

The Rise of Corporate Enterprise in Colonial Indonesia, 1893–1913¹

Abstract

This article reviews the development of private enterprise in colonial Indonesia on the basis of a large set of numerical data. Having looked at the numbers of enterprises, patterns of investment, market valuation of corporations and proceeds of investment between 1893 and 1913, the author delineates several trends such as a tendency towards sectoral differentiation, a shift towards colony-based international firms and a growing cyclical correlation between the colonial economy and the world market. By its cohesion and impact private enterprise, albeit under colonial domination, already had created something that may be labelled a national economy.

1. Introduction

Many theories and historical debates on the economic development of colonial Indonesia rely heavily on quantitative statements and assumptions. For that very reason much energy has been devoted to producing statistical series. The publication series *Changing Economy of Indonesia* is the most well-known sustained effort in this field. Its major merits are the compilation and critical assessment of a wide range of statistical sources amassed in colonial times. While acknowledging this, some limitations do detract from its usefulness. First, it draws mainly, though not exclusively, from official sources. Secondly, the completeness and reliability of many historical data do not stand up to scrutiny, leaving (too) much latitude for interpretation. Finally, its printed format does not allow flexible use by researchers.

This situation provides ample justification for the preparation and processing of additional source material focusing on non-governmental activities. The study of the rise of corporate enterprise cannot dispense with the *Handboek voor cultuur- en handelondernemingen in Nederlandsch-Indië* (henceforth *Handboek*). Data from this voluminous source have been stored electronically by Lindblad for the interwar period and by A Campo for the decades preceding World

¹ A revised version of this article appeared as: A Campo (1995).

War I.² Lindblad has already published several articles, drawing on this source (Lindblad, 1991; 1992; 1993). The present article is the first publication emanating from the earlier data. It offers a broad survey of the development of colonial corporations from their beginnings to 1913, concentrating especially on the years 1893–1913.

As corporations played a major role in colonial investment, this descriptive study may make a real contribution to the economic history of colonial Indonesia. It offers a more accurate account of levels and trends of key parameters. For researchers focusing on a specific branch of manufacturing or even a single company, a statistical survey may be helpful in assessing to what degree its particular development did conform to general patterns. As for historical debate, some information in the present article may be relevant to the current debate on the historical origins of a national economy in Indonesia. We will return to this point in our conclusion.

The results of the statistical processing of the data will be presented in fixed 3D-format. The first dimension pertains to fields of interest: numbers of corporations; volumes of investment; stock market values and proceeds. The second dimension is dynamic; for each field of interest aggregate data will be presented in a continuous time series, focusing on the years 1893–1913. The third dimension is disaggregation by static characteristics of the corporations: origin; location of main office; nationality of ownership; and branch of manufacturing.

The data on location, nationality and sector have been stored in as much detail as the source allows. As this overview aims to present a broad survey, the specific categories have been reduced to a few broad classes. Finally, it may indeed seem rash to presume that these data are static as corporations may have moved their head office or changed the nature of their trade. While acknowledging this, there appear to have been few instances of relocation or changing trade. The NHM and the OBM may have formed examples of this (Lindblad, 1985).

2. Numbers of corporations

The dataset contains information on 3801 corporations. Before 1850, only five corporations had been founded. Among them were the *Nederlandsche Handel-Maatschappij* (NHM) and the *Javasche bank*. There was more activity in the late 1850s and early 1860s. The process of founding corporations, however, really took off only in the latter part of the 1870s (Figure 1). From then onwards dozens of companies were incorporated each year. After 1896 the increase being more than one hundred each year reached its highest level in 1910, when 326 new corporations were founded. However, the increase was not a smooth-running continuous process, but appears to have been cyclical.

² Data entry was done by Adrie Toet and Rob Vroom in 1981. Marc Vallinga deserves credit for the systematic data transformation and graphic presentation.

The number of companies discontinued also tended to fluctuate over the years (Figure 2). Data concerning the liquidation of companies are not easy to interpret. Several uncertainties crop up. First, cessation does not always mean financial failure. A corporation may have been taken over by another company. At least 38 liquidated colonial corporations turned into a new corporation, 32 of which were included in the *Handboek*. They may have relocated their activities or their liquidation may have been profitable for their shareholders, which was for instance the case of the dissolution of the *Nederlandsch-Indische Stoomvaart Maatschappij*, the precursor of the *Koninklijke Paketvaart Maatschappij*. Secondly, companies may have ceased economic activities a year or even longer before liquidation.³ Therefore, the number of liquidations per year cannot be taken as an indicator of the business cycle, either directly or indirectly.

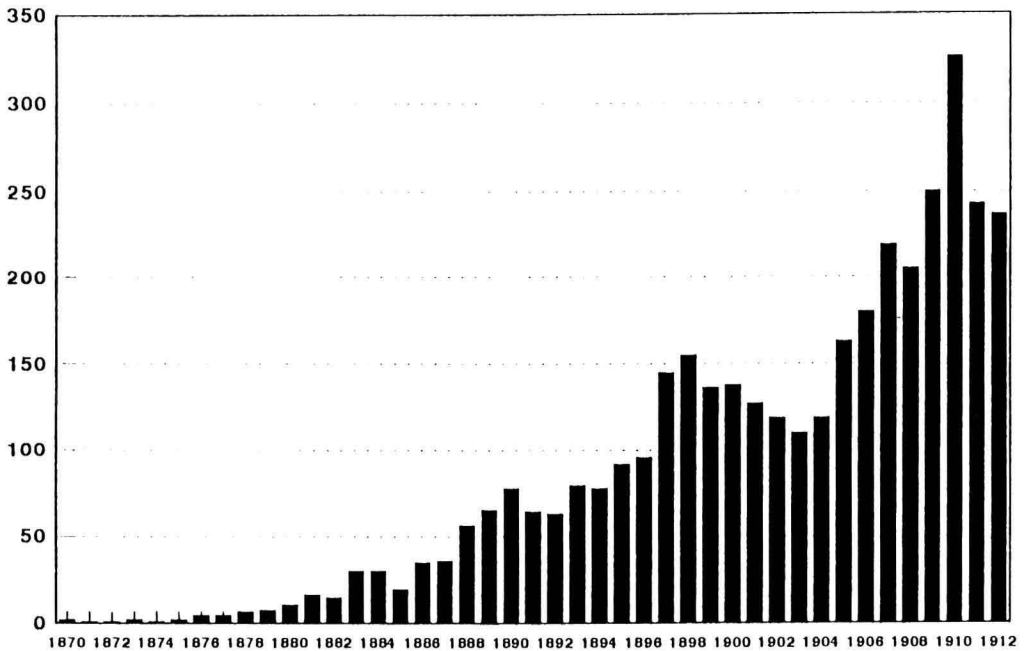


Figure 1. Number of companies founded, 1870–1912.

³ In the *Handboek* about 200 corporations were indicated as being ‘in liquidation’. The 1913 issue mentions 60 companies ‘in liquidation’ which corresponds to 2.2 per cent of the total number of firms. However, this notification was frequently duplicated through several consecutive editions. Final disbandment of a corporation was, unfortunately, not mentioned explicitly in the *Handboek*.

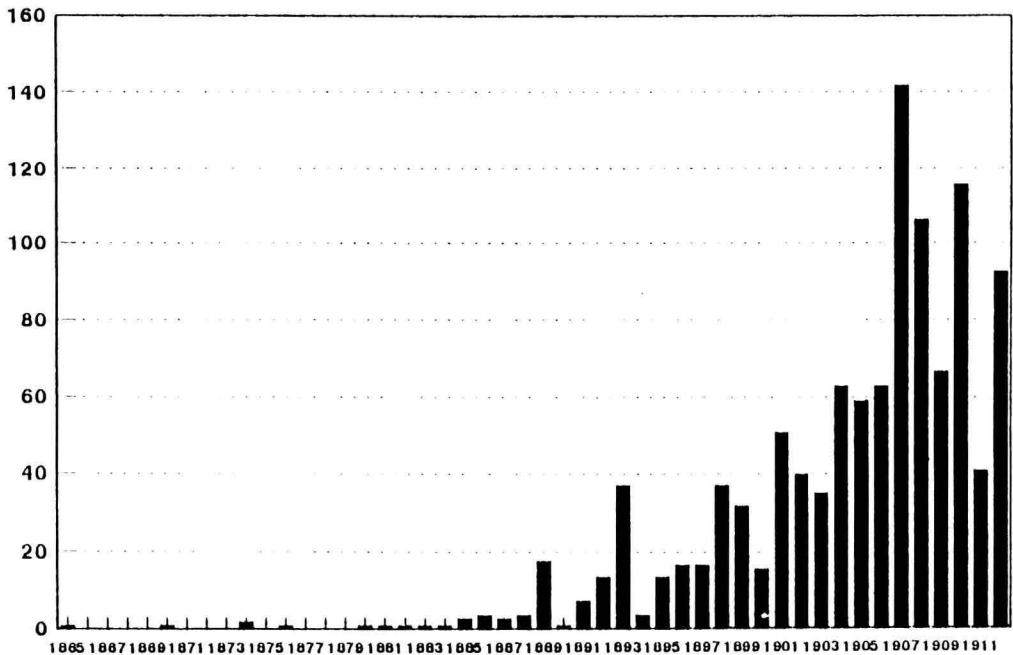


Figure 2. *Number of companies discontinued, 1865–1912.*

The difference between new foundations and liquidations by year yields the net increase in the number of corporations. Apparently the fluctuations in the number of liquidations were not matched by the fluctuations in establishments. Therefore, the net increase shows fluctuations as well.

The number of corporations in existence in any year has been computed as the difference between the cumulative sum of establishments and the cumulative sum of liquidations up to that particular year. As there was a net increase in the number of corporations in every single year, the total number of companies was rising accordingly. The year 1912 appears to have been an exception. This was a result of both a low level of founding activity and a large number of liquidations in that year. Perhaps the imminent threat of war cast its shadow over prospects for investment. In 1913, the final year under consideration, there were 2686 corporations. This is not far below the number in existence in 1930: 2838 (Lindblad, 1992: 4).

The lifetime of companies can be computed only for the liquidated companies. On average this lifetime seems to have been between 10 and 20 years. As data are only available up to 1913, it is difficult to determine whether the lifetime changed. However, it is highly probable that the average lifetime grew shorter. Corporations established in the early decades were generally major companies with strong financial backing and, in some instances, governmental support.

After 1880 limited liability was increasingly considered to be the most suitable legal framework for business operations, which meant that it was adopted by less soundly based companies as well. This profusion resulted in an increase in the percentage dropping out, or to put it in another way, in a shorter average lifetime.

Lindblad (1992, 1993) has computed the distribution of the colonial corporations in existence in 1930 over decades of establishment. Comparison with the numbers actually founded makes it possible to compute the rate of survival up to 1930. It also clearly underlines that an accurate view of the dynamic growth may be obtained only by continuous data series.⁴ This may be inferred from the following figures:

	Founded	Existing in 1930*	Rate of survival
before 1890	383	157	41.0%
1890–1900	982	225	22.9
1900–1909	1630	524	32.1

* Lindblad, 1993.

Corporations by sector

The colonial corporations have been classified into 242 categories. This rather unwieldy array has been arranged hierarchically (Appendix 1). Therefore, our present discussion will proceed in steps. It will start from a division into six major sectors: finance (banks and insurance); transport; agriculture; mining; and manufacturing. The category 'manufacturing' ('industry') might as well have been labelled 'various', as it includes shops, mills, construction, hotels, paper manufacturing and also several types of factories. Plantation-based sugar factories, however, have been included in agriculture. Reference will be made incidentally to one or more subdivisions.

Incorporation started in different sectors at distinct points in time. Banks and insurance companies took the lead. By 1870 this category had 23 corporations (NHM included). The transportation sector took off in the 1850s: the number of such companies being eight in 1870. In agriculture, incorporation followed in the wake of the severe crisis in the early 1880s. Incorporation in manufacturing started just before 1890 and in mining shortly afterwards, although the major mining company, the Billiton Maatschappij, dated back to the early 1850s. Trading companies brought up the rear, starting only in the late 1890s.

The number of liquidations generally seems to have varied at the same rate in all sectors peaking in 1889, 1893, 1898, 1901, 1904, 1907, 1910 and 1911. The simultaneity of the cyclical pattern is less clear for the foundations.

⁴ Lindblad also stresses that backward projections from a single base year may be grossly misleading because discontinued corporations cannot be taken into account.

The rate of net increase of existing corporations varied widely across sectors. In sheer numbers of corporations, agriculture reigned as the largest sector from the early 1880s. Differentiation was more marked after 1900 because of extensive incorporation of manufacturing, mining and trade. As a result, the sectional composition changed radically.

Corporations by location

The spatial dimension is almost by definition central to the concept of colonialism. Charting the puts and sinks of investment flows has been a major concern in the study of economic imperialism from its very beginnings. For colonial Indonesia this subject may be even more intriguing because of the transition from governmental exploitation to private enterprise and the open door policy.

The *Handboek* mentions the headquarters or 'residence' of the main office of each corporation at the level of specific locality. Here, we will only distinguish four locations: the Netherlands; foreign countries; Java and the Outer Islands.

The first colonial corporations were the NHM, established in the Netherlands in 1825, followed by the Javasche Bank, established in Batavia in 1828. This suggests that the Dutch took the lead and that Batavia followed suit. In 1860 there were 15 colonial corporations, of which 10 were established in Java. About 1895 the number of Netherlands- and Java-based corporations was about equal (200 each). From then on, however, the proliferation of incorporations in the Netherlands slowed down, but accelerated overseas. Meanwhile, since the late 1880s corporations had been established in the Outer Islands (on average about 10 each year, mostly based in East Sumatra). At the same time entrepreneurs in other European countries founded corporations with operations in the Netherlands Indies, a trend which was especially marked after 1908. There was a peak in 1910 when 73 foreign corporations were founded. As Dutch corporations were liquidated proportionately more often than overseas corporations, the disparity increased.⁵ In 1913, there were 1742 Java-based, 632 Dutch, 145 foreign or European and 167 Outer Island-based corporations.

At first sight, the temporal sequences of founding corporations in the Netherlands and in the Netherlands Indies seems to have been zero or very weakly cross-correlated, which implies that founding activities did not coincide. The cross-correlation of the annual numbers of liquidations, however, is clearly positive. This may indicate that corporations in the mother country and the colony were equally susceptible to adverse economic conditions.

Corporations by nationality

The nationality of ownership of a company is not mentioned explicitly in the *Handboek*. Nevertheless, there is enough information that may give a clue to

⁵ The share of liquidations was 37 and 27 per cent respectively.

nationality. It may have been explicitly advertised in the name of a company (for example *Niederländisch-Deutsche Telegraph Gesellschaft* or the Anglo-Dutch Borneo Gold Company). Language, currency, equity pieces, names of directors, location of head office and branches, as well as secondary information and circumstantial evidence, have been used for the categorization by nationality.

Mixed nationalities being put into separate categories.⁶ Thirty-four categories have been coded, which have been reduced to six broad classes for present purposes (frequencies between brackets):

- Dutch (900);
- European, (216, including non-Dutch Europeans, American and Japanese);
- Dutch-European combinations (119);
- colonial Dutch (1799);
- colonial combinations (132);
- Chinese or Indonesian (635).

This categorization does not correspond exactly to the categorization by location of head office. For example, foreign corporations may have been located in the Netherlands or in Java. Nevertheless, the overwhelming majority of colonial corporations in the Netherlands was of course Dutch, as it was ‘colonial Dutch’ in the Netherlands Indies. Similarly, ‘European’ corporations were generally foreign-based. In order to avoid repetition, the discussion in this section will concentrate on the smaller categories of Dutch-European combinations, colonial combinations and Indonesian corporations.

The number of foundations of Dutch-European combinations, of which only two were formed before 1871, increased steadily after the 1880s to 119 in 1913. In the meantime, however, 36 had been discontinued. Overseas development of this type of combination took off about 1890 and accelerated after 1900. As only 22 were dissolved, overseas combinations in 1913 outnumbered combinations located in Europe.

The emergence of corporations of mixed nationality may be explained partly by political motivations. Although the Dutch propagated, and to a large extent, pursued an open door policy, in practice foreign companies sometimes met with distrust, lack of co-operation or even surreptitious opposition. This applied specially to Japanese and German activities. For this reason, German entrepreneurs often cloaked their investments in bi-national corporations (A Campo, 1992: 285; Meyer, 1970: 57). Another more commonplace explanation is, of course, that combinations arose out of mutual economic interest (like Koninklijke/Shell).

There were 603 Chinese companies in the category ‘Chinese or Indonesian’, of which many were probably partly owned by Singapore-based Chinese. The incorporation of Indonesian enterprises started rather late, but gained momentum after 1900, culminating in more than 60 foundations in 1907 and again in 1908. Contrary to conventional colonial opinion, the Indonesian corporations experienced relatively few liquidations; in 1913, 567 out of 635 were still

⁶ In 18 instances nationality has been coded as ‘uncertain’.

registered. This rate of survival, about 90 per cent, compares favourably with the overall rate of 65 per cent. However, the fact that the Indonesian companies started at a later date should also be taken into account.

Corporations by origin

Important though the role of corporations may have been, taking their growth as an exclusive indicator for the economic development of colonial Indonesia as a whole would run the risk of mistaking the juridical shadow for economic substance. First, there was a considerable amount of investment by private entrepreneurs, by non-incorporated firms and by public authorities. Secondly, in many instances the founding of a corporation amounted to the juridical conversion of existing firms or previous investments (for example in exploration). Therefore some effort has been made to trace the origins of the companies, which succeeded in 1722 cases (about 45 per cent).⁷ Five different categories of 'origin' have been distinguished:

- (1) New ventures: 233 corporations (13.5 per cent);
- (2) Continuation of a firm: 533 corporations (31 per cent);
- (3) Re-establishment of a former firm: 32 corporations (2 per cent);
- (4) Concessions brought in: 405 corporations (23.5 per cent);
- (5) Plantations brought in: 519 corporations (30 per cent).

Unfortunately, these percentages cannot be generalized, as the sampling procedure may have been biased one way or another. Nevertheless, the breakdown of the aggregate data on foundations and liquidations by these categories may help to clarify the process of incorporating colonial capital.

Before 1880, almost all corporations were new ventures. In the mid-1880s some estates were incorporated because banks began to rescue viable enterprises which had run into financial difficulties in the acute agrarian crisis (Gedenkboek, 1924: 75). As this intervention proved successful, around 1890 limited liability was adopted by about ten or fifteen estates each year. In the years 1894–1904 between 30 and 50 estates were incorporated. The incorporation of concessions proceeded in the same way, albeit with a lag of a few years. In 1905 incorporation of estates and concessions appears to have come to a sudden halt.⁸ Between 1895 and 1905 about 10 or 20 firms were incorporated per year. After 1905, however, incorporation of firms gained momentum, reaching a level of 45–65 each year. Re-incorporating companies was a low-key phenomenon spread out evenly over the same period.

Accounting for the origins of corporations offers a less spectacular view of the rise of the colonial corporation. We are not able to produce systematic data on

⁷ These data have been collected from the notarial acts of incorporation. Pursuance of the collection of these data proved to be very time-consuming. The same applies to data on the valuation of the brought-in capital.

⁸ This is probably due to a sampling bias. It is possible that incorporation of concessions slowed down, but this is not likely for estates.

the duration of the prehistory of corporations. Broadly speaking, incorporation of mining concessions probably occurred within a decade. Estates and firms, however, may have had a much longer previous existence.

Finally, incorporation of pre-existing enterprises was not a safeguard against liquidation. This applies to a much lesser degree to former firms. With the average percentage of liquidations running at 30 per cent, a relatively large number of incorporated estates (193 or 37 per cent) and concessions (199 or 49 per cent) were liquidated before 1913. Of the 32 re-established corporations fifteen succumbed (47 per cent). Incorporated firms proved to be the more lasting category, as 85.6 per cent had survived in 1913.

3. Volumes of investment

This section on volumes of investment is prefaced by some preliminary remarks about several items in the *Handboek* pertaining to investment: nominal, issued and paid-up capital; founders' capital, reserves, fixed assets (number of estates), bond capital and reserves; and the degree of concentration.

Nominal capital is the amount of capital which a corporation was allowed to issue. Extension of capital beyond the statutory limit required notarial adaptation of the statutes and official publication. In many instances shares were floated in stages, keeping pace with the demand for capital. Statutes usually stipulated a three-, five- or ten-year term. In some sectors, most notably insurance, shareholders actually paid for only part of their shares (10–50 per cent) with the obligation, however, to dispense the remainder upon request. The amount of paid-up capital of any corporation, therefore, may have been less than the issued capital, and this in turn may have been less than the nominal capital.

The information about nominal capital, extensions of nominal capital and issued capital (*uitgegeven kapitaal*) is near-complete. Paid-up capital (*gestort kapitaal*) is mentioned in the *Handboek* much less frequently. It may be safely assumed that in these cases shareholders usually paid 100 per cent. Issued and paid-up capital have been entered in the data set from 1893 onwards.

The growth of both nominal and paid-up capital at aggregate level was impressive.⁹ In 1913 aggregate nominal capital was about 1.9 billion guilders and aggregate paid-up capital about 1.7 billion guilders. In 1888 these figures had been below 0.4 billion guilders. Estimates for 1930 amount to 4.1 billion and 2.6 billion guilders respectively (Lindblad, 1992).

Growth accelerated between 1896 and 1900 and again after 1906. This suggests that growth in investment before 1906 may be attributed to the increase in the number of corporations. After that year growth was due to an increase in numbers as well as to a rise in the average amount of capital per corporation.

⁹ At the aggregate level, the difference between issued and paid-up capital is insignificant. Issued capital therefore will not be discussed as a separate category.

Average nominal and average issued capital have been computed as the ratio of aggregated capital and number of companies extant in each year. Until 1906 average capital steadily decreased, as limited liability came to be generally adopted. After 1906, the pace of incorporation of small-scale companies barely slowed down, yet its effect of lowering average capital was offset by the founding of many heavily capitalized companies, as well as by extension of capital on the part of existing firms.

Whenever a new corporation was founded by converting an existing firm or enterprise, the founder(s) received vendor's shares for brought-in capital. Founders' capital has been computed as the nominal value of the shares awarded to one or more founders as payment for fixed assets (concessions, estate) or goodwill. These data have been copied from the notarial acts of incorporation. For the years up to 1904, however, these additions are far from complete. The distribution of these data is very lopsided but they are most complete around 1900–1904. Therefore, the volume of founders' capital therefore can only be indicated by proxy.

Between 1890 and 1905 the average founders' capital varied between 25 and 35 per cent of average nominal capital of corporations with recorded founders' capital. The rise indicated after 1905 is probably due partly to biased sampling. Therefore, one may conclude that on average founders' capital was approximately one-third of aggregate nominal capital. However, the percentage of founders' capital varied widely swinging from zero to hundred per cent.

Bond capital was not very widespread. In 1893 only about 17 corporations had issued bonds with an accumulated value of 160 million guilders. These figures, however, increased five-fold within a decade. This sudden increase of aggregate bond capital should be attributed to the increase in numbers of corporations issuing bonds, as average bond capital rose only about 10 per cent. During the next decade the issuing of bonds stabilized. The decrease of companies issuing bonds was apparently offset by an increase in the average volume of bonds.

The *Handboek* data on reserves are rather unsatisfactory. Therefore, disappointingly little can be said about overall levels of re-investments. Relatively few corporations published figures on reserves and the published figures no doubt grossly under-represent actual reserves. Yet, assuming that the figures have been recorded in a systematic way, these data may provide some additional evidence.

Between 1890 and 1900 the number of corporations which published reserves rose from 10 to 50. In 1904 the number of these companies jumped to 100 and to almost 200 in 1913. In the first decade average reserves dropped by 50 per cent, but in the second decade both total and average reserves increased to their former levels of 0.3 million guilders. Thus, accumulated reserves increased little before 1904. After that year they surged forward. However patchy data on reserves may be, 1904 stands out clearly as a turning-point between depression and recovery.

The *Handboek* lists the names of the plantations owned or managed, if any, for each corporation. The number of estates mentioned has been entered in the

dataset. Of course the plantations may have been of different sizes.¹⁰ Thus 'number of estates' does not provide very exact figures. Nonetheless it may indicate some trends and variations.

The number of estates owned by corporations rose from 1500 about 1890 to 2500 in 1913, an increase of 66 per cent. This growth was due largely to the rising number of corporations, the average number of plantations rising from 1.6 to 1.9 (about 20 per cent). The distribution of the number of estates was heavily skewed. In 1913 1295 corporations held estates, 62.5 per cent owned just one estate, less than 10 per cent held more than three while five corporations controlled more than 20 estates.

The degree of concentration has been computed as a Gini-index and as a mean deviation index.¹¹ The overall trend was towards greater disparity between small and big business. However, during the periods 1863–1872, 1883–1892 and 1903–1912 this tendency was offset by the foundation of relatively large number of medium-capitalized corporations.¹² The degree of concentration may have become more intense because of two opposite tendencies: a more than proportionate increase of either very small units or very large units. The long-term development of concentration therefore can be properly interpreted only in combination with the tables in Appendix 2 and Appendix 3. These tables summarize how many firms of different capital size were established or were liquidated in each decade. Table 2 shows that incorporation was basically a top-down process, *i.e.* incorporation started with large companies (like NHM) and then spread to companies of lesser size. This interpretation is corroborated by the trend of average capital, presented above.

Investment by sector

Sectoral disaggregation of the cumulated time series data on paid-up capital reveals clear-cut patterns of continuity and change. The numbers of both banks and transport corporations increased fairly slowly. Mining corporations rose to just over 200 about 1904, and then decreased slightly. Manufacturing and trade showed a persistent growth. Agriculture increased from almost 400 corporations in 1893 to 800 in 1906 and well over 1100 in 1913.

As incorporation was adopted by small-scale companies average capital of trading companies decreased from 500.000 to 250.000 guilders. Average paid-up capital was fairly stable for manufacturing (about 0.2 million guilders) and financial corporations (between 1.5 million and 2 million guilders). Agricultural corporations incorporated 0.5 million guilders on average. In the transport sector average capital rose about 80 per cent, in mining 100 per cent. As a result,

¹⁰ A separate section in the *Handboek* deals with plantations in great detail.

¹¹ The Deviation Index is computed as the mean of residuals from estimating capital from rank under the assumption of perfect equality.

¹² Calculations of concentration indices at disaggregated levels are not presented here.

the sectoral composition of corporate capital investments changed dramatically within two decades.

Total paid capital increased steadily in most sectors. Investment in mining and in agriculture, however, deviated from this smooth pattern of growth. As for mining, there were leaps in the late 1890s, around 1907 and again around 1912. After 1909 investment in agricultural corporations accelerated spectacularly, reinforcing the orientation towards primary goods.

Founders' capital was very significant in the agricultural sector (1900: 500 corporations) and was also not insignificant in mining (200), manufacturing (220) and trade (140). However, in trade and manufacturing the average amount of founders' capital was low. The bulk of founders' capital therefore was invested in mining and agriculture. The reason is obvious: in both sectors attracting capital was conditional upon the prospects for readily profitable exploitation.

Reserves were recorded mainly by banks (40 in 1913) and by agricultural corporations (100 in 1913), and they published higher amounts of reserves as well. Therefore, what has been said about aggregate reserve, applies largely to banking and agriculture.

About 1893 bond capital had been issued by several companies in all sectors, but to a varying degree. After that year, bonds were issued mainly by 60-odd agricultural corporations and about 20 transport companies. By contrast the average amount in agriculture was fairly limited (about 0.2 million guilders). The upshot was that in 1913 the bulk of bond capital was issued by transportation companies.

The number of companies in exploitation rose at the same rate as the number of agricultural corporations, as their average number of estates only rose from 1.8 to 2. Banks also controlled estates, either as owner or by commission. The average number of plantations controlled by banks was between 6 and 19.

Investment by location

Average paid-up capital of Netherlands-based corporations was one million guilders and after 1905 this increased to one and a half million guilders. Average capitalization of Java-based firms, on the other hand, decreased steadily from about 0.35 million guilders in 1893 to 0.25 million guilders. As a result, growth of colonial corporations in the Netherlands and in Java in terms of paid-up capital reflected a reverse image of growth in terms of numbers. Thus at the aggregate level, Java-based capital increased fourfold, from 100 million to 400 million guilders whereas Netherlands-based capital increased almost fivefold from about 220 million to about one billion guilders.

The volume of paid-up capital of corporations with situated in the Outer Islands increased slowly but steadily. Yet, it remained insignificant in terms of both numbers and average capitalization. Foreign-based corporations were relatively large, as average capitalization fluctuated about the 1.5 million guilder level. As their numbers increased sharply after 1908, their aggregate paid-up capital was about half of total Netherlands Indies-based capital.

Levels of average founders capital varied correspondingly. For corporations in the Netherlands it was about 0.4 million guilders¹³, in Java 0.2 million guilders and in the Outer Islands 0.1 million guilders. As a result, the aggregate level of founders' capital in the Netherlands Indies was consistently considerably lower.

The number of corporations with data on reserves is about equal for the Netherlands- and for Netherlands Indies-based reserves. For both categories, the average level of reserves appears to have been reasonably constant, the Dutch level being at 0.5 million guilders and the Java- located corporations at 0.15 million guilders. Thus, the rise of aggregate reserves was due almost completely to increasing numbers of corporations publishing reserves.

Bond capital was much more important in the Netherlands than in the Netherlands Indies, in terms of companies issuing bonds as well as in terms of average bond capital. A few foreign corporations also issued bonds in large quantities.

In 1893, about 310 Netherlands-based corporations controlled 600 estates, while 600 Java- based corporations controlled just over 800 estates. In 1913, about 670 Java-based corporations controlled 1100 estates, but some 500 Dutch corporations even more (about 1150). There are two reasons for reversal. First, the number of Dutch corporations owning estates increased at a higher rate. Secondly, during the period under consideration the average number of estates was always higher for Netherlands-based corporations.

Investment by nationality

Average paid-up capital of Dutch European combinations trebled to one and a half million guilders in the decades under discussion. Therefore, in terms of volume of investment in 1913 these combinations ranked almost equal with other Dutch and European companies. Overseas combinations were far smaller, although the average size doubled from 0.25 million to 0.5 million guilders. Average capitalization of Indonesian corporations decreased steadily (from over 0.25 million guilders in 1893 to below 0.2 million guilders in 1913) because of the proliferation of ever smaller corporations.

On average founders' capital in all three categories under discussion remained at the same low level of 0.1–0.2 million guilders. This is well below the overall average. As percentages of founders' capital did not differ significantly, this must be explained by the smaller volume of investment of overseas combinations. Data on bond capital and reserve capital are too patchy to allow comparisons. The average number of enterprises in exploitation was 1.6 for Dutch–European combinations until 1905. After that year it rose to 2.4. Overseas combinations owned on average 1.8 enterprises but after 1910 this figure increased to 2.1.

¹³ The rise in Dutch average founders' capital after 1906 is due to a sample bias. Founders' capital of foreign-based firms is not discussed because the lack of data defies comparison.

Investment by origin

Average paid-up capital of former firms, estates and concessions was below overall average paid-up capital while for former corporations it was slightly above average paid-up capital. However, after 1906 average capital of former concessions more than doubled. This may be explained by two simultaneous developments: successfully incorporated concessions extended capital. Unsuccessful concessions were shaken out.

Remarkably, the average founders' capital for all types of origin was much the same: below 0.5 million guilders in 1890 and still below 0.8 million guilders in 1913. This suggests that incorporation was a prerequisite for capitalization beyond this limit.

Reserves have only been recorded for near-fifty incorporated estates, for twenty former firms, thirteen incorporated concessions and three former corporations. The level of average reserves appears to have increased slightly for all four categories. The level of reserves was highest for incorporated estates (150,000–250,000 guilders). Reserves of former firms were on average between 70,000 and 170,000 guilders.

Bond capital was issued in significant quantities mainly by former estates and concessions. Both average and cumulated bond capital of these categories decreased. Thus, bonds were issued for raising additional capital as part of the conversion to corporation. As these loans were gradually redeemed in the ensuing years, these corporations may have generally preferred other ways of acquiring capital or re-investment of profits.

4. Valuation of investment

Data on stock market values are available for a relatively small subset of colonial companies. According to the *Handboek*, the number of corporations with stock market quotation rose from 125 in 1893 to 250 in 1913. As the *Handboek* entry is called the 'last-known stock market value' (*laatste koers*), listed values may refer to different points in time. Occasionally the sources of the valuation are given in the *Handboek*. The most important sources are: Amsterdamsche Beurs, Weekblad voor Incurante Fondsen, Weekblad van de Commissie bank, Handelsvereniging Batavia, Nederlandsch-Indisch Effectenblad, Weekblad Broekman & Honders.¹⁴

Market value of corporation with stock market quotation has been computed by multiplying paid-up capital with exchange rate. Average market value has been computed as the ratio of aggregate stock market value and number of corporations actually quoted. From 1893–1904 the average stock market value was just under 2 million guilders but rose to 5 million guilders in 1913. Average

¹⁴ Generally, quotations from these sources issued in October to December of the preceding year have been entered.

stock exchange rate (without being weighted by volume of paid-up capital of the corporations) was about 120 in the years 1893–1905 but rose to about 150 in 1913. Variability of exchange rates (computed as standard deviation) rose accordingly, which indicates that the market values of some companies rose more than others.

In order to calculate fluctuations within a year, both the lowest and the highest quotation in each year of companies with quotation on the Amsterdam Stock Exchange have been added for the years 1893–1894 and 1897–1913. The number of colonial companies quoted rose from about 10 in 1893 to just over 160 in 1913. Because this dataset is somewhat smaller a different pattern emerges from these computations. Leaving aside the scanty pre-1897 data, the average market valuation of paid-up capital was about 5 million guilders between 1894 and 1905 and rose to about 7 million guilders in 1913. This is clearly higher than the *Handboek* data, because the *incourante fondsen* (which generally were weaker) have been left out. Both sources, however, clearly reveal that average valuation was initially virtually constant until 1903/04, after which it increased strongly.

Fluctuations in aggregate market value were greater after 1904. This is corroborated by the fact that average fluctuations from 1904–1906 onwards were clearly greater than in the preceding decade.¹⁵ Therefore the greater fluctuations cannot be explained by the increase in the number of corporations quoted.

Valuation by sector

The number of corporations with stock market quotation was quite stable for most sectors. The figures are:

- for both trade and manufacturing: about 10 in 1913;
- for banking, transport and mining: about 40 each in 1913;
- the number of agricultural corporations increased from 45 in 1893 to 120 in 1913.

The breakdown of valuation by sector does not reveal any dramatic deviations from the overall trend of aggregated stock market value of colonial capital. The average stock exchange rate was almost consistently highest for agricultural companies. Transport was marked by a stable high level. After 1904 there was an upward trend in all sectors. Mining is the remarkable exception. This is due to the many failures in this sector (as well as to the calculation of simple rather than weighted averages).

Within-sector variability of market value of shares shows two contrasting trends. First, the variability within finance, transport, trade and manufacturing converged to the same level: a standard deviation of 50. Variability was much higher for both mining and agriculture.

In calculating lowest and highest market values of paid-up capital it is striking that until 1907 total stock market value of mining companies was below the

¹⁵ The 'Average Fluctuation Index' (AF) has been calculated while controlling the level of marked value: $AF = (\text{highest rate} - \text{lowest rate}) / \{(\text{highest rate} + \text{lowest rate})/2\}$.

total stock market value of either banking, transport or agriculture. After 1907, however, the value of the former surpassed the value of all the other sectors combined. This applies only to corporations with stock market quotations, not to the cumulated market value of complete sectors.

The index of the average fluctuation of market value clearly indicates that share values in both the mining and the agricultural sectors were more volatile than in other sectors. Mining fluctuated about 50 per cent, followed by agriculture with 40 per cent. The others sectors fluctuated around the 20 per cent level. The difference may be explained by the fact that agriculture and mining were more susceptible to fluctuations in both production volumes and market prices.

Valuation by location

The level of average stock exchange rate, as mentioned in the *Handboek*, was clearly different for each type of location. The rank order appears to have been fairly constant. In descending order this was: foreign-based¹⁶, Java-based, Netherlands-based and Outer-Islands-based corporations. The same ranking applies to variability, although the variability of Java-based corporations showed a marked increase.

However, the average market value of Java-based corporations was only one-fifth in 1893 and one-tenth in 1913. Aggregate market value of Netherlands-based corporations increased almost sixfold from 200 million to over 1100 million guilders. The stock market value of the Java-based corporations never exceeded the 150 million guilder level.

The smaller set of data on lowest and highest exchange rates per corporation per year basically yields the same results. Both lowest and highest rates were practically the same for Netherlands- and Java-based companies until 1911. In 1912 and 1913 Dutch-based corporations were on average more highly valued than Java-based companies. The index of average stock market fluctuations clearly indicates that fluctuations became more marked for both categories. Before 1905 shares of Netherlands-based corporations fluctuated more than those of Java-based firms but after 1909 it was the other way round.

Valuation by nationality

Exchange rates have been recorded for only a few of the combined corporations in the Netherlands and in the Netherlands Indies, and for none of the Indonesian corporations. Their aggregate exchange market value was insignificant, as average stock exchange rates were clearly far below the overall average. Both variability and average fluctuation however, were relatively high, especially for overseas combinations. Comparisons are hard to make as these computations pertain to relatively small sets of companies.

¹⁶ For foreign-based companies data are recorded only from 1902 onwards.

Valuation by origin

According to the *Handboek* the average stock exchange rate of corporations of all four categories did not differ significantly. However, the variability of incorporated concessions was consistently higher from 1896 onwards and from 1907 onwards the standard deviation was about 200. This category, therefore, was marked by a strong contrast between many utter failures and a few spectacular successes. These successes made for a sixfold increase of average stock market value of incorporated concessions within half a decade, from 2 million guilders in 1906 to 12 million guilders in 1913. The average market value of the other categories remained somewhere between one and two million guilders.

From about 1898 onwards more than 30 converted corporations were quoted on the stock exchange. By 1913 this number had doubled. Most of these companies were former estates and concessions. The index of average fluctuations of stock market values conformed to this overall trend. However, the level of average fluctuations was in the 30–60 per cent range, which was well above the overall level of fluctuations.

5. Proceeds from investment

Proceeds from investment accrued from either dividends on shares or from interest on debentures. The *Handboek* explicitly mentions dividend per year for about 110 corporations in 1889 and about 380 in 1913. It is assumed that dividends were paid only on paid-up shares. The total sum dividend in the decade 1893–1902 barely rose above the initial level of 20 million guilders but went up sharply in the next decade, the highest amount being 160 million guilders in 1913. This spectacular rise was due mainly to a rise in the average amount of dividend per corporation and to a lesser degree to a rise in the number of dividend paying companies.

It is more convenient to present the return on capital in percentages but this is somewhat complicated for two reasons. First, it is misleading to simply compute average dividends, as a dividend of 10 per cent of a small company is not comparable with 10 per cent of a major company. In order to obtain a percentage of returns on unit paid-up capital, we have computed weighted means. The second problem springs from missing data. For most companies in most years no dividends are mentioned. Yet it seems highly improbable that the overwhelming majority of companies paid no dividends at all.

This problem of the missing data cannot really be solved. Therefore estimates of return on unit capital will be made on different assumptions. First, the missing dividends are assumed to be zero dividends, *i.e.* the denominator of the ratio is the total number of existing corporations. Second, missing dividends are taken to be really missing, *i.e.* as unknown. The denominator of the ratio is the number of companies for which in that particular year some dividend has been recorded (of course valid scores may include zero dividend). It goes without say-

ing that the first assumption will yield a much higher estimate than the second assumption. Both assumptions, however, are not quite realistic. Therefore a third estimate is made on the assumption that missing scores are zero scores if, and only if, a dividend was ever recorded for a company in any other year. The third estimate is probably the best approximation. The first and second estimates thus delimit the range of any plausible estimate.

All estimates indicate that dividends remained at about the same level until 1902 but between 1902 and 1907 distributed returns on capital rose sharply. After some decrease between 1907 and 1911, dividends picked up to an unprecedented level. The 'best' estimate indicates that dividends before 1902 were between 5 and 7 per cent, which is fairly modest. After 1905, however, the average distributed return on capital was well over 10 per cent.

Finally, in addition to dividends, proceeds from debenture interest have been estimated. The rate of interest was almost invariably 4 per cent. Therefore the amount of interest rose from slightly from over half a million guilders in 1893 to about 4.75 million guilders in 1913.

Proceeds by sector

In this section the level and trend of return on unit paid-up capital in each sector will be compared with the overall level and the trends as discussed above. This is a way of comparing the categories indirectly. Returns on unit capital varied markedly and consistently across the main sectors of the colonial economy. Therefore, they can be summarized neatly.

Trade yielded returns on paid-up capital of between 2.5 and 6 per cent, which was consistently below average. Its trend was slightly downward until 1902 and slightly upward afterwards.

Manufacturing exhibits the same pattern of level and fluctuations. Minor deviations pertain to some short-term fluctuations, both before and after 1902.

The returns of agricultural corporations followed the general pattern of long- and short-term fluctuations. Their wave lengths, so to speak, were identical but their amplitudes were with higher crests and deeper troughs.

The trend of the returns on investment in transport closely resembled the general trend. However, recovery after 1902 lagged one year behind and before 1902 its level was consistently below the overall level. After this turning-point its increase to the 7-9 per cent level remained below overall average.

Returns on investment in banks and insurance also fit the general trend. Some deviations are conspicuous: the trough about 1895 was deeper, recovery after 1902 was quicker and the recession after 1905 was more severe. The rate of returns was on below average on the whole.

For mining the year 1902 appears to have marked a turning-point between the downward and upward long-term trends. Even so, mining conforms to the overall pattern much less clearly. Short-term fluctuations before 1902 deviated in some years from the overall pattern, the simplest explanation being that this branch of manufacturing had its own ups and downs (partly determined by the

success of explorations as in Perlak in 1896). After 1902 short-term fluctuations conformed somewhat better. The level of returns was consistently (much) above average (with the possible exception of 1898).

Ever since 1893 the average paid dividend was highest for mining companies. After 1902 it rose to one million guilders in 1905 and 3.5 million guilders in 1913. Indeed, from 1907 onwards the sum dividend paid by mining corporations surpassed the sum dividend of any other sector.

Proceeds by location

The estimates of the return ratio of Netherlands-based corporations is almost identical with the overall return rates. However, in most years it was slightly higher. The trend of the best estimate for Java-based corporations was also very similar to the overall trend. In most years the returns of corporations in this category fell 1 or 2 per cent below overall returns. In 1913 they fell by as much as 5 per cent. The return rate of corporations in the Outer Islands dropped behind. It reached the 5 per cent level in only 6 out of 25 years. Moreover, its ups and downs seemingly did not coincide with the overall pattern of both long- and short-term fluctuations.

Finally, the rate of return of foreign-based corporations by and large also fell below the average level. Nonetheless its peaks in 1889, 1897, 1901 and 1906 were better than average. Its fluctuations, lagging somewhat behind and being somewhat wilder, were not essentially different from the overall development of return on capital.

Proceeds by nationality

Dividends of Indonesian–Chinese corporations have been recorded in only a very few instances. Estimates of the rate of return per unit capital for combinations in both the Netherlands and in the Netherlands Indies much below overall average. However, these data are not very helpful in assessing financial turnout. Most of the combinations had been incorporated only recently. Indonesian–Chinese business profits seem to have been distributed in a different way. Data are too patchy to allow for general assertions. However, it seems probable that the return rate on average was below the overall return rate.

Proceeds by origin

The breakdown of average dividends paid on capital by type of origin does not reveal deviations from the overall long-term trends and short-term fluctuations. However, there were marked differences in the level of proceeds. The average level of dividends was lower for incorporated firms and for re-established corporations. For former estates, the level was lower before 1902, and higher from that year onwards. The same applies to incorporated concessions. However, these variations can be explained by the differences between sectors, as differen-

ces in level within a sector between new ventures and continued enterprises are not very significant.

From 1902, but even more markedly from 1905 onwards, the average amount of distributed profits for former concessions rose very sharply which contrasts conspicuously with the very moderate increase in the other categories. Therefore, the sharp increase of distributed profits at aggregate level should be attributed to incorporated concessions (mining) almost exclusively.

6. Conclusion

The procedure adopted in presenting our survey of basic data on colonial corporations has been simply breaking down aggregate time series data by several 'static' characteristics of colonial corporations. Disaggregation easily runs the risk of being carried too far. As data become more detailed, description inevitably grows laborious. Moreover, association between variables can only be explored at bi-variate level. Yet, the distributions over locations, nationalities and sectors are not statistically independent. Trends, fluctuations and interactions can scarcely be identified with the unaided eye. In order to proceed beyond the present impressionistic description one cannot dispense with the more sophisticated techniques for multivariate and time series analysis. There is also a definite need for analysis of spatial differentiation and integration by locational and network analysis. For the present, we will pick up the pieces by summarizing some major findings.

The colonial economy had already reached adulthood, if not real maturity, before World War I. From the 1880s onwards the corporation became the dominant form of organization in private enterprise, although to a large extent incorporation was the conversion of previous ventures. If the expression *Gründerzeit* makes sense for the initial period of colonial Indonesia at all, it should be reserved for the 1870s or 1880s, while the prosperous era of the 1920s might be labelled the 'Indian summer' of colonial capitalism (cf. Lindblad, 1993: 704).

There was a marked tendency towards sectoral differentiation, as nearly every decade witnessed the rise of new sectors. Yet, agriculture remained, in terms of both numbers and volume of investment, by far the most dominant sector throughout the period and this was even reinforced by the rise of rubber companies after 1908. Mining assumed a very important position in the last decade of the nineteenth century, not least because of its dynamics. Modern industries and factories were conspicuous by their absence. The export orientation was and remained the most striking feature of the colonial economy.

From a spatial point of view, two tendencies deserve mention. In terms of sheer numbers, Netherlands-based corporations became relatively less dominant as a result of the marked increase of corporations based in Java (since the 1890s), in the Outer Islands (especially in 1900s) and in other Western countries (from 1910 onwards). Thus there seems to have been a shift both towards the colony and towards internationalization. Yet, the position of the Dutch

remained very strong in many respects: Dutch corporations provided the lion's share of aggregate investments. Their corporations were stronger in terms of average paid-up capital, of number of plantations, of market value and of proceeds from investment.

From a temporal point of view, turning-points could be identified in both long- and short-term fluctuations. The long-term turning-point about 1902–1904 coincided for trends in investment, reserves, market values and distribution of profits. Moreover, this turning-point is apparent in most sectors at the same time. Even many short-term fluctuations appear to have been simultaneous. This seems to suggest that the colonial economy before World War I already had become interrelated to a significant degree. An alternative, and more realistic, interpretation may be, that economic life in all major colonial sectors pulsated to the heart beat of the world market.

There can be little doubt that Dutch enterprise, incorporated and otherwise, by its sheer size, structure, cohesion and impact created something which may be labelled a Netherlands-Indies economy. Was it already a national economy, or was the formative stage of the national economy of modern Indonesia? Or was it to all intents and purposes primarily a colonial economy? The answer to this question of course depends on the meaning of national. Here, two approaches can be discerned.

The first approach rests ultimately on the idea that any truly national economy should meet at least some quantifiable criteria, like the ratio of external and internal exchange, patterns of external trade, the internal pattern of exchanges between centres and peripheries, some balanced sectoral structure, infrastructural integration, and so forth. From this point of view, the economy of colonial Indonesia had already developed into an entity with its own identity at the turn of the century.

The second approach does not take a set of objective and quantifiable indicators as its point of departure, but departs from the social and political meaning which lies at the very heart of the concept of nationalism. From this point of view, it seems rather odd to apply the concept 'national' to the economy of a colonial state which was essentially alien and hostile to any kind of nationalism within the colony. Hailing either Daendels or Raffles or Van Heutsz as 'the founder' of modern Indonesia might easily be misunderstood as verging on colonizing Indonesian history. Certainly the Dutch were instrumental in creating (or rather superimposing) a politico-geographical entity and material infrastructures. However, these have not simply been continued by the Indonesian Republic, as decolonization was marked by discontinuities not just in political but also in economic respects.

Yet it remains a moot point to what degree a 'national' economy in the political sense may be viable and crisis resistant in the long run, if it does not conform sufficiently to the objective standards of a 'national' economy. This question is particularly relevant to Indonesia. Problems of state formation and nation-building therefore should be included in the discussion of the emergence of a national economy, in the past as well as the present.

Appendici

Appendix 1. *Divisions and subdivisions of sectors.*

Agriculture

Coffee and tea

Sugar

Tobacco

Rubber

Forestry

Other

Trade (= commerce)

Banks

General banks

Agricultural banks ('cultuurbanken')

Credit banks

Savings banks

Insurance

Transport

Steamshipping

Coastal shipping

Port companies

Railways

Other

Mining

General mining

Oil

Exploration

Gold, silver

Coal

Tin

Manufacturing

Factory

Trade/shop

Appendix 2. *Capital by decade of establishment.*

Numbers

	Founders' capital (mill. guilders)					Total
	< 0.5	0.5-1	1-2	2-4	> 4	
1823-1842	0	0	0	1	2	3
1843-1852	0	0	1	2	0	3
1853-1862	5	2	2	6	0	15
1863-1872	4	2	4	2	5	17
1873-1882	44	13	5	4	1	67
1883-1892	310	83	33	14	7	447
1893-1902	911	126	62	23	8	1130
1903-1912	1610	216	117	53	27	2023
Total	2884	442	224	105	50	3705

(96 missing)

Appendix 2 (Continued)

Percentages

	Founders' capital (mill. guilders)					Total
	< 0.5	0.5-1	1-2	2-4	> 4	
1823-1842	0	0	0	33.3	66.7	0.1
1843-1852	0	0	33.3	66.7	0	0.1
1853-1862	33.3	13.3	13.3	40.0	0	0.4
1863-1872	23.5	11.8	23.5	1.8	29.4	0.5
1873-1882	65.7	19.4	7.5	6.0	1.5	1.8
1883-1892	69.4	18.6	7.4	3.1	1.6	12.1
1893-1902	80.6	11.2	5.5	2.0	0.7	30.5
1903-1912	79.6	10.7	5.8	2.6	1.3	54.6
Total	77.8	11.9	6.0	2.8	1.3	100.0

Source: *Handboek*, 1888-1913.

Appendix 3. Capital of liquidated corporations by decade.

Numbers

	Founders' capital (mill. guilders)					Total
	< 0.5	0.5-1	1-2	2-4	> 4	
1863-1872	0	1	1	0	0	2
1873-1882	3	1	1	1	0	6
1883-1892	36	9	4	2	1	52
1893-1902	185	36	15	7	1	244
1903-1912	629	69	33	14	5	750
Total	853	116	54	24	7	1054

(2747 missing)

Percentages

	Founders' capital (mill. guilders)					Total
	< 0.5	0.5-1	1-2	2-4	> 4	
1863-1872	0	50.0	50.0	0	0	0.2
1873-1882	50.0	16.7	16.7	16.7	0	0.6
1883-1892	69.2	17.3	7.7	3.8	1.9	4.9
1893-1902	75.8	14.8	6.1	2.9	0.4	23.1
1903-1912	83.9	9.2	4.4	1.9	0.7	71.2
Total	80.9	11.0	5.1	2.3	0.7	100.0

Source: *Handboek*, 1888-1913.

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