

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

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Abstract

Since the seminal work by W.A. Lewis, exports of primary products have been deemed the main or sole source of growth in tropical countries before the Great Depression. This conventional wisdom, however, has not so far properly assessed. This paper relies on a new data-base on world trade to estimate the causes of growth of exports with a constant market share analysis. Exports grew a lot, but less than total trade, while relative prices of tropical products and terms of trade 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. African polities had a mixed record – better on the West than on the East of the continent and better after world war one than before. However, few polities really shone. 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 countries in Africa, South America and Asia. None of them succeeded to start modern economic growth in those years, and this failure raised doubts about the benefits of specialization in exporting commodities. In the 1950s, Prebisch (1950, 1959) and Singer (1950) argued that terms of trade of primary producers were on a long-term downward trend and thus LDCs had to foster industrialization. Their claim about the trends in terms of trade has always been controversial (cf e.g. Spraos 1983, Diakosavvas and Scandizzo 1991, Hadass and Williamson 2003) but most economists endorsed their prescription and most less developed countries adopted aggressive import-substitution (ISI) policies. There were few dissenting voices, such as Bauer-Yamey (1957) and Myint (1971) and above all W.A. Lewis (1969 and 1970). He argued that export of tropical countries did rise fast before 1913 and that the pessimism of the 1950s reflected the collapse of world trade during the Great Depression. In the 1980s, Lewis' optimistic assessment became conventional wisdom (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. Trade and growth had figured prominently in the literature on Africa (Austen 1987), but the Renaissance of African economic history (Hopkins 2009, Austin and Broadberry 2014) has so far focused on other topics, with few exceptions (Austin 2014). The literature on the economic history of Asian countries such as India (Tomlinson 1993, Roy 2000) and Indonesia (Van Zanden and Marks 2012) does discuss trends of exports but do not emphasize their role. The traditional concern about trade and growth seems to remain central only 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 Keynesian model, whereby exports were determined mainly 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 improvement 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 world exports of tropical products depended on the world demand and supply, and thus on the aggregate relative productivity of all producers. The exports of each polity, and thus its prospect for growth, depended on its productivity, which could be affected by local events, such as the emancipation of slaves for the Caribbean, and on the productivity of all its potential competitors, including advanced countries such as the United States for cotton or European countries for sugar-beet. In this paper, we estimate the impact of world and local proximate causes on export performance of tropical polities from 1820 to 1938 with a version of the Constant Market Share analysis, relying on our newly built data-base on world trade (Federico and Tena 2015) and additional information about the composition of exports. We focus on the eighty-four polities (independent country or colony) whose territory at 1913 borders laid mostly between the two tropics (see map and the full list in Appendix A). We decompose the total change in shares on world

exports from each polity (or group of polities) among changes in total world trade for tropical products, changes in its product composition, separately for tropical and not-tropical goods, and changes in the share of the polity (or group) on the market for tropical and not tropical goods.

The next two Sections introduce the analysis by sketching out trends in exports from tropical polities, discussing trends in trade (Section Two) and in prices and terms of trade (Section Three). Section Four zooms on trade of tropical products, extending the analysis of Lewis back in time to the early 19th century. Section Five explains the method for the Constant market share analysis. We present our main results in Section Six and then we discuss in more detail the trends by continent in Sections Seven (Asia) Eight (Americas) and Nine (Africa). Section Ten concludes.

2) Tropical polities in the world market

Lewis concludes his short analysis of exports of tropical countries stating that *"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). Indeed, from 1830 to 1913 the exports of all tropical polities in the data-base ('full sample') increased tenfold, and exports of a time invariant set of 53 ones ('1830 sample') eight-fold.¹ However, world trade grew even more: the share of all tropical polities ('Full sample', red line in Figure 1) fell by a third, from over a fifth in the early 1830s to 14% in the late 1890s, and recovered only marginally in the 1900s.² The percentage of the '1830 sample' on a similarly time-invariant series of world exports (double red line in Figure 2) almost halved in the 19th century. From 1913 to 1938, exports of tropical polities increased by two thirds and thus they their

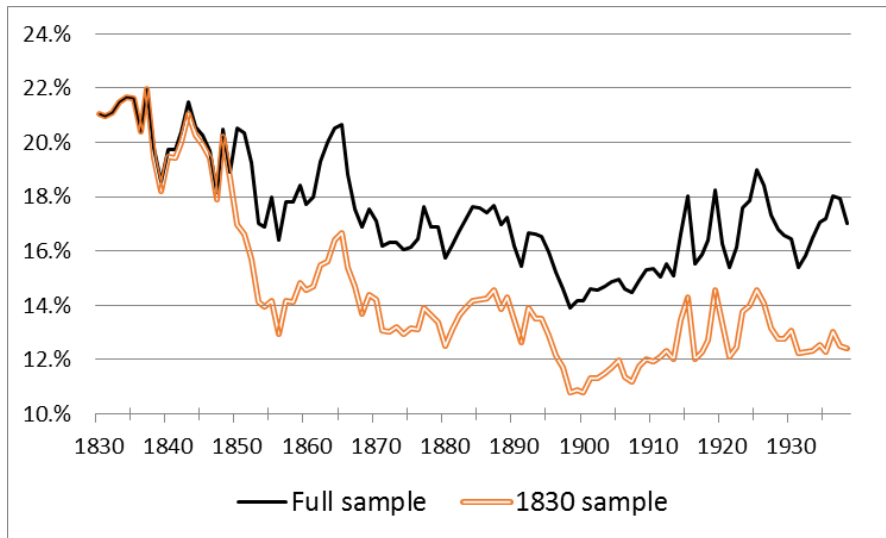
¹ We extract all series of trade at constant and current prices from our data-base (see Federico-Tena 2015 for more details). As a rule, we start series as early as possible, and in 1850 at the latest. Thus, the data-base includes also estimates, albeit crude, of trade of African areas before European colonization. The number of tropical polities in the data-set grows from three in 1800 (India, Cuba and Mexico) to 42 in 1823 to 53 in 1830 to 84 in 1850. Thereafter, the number of series changes only when political boundary changed, and there is one only instance among tropical polities, the carving out of Panama from Colombia in 1906. Since 1850, the geographical coverage of the data-base can be considered complete, as the data-base excludes only 15 very 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). The share of exports from the available polities on total exports of tropical ones is however fairly high also before 1850. India, Cuba and Mexico accounted for 39.1% of exports of tropical polities in 1850, the 42 polities available since 1823 (or '1823 sample') for 77.2% of total exports and the 53 available since 1830 ('1830 sample') for 82.1%. However, we prefer not to use the '1823 sample' as it covers only partially Africa. In the following, we will use the '1830 sample' whenever changes in the geographical coverage of the 'full sample' might bias upward results, but as a rule we prefer to rely on the 'full sample' as it is more representative.

² We prefer to use shares at current than at constant prices because deflation may introduce additional biases. The shares of tropical polities at constant prices declined slightly faster before 1913 (rates 0.75% vs 0.45%) but movements are similar (a coefficient of correlation 0.90). From 1830 to 1938 neither share shows a significant trend.

share of world commerce increased substantially in the 1920s and even more during the Great Depression, up to 18%, a level not attained since the 1860s.

Figure 1

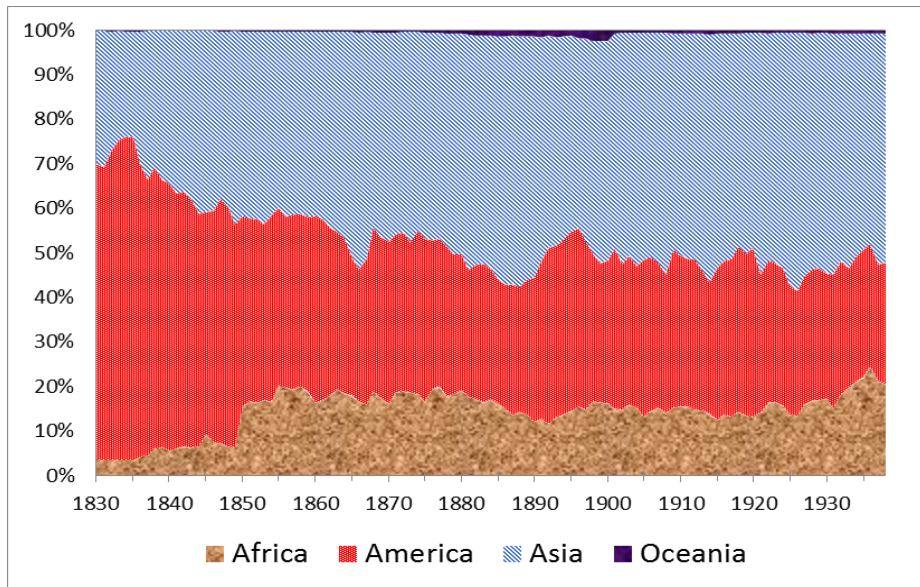
Share of tropical polities on world exports, current prices



The overall decline of the share of tropical polities is the sum of widely different trends by continent.³ The movements of the African polities mirrors the aggregate trend, with a decline from 3% of world exports in 1850 to slightly over 2% in the late 1890s and a rebound after the war, up to 3.5-4% 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 among continents appear very clearly if we focus on tropical polities only (Figure 2)

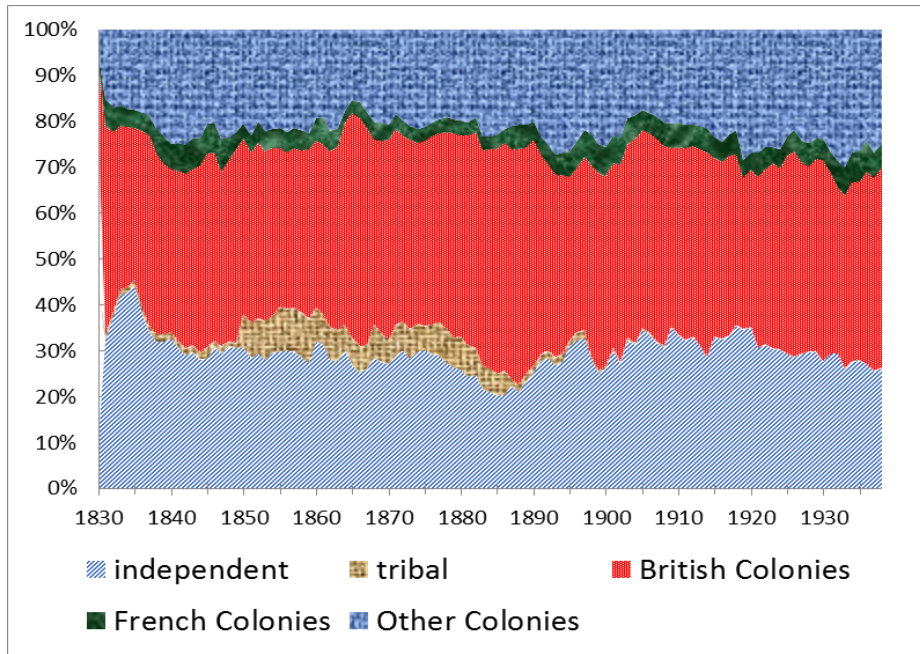
³ In the following as a rule we neglect Oceania. In fact the tropical polities of the continent (i.e. the European colonies in the South Sea islands) accounted for at most 0.35% of world exports.

Figure 2**Share of tropical polities by continent, current prices**

The decline of Latin America and the rise of Asia are quite evident, while the jump in the share of Africa around 1850 reflects the sharp increase in coverage, from 13 to 31 polities. In fact, the share of Africa on the ‘1830 sample’ increased from 3.5% in 1830 to slightly less than 5% in 1850 and then remained broadly constant (with a decline to 1890 and a recovery until the war), rising sharply in the late 1920s and 1930s.

The colonial past and the legal system feature prominently in the current debate on long-term growth (Nunn 2014), and thus one might surmise that they affected also export performance. Figure 3 groups polities according to their political status, distinguish independent countries, colonies according to the colonial power (British, French and other) and tribal societies (i.e. African and Asian territories before Western colonization).⁴

⁴ 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 32 (all in Africa except Sabah and French Indochina) in 1830 to zero after the creation of French Equatorial African colony in 1909.

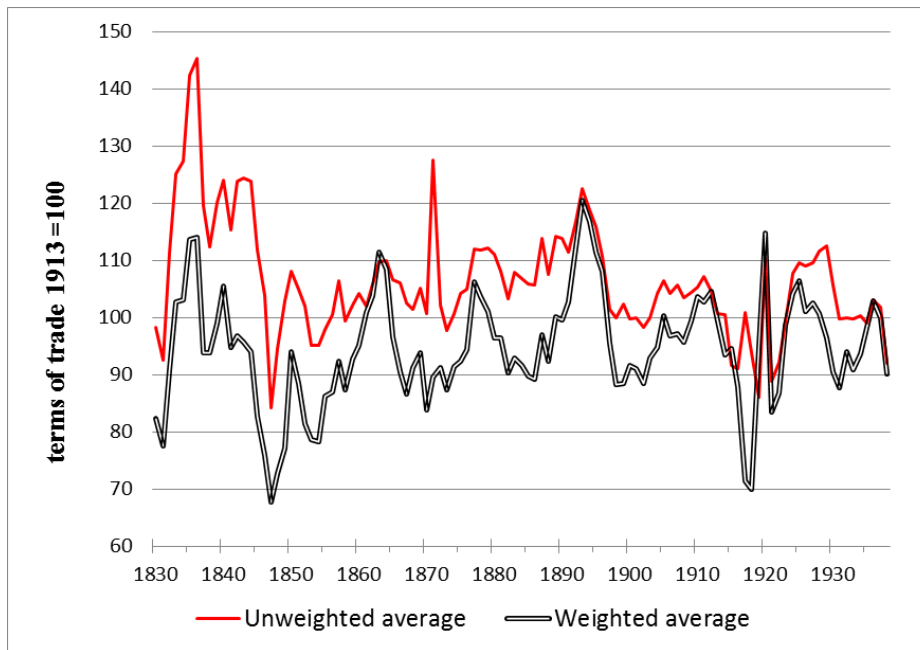
Figure 3**Share of tropical polities, by status, current prices**

By definition, colonization caused the share of tribal areas to decline and that of colonies to rise, but the combined share of colonies and tribal areas fluctuated between two thirds and three quarters of the total. Furthermore, shares by colonial power did not show any trend. Thus, one could infer, very tentatively, that ‘institutions’ were not a major determinant of differences in export performance among colonial polities.

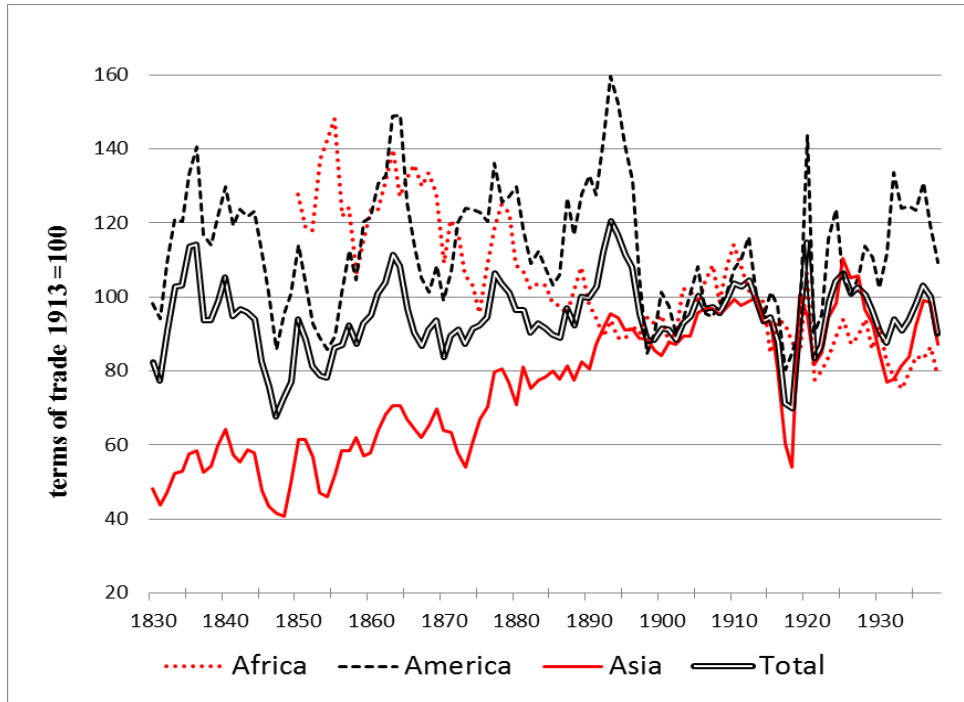
3) Terms of trade and prices of tropical goods

Our data-base includes series of imports at current and constant prices for most polities before 1850 and for all polities in the data-set after 1850.⁵ We thus can compute polity-specific terms of trade and Figure 4 we plot un-weighted and export-weighted averages

⁵ Whenever possible, we deflate current-price series with polity-specific price indexes by scholars or statistical offices, including the League of Nations. If not available, following Blattman et al (2007), we estimate polity-specific indexes of import or export prices with London prices, adjusting for changes in freights (see for details Federico and Tena 2015).

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

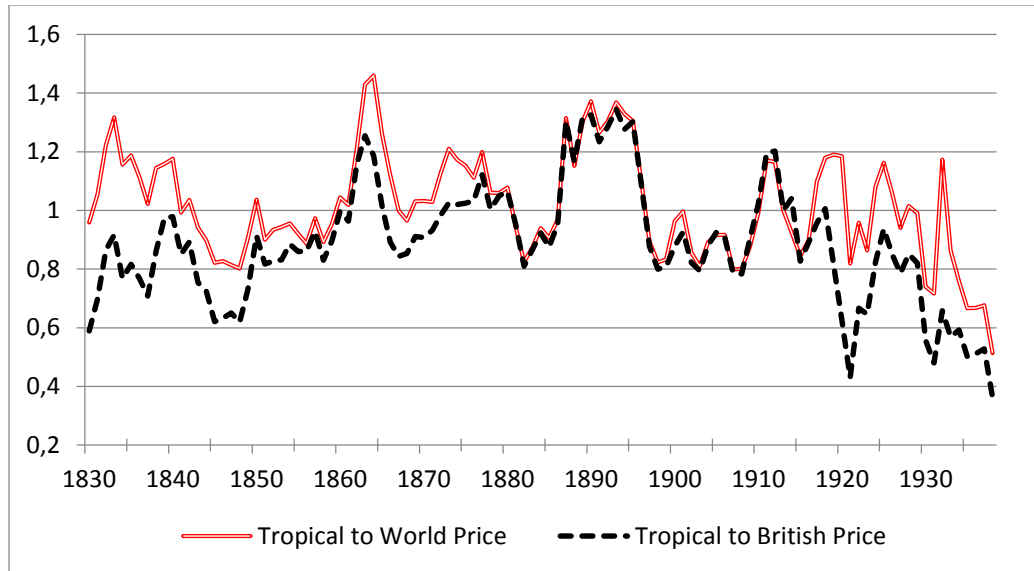
As posited by Blattman et al (2007), the terms of trade of tropical polities did fluctuate a lot, but they do not show any clear long term trend. The un-weighted series declines rather slowly (the yearly rates are -0.24% from 1830 to 1938 and -0.18% from 1830 to 1929) but the more representative trade-weighted one is totally trendless. It did rise from ca 1845 to 1865, as suggested by Williamson (2008), but the rise was barely sufficient to recover after the fall from the mid-1830s onwards. These movements are shared by (weighted) terms of trade by continent in the 20th century and also before 1900, with two noteworthy exceptions (Figure 5).

Figure 5**Terms of trade of tropical polities, by continent (1913=100)**

First, the terms of trade for Asia improved by 85% from the early 1830s to the mid-1890s, the only case of long-term growth. Second, terms of trade of tropical Africa are negatively correlated with aggregate series (the correlation in 1850-1900 is -0.42 vs 0.88 for America and 0.80 for Asia).

This long-term stability contrasts with the conventional wisdom. Although, as said, the issue is very controversial, the most recent works suggest an improvement in the 19th century and a worsening in the 20th, with different timing of the peak by country. However, our result is buttressed by the ratio of an index of tropical products on the London market to ‘world’ export prices (Figure 6, red line) ⁶.

⁶ 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.

Figure 6**Relative prices of tropical goods (1913=100)**

The rate of change is not significantly different from zero before 1929 and becomes negative and significant at 10%, but still extremely low (-0.28% per year) only if one adds the Great Depression. The coefficient of correlation between terms of trade and relative prices is fairly high at 0.49. This stability is the net outcome of different trends⁷. From the 1830s to the eve of WWI, relative prices of sugar and tea collapsed, prices of rubber first decreased and then returned 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, most notably of rubber, plummeted.

A comprehensive explanation of the divergence between estimates of changes in terms of trade would need a polity-specific analysis which is clearly out of the scope of this paper. However, it can be shown that a substantial part of the difference depends on the denominator by re-computing prices of tropical products relative to British export prices, the most widely used proxy for import prices of tropical countries (Frankema et al 2015). The two series (Figure 6) are highly correlated from 1860 to 1913 (0.91), while much less from 1914 to 1938 (0.786) and, above all before 1860 (0.54). In the first

⁷ These trends are confirmed by Jacks (2013)

three decades, ‘world’ prices increased by 6% and British export prices fell by 25%. It is thus possible that the alleged improvements in terms of trade reflects was largely spurious.

On a more general vein, one can remind that the literature puts forward two different stories, which imply opposite trends. Prebisch and Singer attributed the (alleged) worsening of terms of trade of primary producers to an insufficient growth of demand – i.e. to a low elasticity of income. On the other hand, the productivity in tropical agriculture is widely believed to have lagged behind productivity growth in the temperate agriculture, manufacturing and also in mining, which before 1938 was still mostly located in advanced countries. In this case, one would expect relative prices of tropical products to rise. It is thus possible to view the stability in terms of trade as the net outcome of conflicting trends. Unfortunately, we do not have any firm quantitative evidence on the income elasticity of the demand for tropical goods, nor on relative productivity. As far as we know, there are no historical estimates of demand elasticities for tropical products, nor estimates of TFP growth in agriculture of tropical countries before 1913. One may suspect that tropical goods, which had surely been a luxury in the 18th century (De Vries 2008), were no longer high elasticity goods in advanced countries in the 19th and 20th century. The literature on tropical agriculture quotes very few innovations, with the notable exception of the plantation system for rubber. To be sure, productivity may have grown for other supply-side changes, such as the opening of new production areas more suited of old ones to cultivation of tropical plants. Austin (2014) argues that the introduction of cocoa as a new crop in Ghana caused a one-off increase in aggregate productivity, but without further changes. We cannot pursue this speculative line of reasoning further, but it is necessary to stress two implication of the stability of relative prices. First, one cannot attribute the decline in market shares of (all) tropical polities to slow productivity growth. Second, the more stable relative prices are, the more representative market shares at current prices are of actual movements in traded quantities and thus the more accurate our results are.

4) An overview of world trade for tropical products

So far we have discussed total exports, but Lewis focused on the subset of tropical goods, where tropical polities enjoyed a (quasi) monopoly. We single out forty products (or, more precisely four digit HS goods) listed as tropical in an official WTO document (WTO 2006).⁸ For each of them, we

⁸ The forty 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, cochineal (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

estimate total trade in nine benchmark years (1820, 1830, 1850, 1870, 1890, 1900, 1913, 1929 and 1938) by summing up exports from tropical and not tropical polities (e.g. the United States for cotton). We compute the value of exports of the *i*-th tropical product from the *j*-th polity by multiplying its total exports at current prices by the share of the *i*-th good on exports, which we obtain from polity-specific sources (see the list Appendix A). We label the difference between total exports of each tropical polity and the sum of our estimates as exports of ‘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 the composition of exports for all tropical polities in all the nine benchmark years. Whenever we have less than nine observations 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 extrapolating backwards or forward the first or the last available data on composition. We have found no information at all for fourteen polities, which we have been forced to drop altogether from the CMS analysis.⁹ Our estimate is thus a lower bound of the trade of tropical products, as it omits these polities and un-recorded exports from tropical or not tropical polities. Indeed, our figures for the six main products (cotton, sugar, coffee, tea, rubber and tobacco) are decidedly lower than those by Yates (1959 tab A.16), which we suspect to have been inflated by the inclusion of re-exports¹⁰.

Table 1
The tropical trade

	a)	b)	c)	d)	e)	f)	g)	h)
	N° Tropical Polities	Share Tropical Polities World Trade	Share Tropical Products World Trade	Share Tropical Polities World Tropical	Share Tropical Polities World Sugar	Share Tropical Products World Tropical	Export (\$1913) per capita Tropical	Export per capita relative World

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 manufactures (HS 2402), vanilla (HS 905), vegetable oils (HS 1515) yerba and bark (HS 1404).

⁹ We omit Capo Verde, Canary Island, Eritrea, Ethiopia, 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. These polities accounted on average for 4.5% of exports of tropical polities in 1850-1938, with a maximum of 7.9% in 1932.

¹⁰ The total trade of the six products is 15% higher according to Yates estimates than to our estimate 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).

	Products			Politics		Politics	Average
1820	27	22.9	22.1	75.8	100.0	61.8	
1830	53	21.0	21.3	66.3	99.5	62.1	0.98
1850	84	20.5	19.4	59.9	99.3	56.0	0.78
1870	84	17.1	16.5	61.8	93.8	61.9	0.60
1890	83	16.1	14.7	62.5	62.9	57.0	0.53
1900	84	14.2	12.3	63.9	59.5	55.3	0.47
1913	83	15.1	13.7	64.4	66.1	57.0	0.46
1929	84	16.6	12.7	73.4	88.0	57.4	0.57
1938	84	17.0	11.3	77.2	92.9	50.7	0.62

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 series from Figure 1 for the three years centered around each benchmarks year (using 1911-13 for 1913 and 1936-1938 for 1938).

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 modest and short-lived rebound in the fifteen years before World War One. 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%. 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% in 1850. This long-run decline of tropical goods was bound to reduce the share of tropical polities on world exports, unless they succeeded to augment their shares of the market(s) for tropical and not-tropical products at the expense of not tropical polities.

ii) the share of tropical polities on trade of tropical products (column d) declined sharply from 1830 to 1850 because of the joint effect of the increase of cotton from 23% to 35% of exports of tropical products and of the share of the United States from 66% to 77% of world cotton exports. In the second half of the 19th century, tropical polities managed to increase their share of world trade of tobacco and (slightly) cotton, compensating the losses in the market for sugar (column e) after the competition from European producers of beet sugar (column e). The European competition was strongly reduced by the Bruxelles agreement in 1902 and disappeared almost entirely after the war. In the interwar years,

tropical polities regained almost all the market for sugar and half the market for cotton, so that by 1938 their cumulated share of tropical products reached an all-time peak.

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, ‘not tropical’ goods mattered a lot in the export performance of tropical polities. By construction, the category is a sort of black box: it surely included minerals and not-tropical agricultural commodities, such as rice and wheat, while very few, if any, tropical countries exported manufactures.

iv) the exports per capita (column g) is the only available, albeit crude, measure of openness for most 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 remained well below its initial level.

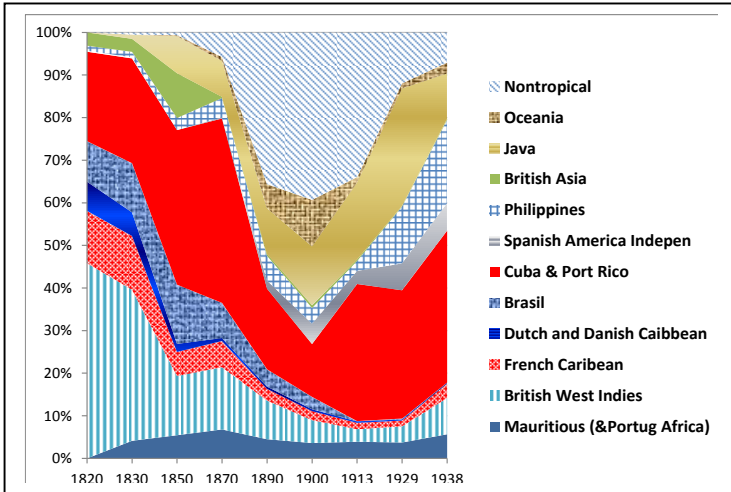
This preliminary analysis suggests that the collective performance of tropical producers was far from impressive, but it was not entirely their own fault. They had to struggle against strong headwinds (the declining share of tropical products). They managed to cope, by increasing their share of the market and, to some extent, also by diversifying away from tropical products, but only partially.

On the other hand, the performance of individual polities differed a lot, both in the aggregate and by product. We will deal with the aggregate performance in the next Section. Figure Seven gives a first taste by focusing on the division of the market for the six main tropical products, sugar, cotton, coffee, tea, rubber and tobacco ¹¹.

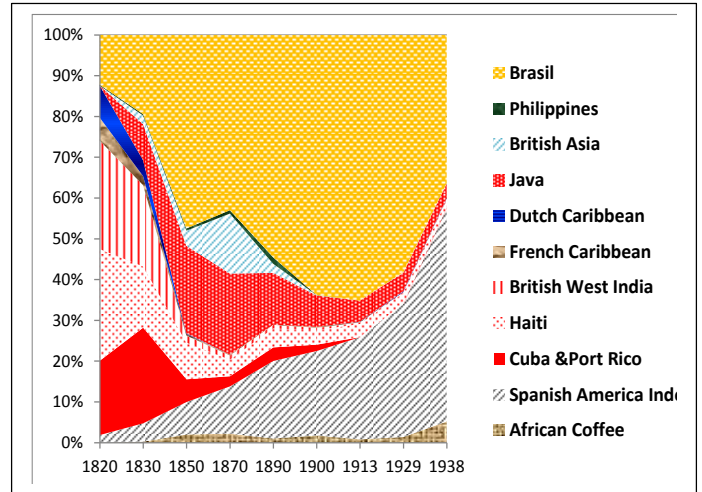
¹¹ As far as we know, there is no literature debating the comprehensive trade of tropical products in the World , with the exception of the already mentioned Lewis(1970) for the period 1880-1913. Debate is related with some geographical areas or single tropical products history as those of coffee, cacao and sugar etc. See TopicK (2004), Clarence-Smith and Gervase (2000) and **sugar?**

Figure 7
Tropical products export share in the World

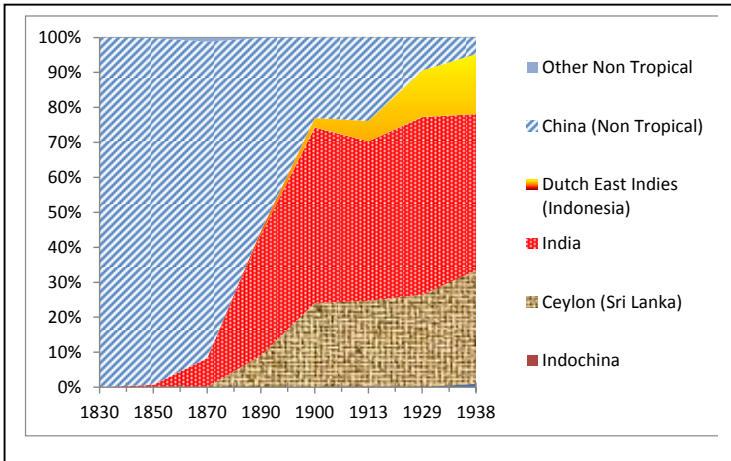
a) Sugar



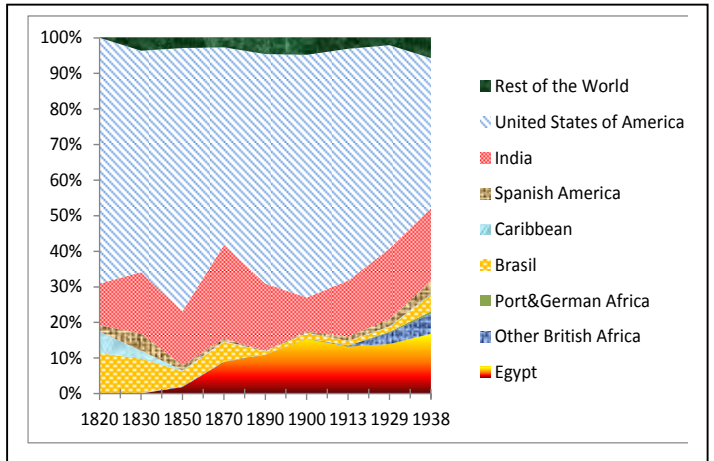
b) Coffee



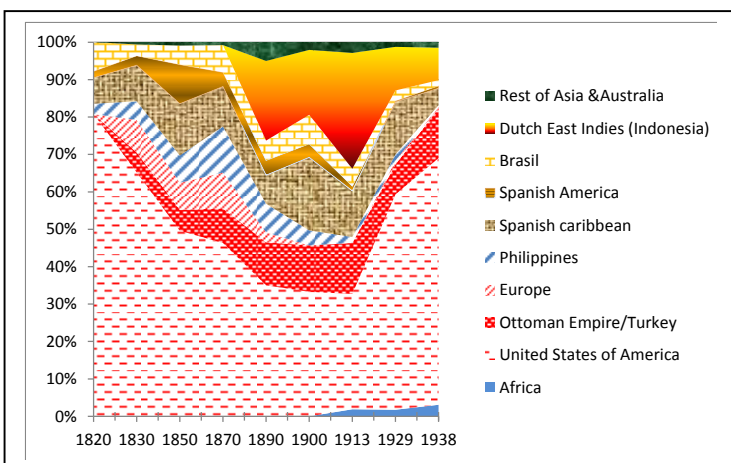
c) Tea



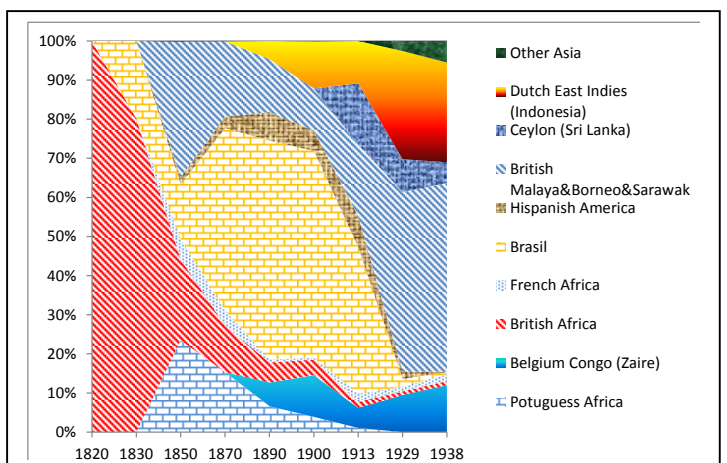
d) Cotton



e) Tobacco

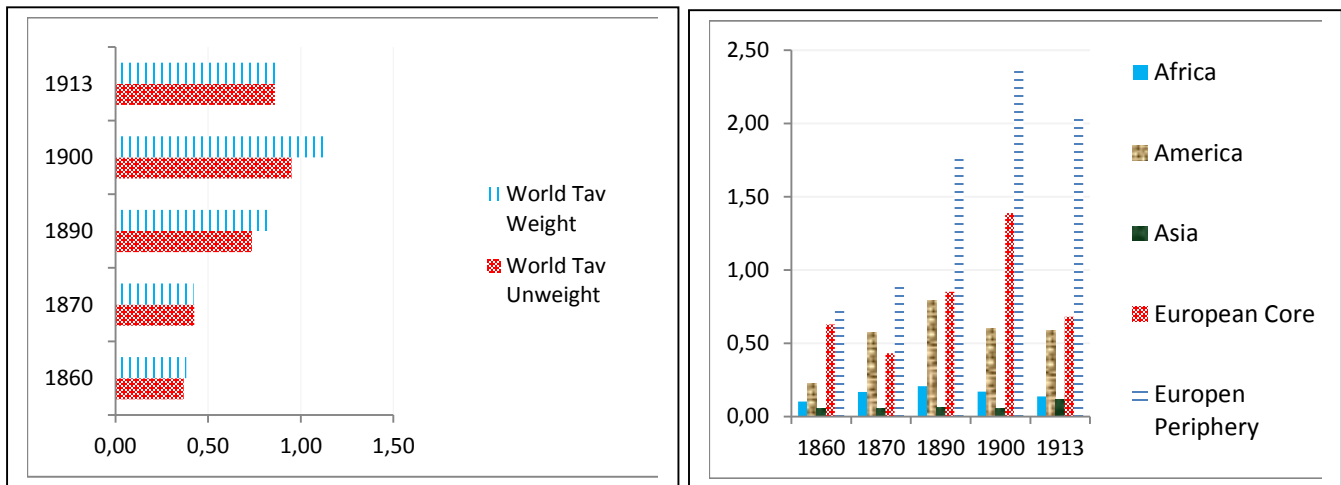


f) Rubber



There is no need to dwell in detail on changes in each market. However, the data illustrate the decline of the Americas, which we noticed in general terms in Section Two (Figure 3). At the beginning of the period, the United States dominated world market for cotton and tobacco, the slave colonies of the Caribbean the market for sugar and coffee and China the market for tea. By 1913, the United States still provided most of world cotton, and were the main exporter of tobacco, while the Caribbean had been substituted by Brazil as the world supplier of coffee, and the market for sugar was divided between European producers, Cuba and Java. Second, sugar was an outlier among tropical products because the competition was heavily affected by the trade policy of consuming countries. Until ?? Britain imposed differential duties to protect the sugar producers from its West Indian colonies. In the second half of the century, European countries, and to a lesser extent the Latin American and US, increased duties on sugar to raise revenues and to protect their domestic production. The GDP weighted average of specific duties for 34 countries increased from 35% of the London price in 1860 to over 100% in 1913 (Figure 8).

Figure 8
Sugar Tariff Average in the World



Sources: Sugar specific tariff on sugar London prices for 34 polities weighted by GDP Maddison project (2014). Sources sugar tariffs Lampe&Tena tariff data base (2015)

This level of protection has in all likelihood contributed to the halving in the share of sugar on world trade, which accounts for about 40% of the decline in the overall share of tropical products, 1850-1938.

4) The Constant Market share analysis

Our data-base does not include bilateral trade flow and thus we cannot control for different destinations. Thus, we decompose changes in the aggregate share of a tropical polity (or of a group of polities) on total world export in six different component:

- 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 composition of world demand for ‘not tropical’ products
- iv) 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
- v) diversification towards ‘new’ tropical products – i.e. goods which the polity did not export in the initial year
- vi) changes in the share of world trade of ‘not tropical’ products

We estimate the contribution of i), iii), iv) and v) as the difference, in the final year of the period, between the actual share of the polity and a counterfactual share, which we compute assuming that the relevant market share had remain constant at its initial level. We then obtain ii) and vi) as a residual.

More in detail, 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 $\mathbf{X} = \sum X = \sum Y = \sum \sum x$. We distinguish, with a superscript tropical (x^T) and not tropical goods (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 ¹². In this notation, total exports of the j -th polity can be written at time t

$$X_t = \sum x_t^O + x_t^{NT}$$

And at time $t+n$ as

$$X_{t+n} = \sum x_t^O + \sum x_t^N + x_t^{NT},$$

In this notation, we define

Φ share of the i -th polity on world trade - i.e. $\Phi = X/X$

Π share of the i -th polity on world exports of all tropical products – i.e. $= \Pi \sum x^T / \sum X^T$

¹² We omit the tropical products which were not exported in the initial or final year (‘other’ tropical products). We also omit the polity subscript

π share of the i-th polity on world exports of the i-th tropical good - i.e. $\pi = x^T / X^T$

Ψ 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

ω^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)

$$C1 = \Pi_{t+n} * (S_{t+n} - S_t)$$

b) changes in the share of the i-th polity on the world market for not tropical goods (vi)

$$C2 = (1 - S_{t+n}) * (\Psi_{t+n} - \Psi_t)$$

c) changes in the share of the i-th polity on the world market for tropical goods

$$C3 = S_{t+n} * (\Pi_{t+n} - \Pi_t)$$

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 (iii)

$$C4 = \Phi_{t+n} - \Phi_t - C1 - C2 - C3.$$

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

e) changes in the market share for ‘old’ products (iv)

$$C5 = C3 * [\omega_{t+n}^O * (\sum \pi_{t+n}^O - \sum \pi_t^O)] / [\Pi_{t+n} - \Pi_t]$$

f) change (i.e. increase) in the market share for ‘new’ products (i)

$$C6 = C3 * [\omega_{t+n}^N * (\sum \pi_{t+n}^N - \sum \pi_t^N)] / [\Pi_{t+n} - \Pi_t]$$

g) change in composition of world exports of tropical products, which we obtain as a residual (ii)

$$C7 = C3 * [\Pi_{t+n} - \Pi_t - C5 - C6]$$

The total change in the market share of the polity can be decomposed as

$$\Phi_{t+n} - \Phi_t = C1 + C7 + C4 + C2 + C5 + C6$$

So that one can compute the relative contribution of each effect by dividing by $(\Phi_{t+n} - \Phi_t)$.

The economic interpretation of these six effects is straightforward. The three first the so-called commodity lottery –i.e. the exogenous changes in composition of trade- while the rest iv) and v) and vi) the competitiveness of each polity on the market for tropical products (its traditional exports or new ones) and on the market for not tropical ones.

6) The results of the CMS: a general view

We report the main results of the constant market share analysis in Table 2, with additional information in Statistical Appendix Tables A to D, Statistical Appendix. We decompose changes for the shortest time intervals given the available data as well as for longer periods, which correspond to main phases of the evolution of the global economy (Federico-Tena 2015b). The figures are expressed in term of absolute changes in world market shares (column ‘share’), rather than in shares of the actual change. Therefore, they are bound to be the smaller the geographical unit is (all tropical polities, a continent, a single polity). In order to make the interpretation easier, we change the sign when necessary: a positive figure always corresponds to an increase in market shares, which may contribute to an overall growth or partially offset a decline. When necessary, we report in *italic* the results for the time-invariant ‘1830 sample’.¹³

Table 2
Constant market share analysis, all tropical polities

		i)	ii)	iii)	iv)	v)	vi)
	Change s in world share	changes in the total world demand for tropical products	changes in the composition of world demand for tropical products	changes in the composition of world demand for ‘not tropical’ products	changes in the share of the trade of its ‘traditional’ tropical products	diversification towards ‘new’ tropical products	changes in the share of world trade of ‘not tropical’ products
1830-1850	-2,7	-1,3	-1,0	-0,5	0,1	0,2	-0,2
1850-1870	-4,1	-1,8	-1,1	1,4	0,4	0,0	-3,1
1870-1890	-0,2	-1,1	1,0	-0,9	0,1	0,0	0,6
1890-1900	-1,8	-1,5	0,1	0,0	0,2	0,0	-0,7
1900-1913	1,5	1,0	-0,3	0,4	-0,1	0,0	0,6
1913-1929	0,8	-0,7	0,5	0,6	0,2	0,0	0,2
1929-1938	1,0	-1,1	0,1	0,3	0,2	0,0	1,5

¹³ The number of polities in 1820-1830 is so small to make the computation meaningless in all areas except Latin America

1830-1870	-6,8	-3,1	-2,1	0,7	0,3	0,6	-3,3
1850-1913	-4,6	-3,6	0,0	0,7	0,9	0,0	-2,6
1870-1913	-0,5	-1,7	0,9	-0,5	0,3	0,0	0,5
1913-1938	1,8	-1,8	0,6	0,8	0,5	0,0	1,7
<i>1830-1938</i>	<i>-9,7</i>	<i>-6,1</i>	<i>-0,4</i>	<i>-0,5</i>	<i>0,5</i>	<i>0,3</i>	<i>-3,5</i>

Sources: see text

The interpretation of the data is fairly straightforward. For instance, let's consider the row 1830-1938, which refers to all tropical countries of the '1830 sample'. Their cumulative share on world exports fell by 9.7 points: two thirds of this fall is accounted by the commodity lottery (-6.1 from column i), -0.4 from column ii) (-0.5 column iii), and the rest by loss of competitiveness in not tropical products (-3.5 points, column vi)) and an increase in 0.5 the tropical products share while the growth of exports of 'new' products increased the share by 0.3 points.

We can sum up our results in five stylized facts

a) The decline in the share of tropical products (column i) was the single largest drag on the performance of tropical polities. The effect is negative in all periods but 1900-1913 and over the whole period it was large enough to account for more than the whole loss of market shares for all polities or for at least two thirds for the '1830 sample'. The long-run stability of relative prices (Section Three) suggests that the decline reflects mostly movements from the demand side. 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 five out of seven periods, the exceptions being 1850-1870 and 1870-1890 (both with rising prices and declining shares) ¹⁴.

b) the effect of changes in the composition of world trade in tropical product (column ii) was heavily negative in 1830-1870 but largely positive afterwards. The two movements compensated to some extent so that the total change from 1830 to 1938 is small. By definition, this component captures the changes in the total share of cotton, sugar and tobacco, the three tropical products which were exported by not tropical polities. ¹⁵

c) the effect of changes in the composition of world trade for not tropical products (column iii) were modest. The sign is positive in most periods, but the long-run effect (for the 1830 sample) is negative

¹⁴ 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.

¹⁵ In most periods (1870-1890, 1890-1900, 1913-1929 and 1929-1938), the effect is positive and the share of these three products on exports of tropical products declines, while in 1850-1870 the share rose and the composition effect was negative and in 1830-1850, both are negative.

d) the tropical polities as a whole proved to be fairly competitive on the market for tropical products against not tropical exporters (column iv and v). They did lose to the United States in the market for cotton in 1830-1850 and to European producers in the market for sugar in 1870-1890, but in both cases they succeeded to recover (Section 3). Of course, the effect is proportionally the greater the higher is the geographical detail as it includes the competition within the tropical world.

e) In contrast, tropical countries as a group lost badly shares in the market for not tropical products until the war and gained something after it (column vi). This category includes manufactures and thus it is tempting to explain the early decline as evidence of de-industrialization. However, this inference would be hasty, as the category includes also mineral products

Table 3 reproduces the basic institutional division a division between colonies and independent countries (cf. Figure Three)

Table 3
Constant market share analysis, by political status

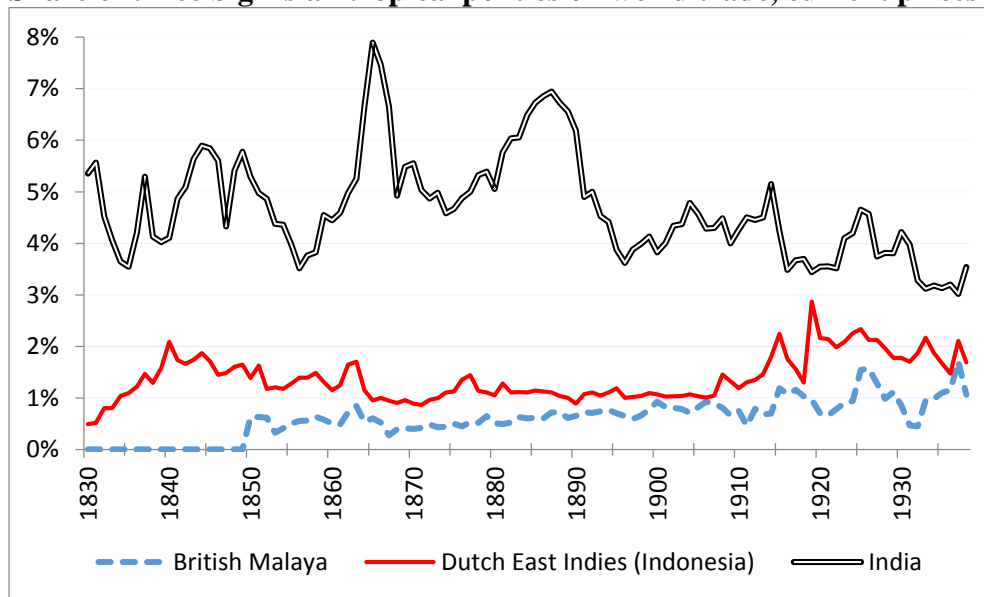
		i)	ii)	iii)	iv)	v)	vi)
b) Colonies							
1830-1870	-3,0	-2,0	-0,9	0,1	0,0	0,1	-0,3
1850-1913	-2,1	-2,1	0,3	0,2	0,6	0,0	-1,1
1870-1913	-0,1	-1,0	0,5	-0,6	0,1	0,0	0,9
1913-1938	1,6	-1,4	0,7	1,4	0,6	0,0	0,2
1830-1938	-1,5	-5,8	-0,8	1,8	1,9	0,5	0,9
c) Independent							
1830-1870	-3,9	-1,1	-0,2	0,1	0,3	0,0	-3,0
1850-1913	-2,6	-1,4	-0,4	0,3	0,2	0,1	-1,5
1870-1913	-0,4	0,0	-0,8	0,0	0,9	0,1	-0,7
1913-1938	0,2	-2,6	-0,1	-0,6	2,1	0,0	1,5
1830-1938	-4,0	-1,9	0,1	-0,4	0,3	0,1	-2,1

The results are somewhat unexpected, at least before 1913. In fact, colonies performed better than independent states, as they gained market shares in old and new tropical products (columns iv and v) and also in not tropical products (column vi). In the next Sections, we will deepen our analysis and look for differences in performanc

7) The Asian success

Our sample includes ten Asian tropical polities, but three of them, India, Indonesia (by then Dutch East Indies) and British Malaya (including present-day Singapore) accounted for between 70% and 80% of total exports of (tropical) Asia. A visual inspection of their shares on world trade (Figure 9) shows that there was not a common ‘Asian’ pattern. British Malaya (not available before 1850) 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 16

Figure 9
Share of three big Asian tropical polities on world trade, current prices



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 B Statistical Appendix) . 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 accounted for about

¹⁶ 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%)

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. 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 was the success story among tropical products, and thus changes in composition of world exports of tropical products 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 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. 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, as it was by far the largest tropical polity. 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 because tropical goods accounted for only between a third and a half of Indian exports. 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. 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

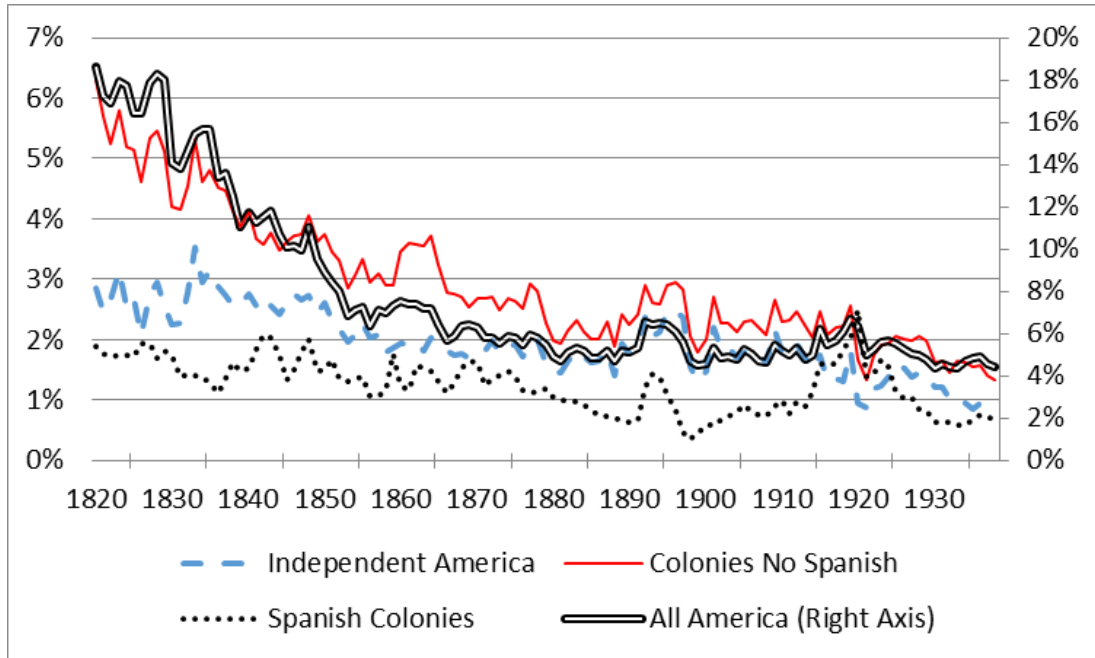
competitiveness in tropical products contributed for about a tenth to the fall in Indian share of world exports, from 4.5% in 1890 to 1900 to 3.2%. Most of the fall, however, depends on exports of not tropical products, which reversed the massive increase in competitiveness of the previous period 1870-1890. Even without data on market shares, we can glean some ideas from trends in exports of main (not-tropical) goods¹⁷. 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 and India gained shares on both markets for tropical and not tropical goods – including a return of her share of the cotton market to long-term level around 15%.

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.

8) The failure of tropical America

Tropical American polities accounted for ?? of world exports in 1830s but their share collapsed in the next thirty years and continued to decline until 1900, recovering only marginally in the first half of the 19th century. We have discussed at length the causes of the decline before 1870 in another paper (Federico and Tena 2015c) and we sum up the key argument in Figure 10.

¹⁷ 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.

Figure 10**Share of tropical America on world exports**

The fall in total share depends almost exclusively on the collapse of the share of non Spanish (i.e. mostly British and French) colonies in the Caribbean, which was caused by the emancipation of slaves. It had started with the revolt in Haiti, continued by the abolition of slave trade by British in 1808 and concluded by slave abolition, first in British colonies in the early 1830's and later by French colonies in the second half of the 1840's. From 1830 to 1870, the non Spanish colonies lost more than 4 points of world market share, as the combined effect of loss of competitiveness (about one point) and adverse commodity lottery (Statistical Appendix Table C). The Spanish colonies (Cuba and Portorico) and the independent tropical countries (i.e. Brazil), where slavery was to be abolished much later, benefitted from the crisis of their local competitors. However, their gains in the market for traditional tropical exports (i.e. sugar and coffee) were modest and were swamped by losses from change in the composition of world trade. Most independent polities gained but the 'independent' American polities lost heavily market share for the extremely poor performance of Mexico in non tropical products. The American tropical polities continued to lose ground after 1870-1913, as the commodity lottery was still adverse and they lost market share in non tropical goods. The negative trend was reversed only after

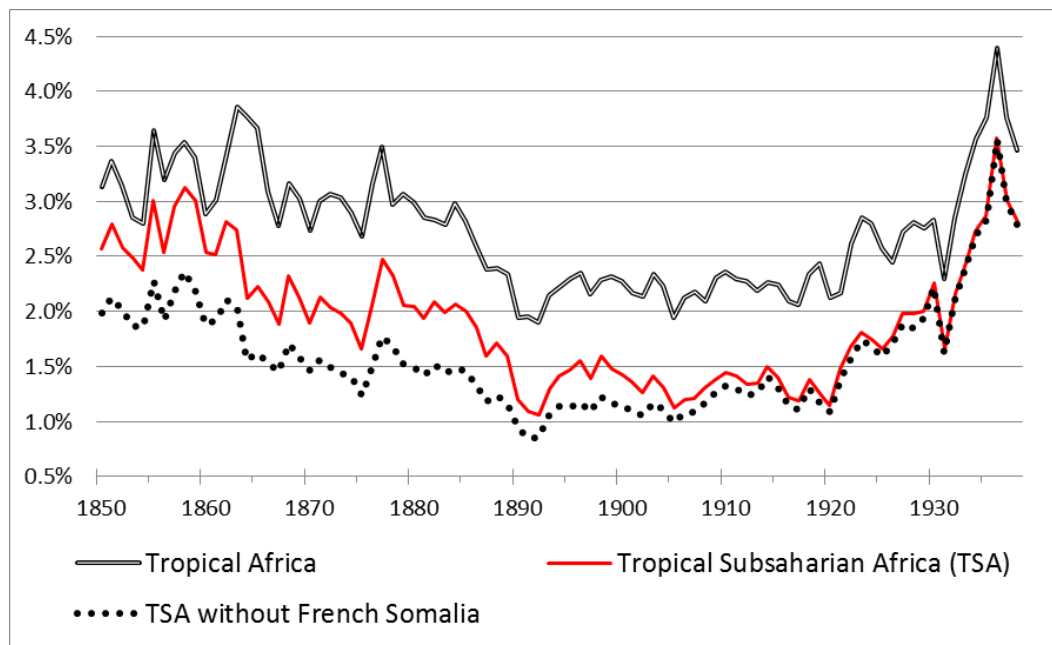
1900, and anyway gains mostly in markets for non-tropical goods, such as oil from Mexico and Venezuela ¹⁸.

9) The non-descript performance of tropical Africa

As said, African polities by and large shared the trend of other tropical areas. Their share on total exports of tropical polities fluctuated between 13% and 17%, rising only in the 1930s. The share of Africa on world exports, after a modest rise in the 1830s and 1840s (according to the '1830 sample'), declined steadily from about 3.2% in the early 1850s to a minimum about 2% in the early 1890s and then rebounded to 3.8% on the eve of World War Two. The performance would be somewhat better if we omit two polities which can be construed as outsiders, Egypt, the only tropical polity North of the Sahara, and French Somalia – i.e. the harbor of Djibouti, which was a major trading and transshipment centre in the commerce between Asia and Europe (Figure 11). Jointly they accounted for well over 1% of world exports until World War One, with peaks over 2% during the cotton famine of the 1860s, but then their share declined to around 0.6%.

Figure 11

Share of tropical Africa on world exports

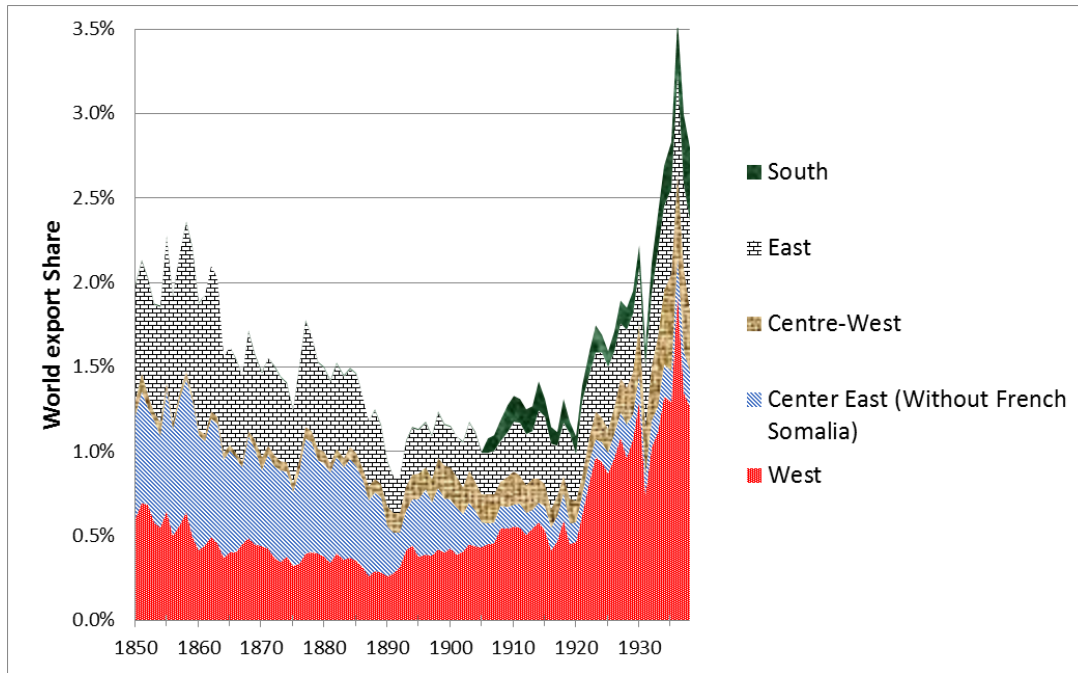


¹⁸ From 1913 to 1938, the share of Mexico on world trade of not tropical products increased from 0.69% to 0.96%, while the share of Venezuela jumped from 0.03% to 0.83%:

It would be impractical to analyses over thirty polities separately so we group them in five macro-areas, Western, Centre-West, Centre-East (or the Horn), East and South (cf. Map 2).¹⁹

Figure 12

Share of Sub-Saharan Africa regions on world exports



¹⁹ Western Africa includes French West Africa, Ghana, S.Tome e Principe, Nigeria, Sierra Leone, Gambia, Togo, Guinea Bissau, Canary Islands and Liberia, Centre-Eastern Africa (the Horn) Sudan, British Somalia, French Somalia, Italian Somalia, Eritrea and Ethiopia, Centre-Western Africa Belgium Congo (Zaire), French Equatorial Africa, Cameroon, Angola; East Africa British East Africa (Kenya & Uganda), Mozambique, German East Africa (Tanganyka), Zanzibar, Madagascar, Mauritius, Reunion and Seychelles and Southern Africa Rhodesia, Malawi, German South West Africa (Namibia) St Helena /C/

Figure 12 excludes Egypt and French Somalia, but the results would even be starker if we added them. In a nutshell, the data highlights an East-West divide. The decline in shares from 1850-2 to 1890-1892 was common to all areas but somewhat worse on the East than on the West Coast (where the Centre-West was increasing its share) and in the South. In the early 1890s polities on the East and on the West coast accounted for roughly the same share of world trade (0.47% and 0.40%), while those of Southern Africa, which were just started to be colonized, for a mere 0.05%. In the next forty years, to 1936-1938 trends diverged hugely between areas. Not unexpectedly, the share of Southern Africa soared to 0.38% of world trade, that of Western Africa increased four-fold, to almost 2% (1.5% the West, 0.45% the Centre-West) while Eastern Africa managed only to increase it by two thirds because of the stagnation of the Horn ²⁰. What did cause these differences?

As expected, the decomposition of causes of change in the medium and long run for the five areas (Table A of the Statistical Appendix) highlights rather different patterns. West Africa was surely lucky, as it benefited quite handsomely from the commodity lottery, or more precisely from the composition effects for both tropical (col ii) and not tropical goods (col iii). On the other hand, it gained market shares in not tropical products (col. vi) and succeeded to diversify into new tropical goods, such as palm nuts and cocoa (col v). It did lose market shares in its traditional tropical exports before 1913 (col iv), but it would have been difficult not to lose. In fact, in 1830 West Africa enjoyed a monopoly of exports of palm oil and peanuts, and in 1913 it still supplied 85% and 88% respectively of world trade of these goods. Also the modest rise in shares of the Centre-West reflected mostly the changes in commodity composition, while gains in other products (col iii) offset losses in traditional tropical exports (col. iv). In the table, Centre-East includes French Somalia for symmetry with the overall analysis in the previous Section. The decline in its market share is determined by massive loss in competitiveness in not tropical products (col. vi), which may reflect a change in trade patterns of Djibouti (Table Appendix). East Africa had some benefits from the commodity lottery, especially from the composition effects, but lost heavily in ‘traditional’ exports of tropical products (col. iv). The area (i.e. Mauritius and the Reunion) supplied 1.5% of world sugar in 1830 and only 0.5% in 1913. Last but not least, almost all the increase in the share of Southern Africa (0.33 points vs 0.38) reflects the growth in exports of not tropical goods.

²⁰ The share of East (i.e. mostly Kenya) doubled, from 0.22% to 0.53%, while that Centre-East declined from 0.25% in 1890-1892 to 1936-1938. As said, these figures exclude French Somalia: the share of Centre-East inclusive of that polity halved from 0.48% to 0.25%

10) Conclusions

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 stand quite well the competition from not tropical ones, including advanced countries such as the United States, in the world market for tropical goods. If any, they lost market share in the market for not tropical goods. Unfortunately, it is not possible to be more precise with the available data about the distribution of these losses between manufactures and primary products.
- iii) there were substantial differences between continents and within continents. In a nutshell, the commodity lottery affected negatively Asia and America but Asia weathered it much better. In contrast, Africa was lucky, but as a whole it was unable to exploit fully the lottery, and lost somewhat in competitiveness.

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 with the stable aggregate relative prices, although may still hold for specific products and/or periods of time. Thus one would conclude that the commodity lottery reflected mainly demand-side factors, such as trends in consumption and trade policy. The sugar duties history in western countries is a remarkable evidence supporting this argument.

This general conclusion must then be qualified with product-specific and policy-specific analyses. This paper suggests questions within a global framework, but cannot provide final answers.

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POLITY UNITS AND DIVISION OF TROPICAL AMERICA

French colonies America:

French Guiana, Guadalupe, Martinique

British Colonies America:

Bahamas, Barbados, British Guiana, British Honduras, Jamaica, Trinidad and Tobago, Grenada, Leeward Island, St. Vincent, St. Lucia, Turks and Cacois Is.

Iberian colonies America

Brasil, Cuba, Portorico

Spanish independent republics:

Bolivia, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Perú, Venezuela

Independent CountriesAmerica:

Bolivia, Brasil, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Mexico, Nicaragua, Panama, Paraguay, Perú, Venezuela

Statistical Appendix

Table A
Constant market share analysis by continent

America	Share world	i)	ii)	iii)	iv)	v)	vi)
1820-1830	-2,9	-0,4	-2,2	-0,7	-0,1	0,0	0,5
1830-1850	-6,0	-0,7	-0,7	-2,2	-0,2	0,0	-2,2
1850-1870	-3,1	-0,8	-1,0	0,0	-0,1	0,0	-1,1
1870-1890	-0,9	-0,5	0,5	-0,8	0,0	0,1	-0,2
1890-1900	-0,5	-0,7	0,1	0,1	0,1	0,0	-0,2
1900-1913	0,2	0,4	-0,2	0,1	0,0	0,0	-0,1
1913-1929	0,1	-0,2	0,1	-0,6	0,0	0,0	0,8
1929-1938	0,1	-0,3	-0,4	0,1	0,0	0,0	0,7
1830-1870	-9,0	-1,4	-1,8	-1,7	-0,7	0,0	-3,4
1850-1913	-4,3	-1,5	-0,8	-0,3	-0,2	0,1	-1,7
1870-1913	-1,2	-0,7	0,3	-0,4	0,1	0,1	-0,5
1913-1938	0,2	-0,5	0,0	-0,7	-0,1	0,0	1,5
Africa	Share world	i)	ii)	iii)	iv)	v)	vi)
1830-1870	1,1	-0,4	0,1	0,8	0,3	0,0	0,3

1850-1913	0,1	0,5	-0,7	0,1	-0,3	0,0	0,2
1870-1913	0,3	0,3	-0,6	0,3	-0,1	0,0	-0,2
1913-1938	1,6	-0,5	0,5	0,7	0,3	0,0	0,6
1830-1938	2,9	-2,0	1,7	0,2	1,8	0,1	1,1

Asia	Share world	i)	ii)	iii)	iv)	v)	vi)
1820-1830	-2,0	-0,1	0,4	0,1	0,1	0,0	-2,4
1830-1850	2,0	-0,4	-0,4	1,1	0,2	0,2	1,3
1850-1870	-1,0	-0,8	0,0	1,0	0,3	0,0	-1,5
1870-1890	0,8	-0,5	0,4	-0,1	0,1	0,0	0,9
1890-1900	-1,6	-0,6	-0,2	-0,3	0,0	0,0	-0,6
1900-1913	1,2	0,4	-0,2	0,6	-0,1	0,0	0,5
1913-1929	0,2	-0,3	0,1	0,8	0,1	0,0	-0,6
1929-1938	-0,1	-0,5	0,2	-0,1	0,1	0,0	0,2
1830-1870	1,1	-1,3	-0,3	1,4	0,8	0,8	-0,2
1850-1913	-0,6	-1,5	0,1	0,8	0,7	0,1	-0,7
1870-1913	0,4	-0,7	0,0	0,1	0,1	0,1	0,8
1913-1938	0,0	-0,8	0,1	0,8	0,3	0,0	-0,4
1830-1938	1,5	-3,5	-0,8	0,4	2,4	2,7	0,3

Table B
Constant market share analysis: major Asian polities
 /to change columns and explantion

	Share	i)	ii)	iii)	iv)	v)	vi)
Malaya							
1850-1870	-0.3	0.0	0.0	0.0	0.0	-0.2	0.0
1870-1890	0.3	0.0	0.1	0.0	0.0	0.2	0.0
1890-1900	0.2	0.0	0.0	0.0	0.0	0.1	0.0
1900-1913	-0.1	0.0	0.0	0.0	0.0	-0.2	0.0
1913-1929	0.3	0.0	0.3	0.0	0.0	-0.1	0.0
1929-1938	0.3	-0.1	0.2	0.0	0.0	0.1	0.0
India							
1850-1913	0.1	-0.1	0.1	0.0	0.0	-0.1	0.1
1870-1913	0.3	0.0	0.1	0.0	0.0	0.2	0.0
1913-1938	0.6	-0.2	0.5	0.0	0.0	0.1	0.1
1820-1830	-2.6	-0.1	0.0	0.2	0.0	-2.7	0.1
1830-1850	-0.5	-0.2	-0.5	0.2	0.1	-0.1	0.1
1850-1870	0.0	-0.5	0.0	0.8	0.0	-0.5	0.2
1870-1890	0.5	-0.2	-0.3	-0.1	0.0	1.1	0.0
1890-1900	-1.9	-0.2	-0.3	-0.3	0.0	-1.1	0.0
1900-1913	0.7	0.2	0.1	0.3	0.0	0.2	-0.1

1913-1929	-0.8	-0.1	-0.2	0.2	0.0	-0.7	0.0
1929-1938	-0.7	-0.1	-0.3	0.0	0.0	-0.2	0.0
1830-1870	-0.5	-0.8	-0.4	0.5	0.5	-0.6	0.4
1850-1913	-0.6	-0.7	-0.3	0.4	0.0	-0.3	0.2
1870-1913	-0.7	-0.3	-0.3	-0.3	0.0	0.2	0.0
1913-1938	-1.5	-0.2	-0.4	0.1	0.0	-1.0	0.0
1830-1938	-2.6	-1.0	-0.8	0.1	0.4	-1.4	0.1
Indonesia							
1820-1830	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1830-1850	1.0	-0.1	0.0	0.7	0.0	0.3	0.1
1850-1870	-0.6	-0.1	-0.2	-0.1	0.0	-0.3	0.0
1870-1890	0.1	-0.1	0.2	-0.1	0.2	-0.2	0.0
1890-1900	0.1	-0.2	0.0	0.0	0.0	0.1	0.0
1900-1913	0.5	0.1	0.0	0.2	0.0	0.2	0.0
1913-1929	0.3	-0.1	0.0	0.2	0.0	0.1	0.0
1929-1938	-0.1	-0.1	0.1	-0.2	0.0	0.2	0.0
1830-1870	0.4	-0.2	0.0	0.4	0.0	0.1	0.1
1850-1913	0.0	0.4	0.1	0.1	-0.5	0.1	-0.2
1870-1913	0.6	-0.2	0.0	0.0	0.5	0.2	0.1
1913-1938	0.2	-0.2	0.1	-0.7	0.8	0.3	0.0
1830-1938	1.2	-0.9	0.0	0.1	0.8	0.6	0.7

Table C
Constant market share analysis: America by groups

	Share	i)	ii)	iii)	iv)	v)	vi)
	Share world market	Commodity lottery: total world demand tropical products	Commodity lottery: composition exports tropical products	Commodity lottery: composition exports not tropical products	Competitiveness: 'traditional' tropical products	Diversification: 'new' tropical products	Competitiveness: not tropical products
	Share	i)	ii)	iii)	iv)	v)	vi)
Caribbean							
1820-1830	-3,951	-0,272	-1,847	-1,341	-0,104	0,000	-0,389
1830-1850	-4,361	-0,385	-1,025	-2,381	-0,359	0,001	-0,212
1850-1870	-1,204	-0,449	-0,568	0,141	-0,061	0,000	-0,267
1870-1890	-1,077	-0,166	-0,037	-0,858	-0,105	0,001	0,088
1890-1900	-0,291	-0,213	0,090	-0,145	-0,004	0,000	-0,019

1900-1913	0,157	0,143	-0,163	0,233	-0,012	0,004	-0,047
1913-1929	-0,219	-0,076	-0,141	-0,094	-0,016	0,000	0,108
1929-1938	0,053	-0,112	-0,005	0,051	0,010	0,000	0,108
1830-1870	-5,566	-0,779	-1,859	-1,471	-0,978	0,009	-0,487
1850-1913	-2,414	-0,526	-0,753	-0,444	-0,450	0,011	-0,252
1870-1913	-1,210	-0,251	-0,291	-0,548	-0,154	0,011	0,023
1913-1938	-0,166	-0,192	-0,109	-0,056	-0,029	0,003	0,218
1830-1938	-6,941	-0,810	-2,116	-1,135	-2,703	0,097	-0,274

	Share	i)	ii)	iii)	iv)	v)	vi)
Independent American							
						-	
1820-1830	-0,030	0,165	1,129	-0,444	-0,012	0,005	-0,804
1830-1850	-1,863	-0,520	0,309	0,230	0,182	0,000	-2,064
1850-1870	-2,123	-0,619	-0,671	0,157	0,003	0,000	-0,994
1870-1890	-0,553	-0,377	0,491	-0,548	0,036	0,057	-0,212
1890-1900	-0,331	-0,561	0,099	0,159	0,097	0,021	-0,147
1900-1913	0,431	0,380	-0,091	0,323	-0,050	0,000	-0,131
1913-1929	0,076	-0,220	0,086	-0,482	-0,015	0,005	0,703
1929-1938	-0,020	-0,257	-0,370	-0,051	-0,019	0,000	0,677
1830-1870	-3,986	-1,072	-0,184	0,123	0,274	0,006	-3,132
1850-1913	-2,577	-1,402	-0,366	0,345	0,226	0,136	-1,515
1870-1913	-0,453	-0,669	0,361	0,049	0,159	0,136	-0,489
1913-1938	0,056	-0,441	-0,078	-0,694	-0,125	0,002	1,391
1830-1938	-4,384	-1,864	0,060	-0,467	0,267	0,050	-2,431
French colonies America							
1820-1830	-0,390	-0,039	-0,171	-0,207	-0,013	0,000	0,039
1830-1850	-0,790	-0,038	-0,216	-0,422	-0,069	0,000	-0,045
1850-1870	-0,127	-0,040	-0,073	0,000	-0,012	0,000	-0,002
1870-1890	-0,120	-0,013	0,004	-0,100	-0,011	0,000	0,000
1890-1900	-0,020	-0,016	0,005	-0,008	0,000	0,000	0,000
1900-1913	-0,027	0,006	-0,023	-0,013	0,004	0,000	-0,002
1913-1929	-0,012	-0,004	0,008	-0,012	0,000	0,000	-0,004
1929-1938	0,033	-0,010	0,004	0,035	0,005	0,000	-0,001
1830-1870	-0,916	-0,069	-0,330	-0,285	-0,185	0,000	-0,048
1850-1913	-0,293	-0,024	-0,091	-0,100	-0,076	0,000	-0,004
1870-1913	-0,167	-0,011	-0,030	-0,099	-0,024	0,000	-0,002
1913-1938	0,021	-0,017	0,034	0,001	0,008	0,000	-0,005

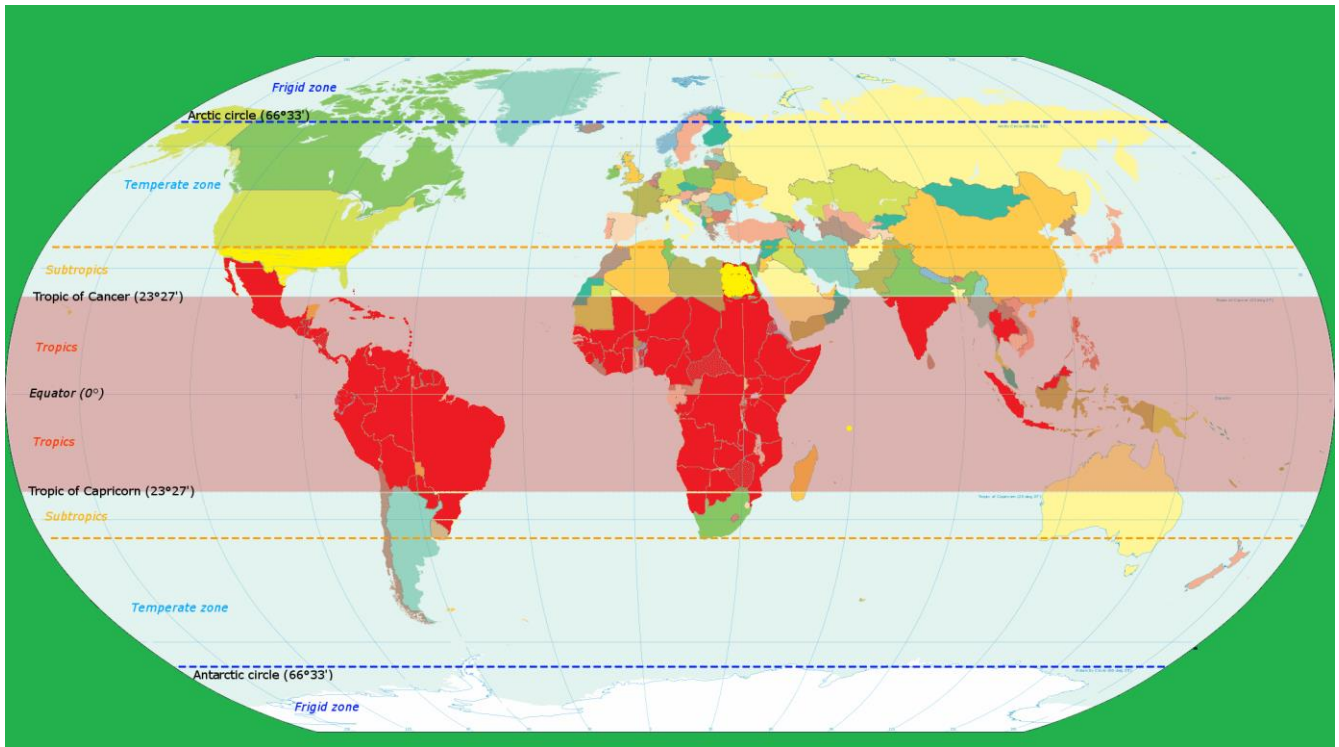
1830-1938	-1,062	-0,074	-0,360	-0,156	-0,432	0,016	-0,057
	Share	i)	ii)	iii)	iv)	v)	vi)
British colonies America							
1820-1830	-2,154	-0,134	-0,712	-0,929	-0,053	0,000	-0,326
1830-1850	-2,854	-0,106	-0,682	-1,752	-0,261	0,000	-0,053
1850-1870	-0,486	-0,106	-0,183	-0,035	-0,032	0,000	-0,129
1870-1890	-0,176	-0,049	0,001	-0,154	-0,014	0,022	0,019
1890-1900	-0,120	-0,056	0,038	-0,089	-0,007	0,000	-0,006
1900-1913	-0,109	0,020	-0,035	-0,110	0,014	0,005	-0,003
1913-1929	-0,033	-0,011	0,037	-0,068	-0,001	0,000	0,011
1929-1938	0,092	-0,025	0,009	0,070	0,011	0,000	0,026
1830-1870	-3,339	-0,184	-1,099	-1,188	-0,685	0,000	-0,184
1850-1913	-0,891	-0,074	-0,232	-0,311	-0,189	0,039	-0,124
1870-1913	-0,405	-0,035	-0,068	-0,291	-0,059	0,039	0,010
1913-1938	0,059	-0,043	0,060	-0,008	0,013	0,000	0,037
1830-1938	-3,686	-0,180	-1,191	-0,674	-1,557	0,064	-0,148
	Share	i)	ii)	iii)	iv)	v)	vi)
Iberian Slave Economies-America							
1820-1830	-0,771	-0,130	-0,682	0,497	0,005	0,000	-0,462
1830-1850	0,233	-0,444	-0,044	0,752	0,101	0,033	-0,164
1850-1870	-1,214	-0,537	-0,548	0,157	-0,049	0,000	-0,238
1870-1890	-0,737	-0,266	0,257	-0,765	-0,054	0,000	0,091
1890-1900	-0,348	-0,340	-0,167	0,075	-0,006	0,000	0,090
1900-1913	0,392	0,240	-0,099	0,328	-0,034	0,000	-0,043
1913-1929	-0,562	-0,138	-0,118	-0,145	-0,015	0,000	-0,146
1929-1938	-0,588	-0,137	-0,267	-0,189	-0,050	0,000	0,056
1830-1870	-0,981	-0,931	-0,299	0,501	0,118	0,037	-0,408
1850-1913	-1,908	-0,885	-0,557	-0,123	-0,235	0,000	-0,108
1870-1913	-0,693	-0,422	-0,101	-0,251	-0,057	0,000	0,138
1913-1938	-1,150	-0,236	-0,412	-0,278	-0,131	0,000	-0,093
1830-1938	-2,825	-0,995	-0,676	-0,164	-0,629	0,024	-0,384

Table D
Constant market share analysis: Africa by areas

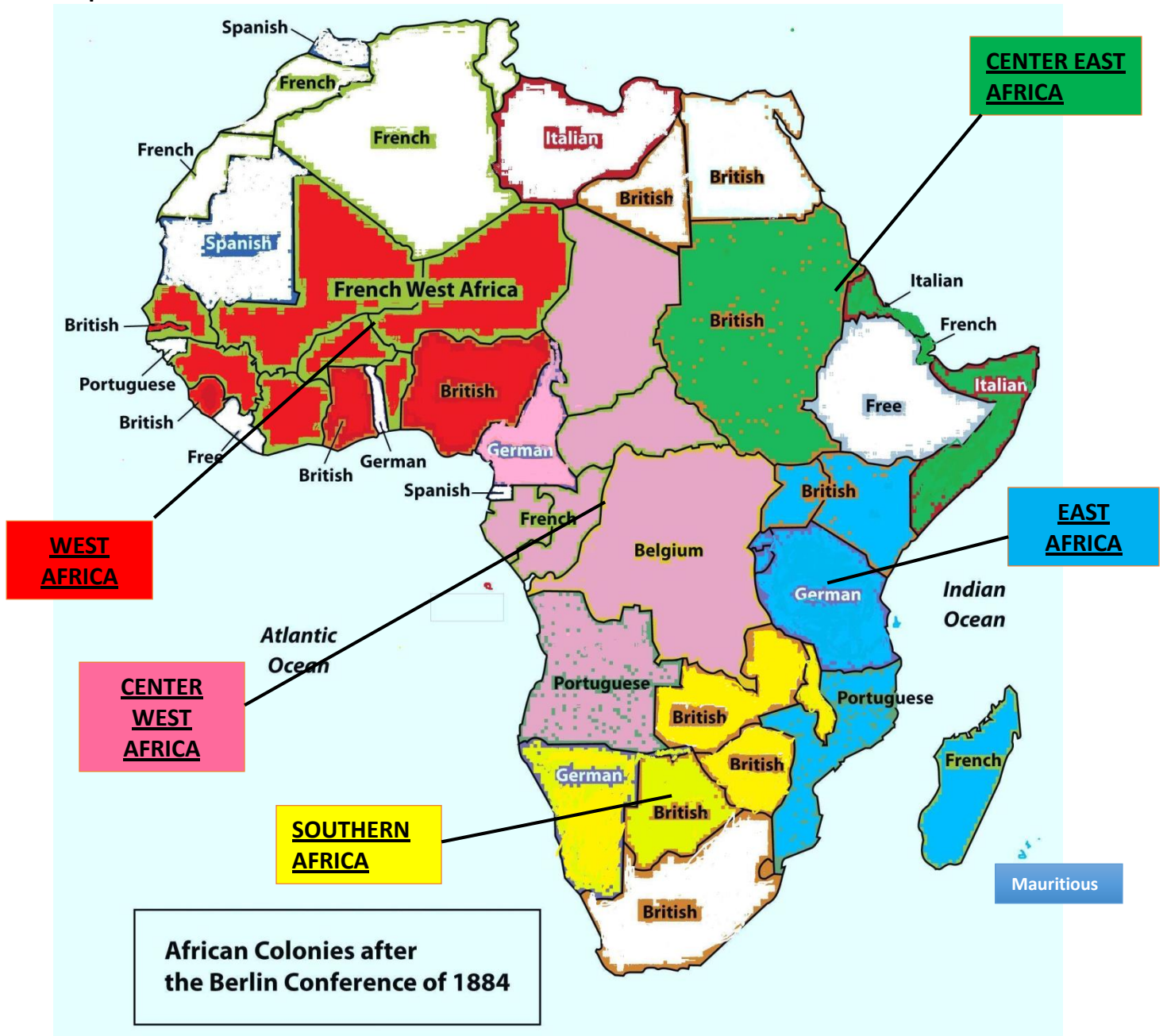
	Share	i)	ii)	iii)	iv)	v)	vi)
West Africa							
1830-1870	0.05	-0.05	0.14	0.03	-0.11	0.05	-0.01

1870-1913	0.23	-0.06	0.21	0.03	-0.05	0.00	0.10
1913-1938	0.92	-0.20	0.47	0.15	0.22	0.00	0.27
1830-1938	1.20	-0.83	1.32	0.79	-0.75	0.32	0.36
Centre-West Africa							
1850-1870	-0.05	-0.01	-0.01	0.00	-0.01	0.00	-0.01
1870-1913	0.10	-0.02	0.12	0.01	-0.05	0.00	0.04
1913-1938	0.28	-0.06	0.10	0.04	0.09	0.00	0.10
1850-1938	0.33	-0.20	0.39	0.16	-0.16	0.00	0.14
Centre East Africa							
1850-1870	-0.20	-0.04	-0.03	0.02	0.01	0.00	-0.16
1870-1913	-0.54	-0.01	0.01	-0.01	-0.16	0.00	-0.38
1913-1938	0.04	-0.02	0.00	0.02	0.09	0.00	-0.05
1850-1938	-0.70	-0.08	-0.04	0.03	-0.01	0.00	-0.60
East Africa							
1830-1870	-0.10	-0.08	-0.06	0.01	0.04	0.00	-0.02
1870-1913	-0.11	-0.04	0.31	-0.01	-0.36	0.00	-0.02
1913-1938	0.19	-0.07	0.01	0.04	0.15	0.00	0.06
1830-1938	-0.02	-0.28	0.43	0.12	-0.33	0.01	0.03
Southern Africa							
1850-1870	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1870-1913	0.15	0.00	0.00	0.00	0.02	0.00	0.13
1913-1938	0.23	-0.01	0.00	0.01	0.02	0.00	0.21
1850-1938	0.38	0.0	0.0	0.0	0.0	0.0	0.3
Egypt							
1850-1913	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1870-1913	0.01	-0.03	0.02	0.01	0.01	0.00	-0.01
1830-1938	0.01	0.00	0.00	0.00	0.00	0.00	0.00
1913-1938	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Map 1
The Tropical world



Map 2
Tropical Africa



African Regions included
in the sample by colors
(White not included)

Appendix A

List of tropical polities and Sources for composition

Here year of source and between brackets year of reference

AFRICA

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 Abstract for British Self-governing Dominions, Colonies, Possessions, and Protectorates in each year from 1900 to 1914. Eyre and Spottiswoode limited, London, 1916.

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]

Tables of the Revenue, Population, & Commerce &c of the United Kingdom and its Dependencies. Supplement to Part XVIII (Sect. A). Printed by W. Clowes and Sons, Stamford Street, London

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 (1924), *Memorandum of Balance of Payments and Foreign Trade Balances 1910-1923, Volume II: Trade Statistics of forty-two countries*. Geneva.

League of Nations (1931), *Memorandum on International Trade and Balances of Payments 1927-1929, Volume III: Trade Statistics of sixty-four countries*. Geneva.

League of Nations (1937), *International Trade Statistics 1936*, Geneva.

League of Nations (1939), *International Trade Statistics 1938*, Geneva.

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. Eyre and Spottiswoode limited, London, 1916.

Statistical Department, Board of Trade (1926)

Board of Trade (1931)

Board of Trade (1937)

Gambia

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

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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]

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Statistical Department, Board of Trade (1926)

Board of Trade (1931)

Board of Trade (1937)

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]

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

Mozambique (Portuguese Africa)

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

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Nigeria

1870 [1870], 1890 [1890], 1900 [1900], 1913 [1913], 1929 [1929], 1938 [1938]

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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 (Portuguese Africa)

1850 [1850], 1870 [1870], 1890 [1890], 1900 [1900], 1913 [1913]

hp: only product exported Cacao

Sierra Leone

1836 [1830], 1909 [1900], 1913 [1913], 1929 [1929], 1936 [1938]

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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)

Tangania (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], 1936 [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]

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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 Estatístico do Brasil, 1939-40

British Guiana

1820 [1820], 1830 [1830], 1850 [1850], 1870 [1870], 1890 [1890], 1900 [1900], 1914 [1913], 1929 [1929], 1936 [1938]

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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)

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Majesty's Stationary Office, London, 1939.

Colombia

1836 [1830], 1856 [1850], 1876 [1870], 1890 [1890], 1898 [1900], 1913 [1913], 1929 [1929], 1938 [1938]

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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 [1938]

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]

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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]

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League of Nations (1929)

League of Nations (1933)

League of Nations (1936)

League of Nations (1938)

French Guiana (French Colonies)

1820 [1820], 1830 [1830], 1850 [1850], 1870 [1870], 1890 [1890], 1900 [1900], 1913 [1913], 1929 [1929], 1938 [1938]

Bulmer-Thomas

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

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]

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Washington, Government Printing Office, 1909.

Guatemala

1850 [1850], 1868 [1870], 1913 [1913], 1929 [1929], 1936 [1938]

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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]

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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]

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Mexico

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

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Nicaragua

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

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League of Nations (1925)

League of Nations (1929)

League of Nations (1933)

League of Nations (1936)

League of Nations (1938)

Panama

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

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Paraguay

1854 [1850], 1913 [1913], 1930 [1929], 1936 [1938]

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

Turks & Caicos Is.

1820 [1820], 1830 [1830], 1850 [1850], 1870 [1870], 1890 [1890], 1900 [1900], 1913 [1913], 1929 [1929], 1938 [1938]
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Venezuela

1830 [1830], 1850 [1850], 1869 [1870], 1890 [1890], 1900 [1900], 1913 [1913], 1929 [1929], 1937 [1938]
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League of Nations (1939), *International Trade Statistics 1938*, Geneva.

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]

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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]

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League of Nations (1939), *International Trade Statistics 1938*, Geneva.

Dutch East Indies (Indonesia)

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

% 1823-95 Korthal Altes (?)

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French Indochina

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

File: Indochina

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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)

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Ottoman Empire/Turkey

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

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

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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]

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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]
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League of Nations (1939), *International Trade Statistics 1938*, Geneva.

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Australia

1836 [1830], 1855 [1850], 1869 [1870], 1890 [1890], 1900 [1900], 1913 [1913], 1929 [1929], 1938 [1938]
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 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)

Hawai

1849 [1850], 1875 [1870], 1890 [1890], 1899 [1900]

Historical Statistics of Hawaii (1977)

NON PROPICAL 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 quantità di prodotti e moltiplicati poi per i prezzi inglesi per ottenere i valori delle imp e delle exp)

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Germany/Zollverein

1872 [1870], 1890 [1890], 1901 [1900], 1913 [1913], 1925 [1929], 1938 [1938]

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Germany 1850s

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Hungary

1929 [1929], 1938 [1938]

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League of Nations (1933)

League of Nations (1939), *International Trade Statistics 1938*, Geneva.

Russia/USSR

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

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League of Nations (1939), *International Trade Statistics 1938*, Geneva.

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