

The construction and application of Formosa historical international standard classification of occupations.

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1. What is Formosa HISCO?

Formosa HISCO stands for the *Taiwan historical international standard classification of occupations database* that collects and classifies the historical occupational titles in Taiwan during its Japanese colonial period. The database contains 8,278 historical occupational titles, which are classified and coded according to the *Historical International Standard Classification of Occupations*³ (HISCO). The attempt to establish this database was inspired by the deceased anthropologist Arthur P. Wolf, who was active in the field of Taiwan's historical demography. As household registration information from the household registers of the Japanese colonial period has continuously been the major study resources for current historical demography of Taiwan, he pointed out that the demographic studies of colonial Taiwan needed more effective data that could be utilized as "economic variables" to be studied together with the birth, death, migration and other information from the Japanese household registers for more detailed social and cultural analysis.

As a result, I began to look for suitable data that can be used as "economic variables" in historical demographic analysis of Taiwan. Since occupation is an important variable in demography as well as in social and economic fields of history, and there are a great number of occupational titles recorded in Taiwan's census reports compiled by the Japanese colonial government, I started to contemplate how to transform these occupational titles into a measurable "economic variable". The solution I found is to apply the occupational classification system of HISCO to these occupational titles.

HISCO is an international standard classification system designed to deal with historical occupations. Occupational information is important in social and economic fields of history, and comparatively studying the occupational information between regions and periods is often necessary. However, the confusion concerning occupational titles across time and space, within as well as between languages, has formed the obstacle to comparative research for a long time. Therefore, the motivation behind the creation of HISCO is to provide a uniform occupational classification scheme applicable to historical occupations so as to make international comparisons in the history of work possible.

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³ See <https://historyofwork.iisg.nl/>. (Accessed on 2019/7/6)

The structure of HISCO is based on the 1968 version of the *International Standard Classification of Occupations* (ISCO68) produced by the International Labour Organization (ILO) but has some alterations to suit the nature of historical records and to minimize the loss of significant information in the process of coding. It was constructed through the process of coding the 1,000 most frequent male and female occupational titles in data sets from 8 different countries: Belgium, Britain, Canada, France, Germany, the Netherlands, Norway and Sweden⁴. These occupational titles were found in parish records collected by churches as well as in censuses and civil registration documents collected by governments from the period 1690-1970, but mostly from the nineteenth century.⁵ In this coding system, occupational titles are classified into 9 economic sectors, namely 9 major groups⁶ (see Figure 1). The 9 major groups are divided into 83 minor groups, and the minor groups are sub-divided into 284 unit groups. These unit groups embrace 1,881 occupational categories in total. Furthermore, these 1,881 occupational categories are transformed into 12 social classes in HISCLASS (see Figure 1), a historical international social class scheme based on HISCO, to help researchers systematically compare social class positions “distilled from a dazzling variety of occupational titles”⁷ in a uniform way.

Although the HISCO system was completed on the basis of examining the occupational data of Northern European and Atlantic economies, it is hoped that the scope of its application can be broadened to cover more regions. Currently, the online HISCO database—History of Work Information System—has contained occupational titles from 12 different countries—the 8 original countries plus Denmark, Greece, Portugal and Spain,⁸ and the job of coding data into HISCO is underway in Colombia, New Zealand, Russia, and the USA.⁹

Through coding the occupational titles in colonial Taiwan, the occupational titles with similar nature are grouped together and systematically classified. It would facilitate the analysis of occupational status and social class. Researchers can also select a specific occupational category and study the occupations in the same category at one time. As for the adoption of the HISCO system, the benefits are twofold.

⁴ Marco H. D. van Leeuwen, Ineke Maas and Andres Miles, *HISCO: Historical International Standard Classification of Occupations*. Leuven University Press, 2002, p. 11.

⁵ Marco H. D. van Leeuwen, Ineke Maas and Andres Miles, *HISCO: Historical International Standard Classification of Occupations*. Leuven University Press, 2002, p. 12.

⁶ The 9 major groups of HISCO : 0/1) Professional, Technical and Related Workers ; 2) Administrative and Managerial Workers ; 3) Clerical and Related Workers ; 4) Sales Workers ; 5) Service Workers ; 6) Agricultural, Animal Husbandry and Forestry Workers, Fishermen and Hunters; 7/8/9) Production and Related Workers, Transport Equipment Operators and Labourers. (see Figure 1)

⁷ <http://www.hisma.org/HISMA/HISCLASS.html> (Accessed on 2019/7/6)

⁸ https://historyofwork.iisg.nl/detail_page_18026.php (Accessed on 2019/7/6)

⁹ <https://iisg.amsterdam/en/data/data-websites/history-of-work> (Accessed on 2019/7/6)

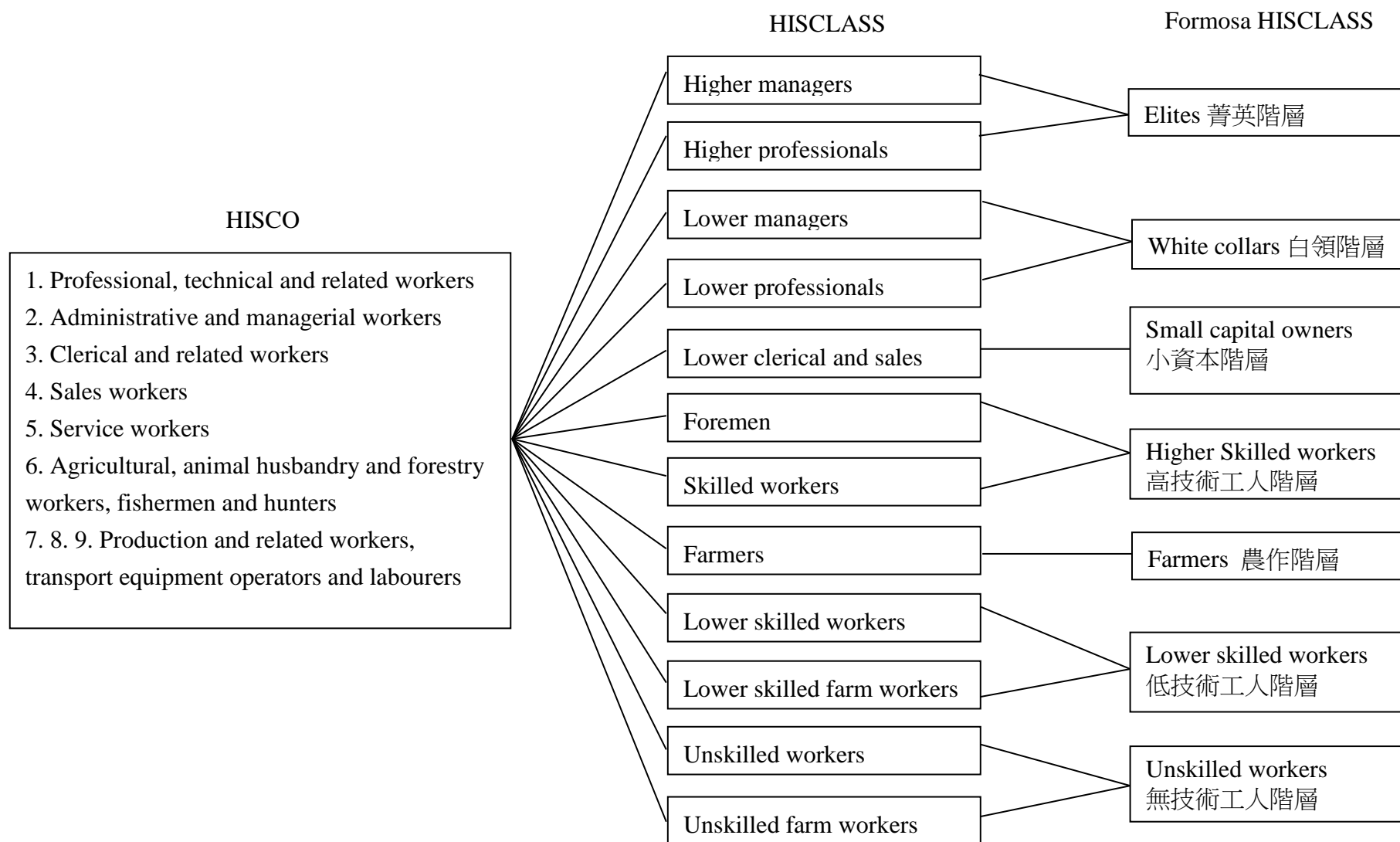


Figure 1 Framework of HISCO, HISCLASS and Formosa HISCLASS

First, it helps to link Taiwan's historical occupational data to the data sets of the North European and Atlantic countries which have been incorporated into HISCO and makes Euro-Asian comparisons in historical demography and other fields of history available. Second, because HISCO originates from ISCO68 and "follows almost the same structure as ISCO68 with regard to unit, major and minor groups", it enables comparisons between Taiwan's colonial occupational data and Taiwan's contemporary occupational datasets that are already coded in ISCO68.¹⁰

2. The Data Sources

The occupational titles in the Formosa HISCO database are derived from two sources. One is the household registers in the Japanese period. The other one is the investigation results of the second Temporary Taiwan Household Census (第二次臺灣臨時戶口調查) conducted in 1915. Taiwan was ruled by Japan from 1895 to 1945 after the Qing government was defeated by Japan in the Sino-Japanese War (1894-1895) and ceded this island to the East Asian rising power. In order to tightly monitor and effectively control its first colony, the Japanese colonial government immediately implemented a household registration system in the second year of its occupation of Taiwan. Under the system, the military police were in charge of the tasks of conducting household surveys and registering every household and its members. However, the registers compiled by the military police were no longer used but replaced by the household registers in a new format after the new household registration regulations were promulgated on December 26, 1905. It is regrettable that none of these early registers survive today.

The new registers were officially established on January 15, 1906. The new law made the police in charge of the administration of household registration instead of the military police. Under this registration system, every person had to register with the police as a member of one household. The information collected in a household register contains the name of a household member, the person's birthdate, his/her parents' names, his/her same-sex sibling order, his/her relationship to the household head, his/her life history events and their occurrence dates, his/her ethnicity, a rating given by the police on a three-point scale, his/her physical deformities, whether the person had received smallpox immunization, whether the person was addicted to smoke opium, and in the case of females, whether her feet were bound.¹¹ In some cases, the occupation of a household head was recorded.

¹⁰ Marco H. D. van Leeuwen, Ineke Maas and Andrew Miles, *HISCO: Historical International Standard Classification of Occupations*. Leuven University Press, 2002, p. 11.

¹¹ Arthur P. Wolf, *Marriage and adoption in China, 1845-1945*. Stanford University Press, 1980, p. 23-31.

In addition to the household registration system, the Japanese colonial authorities also conducted 7 household censuses in total to investigate Taiwan's population during its rule. The first two censuses, separately carried out in 1905 and 1915, were called *Temporary Taiwan Household Census* 臨時台灣戶口調查. They were performed only in Taiwan as trial censuses before the first nationwide census was officially conducted in all of the territories of the Japanese Empire (except Korea) in 1920. Since 1920, the census of Taiwan's population was called *Taiwan National Census* 國勢調查. As part of Japan's national census, it was carried out every 5 years. The household registration system and the regular censuses in the Japanese period accumulated a great amount of valuable records of historical population for researchers to study the society of that period. The occupational information recorded in these records forms the foundation of the Formosa HISCO database.

The Formosa HISCO database so far contains 8,278 historical occupational titles from the Japanese colonial period. Among them, 7,447 of occupational titles are from the book *The Compilation of Occupational Titles from the Second Temporary Taiwan Household Census (1915)* 第二次臨時臺灣戶口調查職業名字彙—大正四年. Published in 1917, two years after the second *Temporary Taiwan Household Census* was conducted, this book compiles all of the occupational titles collected in the 1915 Taiwan Census and organizes them into 7 economic sectors. I chose to use the information of this book instead of *The Compilation of Occupational Titles from the First Temporary Taiwan Household Census (1905)* 第一次臨時臺灣戶口調查職業名字彙—明治三十八年 because the 1915 compilation of occupational titles contains 3259 occupational titles more than the first compilation. The rest 831 occupational titles in the Formosa HISCO are retrieved from the *Taiwan Historical Household Registers Database*¹² (THHRD). It was established by the Program of Historical Demography, which was launched in 2003 by the Research Center for Humanities and Social Sciences, Academia Sinica. The THHRD database stores the information of Taiwan's Japanese household registers from 21 research sites.

While the occupational titles retrieved from household registers were basically recorded in Japanese, the occupational titles in *The Compilation of Occupational Titles from the Second Temporary Taiwan Household Census (1915)* were recorded in both Japanese and Taiwan's local language (mostly, the Hoklo language). This helps us to better understand an occupational title because sometimes a Japanese occupational title does not perfectly describe an occupation in Taiwan due to different social conditions.

¹² See http://www.demography.sinica.edu.tw/EN/en_background.htm (Accessed on 2019/7/6)

3. Coding

One aim of building the Formosa HISCO database is to link Taiwan's historical occupational data with western countries' to allow international comparisons in historical demography and other research fields. To achieve the goal, we had to translate the more than 8,000 occupational titles into English and then code them according to the HISCO scheme.

The translation of each occupational title was done after carefully studying it in the social context of Taiwan under Japanese rule. The occupational titles retrieved from the Japanese household registers were recorded in one single language, basically Japanese. Therefore, we had to understand the job content of a certain Japanese occupational title and find its Chinese counterpart before we could translate it into English. On the contrary, the occupational titles in *The Compilation of Occupational Titles from the Second Temporary Taiwan Household Census (1915)* were recorded in both Japanese and Taiwan's local language (mostly, the Hoklo language) at the same time. The occupational titles in Taiwan's local language help us to better understand the job content of an occupational title because sometimes a Japanese occupational title could not perfectly match or describe a job in Taiwan due to different social conditions.

The coding job was also done after we thoroughly studied the HISCO scheme and its coding guideline. However, we could not find a suitable occupational category in the HISCO scheme for every occupational title in Taiwan's historical occupational database. Some occupational titles do not match any HISCO occupational category, and we had to assign them to the category of "workers not elsewhere classified" in a certain unit group. This reveals the different economic activities between Asian and Western countries, which could be ascribed to the uniqueness of the geographical and social conditions in Asia and the West. For example, tea manufacturing has always been an important industry in Taiwan, but the minor group of "Tea, Coffee and Cocoa Preparers (7-77)" in the HISCO scheme does not have an occupational category of "Tea Toaster" while it has the occupational categories of "Coffee Toaster" and "Cocoa-bean Toaster".

When we tried to select a HISCO code for the occupational title of "tea toasting worker" (*peichakong* 培茶工) found in Taiwan's historic records, we had no choice but to classify it to the occupational category of "Other Tea, Coffee and Cocoa Preparers (7-77.90)" when following the HISCO scheme. Occupations related to opium are another example. Although opium was imported to China from the West, there are not any occupational categories associated with opium manufacturing or selling in the HISCO scheme. In these cases, simply marking any unmatched occupational titles such as "tea toasting worker" as "unclassified" would conceal the

unique or significant economic activities in Taiwan during the Japanese era. In order to prevent the loss of Taiwan's precious occupational information in the process of coding, we decided to create new codes for the occupational titles that distinguish Taiwan's economic activities from Western countries as a result.

New codes for these occupational titles were added according to the logic of the HISCO scheme and marked with a capital letter "A" in the end of each code to indicate their Asian roots. In order to adapt to Taiwan's social and economic developments and the need of statistical analysis, we also simplified the 12 social classes in HISCLASS scheme to form a 7 class scheme, which is called Formosa HISCLASS. The 7 social classes, from high to low, are as follows: elites, white collars, small capital owners, higher skilled workers, farmers, lower skilled workers, and unskilled workers. (See Figure 1)

4. The on-line database

The Formosa HISCO database is accessible on the website of Taiwan Historical Occupation and Social Stratification Information System 臺灣歷史職業與社會分層資訊系統 (<http://asiahisco.history.tku.edu.tw/>). Nevertheless, it only includes the 7,447 of occupational titles from the book *The Compilation of Occupational Titles from the Second Temporary Taiwan Household Census (1915)*. One who wants to use the occupational data from the THHRD needs to apply to the Program of Historical Demography, Academia Sinica, for permission.

In the on-line database, every occupational title has a Chinese (or Taiwanese) name, an English name, and a Japanese name as well as an assigned HISCO code. One can search the database for a certain occupational title through an information retrieval system. We also plan to include the information on job tasks and related images for each occupational title. We hope that this database would benefit the research on Taiwan's society, economy and population during the Japanese occupation.

5. Conclusion: the application of Formosa HISCO

The main purpose of this paper is to introduce a historical occupational database -Taiwan historical international standard classification of occupations- which can be applied to variety studies on Taiwan issues. We hereby study the intergeneration mobility during the colonial Taiwan as an example. In this study, there are 3 areas in North Taiwan to understand the intergeneration mobility between fathers and sons. The areas studied are DaDaoCheng, MengQia and TamSui, and the study period is from 1906 to 1945, which covers the transition from the pre-industrial to the modern period. When linking the Formosa HISCO database with THHRD, we

can know the occupational transitions in these 3 areas. (see figure 2 to figure 4) The major occupation classifications in order are small capital owner, lower skilled workers and unskilled workers in these 3 areas. Figure 2 to 4 show that the numbers of small capital owner declined gradually and became the similar numbers as lower skilled workers. In this case, we further have to ask what happened in this period when we study the economic issues. Without Formosa HISCO, it is hard to point out.

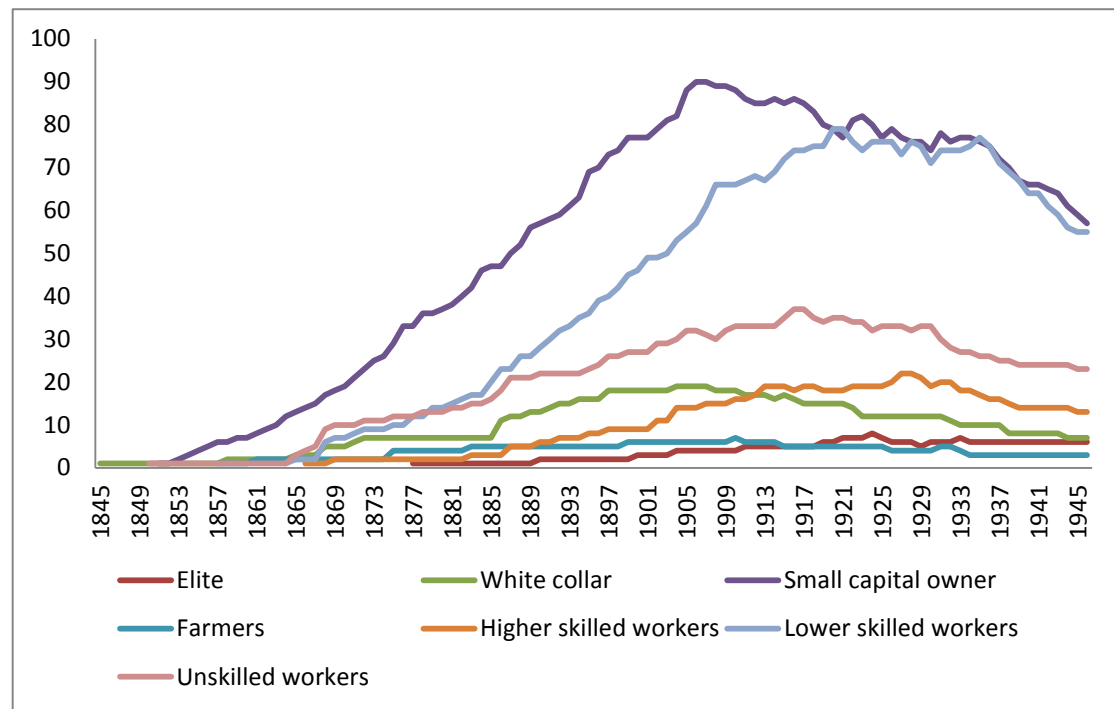


Figure 2 the Social classification of occupations in DaDaoCheng

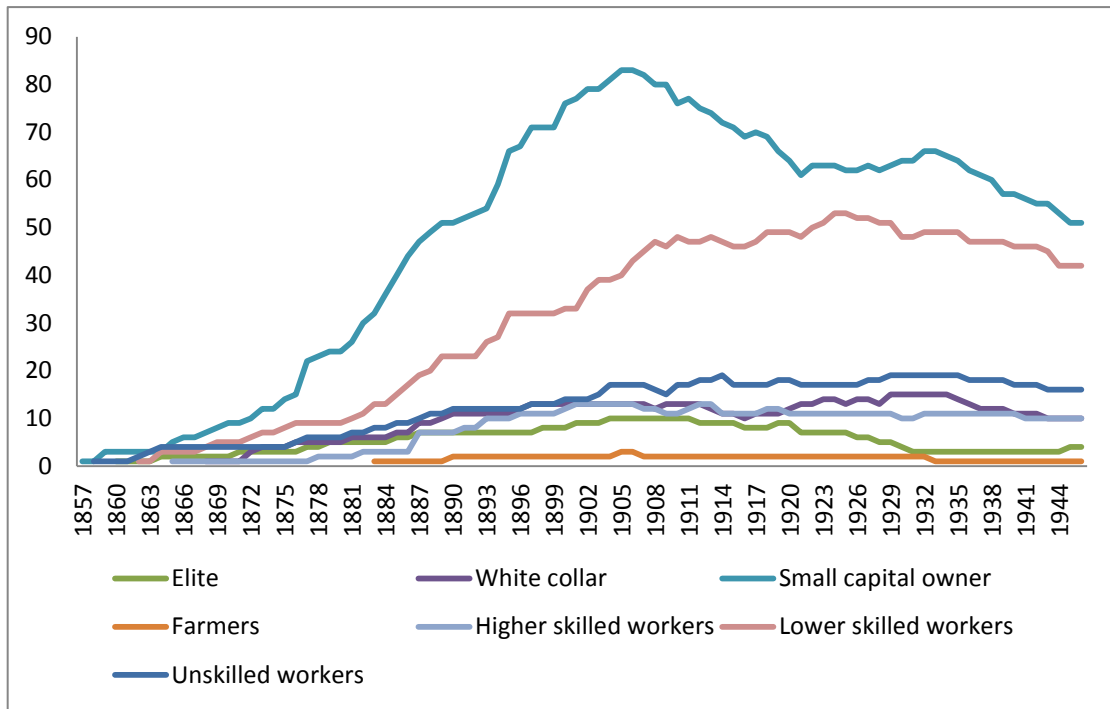


Figure 3 the Social classification of occupations in MengJia

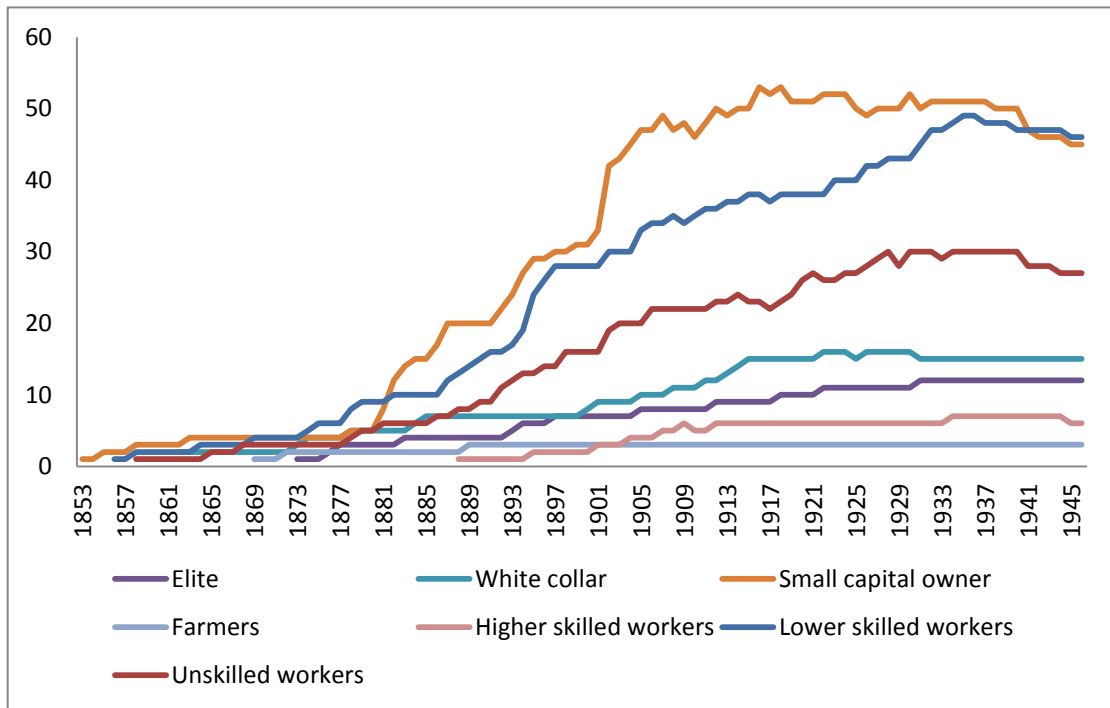


Figure 4 the Social classification of occupations in TamSui

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