

Colonial Business Indonesia: Source, Data base and Analytical Tools

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1 Introduction

This paper offers a detailed introduction to the data base ‘Colonial Business Indonesia’, its underlying primary source and suggestions about how to use it for analytical purposes in the study of the economic history of Indonesia during the late colonial period. The underlying source is entitled *Handboek voor Cultuur- en Handelondernemingen in Nederlandsch-Indië* (‘Directory of Cultivation and Trading Companies in the Netherlands Indies’). It was published in annual issues from 1888 up to 1940 by the publishing firm J.H. de Bussy in Amsterdam. The data base ‘Colonial Business Indonesia’ was constructed in the framework of the research program ‘Foreign capital and colonial development in Indonesia’, financed by the Netherlands Organization for Scientific Research (Nederlandse Organisatie voor Wetenschappelijk Onderzoek, NWO) and executed at Leiden University in the years 2012-2016.¹ The data base contains information on all firms listed in eight selected years: 1910, 1915, 1920, 1925, 1926, 1930, 1935 and 1940. The data base is accessible at www.colonialbusinessindonesia.nl.²

This paper consists of three sections focusing on respectively the original source, the current data base and tools for analysis. The first of these sections incorporates information about the publisher of the source as well as a brief history of previous ventures to process the data. In the next section, a survey is given of the current data base, including specifications of all variables used and information on choices made at construction so as to ensure consistency. The third and final substantive section surveys a number of methodological issues that may rise when applying the statistical information contained in this data base.³

I express my sincere hope and expectation that the data base ‘Colonial Business Indonesia’ will prove useful to students of the economic history of Indonesia in the late colonial period, inspiring users in Indonesia, the Netherlands and elsewhere.

¹ For a final report on this research program, see J. Thomas Lindblad, ‘Foreign capital and colonial development in Indonesia: A synthesis’, *Lembaran Sejarah* (forthcoming).

² The data base was constructed over the years 2012-2016 by my then assistants Thomas de Greeve, MA, and Jelmer Puylaert, MA, at the time students at the Department of History of Leiden University.

³ I benefitted in particular from the experiences of two erstwhile intensive users of the data base: Pierre van der Eng (Australian National University, Canberra) and Mark van de Water (PhD student at Leiden University).

2 The *Handboek*

This section deals with the publisher, the publication itself and the early history of using the statistical data, in that order.

2.1 The publisher

The publishing firm was originally founded in 1868 as a bookstore in the provincial town of Veenendaal in the eastern part of the Netherlands. From 1880 onwards, the firm was known by the name of its founder, J.H. de Bussy. After a few years the firm moved to Amsterdam, from 1883 maintaining headquarters at Rokin in the city center and printing facilities at the corner of Rustenburgerstraat and Kuiperstraat in the southern part of the city. The label *Firma J.H. de Bussy* was in use from 1890 and in 1920 the firm was incorporated as a limited liability company under the name *N.V. Drukkerij en Uitgeverij J.H. de Bussy* ('Printing and Publishing Company J.H. de Bussy, Ltd.'). In 1968 the firm merged with the publisher Ellermans Harms and ceased to operate as an independent entity after a full century. Final liquidation followed in 2004.⁴

The firm was founded and throughout decades run by Jacob Herman Le Cosquino de Bussy, known under his pet name 'Koos' and aged twenty at the time of the firm's establishment. He was born in Utrecht in 1848 as one of seven sons of Louis Philibert Le Cosquino de Bussy (1812-1892), a board member of the Utrecht Trading Society ('Handels Sociëteit'), and his wife Constantia Elisabeth Wenink (1815-1910). He married twice, in 1882 with Elize Anne Theodora (Anny) van der Goot (1856-1904), and in 1905 with Lientje (Lien) Kruijsse (1858-1937). From his first marriage he had five children, of whom one son and two daughters reached adulthood. In 1907 he was succeeded as the firm's director by his son Constant (1883-1954). He passed away, aged sixty-nine, in 1917. In 1954, his grandson Jacob Herman Le Cosquino de Bussy (1923-1984) represented the third generation of the De Bussy family at the helm of the company.

Family relations played an important role in the firm's operations, on occasion adding an international dimension. The founder's daughter Wies (1885-1913), for instance, married a German printer, Jacob Rittershaus (1876-1963), who as her widower served as a member of the board. The founder's son Constant married Anna Maria van der Lelie (1888-1954), who had previously been married in Pretoria,

⁴ Information on the firm's history from: Stadsarchief [Municipal Archive] Amsterdam: No. 1005. Archief de Bussy Ellerman Harms.

where the firm's affiliate H.A.U.M. ('Hollandsch-Afrikaansche Uitgever-Maatschaapij') was located. The founder's younger brother Louis Le Cosquino de Bussy died at the age of twenty-nine in Loemadjang in Java. One of his several nephews, Louis Teengs, died, aged twenty-four, in Klerksdorp, not far from Pretoria. Another nephew, Louis Philibert Le Cosquino de Bussy (1879-1943), who himself was the son of a Mennonite clergyman, devoted himself to agricultural science. He got his PhD at the age of twenty-five at the University of Amsterdam, worked first as a director of the *Deli Proefstation* in Medan in North Sumatra (Deli Institute for experimental research), then as a department head at the Royal Tropical Institute in Amsterdam (Koninklijk Instituut voor de Tropen, KIT). In 1925 he was appointed extraordinary professor in tropical economy, in particular tropical cultivations, at the University of Utrecht.

2.2 The publication

The first issue of the *Handboek* appeared in 1888. The publisher's introduction is worth quoting at some length:⁵

‘With this issue we bring into public a volume, that only at great effort and cost could be realized, of which we hope that those concerned will acknowledge it as useful and reliable. Only with subscription and co-operation by many will we be able to continually bring out new, improved and appended issues that we imagine will prove to be of great utility for all who in one way or another are engaged in trading and cultivation firms in the Indies. We politely commit ourselves to do this. Our intention is, if possible, to offer a new issue every year, which is also a directory of addresses for all those, who occupy an important position in trading and cultivations in the Indies; whilst we envisage at a later stage a separate publication with telegraphic codes to be used in mutual contacts between those concerned in the Indies as well as between the Indies and the Netherlands and foreign countries.’

‘A large number of banks and merchant houses, firms and traders have with the greatest obligingness supplied us with information and advice. Only in one single case did we encounter the reservation that publication of the desired information was not considered advisable. All others testified to their appreciation of this undertaking and offered the most pleasant co-operation. We also received much information from the Indies.’

‘We very well realize that much is missing in this issue and that various gaps and mistakes will be discovered. It could not otherwise have been possible at a first issue of a series like this one. Please do not

⁵ *Handboek voor Cultuur- en Handelsondernemingen in Nederlands-Indië* 1 (1888) vi-vii.

blame us too severely for this. We are confident that users also will acknowledge that we have done what we could.’

‘It goes without saying that, with the cheap price of this book in order to promote wide purchase and distribution, only a favourable progression of various issues will be able to compensate for the costs we have incurred.’

The publisher’s intention was clearly to supply the community of Dutchmen doing business in the Netherlands Indies with a comprehensive guide, an instrument that would further investment by private Dutch enterprises in the colony. Access was gained through a system of subscriptions and content was supplied by information sent in by subscribers. It was a commercial setup in which costs of production initially exceeding revenue. The very fact that the *Handboek* saw a total of fifty-two issues testifies to the long-run commercial viability of the venture.

In addition, the publisher admits that no information is given about the Dutch West Indies in this first issue, which will be remedied in the next issue. He further urges subscribers to use the attached standardized form to provide information for the next issue. These forms are due no later than by 15 October. He also offers a vote of thanks to H.Ph.Th. Witkamp, who spent much of his furlough in the Netherlands collecting and ordering the raw data for the publication. In the event, Witkamp was unable to do the final editing because of his departure to take up a position in the Moluccas.⁶

The attached standardized form was at this stage still very rudimentary. The form distinguishes between two categories: agricultural estates and private firms. The requested information on firms was of four types: (i) names of directors; (2) nature and aim of firm operations; (3) equity capital; and (4) ‘all that in a *Handboek* like this, for the benefit of those concerned, singularly would lend itself for inclusion’, a strikingly vague formulation.⁷

Subsequent prefaces without fail reiterated the publisher’s gratitude for the loyal co-operation by subscribers in supplying information about their companies. This was done on a strictly voluntary basis in overt or implicit appreciation that all stood to gain from as complete a coverage as possible. By providing the requested information, subscribers ensured the quality of the product they were paying for. At the same time, the voluntary nature of data collection also implied that firms would only supply the kind of information they wanted to share with the public. Profit rates, for instance, are never cited, but can only

⁶ Herman Philip Theodoor Witkamp (1853-1933) was a cartographer and an expert on codes. The second issue of the *Handboek* (1889) includes two maps of Bantam (now Banten) drawn by Witkamp, who later published a scientific article on the Banda islands.

⁷ Separate piece of paper inserted in *Handboek* 1 (1888). The requested information on agricultural estates was slightly more detailed, but is not of consequence here since the data base only covers the firms.

be inferred, with due caveats, from dividend rates that were publicly known anyway, nor is any information given about numbers of employees or scale of operations. Statistics on production are only given in the separate chapter on agricultural estates. This information can only with some effort be linked to individual companies.

Prefaces in subsequent issues are characteristically brief, invariably thanking loyal subscribers for their co-operation and requesting them to submit corrected or updated information, using the familiar standardized form. Readers' attention may be drawn to typographical improvements, for instance by highlighting the page number in the index where firm descriptions are found. Comments on content are hardly ever given, except an occasional mention of the number of new entries, for instance in 1910: about 50 new agricultural estates and 150 new firms.⁸ This also applies to comments on the economic situation and the world at large. In 1920, the preface signals 'energetic efforts of returning to previous avenues to developing the entire colony', the results of which show in the current issue.⁹ In 1940, fears are expressed that the 'disturbed and extended interruption of contacts with our overseas possessions' would preclude publication, which to the publisher's relief did not happen.¹⁰ Prior to 1920, prefaces are always signed by 'J.H. de Bussy', after the firm's reconstitution as a limited liability company with the full, official name.

In the course of the years, the directory was increasingly elaborated. Supplementary information deemed to be of interest to subscribers included lists of weights and measures, personnel at the colonial Department for Agriculture, Manufacturing and Trade ('Departement van Landbouw, Nijverheid en Handel') at Buitenzorg (now Bogor), personnel at institutions for agricultural and 'technical-colonial' education, Chambers of Commerce in the Netherlands Indies and the Netherlands, office addresses of firms (arranged by location in the Netherlands Indies), and the foremost representative offices of trading firms outside the colony. The number of advertisements increased over time. With an enlarged readership, the directory could serve as a convenient platform for paid publicity by private firms. Revenues from the *Handboek* project were thus twofold, from subscriptions as well as advertisements.

The main body of each annual issue contains two parts, one comprising all agricultural estates with information on location, administrators and production, the other devoted to incorporated private business enterprises. The firms in the latter chapter are arranged according to five broad categories: (A) Agriculture, (B) Trading (including transport), (C) Insurance, (D) Mining, and (E) Various enterprises.

⁸ *Handboek* 23 (1910), Voorwoord, iii-iv.

⁹ *Handboek* 33 (1920), Voorwoord, vi-vii.

¹⁰ *Handboek* 53 (1940), Voorwoord [unnumbered page].

The data base is confined to information in the latter chapter. Each annual issue covers about one thousand pages.

The *Handboek* is intended for limited liability companies, both joint-stock (*Naamloze Vennootschap*, N.V.) and private (*Besloten Vennootschap*, B.V.). This has important consequences for use of this source in the business history of colonial Indonesia as only firms in the modern sector of the economy sought such incorporation and ended up being listed in the *Handboek*. The directory contains only a small number of the several thousands of business enterprises owned or managed by indigenous Indonesian entrepreneurs. They did not seek the protection under Dutch law that incorporation offered. By contrast, businessmen of Chinese descent living in the colony increasingly came to appreciate the advantages of formal incorporation, possibly also of benefits in terms of networking from being included in a listing of all incorporated firms. As a result, the *Handboek* offers a nearly exhaustive coverage of foreign and Chinese business, yet an incomplete picture of the economy of the colony as a whole.

Incorporation of private enterprises took place under auspices of two Dutch laws of incorporation that were promulgated in 1837 (*Wetboek van koophandel*) and 1846 (*Wet van koophandel in Nederlandsch-Indië*) respectively. Subsequent protection under Dutch law implied, amongst others, that owners' liability was limited in the event of bankruptcy. It was also easier for an incorporated firm to get credit from banks. In addition, the owners could mobilize funds by issuing shares that were publicly traded.

Inclusion among all the other incorporated companies operating in the Netherlands Indies made a firm more widely known in the colony and may presumably have contributed to its reputation. The format of entries by firm was standardized by use of forms distributed by the publisher among subscribers. Contents are discussed in detail below.

The publication of the *Handboek* was met with unmistakable enthusiasm. It is instructive to quote in some detail from the only known review of the source itself appearing in a scientific journal:¹¹

‘With satisfaction we greet the publication of the second issue of this indispensable *Handboek*, for which we thank the enterprising publisher mister De Bussy at Amsterdam. We have repeatedly found that this book often fully meets continuous emerging demands for consultation when information is required about companies in the Indies as well as with respect to individuals affiliated with these companies. Only very recently it happened that we got a request from abroad concerning three individuals in the Indies with whom contact had been lost and of whom obviously only their names were known. Thanks to the

¹¹ ‘Boekaankondiging – Handboek voor Cultuur- en Handelondernemingen in Neerlandsch Indië. Tweede jaargang’, *Tijdschrift voor Neerland's Indies* [Fourth series], 18: 2 (1889) 151-153.

Handboek of De Bussy, in minutes we had the pleasure to discover that one of the three was in Paris, whereas of the other two, one was running a trading firm, the other an agricultural enterprise, in Java so that we could convey their addresses instantly. Saving time, difficulties, worries and inconveniences for everybody who in any way maintains connections with the Indies – these are the advantages offered by the *Handboek*.’

The review cites the hope expressed in the publisher’s preface that his efforts will ‘contribute to encouraging capitalists [in the Netherlands] not to refrain from investing their capital in the Indies’. The review concludes with a recommendation to the publisher, motivated by inclusion of the West Indies, to ‘seek to get information about all Dutch enterprises and trading firms in the whole world. Our enterprises on the east, south and west coasts of Africa, and branch offices of Dutchmen in Japan, America and elsewhere could then be included. Little by little, the *Handboek* would thus give a vivid and permanent impression of national enterprises in foreign countries. Possibly would then become apparent that the time-honoured Dutch enterprising spirit overseas is not as extinguished as sometimes claimed, but merely needs to be stimulated in order to stand up amidst the all too powerful attempts by surrounding nations to enlarge their share of world trade.’ These ambitious challenges were not taken up by J.H. de Bussy.

2.3 Early processing

The rich potential of the *Handboek* as a primary source in Indonesian economic history was first appreciated in the early 1980s by J.N.F.M. à Campo, a lecturer in history at the Erasmus University of Rotterdam, at the time preparing his PhD dissertation on the leading interisland shipping concern KPM (Koninklijke Paketvaart Maatschappij, Royal Packet Company) during the first quarter of a century of its existence, 1888-1914.¹² A Campo mentioned the great potential of this source to his PhD supervisor, Professor Cees Fasseur at Leiden University, who in turn alerted me. Independently of one another, A Campo and I began constructing data sets with the aid of diligent students of history at respectively Rotterdam and Leiden. Our approaches differed. A Campo chose to cover all issues within a restricted period during the first twenty-five years of the *Handboek*’s existence, whereas I confined myself to a small number of selected years during the period 1914-1940. In retrospect, our endeavours would probably have gained from co-operation.

¹² J.N.F.M. à Campo, *Koninklijke Paketvaart Maatschappij: Stoomvaart en staatsvorming in de Indonesische archipel 1888-1914*. Hilversum: Verloren (1992). English translation as *Engines of Empire: Steamshipping and State Formation in Colonial Indonesia*. Hilversum: Verloren (2002).

A Campo's data set contains information on 3801 companies listed in the *Handboek* between 1893 and 1913, an average of 190 per year, a far cry from the large numbers in later years. The statistical analysis embraces annual numbers of firms, also ranked by age, volumes of investment as inferred from reported equity, profitability as inferred from reported dividend payments, and stock market valuation as given in a small number of entries. Numbers, volumes of investment, stock market valuation and profit rates are differentiated by economic sector, location in the Netherlands Indies, and nationality. Most of the analysis required interpretation and further processing of the raw data, which invokes methodological issues that will be discussed in due course. A Campo signals two simultaneous trends in terms of corporate structure: an increasing internalization at Dutch firms in the colonial setting as well as an increasing internationalization. He concludes that 'Dutch enterprise, incorporated and otherwise, by its sheer size, structure, cohesion and impact created something which may be labeled a Netherlands-Indies economy'.¹³

My own first explorations in the late 1980s generated a data set based on five issues of the *Handboek*, those brought out in 1920, 1925, 1930, 1937 and 1940, comprising in total 14,006 entries, or an average of 2800 per year. The analysis was extended to cover economic structure, regional distribution, profitability and dependence on business cycles. Yet, outcomes were at best highly tentative due to the familiar bottlenecks in the determination of nationality and location as well as the lack of precision in financial information. Nevertheless, the analysis does demonstrate how the modern part of the colonial economy gained maturity during the interwar period, whilst also remaining susceptible to external influences from the world economy as illustrated by boisterous optimism in the early 1920s and the onslaught of the worldwide depression in the 1930s.¹⁴

A second attempt to tackle this rich but difficult to handle source followed in the early 1990s. My intention was to achieve accuracy in data entry, interpretation and analysis, albeit with a reduced size of the total population of firms involved. Three key years were selected, 1914, 1930 and 1940. In total 7,743 entries of individual firms were processed, an average of 2581 per year with largest numbers noted for 1930 and smallest numbers for 1940. Key variables in the analysis were nationality, regional orientation, location of headquarters, main location of operations, equity and average dividend payments, both of the

¹³ J.N.F.M. à Campo, 'Strength, survival and success: A statistical profile of corporate enterprise in colonial Indonesia, 1883-1913' [read 1893-1913], *Jahrbuch für Wirtschaftsgeschichte*, 36: 1 (1995) 45-74; 'The rise of corporate enterprise in colonial Indonesia, 1893-1913', in: J. Thomas Lindblad (ed.), *Historical Foundations of a National Economy in Indonesia, 1890s-1990s*. Amsterdam: North-Holland (1996) 71-94 [quotation on p. 91]. It is not clear whether A Campo's data set is still available.

¹⁴ J. Thomas Lindblad, 'Het bedrijfsleven in Nederlands-Indië in het Interbellum', *Economisch- en Sociaal-Historisch Jaarboek*, 43 (1991) 183-211; 'Foreign investment in late-colonial and post-colonial Indonesia', *Economic and Social History of the Netherlands*, 3 (1991) 183-208. See also my 'Ondernemen in Nederlands-Indië, c. 1900-1940', *Bijdragen en Mededelingen betreffende de Geschiedenis der Nederlanden*, 108 (1993) 699-710. The data set used for these articles is no longer available. It is superseded by the data base 'Colonial Business Indonesia'.

latter differentiated by industry in the colonial economy. Strong Dutch predominance in capital mobilization and management was reaffirmed as was the joint leading position of Batavia (now Jakarta) and Surabaya in the Netherlands Indies. Some in-depth examination was done with respect to 1930, in particular concerning equity and profitability, an exercise that highlighted the high stakes in the oil, sugar and rubber branches. It is instructive to quote the summary of findings in full:¹⁵

‘The liberal and ethically inspired colonial state in Indonesia offered a climate conducive for massive commitments by foreign capital investors eager to seize the opportunities in foreign export markets. The accumulation of FDI gave birth to a corporate network of an overwhelmingly Dutch flavor that spread out through the entire archipelago from its base in Java. The network combined a small number of large foreign-controlled firms with a large number of small enterprises with a high degree of local entrenchment. By virtue of its size and elaboration, the corporate network itself became the most lasting impact of FDI on the economic development of Indonesia. Its strong local orientation and high profitability held promises for future economic development of the host country economy but the two were not sufficiently linked. The network remained orange.’

The final word on what the *Handboek* had to say on corporate business in late colonial Indonesia still remained to be said. The issue of nationality had still not been satisfactorily resolved. Uncertainties still plagued the classification by economic branches. Inferred profit rates were in need of reinterpretation. The narrow base of only three moments of observation impaired possibilities for analysis by linking up with business cycle trends. Finally, the potentials of including also alphanumerical data such as personal names had not yet been exploited. For all the reasons, the data base ‘Colonial Business Indonesia’ had to be constructed with a wider coverage in terms of numbers of years and variables.

3 Colonial Business Indonesia

This section offers elaborations on the basic structure of the data base and the ways in which information in the original source was converted to fit the format of the data base. Separate attention is given to the important issue of firm identification.

¹⁵ J. Thomas Lindblad, *Foreign Investment in Southeast Asia in the Twentieth Century*. Basingstoke: Macmillan (1998) 68-83, quotation on p. 83. See also my ‘Foreign investment in Southeast Asia in historical perspective’, *Asian Economic Journal*, 11 (1997) 61-89. The data set used for these publications is no longer available. It is superseded by the data base ‘Colonial Business Indonesia’.

3.1 Basic structure

The primary record or basic unit of observation in the data base is the piece of information on one individual incorporated firm in any one of the eight years selected for processing. The same firm may thus appear at least once and at most eight times in the data base.

Processing began with a comparison between two adjacent years, 1925 and 1926. It then transpired that adding an adjacent year to a completed one generated little new information at considerable cost. This becomes important when considering financial constraints to the highly labour-intensive process of manual input.¹⁶ By selecting seven benchmark years, in addition to the odd one for comparative purposes, we seek to cover developments during the three final decades of effective Dutch colonial rule in Indonesia. The benchmark years at identical five-year intervals are: 1910, 1915, 1920, 1925, 1930, 1935 and 1940. The data base thus comprises these seven years with 1926 added. This has repercussions for the subsequent statistical analysis. Continuous time series requiring annual data cannot be constructed and will need to be replaced by comparisons between the seven selected moments of observation.

Although the issue of 1926 contains about ten per cent less firms than in 1925, 3275 against 3497 entries, most information for most companies remains identical. This prompted a method of input that makes maximum use of the information already entered into the data base. The year 1920 was thus built up from a copy of 1925, with necessary additions and deletions, as was 1930 with respect to 1926. This procedure was duplicated in constructing both the earlier and the later years. By applying this procedure, a considerable saving was realized.¹⁷

In total, the data base contains 22,471 entries, or an average of 2809 entries per year. The year with the largest number is 1920 with 3736 entries, the year with the smallest number 1935 with 1884 entries. The main trends – increase from 1910 to 1920, decline from 1925 to 1935, a slight recovery in 1940 – are reminiscent of the preliminary findings in early processing, yet more solidly substantiated.

The data base is set up as a spreadsheet with entries of firms in rows and variables in columns. For purposes of overview, the 16 variables are listed here with their fundamental characteristics:

A	Year	ordinal number as given for issue of source
B	ID number	assigned ordinal number for firm identity
C	Firm Name	qualitative variable as adapted from the source
D	Sector	assigned letter code
E	Branch	assigned letter code
F	Stated Aim	qualitative variable inferred from source

¹⁶ The option of full coverage was chosen when producing a microfilm copy of all 53 issues of the *Handboek* (Leiden University Library: Special Collections. KIT Collection). Also with the microfilm, manual input obviously remains necessary to convert the information into machine-readable format.

¹⁷ The total effort of manual input is estimated to have amounted to about 360 working-days.

G	Founded	year of incorporation as in source
H	Headquarters	geographical name as in source
I	Location	geographical name as in source
J	Director	personal name as in source
K	Equity	quantitative variable (amount) as in source
L	Currency	assigned letter code
M	Dividend	quantitative variable (percentage) as in source
N	Dividend Year	year as in source
O	Firm Name Supplement	qualitative variable as in source
P	Owners	personal/corporate name as in source

3.2 From source to data base

The following elaborates, by variable, how the information from the *Handboek* was selected and, when needed, modified to fit into the format of the data base.

Variable A Year

This is the year of the issue of the *Handboek*, which may not necessarily coincide with the year to which the given information applies. Considering the procedure of firms submitting standardized forms by October in the year preceding publication, it is highly likely that the same information is expected to be accurate also in the following year, with the notable exception of paid-out dividends that as a rule apply to a preceding year. This variable cannot have a missing value and any other value than the eight selected years is due to a regrettable error.

Variable B ID Number

The issues of the *Handboek* contain no cross references to other issues. Therefore, a device had to be constructed in order to be able to identify the same firm in different issues. This is accomplished by a six-digit identification number built up as follows:

- digit 1: a code for the year in which this firm was first encountered at construction of the data base. The coding is: 1910 = 9, 1915 = 1, 1920 = 2, 1925 = 3, 1926 = 4, 1930 = 5, 1935 = 6, 1940 = 7.
- digits 2-5: the page number in the *Handboek* issue where the firm was first encountered.

- digit 6: the number of the paragraph on the page in the *Handboek* where the firm was first encountered. As a rule, a page in the *Handboek* contains at most four or five paragraphs. The number '9' is a fictitious paragraph number used when identification had to be revised.

The appropriate ID Number was assigned to all entries in the data base after establishing firm identity (see section 3.3 below).

Variable C Firm Name

The source gives the name of each firm; no nameless enterprises are included. Yet, name of the firm is given in a bewildering variety of formats. The full name often includes a label indicating the type of enterprise. The most common labels are 'Cultivation company' (*Cultuur-Maatschappij*) and 'Trading company' (*Handel-Maatschappij*), but several other labels are also in use. Geographical labels are also often added, mostly 'Netherlands Indies' (*Nederlandsch-Indisch*) or otherwise a reference to a specific region or place. The use of such labels tends to obscure the unique part of the name of the firm, which in turn is given in a spelling that may vary over time. As a consequence, the recognizability of the individual firm in the source is seriously impaired, both when offset against other firms and against entries applying to the same firm in different issues.

In the data base, virtually all original firm names in the source have been adapted to a format putting the unique corporate name up front and for brevity leaving out some of the redundant non-specific information. This adaptation of the source information modification also included a harmonization of the spelling of the unique corporate name. Whenever extensive modification of the firm name proved necessary, the full original formulation of the firm name was retained under separate cover (variable O below).

Variable D Sector

The source obviously does not provide a differentiation of firms by economic sector. However, such a classification is vital in terms of enabling statistical analysis. Therefore, all firm entries in the data base were equipped with a code globally indicating the economic sector where operations were taking place.

The sector code was assigned on the basis of information in both the label in the firm name indicating the type of enterprise (variable C) and the description in the source of intended activities (variable F). Seven sector codes are used:

- A agriculture, applied to all firms labeled as 'Cultivation company' (*Cultuur-Maatschappij*), except when non-agricultural activities are explicitly stated.
- B finance, in particular banking, but also including other financial institutions.
- I manufacturing or industrial processing in the broadest sense, excluding mining.

- M mining, including petroleum.
- O other economic activities, often unspecified, including public services.
- S commercial services in widest sense .
- T trading, applied to all firms labeled as ‘Trading company’ (*Handel-Maatschappij*) except when other activities than trading are explicitly mentioned.

Occasional inconsistencies are inevitable, partly due to lack of clarity in the description of activities as given in the source, partly because of changes in the system of classification.¹⁸ A separate problem concerns firms with multiple types of economic activity spread over more than one sector. The structure of the data base only allows for one sector designation for each entry. Closer scrutiny of the description of activities was needed in order to identify the likely core business. This inevitably introduces a subjective element of interpretation in the assignment of sector code.

The by far most populous sector is agriculture with 8145 entries (36 per cent), followed in the second rank by trading, 4171 entries (18.5 per cent), and in the third rank by ‘other’, 2020 entries (9 per cent). In a conventional setup of economic sectors, firms with code A would count as the primary sector, firms with codes I and M as the secondary sector, and firms with one of the remaining four codes (B, O, S, T) as the tertiary sector.

Variable E Branch

Just as with the economic sector, the source itself does not apply a classification of firms by branch of industry. Again, such a classification is an indispensable tool at an analysis focusing on economic activity. Therefore, a branch code was assigned to virtually all firms outside trading, representing 81 per cent of the total population of the data base (18,271 entries). The extreme prevalence of unspecified commerce in firms defined as ‘Trading firms’ precluded a sensible further differentiation by branch within the sector.

For firms outside trading, the branch of economic activity could generally be inferred from the stated aim of operations (variable F), sometimes in combination with the label in the firm name indicating the type of business. The branch codes for the sectors A, B, I, M, O and S are as follows:¹⁹

- A cof (coffee), cop (copra), gen (agriculture in general), kin (cinchona), olie (vegetable oils), rice (including bibit), rub (rubber), sug (sugar), tea, tob (tobacco), var (various, including citronella, fibres, kapok, fertilizer, palm oil, spices and tapioca).

¹⁸ Activities of a firm labeled as a ‘Cultivation company’ may be located outside agriculture even if this is not specified. Similarly, firms classified as ‘Trading companies’ may have their foremost activities outside trading. A minuscule number of cases, 28 entries (0.001 per cent), are still designated with codes that became obsolete when revising the system of classification. These codes are H (= T), N (= M) and D, P and W (= O).

¹⁹ The system of classification was revised in the course of constructing the data base, which explains why original Dutch-language branch codes are occasionally in use.

- B bank, fin (non-bank financial activities), verz (insurance).
- I mach (machinery, including metals), tex (textiles), var (various, including beverages, chemicals, cigarettes, leather, shipbuilding and soap), wood (including logging).
- M min (mining activities, including coal, gold and silver and tin), oil (petroleum).
- O bio (cinema and theatre), hotel (hotels, restaurants and bars), ice (ice and mineral water), pharm (pharmacies), print (printing and publishing), publ (public services, for instance electricity), tran (transport in the widest sense, including motor cars, trains, ships and port facilities), var (various, often specialized shops).
- S con (construction, including contractors and building materials), real (real estate), var (all sorts of professional services, including administration, advertising, engineering and technical bureaus).

Again, occasional inconsistencies are inevitable, in part due lack of clarity in the information given in the source, possibly also because of mistakes of interpretation at the time of conversion of the information to the format of the data base.

The foremost branches of economic activity are rubber cultivation in sector A, 1635 entries (7.3 per cent), construction in sector S, 1359 entries (6 per cent), ‘various’ manufacturing in sector I, 1280 entries (5.7 per cent), and transport in sector O with 842 entries (3.7 per cent).

Variable F Stated Aim

Most firms listed in the *Handboek* did provide a description of current and intended activities. Still, these descriptions are often unnecessarily wordy and on occasion rather general or diffuse. A probable explanation lies in the conscious strategy to stake out a wide scope of operations with a view to possible future expansion that could then be undertaken without separate approval by shareholders. As a consequence, it is often difficult to unequivocally distill the firm’s core business from this piece of information alone. In the event, this could only be established for 14,360 entries (64 per cent of the total).

The content of this variable only stems from what is actually stated in the source, that is, it does not reflect an interpretation drawing on the firm’s name. In addition, it is an alphanumerical variable rendering the content of a text excerpt, which by definition may prove difficult to squeeze into the format of a spreadsheet structure. In combination with other information, however, this variable played an important role when seeking to assign the most appropriate sector and branch codes for the firm’s activities (variables D and E).

Variable G Founded

This is the year of incorporation as a firm with limited liability for its owners. It is given for almost all firms, 22,066 entries or 98 per cent of the total. The precise date as well as the date of publication in a law

gazette such as the *Nederlandsch Staatsblad* are given in the source but left out in the data base. The year of foundation should obviously be the same for the same firm when figuring in different issues of the *Handboek*. The year of foundation proved a useful tool in firm identification (see further section 3.3).

Variable H Headquarters

The city or town, where the firm's headquarters are located, is almost universally given, specified for 22,382 entries (99.6 per cent of the total). The information is copied directly from the source without any harmonization of spelling over time or classification by region in the Netherlands Indies or by country outside the Dutch colony. Batavia (now Jakarta) was the most popular location for headquarters in the Netherlands Indies, whereas Amsterdam ranked first among locations outside the colony and London took the lead among headquarters outside both colony and mother country.

Dutch-owned firms clearly had a professed preference for headquarters (*zetel*) in the Netherlands, arguably on account of access to the Dutch capital market and contacts with other Dutch corporations as well as government officials. Smaller Dutch-owned firms often chose to keep headquarters in the colony itself, usually near the location of actual operations. The same also held true for firms with non-Dutch foreign owners. Firms owned or managed by Chinese or indigenous Indonesian residents of the colony by definition always had headquarters in the Netherlands Indies.

The location of headquarters plays a crucial role in firm identification and differentiation of firms by nationality (see sections 3.3 and 4.1 below).

Variable I Location

The location of a firm's activities is explicitly stated in merely 3105 entries, corresponding to 15 per cent of the total. This number includes both general regional labels and individual cities or towns. The information was copied directly from the source, again without harmonization of spelling or any interpretation based on information elsewhere.

This variable has some idiosyncrasies of its own. The most conspicuous difficulty lies in the prevalence of multiple locations of operations. Since the structure of the data base only allows for one single location of operations, it proved necessary to select the one deemed most important to represent the firm's core business. A blank here means that either the information was not provided in the source or, more commonly, that the firm operated at a host of locations, from which the most prominent one could not be isolated.

Another difficulty refers to a change of locations over time. Such information was included in the entry in the relevant year, but could cast doubt on a correct identification of the firm on the basis of its record over time.

Variable J Director

The name of the firm's director is given for most firms, about 85 per cent of the total (19,209 entries). This testifies to a high degree of compliance with the publisher's specific request for names of directors to be provided. On occasion, however, it is not quite clear in the source what the precise function was of the individual cited. In smaller firms, the director or manager is likely to coincide with the owner. This information was not included in early computerization of the *Handboek* data (section 2.3 above) since the software at the time only allowed for processing of numerical variables. Inclusion of so many personal names of directors invites efforts in the vein of network analysis (see further section 4.4 below).

Variable K Equity

The firm's equity capital is given in the source in almost all entries, 21,983 entries corresponding to 98 per cent of the total. This again testifies to the high willingness among subscribers to comply with the specific requests by the publisher. Equity is generally given in both nominal terms and as actually paid up. As a rule, the citation in the data base refers to paid-up equity capital. However, it needs to be kept in mind that paid-up equity capital does not offer a full representation of the funds at the firm's disposal. Information on financial reserves is rarely given and was not included in the data base.

All amounts are in thousands of the applicable currency, mostly the Dutch guilder. Firms incorporated in the colony may have stated equity in Netherlands Indies guilders. Non-Dutch foreign firms with headquarters overseas generally used the currency of their home country when stating the amount of equity. Such amounts need to be converted into Dutch guilders prior to further analysis (variable L below).

In the absence of any information whatsoever on employment and output, the amount of equity capital by and large forms the sole yardstick to measure the size dimensions of the enterprise.²⁰ This financial parameter can therefore play a pivotal role in statistical analysis (see further section 4.3 below).

Variable L Currency

The default currency in the source and the data base is the Dutch guilder, the value of which was virtually identical to that of the Netherlands Indies guilder.²¹ This variable solely applies to equity as given in the source (variable K). The guilder is used to express the amount of equity in the vast majority of cases, 94

²⁰ A rudimentary, alternative indication of size would for agricultural enterprise be the number and area of the estates under the firm's command. Names of the estates are generally given in the firm entry, whereas details on the estates are provided in a separate chapter of the *Handboek*. Similarly, the scope of activities of trading firms may be suggested by numbers of branch offices in the Netherlands Indies, listed in the back of the *Handboek* and arranged by city or town.

²¹ W.L. Korthals Altes, *De betalingsbalans van Nederlandsch-Indië 1822-1939*. PhD dissertation, Erasmus University Rotterdam (1986) xvi.

per cent, or 21,044 entries. The only other major currency cited in the source is the pound sterling that was used in 801 entries (3.5 per cent of the total). A host of other foreign currencies between them accounted for only 170 of all entries (less than 1 per cent).

Under the Gold Standard, which applied in the Netherlands until 1936, rates of exchange with foreign currencies remained fixed. A conversion of all equity cited prior to 1936 can therefore be done by simply applying the prevalent rates of exchange. The rates were: £ 1 = *f* 12.50, US \$ 1 = *f* 2.50, ¥ 1 = *f* 1.23, 1 Thaël (occasionally used by Chinese firms) = *f* 0.74, 1 DK (Danish crown) = 1 NK (Norwegian crown) = 1 SEK (Swedish crown) = *f* 0.67, 1 DM = *f* 0.59, 1 SFR (Swiss franc) = *f* 0.48, 1 FFR (French franc) = *f* 0.10, 1 BFR (Belgian franc) = *f* 0.07. Such a conversion is essential for comparisons of equity capital across nationalities (see also section 4.3 below).

Variable M Dividend

The dividend rate is given as the percentage share of nominal equity capital that will be paid out to shareholders in the coming year. As a rule, the dividend rate is determined from financial results in an earlier year that is specified under a separate cover (variable N). A non-zero dividend rate is cited for 3605 firm entries, corresponding to 16 per cent of the total. In 1237 entries (5.5 per cent), the dividend rate is explicitly stated as non-existent (*nihil* in the original Dutch). No dividend rate at all is specified in the source in all remaining entries, 17,269 entries or 78.5 per cent of the total.

It is unthinkable that corporate firms operating in the Netherlands Indies failed to generate sufficient profits to permit any remuneration on invested capital in such a large number of cases. Apart from disappointing financial results, there are various reasons why the firm may refrain from paying out dividends to its shareholders (see further section 4.3). There are also plausible reasons why subscribers to the *Handboek* may not wish to make this kind of sensitive information known to the general public. The requirement to disclose information on dividend payments in annual reports only applies to corporations listed on the stock exchange.

There is no way of knowing whether a zero dividend rate implies disappointing financial results or whether this information has been deliberately left out. By implication, caution should be exercised in calculating average rates over time and across sectors or branches. Outcomes may be distorted by inclusion of explicitly stated zero rates. Therefore the safest procedure is to rely exclusively on non-zero rates.

Variable N Dividend Year

For the sake of completeness, the data base specifies the year to which the cited dividend rate (variable M) actually applies. The reference is usually to one or even two years earlier. This applies to both non-

zero dividend rates and rates that were explicitly given as zero, in total 4730 entries (21 per cent). This information may suggest that the level of the stated dividend rate was common at the time around the issue of the *Handboek* in question.

Variable O Firm Name Supplement

This is the full name of the firm as stated in the source, prior to adaptation to ensure consistency and recognizability. It is provided for 18,809 entries or 84 per cent of the total. It is only left out if there is no difference with the firm name as already entered into the data base (variable C). The full original firm name does not readily lend itself for an alphabetical ranking of firms or entries of the same firm as it usually begins with a label indicating the type of business.

Variable P Owners

The proprietors of the firm may be either private individuals or other companies. They are clearly identified in only a minority of the entries, 3154 entries or 14 per cent of the total. In combination with names of directors (variable J), this information may prove useful in exploring corporate networks (see further section 4.4).

3.3 Firm identity

The CBI data base can be accessed in two ways. All entries are found in both a standard spreadsheet format and in a catalogue with individual firms arranged alphabetically by year. The entries in the catalogue offer a quick summary of relevant information about the individual firm. The unique identification number of the firm (variable B) permits user to observe the same enterprise at different points in time. The procedure of identification was an essential part of the conversion of information from source to data base.

The data base was constructed through a systematic comparison of the information for a completed year with the information given in the source for the year to be added. This method entailed a decision whether a firm in the new issue was indeed identical to one that was already included in the data base. If so, the assigned identification number would be retained. Four criteria were applied: the unique segment of the name of the firm, the year in which it was founded, the intended type of economic activity and, finally, the order of magnitude of equity capital. Of these criteria, the year of incorporation proved to be the most reliable one, whereas firm names and stated aims were more susceptible to variations in spelling or formulation. The amount of equity was likely to change over time, yet not to jump suddenly from one

size category to another. Whenever a firm was found not to be identical to one already in the data base, a new identification number was assigned.

The identification number has as such no intrinsic meaning; it only guides users to the place in the *Handboek* where this particular firm was first encountered. The foremost advantage of the identification number is as a device in statistical analysis of consecutive observations of the same firm at a maximum of eight separate points of observation. Such an analysis may render insights into the business history of the individual enterprise.

The most straightforward way of spotting the individual firm in the data base remains the firm name and it is for that reason that the full firm name, as given in the source, had to be modified by putting the unique part of the name up front. Even so, some firms ended up with the same modified firm name. This anomaly could only be resolved by adding a fictitious number to the firm name.

The identification imposed upon firms listed separately from one another in the source is not entirely foolproof. There are two types of possible errors. One occurs when two entries get the same identification number although they are in fact different companies, another when different entries pertaining to the same firm have not been assigned the same identification number. Various checks - firm names by identification number, identification numbers by firm name – were applied to keep such errors to a minimum.

4 Analytical tools

Converting the information given in the source into the format of the data base implied three kinds of processing. The most straightforward one was simply copying the information given in the *Handboek* as for instance with the year of foundation of the firm or the name of the director. A bit more interpretation was required when modifying the information as given in the source as was done notably when altering the format of the firm name. The most far-reaching interpretation involved codification of the information in the source so as to enhance the utility of the data base. Examples include devising ID numbers for firms and assigning letter codes for sectors and branches of economic activity as well as foreign currencies. Yet, also in the last-mentioned case, no information was added to the data base that was not already in one form or another present in the source. This section surveys a number of opportunities for such interpretation, focusing on the nationality of firms, the spatial patterns of their activities, their financial parameters and participation in corporate networks.

4.1 Firm nationality

Users of the *Handboek* have from the outset realized the great importance of this source for insights into the role of foreign capital in the colonial economy of Indonesia. Early processing of the source included experimentation with different categories of investors corresponding to sliding shades of foreignness or local entrenchment. A Campo differentiated between six ‘broad classes’: (1) Dutch, (2) non-Dutch European (also including Americans and Japanese), (3) Dutch-European combinations (joint Western ventures), (4) colonial Dutch (Netherlands Indies with a distinct Dutch flavor), (5) colonial combinations (Netherlands Indies joint ventures without a Dutch flavor), and (6) Chinese and (indigenous) Indonesian.²² My own classification in early processing contained only three categories of foreign investment: (1) ‘Netherlands-Indian’ firms, operated by permanent Dutch residents in the colony, (2) Dutch firms, operated from the Netherlands, and (3) foreign firms, run by investors from third countries.²³ Ranking by shade of foreignness results in a gliding scale running from truly domestic (indigenous Indonesian), to slightly less domestic (Chinese), from there to locally entrenched foreign (Netherlands-Indies), and foreign under the aegis of colonial rule (Dutch), culminating in truly foreign business by being neither locally entrenched nor directly linked to the colonial mother-country.

These early experiments illustrate the pitfalls of imposing one’s own scheme of classification with its inherent subjective interpretations of the information in the source. Questions about conceptualization inevitably arise. How foreign is a company set up and managed by Dutchmen who live permanently in the colony? To the Dutch investor in colonial society, it might not appear foreign at all. To the Indonesians nearby, however, it would not likely pass for a domestic firm. Does it make a difference whether a Dutch-owned firm is managed from Amsterdam or Batavia? There would arguably be a difference in terms of wider priorities and access to capital markets and government officials. How much more foreign is a British-owned firm with headquarters in the Netherlands compared to a Dutch-owned firm run from Amsterdam? This easily becomes a matter of perception rather than one determined by objective criteria. Users are wisely urged to exercise caution in applying all too elaborate schemes of classification.

²² A Campo, ‘The rise of corporate enterprise’, 77.

²³ Lindblad, *Foreign Investment in Southeast Asia*, 72-73.

Still, the *Handboek* does contain sufficient information to be able to differentiate by nationality.²⁴ Primary clues for a proper designation of nationality are found in the location of headquarters and the currency used to express equity. Additional insights may be gathered from the firm name and names of directors. Before proceeding to specific criteria, a basic definition of foreign as opposed to domestic investment is needed. Here it is instructive to refer to the Government Ordinance (*Regeeringsreglement*) of 1854, where racial classification in the colony is laid down. The three well-known categories of this classification are: Europeans (including those put on equal status with Europeans), ‘Foreign Orientals’ (residents of Chinese or Arab descent), and ‘Natives’ (indigenous Indonesians).²⁵ The Dutchmen in the colony were citizens of the Netherlands. The Chinese and Indonesians were not, they were subjects of the Netherlands Indies. This offers a clear-cut demarcation between foreign and domestic investment. The Dutch were foreign investors in colonial Indonesia, just like the investors from a third country. The situation for the Chinese residents of the colony was a peculiar one since they by Chinese law were citizens of China on account of descent.²⁶ From a formalistic point of view, they were foreign investors in the Netherlands Indies, and that is to an extent how they were perceived by locals. On the other hand, their investments were usually not in the least connected with countries outside the Netherlands Indies, but highly integrated into the local economy. For all intent and purposes, firms owned or managed by Chinese residents of the Netherlands Indies were part of domestic investment just like investment by indigenous Indonesians.

Within the category of foreign investment, it is necessary to distinguish between two lines of demarcation, one between Dutch investment and non-Dutch foreign investment, the other between Dutch firms in the Netherlands and Dutch firms run from inside the Netherlands Indies. Although legislation in the Netherlands Indies did not formally discriminate against foreign investors from third countries, it is apparent that Dutch firms possessed a comparative advantage. They benefitted from their familiarity with the language, legal regulations and administrative procedures. They were likely to have greater access to the authorities and more able to exert influence through the colonial lobby.²⁷ With respect to the differential between Dutch firms in the Netherlands and Dutch firms run from the Netherlands Indies, suffice it to say that the latter were by definition more locally entrenched than the former. The perspective

²⁴ This is done in for instance Mark van de Water, ‘The development and character of foreign investment in late colonial Indonesia’ and myself in ‘Foreign capital and colonial development’, both articles in a forthcoming issue of *Lembaran Sejarah*).

²⁵ C. Fasseur, ‘Cornerstone and stumbling block: Racial classification the late colonial state in Indonesia’, in: Robert Cribb (ed.), *The Late Colonial State in Indonesia. Political and Economic Foundations of the Netherlands Indies 1880-1942*. Leiden: KITLV Press (1994) 31-56, in particular 35. The term ‘natives’ has a colonial and derogatory connotation.

²⁶ J.A.C. Mackie and Charles A. Coppel, ‘A preliminary survey’, in: J.A.C. Mackie (ed.), *The Chinese in Indonesia*. Melbourne: Nelson (1976) 1-18, in particular 9.

²⁷ On the colonial lobby, see Arjen Taselaar, *De Nederlandse koloniale lobby. Ondernemers en de Indische politiek 1914-1940*. Leiden: CNWS (1998).

of the Netherlands-Indies firm was likely to be confined to the colonial environment. But the picture may be less clear-cut than at first sight if the Netherlands Indies firm was a fully owned subsidiary of a firm in the Netherlands or when shares were all held by residents of the Netherlands. To make matters more complicated, occasionally firms were set up in the Netherlands Indies by non-Dutch foreign investors to get access to Dutch legal protection.

The following crude division of foreign investment into three broad categories is suggested:

- (1) Netherlands-based Dutch, defined as a firm with headquarters in the Netherlands.
- (2) Netherlands Indies-based Dutch, defined as a firm with headquarters in the Netherlands Indies of unmistakably Dutch character as judged from names of firm and directors and use of the guilder.
- (3) Non-Dutch foreign, defined as a firm with headquarters outside the Netherlands with distinctly non-Dutch characteristics as judged from names of firm and directors and use of another currency than the guilder.

With the aid of this rudimentary classification, we can reconfirm two general observations about the character of foreign investment in the Netherlands Indies. First, foreign investment in the colony was strongly dominated by Dutch capital. Second, Dutch investment combined a limited number of large firms run from the Netherlands with a large number of smaller Dutch firms run from inside the Netherlands Indies. On average, Netherlands-based firms accounted for 31 per cent of total numbers but 68 per cent of total equity. Netherlands Indies-based firms, by contrast, were good for 63 per cent of total numbers but only 20 per cent of total equity.²⁸

The combined share of both types of Dutch investment amounts to 94 per cent of all firms and 88 per cent of total equity. This is without doubt an exaggerated or even misleading picture of reality. Other sources indicate a total Dutch share in foreign-held equity of 29 per cent in the late 1930s.²⁹ The discrepancy can only be explained by the failure of this crude scheme of classification to adequately represent reality. Apparently, much non-Dutch foreign capital was invested under the guise of seemingly Dutch firms, a peculiarity that can only be further explored by scrutiny of individual firms.

The data base permits a partial comparison between foreign and domestic investment in the colony. Domestic investment as recorded in the source comprised 23 per cent of all firms but only 4.7 per cent of total equity. The domestic enterprises listed were by a huge majority firms owned or managed by Chinese residents of the colony, responsible for 21.5 per cent of all firms but only holding 4.5 per cent of total equity. The Chinese-held firms are readily recognized by the consistent use of Chinese names for both

²⁸ Lindblad, 'Foreign capital and colonial development', Tables 1-2. These averages are based on the seven years at five-year intervals between 1910 and 1940.

²⁹ Lindblad, *Foreign Investment*, 14.

companies and persons. Users are again reminded that the *Handboek* information offers a grossly incomplete representation of entrepreneurship by indigenous Indonesians, far more so than in the case of Chinese firms. The foremost non-Dutch source of foreign investment in the colony was the United Kingdom, accounting for 3.5 per cent of all firms and 7.2 per cent of total equity.³⁰ These figures most likely underrate the importance of British investors in colonial Indonesia.

4.2 Spatial patterns

Two kinds of spatial patterns in corporate business can be distilled from the data base, one referring to the location of headquarters, the other to the location of activities. The following discusses the variety in these two variables and the difficulties in combining them.

Out of the 22,382 locations of headquarters cited in the source, 5053 (22.5 per cent) are found outside the Netherlands Indies, whereas 17,329 (77.5 per cent) are in the colony. The Netherlands accounted for four out of five foreign headquarters with Amsterdam (806 entries) in the lead, followed by Rotterdam (558) and The Hague (494). London housed 80 per cent of all headquarters with a foreign address outside the Netherlands, followed at considerable distance by Belgium (Antwerp and Brussels, 58 entries together). It is most likely that substantial amounts of investment capital of non-Dutch origin hid behind the façades of a subsidiary company set up with headquarters in the Netherlands Indies.

No less than 169 different locations in the Netherlands Indies were cited as housing the headquarters of an incorporated firm. Nevertheless, there was a strong tendency towards concentration to a limited number of locations. Only four cities in Java accounted for 59 per cent of total headquarters cited in the Netherlands Indies (10,779 entries). These four are: Batavia (3985 entries), Surabaya (3457), Semarang (1668) and Bandung (1069).³¹ Sixteen major towns in Java were the homes of headquarters in the range of 60-170 entries each. Together they correspond to another 13 per cent of the total (2255 entries). Among these sixteen towns we encounter seven in East Java (Malang, Jember, Kediri, Pasuruan, Bondowoso, Blitar and Probolinggo), five in West Java (Buitenzorg [now Bogor], Sukabumi, Cirebon, Weltevreden and Meester Cornelis [the latter two now part of Jakarta], and four in Central Java (Yogyakarta, Surakarta [now Solo], Tegal and Magelang). Some 1550 entries are spread over a large number of smaller towns in Java that taken together correspond to 9 per cent of citations of all headquarters cited with a location in the Netherlands Indies.

Headquarters in Java ensured easier access to the business community at large and government authorities, in particular when located in the Greater Batavia region. It was far less common to choose a

³⁰ These statistics refer, strictly speaking, to firm entries, not to unique individual companies. The figures are based on all firm entries from the eight years covered by the data base, including the 'odd' year 1926.

³¹ All geographical names in Indonesia are consistently rendered in contemporary spelling. The data base retains the various versions of the spelling used at the time.

location for headquarters on one of the other islands of the archipelago. Medan in East Sumatra (now North Sumatra) forms the sole exception with a number of citations (545 entries), that in combination with the locations in Java would imply a fifth rank, after Bandung, but before Yogyakarta. Other towns outside Java with a fair number of entries citing headquarters include Macassar in Sulawesi, Padang and Palembang in Sumatra, and Pontianak in West Kalimantan.

The geographical designations of activities contain both regional labels and individual cities or towns. The most frequent regional labels are Java (343 entries), Sumatra (254) and Priangan, which was part of Java anyway (196). The foremost individual cities or towns are Surabaya with 134 entries, followed, strikingly, by Pasuruan in East Java (123), next by Semarang (107). By this measure, Batavia even ranks fifth.

The chief bottleneck in combining the information on headquarters and location of activities lies in the wide discrepancy between these variables when it comes to the degree of detail. Headquarters are specified for virtually all firms, whereas locations of activities are only given for a small part of the population (15 per cent of the total). In many cases, however, operations probably did take place at or nearby headquarters, in particular at trading companies and smaller firms in commercial services. A tempting shortcut to a comprehensive spatial pattern would therefore be to fill in the blanks in the location variable using the information on local headquarters. Yet, this is a hazardous method, which was not applied when constructing the data base. In the first place, it means adding information to the data base that as such is not provided by the original source. In addition, it is of no avail when firms have headquarters outside the Netherlands Indies and no location of activities is given. Finally, we are too often likely to encounter a combination of headquarters at an urban location with actual activities in a rural or remote setting, such as with agricultural estate firms or mining companies. Experiments with extrapolating information on location from other variables or other sources are left to the discretion of users.

A separate issue concerns how individual locations fit into a scheme of regional classification. Such a scheme would doubtlessly aid the analysis of spatial patterns in corporate business. The most logical approach would be to arrange locations of headquarters and activities by residency, the administrative unit used in the Netherlands Indies. The residencies of colonial times sometimes, but not always coincide with the provinces of Indonesia today. The residency structure was altered on several occasions and it is important to specify the period to which the classification applies. Around 1930, Java and Madura comprised as many as 38 individual residencies, nine in West Java (Bantam, Batavia, Buitenzorg [Bogor], Krawang, Indramayu, Cirebon, West, Central and East Priangan), fourteen in Central Java (Tegal, Pekalongan, Semarang, Kudus, Rembang, Blitar, South and North Banyumas, Wonosobo, Bagelen, Kedu, Yogyakarta, Klaten and Surakarta [Solo]), and another fifteen in East Java (Bojonegoro, Grisee,

Surabaya, Madiun, Kediri, Mojokerto, Pasuruan, Ponorogo, Blitar, Malang, Probolinggo, Bondowoso, Jember, West and East Madura). At the time, there were 20 residencies in the other islands, twelve in and near Sumatra (Aceh, Tapanuli, East [North] Sumatra, West Sumatra, Riau, Indragiri, Palembang, Jambi, Bengkulu, Lampung, Bangka and Billiton [Belitung]), two on the island of Borneo (Westerafdeling [West Kalimantan] and *Zuider- en Oosterafdeling* [Southeast Kalimantan]), and six in the eastern part of the archipelago (Bali, Lombok, Celebes [Sulawesi], Manado, Moluccas, Netherlands New Guinea).³² The information required to make a classification of locations by residency is readily available. However, including this kind of information in the data base would again imply adding information that as such is not given in the original source.

4.3 Financial parameters

The data base contains information that is essential in gaining an insight into the volume and character of foreign private investment in the Netherlands Indies. Aggregation of firm-specific data on paid-up equity capital offers the arguably best available estimates of trends in total volume throughout the late colonial period, be it with the caveat that estimates from the data base are confined to eight points of observation.³³ Regrettably, no information is given anywhere in the source on numbers of employees. For agricultural companies, a global impression of the scale of activities can possibly be drawn from the separate chapter on individual estates included in each issue of the *Handboek*.

Two steps need to precede the aggregation of equity capital by year of observation. The first one is a matter of definition of what constitutes foreign as opposed to domestic investment. Applying the criteria suggested here (section 4.1) implies separating firms owned by resident Chinese and indigenous Indonesians and treating the remainder as foreign direct investment, incidentally including a small number of companies owned by Chinese in other countries. The second step is to convert equity stated in other currencies than the Dutch or Netherlands Indies guilders into guilder equivalents. This is done by using the Gold Standard exchange rates given above (section 3.2). A special problem arises with respect to the estimated total for 1940 as the value of the Dutch guilder fell by about 20 per cent vis-à-vis major international currencies after the Netherlands had abandoned the Gold Standard in 1936. The effective depreciation motivates a downward adjustment of the 1940 aggregate in order to ensure comparability with preceding years.

³² Robert Cribb, *Historical Atlas of Indonesia*. London: Curzon (2000) 125; J.Th. Lindblad, 'De opkomst van de Buitengewesten', in: A.H.P. Clemens and J.Th. Lindblad (eds), *Het belang van de Buitengewesten. Economische expansie en koloniale staatsvorming in de Buitengewesten van Nederlands-Indië 1870-1942* ['The Importance of the Outer Islands. Economic expansion and colonial state formation in the Outer Islands of the Netherlands Indies 1870-1942']. Amsterdam: NEHA (1989) 1-37, in particular 27.

³³ The only available time series for this period relies on an extrapolation from indemnification claims submitted by Dutch corporations after nationalization by the Indonesian government in 1959. See P. Creutzberg, *Changing Economy in Indonesia. Vol. 3. Expenditure on Fixed Assets*. The Hague: Nijhoff, 1977.

Aggregation of foreign-held equity in millions of guilders renders a long-term trend that can be offset by year of observation against the number of foreign-owned firms (within brackets), as follows:³⁴

1910	1200	(1677)
1915	2050	(2342)
1920	2705	(2822)
1925	3755	(2597)
1930	4220	(2121)
1935	4305	(1563)
1940	3820 (adjusted)	(1699)

These figures confirm earlier estimates on a more substantive basis. It is immediately apparent that the size of the average enterprise increased over time, from about 700,000 guilders in 1910 to twice as much in 1925 and almost 2.3 million by 1940. Total equity as well as total numbers of foreign firms can for each year of observation be broken down by sector and branch as indicated by codes in the data base. A differentiation by the three categories suggested above (section 4.1) is equally possible.

Next to these foreign-owned companies, the data base contains similar information on incorporated domestic enterprises. The number of such firms increased from almost 400 in 1910 to more than 900 in 1920 and 1925, but fell sharply in the 1930s, eventually amounting to only about 450 by 1940. The vast majority of these firms were owned or managed by Chinese residents of the colony. It is recalled that businesses of indigenous Indonesians were only rarely incorporated under Dutch law and thus included in the *Handboek*. The data base is an important tool of analysis for foreign and domestic Chinese firms, but not for the business activities of indigenous Indonesians.³⁵

The amount of equity provides a key indication of the size of the individual business firm. Nevertheless, it is not an exhaustive measure of the fund at the company's disposal. Reserves and loans were rarely recorded in the source. In other words, the individual firm may have been either richer or poorer than the data base suggests. A similar issue arises with respect to profitability. It is likely that many firms made more profits than as revealed by the dividend payments copied from the *Handboek*. Foregone dividend payments may imply an accumulation of reserves to be used for replacement of existing equipment or fresh investment. The only way to shed light on such matters is to consult the annual reports or business archives of individual companies.

³⁴ Lindblad, 'Foreign capital and colonial development', Tables 1 and 2 The year 1926 is left out here. The unadjusted total for 1940 amounts to 4320 million guilders.

³⁵ For an interesting analysis of firms of resident Chinese in the Netherlands Indies, see Pierre van der Eng, 'Demography of Chinese firms in Indonesia, 1890-1940', unpublished paper for the Center for Chinese Entrepreneur Studies, Tsinghua University, Beijing, and the Research School of Management of the Australian National University, Canberra (2017).

There are several issues to keep in mind when using the figures on dividend payments as a proxy for profitability. Even if there is likely to be a certain relationship between profits and dividends in the long run, the isolated dividend percentage may reflect other considerations than those occasioned by preceding financial results. Generous dividends may bolster the firm's reputation and creditworthiness and serve to aid management in mobilizing additional funds. Withheld dividends, by contrast, may enable the firm to accumulate reserves for future purposes. In a family-controlled company, shareholders may not be especially keen to get cash handouts in the form of dividend payments as they retain access to the firm's resources anyway. Sometimes, equity may have been kept artificially low so that even a high dividend rate would not necessarily imply a substantial outflow of funds. Although not without its shortcomings, the dividend rate remains the best proxy for profitability in the absence of more detailed information on financial results. It is well suited for an analysis targeting a large number of individual firms.

The difficulty of distinguishing between missing information and genuinely zero dividend rates was touched upon above (section 3.2). Suffice it here to reiterate that any analysis of dividend rates as given in the data base needs to be confined to non-zero rates.

With respect to the interpretation of cited dividend rates, users need to keep in mind that dividend payments are always calculated in relationship to the nominal value of equity capital, whereas current market evaluation of the firm's equity may have undergone change since the time of incorporation. Information on share price development over time is hardly ever given in the *Handboek*. For such information, it is necessary to consult additional sources drawing on information from stock exchanges. A pioneering effort in this vein was presented in a recent study by Frans Buelens and Ewout Frankema, using data from the Brussels Stock Exchange.³⁶ I have myself ventured on applying a similar approach to the dividend rates cited in the data base, complemented by information from the Amsterdam Stock Exchange.³⁷ Dividend rates are then reduced by adjusted by share price development, yet by and large remain reasonably high.

4.4 Corporate networks

Traditionally, statistical analysis of alphanumerical variables applied numerical codes when variation was not unlimited as with geographical names, whereas personal names were deemed not to lend themselves to such analysis in the first place.³⁸ Early processing of the *Handboek* data therefore did not include any

³⁶ Frans Buelens and Ewout Frankema, 'Colonial adventures in tropical agriculture: New estimates of returns to investment in the Netherlands Indies 1919-1938', *Cliometrica* 19:2 (2016) 197-224.

³⁷ J. Thomas Lindblad, 'The profitability of Dutch business in late colonial Indonesia', *Lembaran Sejarah* (forthcoming). Data on share price development at the Amsterdam Stock Exchange are available at www.capitalamsterdam.com.

³⁸ The advice in manuals of statistical software with respect to sorting alphanumerical variables was simply: 'Don't!'

search for corporate networks on the basis of individual persons, which would be the most obvious way to utilize the names of directors and owners given in the original source.

One interesting effort at the time anticipated later tryouts with the computerized version of the information on names. In his PhD dissertation on the Dutch colonial lobby, Arjen Taselaar selects 214 major Dutch firms with operations in the Netherlands Indies and an equity capital of at least 3 million guilders in one of five years of observation (1913, 1921, 1928, 1935 and 1939). Out of all cited directors and members of boards of trustees, he distills the pivotal elite of Dutch colonial business, consisting of 143 persons who held a managerial position in four or more of the selected firms in any one of the years of observation. These men were more often than not active in the employers' organization for the Netherlands Indies and in supportive institutions such as the Colonial Institute in Amsterdam. This group was designated as the 'driving force of the Dutch colonial lobby'.³⁹

The data base has a potential for such network analysis that did not exist before. In a first exploration of possibilities, I focused on the year 1920 and identified 2746 individuals holding managerial positions in a firm listed in the *Handboek*. The majority was Dutch (71 per cent), while Chinese managers formed the other major group. Of the 2746 individuals, 396 persons (15 per cent) participated in the management of more than one enterprise, on average 2.8 firms. An elite, one in ten men, consisted of networkers with links to five or more firms each. A comparison with 1930 shows that one firm in five had the same manager as in 1920.⁴⁰

The potential of the data base as a tool in identifying and analyzing corporate networks in the colony is far from exhausted. Recent research has highlighted the tendencies towards concentration of capital and power among firms of Chinese residents of the Netherlands Indies.⁴¹ There is scope for much more efforts in this vein, just as with the differentiation by nationality, the establishment of spatial patterns and interpreting financial parameters such as equity capital and profitability.

5 Concluding word

It is the sincere hope of those who constructed 'Colonial Business Indonesia' that this data will be consulted by many and that it will prove an important tool in the study of the economic history of late colonial Indonesia.

³⁹ Taselaar, *De Nederlandse koloniale lobby*, 49-50. See also appendices with lists of firms and persons.

⁴⁰ J. Thomas Lindblad, 'Ver weg of ter plaatse? Bedrijfsleiders in the Nederlands-Indië van de jaren twintig', in: Anita van Dissel, Maurits Ebben and Karwan Fatah-Black (eds), *Reizen door het maritieme verleden van Nederland*. Zutphen: WalburgPers (2015) 305-320, in particular 310-317.

⁴¹ Van der Eng, 'Demography of Chinese firms in Indonesia'.

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