

# The Hong Kong Marriage Market in the Past Three Decades

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## Abstract

## 1 Introduction

Since the handover of Hong Kong to China in 1997, cross-border marriages between Hong Kong and mainland China have become more common. In 2006, marriages between Hong Kong and Mainland China peaked, and most of them were between Hong-Kong grooms with mainland Chinese brides. Interestingly, in recent years, we also observe the opposite type of pairs, cross-border marriages between Hong Kong brides and mainland Chinese grooms. Our research aims to explain the patterns of cross-border marriages using recently developed structural methods on matching models. With these methods, we hope to recover the evolution of the cost of cross-border marriages over time, to analyze the comparative statics with respect to characteristic distribution change, and to discuss the implications of demographic and immigration policies. Moreover, we would like to evaluate changes in labor market policies and education policies. For example, in 2003, colleges in Hong Kong started admitting students from six major provinces/cities in mainland China, and in 2003 and 2016, Hong Kong allowed more mainland Chinese people to work in Hong Kong. In this project, we would like to understand how these policy changes affect the marriage market in Hong Kong.

## 2 Data

We look at immigration and marriage trends in Hong Kong over the 1991-2016 period. We employ two different datasets, the Hong Kong census and the Hong Kong Marriage Registry. With the help of CDEP funding, we have applied for these two datasets in May 2018, and obtained the access to the data in mid-July, 2018.

We decompose the trends by education, age and nationality (Mainland China, Hong Kong, Other). For every Census wave, we focus on individuals in their prime adulthood<sup>1</sup> and build three separate datasets: the first contains single men, the second single women, and the third couples. Singles are defined as heads of household with no partner, while couples are composed of heads of households with their respective partners<sup>2</sup>. Singles differ by nationality, schooling level, and age. Couples differ by both the husband's and the wife's traits.

We aggregate all Marriage Registry data. Marriage Registry data are administrative data that keep track of all marriages registered in Hong Kong by year. An important issue is to understand whether these are marriages that are officiated in Hong Kong or also abroad, and in particular how marriages officiated abroad and later registered in Hong Kong are treated in the dataset. For each calendar year<sup>3</sup>, we select couples that married during that year (or in the last  $n$  years). Note that we care about the date of marriage, not about the date of registration in Hong Kong. Couples of newlyweds differ by the spouses' nationality, schooling level, and age. If nationality cannot be observed directly, we characterize spouses by their immigrant/resident status and previous residence.

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<sup>1</sup>For instance, aged 20-35. These cutoffs must be flexible as we may want to try different solutions.

<sup>2</sup>Alternatively, we can also include young adults that are not heads (e.g., still living with their parents) and secondary couples within the same household (e.g., the son of the head with his wife). It would be interesting to know how many of these individuals/couples there are in Hong Kong.

<sup>3</sup>Or, alternatively, for each group of years.

### 3 Empirical Patterns

Using annual marriage registry data between 1990 and 2016, we have found several interesting patterns.<sup>4</sup> Across time, the number of marriages registered at HK decreased between 1990 and 2000, increased between 2001 and 2012, and decreased afterwards again. With a detailed look at the composition of those marriages, the decrease between 1990 and 2000 was mainly driven by the decrease of HK groom-HK bride marriages; while the increase between 2001 and 2012 was mainly driven by HK groom-ML bride marriages. Across time, the percentage of HK groom-HK bride marriages decreased and the percentage of cross-border marriages increased after 1997 (HK returning to China). Within cross-border marriage, we see an increase of the percentage of ML groom-HK bride marriages.

#### 3.1 Who marries Whom

In terms of education, we found that:

- HK husbands married to HK wives were more educated than those married to ML wives (Figure 5, Figure 6).
- HK wives married to HK husbands were more educated than those married to ML husbands (Figure 5, Figure 6).

In terms of marriage age, we found that:

- HK husbands married to HK wives married at a younger age than those married to ML wives (Figure 8).
- HK wives married to HK husbands were younger than HK wives married to ML husbands until around 2000, but this trend reversed afterwards (Figure 8).

#### 3.2 Patterns across time

The descriptive patterns suggest three periods: before HK's handover to China in 1997, after 1997 but before 2006, and post 2006.

Right after 1997 when HK was returned to China and before 2006, we have found that:

- An increase of cross-border marriages, mainly driven by HK groom-ML bride type (Figure 3).
- The average time that brides have stayed in HK in HK groom-ML bride marriage decreased sharply from 4 years to 2 years in 1997, and continued decreasing after that (Figure 9).
- ML husbands married to HK wives were more educated than those married to ML wives (Figure 6).
- ML wives married to HK husbands were more educated than those married to ML husbands (Figure 6).

After 2006,

- The number of HK groom-ML bride marriages started decreasing, while the number of ML groom-ML bride marriages started increasing quickly (Figure 2).
- The percentage of individuals finishing tertiary education increased a lot for individuals from Mainland observed in the marriage registry (Figure 4).
- In ML groom-ML bride marriages, the spousal age gap also started to decline (Figure 8).
- ML husbands married to HK wives started to become less educated than those married to ML wives (Figure 6).
- ML wives married to HK husbands started to become less educated than those married to ML husbands (Figure 6).

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<sup>4</sup>We are still in the process of cross-checking different data sources.

## 4 Structural Estimation

We analyze Hong Kong marriage patterns as the outcome of a competitive marriage market. Following [Choo and Siow \(2006\)](#), agents' marital choices depend on spouses' observable traits and unobservable (to the econometrician) taste shocks; the latter are modeled as logit. At equilibrium, spouses reach within-couple agreements on how to share the burden of household production so that aggregate demand (for brides) meets aggregate supply (for grooms) and the market clears. As suggested by [Becker \(1973\)](#), equilibrium marriage patterns are the result of the interplay between demographic factors (e.g., gender ratio, share of college graduates) and microeconomic interactions at the household level (e.g., economies of scale), and Positive Assortative Mating is expected to arise when spouses' traits are complements in the household production process.

While marriage markets are often studied in isolation, typically at country or region level, the high share of cross-border marriages in Hong Kong points to the necessity of understanding the interconnections between marriage market outcomes in Mainland China and Hong Kong. We consider a model where agents are ex-ante heterogeneous: men are characterized by a type  $i \equiv (e_i, a_i, l_i)$ , where  $e_i$  denotes schooling,  $a_i$  age and  $l_i \in \{HK, ML\}$  birthplace. Women are similarly characterized by  $j \equiv (e_j, a_j, l_j)$ , with the marginal distribution of  $j$  possibly differing from the one of  $i$ . Before going on the marriage market, agents can choose whether to live and seek for a match in Hong Kong ( $HK$ ) or in Mainland China ( $ML$ ). A woman  $j$ 's expected utility from participating to a certain market  $m \in \{HK, ML\}$  corresponds to

$$\bar{v}_j^m = c + \tilde{\alpha}_{0,j}^m - \ln \left( \frac{\mu_{0,j}^m}{\bar{f}_j^m + \Delta_j} \right) \quad (1)$$

where  $\bar{f}_j^m$  is the initial number of women  $j$  living in  $m$ , and  $\Delta_j$  is the migration flow from  $m'$  to  $m$  (see notation and details in [Choo and Siow, 2006](#), Equation 8). At equilibrium, agents must be indifferent between living in  $HK$  or  $ML$ : hence, it is possible to pin down the endogenous migration flow  $\Delta_j$  from condition

$$\bar{v}_j^{ML} = \bar{v}_j^{HK}. \quad (2)$$

Matched data  $(\hat{\mu}_{i,0}^m, \hat{\mu}_{0,j}^m, \hat{\mu}_{i,j}^m)$  allow us to identify the gains from marriage: we restrict our attention to gains from marriage in Hong Kong, and look at differences in gains between native and cross-border couples in order to discuss the relevance of cultural difference and migration cost. In particular, migration policy changes along the 1990s and 2000s can help distinguish between the two confounding factors. Finally, equation (2) allows us to identify the difference  $\tilde{\alpha}_{0,j}^m - \tilde{\alpha}_{0,j}^{m'}$ , which can be interpreted as labor market returns to migration. Note that, for this purpose, only singlehood rates for Chinese living in the Mainland are needed.

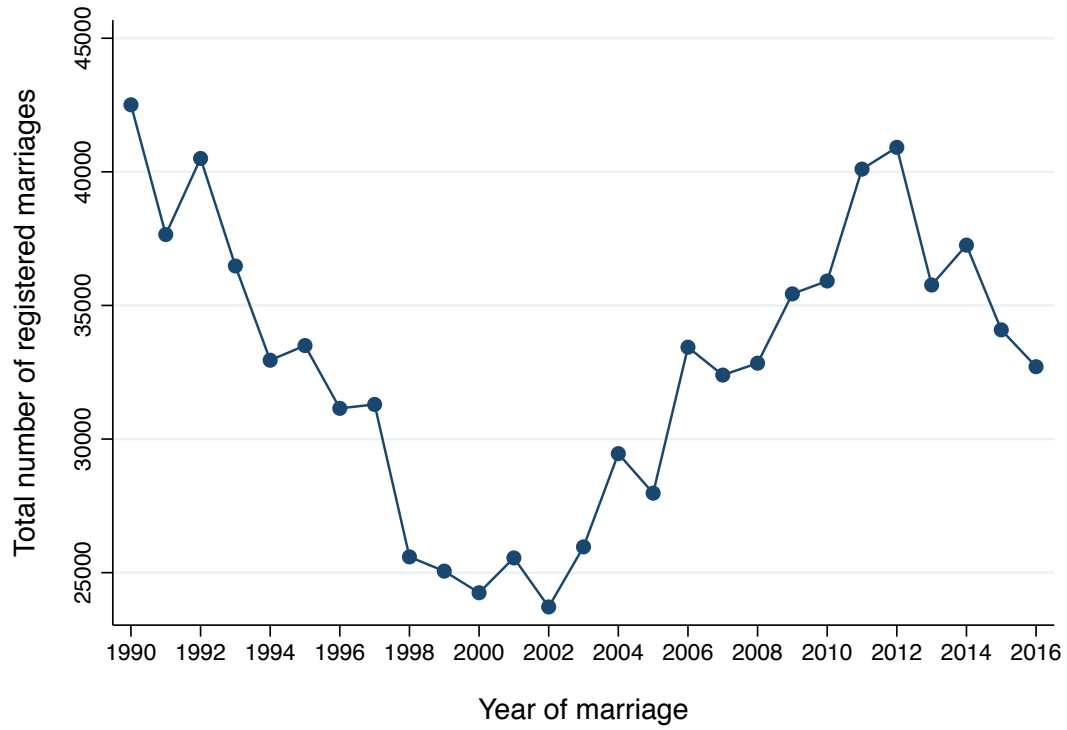
Our empirical analysis helps us shed light on the role of different fundamental factors (demographic changes, marital preferences, migration costs, labor market returns to migration) in rationalizing both Hong Kong marriage market and immigration trends in the last 25 years. We aim to quantify the spillovers of Mainland China marriage market upon Hong Kong local marriage market. In particular, we aim to understand to what extent the rapid growth in college education in Mainland China can explain the changing pool of incoming spouses in cross-border marriages in Hong Kong (see changes in both the schooling (5, 6) and age distribution (8) after 2006, as described in previous section).

## References

- Gary S Becker. A theory of marriage: Part i. *Journal of Political economy*, 81(4):813–846, 1973.  
 Eugene Choo and Aloysius Siow. Who marries whom and why. *Journal of political Economy*, 114(1):175–201, 2006.

## 5 Figures

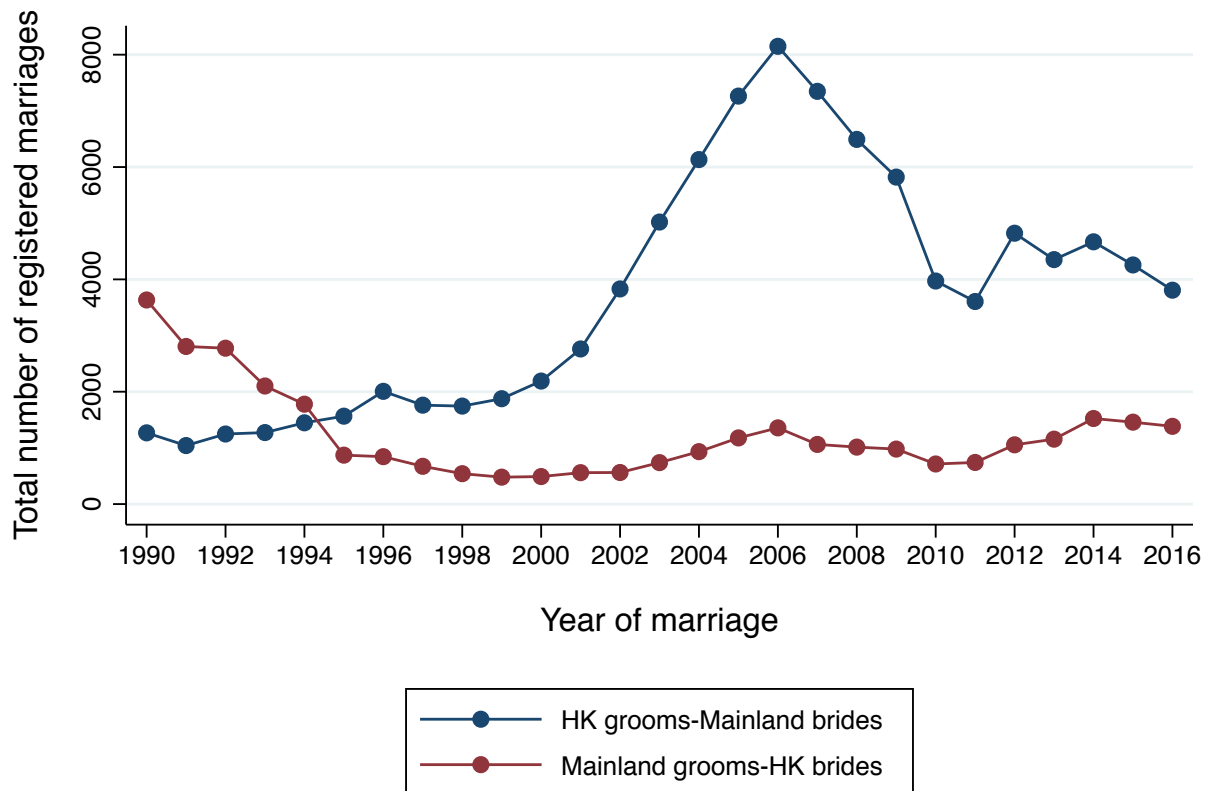
Figure 1: The number of registered marriages in Hong Kong



NOTES: We focus on first marriages.

Source: Hong Kong Marriage Registry data, 1990-2016.

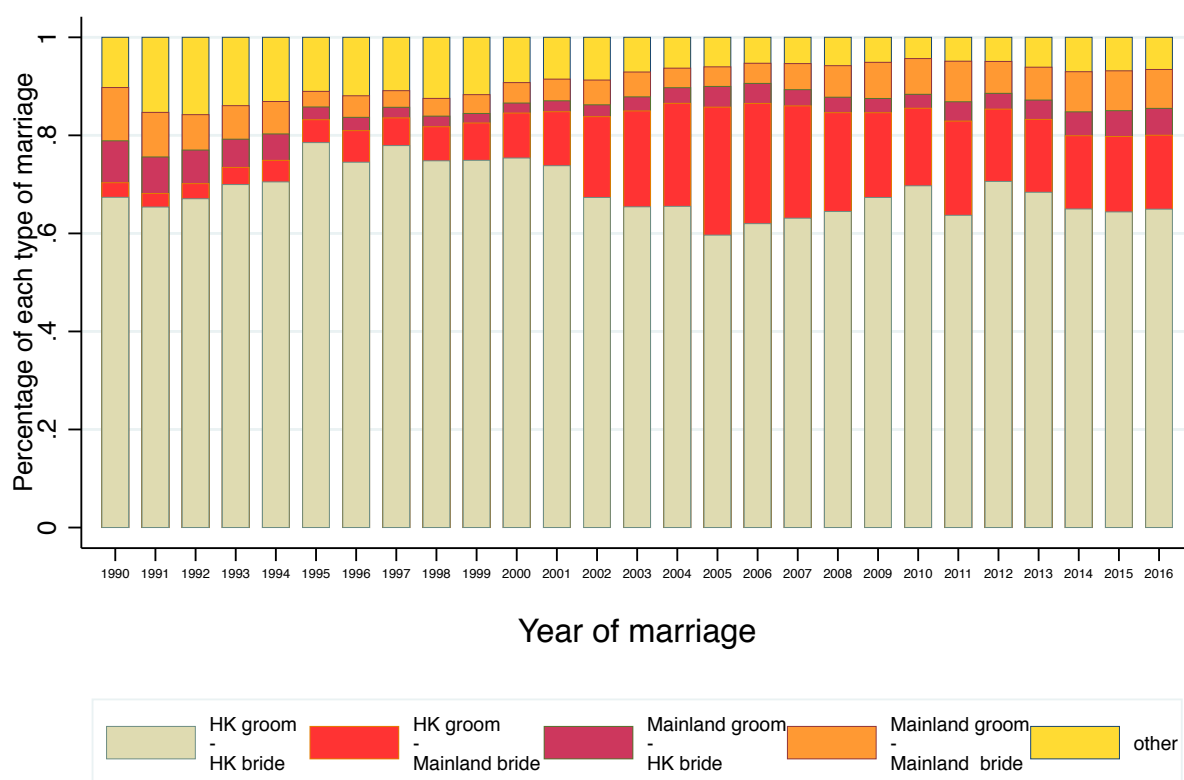
Figure 2: The number of registered marriages in Hong Kong, by origins



NOTES: The origin is based on previous residence and years stayed in HK.  
This graph is conditional on previous residence and years stayed in HK being non-missing.  
We categorize people who moved to HK before age 18 as HK residents.  
We focus on first marriages.

Source: Hong Kong Marriage Registry data, 1990-2016.

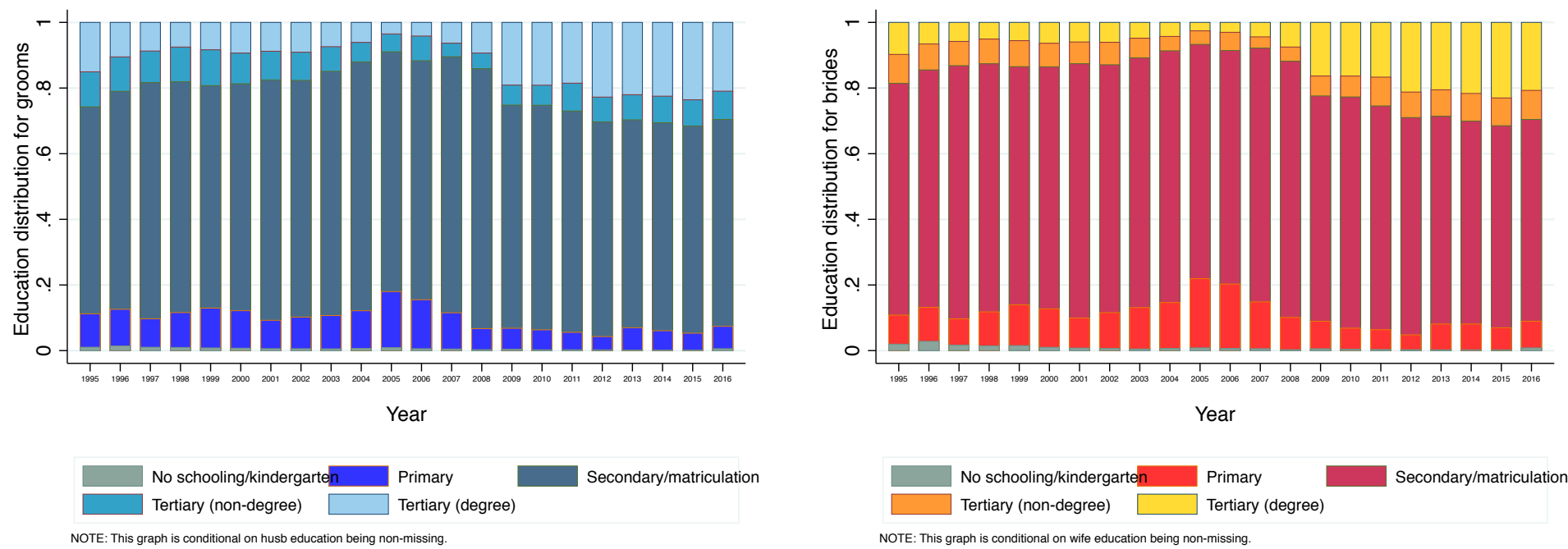
Figure 3: The share of each type of marriage in Hong Kong



NOTES: This graph is based on previous residence and years stayed in HK.  
This graph is conditional on previous residence and years stayed in HK being non-missing.  
We categorize people who moved to HK before age 18 as HK residents.  
We focus on first marriages.

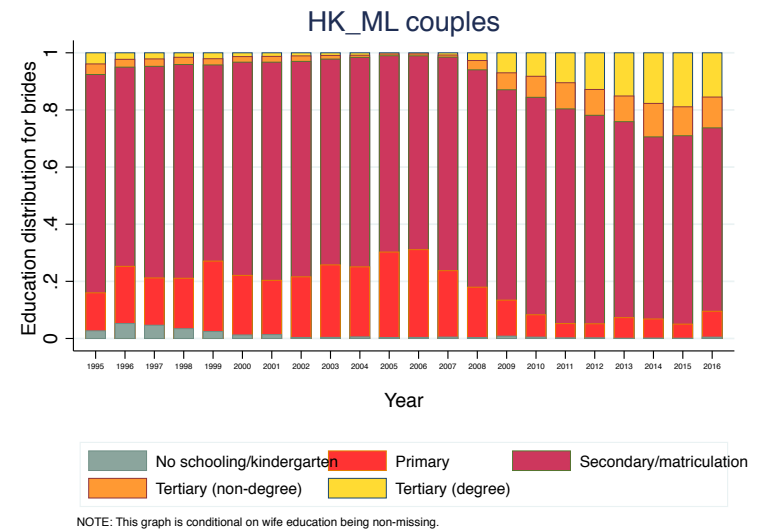
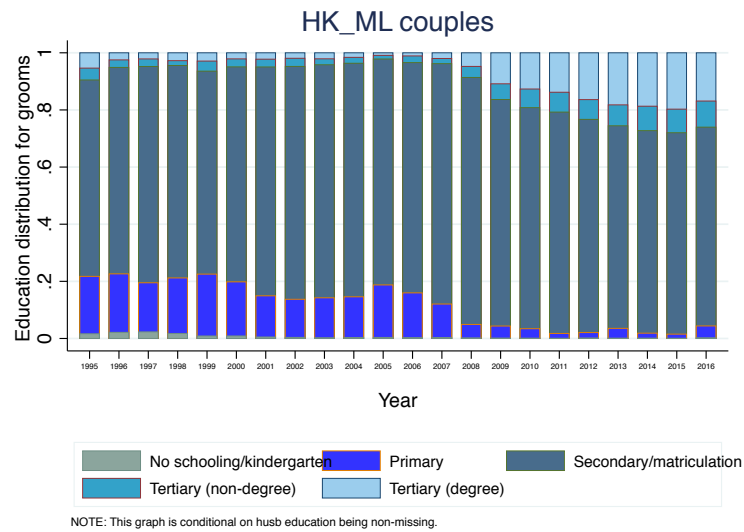
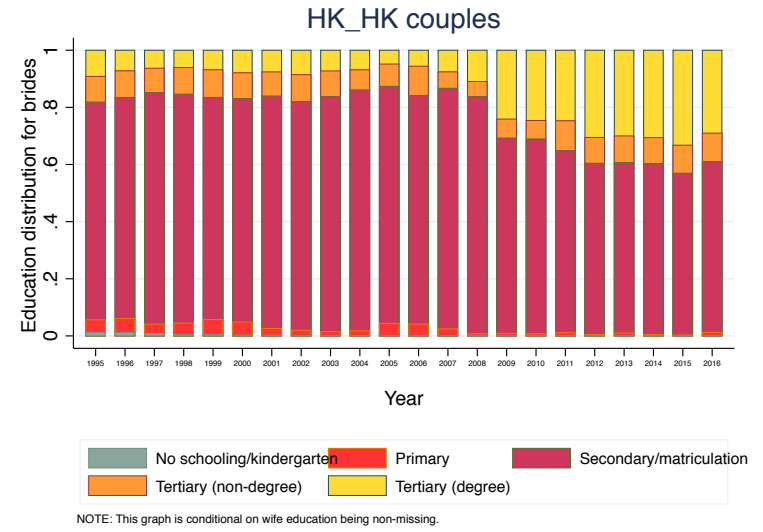
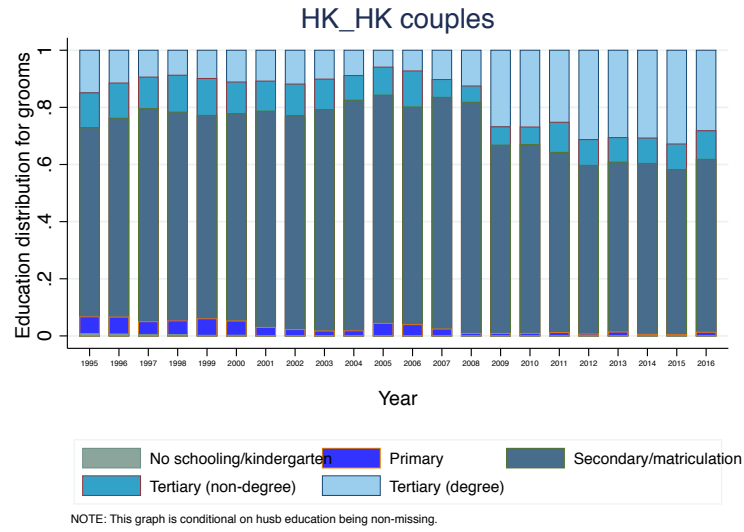
Source: Hong Kong Marriage Registry data, 1990-2016.

Figure 4: Education distributions for grooms and brides



Source: Hong Kong Marriage Registry data, 1995-2016. The data before 1995 were not used because education was defined differently.

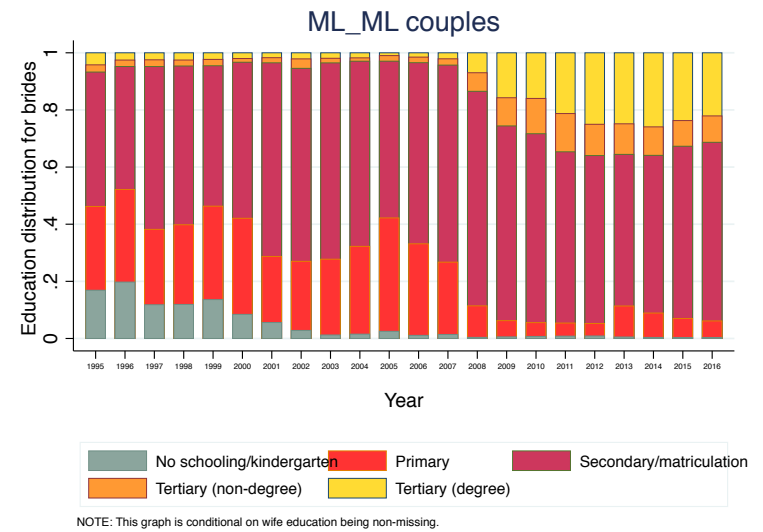
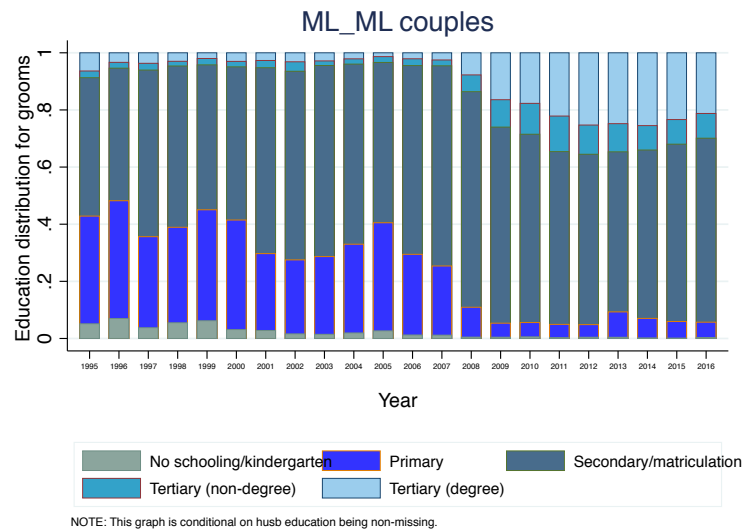
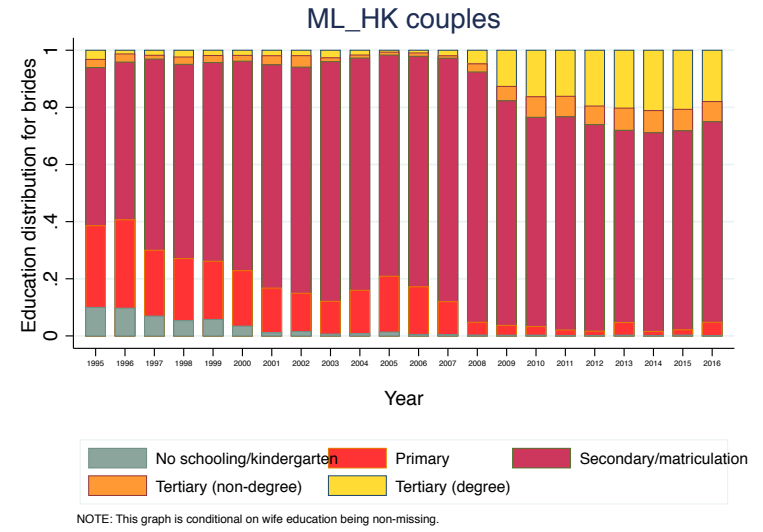
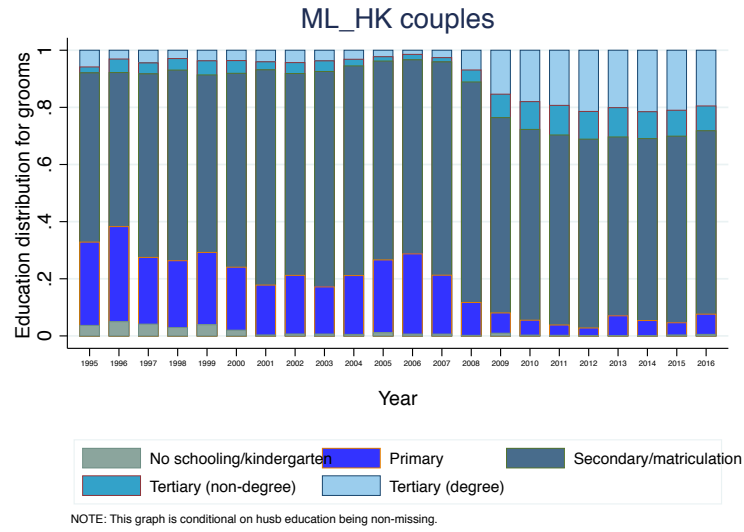
Figure 5: Education distributions for grooms and brides, by each type of marriage



Source: Hong Kong Marriage Registry data, 1995-2016. The data before 1995 were not used because education was defined differently.

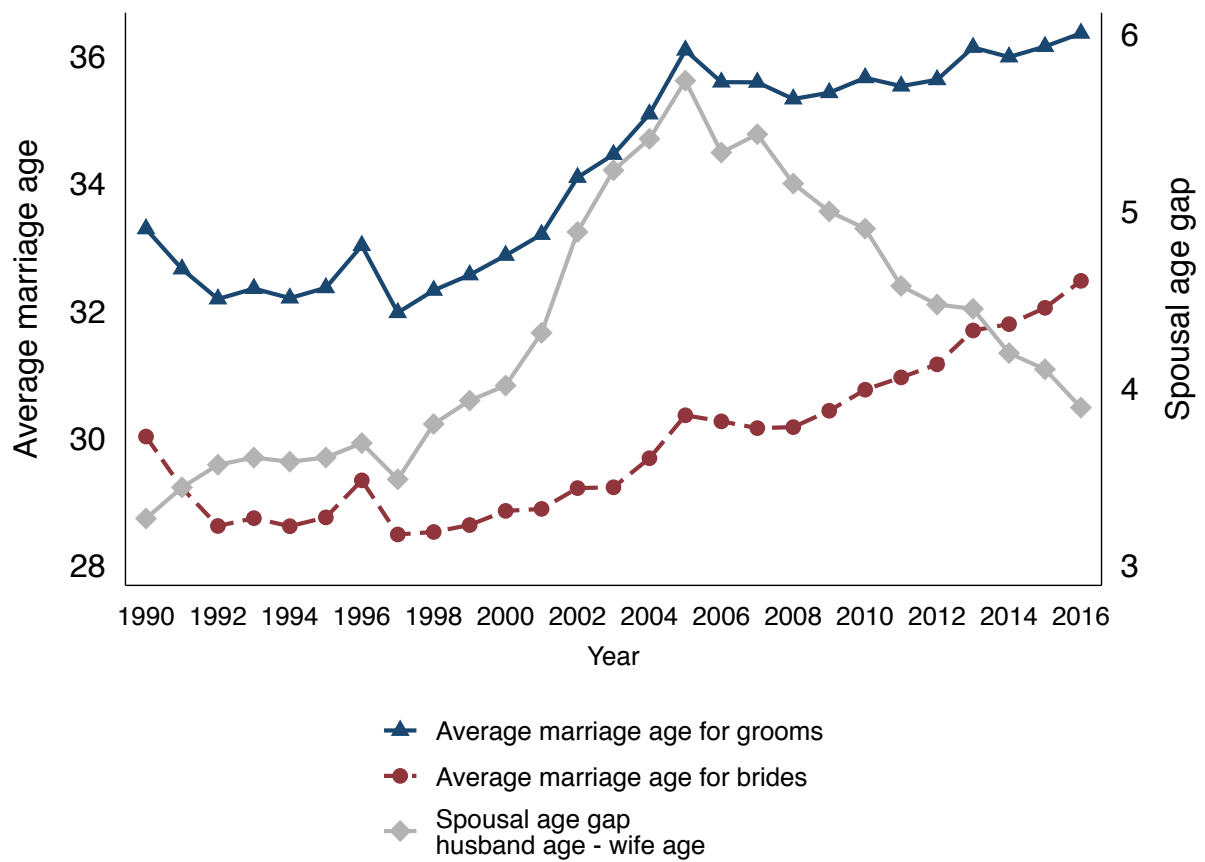


Figure 6: Education distributions for grooms and brides, by each type of marriage



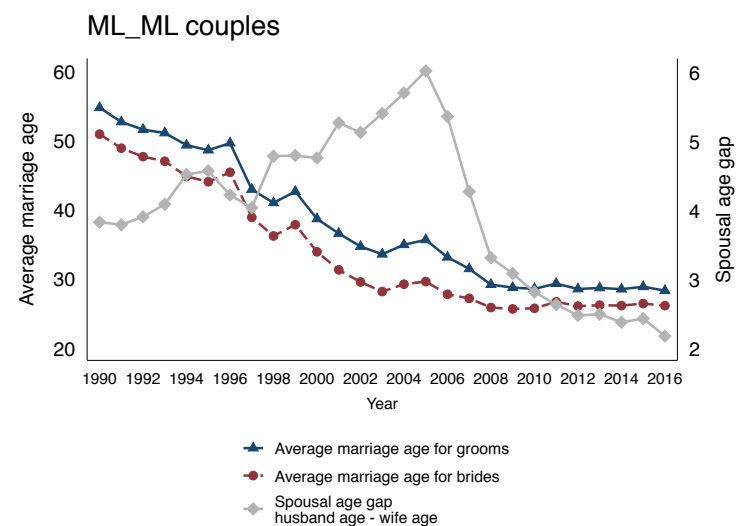
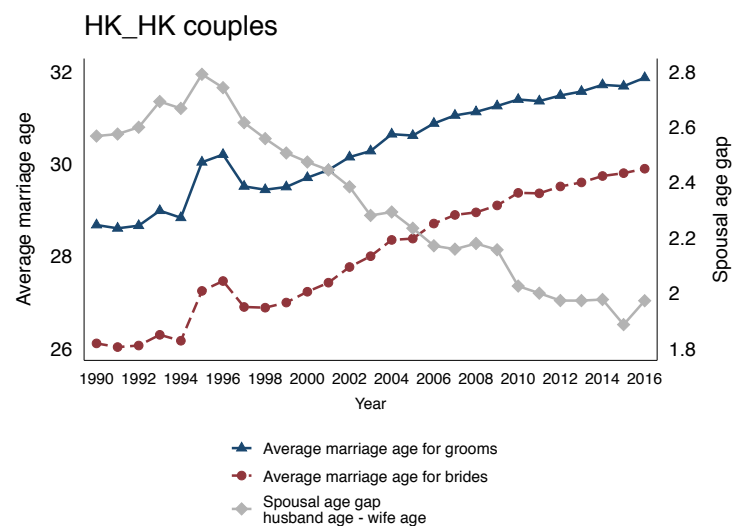
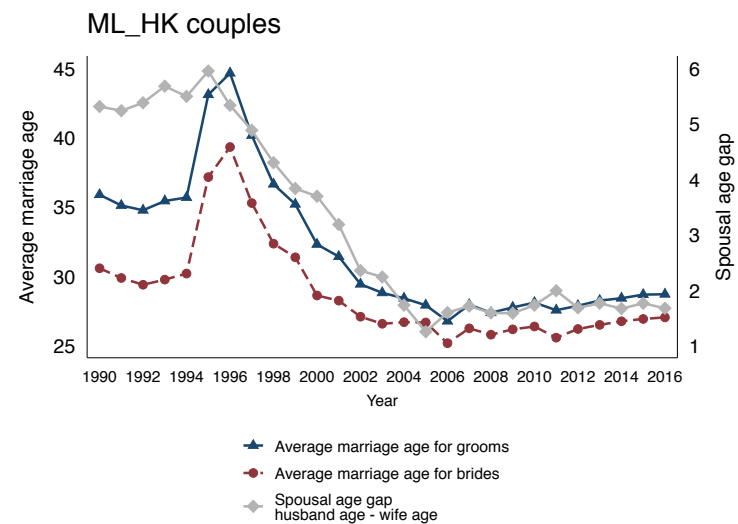
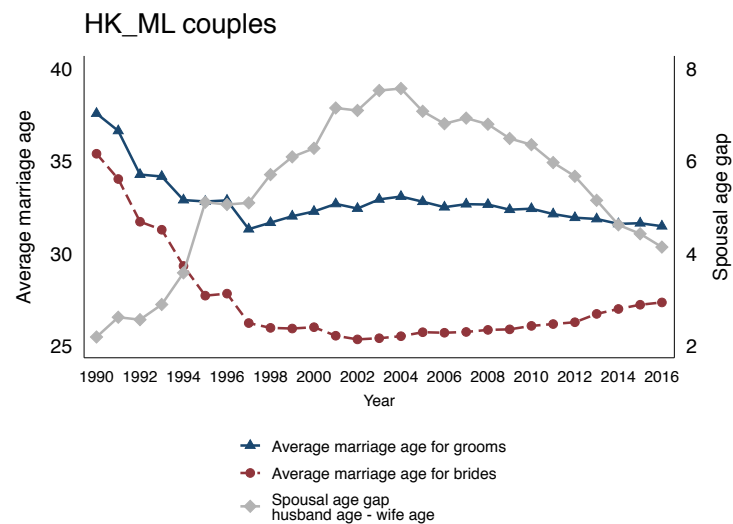
Source: Hong Kong Marriage Registry data, 1995-2016. The data before 1995 were not used because education was defined differently.

Figure 7: Average age of marriage and spousal age gap



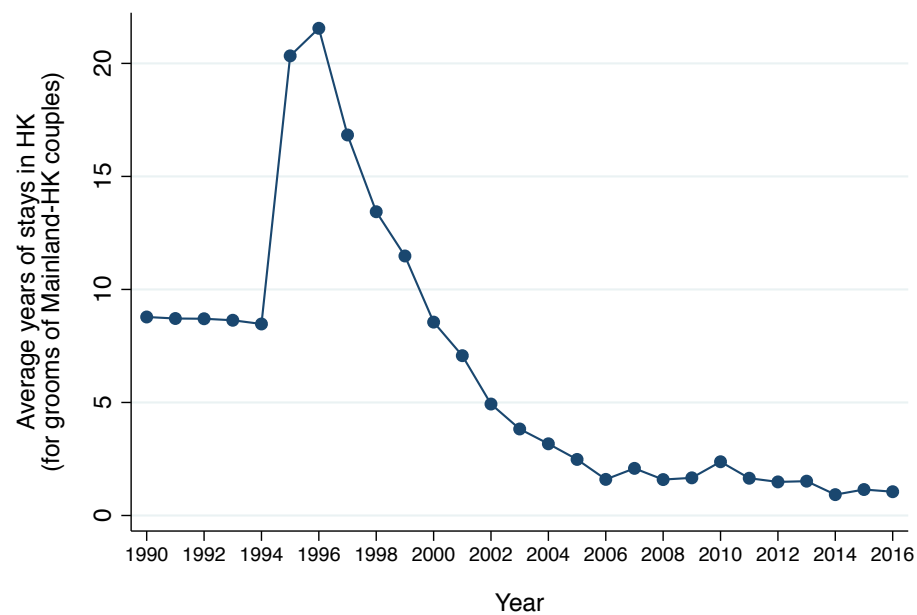
Source: Hong Kong Marriage Registry data, 1990-2016.

Figure 8: Average age of marriage and spousal age gap, by each type of marriage

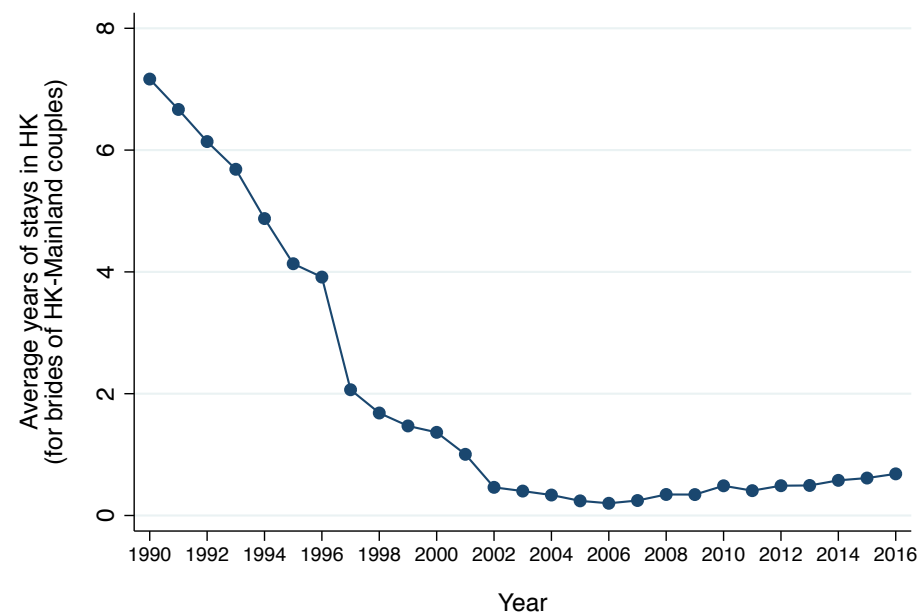


Source: Hong Kong Marriage Registry data, 1990-2016.

Figure 9: Average years spent in Hong Kong for mainland grooms in ML-HK couples and mainland brides in HK-ML couples



NOTE: This graph is conditional on years in HK being non-missing.



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Source: Hong Kong Marriage Registry data, 1990-2016.