Lewis revisited: tropical polities competing on the world market 1830-1938.

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Abstract

This paper explores the causes of changes of exports of tropical polities with a constant market share analysis. Total trade grew less than total commerce, while prices relative to other tradables remained roughly constant. We thus tentatively infer that trends in trade reflect an insufficient demand for tropical products. Thus, tropical producers faced a relatively hostile environment with rather different results. By and large, Asia performed well, and British Malaya was a shining success story. African polities needed much time after colonization, but succeeded to increase their share after World War Two. The loser was (South) America, and most notably the Caribbean former slave colonies.

1) Introduction

Tropical products accounted for about a sixth of total world exports in 1913, but for a much higher share of exports of many poor countries in Africa, South America and Asia. The role of exports about (lack of) growth in tropical countries has been controversial since the 1950s. Prebisch (1950, 1959) and Singer (1950) argued that the specialization in primary products was a blind alley. The weak demand for these goods caused their prices to decline relative to prices of manufactures and thus the terms of trade of less developed countries to worsen. They concluded that these countries had to foster industrialization with aggressive import-substitution (ISI) policies. The claim about terms of trade has always been controversial (cf. e.g. Spraos 1983, Diakosavvas and Scandizzo 1991, Hadass and Williamson 2003) but the prescription was widely adopted. There were few dissenting voices, such as Bauer-Yamey (1957) and Myint (1971) and above all, in historical perspective, W.A. Lewis (1969 and 1970). He argued that export of tropical countries did rise fast before 1913 but afterwards the prospects for growth were severely hit by the Great Depression. Lewis’ optimistic assessment became conventional wisdom in the 1980s (Reynolds 1985) and, the issue largely drifted out of the scholarly debate. Historians have ceased to be interested in economic history while economists have focused on institutional failures, or on genetic potential as deep cause of poverty. The recent revival in African economic history seems to have missed the issue, which had figured prominently in the old literature (Austen 1987, Hopkins 2009). The literature on Asia discuss trends of exports and their impact on growth (or on stagnation after 1913), without emphasizing their role – cf. e.g. Tomlinson (1993) and Roy (2000) on India or Van Zanden and Marks on Indonesia (2012) In contrast, the issue of exports and growth remains central in the debate on Latin America. Bulmer-Thomas (2012) deals extensively with exports as key to understand the poor performance of (most) Caribbean colonies. Prados de la Escosura (2009) points out the stimulating role of exports for (at least some) countries after independence. The recent book by Bertola and Ocampo (2012) interprets the whole economic history of Latin America with a simple Keynesian model, whereby exports were determined by trends in world demand. In a related strand of literature, Williamson (2008, 2011) has revived the Prebisch-Singer debate, but with a different twist. He argues that the problem was the fast rise of terms of trade in most peripheral countries before 1870 rather than their worsening in the 20th century. Growing prices of commodities caused a specialization in primary products, which ultimately damaged the long run prospects. In fact, it increased the volatility of terms of trade, a serious hindrance to growth (Blattman et al 2007), prevented the growth of
manufacturing and thus of economics of agglomeration, and, last but not least, it worsened the distribution of income, affecting negatively the investments in human capital.

This paper contributes to this debate by returning to a key insight by Lewis. The tropical polities as a group were the sole or the main suppliers of tropical goods but each of them competed with other tropical countries, both close-by and in faraway continents. The export performance of each polity, and thus its prospect for growth, depended on world demand and on its productivity, which could be affected by local events, such as the emancipation of slaves for the Caribbean, but also on the productivity of all other potential competitors. In this paper, we explore the (proximate) causes of the growth of export from 1830 to 1938 with a constant market share analysis. We focus on the eighty polities (independent country or colony) whose territory at 1913 borders laid mostly between the two tropics (see the full list in Appendix A).

After a short general introduction about their performance (Section Two), in Section Three we set forth the method of estimation and we remind the Section Three deals with the sources of data and the methods of estimation. Section Four sketches out the main trends in trade of tropical products, extending the analysis of Lewis back in time to the early 19th century. Section Five reports the results of the constant Market Share Analysis, stressing the importance of changes in world demand and the different performance by continent. Section Five discusses in more detail the case of Asia. Section Six concludes and speculates about the possible supply-side causes.

2) Tropical polities in the world market

From 1830 to 1913, total exports of tropical polities increased tenfold. This rise apparently confirms Lewis’s sanguine assessment of their performance: “the most surprising outcome of this exercise has been to discover how rapidly tropical trade was growing in the period before the first world war” (1969 p.8). A quick look at the share of tropical polities on world trade (Figure 1) is bound to dampen this enthusiasm. It almost halved in the 19th century and recovered only a couple of points before the war. The performance of tropical polities improved after the war: exports increased by two thirds from 1913 to 1938 and the share of world commerce increased substantially re-gaining twice, in the 1920s and again on the eve of World War Two, the level of the mid 19th century.

Figure 1
Share of tropical polities on world exports, current prices

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1 We extract trade series at constant and current prices from our data-base (Federico-Tena 2015). We omit entirely 15 small tropical polities (Dutch new Guinea; US settlement Oceania; Basutoland; Bechuanaland Protectorate; British Bechuanaland; British Cameroon, Spanish Guinea; Swaziland, Bhutan; Hong-Kong; Kwang-Chou-Wan; Macao; Maldive; Timor; Yunnan) and thirty additional polities before 1850. These missing polities account for 14% of exports of tropical countries in 1850, but for 66% of exports from (tropical) Africa. Our series in Figure 1 is correspondingly undervalued.
The overall decline of the share of tropical polities is the sum of widely different trends by continent. African polities accounted for about 2.5% of world exports in 1850 but their share declined in the second half of the century and rose remarkably only after the war, up to 4% in the late 1930s. The share of Asia fluctuated widely, between 6.5% (as in the mid 1890s) and 10% (as in the 1860s and 1920s), without any clear trend. The big loser was (Southern) America, whose share on world trade fell from over 15% in the 1830s to less than 5% in the early 1880s and never really recovered. The differences appear very clearly if we focus on tropical polities only (Figure 2).

Figure 2
Share of tropical polities by continent

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2 In the following as a rule we neglect Oceania. In fact the tropical polities of the continent (i.e. the European colonies in the South Sea islands) accounted for at most 0.33% of world exports.
Figure 3 groups polities according to their political status, as a (crude) proxy for the nature of their institutions. We distinguish independent countries, colonies and tribal societies (i.e. the areas in Africa and Asia which corresponded to future colonies before their formal establishment) ³

Figure 3
Share of tropical polities, by status

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³ We allocate each polity in the three categories in each year according to Correlates of War, supplemented by country-specific source. There were 18-19 independent countries (all in America, plus Egypt until 1881, Ethiopia, Liberia and Siam), while the number of tribal areas declined from 31 (all in Africa except Sabah and French Indochina) in 1830 to zero after the creation of French Equatorial African colony in 1909.
By definition the share of tribal areas declined as they were formally organized in colonies. In the long run, the share of colonies increased somewhat in the long run, but the most interesting result emerges from a comparison between shares by continent and by political status – i.e. between Figure 2 and 3. Most of the decline in the share of America reflect the collapse of exports from Caribbean colonies. In 1830, American colonies and independent countries accounted for about a third of tropical exports each (i.e. for about 7% world exports), but on the eve of World War One the share of colonies was down to 2% (about 0.3%), while that of independent countries was back to 30%, after a decline to a fifth in the 1870s.

Last but not least, Figure 4 plots un-weighted and export-weighted averages of terms of trade for tropical polities ⁴

Figure 4
Terms of trade of tropical polities (1913=100)

⁴ Whenever possible, we use polity-specific price indexes by scholars or statistical offices, including the League of Nations. If not available we estimate indexes with London prices, following Blattman et al (2007). Unlike them we consider both imports and exports and we adjust for changes in freights (see for details Federico and Tena 2015).
The results cast a lot of doubts on the received views about the long terms trends. The terms of trade of tropical polities did fluctuate a lot, as posited by Blattman et al (2007), but without a clear trend. From 1830 to 1938, the trade-weighted series is totally trendless, while the unweighted one shows a very slow downward trend (-0.24% per year 1830-1938 and -0.18% 1830-1929). The (weighted) series did rise in the second half of the 19th century, but (almost) only to recover after the dramatic fall from the mid-1830s onwards. The (trade-weighted) series by continent confirms the basic conclusion, with two relevant exceptions in the 19th century (Figure 5)
First, the short-term movements of terms of trade differed markedly between Africa and the rest of the world: the coefficient of correlation between the African and world series in 1850-1900 is -0.42 vs 0.88 for America and 0.80 for Asia. Second, the terms of trade of Asia improved by 85% from the early 1830s to the mid 1890s. This increase reflects the rise in some large exporters such as Sri Lanka (increase by 200% since the early 1850s), Indonesia (150%), India (58%) and Indochina (70% since the 1850s), while terms of trade barely changed in British Malay (since the 1850s) and in the Philippines.

3) Sources and methods

The Constant Market share distinguishes six (proximate) causes of the change of the market share of a tropical polity or group of polities in a given period (e.g. from 1830 to 1850)

i) changes in the total world demand for tropical products

ii) changes in the composition of world demand for tropical products

iii) changes in the share of the trade of its ‘traditional’ tropical products – i.e. the goods the polity exported in the initial year of the period

iv) diversification towards ‘new’ tropical products – i.e. goods which the polity did not export in the initial year

v) changes in the share of trade in ‘not tropical’ products

vi) changes in the composition of world demand for ‘not tropical’ products
We obtain the contribution as the difference in the final year of the period between actual shares and a counterfactual shares, which we compute assuming that the relevant share had remain constant at its initial level.

We define \( x \) as exports of the \( i \)-th product from the \( j \)-th polity (or group of polities), which we add by polity \( (X=\sum x) \) or by product \( (Y=\sum x) \), so that that world trade is \( X=\sum X=\sum Y=\sum x \). We distinguish, with a superscript, tropical \( (x^T) \) and not tropical \( (x^{NT}) \). As said, we compute this latter as a residual category - i.e. \( x^{NT}=X-\sum x^T \).

We further distinguish, for each polity and pair of benchmark years, the ‘old’ tropical products \( (x^O) \) exported at time \( t \) (but not necessarily at time \( t+n \)) - from ‘new’ tropical products \( (x^N) \), exported at time \( t+n \) but not at time \( t \).\(^5\) In this notation, total exports of the \( j \)-th polity can be written at time \( t \)

\[ X_t=\sum x_t^O+\sum x_t^N+\sum x_t^{NT} \]

And at time \( t+n \) as

\[ X_{t+n}=\sum x_{t+n}^O+\sum x_{t+n}^N+\sum x_{t+n}^{NT}. \]

In this notation, we define

- \( \Phi \) share of the \( i \)-th polity on world trade - i.e. \( \Phi=X/X \)
- \( \Pi \) share of the \( i \)-th polity on world exports of all tropical products - i.e. \( \Pi=\sum x^T/\sum X^T \)
- \( \pi \) share of the \( i \)-th polity on world exports of the \( i \)-th tropical good - i.e. \( \pi=x^T/X^T \)
- \( \Psi \) share of the \( i \)-th polity on world exports of not tropical products - i.e. \( \Psi=x^{NT}/X^{NT} \)

\( S \) share of all tropical products on world trade -i.e. \( S=\sum X^T/X \)

\( (1-S) \) the share of not tropical products on world trade -i.e. \( 1-S=\sum X^{NT}/X \)

\( s^T \) share of the \( i \)-th tropical product on tropical exports of the \( j \)-th polity - i.e. in general \( s^T=x^T/\sum x^T \)

and more specifically \( s^O=x^O/\sum x^T \) for ‘old’ products and \( s^N=x^N/\sum x^T \) for ‘new’ ones

\( \omega^T \) share of the \( i \)-th tropical product on total trade of tropical products – i.e. in general \( \omega^T=Y^T/\sum Y^T \) which can be distinguished as before between ‘old’ \( \omega^O=Y^O/\sum Y^T \) or ‘new’ goods \( \omega^N=Y^N/\sum Y^T \)

As a first step, we allocate total change (i.e. \( \Phi_{t+n}-\Phi_t \)) among

a) changes in the world share(s) of tropical goods (i)
\[ C_1=\Pi_{t+n}^* (S_{t+n}-S_t) \]
b) changes in the share of the \( i \)-th polity on the world market for not tropical goods (ii)
\[ C_2=(1-S_{t+n})^* (\Psi_{t+n}-\Psi_t) \]
c) changes in the share of the \( i \)-th polity on the world market for tropical goods
\[ C_3=S_{t+n}^* (\Pi_{t+n}-\Pi_t) \]
d) a residual, which captures the effect on the share of the \( i \)-th polity of the change in the composition of world trade in not tropical goods (vi)
\[ C_4=\Phi_{t+n}^* \Phi_t \rightarrow C_1-C_2-C_3. \]

Then, we allocate the contribution of change in tropical products (C3) among

e) changes in the market share for ‘old’ products (iii)
\[ C_5=C_3^* [\omega_{t+n}^O* (\Sigma \pi_{O,t+n}-\Sigma \pi^O)]/[\Pi_{t+n}-\Pi_t] \]
f) change (i.e. increase) in the market share for ‘new’ products (iv)
\[ C_6=C_3^* [\omega_{t+n}^N* (\Sigma \pi_{N,t+n}-\Sigma \pi^N)]/[\Pi_{t+n}-\Pi_t] \]
g) change in composition of world exports of tropical products, which we obtain as residual (ii)
\[ C_7=C_3^* [\Pi_{t+n}-\Pi_t] C_5-C_6 \]

Thus, total absolute change in the share can be decomposed as
\[ \Phi_{t+n}^* \Phi_t = C_1+C_2+C_4+C_5+C_6+C_7 \]

\(^5\) We omit the tropical products which were not exported in the initial or final year (‘other’ tropical products). We also omit the polity subscript.
while each contribution can be expressed in relative terms by dividing by \((\Phi_{it} - \Phi_i)\).  

In practice, we consider forty tropical goods, as listed in an official WTO document (WTO 2006). We estimate the total trade of each of them at current prices in eight benchmark years (1820, 1830, 1850, 1870, 1890, 1913, 1929 and 1938) by summing up exports from tropical polities and from the main non-tropical polities (e.g. the United States for cotton). We compute the value of exports of the i-th product from the j-th polity by multiplying its total exports by the share of the good on exports, from polity-specific sources (see the list Appendix A). We then sum all estimates and compute the difference with total exports, which we label ‘not tropical products’, although it might include exports of tropical goods, which the compilers of trade statistics deemed too small to be worth of registration. Unfortunately, we have not been able to find data on composition of exports for all polities in all years. In fourteen cases, we have found no information at all, and thus we have been forced to drop altogether the polity. In other cases, we fill the gaps by linearly interpolating between two (or more) benchmark years or, if the gap is at the end or at the beginning of the period, by using the first or the last available data. Our estimate is thus a lower bound of the true trade, as it omits these polities and un-recorded exports from tropical or not tropical polities. Indeed, our estimates of tropical trade for the six main products are decidedly lower than those by Yates (1959 tab A.16), which we suspect to have been inflated by the inclusion of re-exports. We allocate total change between pairs of benchmark years (1820 to 1830 etc.) and also for five long-term changes, 1830 to 1870, 1870 to 1913 (or 1850 to 1913 to take into account the poor coverage of Africa in 1830), 1913 to 1938 and 1830 to 1938.

4) An overview of world trade for tropical products

Table 1 sums up the key information about trade in tropical products in the eight benchmark years.

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6 The products are abaca (HS 5305), arrow root (HS 714), bananas (HS 803), Cashew fruit and coconuts (HS 801), Cinnamon (HS 906), Cloves (HS 907), cocaine (no HS), cocoa (HS 180), Coconut Oil (HS1513), Coffee (HS 901), copra (HS 1203), Cotton (HS 5202), cotton seed (1512), Dates and figs (HS 804), Fruit (HS 800) gums and resins (HS 1301) indigo, fustic, cochinelle (HS 3203), Molasses (HS 1703) Nutmeg, mace (HS 908), Palm Nuts and kernels (HS1513), Palm oil (HS 1511), Peanuts (HS 1202), Pepper (HS 904), Piassava and other materials for brush (HS 1403), Pineapples (HS 804), Raffia and rattans (HS 1401), Raw jute (HS 5303), rubber (HS 4001), Sesame and seeds (HS 1207), sisal and agave fibers (HS 5304) spirits (HS 2208), sugar (HS 1701), tapioca flour (HS 1903), tea (HS 902), tobacco (HS 2401), tobacco manu (HS 2402), vanilla (HS 905), vegetable oils (HS 1515) yerba, bark (HS 1404).

7 We omit Capo Verde, Canary Island, Eritrea, Ethiopia, French West Africa & Togo; Guinea Bissau (Portuguese Africa); Liberia; Reunion; Rwanda and Burundi; St. Helena; Seychelles; Togo (German West Africa), Brunei; Danish India; Formosa (Taiwan); French India; Portuguese India. They accounted on average for 5.2% of all exports of tropical polities in 1850-1938, with maximum 12.4% in 1932.

8 A comparison is possible for cotton, sugar, coffee, tea, rubber and tobacco: the sum of Yates’ estimates is 15% higher than our total in 1913, 20% in 1929 and 32% in 1937. In these two years, Yates relies on a German source (1959 pp.210-213), while he has collected the data for 1913 for a number of countries, including the United Kingdom and the Netherlands. This procedure causes a double counting whenever these goods are already registered as exports from the producing countries and the problem is worsened by the notoriously inflated Dutch figures (Lindblad and Van Zanden 1989).
Table 1
The tropical trade

<table>
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<th>Year</th>
<th>a)</th>
<th>b)</th>
<th>c)</th>
<th>d)</th>
<th>e)</th>
<th>f)</th>
<th>g)</th>
<th>h)</th>
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<td>21.3</td>
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<td>19.2</td>
<td>59.4</td>
<td>99.3</td>
<td>56.5</td>
<td>1.32</td>
<td>0.79</td>
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<td>16.3</td>
<td>61.3</td>
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<td>63.0</td>
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<td>14.5</td>
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<td>57.6</td>
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a) Number of tropical polities
b) Share of tropical polities on total world trade (ΣΦ)
c) Share of tropical products on total world trade (S)
d) Share of tropical polities on world exports of tropical goods (ΣΠ)
e) Share of tropical polities on world exports of sugar (Σπi, with i=sugar)
f) Share of Tropical products on exports of tropical polities (ΣX/TΣX)
g) Export per capita of tropical polities in constant (1913) dollars
h) Exports per capita of tropical polities, relative to world average

Column a) reminds that the sample in 1820 and 1830 is incomplete, and thus the results are fully comparable only from 1850 onwards, while column b) simply reproduces the results from Figure 1 for our benchmarks years. The remaining six columns highlight four stylized facts:

i) the share of tropical products on world trade (column c) declined steadily in the long run, with the exception of a short rebound in the fifteen years before World War One. The decline concentrated in the most important goods. In 1850 the five most important products, cotton, sugar, coffee, tea and tobacco, accounted for 16% of world trade. In 1938 four of them were still in the top five, but their total share was down to 7% of world exports. Tobacco had been substituted by rubber, which anyway accounted for 1.43% of world exports (or 12.8% of tropical products), after a ten-fold rise from 0.14% of world exports in 1850. The long-run (relative) decline of tropical goods was bound to reduce the share of tropical polities on world exports, unless they succeeded to augment their shares on total trade at the expense of not tropical polities.

ii) by 1850 tropical polities accounted only for three fifths of total trade in tropical goods (column d) because not-tropical polities, most notably the United States, supplied a sizeable share of world demand for cotton and tobacco. In the second half of the 19th century, tropical polities faced a strong competition in the sugar market from European producers of beet sugar (column e). Yet they managed to increase marginally their overall share by gaining on the tobacco markets. The competition from European beet sugar was strongly reduced by the Bruxelles agreement in 1902 and disappeared almost entirely after the war. Consequently, the share of tropical producers on the market for tropical goods increased to an all-time peak in 1938.
iii) tropical products accounted, on average, for only about 60% of total exports of tropical polities and their share was declining, albeit very slowly (col. f). The share was higher in Africa (around two thirds) than in Asia (around a half), while in America it declined from around 70% before World War One to 50% in 1938. Thus, other (‘not tropical’) goods mattered a lot and we will try to pay them the due attention. Unfortunately, we partial information about the composition, but clearly they included mostly minerals plus some not-tropical food such as rice and wheat, while few tropical countries exported manufactures.

iv) the export per capita from tropical polities (column g) is a quite crude measure of openness, but it is the only available for tropical polities. It increased more than fourfold from 1830 to 1913 and by a further 50% from 1913 to 1929. This is a great achievement, but not great enough to match the growth in the world openness: as column h) shows, export per capita of tropical polities were close to the world average in 1830 and less than half of it on the eve of World War One. The ratio increased after the war, but it never fully recovered

This preliminary analysis suggests that the performance of tropical producers was far from impressive, but it was not entirely their own fault. They had to struggle against strong headwinds (the declining share of tropical products). They managed to cope, by increasing their share of the market and, to some extent, also by diversifying away from tropical products, but only partially. In the next Section, we will test this working hypothesis, but before we have to discuss the trends in relative prices of tropical products. They are relevant on two grounds. First, unless the demand for tropical goods was income-inelastic, growing relative prices imply that productivity was lagging behind productivity in the production of other tradables – i.e. in industry, mining and not-tropical agriculture. Thus, one might argue that growing prices signal a partial failure by tropical producers to respond to the opportunity of world market. Second, an increase in prices of tropical products might explain the decline in their share of world trade. It would surely reduce consumption and exports and thus, ceteris paribus, the share of tropical products on world trade at constant prices. The effect on data at current prices depends, ceteris paribus, on the elasticity of demand for tropical goods. If the demand were price-inelastic, the rise in price would compensate the fall in quantity and the total value of tropical trade, and hence the share on world exports at current prices, would increase. The two effects would offset each other perfectly if demand elasticity were unitary, while the volume effect would prevail and total exports at current prices would decline if demand were elastic. Most tropical goods were still ‘luxury’ consumption items in 19th century and thus demand must have been elastic. Thus, one would expect, ceteris paribus, that the shares of tropical products on world trade at current and constant price to move together and, ceteris paribus, inversely to relative prices. Figure 6 shows this was the case

Figure 6
Relative prices of tropical goods and share of tropical polities at current and constant prices

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9 This analysis neglects the effect of rise of domestic production of import-competing goods and of duties in producing countries, as well as all general equilibrium effects. As a first approximation, both the competition from domestic producers and the duties are bound to reduce exports more than consumption and thus to worsen the decline in the share of tropical goods.
The coefficient of correlation between shares at current and constant prices (lower part of Figure 6, left-hand axis), is quite high (0.80 over the whole period) and the annual rates of change to 1913 are broadly similar (0.61% at constant and -0.44% at current prices), although significantly different at 5%. This high correlation is consistent with trends in prices of tropical products relative to prices of all tradables, which we show in the upper part of the figure (right-hand axis, 1913=100) 10. The relative prices fluctuated widely in the short and medium run but in the long run remained constant, as the terms of trade (Section Two). The two series are correlated at 0.48 and neither shows significant long-term trend. Thus, we conclude that, at least as a first approximation, price movements cannot explain the long-run decline in world shares of tropical products.

The conclusion holds true for tropical products (and thus tropical polities) as a whole, but not for each product. The stability of prices is the net outcome of widely diverging changes by product. From the 1830s to the eve of WWI, relative prices of sugar and tea collapsed, prices of rubber first decreased and then recovered to their initial level, prices of cotton and coffee remained roughly constant and prices of tobacco doubled. From 1913 to 1938, tobacco prices continued to rise, tea prices increased a bit while all other relative prices of tropical goods plummeted. The fall was the largest for rubber, which featured a technological revolution thanks to the start of plantation production. In other cases, there is no strong evidence of technical progress, and thus one would expect prices of tropical products to rise. One can speculate that they did not because the decline in prices of manufactures was compensated by the increase in prices of not-tropical commodities or because the production of tropical primary products featured a land-intensive technical change (e.g. thanks to the opening of new territories). It would be very interesting to pursue this line of inquiry, but for the purposes of this paper

10 The denominator is our implicit index of world export prices (Federico and Tena 2015), while the numerator is a purposely-built index of prices of tropical products in London (cf. for sources and references Federico and Tena 2015 Statistical Appendix Table A.2). The coefficient of correlation with the Lewis price index of tropical products in 1871-1938 is 0.894.
the key fact is that tropical polities faced different demand conditions given the bundle of commodities they specialized in.

5) Results: the competition for tropical products

Table 2 reports the results for all tropical polities and a reduced set of data for continents, colonies and independent countries (data for short-period changes in Tables A and B, Statistical Appendix). The figures are expressed in term of absolute changes in world market shares, rather than in shares of the actual change. Therefore, they are bound to be smaller for any group of polity than for all tropical polities and even smaller for individual countries. In order to make the interpretation easier, we have changed the sign when necessary: a positive figure always corresponds to an increase in market shares. The columns correspond to the six effects outlined in Section Three:

i) changes in the share of tropical products on world trade (C1)

ii) changes in the composition of world-wide demand for tropical goods (C7)

iii) changes in the share of the world market of ‘traditional’ tropical exports (C5)

iv) changes (by definition only upwards) in the share of the world market of ‘new’ tropical exports (C6)

v) changes in the share of the world trade for ‘not tropical’ goods (C2)

vi) changes in the composition of world-wide demand for not tropical goods (C4)

These six effects have a straightforward economic interpretation. Columns i), ii) and vi) measure the so-called commodity lottery, favoring all tropical polities (i) or a polity or group of polities (ii and vi). Columns iii) to v) measure the competitiveness of the polity, respectively in the market for its ‘traditional’ tropical products, in the market for other tropical products (i.e. its capability of diversification) and in the market for ‘not tropical’ products (between brackets as it can include also some unregistered tropical products). For instance, let’s consider the line 1830-1870 for all tropical countries. In those forty years, the cumulative share of tropical polities fell by 6.8 points: 4.7 of them can be explained by the commodity lottery, and 3.3 by the loss of competitiveness in not tropical products, while the competitiveness in ‘traditional’ goods (tobacco and cotton) and in ‘new’ products increased the share by 1.2 points.
Table 2

Constant market share analysis

a) all tropical polities

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1830-1870 | -6.8 | -3.0 | -2.0  | 0.6  | 0.6  | -3.3 | 0.3 |
| 1870-1913 | -0.6 | -1.7 | 0.8   | -0.5 | 0.0  | 0.5  | 0.3 |
| 1913-1938 | 1.7  | -1.9 | 0.6   | 0.8  | 0.0  | 1.7  | 0.5 |
| 1830-1938 | -5.7 | -7.7 | -0.8  | 1.4  | 0.6  | -1.3 | 2.2 |

b) by continent

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c) by political status

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We can sum up results in four stylized facts\(^\text{11}\)

a) Column i) shows that the commodity lottery played against tropical countries in all periods but 1900-1913. For the whole period (row 1830-1938) the effect was large enough to account for more than the whole decline of their share on world trade. The losses were especially heavy in Asia (throughout the whole period) and in Africa before 1913, while this effect accounted for ‘only’ about a third of the decline in the American share before 1913. As said in Section Four, in the long run relative prices remained stable and thus the decline reflects mostly movements in the demand curve. This conclusion is confirmed also by a quick look at the movements for shorter periods: relative prices and the share of tropical products moved in the same direction in six out of periods, the exceptions being 1850-1870 and 1870-1890 (both with rising prices and declining shares)\(^\text{12}\).

b) the changes in the composition of tropical product (column ii) had mixed effect – a heavily negative one in 1830-1870 but largely positive afterwards. By definition, these movements reflect changes in the aggregate share of cotton, sugar and tobacco, the three tropical products which were exported by not tropical polities.\(^\text{13}\)

c) the changes in the composition of not tropical products (column vi) favoured tropical polities. The sign is positive in all periods for the whole group and also for continents, with the significant exception of America before 1870.

d) the tropical polities as a whole proved to be consistently competitive against not tropical polities on the market for tropical products, as seen by column iii). The exception is the period 1870-1890, when tropical polities suffered heavy losses in the share of market for sugar (Table 1). These effects were proportionally much larger for continents. In the long run, and also in most periods, the loser was America and the winner Asia. America lost particularly badly in 1830-1850, when the decline in the share for its ‘traditional’ exports accounted for about a third of its catastrophic loss of six point in the percentage of world exports, but also in 1870-1890, when it accounted for almost all the (smaller) decline. Asia gained in 1830-1870, and again in the interwar years: we will discuss this performance in more detail in the next Section. The record of Africa is mixed: it gained almost as much as Asia in 1850-1870 and again after 1913, but it lost ground in 1870-1890 and above all in the period before World War One.

c) Tropical countries as a group lost badly shares in the market for not tropical products before 1870 (column v). The losses were particularly heavy in America, while Asia managed to lose only few percentage points. We have little information on specific products (or class of products) but we speculate that this loss reflects de-industrialization. The American share continued to decline also in 1870-1913, to rebound after the war, probably thanks to the Mexican and Venezuelan oil.

6) The Asian success

As clear from the previous Section, Asia managed to cope with the headwinds better than Africa, and decidedly better than America. The constant-market share analysis refers to ten tropical polities in the

\(^{11}\) In the following, we focus on changes by continent rather than changes by political status, because the division colonies/independent countries largely coincide with the division Asia and Africa vs America (with the important exception of the Caribbean).

\(^{12}\) If we consider the share on polities rather than on products, we have to add 1913-1929. The movements of shares in this case, however, depends also on prices of not tropical goods.

\(^{13}\) This positive composition effect coincides with a decline in the cumulative share of these three products on exports of tropical products in 1870-1890, 1890-1900, 1913-1929 and 1929-1938, while in 1850-1870 the share rose and the composition effect was negative. Only in 1830-1850, both the share and the composition effect are negative.
continent, but three of them, India, Indonesia (by then Dutch East Indies) and British Malaya (including present-day Singapore), which accounted for between 70% and 80% of total exports of (tropical) Asia. A visual inspection of their shares on world trade (Figure 7) shows that there was not a common ‘Asian’ pattern as there was a Caribbean one. British Malaya was one of the few success stories among tropical world. It doubled its share, with an almost uninterrupted rise from the 1870s onwards. The share of Indonesia increased in the 1830s, declined slightly until 1913 and then rose again around 2% after the war. The Indian series featured two huge spurts in the 1860s and in the 1880s, followed by slumps, but in the long run it shows a modest decline, which accelerated after the war.  

Figure 7
Share of three big Asian tropical polities on world trade, current prices

![Graph showing the share of three big Asian tropical polities on world trade, current prices. The graph displays the share over time for British Malaya, Indonesia, and India. The x-axis represents the years from 1850 to 1925, and the y-axis represents the share on world trade. The graph shows fluctuations over time for each polity.]

The differences between the three polities, and thus between each of them and the whole of tropical world, are confirmed by the results of the constant-market share analysis (Table C Statistical Appendix) and also by the additional information on trade in the eight benchmark years as reported in Table 3 - the share of tropical products on total exports (column a), the share of the polity on trade of tropical products (column b) and the exports per capita in constant (1913) dollars (column c).

Table 3
The trade of Asian polities

14 Rates 1830-1938 India -0.27% not significant, Indonesia 0.16% not significant British Malaya 1850-1938 1.02% (sign 1%) 1850-1913 0.93% (sign 1%)
Before World War One, British Malaya exported mostly not tropical goods – i.e. mainly tin, but also some rice and miscellaneous goods). In fact, the combined effect of growing competitiveness in market for not tropical products and change in the composition (Statistical Appendix Table C cols. v and vi) accounted for about two thirds of the growth in the share 1870-1913. The rest is accounted for by the change in the composition of the demand for tropical goods (Statistical Appendix Table C col. ii). After the war, this favorable trend continued, but the driver of the growth was the boom in exports of rubber. They soared from less than 1% of exports in 1900 to 17% in 1913 to almost half in 1938. As said, rubber the success story among tropical products, and thus changes in composition of world exports of tropical products (Statistical Appendix Table C column ii) account for almost all the growth of the share on world trade. Malaya doubled its share on the world market for rubber, but the contribution of competitiveness factor to its performance (Statistical Appendix Table C column iii) was modest because this massive gain was almost entirely offset by losses in the markets for peanut oil (from 30% of world commerce to 15% 1913-1938) and copra (from 15% to zero).

On average, Indonesia depended on exports of tropical products more than Malaya and India throughout the whole period, and thus it was hit more than the two other polities by the commodity lottery (Statistical Appendix table C column i and ii). From 1830 to 1870, the decline was offset by gains of market shares for sugar (from 1% to 9% of world market) and coffee (from 8% to 20%), which reflected the strong increase of the local supply under the Cultivation system and the fall in Caribbean production after the slave emancipation. From 1870 to 1913, Indonesia succeeded to keep or even to increase marginally its share of world by diversifying its tropical exports into tea and rubber, with a sizeable contribution of exports of not tropical goods. After 1913, it continued to gain market share in rubber and tea, but it lost in all its traditional exports (pepper, sugar, tobacco, coffee) and so the competitiveness factor was heavily negative. Yet, its decline was compensated by further diversification in textile fibers and by massive gains in not tropical products – most notably oil.

India deserves a special attention. Even if its exports per capita were low (Table 3 col c), India was by far the largest exporter among tropical polities. It accounted for between a fifth and a quarter of their total exports - i.e. more than the whole of (tropical) Africa before the Great Depression. Its share of tropical products was lower (Table 3 col.b) because tropical goods accounted for only between a third and a half of Indian exports (Table 3 col.a). The two waves of boom and bust reflect this dual nature of Indian exports. Our choice of dates straddles the peak of the mid 1860s, which coincides with the American civil war, but its effects are still evident in the growth of competitiveness on the market for tropical products between 1850 and 1870 (Table C
Indian cotton accounted for 15% of world exports in 1830 and 1850, 26% in 1870 and 18% in 1890. Competitiveness did not fall that much in 1870-1890 because the decrease in the cotton share was compensated by the rise of tea exports, from 8% of world market (already booming from less than 1% twenty years before) to 34%. The further rise in share of tea to a half in 1900 was not sufficient to offset the collapse of cotton to 10% of world exports and the loss in competitiveness in tropical products contributed for about a tenth to the fall in Indian share of world exports, from 4.5% in 1890 to 1900 to 3.2%. Most of the fall, however, depends on exports of not tropical products, which reversed the massive increase in competitiveness of the previous period 1870-1890 (Table C Statistical Appendix col v). Even without data on market shares, we can glean some ideas from trends in exports of main (not-tropical) goods. From 1870 to 1890 exports of hides increased by 126%, of food-grains (wheat and rice from Burma) by 328%, of cotton manufactures by 576% and of jute manufactures by 672%. From 1890 to 1900, exports of hides (+72%) and jute manufactures continued rise (by 72% and 121% respectively) while food-grains and cotton manufactures halved. The early 1900s was a good period for Indian exports: the commodity lottery for tropical products was favorable, for the first and last time (Table C Statistical Appendix col i and ii) and India gained shares on both markets for tropical and not tropical goods (Table C Statistical Appendix col iii and v) – including return cotton to long-term 15% share.

In contrast, the performance after the war was from impressive: Indian exports were unable to match the growth of world trade in the 1920s and fell as much as world trade during the Great Depression. On the eve of World War Two, India accounted for less than a fifth of total exports of tropical polities and barely above a third of exports of Asian tropical polities – in both cases the lowest figure since 1850. Actually, the performance on the market for tropical goods was not that bad: the commodity lottery was as bad as usual, but India managed to increase marginally its market share in tropical products. Indian losses concentrated in not tropical goods. In 1929 the source does not register any longer exports of opium and register a 60% fall in exports of cotton manufactures relative to 1913. During the Great Depression, also exports of hides and foodgrain disappeared and exports of cotton manufactures declined by a further half.

5) Conclusion

We can sum up the results in three stylized facts

i) the commodity lottery was heavily biased against tropical products and thus against tropical polities as a group

ii) in spite of this, tropical polities succeeded to outcompete not tropical ones in the world market for tropical goods. If any, they lost market share in the market for not tropical goods

iii) there were substantial differences between continents and within continents. Asia performed fairly well, especially thanks to British Malaya and Indonesia (but India did not fare so poorly), Africa grew a lot after the war, while America was the loser

We have to warn that correlation is not causation. By its nature, the CMS analysis can highlight the proximate causes, not the ultimate ones. For instance, in principle, the adverse commodity lottery might reflect an overall decline in relative productivity, jointly with elastic demand. However, this hypothesis seems to contrast

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15 We estimate Indian exports by (not tropical) product by multiplying its share on Indian exports (Chaudhuri 1982 tab 10.11 p.844) by the total exports from our data-base.
with the stable relative prices, although caveat for specific products. If no relative decline, demand-side factors and trade policy. This latter a key factor for sugar, as the very heavy duties dampened the potential growth world exports. In fact, the halving in the share of sugar accounts for about 40% of the decline in the overall share of tropical products, 1850-1938. However, other tropical products were imported free and their cumulative share of world exports declined as well, even in 1929-1938 when barriers to trade of other goods soared. Thus, one would conclude that demand-side effects were the main factor which determined the performance of tropical polities, as far tropical products concerned.
References


Bauer P.T. and B.S. Yamey (1957) *The economics of under-developed countries* Cambridge: Cambridge University Press


### Table A
Constant market share analysis by continent

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Constant market share analysis by political status
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Constant market share analysis: major Asian polities

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Appendix A

List of tropical polities and Sources for composition

Here year of source and between brackets year of reference

**Angola (Portuguese Africa)**

1901 [1900], 1913 [1913], 1929 [1929], 1936 [1938]

*A Evolucao do Comercio Especial Ultramarino*, F. Ribeiro Salgado, Divisao de publicacoes e Biblioteca agencia geral das Colonias, 1939

**Belgium Congo (Zaire)**

1908 [1900], 1912 [1913]

*Statistical Abstract for the Principal and other Foreign Countries in each year from 1901 to 1912*. Eyre and Spottiswoode, Ltd., East Harding Street, E.C., London, 1914

**British East Africa (Kenia & Uganda)**

1910 [1900], 1913 [1913], 1929 [1929], 1936 [1938]

Statistical Department, Board of Trade (1926)

Board of Trade (1931)

Board of Trade (1937)

**British Somaliland**

1901 [1900], 1913 [1913], 1927 [1929], 1936 [1938]


Statistical Department, Board of Trade (1926)

Board of Trade (1931)

Board of Trade (1937)

**Camerun**

1929 [1929], 1936 [1938]

Board of Trade (1937)

**Egypt**

1855 [1850], 1874 [1870], 1889 [1890], 1897 [1900], 1912 [1913], 1929 [1929], 1936 [1938]


*Statistical Abstract for the Principal and other Foreign Countries in each year from 1901 to 1912*. Eyre and Spottiswoode, Ltd., East Harding Street, E.C., London, 1914.


**French Equatorial Africa-Congo-Final**

1896 [1890], 1900 [1900], 1911 [1913]

Gouvernement general de l’Afrique Equatoriale Francaise, Service des Affaires Economiques (1913)

**French Somalia**

1901 [1900], 1913 [1913], 1927 [1929], 1936 [1938]

*Statistical Abstract for British Self-governing Dominions, Colonies, Possessions, and Protectorates in each year from 1900 to 1914*.


Statistical Department, Board of Trade (1926)

Board of Trade (1931)

Board of Trade (1937)

**Gambia**

1836 [1830], 1913 [1913], 1929 [1929], 1936 [1938]

*Tables of the revenue, population, commerce & c. of the United Kingdom, and its dependencies. Supplement to part VII. Colonies 1836*. Compiled from official returns. Printed by W. Clowes and Sons, London, 1839

Statistical Department, Board of Trade (1926)

Board of Trade (1931)

Board of Trade (1937)

**German South West Africa**

1919 [1913], 1929 [1929], 1938 [1938]

Statistical Department, Board of Trade (1926)

Board of Trade (1931)

Board of Trade (1939)

**Ghana-Gold Coast**

1890 [1890], 1900 [1900], 1913 [1913], 1929 [1929], 1936 [1938]

Board of Trade (1905)

Statistical Department, Board of Trade (1926)

Board of Trade (1931)

Board of Trade (1937)

**Italia Somalia**

1901 [1900], 1913 [1913], 1927 [1929], 1936 [1938]

*Statistical Abstract for British Self-governing Dominions, Colonies, Possessions, and Protectorates in each year from 1900 to 1914*.


Statistical Department, Board of Trade (1926)
Madagascar  
1896 [1890], 1900 [1900], 1906 [1913]  
Department of Commerce and Labor, Bureau of Statistics (1909)

Malawi  
1901 [1900], 1914 [1913], 1929 [1929], 1938 [1938]  
Board of Trade (1916)  
Board of Trade (1931)  
Board of Trade (1937)  
Board of Trade (1947)

Mauritius  
1836 [1830], 1890 [1890], 1900 [1900], 1913 [1913], 1929 [1929], 1936 [1938]  
*Tables of the revenue, population, commerce & c. of the United Kingdom, and its dependencies. Supplement to part VII. Colonies 1836.* W. Clowes and Sons, London, 1839

Mozambique (Portuguese Africa)  
1901 [1900], 1913 [1913], 1929 [1929], 1936 [1938]  
*A Evolucao do Comercio Especial Ultramarino,* F. Ribeiro Salgado, Divisao de publicacoes e Biblioteca agencia geral das Colonias, 1939

Nigeria  
1870 [1870], 1890 [1890], 1900 [1900], 1913 [1913], 1929 [1929], 1938 [1938]  
*Statistical abstract for the several Colonial and other Possessions of the United Kingdom, in each year from 1864 to 1878.* George E. Eyre and William Spottiswoode, London, 1880.

*Statistical abstract for the several Colonial and other Possessions of the United Kingdom, in each year from 1877 to 1891.* George E. Eyre and William Spottiswoode, London, 1892.

Board of Trade (1905)


Statistical Department, Board of Trade: *Statistical Abstract for British Self-governing Dominions, Colonies, Possessions, and Protectorates in each year from 1909 to 1923.* His Majesty's Stationary Office, London, 1926.

Board of Trade: *Statistical Abstract for the British Empire for each of the years 1913 and 1924 to 1929.* His Majesty's Stationary Office, London, 1931.
Board of Trade: *Statistical Abstract for the British Empire for each of the ten years 1929 to 1938*. His Majesty's Stationary Office, London, 1939.

**Rodhesia**
1914 [1913], 1929 [1929], 1936 [1938]
Statistical Department, Board of Trade (1926)
Board of Trade (1931)
Board of Trade (1937)

**S.Tome e Principe (Portuguess Africa)**
1850 [1850], 1870 [1870], 1890 [1890], 1900 [1900], 1913 [1913]
*hp: unico prodotto esportato Cacao*

**Sierra Leone**
1836 [1830], 1909 [1900], 1913 [1913], 1929 [1929], 1936 [1938]
*Tables of the revenue, population, commerce & c. of the United Kingdom, and its dependencies. Supplement to part VII. Colonies 1836. W. Clowes and Sons, London, 1839*
Statistical Department, Board of Trade (1926)
Board of Trade (1931)
Board of Trade (1937)

**Sudan (Anglo-Egyptian Sudan)**
1909 [1900], 1913 [1913], 1929 [1929], 1936 [1938]
Statistical Department, Board of Trade (1926)
Board of Trade (1931)
Board of Trade (1937)

**Tanganica (German East Africa)**
1920 [1913], 1925 [1929], 1935 [1938]
Statistical Department, Board of Trade (1926)
Board of Trade (1931)
Board of Trade (1937)

**Zanzibar Isl.**
1893 [1890], 1900 [1900], 1914 [1913], 1929 [1929], 1936 [1938]
Board of Trade (1905)
Statistical Department, Board of Trade (1926)
Board of Trade (1931)
Board of Trade (1937)

**AMERICAS**

Bahamas
1820 [1820], 1830 [1830], 1850 [1850], 1870 [1870], 1890 [1890], 1900 [1900], 1911 [1913], 1926 [1929], 1936 [1938]
Bulmer-Thomas (file Tables A.10)
Department of Commerce and Labor, Bureau of Statistics (1909)
Statistical Department, Board of Trade (1926)
Board of Trade (1931)
Board of Trade (1937)

Barbados
1820 [1820], 1830 [1830], 1850 [1850], 1870 [1870], 1890 [1890], 1900 [1900], 1914 [1913], 1929 [1929], 1938 [1938]
Bulmer-Thomas (file Tables A.10)
Board of Trade (1905)
Statistical Department, Board of Trade (1926)
Board of Trade (1931)
Board of Trade (1937)

Bolivia
1840 [1850], 1908 [1900], 1914 [1913], 1929 [1929], 1936 [1938]
Abstract of Reports of Trade of Various Countries and Places for the year 1854. Board of Trade. Through the Foreign Office Foreign from her Majesty’s minister and consul. (sono i file PDF IBEROAMERICA)

Statistical Abstract for the Principal and other Foreign Countries in each year from 1901 to 1912. Eyre and Spottiswoode, Ltd., East Harding Street, E.C., London, 1914.

League of Nations (1925)
League of Nations (1929)
League of Nations (1933)
League of Nations (1936)
League of Nations (1938)

Brasil
1821 [1820], 1830 [1830], 1850 [1850], 1870 [1870], 1890 [1890], 1900 [1900], 1913 [1913], 1929 [1929], 1938 [1938]
Anuario Estatistico do Brasil, 1939-40

British Guiana
1820 [1820], 1830 [1830], 1850 [1850], 1870 [1870], 1890 [1890], 1900 [1900], 1914 [1913], 1929 [1929], 1936 [1938]
Bulmer-Thomas (file Tables A.10)


Board of Trade: Statistical Abstract for the British Empire for each of the years 1913 and 1924 to 1929. His Majesty's Stationary Office, London, 1931.

Board of Trade: Statistical Abstract for the British Empire for each of the ten years 1929 to 1938. His

**British Honduras (Belize)**
1820 [1820], 1830 [1830], 1850 [1850], 1870 [1870], 1890 [1890], 1900 [1900], 1913 [1913], 1929 [1929], 1938 [1938]
Department of Commerce and Labor, Bureau of Statistics (1909)


Statistical Department, Board of Trade: *Statistical Abstract for British Self-governing Dominions, Colonies, Possessions, and Protectorates in each year from 1909 to 1923.* His Majesty's Stationary Office, London, 1926.

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Board of Trade: *Statistical Abstract for the British Empire for each of the ten years 1929 to 1938.* His Majesty's Stationary Office, London, 1939.

**Colombia**
1836 [1830], 1856 [1850], 1876 [1870], 1890 [1890], 1898 [1900], 1913 [1913], 1929 [1929], 1938 [1938]
*Tables of the Revenue, Population, Commerce and C. of the United Kingdom and its Dependencies, Part VI 1836,* London, W. Clowes and sons, 1838

file: Colombia export distribution


**Costa Rica**
1860 [1850], 1903 [1900], 1913 [1913], 1929 [1929], 1937 [1938]
*Product Distribution Hanson.Tables(2)*

Department of Commerce and Labor, Bureau of Statistics. (1909)

League of Nations (1925)
League of Nations (1929)
League of Nations (1933)
League of Nations (1936)
League of Nations (1938)

**Cuba**
1820 [1820], 1830 [1830], 1850 [1850], 1870 [1870], 1890 [1890], 1900 [1900], 1913 [1913], 1930 [1929], 1936 [1938]
Bulmer-Thomas (file Tables A.10)
League of Nations (1925)
League of Nations (1929)
League of Nations (1936)
League of Nations (1938)
Danish Virgin Island
1820 [1820], 1830 [1830], 1850 [1850], 1870 [1870], 1890 [1890], 1900 [1900], 1913 [1913], 1929 [1929], 1938 [1938]
Bulmer-Thomas

Dominican Republic
1820 [1820], 1830 [1830], 1850 [1850], 1870 [1870], 1890 [1890], 1900 [1900], 1913 [1913], 1929 [1929], 1936 [1936]
Bulmer-Thomas (file Tables A.10)
League of Nations (1925)
League of Nations (1929)
League of Nations (1933)
League of Nations (1936)
League of Nations (1938)

Dutch Antilles
1820 [1820], 1830 [1830], 1850 [1850], 1870 [1870], 1890 [1890], 1900 [1900]
Bulmer-Thomas

Ecuador
1852 [1850], 1902 [1900], 1913 [1913], 1930 [1929], 1936 [1938]
Abstract of Reports of Trade of Various Countries and Places for the year 1854. Board of Trade. Through the Foreign Office Foreign from her Magesty’s minister and consul.

file World Product Distribution june 2012(1)091112

Statistical Abstract for the Principal and other Foreign Countries in each year from 1901 to 1912. Eyre and Spottiswoode, Ltd., East Harding Street, E.C., London, 1914.
League of Nations (1925)
League of Nations (1929)
League of Nations (1933)
League of Nations (1936)
League of Nations (1938)

El Salvador
1854 [1850], 1869 [1870], 1901 [1900], 1913 [1913], 1930 [1929], 1936 [1938]
Abstract of Reports of Trade of Various Countries and Places for the year 1854. Board of Trade. Through the Foreign Office Foreign from her Magesty’s minister and consul.

fileExports_Imports_World_1850_1900-31 May(1)

Statistical Abstract for the Principal and other Foreign Countries in each year from 1901 to 1912. Eyre and Spottiswoode, Ltd., East Harding Street, E.C., London, 1914.
League of Nations (1925)
League of Nations (1929)
League of Nations (1933)
League of Nations (1936)
League of Nations (1938)

French Guiana (French Colonies)
Granada (Winward Island)
1820 [1820], 1830 [1830], 1850 [1850], 1870 [1870], 1890 [1890], 1900 [1900], 1913 [1913], 1929 [1929], 1938 [1938]
Bulmer-Thomas

Guadalupe (French Colonies)
1820 [1820], 1830 [1830], 1850 [1850], 1870 [1870], 1890 [1890], 1900 [1900], 1913 [1913], 1929 [1929], 1938 [1938]
Bulmer-Thomas

Guatemala
1850 [1850], 1868 [1870], 1913 [1913], 1929 [1929], 1936 [1938]
League of Nations (1925)
League of Nations (1929)
League of Nations (1933)
League of Nations (1936)
League of Nations (1938)

Haiti
1820 [1820], 1830 [1830], 1850 [1850], 1870 [1870], 1890 [1890], 1900 [1900], 1913 [1913], 1929 [1929], 1938 [1938]
Bulmer-Thomas

Honduras
1913 [1913], 1928 [1929], 1936 [1938]
League of Nations (1925)
League of Nations (1929)
League of Nations (1933)
League of Nations (1936)
League of Nations (1938)

Jamaica
1820 [1820], 1830 [1830], 1850 [1850], 1870 [1870], 1890 [1890], 1900 [1900], 1913 [1913], 1929 [1929], 1938 [1938]
Bulmer-Thomas


Statistical Department, Board of Trade: Statistical Abstract for British Self-governing Dominions, Colonies, Possessions, and Protectorates in each year from 1909 to 1923. His Majesty's Stationary

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Board of Trade: *Statistical Abstract for the British Empire for each of the ten years 1929 to 1938*. His Majesty's Stationary Office, London, 1939.

**Leward Island (L.I Antigua, L.I Dominica, L.I St.Christopher, Montserrat, Nevis, Virgin Island)**
1820 [1820], 1830 [1830], 1850 [1850], 1870 [1870], 1890 [1890], 1900 [1900], 1913 [1913], 1929 [1929], 1938 [1938]
Bulmer-Thomas

**Martinique (French Colonies)**
1820 [1820], 1830 [1830], 1850 [1850], 1870 [1870], 1890 [1890], 1900 [1900], 1913 [1913], 1929 [1929], 1938 [1938]
Bulmer-Thomas

**Mexico**
1859 [1850], 1870 [1870], 1890 [1890], 1900 [1900], 1913 [1913], 1929 [1929], 1938 [1938]

*Annual Statement of the Trade and Navigation of the United Kingdom with Foreign Countries and British Possessions*, London, George Edward Eyre and William Spottiswoode, 1859


*Tableau Décennal du Commerce de la France avec ses Colonies et les Puissances Etrangères 1847 à 1856*, Paris, Imprimerie Impériale, 1858.

*Statistique de la Belgique. Tableau Général du Commerce avec les Pays Etrangères Bruxelles pendant l’année 1859, publié par le Ministre de Finance*, 1860

*Annual Statement of the Trade and Navigation of the United Kingdom with Foreign Countries and British Possessions*, London, George Edward Eyre and William Spottiswoode, 1862

Mexico exportaciones productos Kuntz (2010)A (1)


**Nicaragua**
1858 [1850], 1913 [1913], 1930 [1929], 1937 [1938]

*Abstract of Reports of Trade of Various Countries and Places for the year 1854*. Board of Trade. Through the Foreign Office Foreign from her Majesty's minister and consul (sono i file PDF IBEROAMERICA)

League of Nations (1925)
League of Nations (1929)
League of Nations (1933)
League of Nations (1936)
League of Nations (1938)

Panama
The Foreign Trade on Latin America since 1913, Pan American Union, Washington D.C., 1952 (È il File LATINAMERICA Product 1913,1929,1938,1945-50 in DROPBOX)

Paraguay
1854 [1850], 1913 [1913], 1930 [1929], 1936 [1938]
fileExports_Imports_World_1850_1900-31 May(1)
League of Nations (1925)
League of Nations (1929)
League of Nations (1933)
League of Nations (1936)
League of Nations (1938)

Peru
1840 [1850], 1865 [1870], 1880 [1890], 1902 [1900], 1913 [1913], 1930 [1929], 1937 [1938]
Product Distribution Hanson. Tables (2)
Department of Commerce and Labor, Bureau of Statistics (1909)
League of Nations (1925)
League of Nations (1929)
League of Nations (1933)
League of Nations (1936)
League of Nations (1938)

Puerto Rico
1820 [1820], 1830 [1830], 1850 [1850], 1870 [1870], 1890 [1890], 1900 [1900]
Bulmer-Thomas

St. Barthelemy (Norwegian Colonies)
1820 [1820], 1830 [1830], 1850 [1850], 1870 [1870]
Bulmer-Thomas

St. Vicente (Winward Island)
1820 [1820], 1830 [1830], 1850 [1850], 1870 [1870], 1890 [1890], 1900 [1900], 1913 [1913], 1929 [1929], 1938 [1938]
Bulmer-Thomas

St. Lucia (Winward Island)
1820 [1820], 1830 [1830], 1850 [1850], 1870 [1870], 1890 [1890], 1900 [1900], 1913 [1913], 1929 [1929], 1938 [1938]
Bulmer-Thomas

Surinam (Duch Guayana)
1820 [1820], 1830 [1830], 1850 [1850], 1870 [1870], 1890 [1890], 1900 [1900], 1913 [1913], 1929 [1929], 1938 [1938]
Bulmer-Thomas

Trinidad & Tobago (Winward Island)
1820 [1820], 1830 [1830], 1850 [1850], 1870 [1870], 1890 [1890], 1900 [1900], 1914 [1913], 1929 [1929], 1936 [1938]
Bulmer-Thomas
Turks & Caicos Is.
1820 [1820], 1830 [1830], 1850 [1850], 1870 [1870], 1890 [1890], 1900 [1900], 1913 [1913], 1929 [1929], 1938 [1938]
Bulmer-Thomas

Venezuela
1830 [1830], 1850 [1850], 1869 [1870], 1890 [1890], 1900 [1900], 1913 [1913], 1929 [1929], 1937 [1938]
FUNDACIÓN POLAR BASES CUANTITATIVAS DE LA ECONOMÍA VENEZOLANA: 1830-1995, Asdrúbal Baptista

ASIA

British Malaya
1890 [1890], 1900 [1900], 1913 [1913], 1929 [1929], 1938 [1938]
Board of Trade (1905)
Statistical Department, Board of Trade (1926)
Board of Trade (1931)
Board of Trade (1937)
Board of Trade (1939)

Ceylon (Sri Lanka)
1840 [1830], 1853 [1850], 1870 [1870], 1888 [1890], 1900 [1900], 1913 [1913], 1929 [1929], 1938 [1938]
File: Product Distribution Hanson.Tables(2)

File: World Product Distribution june 2012(1)

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Board of Trade (1905)
Statistical Department, Board of Trade (1926)
Board of Trade (1931)
Board of Trade (1937)
Board of Trade (1939)

China
1870 [1870], 1890 [1890], 1901 [1900], 1912 [1913], 1929 [1929], 1938 [1938]
fonte copiata dal File: China(1) (inviatomi da prof. Giovanni)


**Dutch East Indies (Indonesia)**

1830 [1830], 1850 [1850], 1870 [1870], 1896 [1890], 1900 [1900], 1906 [1913], 1929 [1929], 1938 [1938]

% 1823-95 Korthal Altes (?)


**French Indochina**

1896 [1890], 1899 [1900], 1911 [1913], 1929 [1929]

File: Indochina

*Statistical Abstract for the Principal and other Foreign Countries in each year from 1901 to 1912*. Eyre and Spottiswoode, Ltd., East Harding Street, E.C., London, 1914.

**India**

1814 [1820], 1828 [1830], 1850 [1850], 1870 [1870], 1890 [1890], 1900 [1900], 1910 [1913], 1930 [1929], 1935 [1938]

Chaudhuri 1982

**Iraq**

1924 [1929], 1938 [1938]

Statistical Department, Board of Trade (1926)


**Ottoman Empire/Turkey**

1854 [1850], 1929 [1929], 1938 [1938]


Tableau Décennal du Commerce de la France avec ses Colonie set les Puissances Etrangères 1847 a 1856, Paris, Imprimerie Impériale, 1858.

Annuaire statistique, Volume 12, Republique Turque Presence de Conseil, Office Central de Statistique, Ankara, 1940-1941

**Persia (Iran)**

1913 [1913], 1930 [1929], 1937 [1938]


Department of Commerce and Labor, Bureau of Statistics (1909)

League of Nations (1925)
League of Nations (1929)
League of Nations (1933)
League of Nations (1936)
League of Nations (1938)

Philippines
1847 [1850], 1870 [1870], 1890 [1890], 1895 [1900], 1908 [1913], 1930 [1929], 1937 [1938]


League of Nations (1929)
League of Nations (1936)
League of Nations (1938)

Sabah (British Borneo)
1903 [1900], 1913 [1913], 1926 [1929], 1936 [1938]
Board of Trade (1916)
Statistical Department, Board of Trade (1926)
Board of Trade (1931)
Board of Trade (1937)

Sarawak
1900 [1900], 1913 [1913], 1929 [1929], 1936 [1938]
Board of Trade (1916)
Statistical Department, Board of Trade (1926)
Board of Trade (1931)
Board of Trade (1937)

Siam (Thailand)
1896 [1890], 1900 [1900], 1913 [1913], 1929 [1929], 1938 [1938]


OCEANIA

Australia
1836 [1830], 1855 [1850], 1869 [1870], 1890 [1890], 1900 [1900], 1913 [1913], 1929 [1929], 1938 [1938]
Statistical abstract for the several Colonial and other Possessions of the United Kingdom, in each year from 1855 to 1869. George E. Eyre and William Spottiswoode, London, 1871.

Board of Trade (1916)
Statistical Department, Board of Trade (1926)
Board of Trade (1931)
Board of Trade (1939)

British settlement Oceania
1913 [1913], 1929 [1929], 1938 [1938]
Statistical Department, Board of Trade (1926)

Board of Trade (1931)
Board of Trade (1939)

French Polinesia
1912 [1913]
Annuaire Statistique (1913)

German colonies Oceania
1929 [1929], 1938 [1938]
Statistical Department, Board of Trade (1926)

Board of Trade (1931)
Board of Trade (1939)

Hawaii
1849 [1850], 1875 [1870], 1890 [1890], 1899 [1900]
Historical Statistics of Hawaii (1977)

Not Tropical countries

Austria-Hungary
1831 [1830], 1850 [1850], 1875 [1870], 1890 [1890], 1901 [1900], 1912 [1913]
file di singoli prodotti, all'interno della cartella SingleGoods (file fatti da Maren, da cui abbiamo preso le quntità di prodotti e moltiplicati poi per i prezzi inglesi per ottenere i valori delle imp e delle exp)
file: Austria-Hungary 1870s (Foreign Abstract)

Statistical Abstract for the Principal and other Foreign Countries in each year from 1880 to 1889-90. Eyre and Spottiswoode, Ltd., East Harding Street, E.C., London, 1892.

Statistical Abstract for the Principal and other Foreign Countries in each year from 1901 to 1912. Eyre and Spottiswoode, Ltd., East Harding Street, E.C., London, 1914.
Germany/Zollverein
1872 [1870], 1890 [1890], 1901 [1900], 1913 [1913], 1925 [1929], 1938 [1938]

files:
Germany 1840s
Germany 1850s
Germany 1860s
Germany 1870s (2)
Germany 1880s

League of Nations (1925)
League of Nations (1929)


Hungary
1929 [1929], 1938 [1938]


League of Nations (1939)

Russia/USSR
1826 [1820], 1830 [1830], 1868 [1870], 1890 [1890], 1902 [1900], 1912 [1913], 1929 [1929], 1937 [1938]


Statistical Abstract for the Principal and other Foreign Countries in each year from 1901 to 1912. Eyre and Spottiswoode, Ltd., East Harding Street, E.C., London, 1914.


United States of America
1820 [1820], 1830 [1830], 1850 [1850], 1870 [1870], 1890 [1890], 1900 [1900], 1913 [1913], 1929 [1929], 1938 [1938]

US Historical statistics