Abstract

The issue of profitability of colonial business lies at the core of the argument about a possible colonial drain depriving the overseas territory of opportunities to self-sustained economic growth. This contribution seeks to assess whether profit rates of private foreign firms in the colonial economy can be considered excessive or a reasonable compensation for capital and know-how made available to the colony. The article contains brief sections on historiography and methodology as well as new estimates, including a preliminary discussion of results. The article argues that profit rates in colonial business were generally higher than elsewhere, but also that the difference was smaller than has often been imagined.

Keywords:
- business
- history
- foreign investment
- colonial economic history
- profits

Abstrak

Permasalahan keuntungan bisnis kolonial merupakan bagian utama dari alasan argumentasi adanya penyedotan keuntungan kolonial dari Indonesia ke Belanda yang menguras kesempatan koloni untuk mengalami pertumbuhan ekonomi yang berkelanjutan. Artikel ini bertujuan untuk menilai apakah tingkat rerata keuntungan yang diambil oleh perusahaan asing swasta dalam ekonomi kolonial itu berlebihan atau wajar sebagai laba dari modal dan pengetahuan yang telah mereka curahkan ke koloni. Artikel ini berisi pembahasan singkat akan historiografi dan metodologi serta penghitungan-penghitungan baru, termasuk pembahasan awal akan hasil perhitungannya. Artikel ini berpendapat bahwa tingkat rerata keuntungan bisnis kolonial itu pada umumnya lebih tinggi daripada tempat-tempat lain, tetapi juga bahwa perbedaan tersebut jauh lebih kecil dari yang sering dibayangkan.

Kata Kunci:
- sejarah bisnis
- investasi asing
- sejarah ekonomi kolonial
- keuntungan
Introduction

It is frequently argued that private foreign firms in late colonial Indonesia made excessive profits that only benefited overseas shareholders whilst failing to contribute in any substantial way to economic development in the host country. A common counterargument is that profits pocketed by foreign firms represented an adequate compensation for the capital invested and the management and technology made available in the colonial economy. There is little doubt that foreign companies did make a profit from investment in colonial Indonesia; otherwise, such business endeavors would soon have been discontinued. The issue at stake, however, is whether these profits were ‘excessive’ or not. This catapults the matter into an empirical or even technical examination of the available evidence. How do we properly measure the profitability of foreign investment in the colonial setting? Against what yardsticks are estimated rates of return to be assessed? These are the key questions addressed in this article.

The very term ‘colonial business’ may need some elaboration. The concept of ‘colonial business’ tempts people to think a priori that we are by definition dealing with investment that is extractive and therefore excessive. However, that need not be the case. ‘Colonial’ in the concept ‘colonial business’ refers to the setting in which investment was undertaken, that is within the framework of colonial rule. The context of colonialism offered opportunities for foreign investors that would otherwise not have been present. Colonial business in the Indonesian archipelago was a form of foreign investment under the specific circumstances of Dutch colonialism, in particular as undertaken by Dutch private firms. Non-colonial business in the archipelago is conceived as domestic investment, lacking a direct relationship to Dutch colonial rule. The investors here were indigenous Indonesians or inhabitants of the archipelago of Chinese or Arabic descent.

Any assessment of profitability of investment presupposes an explicit or implicit comparison with rates of return on investment obtained elsewhere. As such it would be highly instructive to compare profit rates in private Dutch investment with the profit rates achieved in domestic investment in colonial Indonesia. However, there are two problems with such an endeavor. One is a matter of methodology. Profit rates were assessed from the perspective of possible alternative types of investment from the point of view of the investor. The Dutch investor in the colony was not concerned with the profits pocketed in business run by indigenous or local Chinese investors. His options for destinations of investment capital were threefold: colonial Indonesia, the Netherlands, and third countries. The other difficulty with a comparison of profit rates across various types of investment within the colony lies in the availability of data. Hardly any estimates are known of actual rates of return on domestic investment in colonial Indonesia.
Investment by private foreign firms played a pivotal role in the economic development of colonial Indonesia from the early twentieth century onwards. Subsequent decades witnessed a spectacular expansion in the accumulated volume of foreign investment from about one billion guilders in 1910 to 4.2 billion guilders by 1930.¹ The expansion was halted by the worldwide economic depression of the 1930s, which even brought some slight divestment or reduction of foreign-held corporate assets. The very substantial size of foreign assets built up in late colonial Indonesia without doubt offered substantial scope for making profits, whereas the legal protection of Dutch colonial rule enabled firms to transfer a sizeable proportion of profits overseas. That is the historical context of our exploration of profit rates in colonial business.

This article consists of five sections, apart from introduction and conclusion. First, the historiography pertaining to this topic is reviewed, followed by a brief note on recent insights into the methodology of interpreting historical profit rates. The third section presents new estimates of dividend rates, the fourth one an interpretation in general terms of these outcomes, whereas the fifth and final section seeks to differentiate by economic sector and branch of industry.

Historiography
The discourse on the economic importance of the colonial possession to the Netherlands was fuelled by a calculation done by later Nobel Laureate Jan Tinbergen and his associate J.B.D. Derksen. They demonstrate that 14 per cent of Dutch national income derived, directly or indirectly, from colonial Indonesia, which is high by any international comparison (Derksen & Tinbergen, 1945). This publication revived the old battle-cry ‘The Indies lost, calamity born’ (Indië verloren, rampspoed geboren), not long before the military Dutch intervention against the Indonesian Republic in July and August 1947. In the shadow of commotion, the economist K.D. Bosch estimated returns pocketed by 40 Dutch-owned colonial companies. As an indication of profitability, he used dividend rates cited in a compilation of publicly listed limited liability companies, the Van Oss Effectenboek. Average dividend rates were 18–20 per cent during the 1910s and 1920s but fell to 4 per cent in the 1930s (Bosch, 1947: 605, 681–684). The use of dividend rates as a proxy for the rate of return on investment has since become accepted practice among business historians.

Several years later, the historian J.N.F.M. à Campo was a pioneer in exploring the wealth of information in the annual directory of firms in

¹ Detailed information in my ‘Foreign capital and colonial development in Indonesia: A synthesis’ above, Table 1, and ‘The development and character of foreign investment in late colonial Indonesia’ by Mark van de Water below, Table 4.
colonial Indonesia that were incorporated under Dutch law (Handboek, 1888-1940). He estimated average dividend rates at 5-7 per cent around 1900, which in fact was akin to returns on investment in the Netherlands. Dividend rates then rose, climbing above 10 per cent on average in the years immediately preceding the First World War. Agricultural firms tended to follow the overall trend, whereas trading firms paid out far less on the capital invested. The sample gathered by à Campo eventually comprised 380 individual firms scattered over a period of twenty years, from 1893 to 1913. Regrettably, however, his exploration of this rich source of information remained confined to the initial years when private foreign investment in colonial Indonesia was still in its infancy (à Campo, 1996: 87-8).

An attempt to emulate à Campo’s pioneering work, extending it into the period of rapid expansion revealed that 670 private firms in colonial Indonesia reported non-zero dividends in 1930. The average rate was 11 per cent, which compared favorably with the standard 6 per cent expected by investors in the Netherlands. Firms with headquarters in the Netherlands paid out 12.4 per cent on average, twice as much as firms whose headquarters were located in the colony. Total pay-out of dividends in 1930 neared 400 million guilders, corresponding to one-tenth of aggregate equity (Lindblad, 1998: 78-80).

Tentative estimates of average dividend rates were recently derived for selected years from further processing of this source. At face value, averages looked especially impressive at 21 per cent in years of economic boom such as 1920 and 1925, but less so in 1930 when the onset of the worldwide economic depression already made itself felt and the average rate dropped to 12 per cent. Agricultural estate companies seemed especially keen on paying generous dividends, averaging as much as 25 per cent in 1925, which was far better than in either 1920 or 1930. It needs to be said, however, that non-zero dividend rates were only reported for a minority of firms covered by the business directory, one in five in 1920 and 1925, and less than one in ten by 1930 (Lindblad, 2014).

Methodology
Students of profitability would readily admit that dividend rates may at best serve as an incomplete measure for the actual rate of return. In the first place, reinvested earnings are by definition excluded. Second, dividend policies may also reflect other priorities than just satisfying the shareholders’ wish for annual remuneration. Management may wish to bolster the firm’s creditworthiness by paying out more than what results warrant. A convenient

2) The Handboek directory does include numerous business firms owned by Chinese residents of colonial Indonesia but hardly any business enterprises operated by indigenous Indonesians.
way to create hidden reserves in the company is to pay out less than what the company could afford. In the long run, other shareholders than direct family members are likely to demand a return on their investment. We may assume some relationship between dividend rates and actual profit rates even if the two are not identical. In addition, the only alternative to use dividend rates would be a scrutiny of company accounts of individual enterprises, which is obviously impossible to undertake for a large number of firms. This leaves us with the dividend rate as an incomplete but readily accessible proxy.

The matter of how to interpret dividend rates is best discussed on the basis of an obscure contemporary publication that only recently resurfaced. It was brought out by the bankers’ office of A.H. Keyser in Amsterdam in 1937. It is a thin brochure, intended to serve as an advice to presumptive investors with an interest in colonial business. Keyser’s analysis covered 60 firms listed at the Amsterdam Stock Exchange. Average dividend rates over the years 1906-1936 ranged from 10 per cent for rubber companies to 30 per cent for Deli tobacco and Java sugar factories, whereas oil and tin occupied an intermediary position with rates around 22 per cent (Figure 1). The bankers’ office also calculated average real gain over the years 1919-1936, linking dividends to share prices at the time under the assumption that share prices reasonably well conveyed the current value of equity. The recalculation resulted in significantly lower averages, notably 9.2 per cent in oil and 8.7 per cent in tin mining and Java sugar. The rubber estates again figure at the lower end of the scale, now at an average of only 6 per cent. Still, a long-run rate of return of 6 per cent was, in the words of the bankers, ‘in itself far from unsatisfactory’ (Keyser, 1937: 8-9).

Dividend is always paid out on the basis of nominal equity. Taken at face value, the dividend rate may give a misleading impression of returns if the value of equity has undergone changes in the meantime. Such changes are reflected in the movement of share prices. As an illustration, we turn to the Deli Maatschappij (Deli Company), the leading tobacco estate company in the plantation belt of Deli in North Sumatra (then East Coast of Sumatra). In 1925 nominal equity amounted to 30 million guilders. The board of directors proposed a dividend rate of 20 per cent, which means that 6 million guilders were paid out in the form of dividends. But the firm’s share price was in 1925 quoted at four times as high as when the company was founded. When offset against the current value of equity, the dividend rate therefore amounted not to 20 but to 5 per cent. Adjusting the dividend rate to current value of equity is likely to render a lower effective rate of return.

But there is more. A shareholder will pocket an immediate gain in the form of dividend paid out. In addition, there is the potential gain due to rising share prices, or conversely, a potential loss if share prices have declined. This gain or loss will only materialize when shares are being sold. Again, it
is instructive to look at the Deli Maatschappij. Share prices were 5 per cent higher in 1925 than in the year before. This represented an additional return of another 5 per cent. The total gain then becomes 10 per cent rather than the original 20 per cent dividend rate or the 5 per cent adjusted dividend rate. If the stock market is doing well, incorporation of potential gains from the higher value of shares will raise the total rate of return for the investor, and vice versa. The two types of gain for the investor may reinforce or offset one another. However, they remain fundamentally different with respect to the timing of realizing gains.

The method of adjusting dividend rates to changes in the value of equity is applied by Buelens and Frankema in a recent study. They use a small sample of 17 colonial firms listed at the Brussels Stock Exchange. They calculate an average adjusted dividend rate at 14.3 per cent per year over the period 1919-1928 and a sharp drop to an average of – 2.8 per cent over the years 1929-1938. They argue that the colonial firms in their sample did better than the world average during the 1920s but comparatively worse during the 1930s (Buelens and Frankema, 2016). It is worth noting that Buelens and Frankema apply a geometric rather than an arithmetic average in order to account for the cumulative effect of changes in adjacent years. In other words, annual returns are not conceived as fully independent of one another.

A major bottleneck in estimating average rates of return from dividend payments by individual firms is how to construct a sample of significant size. A shortcut was once suggested by economic historian Pierre van der Eng. He offset total dividend transmittances in the balance of the payments of the Netherlands Indies against spot estimates of total equity invested in the colony. This exercise showed an overall rate of return at 10.6 per cent in 1917 that fell to 5 per cent in 1922 and further to 1.5 per cent in 1930 (van der Eng, 2014). But this method assumes that all dividends were transmitted and show up in the balance of payments statistics, which does not at all need to be the case. Such an approach appears too crude as an alternative to a detailed examination of the evidence on the level of individual companies.

A brief recapitulation of the various methods applied shows how the quest for a representation of profitability in colonial investment has been plagued by one of two shortcomings. Either stated dividends are interpreted without being linked to share price developments, or the sample of firms examined becomes uncomfortably small. Either the method has not been sophisticated enough or it has been applied to too few firms. Ironically, the ‘best’ estimates with respect to both method and sample size may very well have been those presented in the obscure publication by Keyser bankers in 1937!
New estimates

Current research offers unique opportunities to estimate and interpret dividend rates of return for a fair number of firms operating in colonial Indonesia. Calculations presented here draw on a juxtaposition of data from two independent sources: the dividend rates as cited in the annual directory of firms incorporated under Dutch law, and share prices of those of the incorporated firms listed on the Amsterdam Stock Exchange. The calculation covers seven spot estimates over the period 1910-1940, separated by five-year intervals.

The scope of analysis is obviously constrained by the twin requirement that firms included both cited non-zero dividend payments and were listed at the Amsterdam Stock Exchange. On average 15 per cent of all firms figuring in the business directory did report a non-zero dividend rate. This proportion fell gradually from 1910, when the total number of firms was still small, to the large numbers of firms in 1920 and 1925, finally rising to 17 per cent in 1930 and 1940 when total numbers of firms were declining. Of all firms citing a dividend rate, 22 per cent on average were listed at the Amsterdam Stock Exchange, virtually all with Dutch owners. This proportion increased from an original level at 17 per cent to 27 per cent by 1920, 1925, 1930 and 1940; it dropped markedly in 1935 in the midst of the worldwide economic depression, in 1935. The size of the sample increased successively, from 74 in 1910 to a peak at 140 in 1930, followed by a sharp drop in 1935 and recovery in 1940 (Table 1).

The selected firms constituted a small proportion of all incorporated firms operating in colonial Indonesia. The maximum was only five per cent in the peak year of 1930, but merely 2 per cent in 1935. On the other hand, the sample does represent a skewed selection of Dutch-owned firms of considerable size. A bias towards larger firms is inherent in the requirement

3) The calculations were carried out in the framework of the research program 'Foreign capital and colonial development in Indonesia', executed at Leiden University over the years 2012-2016. The main sources of statistical information are the CBI and Stichting Capital Amsterdam databases, both accessible on websites. I am grateful to my one-time assistants Thomas de Greeve and Jelmer Puylaert for constructing the CBI database and to Jasper van der Schoot for processing the information from the Capital Amsterdam database.

4) Out of the eight years included in the CBI database, the year 1926 was left out as it was found to add little new information compared to 1925. Spot estimates are interpreted in comparison with one another, whereas the application of five-year intervals does not permit calculations of averages over time.

5) It is necessary to restrict the calculations to non-zero dividend rates since we have no way of knowing whether a zero dividend means that no dividend was paid out or that the company did not disclose this information to the compilers of the business directory.

of a listing at the Amsterdam Stock Exchange. Average equity of the firms in the sample neared 10 million guilders in 1915 and rose to 16 million guilders by 1925, far higher than the average of all Dutch firms: 800,000 guilders in 1915 and 1.4 million guilders in 1925. The share of the firms in the sample in total equity was far more impressive than their numbers suggest. The average over the seven years studied amounted 31 per cent. The peak was in 1910 at 38 per cent, but a similar proportion, 35 per cent, held true in 1915, 1920, 1930 and 1940 as well.\textsuperscript{7} Even if numbers were negligible within the entire corporate network of colonial Indonesia, the combined leverage of the selected firms in the sample was demonstrably substantial.

\begin{table}[h]
\centering
\begin{tabular}{lllll}
\hline
\text{Year} & \text{All firms} & \text{Firms reporting non-zero dividends} & \text{Firms listed on Amsterdam Stock Exchange} & \text{Total equity of selected firms (million guilders)} \\
\hline
1910 & 2059 & 420 & 74 & 456 \\
1915 & 3008 & 403 & 75 & 693 \\
1920 & 3736 & 552 & 93 & 935 \\
1925 & 3497 & 391 & 102 & 1062 \\
1930 & 2854 & 487 & 140 & 1467 \\
1935 & 1884 & 196 & 38 & 594 \\
1940 & 2156 & 356 & 91 & 1381 (1534) \\
\hline
\end{tabular}
\caption{Firms with non-zero dividends listed on the Amsterdam Stock Exchange, 1910-1940.}
\end{table}

The estimation procedure uses annual averages of share prices of common stock quoted at the Amsterdam Stock Exchange, leaving out preferential stock and other claims.\textsuperscript{8} Annual averages are calculated by firm from quotations at the middle of each month for at least half of the months of the year under study. The share price quotations serve a double purpose. They indicate the current value of equity and also show how much has been gained (or lost) due to fluctuations in the share price since the previous year.

A first step in our exploration is to calculate crude dividend rates based on the nominal value of equity. This can be done for the entire population of Dutch-owned firms reporting non-zero dividends. The average rate was about 14 per cent in 1910 and 1915, increased to 18 per cent in 1920, 1925

\textsuperscript{7} Statistics on total and average equity of all firms may be found in my ‘Foreign capital and colonial development in Indonesia: A synthesis’ above, Tables 1 and 2. In order to obtain full comparability with other years of observation, total equity of selected firms has for 1940 been adjusted downwards to account for the depreciation of the Dutch and Netherlands Indies currencies in 1936.

\textsuperscript{8} On occasion, a missing quotation on the Amsterdam Stock Exchange had to be filled in using information on the mother concern. This was in particular the case with the BPM (Bataafsche Petroleum Maatschappij, Batavian Petrol Company), the jointly owned subsidiary of Royal Dutch (Koninklijke) and Shell (van Zanden, 2007: IV, 69-70).
and 1930, but fell to approximately 10 per cent in 1935 and 1940. The pattern observed for all dividend-reporting Dutch firms is by and large replicated in the smaller sample of firms listed on the Amsterdam Stock Exchange. The average rate in the smaller sample increased from 12 per cent in 1910 and 1915 to 18 per cent in 1920, 1925 and 1930, and dropped to 9 per cent in 1935 and 1940. These are impressive averages considering the expected standard return of 6 per cent on investment of private capital. Although neatly portraying the changing business cycles during the 1910s, 1920s and 1930s, they are still misleadingly high. The calculation leaves out all firms failing to pay out a dividend in the first place and no correction is made for changes in the current value of equity.

Dividend rates of Dutch colonial firms were generally lower when adjusted for changing share prices (Figure 2). The average rate dropped from a level of 8-11 per cent in 1910 and 1915 to only 7 per cent in 1920 and 1925. High nominal returns were offset by rising share prices in the booming stock market during the immediate aftermath of the First World War and in the 1920s. A weaker stock market at the inception of the worldwide depression resulted in less adjustment of the nominal rate. As a result, the unadjusted average for 1930 was strikingly high at nearly 13 per cent. The worldwide depression brought a steep fall in share prices and by 1935 adjusted dividend rates barely differed from nominal ones. Recovery in both stock markets and the real economy during the late 1930s fostered a return to the situation in which adjusted rates were substantially lower than nominal.

**General interpretation**

Average nominal dividend rates in our sample of selected firms were particularly impressive in 1920, 1925 and 1930, oscillating around 17-18 per cent. The rate was considerably lower before and after these years of observation, at a range of 11-13 per cent in 1910 and 1915, and lower still, around 9 per cent, in 1935 and 1940 (Table 2). Yet, all these average rates of return exceeded the 6 per cent that was considered to be an adequate return on capital by investors in the Netherlands at the time. How it compared to returns on domestic investment in colonial Indonesia is difficult to say.

Dividend rates need to be adjusted by share prices in order to properly reflect the relationship to the current value of equity. In six out of seven years of observation, the average adjusted dividend rate is significantly lower than the nominal rate. The reduction of the dividend rate amounted to 30-35 per cent in 1910, 1930 and 1940, and as much as 60 per cent in 1920 and 1925. The sole deviation from the norm is 1935 when depressed share prices even warranted a minute upward adjustment of the nominal average rate. Also after adjustment for share prices did dividend rates in our sample of selected firms generally stay comfortably above the 6 per cent threshold.
The rate of return on invested capital, especially in 1915 (5 per cent above) and 1930 (7 per cent above). The only exception to the rule was the year 1940 when the adjusted dividend rate barely reached up to the 6 per cent. Even if cited nominal dividend rates gave an inflated impression of profitability, colonial business did offer excellent good opportunities to make profit by the standards of Dutch investors at the time. Whether colonial business was a better investment target than non-colonial business in the colony cannot be ascertained.

<table>
<thead>
<tr>
<th>Year</th>
<th>Nominal dividend rate (%)</th>
<th>Adjusted dividend rate (%)</th>
<th>Share price gain (%)</th>
<th>Total gain (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1910</td>
<td>11.0</td>
<td>7.9</td>
<td>4.8</td>
<td>12.7</td>
</tr>
<tr>
<td>1915</td>
<td>13.2</td>
<td>10.9</td>
<td>30.8</td>
<td>41.7</td>
</tr>
<tr>
<td>1920</td>
<td>17.6</td>
<td>7.1</td>
<td>-22.3</td>
<td>-15.2</td>
</tr>
<tr>
<td>1925</td>
<td>16.7</td>
<td>7.1</td>
<td>39.7</td>
<td>46.8</td>
</tr>
<tr>
<td>1930</td>
<td>18.5</td>
<td>12.7</td>
<td>-30.0</td>
<td>-17.3</td>
</tr>
<tr>
<td>1935</td>
<td>9.4</td>
<td>9.6</td>
<td>12.9</td>
<td>22.5</td>
</tr>
<tr>
<td>1940</td>
<td>8.9</td>
<td>5.8</td>
<td>25.9</td>
<td>31.7</td>
</tr>
</tbody>
</table>

Sources: See note 7.

But rising share prices do not only put cited dividend rate in a more realistic perspective by expressing the rate in relationship to current value of equity. They also represent a potential gain from a higher value of shares, a gain that would only be materialized at the moment of selling stock. Shareholders are confronted with these two types of gain, an immediate cash reward in the form of dividend payment and a future share price gain in case stocks are sold. Although fundamentally different, these two types of return from investment in stock may be brought together in an estimate of the total gain accruing to shareholders. It then transpires that exceptionally generous total gains applied in 1915, 1925 and 1940, in the range of 30-45 per cent, largely on account of a very favorable development of share prices. At other times, notably in 1920 and 1930, a dividend rate that also after adjustment remained fully acceptable was offset by the larger adverse development in share prices, resulting in a substantial potential loss.

In most years of observation the contribution by dividends in total gain was smaller than the contribution from share gain. This was the case not only in 1920 and 1930 when falling share prices wiped out the dividend gain, but also in 1915, 1925 and 1940 as the dividend contribution remained at one-quarter or less of the total gain for shareholders. The relative contribution by dividends towards total gain was only sizeable in two years of observation, 1910 (62 per cent) and 1935 (43 per cent). Shareholders holding on to stock
in colonial business could count on a nice reward if selling shares at the right time. For shareholders wishing an immediate cash reward, it was no option to wait and see.

The dividend payments by the selected firms in our sample represented an increasing flow of funds away from the colony. In 1910 and 1915 with some 75 firms participating, the total amounted to 50 and 80 million guilders respectively. Aggregate payouts by a slightly larger population (90-100 firms) climbed above 200 million in 1920 but fell back to 160 million in 1925. The year 1930 saw the peak of dividend payments, made by 140 firms and exceeding a quarter of a billion guilders. This was just before the worldwide economic depression started to have an impact on the economy of colonial Indonesia. In 1935, at the nadir of the depression, the population comprised less than 40 firms that between them paid out only 45 million guilders. In 1940, the recovery was in full swing with almost 100 firms paying out more than 150 million guilders. The size of these sums of dividend payment were conditioned not only by the prevailing dividend rate but at least as much by the varying number of firms involved in each year of observation. It goes without saying that these aggregates were considerably smaller than the total of dividends paid out by firms operating in colonial Indonesia, many of which were not listed at the Amsterdam Stock Exchange and therefore not included in our calculations.

**Differentiated Interpretation**

Earlier estimates of nominal or unadjusted dividend rates have highlighted a considerable variation across sectors and branches of industry. With the use of adjusted dividend rates, the possibilities of calculating sensible average are curtailed by the far smaller size of the sample. It seems logical to assume that an average rate needs to be based on data for at least four individual firms in order to offer some measure of the branch as a whole. Meaningful comparisons over time would similarly need to embrace at least four of the seven years of observation figuring in our analysis. Applying these restrictions to our calculations generate methodologically acceptable outcomes for ten important branches of economic activity in colonial Indonesia.

Among the colony’s top three export products, rubber appears to have been the most profitable one, judging from dividend rates over time as adjusted for changes in the value of equity (Figure 3). The average for seven years observed was 8.3 per cent, with spectacular peaks of 13 per cent in 1915 and 15 per cent in 1930. Sugar ranked second with an average at 7 per cent calculated over six years (leaving out 1935). The best years were 1925 and 1930 with adjusted dividend rates at 9.5 and 11.3 per cent respectively. Oil, third in succession, displayed a stable pattern over time with an average at 6.1 per cent, scarcely more than what investors were likely to expect. The drop
below 4 per cent in 1935 was obviously caused by the economic depression.

Of the three other leading crops in export agriculture, coffee offered higher rates of return than tobacco or tea (Figure 4). The average calculated over four years between 1925 and 1940 neared 11 per cent, primarily on account of a spectacular peak in 1930. The average for tobacco and tea was 7 per cent, slightly above the standard rate of 6 per cent, with an outlier at 10 per cent in 1930 for both.

In the services sector, banking was clearly the most profitable branch of activity (Figure 5). The adjusted dividend rate reached an extraordinarily high level in 1915 and 1930, and averaged 17 per cent over the four years for which it could meaningfully be calculated. Land transport, such as railways and steam trams, ranked second at an average of 9.5 per cent over the years between 1910 and 1930; the best year was 1930. Trading companies were in the third rank, averaging nearly 8 per cent over five years scattered throughout the period under observation. Despite impressive results in 1920 and 1930, the average rate for shipping differed only marginally from the expected 6 per cent rate of return.

The branch-specific average rates convey an impression of a reasonable profitability but not one fitting stereotype extremes. Nevertheless, there were individual firms reporting dividend rates that also after correction for changing share prices remain spectacular. One famous example is the Preanger Landbouw Maatschappij (Preanger Cultivation Company), ranking among the top three firms with the highest rates in all years except two; the adjusted dividend rate was 121 per cent in 1930. Another example is the Madoera Stoomtram Maatschappij (Madura Steam Tram Company), which on three occasions figured among the top three, including a 70 per cent adjusted dividend rate in 1930. The Poerwokerto sugar factory and Banda Crediet- en Handelsvereeniging (Banda Credit and Trading Association) both ranked among the top three on more than one occasion. The former registered a rate of 22 per cent in 1920, whereas the latter lavishly paid out 117 per cent in 1935 (after adjustment).

**Conclusion**

Investment by private Dutch companies in Indonesia in colonial times continues to stir up controversy and emotions among historians. Were the profits made by these firms exorbitantly high or not? This article offers a brief digression on that topic, reviewing the historiography and methodological pitfalls as well as presenting new results and a discussion on interpretations.

The survey of the historiography makes clear that explorations so far have generally been of a tentative nature, which may at least in part be ascribed to difficulties in finding and interpreting the appropriate statistical data. The discussion of methodological matters reaffirms the necessity not
to take dividend rates at face value but to adjust such rates for simultaneous changes in the value of equity. A major difficulty is to construct a large enough sample that lends itself for such an adjustment of nominal dividend rates. Results presented here form the outcome of a juxtaposition of two primary sources: the annual directory of incorporated business firms in colonial Indonesia and listings for a range of colonial companies at the Amsterdam Stock Exchange.

Results show strikingly high nominal dividend rates, ranging from a low average at 8.9 per cent in 1940 to a peak at 18.5 per cent in 1930. Adjustment for the changing value of equity, as indicated by movements in share prices, produces modified average dividend rates in the range from 5.8 per cent in 1940 to 12.7 per cent in 1930. Overall averages covering all seven years of observation would appear less sensible due to the considerable variation in the size of the sample of selected firms, from only 38 in 1935 to 140 in 1930.

Adjusted average dividend rates were combined with share price gains to render an impression of total gains for shareholders emanating from both cash payments of dividends and potential gains from future sale of stock. The total gain was found to be most strongly determined by the potential share price gain. The variation between the years of observation was enormous, from occasional losses to gains in excess of 40 per cent.

The adjusted dividend rates displayed a remarkable variation by economic sector and branch of industry. Among the top export commodities, rubber scored better than sugar and oil, whereas coffee took the lead above tobacco and tea elsewhere in the sector of export agriculture. Among services, banking scored far better than shipping, trading or land transport. It needs to be noted that the calculation of averages by branch was haunted by small numbers of observations. Averages embracing all years of observation were likely to offer a more solid impression of the level of profitability in colonial business.

The time is ripe to return to the initial question. Were rates of return, as indicated by adjusted dividend rates, exorbitant? The averages quoted, 5.8-12.7 per cent, compare favorably with the 6 per cent that shareholders normally expected as a direct return on investment. Yet, does a difference of 3-7 percentage points warrant the higher rate to be classified as ‘excessive’? It was clearly better than readily available alternative options in the Netherlands, but not necessarily much different from other overseas options, which in turn can only be assessed by applying a wider international comparative perspective. And again, whether or not it was ‘excessive’ compared to domestic investment in non-colonial business in the colony cannot be ascertained. In conclusion, we can only reaffirm that colonial business was a potentially highly interesting option for the Dutch investor, yet without any guarantee of spectacular windfall gains.
Figure 1. Average dividend rates and real gain in Dutch colonial firms over 1906-1936. Source: Keyser, 1937: 8-9.

Figure 2. Average dividend rates of selected Dutch colonial firms, 1910-1940. Sources: See note 6.

Figure 3. Average adjusted dividend rates at Dutch firms in top export branches, 1910-1940. Sources: See note 6.
Averages apply to at least four individual companies per branch in any given year.
Figure 4. Average adjusted dividend rates at Dutch firms in estate agriculture, 1910-1940.
Sources: See note 6.
Averages apply to at least four individual companies per branch in any given year.

Figure 5. Average adjusted dividend rates at Dutch firms in the services sector, 1910-1940.
Sources: See note 6.
Averages apply to at least four individual companies per branch in any given year.

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