

CENTRE FOR ECONOMIC HISTORY
THE AUSTRALIAN NATIONAL UNIVERSITY
DISCUSSION PAPER SERIES



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APPROACH

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AUSTRALIAN NATIONAL UNIVERSITY

DISCUSSION PAPER NO. 2020-06

JULY 2020

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Chinese Entrepreneurship in Indonesia: A Business Demography Approach

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Abstract

This paper analyses the demography of 1,600 registered firms owned and/or operated by ethnic Chinese businessmen in Indonesia during 1890-1940 in search of generalizable indications of Schumpeterian entrepreneurship. The population of firms increased significantly since 1890, before many went out of business in the 1920s and a new generation of firms and entrepreneurs emerged. By 1910 most firms were active in trade, but this categorisation takes insufficient account of their diverse business activities. During 1910-1940 the share of firms in other industries increased. Several were active in finance, taking deposits and financing business ventures. In the 1930s, the average equity value of the enterprises more than doubled, reflecting diversification into more capital-intensive operations, particularly manufacturing. These changes in the population of firms refute the perception that ethnic Chinese businessmen were not Schumpeterian entrepreneurs.

Keywords: Business demography, entrepreneurship, Chinese, Indonesia, Southeast Asia

JEL codes: L10, L20, N85

This version: 6 June 2020

The database used in this paper is here: <https://doi.org/10.6084/m9.figshare.12254018>

* I thank Professor Long Denggao for hosting my stay at the Center for Chinese Entrepreneur Studies at Tsinghua University in Beijing. This paper benefited from his comments and from comments of participants at conferences and seminars at the University of Indonesia in Jakarta, Central China Normal University in Wuhan, and at the Center for Southeast Asian Studies at Xiamen University.

Chinese Entrepreneurship in Indonesia: A Business Demography Approach

1. Introduction

A large number of studies analysed the role of the ethnic Chinese in the societies and countries of Southeast Asia in past and present. Many authors tried to explain how this ethnic minority came to occupy a prominent role in business throughout the region. In essence, two explanations dominate. One emphasises that various cultural traits, including frugality and a penchant for networking and building trust, elevated the business acumen of the ethnic Chinese in the countries in the region (*e.g.* Redding 1995; Hamilton 1996). Another stresses that the political economy of the countries in the region advantaged Chinese businessmen (*e.g.* Yoshihara 1988; McVey 1992). Their associations with politicians and public servants, whether in central or local governments, benefited their business interests through policy favours and cronyism. Both perspectives substantiate their arguments by drawing on the cases of large ethnic Chinese firms and business groups.

These studies tend to downplay the heterogeneity of Chinese firms in the region. A reason for this heterogeneity is the diversity in the sizeable ethnic Chinese population in the Southeast Asia. For example, the 1930 population census in Indonesia, the largest country in the region, revealed that the 1.2 million ethnic Chinese were 2% of the total population, 64% of them had been born in Indonesia, and they shared at least five different Chinese ethnicities (Volkstelling 1936: 2 and 14). As a consequence of the heterogeneity of firms, the existence and growth of many of the firms of ethnic Chinese businessmen cannot be explained on the basis of political relations. Depending on the degree of acculturation, these businessmen are likely to have shared cultural traits with other ethnicities that are not necessarily uniquely Chinese.

Perceptions of ethnic Chinese entrepreneurship in Southeast Asia also take little account of heterogeneity in the population of Chinese businessmen. In the case of Indonesia, a 1952 seminal article summarised the common perception of the entrepreneurship of ethnic Chinese businessmen in Indonesia during the 1920s and 1930s. With reference to just one aspect of Schumpeter's definition of entrepreneurship – the ability to mobilise outside capital for productive ventures – Williams (1952: 59) concluded: 'the Chinese failed to achieve entrepreneurship and were unable to do so. On the economic side, the denial of access to the capital market, the non-investment drains on accumulations of investible funds and the preferences shown by Chinese investors for short-term, non-entrepreneurial investments promising high rates of return, all combined to place credit beyond the reach of Chinese who might have been motivated beyond entrepreneurship.'

This dismissive perception of Chinese entrepreneurship is persistent. It has found its way in historiographies of Indonesia. For example, Indonesian historian

Onghokham (1989: 174-175) summarised: ‘Chinese capitalists have been short-term oriented; they only serve as a link in the economic chain. They are highly conspicuous in consumption, and speculative in investment, only interested in making a fast buck. And one should add that Chinese capitalists do not venture imaginatively and innovatively outside the government sphere where they could get lucrative contracts. Hence, their entrepreneurship has always been a step behind national development needs.’ Booth (2007: 115-116) echoed Williams’s conclusion that ‘the Chinese in Indonesia did not achieve entrepreneurship’ and argued that they were ‘hardly laying the foundations for an industrial take-off’ in Indonesia. Van Zanden and Marks (2012) rearticulated the stereotypical comprador-middleman role of Chinese businessmen, arguing that they ‘monopolized local rice markets’ (p.65) through their control of local credit markets and usury (pp.65-68) and conducted ‘dirty’ business (p.75) by acting as tax collectors and opium sellers, at least during the 19th century.

A problem with much of this literature is that it re-states generalisations, without close study of the operations of specific Chinese enterprises. For example, Williams (1952) drew on selected publications by Dutch authors of the 1920s-1930s, particularly Vleming (1926) and Cator (1936). He used their observations to support his thesis that Chinese businessmen in Indonesia are not Schumpeterian entrepreneurs, arguing that they apparently failed to access outside capital from shareholders and banks for two reasons. (a) Remittances to China drained the potential pool of savings in the Chinese community they could have drawn on (Williams 1952: 43). (b) Chinese in Indonesia did not keep their savings in bank accounts, but preferred to invest their savings in tangible assets; houses, ‘building lots’, jewellery and stocks of goods with which they speculated on price rises (Williams 1952: 47). He argued that most Chinese businessmen were involved in trade, and that they only engaged in non-trade activities on a ‘modest scale’ (Williams 1952: 36). Where they seemed involved in other lines of business, these were extensions of their trade activities. For example, agricultural processing, because they bought produce for further processing (Williams 1952: 36-37, 41, 46), or manufacturing, because they advanced raw materials to artisans, such as unfinished cotton textiles for the batik industry (Williams 1952: 48).

Williams (1952) did not provide a systematic assessment of all factors that define Schumpeterian entrepreneurship, including the degree to which Chinese businessmen faced competition and were forced to innovate in order to survive Schumpeter’s process of ‘creative destruction’ (Munier 2013). Historical case studies have in the meantime presented analyses of the multifaceted aspects of the organisation and management of Chinese businesses, which demonstrated the entrepreneurship of some Chinese businessmen. For example, studies of the enterprises of Oei Tiong Ham (黃仲涵) and Thio Tiau Siat (張弼士) offer a much more profound understanding of Chinese entrepreneurship in colonial Indonesia (Panglaykim and Palmer 1970; Godley

1981). Both these businessmen defined strategies and used innovative behaviour to create new processes and markets in competition with other firms.

Further case studies also contributed more nuanced understandings of Chinese business ventures in colonial Indonesia until the 1940s (*e.g.* Post 1996, 2009; Buischool 2009; Claver 2012, 2014). Based on an analysis of the *Kwik Hoo Tong* (郭河東) trading company, Post (2002: 279) explicitly challenged the perception that Chinese entrepreneurs were just middlemen who ‘were unable to accumulate adequate liquid capital, and, in any case, avoided risks, eschewed long-term and outside investments, and favoured the exchange of goods over manufacturing or production’. Post argued that such stereotypical views detract from the multifaceted nature of Chinese business activity in Indonesia, and has therefore led to misunderstandings of the reasons for the dominant role of Chinese enterprise in Indonesia’s business system since the 1960s. Nevertheless, such cases of Chinese businessmen and their companies have been considered exceptions (*e.g.* Booth 2007: 114). Uncertainty therefore remains whether such cases exemplify the population of Chinese businessmen and their companies in Indonesia.

This paper analyses the population of companies registered for limited liability status and owned and/or managed by ethnic Chinese businessmen in Indonesia during 1890-1940, by applying the concept of a business demography.¹ By establishing the key features of the population, the paper traces the expansion and diversification of the population of Chinese firms. Its purpose is to test whether the key features of Chinese companies noted in Williams (1952), particularly their inability to access outside capital and diversify beyond trade apply to the whole population. Through this analysis the paper seeks to establish whether the owners and managers of these firms were Schumpeterian entrepreneurs or not.

Section 2 discusses the origin of the database and the firm-level data it contains. Section 3 analyses the main demographics of Chinese firms in the database to argue that the population of firms diversified in line with changes in Indonesia’s economy. Section 4 concludes by contrasting the general features of Chinese firms with the existing general perceptions of ethnic Chinese entrepreneurship in Indonesia.

2. Data sources

The main data source used in this paper is the *Handboek voor Cultuur- en Handelsondernemingen in Nederlandsch-Indië* [Directory of agricultural and trading

¹ Business demography involves the application of demographic concepts, data and techniques to a population or a sample of firms in order to establish patterns relevant to business decision makers (Smith and Morrison 2003), or, in this case, to advance our understanding of a country’s economic history (Gratzer and Box 2002). Note that this article uses a broad definition of ‘entrepreneur’, which includes owners, owner-operators and managing directors of companies.

companies in colonial Indonesia]. This directory was published annually by a private publisher in The Netherlands during 1888-1940 in Dutch, because most large companies in colonial Indonesia until 1950 were Dutch-Indonesian companies or subsidiaries of companies incorporated in The Netherlands. Each volume comprised a listing of incorporated firms operating throughout Indonesia. Some years of this source have been analysed by Lindblad (1991) and À Campo (1995, 1996), but with a focus on the demography and profitability of Western enterprises, not of Chinese companies. Quinquennial firm-level data from selected issues of the *Handboek* directory are now available as an online database.² This database has some shortcomings, but it is currently the only available source for an analytical demography of Chinese firms throughout Indonesia until 1940.

The *Handboek* directory lists all firms incorporated by their owners as limited liability companies under the 1838 company law of The Netherlands or the 1846 company law of colonial Indonesia and that operated in Indonesia.³ Since 1855, the latter law also applied to firms of ethnic Chinese entrepreneurs in Indonesia (Liem 2009: 132-140; Mahy 2013: 387-389). Owners of business ventures were not obliged to register their undertakings. However, the advantage of registration under the law was that company owners were only liable for the company's actions up to the value of their investment identified at registration. This limited liability protected their personal assets in case of bankruptcy. As legal entities, registered companies could also raise external finance through formal bank lending or issuing bonds. Owners could raise funds by selling the shares they held in registered companies, although public trading of shares was subject to the regulations of the society whose members operated on stock exchanges in Jakarta (then called Batavia), Semarang and Surabaya.⁴

The laws also protected the registered company against unconscionable behaviour of business partners, customers and/or debtors through the Dutch legal system in colonial Indonesia. Creditors could take a registered company to the local court (*Raad van Justitie*). If a company was insolvent, the court could order public bankruptcy proceedings. In Indonesia, these were carried out by the local Orphans and Estate Agency (*Wees- en Boedelkamer*). It acted as a probate office that managed

² Lindblad (2016) describes the database. The database and additional information is available online from: <http://www.colonialbusinessindonesia.nl/en/database-en/introduction>.

³³ The relevant corporate laws were the 1838 Law on Commerce (*Wetboek van Koophandel*) in The Netherlands, and the 1847 Law on Commerce in the Netherlands Indies (*Wetboek van Koophandel voor Nederlandsch-Indië*). Both were later revised and updated and regulated matters such as company registration, use of letters of exchange for payments, and bankruptcy proceedings (Mahy 2013). Until 1950, companies incorporated in The Netherlands were able to operate in the Dutch colony of Indonesia without registering a subsidiary venture, because they could be subjected to judicial persecution, for example by creditors, in either colonial Indonesia or The Netherlands.

⁴ The members of the Association for the Securities Trade in the Netherlands Indies (*Vereeniging voor den Effectenhandel in Nederlandsch-Indië*), established in 1898, coordinated the trade of company stocks and also bonds in colonial Indonesia.

deceased estates, and also as a liquidator of bankrupted companies, auctioning their assets in order to raise funds to pay creditors.

Registration of a company in Indonesia took the form of a deed comprising the articles of association, drawn up and registered by an accredited notary, followed by approval from the Department of Justice, a public announcement of registration, and publication of the main company details in the government gazette (*Javasche Courant*). There was no formal requirement for non-European owners of registered business ventures to have Dutch citizenship. Nevertheless, since 1871 several Chinese businessmen secured ‘equalisation’ (*‘gelijkstelling’*) of their legal status to that of Dutch nationals, which was also gazetted (Liem 2009: 221-295).⁵

The directory does not classify companies by the ethnicity of their owners, because the 1846 company law did not require the ethnicity of the owners to be recorded. However, firms in the *Handboek* database can be categorised on the basis of the location of their headquarters, and on the basis of the name of the company and the names of the owners and directors. Table 1 gives an overview of this categorisation. It shows that on average 23% of all companies were Chinese during 1920-1940.⁶ The names of directors do not indicate whether a director was Chinese-Indonesian or whether he had acquired Dutch ‘equalisation’, nor does it show whether he was born in Indonesia (*peranakan*) or in China (*totok*).

[Table 1 about here]

A few names point in different directions. For example, during 1925-1940 the managing directors of the *Indische Lloyd* (1917) shipping and insurance company in Semarang were successively Oeij Tjiang Hoaij, K.T. Tan and Khouw Biam Tie. However, the company was registered in The Netherlands and associated with the *Nederlandsche Lloyd*. In such cases, the paper considers the firm to be a Chinese firm, in the expectation that the director would bring elements of Chinese entrepreneurship to bear in its management. A contrasting example are the companies operating sugar and tapioca factories that were part of the *Kian Gwan* (建源) group, after 1924 better known as the *Oei Tiong Ham Concern* (OTHC). Several were until 1925 under the

⁵ Only ethnic Chinese people born before 1910 would go through this process. Chinese born in Indonesia after 1910 were automatically granted Dutch citizenship in accordance with the 1911 diplomatic convention between The Netherlands and China. During 1920-1949, the term ‘declaration of applicability’ (*‘toepasselijk verklaring’*) rather than *‘gelijkstelling’* was used, to indicate that the process did not involve an extension of Dutch citizenship. To acquire Dutch citizenship, applicants had to complete a separate naturalisation (*‘naturalisatie’*) application process. A database with the outcomes of both processes is online: <http://naturalisaties.decalonne.nl>

⁶ The owners of the online *Handboek* database have recently deleted this categorisation. Table 1 is therefore based on the 2017 version of the database. Nevertheless, it is possible to replicate the categorisation with the current database on the basis of the criteria mentioned in the main text. The 2017 version was corrected for some omitted Chinese companies.

managing directorship of Europeans, although their boards of directors consisted of ethnic Chinese.⁷ As these were large and well-known companies, it was possible to identify them as Chinese. Other companies with such directorship configurations were more difficult to identify.

The directory excluded the commercial ventures of indigenous Indonesians, until in 1917 ethnic Indonesian entrepreneurs were also allowed to register their ventures under the 1846 company law. Most business ventures of Indonesian entrepreneurs were therefore not included in the directory. The exclusion of ventures not registered for limited liability status implies that the directory does not include self-employed ethnic Chinese, such as artisans and small retailers, and professionals such as dentists, doctors, lawyers, notaries, accountants *etc.*

The directory therefore captures the largest of the Chinese firms that operated in Indonesia until 1940, rather than all firms. For example, an incomplete listing of industrial companies found 3,482 being operated by Chinese entrepreneurs, of which 1,619 employed more than 5 people (Vleming 1926: 280-287). This is double the number of registered companies in the 1920 *Handboek*. Another example is that the total number of firms in the 1940 *Handboek* across all economic sectors is 2,156. But an inventory of enterprises in only manufacturing industry identified 3,520 firms (CKS 1941). This suggests that the *Handboek* contains an incomplete listing of businesses due to its exclusion of unregistered ventures.⁸

Figure 1 shows the total number of firms for the years covered by the database and in other publications. It shows that in 1903 6% of firms in the *Handboek* were owned and operated by ethnic Chinese entrepreneurs, increasing to an average of 24% during the 1920s. The chart also shows that the number of Chinese registered firms increased by a factor of 126 during 1893-1920, compared to just a 7-fold increase in the number of non-Chinese registered firms. The difference reflects the fact that the number of Chinese firms grew from a lower 1893 base. However, this was also a period of an expansion of foreign trade and of the economy at large (Van der Eng 2010).

[Figure 1 about here]

⁷ Large Chinese firms used the two-tier continental European model of corporate governance, comprising a Director, a Board of Management and a Board of Commissioners. For convenience, this article refers to the Director as 'managing director', although he may not have been a hands-on executive, but rather someone who took formal responsibility for the company's affairs. This seems to have been the case with the European directors of *Kian Gwan*/OTHC companies, who were company lawyers from the legal fraternity in Semarang. The Board of Management comprised the company's leading executives, and the Board of Commissioners the company's non-executive directors. In case of the *Kian Gwan*/OTHC companies, the latter comprised Chinese members. For convenience, this article refers to the Board of Commissioners as 'board of directors'.

⁸ For example, the database identifies 140 Chinese firms registered in Jakarta in 1925, while Vleming (1926: 194-196) estimated the total number of 'not too small' Chinese ventures in Jakarta to be 2,200.

Many companies were initially registered for speculative purposes. For example, in mining, entrepreneurs had to have a registered company to apply for and execute exploration permits and mining concessions. At a time of high petroleum prices, the number of such permits boomed during 1896-1912, but most permits never led to the establishment of mining concessions, and many concessions did not become productive ventures (Van der Eng 2015: 231-232). Based on company names, few of these mining ventures appear to have been Chinese. However, there were Chinese firms in the spate of firms that were registered during 1914-1920, when Indonesia's export earnings surged due to World War I shortages in global markets and when Indonesia's domestic prices increased. Both encouraged Chinese and non-Chinese entrepreneurs to register new enterprises in a surge of optimism about business opportunities. The number of firms decreased in the early 1920s. Overproduction caused the prices of several of Indonesia's agricultural and mining export products to decrease. Together with significant deflation of domestic prices, this contributed to an increase in bankruptcies and company closures (Claver and Lindblad 2009: 150, 153).

Not all firm-level records in the *Handboek* database were complete. Year of incorporation, location, equity and the name of the managing director were sometimes missing. Other sources were used to complete these missing data and augment the *Handboek* database as much as possible.⁹

3. Analysis of the data

Total numbers, years of incorporation

Figure 2 shows the annual average number of Chinese firms registered in Indonesia as limited liability companies during 1890-1940. Among the oldest firms in the database are the *Handel Maatschappij Seng Hap en Tan Tang Ho* in Medan (established 1886), *Maatschappij tot Exploitatie van het Land Pebajoeran* in Jakarta (1887), *Maatschappij*

⁹ Additional sources are: 'Lijst van Naamlooze Vennootschappen' [List of limited liability companies], Bijlagen Koloniaal Verslag (1883-1929) in *Bijlagen bij de Handelingen van de Tweede Kamer der Staten-Generaal* (1884-1930); *Lijst van I. Particuliere Ondernemingen in Nederlandsch-Indië op Gronden door het Gouvernement afgestaan in Huur voor Landbouwdoeleinden en Erfpacht, II. Landbouw-concessiën in de Bezittingen buiten Java en Madoera, III. Europeesche Landbouwondernemingen (Huurlanden) in de Vorstenlanden op Java, IV. Ondernemingen in Nederlandsch-Indië Werkende op den Grondslag van Overeenkomsten met de Inlandsche Bevolking, V. Spicerijperken op Banda 1914* [List of I. Private estates in colonial Indonesia on government leaseholds, II. Agricultural concessions outside Java, III. European agricultural enterprises in the self-governing principalities in Java, IV. Enterprises operating in colonial Indonesia on short-term leases of native lands, V. Spice plantations in Banda) (1915); *Adresboek voor de Nederlandsch-Indische Nijverheid 1919* [Directory of manufacturing companies in colonial Indonesia] (1920); *Kleian's Adresboek van Geheel Nederlandsch-Indië* [Kleian's directory for the whole of colonial Indonesia] (1926); *Adresboek van de Voornaamste Bedrijfstakken der Nederlandsch-Indische Nijverheid* [Directory of the most important branches of manufacturing industry in colonial Indonesia] (1941); Various newspapers published in colonial Indonesia, online via <http://www.delpher.nl/nl/kranten>.

tot Exploitatie van het Land Tjibodas in Jakarta (1889), *Handelmaatschappij Tiong Hian* in Surabaya (1892), and *Kian Gwan Handelmaatschappij* in Semarang (incorporated in 1893, but established in 1863).

[Figure 2 about here]

Most of the oldest firms were either trading companies located in major cities, or companies that managed the private estates of Chinese owners. Such estates had accumulated along Java's North coast during the 18th and early 19th centuries, particularly in the vicinity of Jakarta. For example, Kam Koen Haij registered the *Cultuurmaatschappij Bergzicht* in Jakarta in 1895. The company managed the *Pakoelonan* estate in Tangerang, West of Jakarta. It leased out land and traded produce from the estate such as indigo, copra and maize. A more prominent example are the business interests of the Khouw (許) family. It purchased the *Taboen* private estate near Bekasi, East of Jakarta, in 1841, and subsequently accumulated other real estate in Jakarta and its vicinity. In 1896 the family incorporated the management of this real estate as the *Maatschappij tot Exploitatie van Vastigheden Khouw Tjeng Ké*. Some of these companies were largely agricultural companies, others provided more a business service by managing a variety of assets on behalf of their owners.

Several registered companies were already well-established before their owners sought registration. As mentioned, registration was not compulsory under the 1846 company law. In the 19th century, Chinese enterprises operated in traditional, informal ways on the basis of trust, with company organisation through relatively informal associations (*kongsi*), and with disputes settled through community organisations.¹⁰ To facilitate dispute resolution, the government in Indonesia decreed in 1855 that the 1846 company law applied to Chinese companies. However, it took owners of the largest Chinese ventures time to realise the main advantage of registration: limited liability that protected personal assets. After the concept of company registration under the company law started to take hold in the Chinese communities in the 1890s, the next decades saw a rapid expansion of the number of registered firms. Optimism about new business opportunities meant that on average 50 new Chinese firms were registered in Indonesia every year during 1905-1920. Nevertheless, informal *kongsi* continued to exist and formally registered firms continued informal practices where their legal obligations were not strictly defined or enforced (Vleming 1926: 77-80).¹¹

¹⁰ Vleming (1926: 56-74) explains that the connotation of *kongsi* was wider than that of a business venture under company law in colonial Indonesia. For that reason both informal and formally registered *kongsi* existed in Indonesia, and several of the registered Chinese limited liability companies included *kongsi* in their official name. In this article the term refers to informal Chinese associations.

¹¹ This is similar to China, where few ventures took up the limited liability option through incorporation following the 1904 corporate law in China, instead continuing common practices of more informal business organisation and raising capital (Yu 2010).

Not all firms survived. Some firms were bankrupted, others were merged, sold and re-named, or voluntarily dissolved for other reasons. Figure 3 takes account of the mortality of firms and shows the populations of firms for benchmark years. Chinese firms were on average quite young in terms of their age since registration. In 1920, 1925 and 1930 more than 50% of them were 10 years or younger. The oldest firms mentioned above were among a relatively small group of survivors. Obviously there was a significant turnover (mortality and birth rate) of Chinese firms, particularly among the smaller and/or trade-oriented capital-extensive ventures that tended to resort to bankruptcy proceedings quite easily (Vleming 1926: 78-79), rather than the larger, long-established, diversified non-trade companies.

[Figure 3 about here]

The first wave of bankruptcies and voluntary company closures occurred in the early 1920s, as mentioned. One specific category of Chinese firms was decimated during these years, when the government increased dispossessing the private estates near Jakarta, Semarang and Surabaya. During 1910-1920 it repurchased 450,000 hectares (*Indisch Verslag 1930, 1931: 241*). Many of the Chinese companies that had managed such estates went out of business. For example, *Cultuurmaatschappij Bergzicht* last appeared in the *Handboek* database in 1920.

Firms continued to disappear from the database during the late-1920s. At this time a significant reason was the retirement or mortality of owner-operators who had established their companies three to four decades earlier when aged in their 20s and 30s. The effect of generation change was accelerated by a further wave of bankruptcies and company closures during 1930-1932 when Indonesia's economy contracted by 9% due to the global economic crisis (Van der Eng 2010: 305; Claver and Lindblad 2009: 150, 153). The Chinese comprised about 60% of personal bankruptcies, which most likely concerned owners of informal companies who were personally liable for company debts.

The number of dissolved older companies exceeded the new firms registered during the 1930s, as Figure 2 shows. The population of Chinese firms more than halved between 1930 and 1935 and a new generation of firms and businessmen emerged. Oei (1931) identified the traditional management practices of small Chinese trading companies as the main factor for the significant impact of the crisis on Chinese business. He called on the young generation of Chinese businessmen to embrace new ways of managing enterprises and new business initiatives, a development analysed in more detail by Liem (1947: 61-82). An example of this new generation was Liem Ing Hwie (林雲輝). Liem returned from overseas in 1932 to Yogyakarta, where he built a business group by buying up distressed assets of Dutch companies during the 1930s

(Kwartanada 2002: 265-266). By 1940 just 12 Chinese firms that had been incorporated in the 19th century were still operating.

Largest firms and business groups

The only indication of the size of individual firms in the *Handboek* database is shareholder equity. There are no data on employment, value of non-equity assets, or value of sales or turnover, which would have been better indications of the size of firms. Table 2 shows the largest eight firms for each benchmark year in the database. The largest firms have familiar names. Particularly companies that were part of the business interests of possibly the richest ethnic Chinese entrepreneurs and their family members: Oei Tiong Ham in Semarang (comprising *Oei Tiong Ham Bank*, *Kian Gwan Handelmaatschappij*, *Krebet Cassava*, *Oei Tiong Ham Suikerfabrieken* and other ventures) and Tjong A Fie (張耀軒) in Medan (comprising *Deli Bank*, *Tjong A Fie Landen* and other firms) (Panglaykim and Palmer 1970; Post 2009; Buiskool 2009).

[Table 2 about here]

The registered companies in such groups were just the pinnacle of a diverse range of business interests of their owners, which included family members, business associates and unregistered ventures. It is likely that various associations existed between individual registered companies, possibly through the same investors taking shares in different firms for the purpose of ensuring that the strategic interests of these different firms aligned with each other and with those of their owners (Twang 1998: 43-45). Allocating positions of managing director and membership of the boards of directors of associated enterprises to family members and occasional trusted outsiders, held the *Kian Gwan*/OTHC, the *Kwik Hoo Tong* and *Tjong A Fie* business groups together (Post 2009: 183-184; Post 2002; Buiskool 2009: 119). The same practices most likely cemented relations between other firms, thus establishing an organisational structure that became ubiquitous after World War II (Carney 2008: 237-260). However, it is difficult to generalise the existence of business groups with information from the *Handboek* database. The only indicator is the family names of the managing directors, which are not necessarily a good indication of family-based connections, as Chinese people share a limited number of family names.

The *Handboek* database contains many instances of managing directors in charge of two or more companies. Table 3 shows the details of directors in charge of more than three companies, as a proxy indicator of the existence of business groups. In 1915 there were only two cases, plus three more cases of directors in charge of three companies. Altogether just 3% of the population of firms in 1915. A greater number was recorded in 1920, when in five cases a director was in charge of three companies,

and eight further more directors of three companies. This suggests that at least 5% of firms was part of a business group.

[Table 3 about here]

Altogether, this evidence indicates that there may have been many small Chinese business groups in Indonesia until 1940, but only two major groups: the Tjong A Fie group in Medan and the *Kian Gwan*/OTHC group in Semarang. The latter gradually increased in size, but group's companies were under different managing directors, including several Dutch nationals. The cohesion in the group was only articulated after Oei's death in 1924, when two of Oei's sons became managing directors of all the main companies in the group: Oei Tiong Swan (黄宗宣) in 1930 and Oei Tiong Hauw (黄宗孝) in 1935 and 1940. Table 3 shows that this group was by then a long way ahead in terms of equity of the companies controlled by the next groups of managing directors, Tan Tjip Siang (陈集祥) in Kudus and Tjioe Hwie Bing (周慧敏) in Surabaya.

Location

Chinese companies were generally incorporated in cities and towns where accredited notaries could register them. Many of the companies may also have located their activities where they were registered, but several firms actually conducted business activities elsewhere. Particularly agricultural companies operated plantation estates almost by definition in rural areas. Trading companies involved in purchasing farm products (sugar cane, paddy, cassava, coconuts, soybeans, kapok etc.) for further processing could also be active in rural areas, despite their registration in urban areas. To some extent this implies an urban bias in the *Handboek* data.

Table 4 confirms that by 1900, 94% of firms were registered in cities, particularly in Jakarta. This share decreased quickly during the decades that followed, possibly for two reasons: (a) the limited liability advantages of company registration only gradually radiated outwards from main cities to rural towns, (b) an accumulation of graduates from the Law Polytechnic (*Rechtshoogeschool*) in Jakarta, founded in 1924, meant that more accredited notaries established themselves in rural towns outside the main urban areas where they could facilitate company registrations. Nevertheless, 50 to 70% of Chinese companies was registered in 10 key cities in Indonesia, and 80 to 90% of these companies was registered in Java. In Java, Jakarta lost prominence in favor of Surabaya, and in Sumatra, Padang lost significance in favor of Medan.

[Table 4 about here]

On the other hand, the 1930 population census showed that more than half of ethnic Chinese people in Indonesia lived in the main cities. This suggests that the urban bias in the registration of Chinese companies is a reflection of the fact that most Chinese people found income and employment opportunities in cities and towns, as they were prohibited from buying and owning farm land.

To test this, Figure 4 expresses company registrations in 1930 in proportion to the population in the main cities and in the main regions of the country. The chart shows that the 10 main cities had many more Chinese companies registered per inhabitant and per ethnic Chinese inhabitant than Indonesia as a whole, and also than Java as a whole. Particularly the top 6 cities had a higher endowment of Chinese firms than the rest of the country. Medan scored low in terms of Chinese firms per head of the Chinese population, simply because 36% of its population was ethnic Chinese.

[Figure 4 about here]

Industries

Table 5 shows the main industries in which companies were active. These data should be taken with some caution, as the definitions of company activities are based on the names of companies and on brief descriptions in their articles of association. Consequently, the *Handboek* database includes some agro-processing, such as sugar manufacturing, kapok cleaning, tapioca, soy sauce and coconut oil manufacturing, tea drying *etc.*, under agriculture, although such activities would generally be classified as manufacturing industry. This makes a significant difference to the distribution of shareholder equity across industries, as particularly sugar factories were capital-intensive operations. The database contains Chinese-owned sugar factories of which there were 2 in 1905 and 9 in 1940, including the f40 million 'equity-heavy' *Oei Tiong Ham Suikerfabrieken* plus the f 4 million equity of the five OTHC sugar factories. It also includes several of the asset management companies that managed Chinese-owned private estates, such as the *Cultuurmaatschappij Bergzicht* (see above). Most of the revenues of these companies may have been related to agriculture, but not necessarily. Consequently, the *Handboek* database categorised several of these companies under 'business services'.

[Table 5 about here]

Company law in Indonesia required a description of the activities of the firms in the articles of association. However, it was relatively cumbersome to change the articles of association as a company's business interests diversified. Company owners accommodated such diversification in two ways. Firstly, they registered new companies

with different names for their new business interests, allocating directorships to relatives or business associates. Consequently, company law contributed to the emergence of business groups of companies that were held together through family relations of the main shareholders, directorships and board memberships. It is likely that firms in these budding business groups maintained trading relations with each other. For example, in the *Gian Kwan* group, trading and shipping firm *Gian Kwan* exported and transported sugar that was produced by the group's sugar companies, with finance from *Bankvereeninging Oei Tiong Ham*, the group's bank.

Secondly, where owners knew that their firm would be multipurpose, they described the activities of their company as broadly as possible at registration. Consequently, various companies whose name suggests that they are trading companies were actually involved in a much wider range of activities. For example, the trading company of Liem Seeng Tee (林生地), *Handel Maatschappij Sampoerna* (registered 1930, but established 1913) in Surabaya, was much better known as the manufacturer of *Djie Sam Soe* cigarettes, and since 1933 also for its operation of the large *Sampoerna* cinema/theatre complex in the city.

Table 5 also shows that almost 60% of Chinese companies were registered as trading companies since 1910 and that this share decreased gradually. However, these trading companies include a wide range of ventures; from relatively small locally active forestallers of crops that were also local wholesalers of goods to much larger wholesaling companies with inter-island activities across Indonesia and international. Each of them may have been engaged in other activities, as mentioned. In second place in Table 5 are companies that provided assorted 'business services', such as in transportation, construction, real estate and property development, and asset management. Thirdly, the category 'other' includes a wide range of service activities, such as cinema theatres, swimming pools, film distribution, and other transportation services not included in 'business services'.

The category 'other' also includes 2 to 4 mining companies, such as coal mining companies *Loah Boekit Steenkolen Handel* (1930) in Samarinda (East Kalimantan) and *Boedoek Serantak Mijnbouw* (1935) in Singkawang (West Kalimantan). The database has no traces of the *kongsi* involved in the more significant Chinese-operated mining ventures, such as in Bangka (tin) and Kalimantan (gold, silver and diamonds) (Somers Heidhues 1992, 2003). Their operations were under the purview of self-governing sultanates in Sumatra, Kalimantan and Sulawesi, and there was no formal obligation on these *kongsi* to incorporate and register.

Despite these limitations, the increase of the share of firms in manufacturing industry from 4% in 1900 to 16% in 1940 is significant. There are references to Chinese companies operating a diverse range of manufacturing ventures, including for the production of soap, fireworks, lime, bricks, cigarettes, non-alcoholic beverages, bakery products, metal wares, textiles etc. Together with the diverse categories 'business

services' and 'other', the share of firms in these three categories increased from 10% in 1900 to 41% in 1940. This was a significant structural change in business activities away from trade.¹²

Panel B in Table 5 seems to mitigate this conclusion, because it does not show that the share of investment in manufacturing industry increased, but rather that the share of agricultural ventures increased from 22% in 1910 to 46% by 1940. However, this increase is largely caused by the growing number of relatively capital-intensive agro-processing plants such as sugar factories, which should have been categorised in the database as manufacturing ventures. In addition, there was relative stability in the number of 'equity-heavy' large semi-agricultural companies that managed private estates and that were too expensive for the government to dispossess. Many 'equity-light' small trading companies dropped out of the population during the 1920s and 1930s, which lifted the equity share of these asset management companies included in agriculture column in Table 5.

The top panel in Table 5 shows that the share of financial companies (banks, insurance companies etc.) is small, but the bottom panel demonstrates that the equity share of these companies was significant. Until the establishment of these financial firms, many Chinese companies drew on a range of institutionalised credit sources, such as temple and cemetery associations, the Chinese Council in Jakarta, and the Chinese House of Aid and Direction in Semarang (Kwee 2009). Chinese intermediaries also accessed finance from Dutch-owned banks and international trading companies, and passed on credit to smaller retail ventures (see *e.g.* Claver 2009, 2012; Kudo 2018).

In addition, the articles of association identified several trading companies as also engaging in banking activities, such as *Handel Maatschappij Kwik Hoo Tong* (established 1894) in Semarang, *Ko Lie Handelmaatschappij* (1899) in Banyumas, *Tan On Djit Handel & Cultuurmaatschappij* (1908) in Batu Rusa (Bangka), *Handel Maatschappij Hiap Bie* (1909) in Tegal, *Hoo Djiang Handelsvereniging* (1909) in Kediri and *Thiam Ki Handel-, Bouw-, en Cultuurmaatschappij* (1916) in Jakarta, and others. There was also a variety of informal mutual credit societies that mobilised savings. Such practices continued when the sources of finance diversified with the establishment of several Chinese banks and insurance companies. The banks included the *Oei Tiong Ham Bankvereniging* (1906) and *Be Biau Tjoan Bankvereniging* (1915) in Semarang, the *Deli Bank* (1907) and *Chinese Trading Company* (1913, registered as *Chunghwa Shangyeh Maatschappij*) in Medan, the *Batavia Bank* (1918) in Jakarta, *The Fah Tung Chinese Bank* (1920) in Pontianak and the *Tiong Hwa Bank* (1920) in Surabaya. The (life) insurance companies included the *Chineesch-Indische*

¹² As noted above, this trend is somewhat obscured by the non-systematic and unconventional allocation of companies to industries in the *Handboek* database for 1910-1940, which does not follow the systematic International Standard Industrial Classification (ISIC) of economic activities. This has been corrected as much as possible.

Levensverzekering Maatschappij (1918), *Sun and Dragon Insurance* (1930) and *Nanyang Insurance Agency* (1934), all three in Jakarta.

Some of these financial companies had chequered histories. For example, the *Deli Bank* and the *Be Biauw Tjoan Bank* over-extended their lending and were liquidated in respectively 1921 and 1926. In addition, the scope of the activities of each of these financial companies may have differed. While the banks initially specialised in extending trade credit to small Chinese trading ventures that were not serviced by the larger Dutch-owned banks, they gradually also extended credit for Chinese ventures in agriculture and manufacturing (Verrijn Stuart 1934: 17, 125-142). These Chinese banks accumulated savings of depositors, while the insurance companies accumulated funds from policyholders. Such funds were available for lending and investment. The extent to which these firms mobilised funds in this way is not known. It is also likely that Chinese companies increased the value of their assets beyond shareholder equity though re-invested earnings, rather than borrowing for investment purposes, as was common at the time.¹³ Nevertheless, the demonstrated presence and activity of Chinese firms in the financial sector make it likely that Chinese enterprises drew on external funds for investment.

Equity and profitability

The only indication of company size in the database is the value of shareholder equity, or the funds that shareholders invested in the company at incorporation or at agreed moments after incorporation until shareholders had fully subscribed the approved equity. This information was included in the public announcement of the incorporation of a venture and indicated the extent to which the owners could be held liable for the debts of the company. Most companies were privately owned by a few business partners. Others had a greater number of shareholders and conducted annual shareholder meetings to discuss annual reports. Such meetings and reports were reported in the local press, which also noted board recommendations to pay dividends or not. However, these tended to be some of the larger Chinese firms, such as the *Batavia Bank* and *Indische Lloyd*.

Vleming (1926: 139) maintained that there was ‘not one Chinese limited liability with an official quotation at the stock exchange’ in 1920s Indonesia. Nevertheless, even small Chinese companies issued share certificates that bearers could sell. Chinese companies also communicated with shareholders through newspaper advertisements that called for annual meetings. In addition, some Chinese firms

¹³ Van der Eng (1998: 308-310) estimated that accumulated re-invested earnings may have been two-thirds of total company assets in Indonesia by 1938. This indicates that paid-up shareholder equity underestimates total assets of companies and therefore that return on equity is quite a misleading indicator of the financial performance of a company.

explicitly stated in their articles of association that they intended to trade in company shares, such as the cases of *Handelmaatschappij Liem Siong Koei* (1900) in Solo and *Handel Maatschappij Peng Hoo Kiok* (1914) in Makassar. These companies were located in Central Java and Sulawesi, well away from three cities where most non-Chinese securities trading firms were located. For these securities companies to trade the shares of Chinese companies, they would have required firms to divulge more information than only the articles of association published at registration. There was no legal requirements for companies to publish additional information. Consequently, for most Chinese companies information on total assets (including re-invested earnings and company reserves) and liabilities (including borrowing from banks and issued bonds), as well as employment, sales and turnover remained out of the public domain. It is therefore likely that the shares of Chinese companies were traded informally and that discretionary information determined the value of shares.

Table 6 shows that the average nominal equity value of Chinese firms almost halved between 1900 and 1910. This is associated with the rapid growth of the number of companies as the advantages of registration as a limited liability company became more widely known and registration opportunities spread into rural towns as law graduates established themselves as notaries who facilitated company registrations. An increasing number of more capital-extensive trading companies were registered (Table 6). Even though the average equity value increased later, particularly between 1920 and 1935, it remained about one-third of the average equity value of all registered firms in Indonesia, which was f0.8 million in 1920, f1.2 million in 1925 and f1.5 million in 1930 (Lindblad 2015). This indicates that Chinese firms were on average smaller than other registered firms, the majority of them Dutch-Indonesian and foreign-owned.

[Table 6 about here]

The increasing nominal equity value of Chinese firms indicates that generations of firms registered during these years raised more equity from shareholders than the firms registered before 1920. A possible reason is inflation, especially during the years of World War I, but also during the 1920s. Consequently, shareholders had to commit more funds since 1920 to allow their firm to purchase assets and to finance expenditure required to commence production. Table 5 shows that in real terms average equity of firms was the same in 1910 and 1930.

Table 5 also shows the significant increase of both nominal and real equity values from 1930 to 1935 and 1940. During these years newly registered firms (Figure 3) in a diverse range of pursuits beyond trade (Table 5) started to dominate. This suggests a significant commitment of new investment in the assets of Chinese firms and a new expansion of their business activities. The increased interest in establishing new, generally more capital-intensive enterprises was a consequence of growing business

opportunities in manufacturing in response to the new policy of trade protection and import substitution that unfolded during the 1930s (Van der Eng 2013).

Profitability can only be established for the years when Chinese companies released annual reports and information about dividend payments. Declared dividends as a percentage of nominal equity have been used as indicators of firm performance in Indonesia until 1940 (*e.g.* Buelens and Frankema 2016). However, these dividend rates were not necessarily indications of the actual profitability of companies for four reasons. Firstly, they reported dividends only for some years, not all years. Secondly, dividends are likely to have been the result of company management balancing the need to distribute earnings to investors and the urge to re-invest into growing the company to maximise future earnings. Thus, whether companies paid dividends depended on how company management balanced the need to reassure outside shareholders about the efficacy of company strategy and the urge to pursue other company aims. Thirdly, for the same reason, paid dividends may have overstated current profitability if company management decided to pay dividends out of existing reserves in order to placate shareholders. Fourthly, profitability is expressed in relation to the equity raised at the time of incorporation, not a company's total assets. A company may have increased its assets during its lifetime by re-investing earnings and/or borrowing from banks or selling bonds to investors. Such additional assets would have generated additional income, thus potentially increasing the dividend-equity ratio, but not the dividend-assets ratio or the price-earnings ratio based on the current market price of company shares. For those reasons analysis of dividend-equity ratios has to be done with considerable caution.

Table 5 shows that on average just 1.1% of these firms were reported to have paid a dividend. In addition, most dividend-paying firms did not declare a dividend to shareholders during most years. Some instances of the biggest dividend payments to their respective shareholders involved the *Deli Bank* which paid the equivalent of 8% of the value of shareholder equity in 1916, agricultural and asset management companies *Cultuur-Maatschappij Siloewok Sawangan* 23% in 1922 and *Waringin Landbouw* 28% in both 1923 and 1924, and the extraordinary case of *Noord-Moeria Handel Maatschappij* in Kudus that paid 100% in 1929. On average, the 1.1% dividend-paying firms paid the equivalent of 17% of equity during years when they publicly declared dividends to shareholders.

4. Conclusion

This paper used a business demography approach in order to generalise changes in the population of 1,600 registered Chinese companies during 1890-1940. Its purpose was to shed light on the conclusion of Williams (1952) that Chinese businessmen were not Schumpeterian entrepreneurs because they failed to mobilise outside capital for their

companies. The paper found that the firms of Chinese businessmen (a) mobilised outside capital through the activity of banks and insurance companies and through share issues, (b) diversified their activities away from trade, increasingly towards more capital-intensive manufacturing, and (c) experienced a significant turnover due to bankruptcies and company closures. These findings contrast considerably with Williams (1952), and appear to refute the conclusion that Chinese businessmen were not Schumpeterian entrepreneurs.

Unfortunately, the data on which this paper is based do not allow an analysis of a broader reading of Schumpeter's conceptualisation of entrepreneurship, beyond the mobilisation of outside capital. For example, the data do not allow a generalisation of how Chinese businessmen developed strategies for their firms in the face of the risk and uncertainty they faced, thus potentially driving processes of innovation. Much would have depended anyhow on the industries in which they operated, the particular uncertainty their firms faced, their individual perceptions of risk and opportunity, the available resources, and possibly the company they kept. For that purpose, further case studies will be required.

Nevertheless, the paper offered two indications for entrepreneurial zest. Firstly, the number of Chinese firms increased significantly during 1890-1920. The rate of increase was higher than that of non-Chinese firms in Indonesia, which were mainly Dutch-Indonesian and foreign-owned companies. The increase also exceeded the growth of Indonesia's economy during these years. In a broad sense, this points towards an aptitude among Chinese businessmen to take initiatives. Successful or not, taking initiatives was a first step towards the development of a business strategy.

Secondly, the turnover of companies was significant and as a group they diversified their business activities away from trade. Although trade remained the most significant stated activity, the categorisation of these trade firms took insufficient account of the increasingly diversified role that Chinese firms played. The dominance of the trade sector therefore obscures the fact that Chinese enterprises diversified significantly into manufacturing, and that the average value of shareholder equity and therefore their assets increased significantly during the 1930s. While this may be the outcome of a 'pull' of new business opportunities, it could also be an indication of a 'push' by the intense competition in the trade sector that forced businessmen to develop strategies to grow their business interests through diversification into niche market activities. If so, competition may have driven them to engage in a Schumpeterian process of 'creative destruction'. Particularly the significant generation change that took place in the late-1920s, accelerating in the early 1930s may exemplify this process of 'creative destruction'.

In all, the demography of Chinese enterprises in Indonesia during 1890-1940 reveals that the activities of these firms were much more diversified than the summary of qualitative impressions from selected Dutch studies led Williams (1952) to believe.

In the face of dynamic changes in the composition and role of Chinese businesses in colonial Indonesia, it is difficult to maintain that most Chinese entrepreneurs did not develop beyond the stereotype of mere managers of small trading firms. This conclusion that entrepreneurship was a significant factor in the development over time of a heterogeneous group of firms of ethnic Chinese entrepreneurs in Indonesia underlines that political economy and culture are insufficient explanations for the prominent role of ethnic Chinese in business in Southeast Asia.

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Table 1: Incorporated Firms in Indonesia, 1910-1940

	1910	1920	1930	1940
Firms incorporated in Indonesia, by ethnic background:				
Chinese firms by way of identification:				
Name of director(s)	356	842	679	420
(Name of both director(s) and company)	(304)	(689)	(548)	(314)
Name of company only	2	11	10	22
Name of owner only ^a	5	7	2	2
Sub-total, Chinese firms	363	860	691	444
Arab ^b	16	34	18	11
Other ^c	1,081	1,961	1,365	996
Sub-total	1,460	2,855	2,074	1,451
Firms with headquarters in:				
The Netherlands	543	716	654	583
UK	48	129	97	84
Other countries	8	35	29	38
Sub-total	599	880	780	705
Total number of firms	2,059	3,735	2,854	2,156

a. These were companies of the Oei Tiong Ham and Tjong A Fie groups with Dutch-Indonesian names and directors with Dutch names.

b. Ethnicity identified on the basis of the names of company and/or directors.

c. Residual, mainly firms of Dutch Indonesian and ethnic Indonesian entrepreneurs.

Source: Augmented 2017 version of the *Handboek* database.

Table 2: Eight Largest Chinese-Owned Companies by Shareholder Equity, 1900-1940

Benchmark year	Firm name	Equity (f million)	Year of incorporation	Managing director	Location	Main activities
1900	<i>Khouw Tjeng Ké Exploitatie</i>	2.0	1896	Khouw Tjeng Ké	Batavia	Real estate mgmt.
	<i>Ko Lie Handel</i>	1.6	1899	Ko Yoe Sing	Banyumas	Trade, agric., fin.
	<i>Kian Gwan Handel</i>	1.4	1893	Oeij Tjie Sien	Semarang	Trade
	<i>The Ing Tjiang Handel</i>	1.3	1899	The Ing Tjiang	Semarang	Trade
	<i>Kan Keng Tjong Cultuur</i>	0.9	1897	Jo Heng Nio	Batavia	Agriculture
	<i>Liem Kiem Ling Bouw</i>	0.8	1897	Liem Kiem Ling	Semarang	Construction
	<i>Goan Thay Handel</i>	0.6	1894	Lim Djoe Soei	Padang	Trade
	<i>Lie Tham Zoon Goan Cultuur</i>	0.6	1895	Lie Hin Liam	Tangerang	Agriculture
1910	<i>Oei Tjong Ham Bankvereniging</i>	4.0	1906	Ko Dji Soei	Semarang	Finance
	<i>Deli Bank</i>	3.0	1907	Thio Tiauw Siat	Medan	Finance
	<i>Kian Gwan Handel</i>	3.0	1893	Tjoe Ping Hie	Semarang	Trade, transport
	<i>Khouw Tjeng Ké Exploitatie</i>	2.0	1896	Khouw Oen Giok	Batavia	Real estate mgmt.
	<i>The Ing Tjiang Handel</i>	2.0	1899	The Ing Tjiang	Semarang	Trade
	<i>Ko Lie Handel</i>	1.6	1899	Ko Yoe Sing	Sukaraja	Trade, agric., fin.
	<i>Pleret Kloerahan Cultuur</i>	1.0	1906	Han Hoo Tong	Pasuruan	Agriculture
	<i>San Liem Kongsie Handel</i>	1.0	1901	Tan Hian Gwan	Surabaya	Trade
1920	<i>Deli Bank</i>	5.0	1907	Tjong A Fie	Medan	Finance
	<i>Tjong A Fie Landen</i>	4.0	1919	Lim Koei Seng	Medan	Agriculture
	<i>Oei Tjong Ham Bankvereniging</i>	4.0	1906	Oei Tjong Swan	Semarang	Finance
	<i>Batavia Bank</i>	3.0	1918	Tjong A Fie	Batavia	Finance
	<i>Kian Gwan Handel</i>	3.0	1893	Oei Tjong Swan	Semarang	Transport, finance
	<i>Khouw Tjeng Ké Exploitatie</i>	2.0	1896	Khouw Oen Giok	Batavia	Real estate
	<i>Si Boelan Rubber</i>	2.0	1909	Tjong A Fie	Medan	Agriculture
	<i>Ang Sioe Tjiang Handel</i>	2.0	1909	Ang Sioe Tjiang	Batavia	Trade
1930	<i>Oei Tjong Ham Suikerfabrieken</i>	40.0	1920	Oei Tjong Swan	Semarang	Agro-Industry
	<i>Oei Tjong Ham Bankvereniging</i>	15.0	1906	Oei Tjong Hauw	Semarang	Finance
	<i>Tjong A Fie Erven</i>	7.5	1922	- ^a	Medan	Real estate
	<i>Tjong A Fie Landen</i>	4.0	1919	- ^a	Medan	Agriculture
	<i>Kwik Hoo Tong Handel</i>	4.0	1894	Kwik Siang Ling	Semarang	Finance
	<i>Kian Gwan Handel</i>	3.0	1893	Oei Tjong Swan	Semarang	Transport, finance
	<i>Kotta Baroe Soerabaja</i>	3.0	1920	Kho Han Lie	Sukaraja	Real estate, finance
	<i>Batavia Bank</i>	2.5	1918	Khoe A. Fan	Batavia	Finance
1940	<i>Oei Tjong Ham Suikerfabrieken</i>	40.0	1920	Oei Tjong Hauw	Semarang	Agro-Industry
	<i>Tjong A Fie Erven</i>	7.5	1922	- ^a	Medan	Real estate
	<i>Tjong A Fie Landen</i>	4.0	1919	- ^a	Medan	Agriculture
	<i>Oei Tjong Ham Bankvereniging</i>	4.0	1906	Oei Tjong Hauw	Semarang	Finance
	<i>Kian Gwan Handel</i>	3.0	1893	Oei Tjong Hauw	Semarang	Transport, finance
	<i>Thiam Ki Handel Bouw Cultuur</i>	3.0	1916	Oen Kham Khouw	Batavia	Real estate, constr.
	<i>Batavia Bank</i>	2.5	1918	Khouw Keng Liem	Batavia	Finance
	<i>Hwat Goan Handel</i>	2.5	1929	Njoo Sik Liang	Surabaya	Trade

a. After the 1921 death of Tjong A Fie, his heirs left the management of companies in the group to Dutch-owned *Administratiekantoor Kamerlingh-Onnes* in Medan.

Sources: 'Koloniaal Verslag' (1883-1900) and augmented *Handboek* database.

Table 3: Directors of More than Three Registered Chinese Companies, 1910-1940

	Managing director	Location(s)	Number of companies	Industries of the companies	Total equity (f million)
1910	Ang Sioe Tjiang	Jakarta	4	Shipping, trade	0.3
1915	Oey Boen Hoey	Jakarta	5	Construction	1.3
	Ang Sioe Tjiang	Jakarta	4	Shipping, trade	0.3
1920	Tjong A Fie	Medan, Jakarta	4	Finance, agriculture	11.0
	Tan Liok Tiau	Jakarta	5	Agriculture, asset management	1.8
	Thung Tjoen Ho	Bogor	4	Agriculture, trade	1.5
	Oey Boen Hoey	Jakarta	5	Construction, real estate	1.3
	Lie Siong Hwie	Surabaya & Java	4	Rice mills, trade	0.6
1925	Tan Hian Gwan	Surabaya	4	Trade, printing, construction	2.0
	Tan Liok Tiau	Jakarta	5	Agriculture, asset management	1.9
	Thung Tjoen Ho	Bogor	4	Agriculture, trade	1.5
	Oey Boen Hoey	Jakarta	5	Construction, real estate	1.3
1930	Oei Tjong Swan	Semarang	9	Sugar, tapioca factories, trade, shipping, finance	47.3
	Lie Siong Hwie	Surabaya & Java	5	Rice mills, trade	1.0
	Tan Djie Gie	Bandung	4	Trade, construction, agriculture	0.6
	Tan Tjip Siang	Kudus	5	Fireworks, cigarette factories, trade	0.5
1935	Oei Tjong Hauw	Semarang	10	Sugar, tapioca factories, trade, shipping, finance	51.3
	Tan Tjip Siang	Kudus	6	Fireworks, cigarette factories, trade	0.7
1940	Oei Tjong Hauw	Semarang	10	Sugar, tapioca factories, trade, shipping, finance	51.3
	Tjioe Hwie Bing	Surabaya	4	Construction, real estate	0.2

Source: Augmented Handboek database.

Table 4: Location of Registered Chinese Companies, 1900-1940 (percentages)

	1900	1910	1920	1930	1940
Jakarta (West Java)	61.1	31.7	23.8	10.6	17.6
Semarang (Central Java)	16.7	13.2	12.8	11.7	9.0
Surabaya (East Java)	7.4	12.9	16.4	11.3	15.5
Bandung (West Java)	1.9	3.6	3.8	5.4	4.3
Bogor (West Java)	1.9	2.5	2.8	2.3	2.3
Yogyakarta & Solo (Central Java)	1.9	3.6	3.1	4.2	2.3
Padang (Sumatra)	3.7	1.8	2.1	2.5	1.4
Cirebon (West Java)	0.0	0.3	1.3	2.2	2.3
Medan (Sumatra)	0.0	0.8	2.0	2.3	5.2
10 cities	94.4	70.4	68.1	52.4	59.7
West Java	66.7	44.4	38.1	27.6	33.6
Central Java	20.4	24.0	23.2	27.4	19.4
East Java	7.4	23.1	25.8	26.6	24.1
Java subtotal	94.4	91.5	87.1	81.6	77.0
Sumatra	3.7	6.6	8.6	10.4	12.8
Bali & Nusatenggara	0.0	0.3	0.9	0.9	0.5
Kalimantan	0.0	0.3	0.6	3.9	7.0
Sulawesi	0.0	0.8	2.0	2.5	1.8
Maluku	1.9	0.3	0.6	0.6	0.5
Total	100.0	100.0	100.0	100.0	100.0

Sources: Calculated from 'Koloniaal Verslag' (1883-1900) and the augmented *Handboek* database.

Table 5: Main Activities of Registered Chinese Firms, 1900-1940 (percentages)

Year ^a	Agri- culture	Manu- facturing	Trade	Finance	Business services	Other	Total	Total ^b
<i>A. Distribution of number of firms across industries</i>								
1900	38.9	11.1	29.6	0.0	20.4	0.0	100	54
1905	18.9	9.4	54.4	0.0	12.8	4.4	100	180
1910	14.6	7.2	58.7	1.4	13.5	4.7	100	363
1915	13.7	9.4	54.0	1.8	14.8	6.3	100	615
1920	12.3	11.3	52.0	2.1	17.1	5.2	100	860
1925	9.6	11.0	51.4	2.7	19.7	5.6	100	846
1930	10.3	14.5	47.8	2.9	19.7	4.9	100	691
1935	11.6	17.9	42.1	3.1	14.2	11.0	100	318
1940	11.3	16.4	45.0	1.8	17.1	8.3	100	444
<i>B. Distribution of shareholder equity across industries</i>								
1900	28.2	6.2	40.5	0.0	25.1	0.0	100	17.8
1905	25.3	2.7	48.4	0.0	20.2	3.4	100	35.1
1910	22.5	2.5	44.6	12.1	16.3	2.0	100	61.6
1915	26.2	3.8	36.6	9.9	17.5	6.0	100	92.7
1920	24.6	5.7	37.5	10.8	19.7	1.6	100	149.4
1925	31.6	3.9	26.5	14.3	20.5	3.2	100	230.9
1930	35.3	7.4	19.9	13.8	20.3	3.3	100	189.5
1935	47.9	9.1	15.8	8.4	13.2	5.7	100	125.4
1940	46.5	8.2	18.5	7.5	14.8	4.5	100	136.9

a. Benchmark year.

b. Number of firms in Panel A, total nominal value of equity (*f* million) in Panel B.

Notes: Nominal value of equity takes no account of price changes across the years of incorporation. Many firms were multipurpose, especially in the agriculture and trade categories. Only the main activity stated at registration was recorded in the database.

Sources: Calculated from ‘Koloniaal Verslag’ (1883-1900), *Handboek* (1905) and augmented *Handboek* database.

Table 6: Equity and Dividends of Registered Chinese Companies, 1900-1940

Bench- mark year	Total number of firms	Average year of esta- blish- ment	Average shareholder equity per firm (f 1,000)		Firms reporting dividend payments			
			current prices	1913 prices ^a	Number of firms ^b	% of total firms	Average % divi- dend rate ^c	Average year of dividend payment
1900	54	1896	330	470	-	-	-	-
1905	180	1901	199	274	3	1.7	25	1901
1910	363	1904	170	198	4	1.1	16	1904
1915	616	1908	151	111	2	0.3	35	1912
1920	861	1911	175	72	9	1.0	10	1916
1925	846	1913	276	172	6	0.7	13	1922
1930	691	1916	278	186	2	0.3	8	1928
1935	318	1926	397	457	7	2.2	26	1930
1940	444	1930	316	316	8	1.8	6	1937

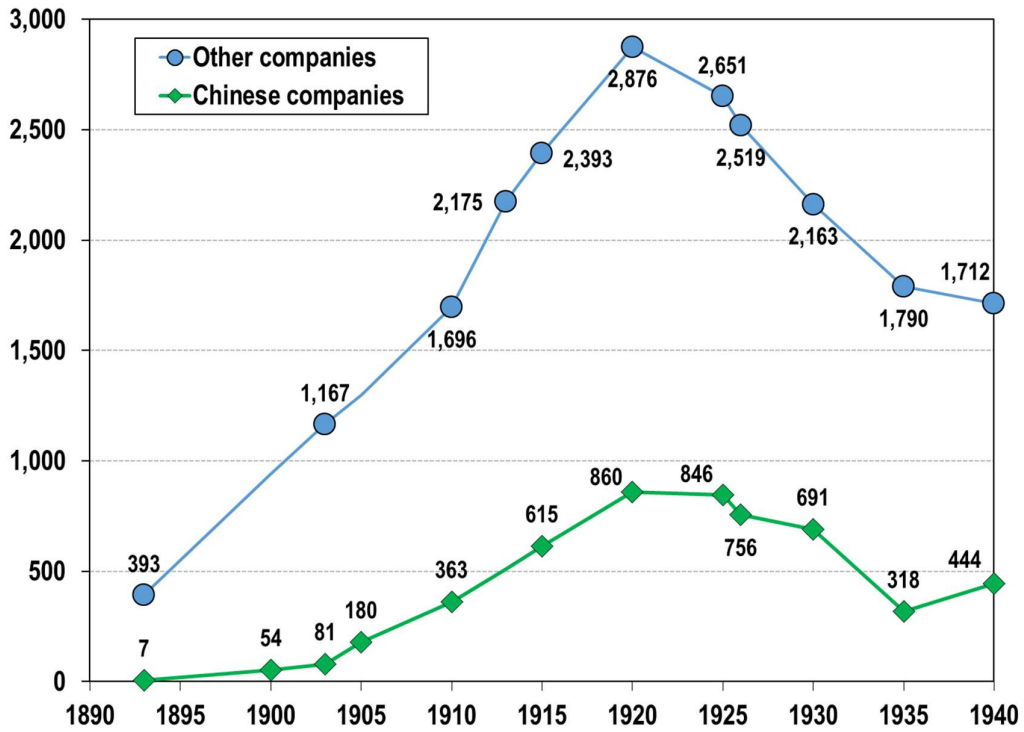
(a) Deflated with Jakarta retail price index, linked before 1913 to the rice price index.

(b) Excludes instances of firms declaring to pay 0%, included in the database.

(c) Paid dividend as percentage of nominal shareholder equity.

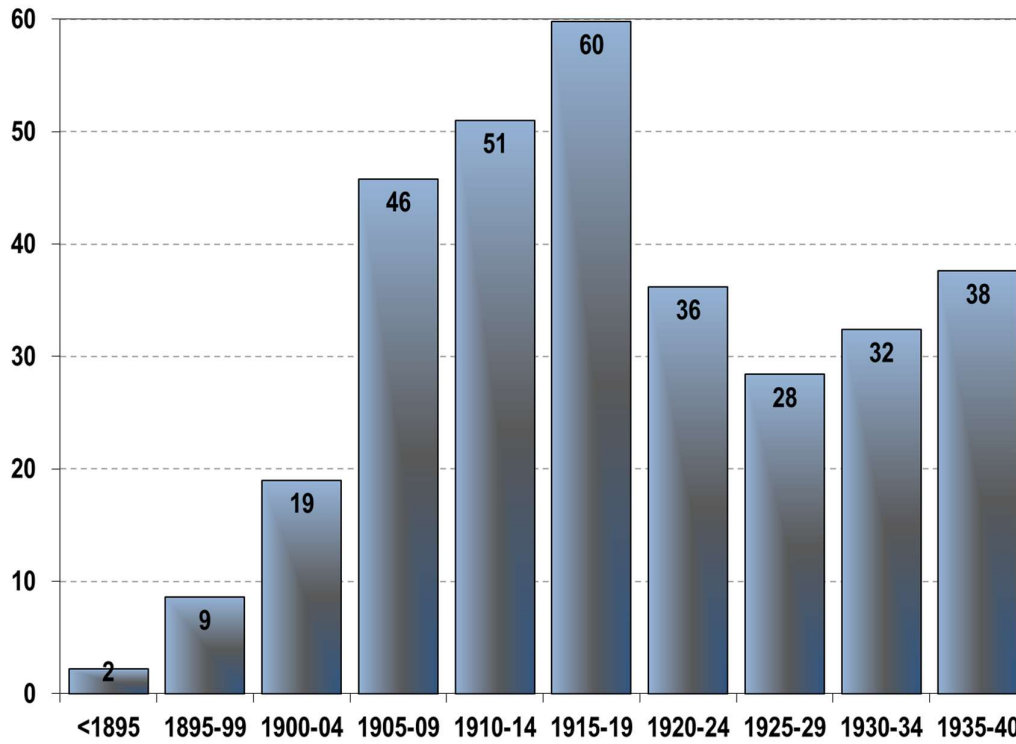
Source: Calculated from 'Koloniaal Verslag' (1892-1900); *Handboek* (1905); augmented *Handboek* database; rice price index from Creutzberg (1978), Jakarta retail price index from *Statistisch Jaaroverzicht* and *Indisch Verslag*.

Figure 1: Population of Registered Companies in Indonesia, 1893-1940



Notes: Populations include firms registered in The Netherlands but operating in Indonesia. Years refer to *Handboek* publications, populations are for preceding years. Sources: 1893 and 1900 Chinese firms *Koloniaal Verslag* (1883-1900); 1893 and 1913 total À Campo (1996); 1903 Kuitenbrouwer and Schijf (1998); 1905 Chinese firms *Handboek* (1905); 1910, 1915, 1920, 1925, 1926, 1930, 1935, 1940 *Handboek* database.

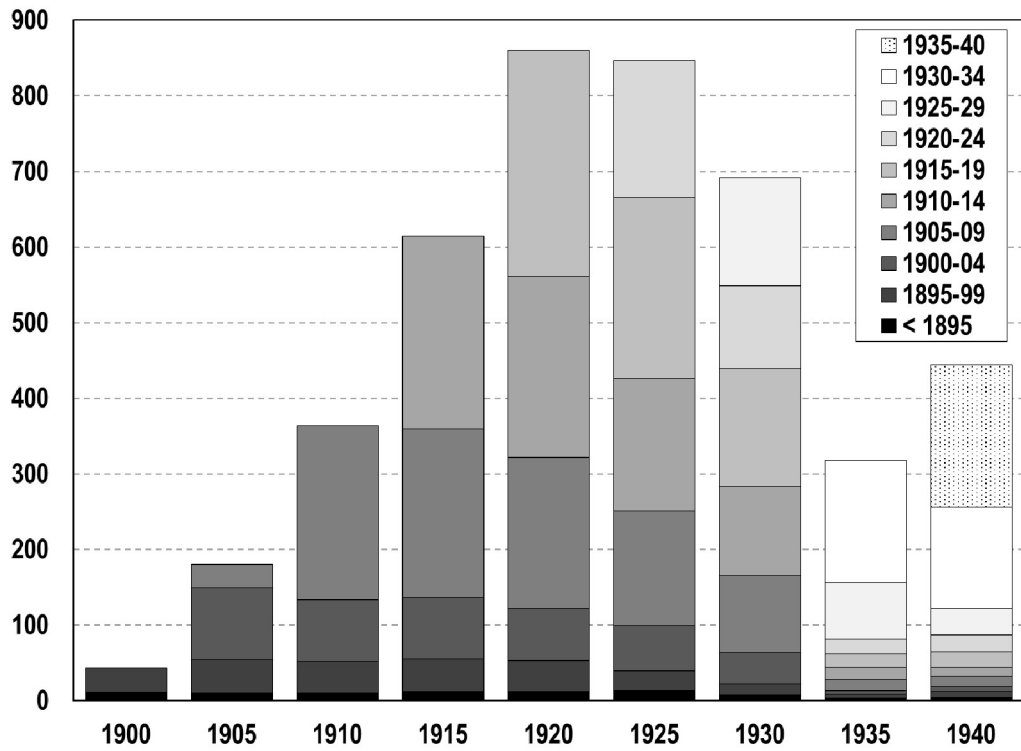
Figure 2: New Registrations of Chinese Companies, 1890-1940 (annual averages)



Note: This chart takes no account of the mortality of firms.

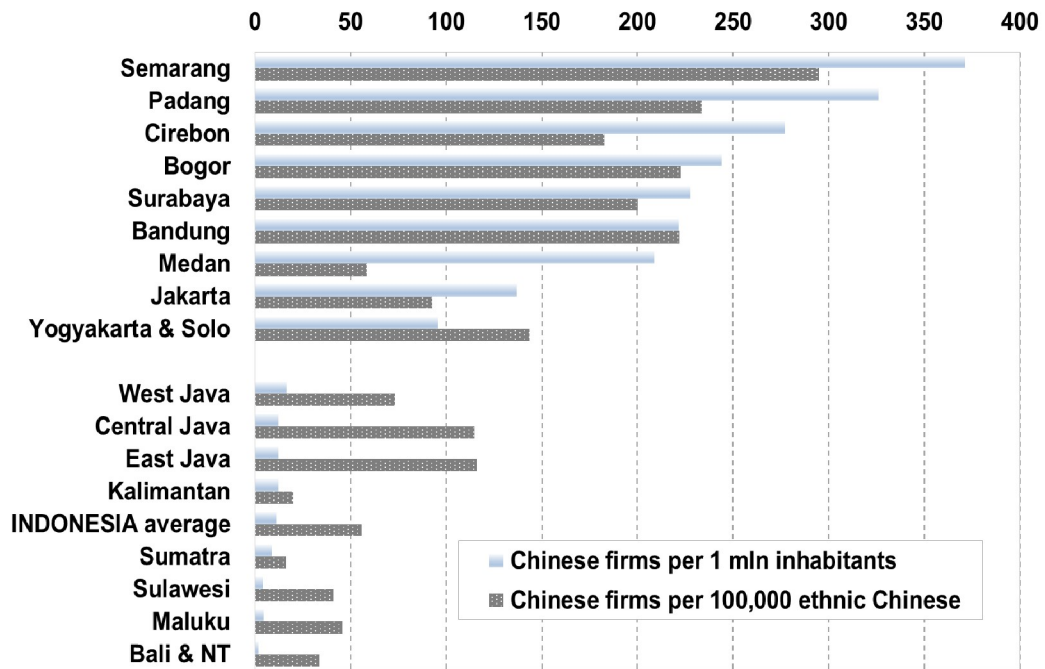
Sources: Calculated from 'Koloniaal Verslag' (1883-1900), *Handboek* (1905) and the augmented *Handboek* database (1910-1940).

Figure 3: Age Distribution of the Population of Registered Chinese Companies by Years of Incorporation, 1900-1940 (benchmark years)



Sources: Calculated from 'Koloniaal Verslag' (1883-1900), *Handboek* (1905) and the augmented *Handboek* database (1910-1940).

Figure 4: Registered Chinese Firms Relative to Population in Cities and in Regions in Indonesia, 1930



Note: NT is Nusa Tenggara.

Sources: Calculated from the augmented *Handboek* database and *Indisch Verslag 1940*.