy on sex ratios at birth in two provinces of China. *Journal of Biosocial Science*, 25(4), 509-521.
- West, C., & Zimmerman, D. H. (1987). Doing gender. *Gender & society*, 1(2), 125-151.
- Wetzstein, C. (2014). *10 million new babies? China's hope for boom likely to become policy bust*. *The Washington Times*. Retrieved 26 January 2016, from <http://www.washingtontimes.com/news/2014/apr/20/10-million-new-babies-china-s-hope-for-boom-likely-/?page=all>
- White, L. K., & Kim, H. (1987). The family-building process: Childbearing choices by parity. *Journal of Marriage and the Family*, 271-279.
- Whyte, M. K. (1993). Wedding behavior and family strategies in Chengdu. *Chinese Families in Post-Mao Era*, 198-216.

- Whyte, M. K., & Ikels, C. (2004). Filial obligations in Chinese families: Paradoxes of modernization. *Filial piety: Practice and discourse in contemporary East Asia*.
- Willis, R. (1974). Economic theory of fertility behavior *Economics of the family: Marriage, children, and human capital* (pp. 25-80): University of Chicago Press.
- Wong, K., Fu, D., Li, C. Y., & Song, H. X. (2007). Rural migrant workers in urban China: living a marginalised life. *International Journal of Social Welfare*, 16(1), 32-40.
- World Bank. (2013). Fertility Rate, Total (Births per Woman). In World Bank Data: <http://data.worldbank.org/indicator/SP.DYN.TFRT.IN>.
- World Bank. (2017). Labor force participation rate, female (% of female population ages 15+) (modeled ILO estimate), <https://data.worldbank.org/indicator/SL.TLF.CACT.FE.ZS>
- World Bank. (2017). "Labor Force Participation Rate (Modeled ILO Estimate), China, 2016," The World Bank Databank.
- Wu, Q., & Xie, Y. (2013). Attitudes and values. In Y. Xie, X. Zhang, J. Li, X. Yu, & Q. Ren (Eds.), *Wellbeing Development Report of China 2013*. Beijing: Peking University Press.
- Wu, X., & Treiman, D. J. (2007). Inequality and equality under Chinese socialism: The hukou system and intergenerational occupational mobility. *American journal of sociology*, 113(2), 415-445.
- Xie, Y., Cheng, S., & Zhou, X. (2015). Assortative mating without assortative preference. *Proceedings of the National Academy of Sciences*, 201504811.
- Xie, Y., & Shauman, K. A. (1998). Sex differences in research productivity: New evidence about an old puzzle. *American Sociological Review*, 847-870.
- Xie, Y., & Zhu, H. (2009). Do sons or daughters give more money to parents in urban China? *Journal of Marriage and Family*, 71(1), 174-186.
- Xu, K. (2007). The Analysis of Origin and Social Function of DINK Families [in Chinese]. *Journal of Northwest A&F University*, 7(2).
- Xu, X., & Whyte, M. K. (1990). Love matches and arranged marriages: A Chinese replication. *Journal of Marriage and the Family*, 709-722.
- Yamada, M. (1996). *The sociology of marriage [in Japanese]*. Tokyo: Maruzen
- Yamada, M. (2005). *Runaway family: Declining of postwar family model in Japan*. Tokyo: Yuhikaku.
- Yamada, T., & Yamada, T. (1987). Labor employment of married women in Japan: part-time work vs. full-time work. *Eastern Economic Journal*, 13(1), 41-48.

- Yamaguchi, K. (1991). *Event history analysis* (Vol. 28): Sage.
- Yang, C.-f. (1988). Familism and development: An examination of the role of family in contemporary China mainland, Hong Kong and Taiwan.
- Yang, C.-K. (1959). *The Chinese family in the communist revolution*: MIT Press, Massachusetts Institute of Technology.
- Yang, D. T., & Chen, D. (2004). Transformations in China's population policies and demographic structure. *Pacific Economic Review*, 9(3), 269-290.
- Yang, F. (2004). *Historical research on family planning of contemporary China*. PhD thesis, Zhejiang University.
- Yang, J. (2006). On the gender limits of private space from domestic labour division [in Chinese]. *Women's Studies*(5), 16-22.
- Yang, J. (2014). Communication and strategy: gender differences in China 's housework division from 1990 to 2010 [in Chinese]. *Academic Research*(2), 31-41.
- Yang, J., & Li, L. (2009). Intergenerational Interaction and Family Solidarity. *Sociological Research*, 3, 40-49.
- Yang, J., & Short, S. (2007). Residence pattern within marriage and fertility behaviours [in Chinese]. *Population research*, 2, 49-59.
- Yang, S.-z., & Wang, G.-z. (2006). Fertility decline and imbalance of sex ratio under birth control. *Market & Demographic Analysis*, 12(4), 18-28.
- Yang, Z., & Gaydos, L. M. (2010). Reasons for and challenges of recent increases in teen birth rates: a study of family planning service policies and demographic changes at the state level. *Journal of Adolescent Health*, 46(6), 517-524.
- Yeoh, S. A. B., & Huang, S. L. S. (2005). *Asian women as transnational domestic workers*: Marshall Cavendish.
- Yeung, W.-J. J. (2013). *Asian fatherhood*: Sage Publications Sage CA: Los Angeles, CA.
- Yeung, W.-J. J., & Hu, S. (2013). Coming of age in times of change: The transition to adulthood in China. *The ANNALS of the American Academy of Political and Social Science*, 646(1), 149-171.
- Yi, J., & Yi, X. (2008). Increasing housing prices and secular fertility decline in Hong Kong. *China Economic Quarterly*, 3, 009.
- Yi, Z. (1986). Changes in family structure in China: A simulation study. *Population and development review*, 675-703.
- Yu, C. (2011). An analysis of the factors affecting the attitudes of farmers to the concept

- of "yangerfanglao" [in Chinese]. *China Rural Watch*, 3, 69-79.
- Yu, C. (2012). Intergenerational differences and changing of farmers' "yangerfanglao" attitude [in Chinese]. *POPULATION JOURNAL*(6).
- Yu, J., & Xie, Y. (2011). The Varying Display of" Gender Display" A Comparative Study of Mainland China and Taiwan. *Chinese Sociological Review*, 44(2), 5-30.
- Yu, W. (2002). *Jobs for mothers: Married women's labor force reentry and part-time, temporary employment in Japan*. Paper presented at the Sociological Forum.
- Yu, W. (2005). Changes in women's postmarital employment in Japan and Taiwan. *Demography*, 42(4), 693-717.
- Yu, W., & Kuo, J. C.-L. (2016). Explaining the effect of parent-child coresidence on marriage formation: The case of Japan. *Demography*, 53(5), 1283-1318.
- Zabel, C. (2006). *Employment characteristics and first birth in Great Britain and Western Germany*.
- Zang, X. (2008). Gender and ethnic variation in arranged marriages in a Chinese city. *Journal of Family Issues*, 29(5), 615-638.
- Zeng, Y., Tu, P., Gu, B., Xu, Y., Li, B., & Li, Y. (1993). Causes and implications of the recent increase in the reported sex ratio at birth in China. *Population and development review*, 283-302.
- Zhan, H. J., & Montgomery, R. J. (2003). Gender and elder care in China: The influence of filial piety and structural constraints. *Gender & society*, 17(2), 209-229.
- Zhang, J., & Sun, P. (2014). When Are You Going to Get Married?'Parental Matchmaking and Middle-class Women in Contemporary Urban China. In D. Davis & S. Friedman (Eds.), *Wives, Husbands, and Lovers: Marriage and Sexuality in Hong Kong, Taiwan, and Urban China* (pp. 118-137): Stanford University Press.
- Zhang, Q. (2004). Economic transition and new patterns of parent-adult child coresidence in Urban China. *Journal of Marriage and Family*, 66(5), 1231-1245.
- Zhang, X., Huang, C., Zhang, Q., Chen, S., & Fan, Q. (2016). Fertility intention for the second child under the selective and universal two-child policies: comparisons and implications. *Popul Res*, 1, 87-97.
- Zhang, Y. (2002). China 's urban-rural education gap [in Chinese]. *Strategy and management*(6), 55-63.
- Zhang, Y., & Goza, F. W. (2006). Who will care for the elderly in China?: A review of the problems caused by China's one-child policy and their potential solutions. *Journal of Aging Studies*, 20(2), 151-164.

- Zhang, Y., Hannum, E., & Wang, M. (2008). Gender-based employment and income differences in urban China: Considering the contributions of marriage and parenthood. *Social Forces*, 86(4), 1529-1560.
- Zhang, Y. B., Lin, M.-C., Nonaka, A., & Beom, K. (2005). Harmony, hierarchy and conservatism: A cross-cultural comparison of Confucian values in China, Korea, Japan, and Taiwan. *Communication research reports*, 22(2), 107-115.
- Zhao, Y. (1999). Labor migration and earnings differences: the case of rural China. *Economic development and cultural change*, 47(4), 767-782.
- Zhao, Z., & Chen, W. (2011). China's far below-replacement fertility and its long-term impact: comments on the preliminary results of the 2010 census. *Demographic research*, 25, 819.
- Zhao, Z., & Guo, Z. (2010). China's below replacement fertility: A further exploration. *Canadian Studies in Population*, 37(3-4), 525-562.
- Zhao, Z., & Zhang, G. (2018). Socioeconomic Factors Have Been the Major Driving Force of China's Fertility Changes Since the Mid-1990s. *Demography*, 55(2), 733-742.
- Zheng, Z. (2000). Social-demographic influence on first birth interval in China, 1980-1992. *Journal of Biosocial Science*, 32(3), 315-327.
- Zheng, Z. (2011). Fertility intention, fertility behavior and fertility level [in Chinese]. *Population research*, 35(2), 44-47.
- Zheng, Z., Cai, Y., Wang, F., & Gu, B. (2009). Below-replacement fertility and childbearing intention in Jiangsu Province, China. *Asian Population Studies*, 5(3), 329-347.
- Zheng, Z., & Lian, P. (2006). Chinese women's education [in Chinese]. In Y. Jiang & X. Jiang (Eds.), *1995-2005: Gender equality and women's development in China [in Chinese]* (pp. 1-10). Beijing: China Social Science Press.
- Zhu, C., & Guang, X. (1991). An Analysis of the Life-Cycle of Chinese Women [in Chinese]. *Chinese Journal of Population Science*, 3, 247-257.
- Zhu, W. X., Lu, L., & Hesketh, T. (2009). China's excess males, sex selective abortion, and one child policy: analysis of data from 2005 national intercensus survey. *Bmj*, 338, b1211.
- Zhu, X. (2012). Understanding China's growth: Past, present, and future. *The Journal of Economic Perspectives*, 26(4), 103-124.
- Zhuang, P. (2014). *Birth rate holds steady after one-child policy eased, but there won't be further easing*. *South China Morning Post*. Retrieved 11 February 2016, from

<http://www.scmp.com/news/china/article/1551461/birth-rate-holds-steady-after-one-child-policy-eased-there-wont-be>