The Influence of Cross-Border Marriage on Reproductive Behavior in Taiwan

Yu-Hua Chen

Department of Bio-Industry Communication and Development

National Taiwan University

Email: yuhuac@ntu.edu.tw

Abstract

Few efforts have been made to explore two emerging demographic features, the extra low fertility of the Taiwanese population, and a rapid increase in cross-border marriages. The objective of this research is to provide comparative estimates of fertility outcomes of marriage immigrants from Mainland China, Southeast Asia, and other countries. Through exploring the 2003 Survey of Foreign and Mainland Chinese Spouses' Living Conditions, this study gives us a first glimpse of how prevalent cross-border marriages are in Taiwanese society. While the headlines tend to portray an image that only old veterans and minority rural men are likely to marry an immigrant, the findings indeed show that an increased number of Taiwanese men have adopted cross-border marriage as an alternative. The fertility results reveal a singularly important conclusion: the substantial number of babies born to immigrant mothers has made an important contribution to total fertility rates in recent years. Despite an increasing anxiety concerning the quantity of newborns from foreign and Mainland Chinese mothers, this research shows that the average number of children born to a marriage immigrant is still lower than the replacement level. By examining the sex ratios of recent newborns from cross-border marriages, it is evident that some couples may have a strong preference for a son. This unexpected outcome deserves more observation and research from policymakers and researchers. In addition to presenting the results shown on current paper, I will category major reproductive patterns in cross-border marriages and discuss policy implications in Asian countries with increasing marriage immigrants.

Keywords: cross-border marriage, immigrant fertility, nationality, minority status, son preference

INTRODUCTION

Chinese tradition has viewed the family as the primary societal unit, so that the interests of individuals were generally secondary to those of the family. To extend the family lineage into the future through childbearing, early and universal marriage was regarded as a typical feature in the process of family formation. Because of the influx of single military men in the late 1940s and a slightly imbalanced sex ratio at birth, the surplus of men relative to women across all years should have increased the prevalence of female marriage. However, despite the favorable marriage market for women, marriage rates have significantly declined for both genders during recent decades. The later and less marriage probably were the results of the economic and social forces transforming in Taiwan. An evaluation of the precise forces causing the change in individual marital preferences and behavior has shown a strong link between education and late ages at marriage (Thornton and Lin 1994).

Due to the sex-selective rural-urban migration, the sex imbalance in the rural population has even worsened with the progress of industrialization and urbanization (Lee et al. 2006). Facing a shortage of marriageable women, many rural and economically disadvantageous Taiwanese men are forced to look abroad. Cross-border marriage has increased rapidly since the late 1980s. Most brides came from China, followed by Vietnam and Indonesia, but only a smaller number of Taiwanese women married foreign husbands. In 2007, the official statistics show there were 21,559 marriages between Taiwanese men and non-Taiwanese women and only 3,141 marriages involving foreign men. Together, these account for more than 18% of overall marriages registered in the same year.

Since intermarriage has long been a source of anxiety within the family and the society, the prevalence of marriage migration across borders in East Asia is receiving attention from scholars and policymakers. Considerable efforts have been made to explore the marriage process, migration regulations and policy, adaptation in daily life, and stigmatization of foreign spouses in Taiwan (Chao 2004; Hsia 2000, 2006, 2007; Wang and Chang 2002; Wang and Bélanger 2008). However, there are only few studies, mainly in medical sciences, focusing on the reproductive behaviors of marriage immigrants and their subsequent socio-demographic impact. Would cross-border marriage be an alternative solution for raising Taiwan's low birthrate? At this moment, there is no single answer to this question. The purpose of this research, therefore, is to provide an overview of the sociodemographic characteristics and reproductive behaviors of marriage immigrants in recent times. The analysis is based on information from the 2003 Survey of Foreign and Mainland Chinese Spouses' Living Conditions. In addition to highlighting the trend and reasons accounting for the emergence of cross-border marriages, the overall fertility behaviors and outcomes are represented. In the final part of the present study's multivariate analysis, the Poisson regression model is used to examine the fertility differentials across immigrant groups.

RECENT CHANGES IN MARRIAGE FORMATION AND BIRTH OUTCOME

Marriage Patterns in Transition

Drawing on marriage theories that have been proposed and tested empirically, the changes in marriage patterns are generally associated with three social forces, the influence of the social groups (third parties) in the selection process, the preferences of marriage candidates, and the constraints of the marriage market (Kalmijn 1998). Marital selection is not only a process involving two potential partners but is also affected by *third parties* such as the family, the community or neighborhood, and the state. The Taiwanese marriage system has long been characterized by emphasizing the compatibility between two marrying families based on socioeconomic status, cultural and ethnic background, and the inherited values. Marriage was inevitably a process of agreements and rituals rather than an event (Yi and Hsung 1994). The overwhelming power of parents in mate selection made arranged marriage the most prevalent mode of union formation (Thornton and Lin 1994).

The rapid pace of social change in the second half of the twentieth century, however, has substantially weakened parental control over mate choice and marriage decision. The latest report of the Taiwan Social Change Survey, a nationwide representative survey, shows that 87% of Taiwanese who got married before 1950 still relied on parents, relatives and matchmakers for introduction to their eventual marriage partners, but more than 50% of post-1980 marriage cohorts met their spouses by themselves. While more adults are getting involved in mate selection through their own networks, parents continue to have a role in the marriage decision. The same report indicates that only 30% of younger marriage cohorts did not consult with their parents for approval (Fu and Chang 2007).

In terms of *preferences*, potential spouses are evaluated on socioeconomic and cultural resources they have to offer, and unmarried people compete with each other for the spouse they want most by offering their own resources in return (Kalmijn 1998: 398). Even though a high degree of homogamy with respect to education, ethnicity and social backgrounds has been found among Taiwanese couples (Tsai 1994; Tsay 1996), the marriage gradient, the concept that describes the differential selection by gender into marriage (Bernard 1972), seems to be still held by younger cohorts. Findings on recent marriage patterns have partially confirmed the notion of male superiority in marriage, with men still preferring to marry slightly younger and less accomplished women. Never-married women tend to be well-educated and economically independent, whereas never-married men tend to have poorer educational attainment and socioeconomic resources (Yang et al. 2006).

At the macro-level, marital choices are determined more by *opportunity* structures than by individual preferences or social norms. Drawing on the marriage market arguments, the

decline in marriage among specific social groups is linked to changes in the numeric availability (Becker 1981; Oppenheimer 1988) and the social and economic acceptability and desirability of potential mates mentioned above. The demographic data show that marriage was nearly universal for Taiwanese women in the first half of the twentieth century. But the marriage market was disturbed after an influx of Mainland Chinese in the late 1940s. Among this wave of immigrants there were a substantial number of unmarried young men in the military. The imbalanced sex ratio at this period produced a marriage squeeze, making it difficult for men to find a wife. While the demographic factor still has a substantial impact on the formation of cross-boundary marriage, the cultural assimilation through regular contact with others has played a more important role in heterogamy recently (Wang 1993; Tsay and Wu 2006).

Despite the favorable marriage market for women during most of the post-war years, marriage rates have declined continually for both genders. Thornton and Lin (1994) suggest the sustained declines in marriage probably were the results of the essential economic and social transformation during the past few decades. Undoubtedly, the increase in education attainment and economic independence of Taiwanese women is directly associated with the postponement of marriage. In 2006 the median age of first marriage has reached 27.8 years for women and 30.7 years for men. As access to education and paid work grant women economic independence from men and allowed them to pursue life goals outside of marriage and parenthood, the phenomena of both later and fewer marriages become most pronounced among more highly educated Taiwanese. It is apparent that men with low levels of education and socioeconomic status face more obstacles in searching for desirable mates. As a result, beginning from the late 1970s, cross-border marriage has emerged as an alternative marriage pattern, particularly for those men who are less favorable in the marriage market.

Trends and Characteristics of Cross-Border Marriage

People have a tendency to marry within their social group, but the proportions of ethnic groups within the population do play an important role in ethnic intermarriage. Hokkien, Hakka, mainlanders, and aborigines are the four major ethnic groups. The first three groups are Han Chinese.[1] Before the Second World War, it was still the case that the majority of Taiwanese married a spouse sharing the same ethnic background. Due to an imbalanced sex ratio among mainlanders, there were more men who had to search for a spouse from other ethnic groups. The residential segregation within the island made it even more difficult for low-ranking young soldiers to marry Taiwanese, which in turn led to higher single rates

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[1] Hokkien and Hakka Taiwanese refer to those whose ancestors came from mainland China and settled down in Taiwan for several generations, whereas the mainlanders are those who themselves or whose parents or grandparents arrived in Taiwan mostly in the late 1940s.

among male mainlanders over past few decades.

After the lifting of Martial Law in 1987 and stabilizing cross-Strait relations, the Taiwan government adopted a more open policy toward Mainland China, and travel permission across the Strait was granted to everyone. The lifting of the travel ban enabled mainlanders to visit their homeland and provided single veterans or widowed ones with an opportunity to marry a Chinese woman. Greater age and/or remarriage of one or both spouses were major features of marriages involving *mainland brides* in this period (Chao 2004). With the approval from their parents, the second and third generations of mainlanders are also more likely than other ethnic groups to search for marital partners in China. It is apparent that cultural bonds never lose their importance in affecting family formation (Yi and Chang 2006).

In addition, the emergence of cross-border marriages may be attributed to the stronger need for both family formation and descendants among socio-economically less favorable men in rural and remote areas. Due to insufficient infrastructure and unequal allocation of public resources, most farming and fishing villages have suffered a great loss in their numbers of young women, who are more likely to move to metropolitan areas for attaining education and searching for non-agricultural jobs. To solve the shortage of single women, the so-called *foreign brides* from Thailand and Philippine were first introduced into southern Taiwan through marriage brokers in the late 1970s. However, the language and cultural differences made daily communication a serious problem between these couples and within their families. The brokers then expanded their match-making business to the ethnic Chinese communities in Indonesia because residents there are descendants of Hakka originating in South China (Hsia 2000). Due to policy change in the 1990s,[2] the marriage brokerage industry again extended its base, this time to the Indochina Peninsula, leading to a significant increase in the number of marriage migrants from Vietnam and Cambodia (Wang and Chang 2002).

Including spouses from Mainland China, Southeast Asia and other regions, the number of cross-border marriages only made up a small share of annual marriages before the mid-1990s. Following the rapid expansion of higher education in the late 1990s, however, the gender gap in education attainment is widening in favor of women. For instance, colleges and universities have handed out 20,000 more degrees to women than to men in 2006 (Ministry of Education, Taiwan 2007). Referring to female labor force participation rate, the highest rate is also found among single and higher educated women (Council of Economic Planning and Development, Taiwan 2007). The enhancement in women's status and roles is seen as one accomplishment of Taiwan's socioeconomic transformation, while it has been argued to have a direct effect on women's postponing marriage. These changes mean that with an unchanging

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[2] Since 1994, the Taiwan government has sought to discourage Taiwanese from investing in China through its *Go South Policy*, which encourages businessmen to consider trading with Southeast Asia, Australia and New Zealand.

norm of marriage gradient, most women are prevented from marrying a man with lower human capital. Undoubtedly, cross-border marriage emerges as an acceptable option among less advantaged men and becomes more visible in non-metropolitan areas.

As shown in Figure 1, the number and share of cross-border marriages have increased significantly from the late 1990s. Marriage statistics for 1998 show that 15.7% of registered marriages involved non-Taiwanese spouses, but this figure unexpectedly soared to 31.9% in 2003. To decelerate the growth of cross-border marriages and to inhibit the possibility of marriage fraud (i.e. trafficking in women), a variety of legal restrictions and penalties began to be implemented in 2004.[3] There is no guarantee of legal status for marriage migrants until couples can pass a face-to-face interview held either at the checkpoints of major airports or in foreign spouses' home countries. Consequently, a decreasing proportion of cross-border marriages was observed, from 23.8% in 2004 to 16.8% in 2006, while the share rebounded slightly in 2007 (Ministry of the Interior, Taiwan 2008).

(Figure 1 about here)

There were 399,038 marriage migrants by the end of 2007, 66% from Mainland China, Hong Kong and Macao, and others mainly from Southeast Asia including Vietnam, Indonesia, Thailand and the Philippines. More than 90% of them were female, while Japanese were the number one choice in marriages involving foreign grooms (Ministry of the Interior, Taiwan 2008). In terms of the residential distribution, a majority of marriages between Chinese wives and Taiwanese husbands were more prevalent in cities and adjacent areas. On the contrary, foreign spouses from Southeast Asia were more likely to concentrate in rural and remote areas dominated by agricultural activities. In southern Taiwan and outlying small islands, where fishing is the major means of livelihood, most foreign wives originated in Vietnam and the Philippines (Ministry of the Interior, Taiwan 2004).

Economic factors were a primary reason in explaining the rise of cross-border marriages in East Asia (Davin 2007; Lee et al. 2006), as it was usually less educated Taiwanese men

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[3] The *Act Governing Relations between Peoples of the Taiwan Area and the Mainland Area* has been revised to include harsher punishments for trafficking in immigrants. The Immigration Office of National Police Agency has also strengthened on-line and post-entry interviews of Mainland Chinese spouses and other applicants for visit, stay and residence in Taiwan area. According to the 2005 annual report, the Office has interviewed 85,726 Mainlanders, with nearly one-third of interviewees being deported back to the Mainland. Moreover, regulations require that mainland Chinese spouses apply for a national identification card to pass security clearance. In September 2005, a regulation was implemented requiring fingerprinting of all Mainland Chinese who are spouses of Taiwan nationals, visiting relatives, or are seeking residency in Taiwan. For foreign spouses, particularly from Southeastern Asian countries, the conventional group interview has been replaced by one-to-one interviews as of June 2005.

from rural areas who married mostly less educated and poor women from neighboring countries. Even though such unions were welcomed and seen as a way of revitalizing rural communities, only a few aboriginal people, who live in hilly and mountainous areas, adapted this type of marriage. In addition to the residential segregation, it is argued that long-lasting socioeconomic disadvantages within Taiwanese society might prevent aboriginal people from marrying a non-Taiwanese spouse. A similar social phenomenon has been found in Japan (Morgan 2007). Despite the aborigines being the fourth largest ethnic group currently, the rapid rise in marriage migration means that immigrant spouses are predicted to outnumber the aborigines sooner or later.

In recent times, negative media reporting in sending and receiving countries has tended to stigmatize cross-border marriages. In addition, the Chinese terms for *mainland bride* and *foreign bride* are somewhat pejorative, and are used to describe outsiders and newlyweds. Despite some having been married a decade ago or actually getting married in their forties or fifties, these terms are still constantly used for non-Taiwanese spouses. Such negative media portrayals and pejorative terminology in daily use has increased the prejudice toward marriage migrants and their families, with which they sometimes find it hard to cope. In Taiwan, as in many Western countries (Coleman 2006), popular unease over the high volume of immigration is becoming politically important.

Fertility Behaviors of Marriage Immigrants

Demographers are not only interested in the formation of cross-border marriage but also the birth outcomes resulting from this marriage pattern. Because migrant fertility is typically higher than for the native-born and results in an increase in mixed-origin subpopulations that eventually defy categorization, the demographic influence of migration is further strengthened in the receiving country. Given a significant decline in fertility rates in Taiwan, the contribution made by both Mainland Chinese and foreign brides to annual number of births has been well recognized and appreciated. According to national vital statistics, Taiwan's total fertility rate (TFR) has been lower than the replacement level (2.1) since 1984 and a downward trend[4] is continuously observed after entering the twentieth-first century (see Figure 2).

In 2006, the TFR already hit a record low of 1.12 children per woman. In terms of number, there were a total of 292,724 newborns in 1996, but ten years later there were only 204,459 babies registered. The latest statistics also show that 1 in 8.5 newborns was born to an immigrant mother, representing 11.7% of the national total (Ministry of the Interior,

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[4] Fluctuations in total fertility rates from 1997 to 2000 were observed in Taiwan. The East Asian financial crisis of 1997-1998 could potentially have had a negative effect on fertility behaviors of Taiwanese. The fluctuation also provides evidence for the existence of a preference for giving birth during the Year of the Dragon (in 2000) in Taiwan.

Taiwan 2007). Due to a significant decrease in cross-border marriages from 2004, the annual number of newborns borne by migrant mothers was declining as well. The decrease in recent times in the quantity of Vietnamese women, who were more likely to marry at young age than other marriage migrants, is argued to be related to lower fertility rates recently. In contrast, figures of both Chinese marriage migrants and their newborns seem to have become stable.

(Figure 2 about here)

Exploring fertility behaviors of various marriage migrants requires insight into the underlying theoretical mechanisms. Derived from previous empirical research, a number of hypotheses have been proposed to add to our understanding of the effect of migration on fertility. The hypotheses most commonly examined in the literature focus on processes of socialization, adaptation, disruption and selectivity (Hervitz, 1985).

The socialization hypothesis posits that the birth outcome of migrants reflects the fertility preference prevalent in their childhood environment. Migrants are expected to exhibit a fertility level close to that of non-migrants at their place of origin (Coleman 1994). In contrast, the adaptation hypothesis emphasizes that migrants will gradually adjust their behaviors and values upon entry into the new environment at the place of destination. Abbasi-Shavazi and McDonald (2000) examined the impacts of multiculturalism, which was fostered by migration policy after the Second World War in Australia, and found strong evidence of adaptation of immigrants to the patterns of fertility of the Australian population as a whole. This finding suggests that the political economy facing immigrants in a multiethnic society may be a more influential determinant of fertility than the cultures that the immigrants brought with them. Scholars propose that the process of assimilation of migrants can be expressed as a weighted combination of specific influences of either place of origin or destination. This combining effect leads to the expectation that migrants' fertility level will be intermediate to the fertility levels of the two locations (Lindstrom 2004).

Disruption occurs around the time of immigration itself, and is made evident by lowered fertility among recent immigrants, but higher fertility among those who arrived earlier. The suggested drop in fertility attributable to disruption is expected to be only temporary. Finally, the selectivity hypothesis views the observed fertility of migrants at the place of destination as a function of unobserved characteristics that migrants possess prior to migration rather than an outcome of the migration process. Migration is often selective of individuals with particular characteristics, which are important fertility determinants.

The four hypotheses could lead to rather different conclusions concerning the long-run and short-run fertility impacts of migration. Nevertheless, whether fertility goals of migrants are similar to those of residents at the place of destination would presumably depend on the

extent to which migrants are subject to socialization, adaptation, disruption, or selectivity effects. That is, reproductive behaviors of marriage immigrants might exhibit maintenance, modification, or abandonment of fertility norms from places of origin, a response to the social and economic structure in much the same manner as the native-born population, or a combination of both. Altogether, known as the characteristics approach, these perspectives imply that the marginality of minority-group members within a society is not thought to affect their fertility directly.

The other approach, minority-status hypothesis, admits the relevance of compositional factors in explaining differences in the fertility of minority and majority groups but asserts that minority group status creates an independent effect on fertility. Introduced in the 1950s (van Heek 1956), it argued that minority groups might adjust their fertility to achieve either security or upward mobility in response to their disadvantageous status in a multicultural and multiethnic society. Only if social, economic, and demographic characteristics of minority and majority groups could become more comparable, the fertility of two groups might reach similar levels (Goldscheider and Uhlenberg 1969). Since the TFR of the overall Taiwanese population has been relatively low, it is reasonable to predict a limited reproductive outcome resulting from cross-border marriages.

Besides, it is important to examine whether a specific sex preference for newborns can be found within intermarried couples. Many empirical works have documented a long-lasting son preference in Asia, in which differential stopping behaviors were adopted for affecting fertility outcomes. In principle, couples continue childbearing till they attain a desired target number of sons or hit a ceiling for the maximum number of children. These two stopping rules operate precisely in that order and couples stop childbearing whenever one of them becomes effective. The main idea behind such stopping rules is that the sex composition of already-existing children determines the subsequent fertility behavior of families (Arnold et al. 1998; Larsen et al. 1998). Accordingly, to attain at least one son and control the number of children, a female first child would be associated with higher parity of fertility.

Concerning the decline in marriage and fertility rates among native-born Taiwanese, this paper aims to explore both formation patterns and fertility behaviors of cross-border marriages and to examine the interrelated processes of migration and fertility proposed by a variety of hypotheses. While there are many studies and debates on the efficacy of these hypotheses in explaining fertility outcomes of migrants and minority groups in Western societies, so far only limited vital statistics and medical reports on newborns and their migrant mothers were collected for detailed analysis in the context of Taiwan. To advise the government in matters of social welfare services and policy interventions, the first nationwide survey of marriage migrants and their families was administered in 2003 (Ministry of the Interior, Taiwan 2004). The following analyses are essentially based on this national survey

and official statistics in recent years.

Five hypotheses derived from the above discussion will be tested below:

(H1) Derived from the socialization argument: Chinese marriage immigrants have fewer children, but Southeast Asian women are more likely to have higher-parity birth.

(H2) According to the minority-group status hypothesis: Taiwanese husbands' disadvantaged status is associated with fewer births by marriage immigrants.

(H3) Remarriage of marriage immigrants should decrease the likelihood of higher-parity fertility.

(H4) The wider the age difference between spouses, the fewer the number of children.

(H5) A female first child increases the likelihood of subsequent fertility behavior.

DATA AND METHODS

Survey of Foreign and Mainland Chinese Spouses' Living Conditions

The marriage characteristics and birth outcomes used in this analysis come from the Survey of Foreign and Mainland Chinese Spouses' Living Conditions. Because of the availability of marriage registration and immigration records, this survey design was essentially close to a universal survey or census. The original sample consisted of 240,837 marriage migrants who were granted citizenship or alien residency permits between Jan 1987 and Aug 2003. Hundreds of civil servants who had received interview training went to the field for data collection in late 2003. In total, there were 175,909 marriage immigrants interviewed directly or through the help of their Taiwanese family members, yielding a response rate of 73%.[5] Regardless of a moderate response rate, these data provide most comprehensive information about personal characteristics, marriage and fertility histories of marriage immigrants, social and health status of Taiwanese spouses, and residential distribution.

However, there are two major potential sources of bias for estimation of fertility behaviors. First, while all respondents were asked to report marriage history, only information related to current marriage and births were gathered and recorded. According to the survey report, about 20% of Mainland Chinese and 3% of other foreigners in fact have entered a second or third marriage with their Taiwanese spouses. Since they were more likely to have

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[5] In spite of having double checked all official records and assigning well-trained civil servants as interviewers, the total response rate is only 73%. In terms of non-response cases, Mainland Chinese spouses were more likely to fail to answer the questionnaire than spouses of other nationalities. The reasons for non-response were mainly related to divorce, separation and residential mobility.

children in their previous marriage, the count of births toward these cases might be underrepresented. The other potential source of error is related to age of the marriage immigrant and duration of the current marriage. 15% of the marriage migrants were younger than twenty years old, and about 12% of the sample were married less than one year at the time of the survey in 2003. These two make the estimation of total births for these newlyweds an unrealistic expectation. Thus, in the comparison of the number of births, only those who were more than twenty years old or have been married at least three years are included in the multivariate analysis. In addition, concerning the relatively small male sample (5%), only female marriage immigrants are used for later analysis.

Measures and Variables

The dependent variable, the total number of children born by a marriage migrant, is a nonnegative integer ranging from zero to six in the sample. Several social and demographic variables that may affect the likelihood of having a child are also contained in the analysis. All of these variables are measured as categorical ones. To examine whether the nationality of marriage immigrants affects their fertility behaviors, all women are divided into four groups based on their marriage registration information. In this sample, there are 88,159 Mainland Chinese, 76,563 Southeast Asians, 1,231 migrant wives from Hong Kong and Macao, and 1,552 from other countries.

It is evident that wife's age and education are associated with fertility behaviors, with fewer births from younger birth cohorts and more highly educated women. The whole sample is divided into six age groups ranging from below twenty-five to over sixty-four years old. There are five education levels, categorized as illiteracy, elementary school, junior high school, senior high school, and college and advanced education. The duration of current marriage is measured as six categories ranging from less than one year to more than ten years. Referring to age differences between spouses, four types are measured, including husband being twenty years older than wife, ten years older, less than ten years older, and wife being older than husband. The education differences include three groups. In the literature review discussed above, it has been found that some cross-border marriages might involve a relatively old veteran or socially disadvantaged husband. Thus, it is necessary to examine whether these characteristics are related to the likelihood of higher-parity birth. In addition to personal and couple's traits, I expect characteristics of prior marriage and first birth to be strongly related to the likelihood of higher-parity birth. That is, either first marriage or a female first child should increase the probability of having a child or more births. Finally, the residential information including urban residence and regional location is also measured, to represent different social and cultural contexts within Taiwanese society.

(Table 1 about here)

Table 1 presents the frequency distribution of selected sociodemographic characteristics of the 167,505 female marriage immigrants by nationality. Almost ninety percent of migrant wives from Southeast Asian countries were still younger than thirty-five years old, followed by seventy percent of marriage migrants from Mainland China. Both represent the major component of cross-border marriages in recent years. Besides, some migrant women might have married an older Taiwanese husband, which in turn resulted in a wider age difference between spouses. Again this is more likely to be found among migrant wives from these two geographic locations. In contrast, the age distributions of marriage migrants from Hong Kong, Macao, and other countries are less skewed. In terms of education level, while a majority of marriage immigrants only completed secondary education regardless of their nationality, more than half of migrant wives from other countries held at least a college degree. A similar distribution of education differences between spouses is found across four nationality groups.

Regarding the previous marriage event, twenty percent of Mainland Chinese women have experienced at least one marriage before marrying their current Taiwanese spouse. Unlike the rapid increase in marriage immigrants from China and Southeast Asia, those intermarriages between Taiwanese men and women from Hong Kong, Macao, or other countries have been occurring for a few decades. Among these couples, more than one third of marriages have lasted at least ten years. The percentage distribution shows that the information on the duration of marriage for seventeen percent of the migrants was lost. Because the subsample of migrants from Hong Kong and Macao is only used for descriptive analysis but excluded from later multivariate analysis, the problem of this missing data does not bias the comparison of fertility behaviors.

Due to the kinship networks and cultural similarity, seventeen per cent of Mainland Chinese women who married veterans originated in China. Other migrant women are less likely to marry these men. Husband's disability status is the other important reason to be associated with marrying a non-Taiwanese wife. About nine percent and seven percent of Chinese and Southeast Asian women, respectively, married a disabled husband. While both the aborigines and men from low-income families are confronting a difficulty in searching for marriageable partners in Taiwan's marriage market, the data indeed show that they do not tend to adopt cross-border marriage as an alternative like the majority of the Taiwanese population. Regarding the health condition of Taiwanese spouses, more women from Chinese territories married an unhealthy husband who might need intensive care. This finding is compatible with the wider age difference between couples involving Chinese wives.

The residential distribution of marriage migrants is also related to their nationality. About two thirds of migrants from Southeast Asian countries were living in rural areas, while slightly less than half of Chinese women were concentrated in the same areas. In terms of

regional distribution, a higher proportion of marriage immigrants is found in the northern region because of the larger population share here. For those from Hong Kong, Macao, and elsewhere, they were more likely to settle down in metropolitan areas of northern Taiwan.

Statistical Model

In many empirical studies of fertility behaviors, the number of children in a household is often modeled as a function of demographic and socioeconomic variables such as age, education level, ethnicity/race, and family income, etc. The least squares regression (OLS) model has been commonly used in these studies for years. However, since the OLS regression may yield inconsistent estimates if applied to count response (King 1989), scholars have developed Poisson type regression to model fertility data (Winkelmann and Zimmermann 1994). Given that the dependent variable, the number of children, takes on positive and integer values, it is appropriate to choose Poisson regression for modeling the count response variable affected by selected covariates discussed in the theoretical framework.

The Poisson regression model gets its name from the assumption that the dependent variable has a Poisson distribution, defined as follows. Let y be a variable that can have only non-negative integer values. The probability that y is equal to some number r is given by

$$\Pr(y = r) = \frac{\lambda^r e^{-\lambda}}{r!}, r = 0, 1, 2, ...$$

where λ is the expected value (mean) of y and $r!$. Although y can only take on integer values, λ can be any positive number. Adding the explanatory variables, the function is written as

$$\log \lambda_i = \beta_0 + \beta_1 x_{i1} + \beta_2 x_{i2} + ... + \beta_k x_{ik}$$

where λi with a subscript i to allow the parameter to vary across individuals ($i=1,…,n$). Because λ cannot be less than 0, it is standard to let λ be a loglinear function of the x variables. Then, by calculating $100(e^\beta - 1)$, a given coefficient can be interpreted as the percent change in the expected number of dependent variable with each 1-unit increase in that independent variable (Allison 1999).

RESULTS

Fertility Behaviors of Marriage Immigrants

The first part of the descriptive analysis is to document the fertility behaviors of marriage migrants and to represent major characteristics of childless migrant wives and their Taiwanese husbands. Based on the 2003 survey data, about forty per cent of migrant wives did not give birth after marrying their current Taiwanese spouses. In particular, half of Mainland Chinese wives were childless. For Chinese wives who had children, two-thirds of them had only one child. On the contrary, while most migrant wives from Southeast Asia were younger, their

first birth was generally followed by the formation of marriage. Concerning the shorter duration of their marriages, the average number of births was smaller for this group of migrants at the time of the survey. As to other marriage immigrants, their fertility behaviors were actually similar to that of Taiwanese women.

Major sociodemographic characteristics of childless couples are provided in Table 2. It is obvious that age and duration of marriage are related to fertility outcomes. For those childless women from Mainland China and Southeast Asia, they were much younger than women from Hong Kong and Macao. Particularly, the average age of childless Southeast Asian women was only 26 years old. Adding their relatively short duration of marriage, they are very likely to give birth in the future. Similar fertility propensity is also expected among younger Chinese women and those from other countries. Besides, the results also indicate a higher proportion of childless Chinese women who have experienced at least one marital dissolution. Since they probably had children in a prior marriage, it would decrease the likelihood of having another child with their current Taiwanese husbands.

(Table 2 about here)

Despite observing an overall young age among migrant women, to some extent the wider age differences between spouses have prevented these non-Taiwanese wives from giving birth. About two thirds of Chinese women married Taiwanese men who were at least ten years older. Specifically, half of these couples had an age difference of more than twenty years. These marriages were also more likely to involve a divorced or widowed Mainland Chinese woman. These findings confirm a popular image portrayed in the headlines that the lifting of Martial Law in the late 1980s granted single veterans and old men who migrated from China a chance to search for potential partners in their hometowns. Concerning the older age of husbands and/or remarriage of wives, these couples were actually less likely to have a child than other combinations. A wider age difference was also found among childless couples involving Southeast Asian women, but the gap was mainly restricted to below twenty years. In addition, the finding shows that a Taiwanese husband's disability may decrease the likelihood of having a child.

Since the formation of cross-border marriages involving spouses from other countries has lasted for several decades, the sociodemographic characteristics of childless couples are evenly distributed, like those of the Taiwanese population. A wide age difference between spouses is not likely, except some couples involving husbands who were veterans. Women from Hong Kong, Macao, and other countries in general hold higher education and employment experience which makes them more attractive in the marriage market, but these personal traits plus predominantly urban residence in the post-marriage period seem to result

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in childlessness among these marriage migrants.

To verify the differences in fertility between Taiwanese and migrant women, Table 3 presents both age-specific and total fertility rates in 2003. Regarding age-specific fertility rates, the results indicate the peak ages of fertility for Taiwanese women were 25-29 (.092), followed by women aged 30-34 and 20-24. The total fertility rate (TFR) was 1.23, an important indicator that is highly associated with late marriage and fewer births in Taiwan. Calculations based on the survey data show that the average number of children born to a migrant wife during her childbearing years was 3.45. Examining the total fertility rates by nationality, the highest rate, 3.93, was found among Southeast Asian women. This result to some extent has supported the notion that they were more likely than other migrants to marry rural men with strong preference for a larger family. The high age-specific fertility rates among Southeast Asian women aged 15-24 and Chinese women aged 20-29 were also compatible with the vital statistics that indicated children from cross-border marriages made up 13.4 percent of babies born in 2003. On the contrary, most marriage immigrants from Hong Kong and Macao had lower fertility rates. Because of their small numbers and extremely diverse composition, it is difficult to provide a thorough analysis for migrant wives from other countries at this moment.

Determinants Accounting for Fertility Outcomes of Marriage Immigrants

In this section, the primary interest is to examine how the fertility outcomes of cross-border marriages were affected by couples' major characteristics. In addition to explanatory variables discussed in the previous analysis, it is expected that a female first child would increase the likelihood of higher-parity birth among these couples. Concerning the potential problem of underreporting, those marriage immigrants who were younger than twenty years old and were married less than three years have been excluded from this part of the analysis. Due to the small number of immigrants from Hong Kong, Macao, and other countries, the multivariate model is restricted to women from Mainland China and Southeast Asia only.

Results from the Poisson regression model are presented in Table 4, which shows estimates, standard errors and significance levels of a variety of explanatory variables. The characteristics of marriage immigrants stand out as significant in analyzing the fertility outcomes of cross-border marriages. Chinese women are less likely to have higher-parity birth

than their Southeast Asian counterparts. More precisely, the expected number of children born to Chinese women is 15%[6] lower than that of Southeast Asian women. The higher propensity of procreation among Southeast Asian women may reflect the fertility preference prevalent in their hometowns. Similarly, a more radical population policy implemented in China from the late 1970s may exhibit an effect on fertility outcomes among Chinese women.

Controlling for the effects of other explanatory factors, the migrant wife's age is negatively related to the number of children, a result that is significantly different from other fertility studies. Women who were in their twenties at the time of the survey in 2003 were most likely to have higher-parity births than older women. This suggests that the recent waves of marriage migrants have given more births, a trend indicating that the formation of cross-border marriage was not limited to old unmarried Taiwanese men only. It is evident that young men, who were less favorable in terms of socioeconomic status and rural residence, have also adopted this marriage pattern as an alternative way to fulfill their family obligation. Adding the fact that most newlywed women are jobless[7] in Taiwan, these couples were more likely to continue childbearing till they attained a desired number of children. As to the education level of wife herself, differential fertility behaviors are found between women who had completed at least senior high education and those with lower education. As expected, the higher educated marriage immigrants had, on average, fewer births than their counterparts.

The prior marriage experience of a migrant woman is negatively associated with the number of children with her current Taiwanese husband. Longer duration of cross-border marriage also increases the likelihood of having more children. Nevertheless, a relatively wider age difference between spouses is negatively related to their fertility outcome. For those couples with a husband at least 20 years older than his non-Taiwanese wife, their average number of births is 32% less than those couples with an age gap less than ten years. Besides, Taiwanese husbands' disadvantaged social status and unhealthy condition did affect their childbearing consequence.

As expected, the first birth itself is strongly related to the likelihood of higher-parity birth. Migrant women whose first child is a girl have births that are 41% higher, on average, than those women having a male first child. This result again confirms that the preference for sons has not lost its influence in Taiwanese society. It has long been suggested that couples in urban residence will produce fewer children than those residing in rural areas. The present finding again proves this tendency. Finally, in terms of regional difference, the highest average number of births is found in Kinmen and Matsu, two small islands relatively close to Mainland China and having a longer history of marrying Chinese women. In Taiwan, the only

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[6] $100*[\exp(-.160)-1]=15\%$
[7] Most marriage migrants come to Taiwan with alien residency permits which do not grant them legal status for searching for a job. To receive citizenship, they must stay in Taiwan for several years, particularly after giving birth with their Taiwanese spouses.

significantly regional difference is found between northern and central areas. The result shows that marriage migrants are likely to have higher-parity birth than women residing in other locations.

CONCLUSION AND DISCUSSION

Many studies over the past few years have documented the trends of late marriage and lower fertility rates in East Asia. In 2006, the total fertility rate was only 1.12 births per Taiwanese woman. The official statistics also indicate that 11.7 per cent of the national total births were to immigrant mothers. While most Taiwanese have been concerned about both the quantity and quality of newborns from foreign and Mainland Chinese mothers, it is obvious these babies have made an important contribution to the total fertility rates in recent years. The issue of fertility behaviors resulting from cross-border marriages has received little empirical attention because until recently there were no data sources that allowed adequate examination of this issue.

Through exploring the 2003 Survey of Foreign and Mainland Chinese Spouses' Living Conditions, we get a first glimpse of how prevalent cross-border marriage is in Taiwanese society. The results are quite striking, as this marriage pattern has become visible everywhere. While the headlines tend to portray a popular image that only old veterans and lower-educated rural men were more likely to marry a woman from Mainland China or less developed countries, the finding shows that many Taiwanese men of various age cohorts have already married a Non-Taiwanese woman. More importantly, with the exception of veterans, only a relatively small proportion of these men are aboriginal people, disabled, or from low-income families.

Regarding fertility behaviors, half of marriage migrants from Mainland China were childless at the time of the survey in 2003. Two potential reasons explain this finding. On the one hand, for those marrying veterans or remarrying in Taiwan, they were least likely to give birth. On the other hand, for newlyweds, the shorter duration of marriage inevitably decreases the likelihood of childbearing. It is expected that the latter group of Chinese women will bear a baby eventually. While most Southeast Asian women were still in their twenties and early thirties, about seventy per cent of them have given birth at least once. According to the results from multivariate analysis, it is also evident that they are more likely to give higher-parity birth than their Chinese counterparts. Perhaps the most striking finding is that the recent waves of cross-border marriage together have contributed a significant amount of births. In addition to marriage immigrants from China and Southeast Asia, some marriages were formed between Taiwanese and migrants from Hong Kong, Macao, and elsewhere. Of these couples, their fertility behaviors were very similar to the majority of the Taiwanese population.

In principle, all hypotheses are supported by these empirical findings. Consistent with

the socialization argument, most marriage immigrants did exhibit a fertility level close to that of their place of origin. However, it may be too early to examine the adaptation and assimilation hypotheses for the first generation of migrants. As to the selectivity argument, without the fertility data of nonmigrants from the same places of origin, it is not possible to verify differential fertility behaviors of migrants. Finally, the argument of minority group status having a substantive effect on fertility is partially supported in Taiwan. Those marriages involving veterans and disabled spouses were actually correlated with fewer births, but it is less clear whether those marriages with aboriginal people resulted in a similar outcome.

Despite a popular belief that more children were born to foreign and Mainland Chinese mothers, this research has shown that the average number of children from marriage immigrants is still lower than the replacement level. Another finding that suggests the existence of a son preference within cross-border marriages deserves more attention: the results derived from the Poisson regression model show that, controlling for other explanatory factors, a female first child significantly increases the likelihood of having higher-parity fertility. Theoretically, couples stop childbearing whenever they attain a desired number of sons or hit a ceiling for the maximum number of children. As a result, it is expected that more children might be born to migrant mothers who (or whose Taiwanese husbands) have a strong son preference.

(Table 5 about here)

Since having one or two children is accepted as an ideal number by most Taiwanese couples, some couples may rely on sex selection techniques for assuring at least one son. Until now, there is no reliable data ready for examining the prevalence of new reproductive techniques, but the slightly higher sex ratio at birth in recent years to some extent reflects the fact of sex selection. It is unclear whether migrant women also adopted these methods for controlling their birth outcomes. To explore this issue, the sex ratios of the first birth and second birth born to migrant mothers from Mainland China and Southeast Asia were calculated based on the raw data of the 2003 survey. Table 5 presents the sex ratios of both the Taiwanese population and marriage immigrants from 1998 to 2003. For the Taiwanese population, despite a slightly higher than normal figure, the sex ratios were relatively stable in this period. However, regarding the birth outcomes from Chinese and Southeast Asian women, the results confirm that some marriage migrants have adopted sex selection techniques as well. Since an imbalanced sex structure of newborns would have a negative impact on the marriage market in the long run, some appropriate solutions for redirecting the sex preference are urgently needed, and this issue deserves more attention from scholars and policymakers (Chung and Das Gupta 2007).

In an age of individualism, more young Taiwanese have delayed their marriages. Some of them even choose to be childless. Those typical Chinese norms such as "producing a male heir to continue the family line," "suppressing oneself for the sake of the family," or "raising children as insurance for old age" no longer strongly appeal to the younger generation. Currently, there is no sure answer for whether younger Taiwanese women with higher human capital and career aspirations will eventually enter marriage and bear a few children (Wong, 2003), but it is certain that the emergence of cross-border marriages has contributed considerably in raising the relatively low fertility rate over the past decade. However, the implementation of new migration policy and regulations since 2004 has resulted in a downward trend in this marriage pattern. A substantial decrease in the number of marriage immigrants from Vietnam has also been recorded recently. Concerning these changes in marriage patterns, it will be interesting to observe whether the fertility rates further decrease in Taiwanese society.

REFERENCES

Abbasi-Shavazi, M. J., & McDonald, P. 2000. "Fertility and Multiculturalism: Immigrant Fertility in Australia, 1977-1991." International Migration Review, 34: 215-242.

Allison, P. D. 1999. Logistic Regression Using the SAS System: Theory and Application. Cary, NC: SAS Institute Inc.

Arnold, F., Choe, M. K., & Roy, T. K. 1998. "Son Preference, the Family-Building Process and Child Mortality in India." Population Studies, 52: 301-315.

Becker, G. S. 1981. 1981 A Treatise on the Family. Cambridge, MA: Harvard University Press.

Bernard, J. 1972. The Future of Marriage. New York: Bantam Books.

Chao, A. 2004. "The Modern State, Citizenship, and the Intimate Life: A Case Study of Taiwan's Glorious Citizens and Their Mainland Wives." Taiwanese Sociology, 8: 1-41 (in Chinese).

Chung, W., & Das Gupta, M. 2007. "The Decline of Son Preference in South Korea: The Roles of Development and Public policy." Population and Development Review, 33: 757-783.

Coleman, D. 1994. "Trends in Fertility and Intermarriage among Immigrant Population in Western Europe as Measures of Integration." Journal of Biosocial Science, 26: 107-136.

Coleman, D. 2006. "Immigration and Ethnic Change in Low-Fertility Countries: A third Demographic Transition." Population and Development Review, 32: 401–446.

Council for Economic Planning and Development, Taiwan. 2007. Manpower Indicators 2006. Taipei, Taiwan: CEPD.

Davin, D. 2007. "Marriage Migration in China and East Asia." Journal of Contemporary China, 16: 83-95.

Fu, Y.-C., & Chang, C.-F. 2007. Technical Report of Taiwan Social Change Survey 2006: Phase 5, Wave 2. Taipei, Taiwan: Institute of Sociology, Academia Sinica (in Chinese).

Goldscheider, C., & Uhlenberg, P. H. 1969. "Minority-Group Status and Fertility." American Journal of Sociology, 74: 361-372.

Hervitz, H. M. 1985. "Selectivity, Adaptation or Disruption? A comparison of alternative hypotheses on the effects of migration on fertility: The case of Brazil." International Migration Review, 19: 293-317.

Hsia, H.-C. 2000. "Internationalization of Capital and Trade in Asian Women: The Case of Foreign Brides." Taiwan: A Radical Quarterly in Social Studies, 39: 45-92 (in Chinese).

Hsia, H.-C. 2006. "Empowering 'Foreign Brides' and Community through Praxis-Oriented Research." Societies Without Borders, 1: 93-111.

Hsia, H.-C. 2007. "Imaged and Imagined Threat to the Nation: the Media Construction of the 'Foreign Brides' Phenomenon as Social Problems in Taiwan." Inter-Asia Cultural Studies, 8: 55-85.

Kalmijn, M. 1998. "Intermarriage and Homogamy: Causes, Patterns, Trends." Annual Review

of Sociology, 24: 395-421.

King, G. 1989. "Statistical Models for Political Science Event Counts: Bias in Conventional Procedures and Evidence for the Exponential Poisson Regression Model." American Journal of Political Science, 32: 838-862.

Larsen, U., Chung, W., & Das Gupta, M. 1998. "Fertility and Son Preference in Korea." Population Studies, 52: 317-325.

Lee, Y.-J., Seol, D.-H., & Cho, S.-N. 2006. "International Marriages in South Korea: The Significance of Nationality and Ethnicity." Journal of Population Research, 23: 165-182.

Lindstrom, D. P. 2004. "Rural-Urban Migration and Reproductive Behavior in Guatemala." Population Research and Policy Review, 22: 351-372.

Ministry of Education, Taiwan. 2007. Education Yearbook of the Republic of China 2006. Taipei, Taiwan: MOE.

Ministry of the Interior, Taiwan. 2004. Report on Survey of Foreign and Mainland Chinese Spouses' Living Conditions. Taipei, Taiwan: MOI.

Ministry of the Interior, Taiwan. 2007. Taiwan-Fukien Demographic Fact Book. Taipei, Taiwan: MOI.

Ministry of the Interior, Taiwan. 2008. Monthly Marriage Registration Report of Household Registration Affairs. Retrieved January 12, 2008, from the World Wide Web: http://www.ris.gov.tw/ch4/static/m0s409612.xls

Morgan, C. V. 2007. "A Case Study of Buraku and Non-Buraku Couples in Japan." Journal of Comparative Family Studies, 38: 31-54.

Oppenheimer, V. K. 1988. "A theory of Marriage Timing." American Journal of Sociology, 94: 563-591.

Thornton, A., & Lin, H.-S. 1994. Social Change and the Family in Taiwan. Chicago: The University of Chicago Press.

Tsai, S.-L. 1994. "Assortative Mating in Taiwan." Journal of Social Sciences and Philosophy, 6: 335-371 (in Chinese).

Tsay, R.-M. 1996. "Who Marries Whom? The Associations between Wives' and Husbands' Educational Attainment and Classes in Taiwan." Proceedings of Humanities and Social Sciences, 6: 258-277.

Tsay, R.-M., & Wu L.-H. 2006. "Marrying Someone from an Outside Group: An Analysis of Boundary-Crossing Marriages in Taiwan." Current Sociology, 54, 165-186.

van Heek, F. 1956. "Roman-Catholicism and Fertility in the Netherlands: Demographic Aspects of Minority Status." Population Studies, 10: 125-138.

Wang, F.-C. 1993. "Causes and Patterns of Ethnic Intermarriage among the Hokkien, Hakka, and Mainlanders in Postwar Taiwan: A Preliminary Examination." Bulletin of the Institute of Ethnology, 76: 43-96 (in Chinese).

Wang, H.-Z., & Chang S.-M. 2002. "The Commodification of International Marriages: Cross-Border Marriage Business in Taiwan and Viet Nam." International Migration, 40:

93–116.

Wang, H.-Z., & Bélanger, D. 2008. "Taiwanizing Female Immigrant Spouses and Materializing Differential Citizenship." Citizenship Studies, 12: 91-106.

Winkelmann, R., & Zimmermann, K. F. 1994. "Count Data Models for Demographic Data." Mathematical Population Studies, 4: 205-211.

Wong, O. 2003. "Are Women Postponing or Abandoning Marriage? Evidence from Hong Kong." Journal of Comparative Family Studies, 34: 531-554.

Yang, C.-L., Li, T.-C., & Chen, K.-J. 2006. "Assortative Mating in Taiwan: Changes and Persistence." Journal of Population Studies, 33: 1-32 (in Chinese).

Yi, C.-C., & Chang Y.-H. 2006. "Attitudes toward Having a Foreign Daughter-In-Law: The Importance of Social Contact." Taiwanese Sociology, 12: 191-232.

Yi, C.-C., & Hsung, R.-M. 1994. "Mate Selection Networks and the Educational Assortative Mating in Taiwan: An Analysis of Introducer." Pp. 135-178 in C.-C. Yi, (Ed.), the Social Image of Taiwan: Social Science Approaches. Sun Yat-Sen ISSP Book Series (33), Academia Sinica, Taipei, Taiwan (in Chinese).

Figure 1. Percentage of Cross-Border Marriages and Number of Registered Marriages by Gender of Foreign Spouses: 1998-2007
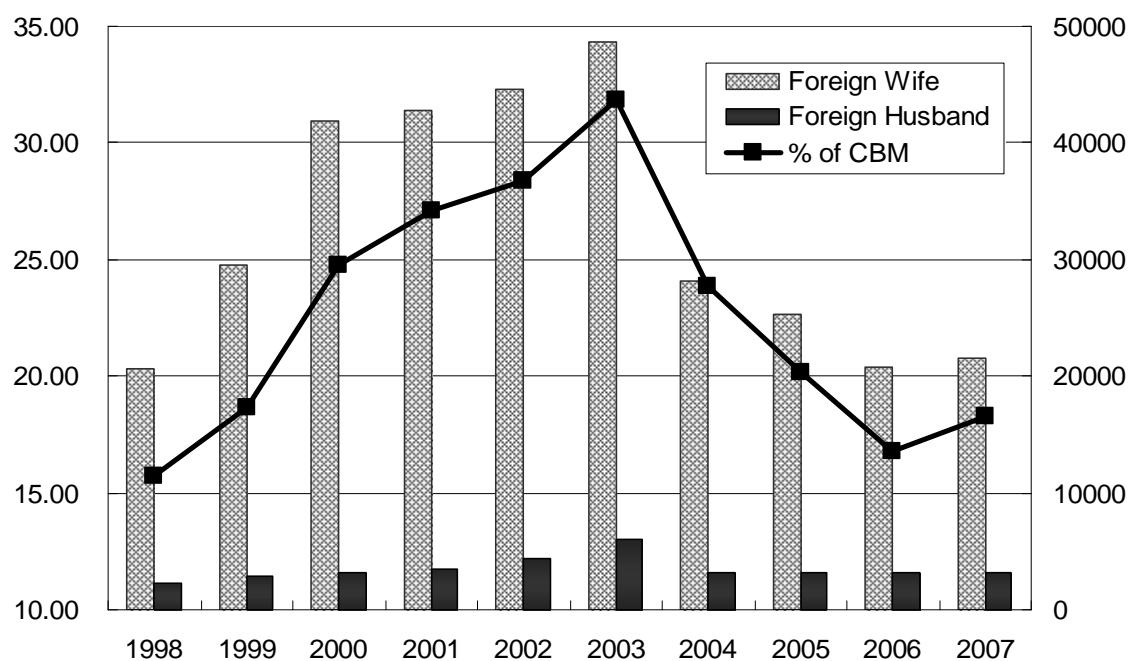
Figure 2. Total Fertility Rates and Birth Outcomes of Marriage Immigrants, 1991-2007
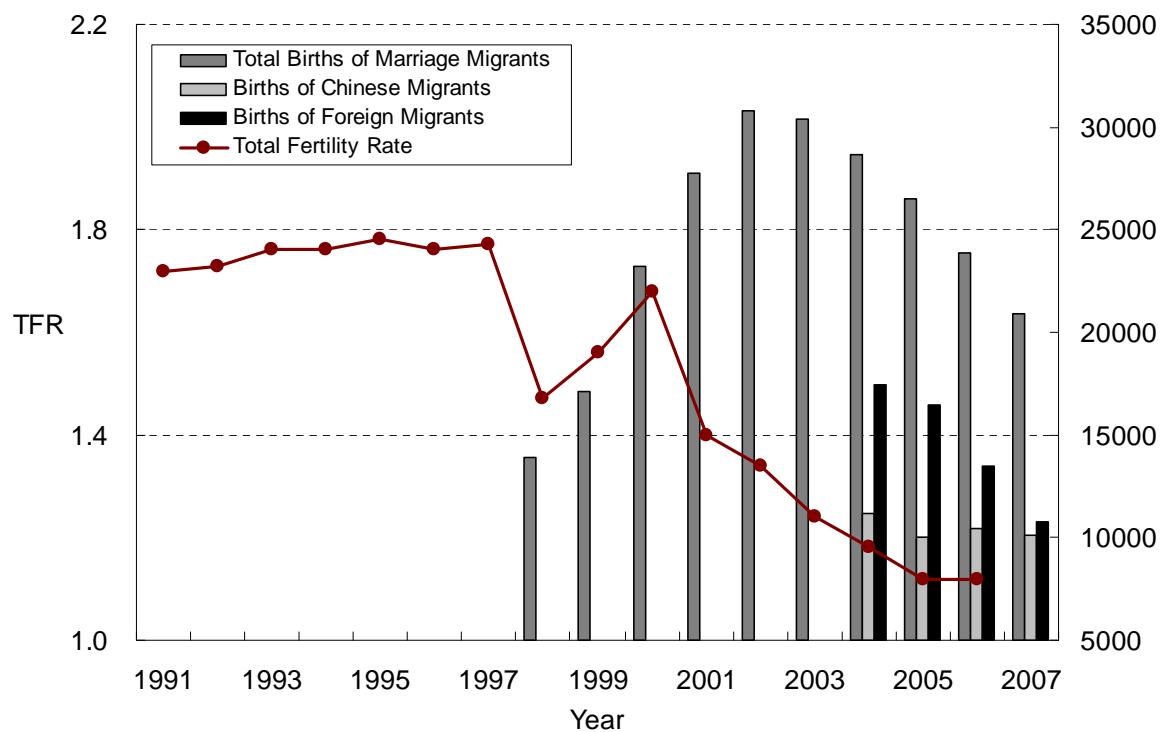
Note: Official data for annual births of marriage migrants were made available from 1998 and divided by nationality of migrants from 2004.

Source: Monthly Report of Household Registration Affairs (Table 3: Births Statistics), Ministry of the Interior, Taiwan (http://www.moi.gov.tw/stat/).

Table 1. Percentage Distribution of Selected Sociodemographic Characteristics by Nationality/Origin of Female Marriage Immigrants (N=167,505)

Variable	Nationality/Origin			
	China	SE Asia	HK & Macao	Others
Age				
15-24 years	11.9	47.8	2.6	3.6
25-34	57.3	41.0	24.3	36.9
35-44	20.0	8.8	35.3	35.8
45-54	7.6	2.0	20.5	14.2
55-64	2.3	0.3	8.7	5.9
65 & over	1.0	0.1	8.7	3.9
Education				
Illiteracy	2.3	3.0	4.7	0.4
Elementary	18.5	33.6	19.5	7.3
Junior high	41.1	36.0	28.2	13.1
Senior high	27.6	21.0	28.4	21.7
College & over	10.5	6.4	19.2	54.5
Number of current marriage				
First marriage	79.4	97.6	92.4	96.0
Second	20.1	2.3	7.6	3.7
Third & over	0.5	0.1	0.0	0.3
Duration of current marriage				
Less than 1 year	13.2	11.4	2.9	3.9
1-3	30.8	34.4	10.9	12.7
3-5	22.5	26.1	11.7	12.1
5-7	14.3	12.4	11.4	9.2
7-10	11.2	10.3	13.0	14.9
10 & over	6.3	4.3	32.8	43.7
missing	1.7	1.1	17.2	3.5
Age difference between spouses				
Husband older > 20 years	17.8	10.5	2.5	1.9
11-20	31.1	50.5	7.3	10.7
0-10	47.5	36.2	69.8	67.8
Wife older	3.6	2.8	20.2	19.6
Education difference between spouses				
Husband higher	40.7	48.5	41.8	42.6
Similar	33.7	31.3	40.6	36.5
Wife higher	25.6	20.2	17.6	20.9

Husband's minority status				
Aboriginal people	0.9	0.6	0.7	1.4
Veteran	17.0	2.2	5.3	4.1
Low income	2.4	1.4	1.2	1.0
Disability	6.5	8.8	1.6	1.7
None	73.3	87.0	91.2	91.8
Husband's health condition				
Good	87.8	93.0	89.0	94.6
Sick	6.8	4.8	2.8	2.5
Care needed	5.4	2.2	8.3	2.9
Residence				
Metropolis & cities	52.4	36.2	68.0	79.1
Rural areas	47.6	63.8	32.0	20.9
Region				
Northern	46.4	37.3	67.1	66.8
Central	22.0	30.0	17.1	13.3
Southern	27.9	30.1	14.1	18.3
Eastern	3.1	2.3	1.6	1.4
Jinmen & Matsu	0.6	0.3	0.1	0.2
Sample size	88159	76563	1231	1552

Table 2. Major Characteristics of Childless Cross-Border Marriages by Nationality/Origin of Wives (N=67,526)

Variable	Nationality/Origin			
	China	SE Asia	HK & Macao	Others
Age				
15-24 years	12.5	58.0	3.6	7.0
25-34	40.8	27.9	23.3	44.6
35-44	26.6	9.0	32.3	22.1
45-54	13.9	4.2	21.3	11.3
55-64	4.4	0.8	10.5	8.1
65 & over	1.8	0.1	9.0	6.9
Number of current marriage				
First marriage	62.3	94.4	81.5	89.2
Second	36.7	5.5	18.5	10.1
Third & over	1.0	0.1	0.0	0.7
Duration of current marriage				
Less than 1 year	24.9	35.2	8.5	12.7
1-3	37.7	38.8	19.5	28.3
3-5	17.6	13.1	13.6	12.2
5-7	7.9	5.2	11.3	7.7
7-10	5.8	4.0	13.1	8.6
10 & over	3.8	1.8	17.7	26.4
missing	2.3	1.9	16.4	4.1
Age difference between spouses				
Husband older > 20 years	29.3	16.3	6.9	3.6
11-20	29.0	47.3	10.5	12.2
0-10	37.4	33.0	60.8	60.9
Wife older	4.3	3.4	21.8	23.3
Husband's minority status				
Aboriginal people	1.3	0.9	1.0	1.2
Veteran	27.8	3.6	10.8	6.7
Low income	2.6	1.1	0.8	1.7
Disability	6.6	8.8	1.5	1.4
None	61.7	85.6	85.9	89.0
Residence				
Metropolis & cities	55.5	40.0	73.1	78.4
Rural areas	44.5	60.0	26.9	21.6
Sample size	44319	22400	390	417

Table 3. Age-Specific and Total Fertility Rates by Nationality/Origin in 2003

	15-19	20-24	25-29	30-34	35-39	40-44	45-49	TFR
Marriage migrants [a]	.203	.233	.134	.074	.035	.010	.001	3.45
China	.073	.167	.126	.065	.027	.009	.001	2.34
SE Asia	.205	.260	.146	.097	.056	.017	.005	3.93
HK & Macao	0	.093	.085	.063	.027	.003	0	1.34
Others	.111	.197	.081	.078	.064	.006	0	2.68
Taiwanese [b]	.011	.052	.092	.068	.020	.003	0	1.23

Source:　a. 2003 Survey of Foreign and Mainland Chinese Spouses' Living Conditions.
　　　　b. 2003 Taiwan-Fuchien Demographic Fact Book Republic of China.

Table 4. Results of Poisson Regression Predicting Number of Births of Marriage Immigrants: Mainland Chinese vs. Southeast Asian (N=88,518)

Variable	Estimate	Standard Error
Chinese wife	-0.160	0.006 ***
Age		
20-29 years	1.088	0.024 ***
30-34	0.993	0.024 ***
35-40	0.880	0.024 ***
40-44	0.665	0.027 ***
45 & over (ref.)	--	--
Education		
Elementary & below (ref.)	--	--
Junior high	-0.010	0.008
Senior high	-0.034	0.010 ***
College & over	-0.072	0.013 ***
Remarriage	-1.078	0.025 ***
Duration of current marriage		
3-5	-0.492	0.008 ***
5-7	-0.240	0.008 ***
7 & over (ref.)	--	--
Age difference between spouses		
Husband older > 20 years	-0.389	0.014 ***
11-20	-0.069	0.007 ***
0-10 & wife older (ref.)	--	--
Husband with higher education	-0.013	0.007
Husband's minority status	-0.065	0.010 ***
Husband's bad health	-0.090	0.012 ***
First female child	0.343	0.006 ***
Urban residence	-0.068	0.007 ***
Region		
Northern (ref.)	--	--
Central	0.027	0.008 ***
Southern	0.002	0.007
Eastern	-0.014	0.022
Kinmen & Matsu	0.171	0.036 ***
Intercept	-0.374	0.025 ***

Note: *** $p < .001$.

Table 5. Sex Ratios at Birth by Mother's Nationality and Birth Order, 1998-2003

Year	Sex Ratio of Taiwan's Total Births [a]	Sex Ratio of 1st Birth [b]		Sex Ratio of 2nd Birth [b]	
		Chinese	SE Asian	Chinese	SE Asian
1998	1.088	1.174	1.154	1.163	1.141
1999	1.093	1.214	1.163	1.187	1.166
2000	1.096	1.175	1.125	1.171	1.132
2001	1.087	1.158	1.198	1.114	1.093
2002	1.098	1.209	1.234	1.200	1.184
2003	1.102	1.277	1.229	1.182	1.132

Source: [a] 2003 Taiwan-Fuchien Demographic Fact Book, Republic of China.

[b] 2003 Survey of Foreign and Mainland Chinese Spouses' Living Conditions.