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

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Keywords: International Trade, Tropical trade, World Trade, Nineteenth Century, Twentieth Century

JEL Classification: F14, N10

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

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, relies on very limited evidence. This paper analyses the growth of exports with a constant market share analysis for 84 tropical polities. Exports grew a lot, but less than total trade, while relative prices of tropical products remained roughly constant. We thus tentatively infer that the decline in the tropical shares on world trade reflects an insufficient demand for tropical products. Asia mastered well these headwinds throughout the whole period, while African polities blossomed after World War One. The loser was (South) America, and most notably the Caribbean former slave colonies especially before 1870.

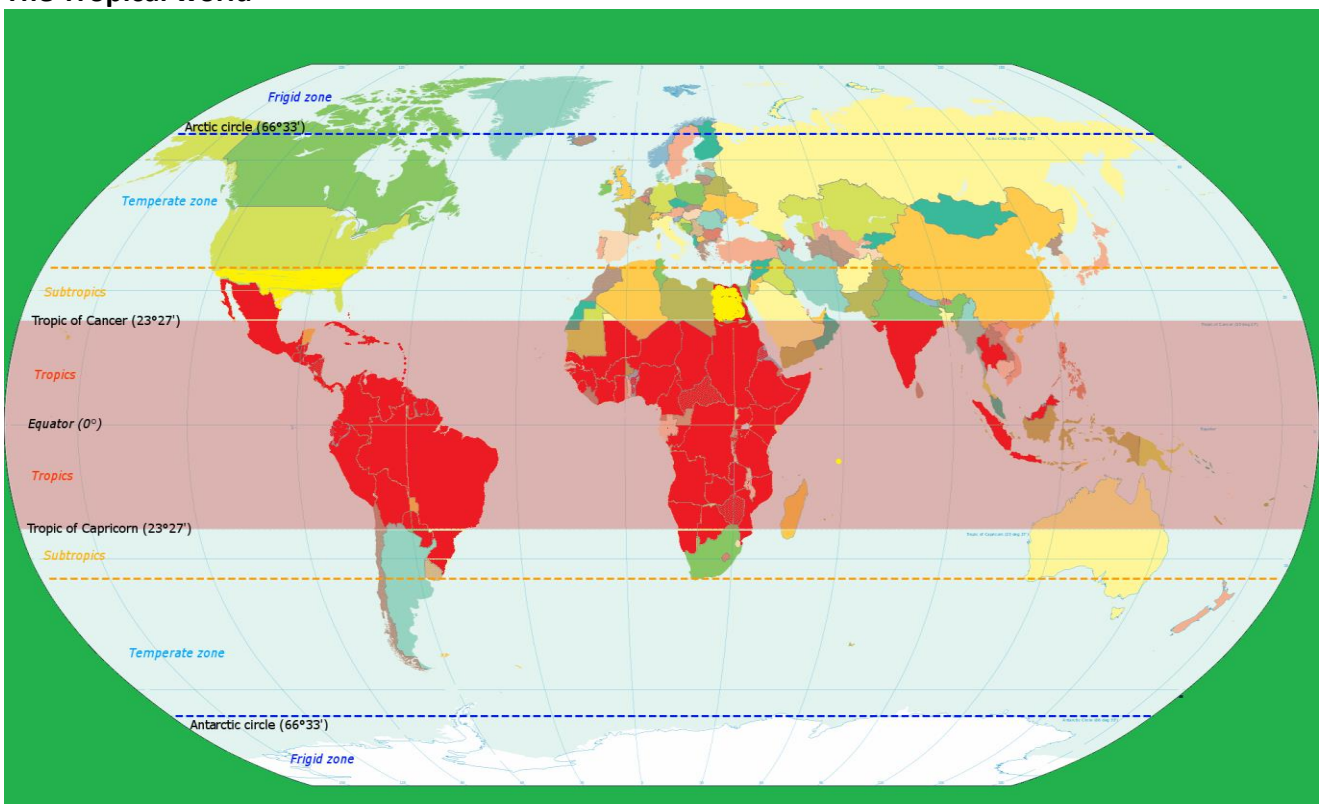
1) Introduction

From the early 1830s to World War One, exports from Third World countries increased twelve-fold. While this spectacular growth translated into limited GDP per capita growth, it did not yield industrialization nor sustained modern economic growth. The slump of world trade in the 1920s and its collapse during the Great Depression further hindered economic growth and thus after World War Two development economists voiced strong doubts about the benefits of specializing in primary products. Prebisch (1950, 1959) and Singer (1950) argued that the sluggish growth of world demand of primary products caused their prices to decline relative to prices of manufactures. The poor countries could escape from this trap only by industrializing. This advice was widely followed by newly independent countries, which pursued aggressive ISI policies in the 1960s and 1970s. In those years, there were a few dissenting voices, such as Bauer and Yamey (1957) and Myint (1971) and, above all, W.A. Lewis (1969 and 1970). He argued that the trend in relative prices of tropical commodities depended on relative productivity in the agricultural sector and pointed out 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). Admittedly, export growth did not develop a domestic market large enough to support a viable industrial sector, but it still laid the foundations for future economic growth (Findlay-Lundhal 1999, p.33). In 1970s and 1980s this positive view became conventional wisdom among development economist (Kravis 1970, Reynolds 1985, Findlay 1973) and economic historians (Kenwood and Lougheed 1992: 82, Foreman-Peck 1983: 115).

In our view, the recent literature has not yet explored all the potential implications of these early debates. Economists have thoroughly investigated trends in relative prices of primary products and economic historians have dealt with the effects of specialization in primary products on

industrialization, but trade has been largely neglected, possibly because, in spite of the efforts by Lewis (1981) himself, the data were still largely incomplete. In this paper we deal with the trade performance of tropical countries from the 1830s to World War Two, using our newly compiled data-base on world trade (Federico and Tena 2016a), supplemented by a comprehensive estimate of the world trade of tropical products – i.e. agricultural goods which could be produced exclusively or mostly in the tropics. We build on a key insight by Lewis: the collective performance of tropical countries depended on their productivity relative to producers of manufactures and on world-wide demand for primary products, but the performance of each polity and thus the prospects for export-led growth depended on its productivity relative to competitors in the market for its traditional products and/or for products it diversified into. British Malaya could be far less productive than the United States, but might still enjoy an export boom if it succeeded in outcompeting Brazil. In our analysis, following Lewis, we define as tropical any polity (independent country or colony) whose territory at 1913 borders laid mostly between the two tropics (Map 1). This definition yields a total of 84 tropical polities, which in 1913 accounted for a third of world population and for a sixth of world exports.

Map 1
The Tropical world



We use a modified version of Constant Market Share Analysis to address three issues:
i) how much did total exports of tropical polities increase?
ii) how much did this growth depend on changes in world demand?
iii) how much did trends in exports of each polity (or group of polities) reflect their competitiveness in markets for tropical products or for all other goods?

Section Two reviews the literature and sketches out the basic theoretical framework to interpret trends in prices and trade. Section Three discusses overall trends, while Section Four focuses on trade of tropical products. We present the aggregate results of the constant market share analysis in Section Five, and we discuss trends by continent in Sections Six (Asia), Seven (America) and Eight (Africa). Section Nine concludes.

2) The literature on trade and economic growth

The effects of trade on development are a traditional staple of economic history, but the issue has been somewhat neglected in recent work on Africa and Asia. 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 reference works on the economic history of India (Tomlinson 1993, Roy 2000) and Indonesia (Van Zanden and Marks 2012) do quote trends of exports but do not emphasize their role. In contrast, the issue is still central in the discourse on Latin America. Prados de la Escosura (2009) argues that exports were the main factor of growth for newly independent countries in the first half of the 19th century and Bulmer-Thomas (2012) deals extensively with exports as the key to understanding the poor performance of (most) Caribbean colonies. Bertola and Ocampo (2012) interpret the whole economic history of Latin America with a Keynesian model: exports were the main source of growth and were determined mainly by trends in world demand. In a more general vein, Williamson, in a book (2011) and a number of co-authored papers (Blattman et al 2007, Jacks et al 2011, Frankema et al 2015) has revived the criticism that the specialization in primary products had negative effects on the periphery. In Williamson's view, specialization increased the volatility of the terms of trade, a serious hindrance to growth, prevented the growth of manufacturing, denying the economy the benefits of agglomeration and of technological spill-overs, and, last but not least, worsened the distribution of income, negatively affecting human capital investment. A related literature in development economics, inspired by a seminal paper by Sachs and Werner (2001), adds to this lists the risk of worsening institutions and corruption (Van der Ploeg 2011).

The Prebisch-Singer hypothesis stimulated an interest in the price trends of commodities which does not seem to abate (Diakosavvas and Scandizzo 1991, Razzaque et al 2007 and

Consigliere 2009). Most of this work deals with the 20th century, but at least one paper goes back as far as the 17th century (Harvey et al 2010). Unfortunately, this massive effort has not yet coalesced into an accepted view. First and foremost, the estimates refer to different sets of relative prices, including ratios of export to import prices for a specific polity (terms of trade) but also prices of specific commodities relative to wholesale domestic prices in the United States or United Kingdom or to prices of manufactures (Cashin and Pattilo 2006). Unsurprisingly, results differ according to the definition of prices, but also for the same object according to the period, the data, the geographical or product coverage, the methods of aggregation and of statistical testing. It would be impossible to review this literature in detail and thus we will just quote four works on the relative prices of tropical products. Ocampo and Parra (2010 tab 4) find no significant trend in relative prices of tropical products (an index of nine commodities deflated with an index of manufacturing prices) from 1865 to 1920. In a later paper with the same data set, Erten and Ocampo (2013) explain this stagnation as the combination of a negative long-run trend and an upward part of a medium-term cycle. Harvey et al (2010) estimate prices of individual commodities relative to prices of manufactures and find a significant downward trend with no breaks before 1950 for sugar (since 1650), tea (since 1679), coffee (since 1709) and jute (since 1900), but no trend for cotton (since 1670), cocoa (since 1800), tobacco (since 1741) and bananas (since 1900). In contrast, Jacks (2013), with the US consumer price index as deflator, finds a strong downward trend since 1850 for rubber, tea and sugar, a broken trend for tobacco (downward to 1890 and upward thereafter) and cocoa (upward to 1890 and then downward) and no trend for cotton, coffee and palm oil. All products but tobacco feature a cyclical rise in the two decades before World War One.

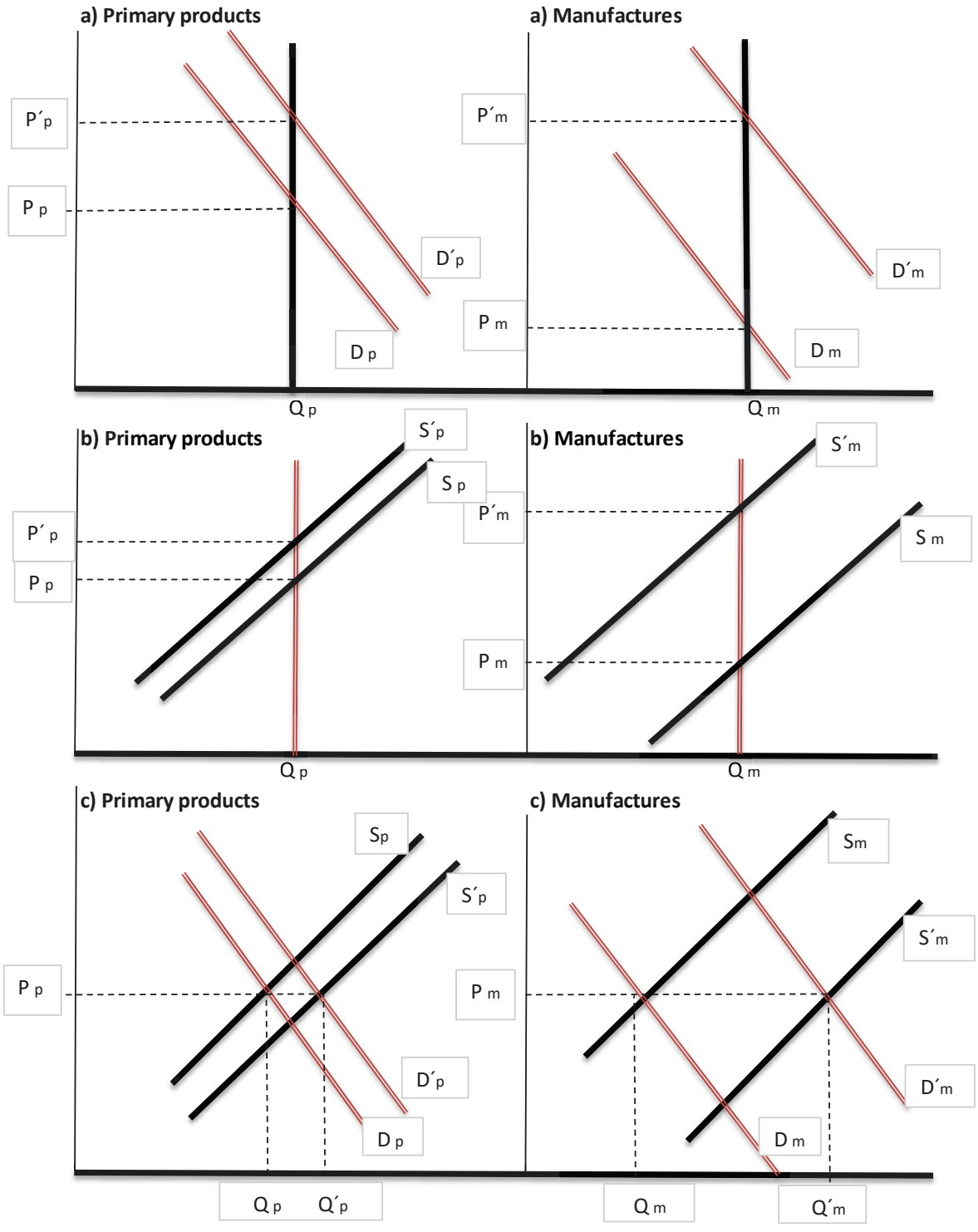
Nevertheless, only under quite restrictive assumptions such as those shown in Figure 1 would perfect information about actual trends be sufficient to discriminate between competing hypotheses. Part a) illustrates the Prebisch-Singer demand story, featuring stable and inelastic supply and shifting demand curves. [1] Relative prices of primary products decline because their demand increases less than demand for manufactures. Part b) shows the opposite combination, which broadly tallies with Lewis's focus on relative productivity: with stable and inelastic demand, relative prices of primary products increase because their supply shifts rightwards less than the supply of manufactures, possibly because of a slower rate of technical progress.[2] If we drop the assumption of a vertical

[1] Singer put forward also a supply-side hypothesis to explain the alleged decline in relative prices of primary products. He argued that oligopolistic competition and powerful trade unions kept prices of manufactures high, transferring benefits of technical progress in industry to workers and capitalists rather than to consumers. In contrast, competitive markets in primary products caused prices to fall.

[2] Lewis argued that productivity growth of tropical agriculture was hampered by unlimited supply of labor. This hypothesis may or not be true, but it is not necessary as long as productivity growth in tropical agriculture was slower than in industry.

curve, as in Figure 1c), a knowledge of prices would no longer suffice to infer underlying changes. Relative prices remain constant and the share of primary products declines as a consequence of faster growth both in demand and in productivity of manufactures. This specific combination is plausible but is, nevertheless, only one of many possibilities.

Figure 1
The market for primary products and manufactures

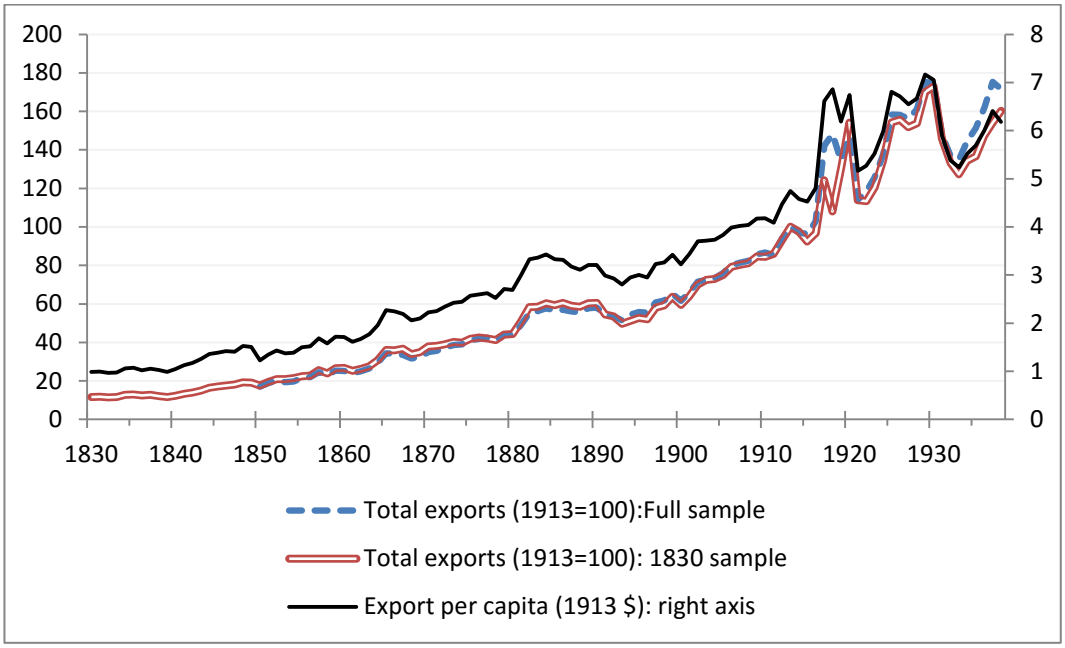


3) The evidence: trade and relative prices

Our data-base (Federico and Tena 2016a) includes series of exports and imports at current and constant prices for all tropical polities. Three series, for India, Cuba and Mexico, begin in 1800, increasing to 42 in 1823, 53 in 1830 and eventually to 84 – i.e. all tropical polities- after 1850 (See List Appendix B).[3] In order to maximize coverage and at the same time to avoid biases from changes in coverage, we build two separate time-invariant samples, for 1830-1938 ('1830 sample'), with 53 polities, and 1850-1938 ('full sample'), with 84 polities. This latter is by definition comprehensive, but also the '1830 sample', in spite of its small size, is fairly representative for all continents but Africa. In fact, in 1850 the missing polities account for 18% of tropical exports and for 72% of African exports.

Figure 2 presents two measures of export performance – total exports (right hand scale), for both samples, and export per capita for the 1830 sample only.

Figure 2
The trade performance of tropical polities: exports and exports per capita



Sources: see text

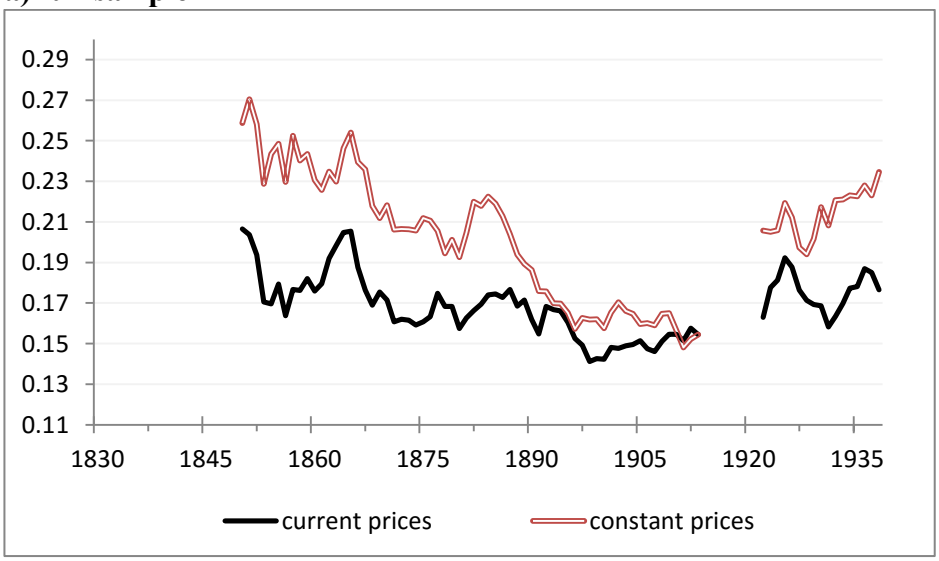
Apparently, the data confirm Lewis's sanguine view on the performance of tropical polities. The total exports of tropical polities increased very fast (the yearly rate being 2.58% from 1830 to 1913 for the '1830 sample' and 2.38% for the 'full' one from 1850 to 1913) and exports per capita

[3] Some of our series, especially for Africa, extend to pre-colonial years, when no data on trade are available. We guesstimate trade by extrapolating the earliest available data for the specific polity (usually from colonial statistics) with the available series for neighboring polities. Our method assumes implicitly that the colonial statistics fully include intra-tropical trade. This assumption is by no means warranted and thus our estimates may understate the total amount of trade and possibly overstate its growth, if the intra-tropical trade grew less than exports to Europe. On the other hand, the effect of these omissions are likely to be very small. Intra-tropical trade in tropical products was very small and Africa accounted for a small share of exports from tropical countries.

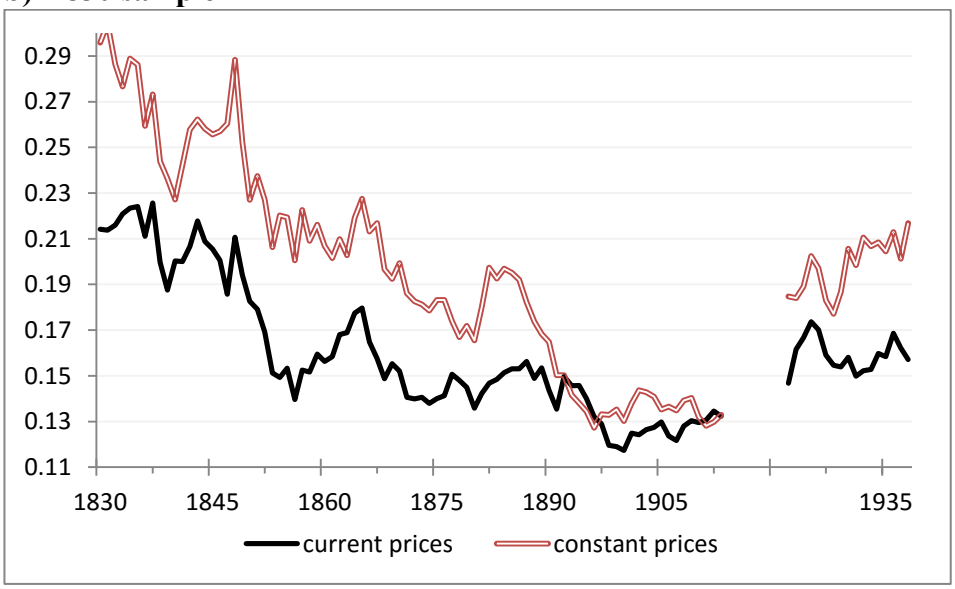
increased from slightly below one (1913) dollar in 1830 to 4.5 in 1913.[4] Yet, impressive as it is, this growth pales in comparative perspective. Exports per capita were roughly similar to the world level in 1830 and fell to about half in 1913, while the share of world trade at current prices declined (Figure 3).[5]

Figure 3
The trade performance of tropical polities: the share of world trade

a) full sample



b) 1830 sample



Sources: see text

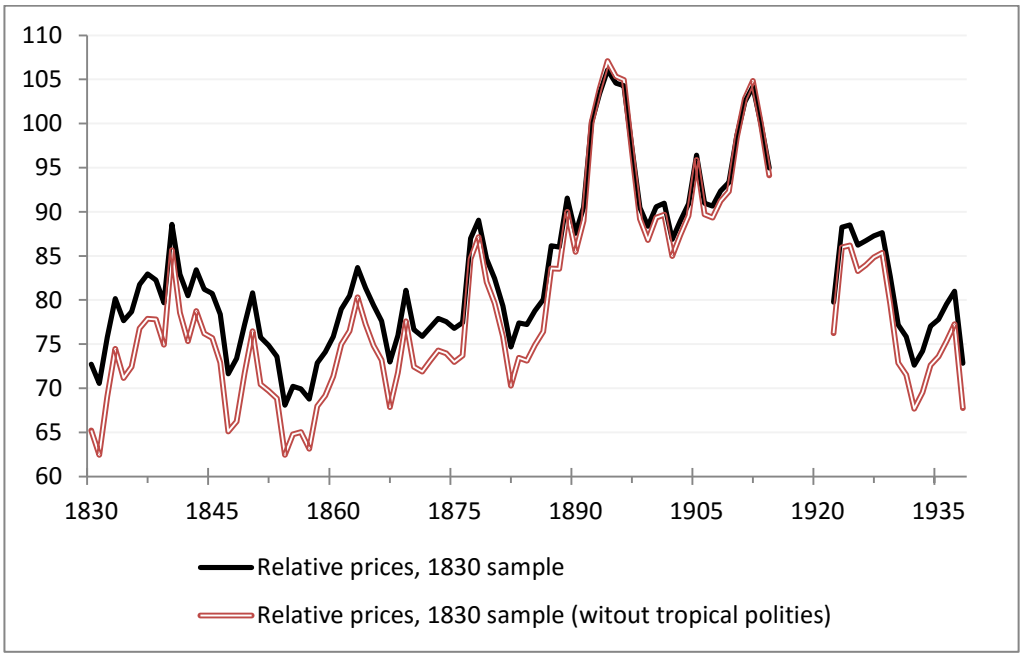
[4] We compute the rate of change of the i-th series as w=- β/ψ, where β and ψ are coefficients from a regression (Razzaque et al 2007) $\Delta \text{ Ln } W_t=\alpha+\beta \text{ TIME}+\psi \text{ ln}W_{t-1}+ \varphi \text{ ln } \Delta \text{ Ln } W_{t-1} +u$. Null hypotheses about rates (equal to zero or equal to rates in other periods) are tested with a standard Wald restriction. If the number of years is low, we use a standard log-linear specification.

[5] Shares of polities of the '1830 sample' are computed with series of world trade for a comparable time-invariant sample. When necessary, we add a vertical line to mark the difference.

A visual inspection, supported by a testing for structural breaks, suggests that the decline was particularly fast in the period until 1850 and continued, after the short-lived boom of the 1860s, until reaching a minimum around 1900.[6] The share recovered a percentage point from 1900 to the war, jumped by two other points in the early 1920s and then remained flat, with wide fluctuations, until 1938. Trends of the share of primary products, very similar to pre-existing, albeit somewhat crude, estimates (Yates 1959, Lewis 1981, Vidal 1990), suggest that primary products accounted for about 60% of world trade from 1850 to World War Two.

Figure 3 shows that the series at constant prices declined more than the corresponding series at current prices before 1890. This implies a rise in implicit exports prices of tropical polities relative to 'world' prices, which in Figure 4 we compute as implicit export prices with and without the tropical polities.[7]

Figure 4
Implicit prices of exports from tropical polities relative to implicit 'world' prices (1913=100)



Sources: see text

The sharp increase in the 1880s and 1890s causes the overall rate of change from 1830 to 1913 to be positive and significant – 0.32% for all countries and 0.41% for the non-tropical world

[6] A Bai-Perron (2003) test on the '1830 sample' series suggests 1852, 1867 and 1897 as structural breaks. The (significant) rates of change of the share, cumulated over the period, correspond to a decline of 3.5 points from 1830 to 1850 and by 3.3 points in 1850-1900. Trends for the 'full sample' are practically identical.
[7] We compute prices for the 1830 sample to have a longer series. The coefficient of correlation with the full sample after 1850 is 0.97.

only. Prices declined after the war: in 1929 they were back to the level of the mid-1880s, and in 1932 barely above the all-time trough of the 1850s.

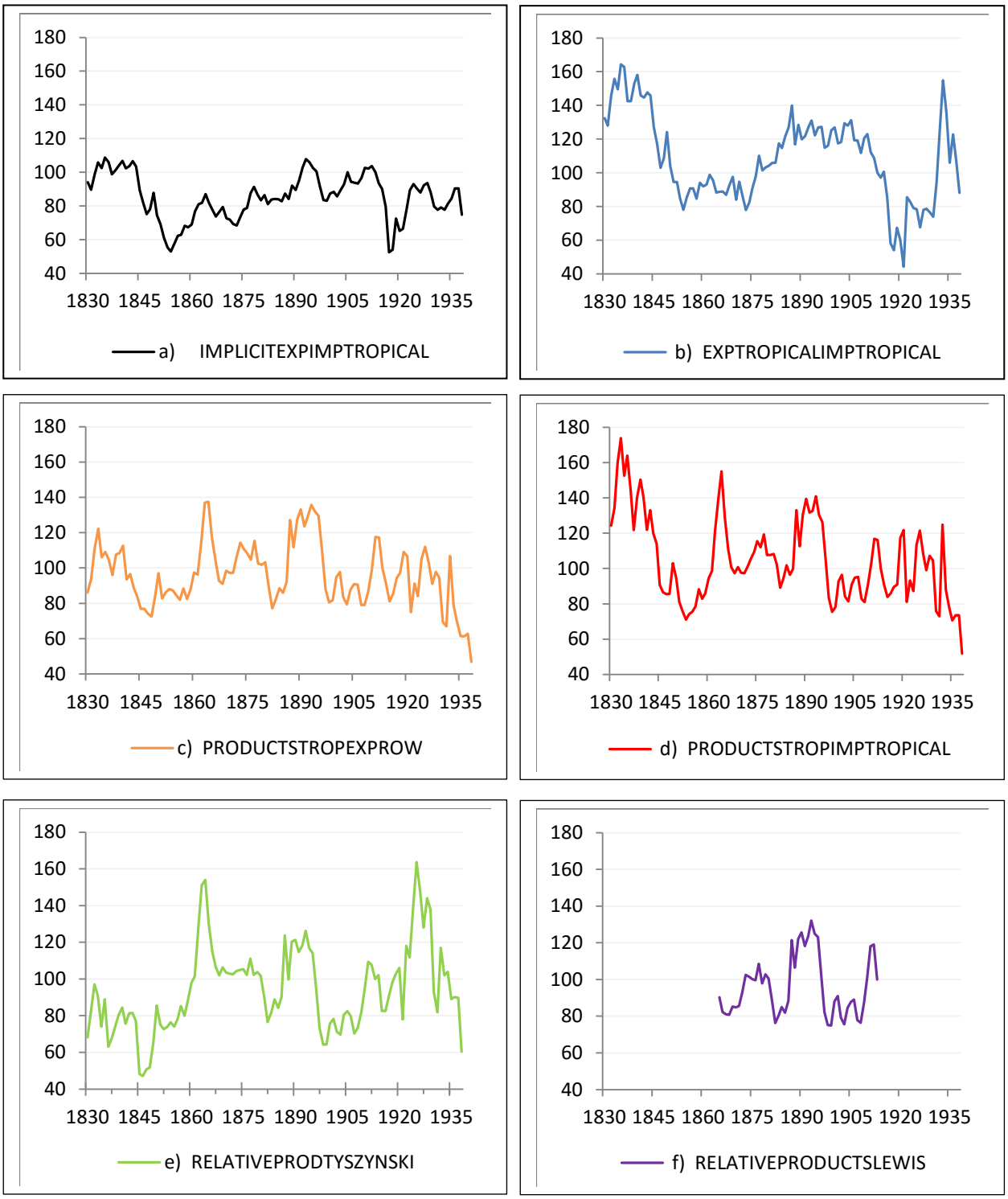
This evidence may not be conclusive, as both the numerator and denominator are affected by composition effects – i.e. changes in the distribution of world export by polity and in the composition of exports of each polity. We control for this by estimating six alternative series of 'terms of trade of primary producers' (Figure 5). The two series in the upper row share the same denominator, a fixed-weighted average of import price indexes of tropical polities, which by construction is not affected by changes in the distribution of exports by polity. The numerators are the implicit price index of exports of tropical polities from Figure 4 (Figure 5 a) and a fixed-weight average of export price indexes of tropical polities (Figure 5 b).[8] In the other four series the numerator is a Fisher index of London prices for six main tropical products (cotton, sugar, coffee, tea, tobacco and rubber) weighted with their shares on world trade. We divide it by the implicit export price of the rest of the world from Figure 4 (Figure 5 c), by the fixed-weight average of import prices (Figure 5d), and by two indexes of world prices of manufactures, a Fisher index of prices of industrial products in London weighted with their share on total trade of manufactures from Tysnzynski (1951) (Figure 5 e) and the Lewis (1978) index of world prices of manufactures (Figure 5 f).

A visual inspection shows quite wide (and poorly correlated) fluctuations, but no clear trend before World War One.[9] The null hypothesis of no change in prices from 1830 to 1913 cannot be rejected for any of these series. All indexes were substantially lower in the early 1920s than before the war and most of them show a significant decrease until 1938. Thus, Figure 1c) seems to be a good description of actual trends, at least before World War One.

[8] We weight the polity-specific series of import prices with the shares of each polity on total exports of tropical polities in 1913; using the 1870 or 1929 shares does not affect the results, as the coefficients of correlation with the baseline series are respectively 0.97 and 0.98.

[9] The simple averages of coefficients of correlation among the five available series are 0.436 in 1830-1913 and 0.378 in 1830-1938. The coefficient rises to 0.486 for six series (including the ratio to price of manufactures according to Lewis (1978) for 1865-1913.

Figure 5
Indexes of relative prices of tropical producers (1913=100).



4) The trade in tropical goods

An official WTO document (WTO 2006) classifies forty commodities, eight raw materials and 32 consumer goods as tropical.[10] We estimate world trade for each of them at current prices in nine benchmark years (1820, 1830, 1850, 1870, 1890, 1900, 1913, 1929 and 1938) by summing up exports from tropical and non-tropical polities. We obtain the value of exports of the i-th tropical product from the j-th polity by multiplying total exports by the share of the commodity, which we obtain from polity-specific sources (see the list in the online Appendix). We label the difference between the sum of our estimates for each polity and its total exports as 'non-tropical products', although this figure might include flows of tropical goods that the compilers of trade statistics deemed too small to be worthy of registration. We fill gaps in data on the composition of exports by linearly interpolating the shares between benchmark years or, if the gap is at the beginning (end) of the period, by using the first (the last) available data on composition. We have found no information at all on composition of exports from fourteen small polities, which we drop altogether from the Constant Market Share analysis (See list in Appendix B).[11] Our estimate is thus a lower bound of the trade in tropical products, as it omits these polities and un-recorded exports of tropical goods from tropical or non-tropical polities.[12]

[10] The consumer goods are 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 seed (1512), dates and figs (HS 804), fruit (HS 800), molasses (HS 1703), nutmeg and 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), sesame and seeds (HS 1207), 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) and yerba and bark (HS 1404). The raw materials are abaca (HS 5305), cotton (HS 5202), gums and resins (HS 1301) indigo, fustic, cochineal (HS 3203), raffia and rattans (HS 1401), raw jute (HS 5303), rubber (HS 4001) and sisal and agave fibers (HS 5304).

[11] These omitted polities accounted on average for 4.5% of exports of tropical polities in 1850-1938, with a maximum of 7.9% in 1932.

[12] Indeed, the estimates by Yates (1959 tab A.16) of exports of the six tropical products (cotton, sugar, coffee, tea, rubber and tobacco) exceed our figures by 15% in 1913, 20% in 1929 and by 32% in 1937. We suspect his estimates to be inflated by the inclusion of re-exports. He relies on a German source for 1929 and 1937, while he has collected data on exports for 1913 for a number of countries, including the United Kingdom and the Netherlands. His figures may thus count twice the same goods if already registered as exports from the producing countries. Furthermore, the original Dutch trade figures are notoriously inflated by the use of outdated 1840s prices (Lindblad and Van Zanden 1989).

Table 1
The tropical trade

	a)	b)	c)	d)	e)	f)
	Share Tropical Polities World Trade	Share Tropical Products World Trade	Share raw Materials Trade tropical products	Share Tropical Polities World Tropical Products	Share Tropical Polities World Sugar trade	Share Tropical Products on exports of Tropical Polities
1830 sample (53 polities)						
1830	22.8	20.2	32.9	66.3	99.5	62.3
1850	18.4	18.6	40.6	58.1	92.3	58.7
1913	13.3	12.2	44.0	61.2	65.4	56.3
1938	15.9	11.7	37.6	72.7	92.7	41.3
Full sample (84 polities)						
1850	20.1	19.4	40.6	59.9	99.3	56.0
1870	17.1	16.5	50.0	61.8	93.8	61.9
1900	14.2	12.3	43.7	63.9	59.5	55.3
1913	15.1	13.7	46.9	64.4	66.1	57.0
1929	16.6	12.7	43.9	73.4	88.0	57.4
1938	17.0	11.3	45.5	77.2	92.9	50.7

Sources: see text

Column a) of Table 1 reproduces the shares of tropical polities at current prices from Figure 3. The remaining columns highlight four stylized facts:

i) the share of tropical products in world trade (column b) declined steadily in the long run, with the exception of a modest and short-lived recovery before World War One. The five most important tropical products, cotton, sugar, coffee, tea and tobacco, accounted for 16% of world trade in 1850 and only for 7% in 1938 (with rubber instead of tea). This decline was bound to reduce the aggregate share of tropical polities in world exports, unless they succeeded in augmenting their shares of the market(s) for tropical and not-tropical products at the expense of non-tropical polities.

ii) The share of raw materials (column c) remained roughly constant, with a peak in 1870, in the aftermath of the American civil war. In other years, cotton accounted for about a third of total tropical exports, and thus was by far the most important tropical raw material. Indigo and other dyes accounted for about 8% of exports in 1830 but their share collapsed to 0.07% in 1913 after the

commercialization of artificial dyes. In contrast, rubber rose from 0.1% in 1830 to 5.3% in 1913 and to 12.8% in 1938 – i.e. 1.4% of world trade.

iii) the sharp decline in the share of tropical polities in the trade of tropical products (column d) from 1830 to 1850 reflects the boom of American exports of cotton, which rose from 15.2% to 27% of tropical trade. In the second half of the 19th century, tropical polities managed to increase their share in spite of the growing competition from European producers of beet sugar (column e), thanks to a gain in markets for tea (at the expense of China), tobacco and cotton. The share jumped after the war, thanks to a further increase in the share of cotton and the end of European competition in sugar production.

iv) tropical products accounted, on average, for only about 60% of total exports of tropical polities and this percentage 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. Unfortunately, the category 'non-tropical' goods is a sort of black box: it surely included minerals and not-tropical agricultural commodities, such as food-grains, and, at least in India, manufactures

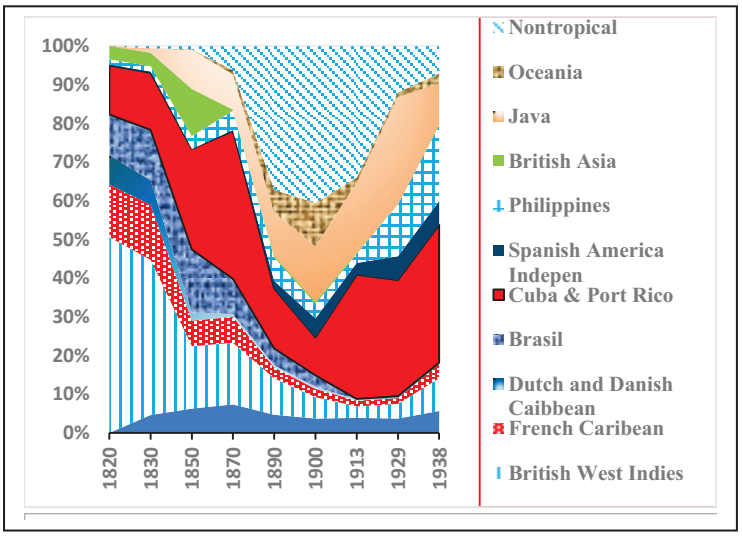
These facts refer to tropical polities as a group, but, as mentioned above, the key determinant of the performance of each polity was the competition with other tropical polities. In the next Sections we focus on the polities, but it is important to stress how large were changes in the market share by product (Figure 6).[13]

At the beginning of the period, the United States dominated the world market for cotton and tobacco, the slave colonies of the Caribbean the market for sugar and coffee, Brazil the (small) market for rubber and China the market for tea. By 1913, the United States still provided most of world cotton, and was the main exporter of tobacco, but its share had been halved by the competition from Indonesia, Turkey and Cuba. The Caribbean had been substituted by Brazil as the world supplier of coffee, China by India and Ceylon for tea, while the markets for sugar and rubber were divided respectively between European producers, Cuba and Java and between Brazil and South Asian countries. On the eve of World War Two, the situation had changed again. Brazil and China were no longer significant players in markets for rubber and tea, the Philippines was the second largest exporter of sugar after Cuba, Colombia was successfully challenging the Brazilian domination of the world coffee market, and Indonesia was the second largest exporter of tea (after the Indian sub-continent) and rubber (after British Malaya).

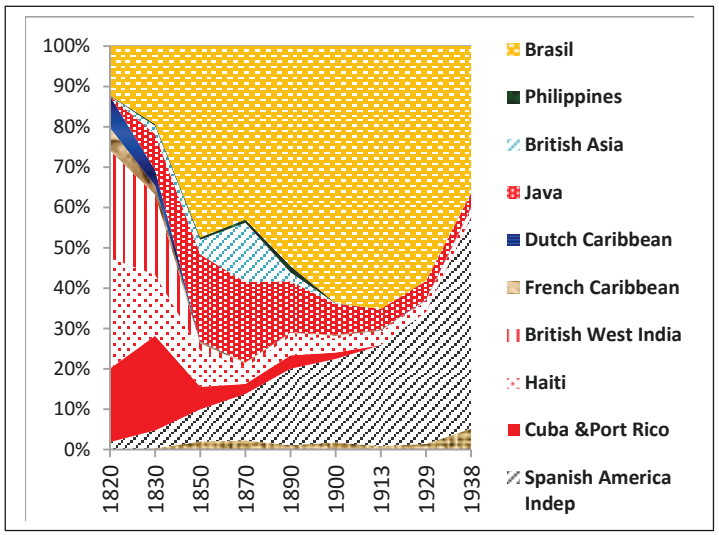
[13] See for coffee Topik (2004) and for cocoa Clarence-Smith and Gervase (2000).

Figure 6
Shares of world exports of tropical products

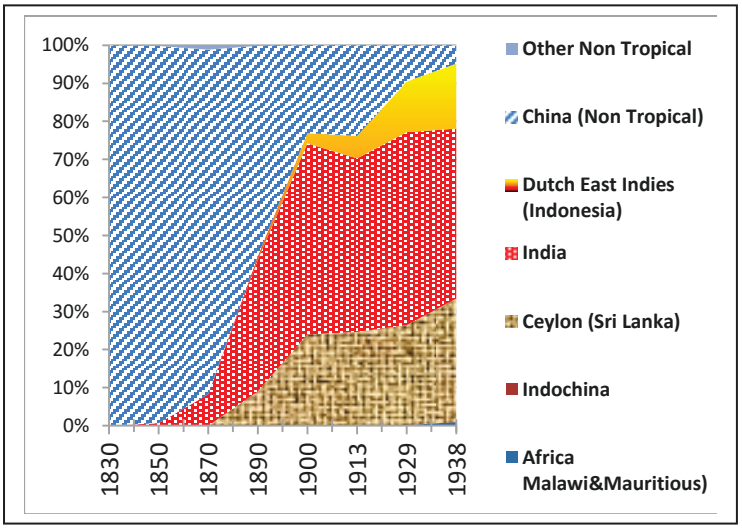
a) Sugar



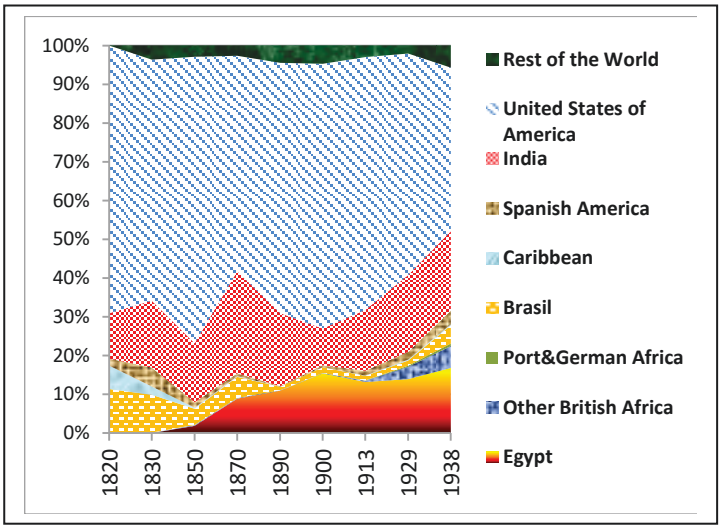
b) Coffee



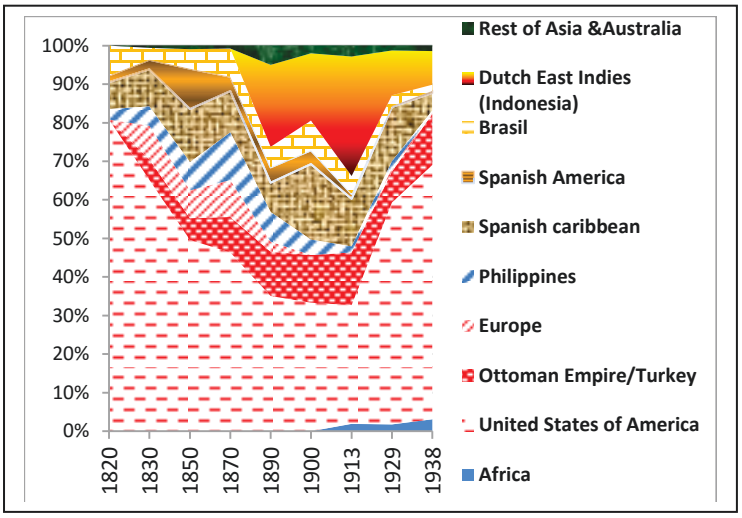
c) Tea



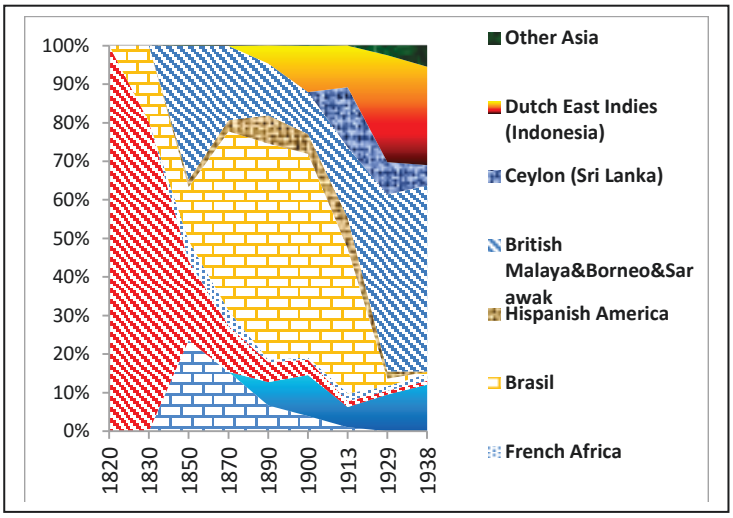
d) Cotton



e) Tobacco



f) Rubber



Sources: see text

All these changes reflected changes in supply, including variations in product quality, and possibly changes in the preferences of consumers. In fact trade in tropical goods remained free until the start of imperial preferences in the 1930s, with the major exception of sugar. Until 1845 Britain imposed differential duties to protect the sugar producers of its West Indian colonies. In the second half of the century, European countries, and to a lesser extent the Latin American countries and the United States, increased duties on sugar to raise revenues and to protect their domestic (sugar-beet) production. The GDP weighted average of specific duties for 34 countries increased from 38% of the London price in 1860 to 114% in 1900 (Lampe and Tena-Junguito 2016). The market was partially liberalized by the Bruxelles convention (1902) which prohibited discrimination between cane and beet sugar and export bounties from European producers (Fakhir 2014 p.52).

5) The constant market share analysis

Our Constant Market Share Analysis deals only with aggregate flows, as our data-base does not include bilateral trade. We decompose changes in the share of a tropical polity (or of a group of polities) in total world exports into six different components (for a formal derivation see Appendix A):

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 'non-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 each 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 'non-tropical' products.

The first three components capture the effects of aggregate changes in the world market, the so-called commodity lottery, the others the competitiveness of each polity. We estimate the contribution of i), iii), iv) and v) as the difference, in the final year of each period, between the actual total share of the polity and its counterfactual share under the hypothesis that the relevant market share had remained constant at its initial level. We then obtain ii) and vi) as a residual.

We use current rather than constant prices to minimize potential deflation bias. The stability of aggregate relative prices (Section Three) reduces potential bias in the long run, without eliminating them altogether, especially for short-term movements. We implicitly assume that world prices were exogenous. This is undoubtedly true for individual producers, but not necessarily for whole polities, which had some market power and were sometimes willing to use it to improve their terms of trade. Irwin (2003) argues that the United States had market power for cotton before the Civil War, but they abstained from intervening in the market. Abreu and Fernandes Tamega (2005) made, in a somewhat less convincing way, a similar claim about Brazil for coffee. Actually, Brazil made several attempts to prop up coffee prices from the early 20th century onwards, but with little success (Federico 2005). In a more general vein, the massive changes in the market shares of individual countries (Section Four) suggest that barriers to entry were low.

We report the main results of the constant market share analysis in Table 2, separately for the two sample (with additional data in the on-line Statistical Appendix). The two columns on the left report the share in the initial year and its change over each period, while the other columns allocate this latter figure across the six components (the numbers may not add up because of rounding). In order to make the interpretation easier, we express data in terms of world market shares (the percentage changes can be computed by dividing each figure by the column 'changes in world share'). We also change signs so that a positive figure always corresponds to an increase in market shares, which may contribute to overall growth or partially offset a decline. We consider the shortest time intervals given the available data as well as longer periods, which correspond to main phases in the evolution of the global economy (Federico-Tena 2016a).[14]

The interpretation of the data is straightforward. For instance, let's consider the first row. The polities of the '1830 sample' accounted for 21.6% of world trade in 1830, and in the next twenty years they lost 3.8 percentage points. A third of this decline can be attributed to the losses on markets for tropical goods (column iv), another third to losses on markets for non-tropical goods (column v), a quarter to changes in the composition of world trade in tropical goods (column ii), and a sixth to the overall decline in trade of tropical commodities (column i). By definition the contribution of diversification (column v) can be either positive (a new product) or nil (no new product). In this case, the effect was positive but modest (0.2 points).

[14] Note that, while the long-run change in shares is equal to the sum of short-term ones (i.e. 1913-1938 is equal to 1913-1929 plus 1929-1938), this is not the case for columns i) to vi) because the computation needs multiplications (see Appendix A).

Table 2
Constant market share analysis, all tropical polities

			i)	ii)	iii)	iv)	v)	vi)
	Initial Share	Changes 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 'non-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 'non-tropical' products
1830 sample								
1830-1850	21.59	-3.78	-0.49	-0.93	0.00	-1.26	0.17	-1.26
1830-1870	21.59	-6.70	-1.57	-2.12	-0.01	-0.35	0.64	-3.29
1830-1938	21.59	-5.11	-3.59	-0.55	0.27	-0.65	0.40	-0.98
Full sample								
1850-1870	20.09	-4.14	-1.77	-1.13	0.36	1.45	0.00	-3.05
1870-1890	15.95	-0.20	-1.09	1.01	0.14	-0.91	0.00	0.65
1890-1900	15.75	-1.82	-1.50	0.15	0.22	0.03	0.00	-0.71
1900-1913	13.93	1.53	0.96	-0.28	-0.12	0.38	0.00	0.58
1913-1929	15.46	0.76	-0.72	0.53	0.16	0.61	0.00	0.18
1929-1938	16.22	1.05	-1.06	0.09	0.16	0.35	0.00	1.52
1850-1913	20.09	-4.63	-3.55	-0.02	0.86	0.68	0.01	-2.61
1870-1913	15.95	-0.49	-1.69	0.85	0.26	-0.46	0.01	0.54
1913-1938	20.09	1.81	-1.83	0.64	0.48	0.80	0.00	1.70
1850-1938	15.46	-2.83	-6.08	-0.16	2.23	2.17	0.00	-0.98

Sources: see text

We can sum up our results in four stylized facts:

a) The decline in the share of tropical products in world trade (column i), was the single largest drag on the performance of tropical polities in the long run. It accounted for more than two thirds of the decline of the share of the 1830 sample from 1830 to 1938 and of the full sample from 1850 to 1913. The effect is negative in all periods except 1900-1913.

b) The changes in the composition of world trade for tropical and non-tropical products (columns ii and iii) is severely negative before 1870 and broadly positive thereafter. This effect compensates partially for the decline in the total share of tropical goods – so that the commodity lottery is heavily detrimental only in 1830-1870.

c) Tropical polities as a group managed to stave off the competition in markets for tropical goods in all periods but 1830-1850 and 1870-1890 (column iv). The contribution of diversification (column v)

is small as expected, as only seven products out of forty were not traded in 1830, and only one, jute, was to become a major commodity.

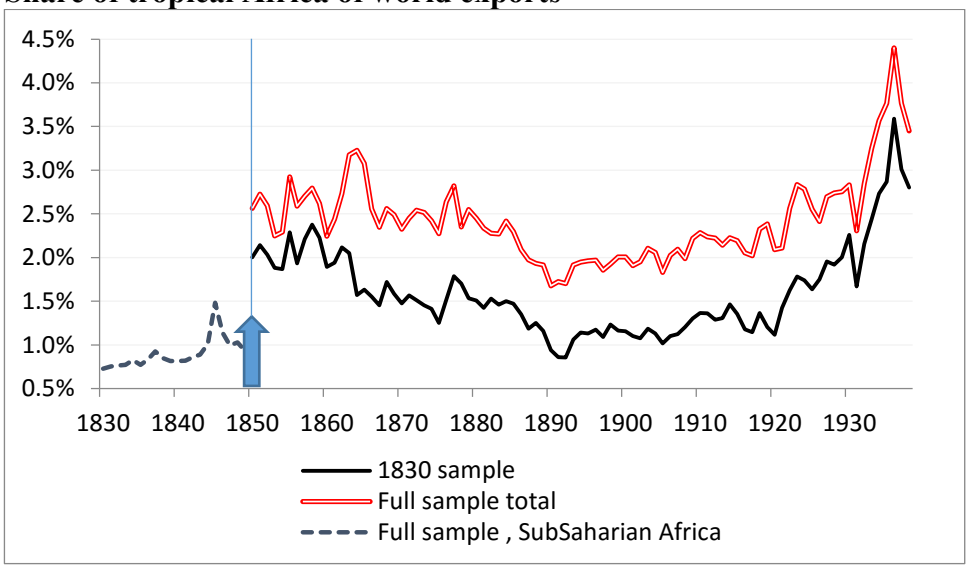
d) The tropical countries as a group severely lost their share in the market for non-tropical products before 1870 and recovered only partially these losses in the next forty years (column vi). The timing of the decline is consistent with the hypothesis of de-industrialization, but this cannot be considered conclusive evidence as the category includes also primary products. After the war, the recovery continued, the single most relevant factor being the rise in the share of tropical polities.

Summing up, the aggregate analysis suggests that tropical polities were unlucky rather than culpable for the decline in their share of world trade. If anything, they failed in non-tropical products, especially in the early periods, while, as a group, they were quite competitive in the market for tropical goods. This is by no means a negligible achievement, and suggests an increase in productivity in tropical agriculture (or perhaps in the transportation of tropical commodities). Do these conclusions hold true for all polities, or, if not, who were the winners?

6) The late blossoming of tropical Africa

Figure 7 plots the shares of world exports for all African polities and distinguishes the Sub-Saharian ones (i.e. all but Egypt, available only since 1850).

Figure 7
Share of tropical Africa of world exports



Sources: see text

The African share rose in 1830-1850, but this result is hardly robust as the '1830 sample' is hardly representative and the estimates are very tentative. In the second half of the 19th century, the share of the continent declined, in spite of the good performance of Egypt. It started to recover in the late 1890s and boomed after the war: total exports in 1938 were 40% higher than in 1929 and almost three times higher than in 1913 in real terms. The decline reflects mostly an adverse commodity lottery, with some losses in market shares in 1870-1890, while all factors, except the share of tropical goods on world trade, contributed to the post-war boom. However, competitiveness accounted for four fifths of the total increase (a sum of 44% for tropical commodities and 37% for other goods).

These overall trends conceal wide differences among polities, which we highlight by dividing Sub-Saharian Africa into five macro-areas, West, Centre-West, Centre-East (or the Horn), East and South (see the list of polities in Appendix Table B). The decline in shares before 1890 was common to all areas, although somewhat worse in the East than on the West Coast and in the South, but trends diverged widely thereafter. In the early 1890s polities in 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, accounted for a mere 0.05%. In the next forty years the share of Southern Africa soared by 7.5 times (to 0.38% of world exports in 1938), that of Western Africa increased four-fold, to almost 2% (1.5% the West, 0.45% the Center-West), while Eastern Africa managed to increase its share only by a third, to 0.7% (0.49% for the East and 0.18% for the Centre-East). How does the Constant Market Share Analysis explain these differences in performance?

The success of Southern Africa was determined by the boom in exports of 'non-tropical goods' – i.e. minerals. In 1938, tropical products accounted for a mere 10% of exports of the area, which supplied about 1% of world exports of tea and 3% of tobacco. Furthermore, West Africa increased its share in non-tropical goods, but it was highly competitive in markets for tropical goods, maintaining a near- monopoly of palm products (88% of world trade in 1913, 93% in 1938), and a very high share of peanuts (82% and 86%) and doubling its share of the cocoa trade, from 34% to 71%. On top of this, West Africa benefited handsomely from the commodity lottery, or more precisely from the composition effects for tropical goods. The case of Center-West Africa is broadly similar. It features a favorable commodity lottery, some increase in shares for non-tropical goods and also in tropical goods. The region exported a wide range of (mostly second-tier) products and in most of them (10 out of 15) it increased its share of the world market. In contrast, the East and Center-East gained nothing from the commodity lottery and close to nothing from non-tropical products. They succeeded in increasing their percentage of world trade by increasing their share of the markets for tropical goods. Both areas increased their share of the market of cotton, from 0.2% and 0.1% in 1913 to 2% and 2.6% in 1938, and the East (i.e. Kenya) increased its share of coffee exports by 6.5

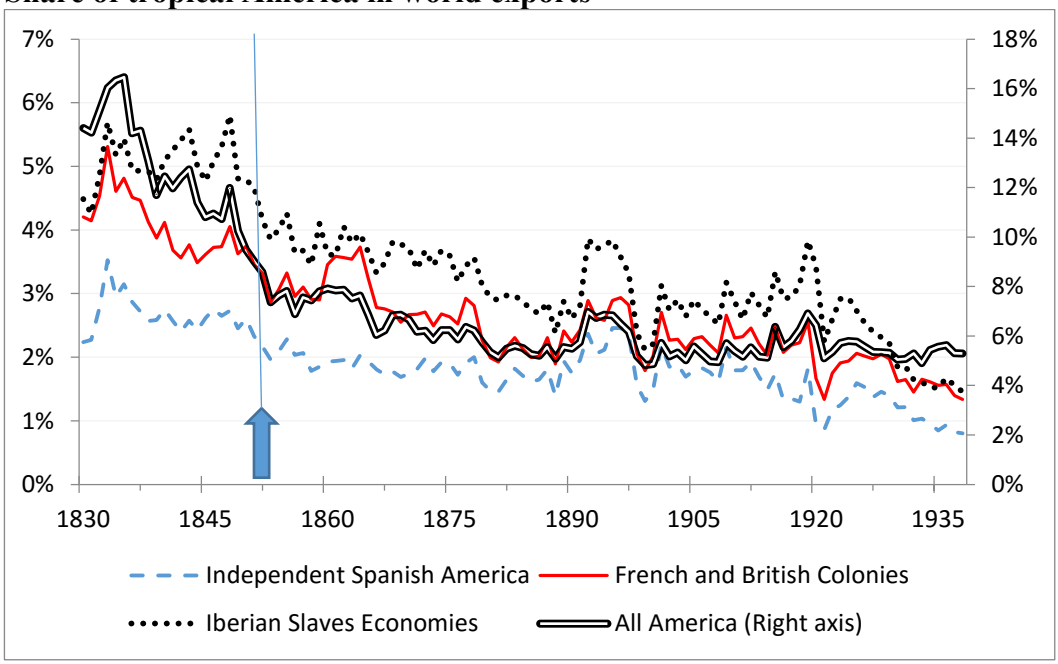
times, from 0.7% to 4.6%. However, most of their tropical exports consisted of second-tier commodities such as vanilla, sesame, gum and resins and minor textile fibers such as sisal.

7) The failure of tropical America

In 1830, American polities accounted for 14.5% of world exports and two thirds of all tropical exports. Twenty years later, these shares had declined to less than a tenth and to about a half, respectively. The decline continued until the war and the recovery in the interwar period was quite modest. By 1938, the Americas accounted for only 6.3% and 5.3% of world exports for the 1830 sample and full sample, respectively. This decline accounts for over 120% of total reduction in the world share of tropical polities from 1830 to 1870 and for 90% from 1850 to 1913. Yet it would be unfair to treat all American tropical polities as a failure, as we argue elsewhere (Federico and Tena 2015). Figure 8 (supplemented by the online Statistical Appendix Table B) illustrates the gist of our story.

Figure 8

Share of tropical America in world exports



Sources: see text

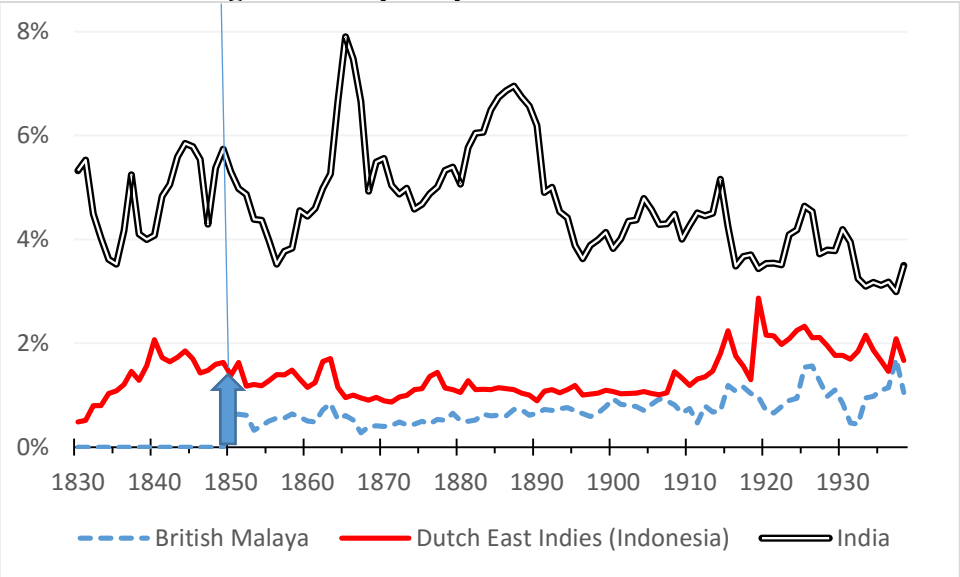
Before 1870, the fall depends almost exclusively on the collapse of the shares of Mexico and of the British and French colonies. Mexican exports fell from 3.1% of the world total in the early 1830s to 0.5% in the late 1860s, as a consequence of the collapse in the market for non-tropical goods – i.e. mostly silver. The European colonies faced a severely adverse commodity lottery and a major loss of competitiveness in the production of tropical goods. From 1830 to 1870, their share of the world market collapsed from 54% to 23%, for sugar and from 26% to 1% for coffee. The fall

coincided in time, and thus in all likelihood was caused by, slave emancipation. In fact, the 'Iberian slave economies' (Cuba, Puerto Rico and Brazil) where slavery was abolished only much later, gained massively in these markets before 1850 (Absell-Tena 2015), although these gains were swamped by the adverse effect of the commodity lottery and by losses in the market for non-tropical goods later. The situation did not improve much from 1870 to 1913. The commodity lottery was negative for all polities or groups of polities, except Mexico, and all groups lost market shares in tropical and non-tropical products, again except for Mexico, which successfully diversified its exports of tropical commodities. After the war, the commodity lottery was still negative, and America as a whole continued to lose shares in the market for tropical commodities. Its overall share increased slightly from 1913 only thanks to the sharp rise in exports of non-tropical products – most notably oil from Mexico and Venezuela. In fact, these two countries accounted for 0.69% and 0.03% of world trade in non-tropical goods in 1913 and for 0.96% and 0.83% in 1938, respectively. The performance of independent countries not blessed by oil, such as Brazil, was poor and exports of European colonies showed no sign of recovery.

8) The Asian success

The 'full 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 throughout the period. Their performance differed substantially (see Figure 9 and online Statistical Appendix Table C).

Figure 9
Share of three big Asian tropical polities in world trade



Sources: see text

British Malaya was one of the few undisputable success stories in the Tropics. From 1870 to 1913, its share in world trade almost doubled, from 0.4% to 0.7%, but tropical products contributed very little to this rise. Until 1913, the country exported mostly tin and other non-tropical goods, such as rice, and the increase in the Malayan share of the world exports reflects mostly the success in these markets. The pattern changed dramatically after the war, thanks to the rubber boom. The change in the composition of tropical exports (i.e. the rise in the worldwide share of rubber) accounts for 85% of the further rise of Malaya to 1.3% of world trade. The competitiveness on tropical markets contributed a measly 7% to overall growth. Malaya almost tripled its share on the world market for rubber, from 17% in 1913 to 45% in 1938, but lost ground in the markets for other commodities such as peanuts and copra.

India accounted for between a fifth and a quarter of total exports from tropical polities - i.e. more than the whole of (tropical) Africa before the Great Depression. Indeed, it exported a highly diversified bundle of goods from the early 19th century onwards. Non-tropical commodities, such as food-grains, hides and opium, and cotton and jute manufactures accounted for three fifths of total exports throughout the whole period (Chaudhuri 1982). From 1830 to 1870, India succeeded in maintaining around 5% of world exports thanks to the boom of cotton exports during and after the American civil war and the start of tea exports. These tendencies compensated for the negative effects of the commodity lottery – most notably the collapse of the share of indigo in total tropical trade- and the loss of market shares in non-tropical goods. From 1870 the Indian share started a long-term downward trend, interrupted by a boom and bust cycle in the 1880s-1890. The effect of the commodity lottery continued to be negative. The decrease in the share of tropical products on world trade and changes in composition (the final demise of natural dyes) accounted for about a half each of the total decline in the Indian share. The country gained in the market for non-tropical goods, but lost in the market for tropical goods, in spite of a further rise in the share of tea to 45% in 1913. The Indian performance after World War One was far from impressive, with a further fall from 4.7% to 3.2% of world exports. The commodity lottery accounts for two fifths of this fall, and the loss of shares in markets for non-tropical goods for two thirds. In contrast, the contribution of the market for tropical goods (mostly cotton) was positive although small.

The share of Indonesia in world exports boomed in the 1830s and then remained essentially constant, in spite of wide fluctuations until 1913. From 1830 to 1850, Indonesian shares of world markets jumped from 9% to 21% for coffee and from 1% to 10% for sugar, thanks to the combination of the crisis of the Caribbean and of the strong (forced) increase of the local supply under the

Cultivation. From 1850 to 1913, Indonesia staved off the adverse commodity lottery and a small loss in market shares for non-tropical products with a massive diversification in tropical goods: it started to export tea, cocoa, tobacco, rubber and other minor products. The share of Indonesia on world trade increased after the war, thanks to gains in markets for non-tropical products (mainly oil) and tropical goods (tea and rubber), which offset a strongly negative commodity lottery.

9) Conclusions

We can sum up the results of our constant market share analysis in five stylized facts, three general and two polity and period-specific:

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

ii) the tropical polities succeeded in standing quite well the competition from non-tropical ones in the market(s) for tropical goods,

iii) non-tropical goods mattered a lot for many tropical polities, for good (especially after World War One) or for bad,

iv) there were substantial differences between and within continents. In a nutshell, while the commodity lottery negatively affected Asia and America, Asia weathered it much better. Furthermore, (some areas of) America suffered a very severe loss of competitiveness in the first decades of the period. Africa was luckier than other continents throughout the period and exploited well this luck after World War One,

v) the period before 1870 was clearly a bad one for tropical polities, with few exceptions. Trends until 1913 were mixed, with a noticeable improvement in the early 20th century, which was the harbinger of the post-war growth. Tropical polities succeeded in increasing their share of the world market in the 1920s and in withstanding the Great Depression much better than advanced countries.

In sum, our Constant Market Share analysis shows that Lewis was right in stressing the relevance of supply-side, polity-specific factors in determining the performance of tropical polities, but he underestimated the negative impact of world market trends and the success of several tropical polities in withstanding such trends, possibly because he focused on the case of his native Caribbean. Of course, correlation is not causation and, by its nature, the CMS analysis can only highlight the proximate causes, not the ultimate ones. Our conclusions on productivity growth should be qualified with product-specific and policy-specific analyses. This paper suggests an interpretative framework but it cannot give definitive answers.

Appendix A

We define x_{ij} as exports of the i-th product from the j-th polity (or group of polities) in year t, and thus total exports for the j-th polity are $X_j=\sum x_{ij}$. Total trade for the i-th good is $Y_i=\sum x_{ij}$ and world trade is $\mathbf{X}= \sum X_j=\sum Y_i=\sum\sum x_{ij}$. As said, our data-base includes estimates of x_{ij} for 40 different tropical products (identified as x_j^T): for each polity and pair of benchmark years, we classify exported tropical products as 'old' (x_j^O), exported at time t but not necessarily at time t+n, or 'new' (x_j^N) exported at time t+n but not at time t. We compute the cumulated exports of non-tropical goods from the j-th polity as a residual – i.e. $X_j^{NT} = X_j-\sum x_{ij}^T$ and we sum to get the total world exports of non-tropical goods $Y^{NT}=\sum X_j^{NT}$. In this notation total exports of the j-th polity (omitting the subscript for simplicity) can be written at time t

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

And at time t+n as

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

We then define, for the j-th polity

Φ_j as its share on world trade - i.e. $\Phi_j=X_j/\mathbf{X}$

π_j as its share on world trade of the i-th tropical good - i.e. $\pi_j=x_{ij}^T/Y_i^T$

Π_j as its share on world trade of all tropical products – i.e. $\Pi_j= \sum x_{ij}^T/\sum Y_i^T$

Ψ_j as its share on world trade of non-tropical products - i.e. $\Psi_j=X_j^{NT}/Y^N$

We further define

ω_i^T as share of the i-th tropical product on total trade of tropical products – i.e. in general $\omega_i^T=Y_i^T/\sum Y_i^T$, further distinguishing, for each polity/year, 'old' ($\omega_i^O=Y_i^O/\sum Y_i^T$) or 'new' goods ($\omega_i^N=Y_i^N/\sum Y_i^T$)

S^T as the share of all tropical products on world trade –i.e. $S^T=\sum Y_i^T/ \mathbf{X}$ and S_N^T the share on non-tropical products, obtained as residual – i.e. $S^{NT}=1-S^T=\sum Y_i^{NT}/ \mathbf{X}$.

We can thus proceed to our decomposition of the total change of the share of the j-th polity (i.e. $\Phi_{t+n}-\Phi_t$).

As a first step, we estimate the contribution of changes in the world share(s) of tropical goods (or i) as

$\mathbf{\Delta}1 = \Pi_{t+n}*(S^T_{t+n}-S^T_t)$ 1)

Second, we compute the cumulated change of the share of the j-th polity in the market for tropical goods

$\mathbf{\Delta}2 = S^T_{t+n}* (\Pi_{t+n}- \Pi_t)$ 2)

And non-tropical goods (or vi)

$\Delta 3 = S^{NT}_{t+n} * (\Psi_{t+n} - \Psi_t)$ 3)

Third, we allocate the change in shares on the market of tropical goods (i.e. $\Delta 2$) between the performance on markets for 'old' products (or iv)

$\Delta 5 = \Delta 2 * [\omega^{O}_{t+n} * (\Sigma \pi^{O}_{t+n} - \Sigma \pi^{O}_{t})] / [\Pi_{t+n} - \Pi_t]$ 4)

And the diversification into 'new' products (or v)

$\Delta 6 = \Delta 2 * [\omega^{N}_{t+n} * (\Sigma \pi^{N}_{t+n} - \Sigma \pi^{N}_{t})] / [\Pi_{t+n} - \Pi_t]$ 5)

Lastly, we compute the two remaining items as residual. We obtain changes in the composition for tropical goods (or ii) as

$\Delta 7 = \Delta 2 * [\Pi_{t+n} - \Pi_t - \Delta 5 - \Delta 6]$ 6)

And changes in the composition of non-tropical goods (or iii) as

$\Delta 4 = \Phi_{t+n} - \Phi_t - \Delta 1 - \Delta 2 - \Delta 3$ 7)

Summing up, we decompose the total change

$\Phi_{t+n} - \Phi_t = \Delta 1 + \Delta 7 + \Delta 4 + \Delta 5 + \Delta 6 + \Delta 3.$

Appendix B

List of tropical Polities

Name	Full Sample	Part of	1830 Sample	Included in CMS
AFRICA				
Angola (Portuguess Africa)	Full	Center West Africa		CMS
Belgium Congo (Zaire)	Full	Center West Africa		CMS
British East Africa (Kenia &	Full	East Africa	1830	CMS
British Somaliland	Full	Center West Africa		CMS
Cabo Verde (Portuguese	Full			
Camerun	Full	Center West Africa		CMS
Canary Island (Spanish Africa)	Full		1830	
Egypt	Full			CMS
Eritrea	Full			
Ethiopia	Full			
French Equatorial Africa-	Full	Center West Africa		CMS
French Somalia	Full	Center West Africa		CMS
French West Africa & Togo	Full	West Africa	1830	
Gambia	Full	West Africa	1830	CMS
German South West Africa	Full	South Africa		CMS
Ghana-Gold Coast	Full	West Africa	1830	CMS
Guinea Bissau (Portuguese	Full			
Italia Somalia	Full	Center West Africa		CMS
Liberia	Full			
Madagascar	Full	East Africa		CMS
Malawi	Full	South Africa	1830	CMS
Mauritius	Full	East Africa	1830	CMS
Mozambique (Portuguese	Full	East Africa		CMS
Nigeria	Full	West Africa	1830	CMS
Reunion	Full			
Rodhesia	Full	South Africa		CMS
Rwanda and Burundi	Full			
St. Helena	Full			
S.Tome e Principe (Portuguess	Full	West Africa		CMS
Seychelles	Full		1830	
Sierra Leone	Full	West Africa	1830	CMS
Spanish Guinea	Full			
Sudan (Anglo-Egyptian Sudan)	Full	Center West Africa		CMS
Swaziland	Full			
Tanganica (German East	Full	East Africa	1830	CMS
Togo (German West Africa)	Full			
Zanzibar Isl.	Full	East Africa	1830	CMS

Appendix B

List of tropical Polities

AMERICA				
Name	Full Sample	Part of	1830	Included in
Bahamas	Full	British French Colonies	1830	CMS
Barbados	Full	British French Colonies	1830	CMS
Bermuda	Full	British French Colonies	1830	CMS
Bolivia	Full	Spanish Indendent	1830	CMS
Brasil	Full	Iberian Slaves Economies	1830	CMS
British Guiana	Full	British French Colonies	1830	CMS
British Honduras (Belize)	Full	British French Colonies	1830	CMS
Colombia	Full	Spanish Indendent	1830	CMS
Costa Rica	Full	Spanish Indendent	1830	CMS
Cuba	Full	Iberian Slaves Economies	1830	CMS
Danish Virgin Island	Full	Other colonies	1830	CMS
Dominican Republic	Full	Spanish Indendent	1830	CMS
Duch Antilles	Full	Other colonies	1830	CMS
Ecuador	Full	Spanish Indendent	1830	CMS
El Salvador	Full	Spanish Indendent	1830	CMS
French Guiana (French	Full	British French Colonies	1830	CMS
Granada (Winward Island)	Full	British French Colonies	1830	CMS
Guadalupe (French Colonies)	Full	British French Colonies	1830	CMS
Guatemala	Full	Spanish Indendent	1830	CMS
Haiti	Full	Other Independent	1830	CMS
Honduras	Full	Spanish Indendent	1830	CMS
Jamaica	Full	British French Colonies	1830	CMS
Leward Island (L.I Antigua, L.I	Full	British French Colonies	1830	CMS
Martinique (French Colonies)	Full	British French Colonies	1830	CMS
Mexico	Full	Spanish Indendent	1830	CMS
Nicaragua	Full	Spanish Indendent	1830	CMS
Panama	Full	Spanish Indendent		CMS
Paraguay	Full	Spanish Indendent	1830	CMS
Peru	Full	Spanish Indendent	1830	CMS
Puerto Rico	Full	Iberian Slaves Economies	1830	CMS
St. Barthelemy (Norvegian	Full	Other colonies	1830	CMS
St. Vicente (Winward Island)	Full	British French Colonies	1830	CMS
St.Lucia (Winward Island)	Full	British French Colonies	1830	CMS
Surinam (Duch Guayana)	Full	Other colonies	1830	CMS
Trinidad & Tobago (Winward	Full	British French Colonies	1830	CMS
Turk Island	Full	British French Colonies	1830	CMS
Venezuela	Full	Iberian Slaves Economies	1830	CMS

Appendix B

List of tropical Polities

ASIA				
Name	**Full Sample**	**Part of**	**1830**	**Included in**
British Malaya	Full			CMS
Brunei	Full			
Ceylon (Sri Lanka)	Full		1830	CMS
Danish India	Full			
Dutch East Indies (Indonesia)	Full		1830	CMS
Formosa (Taiwan)	Full			
French India	Full		1830	
French Indochina	Full			CMS
India	Full		1830	CMS
Iraq	Full			CMS
Philippines	Full		1830	CMS
Portuguese India	Full			
Sabah (British Borneo)	Full			CMS
Sarawak	Full			CMS
Siam (Thailand)	Full			CMS
OCEANIA				
British settlement Oceania	Full			CMS
French Polinesia	Full			CMS
German colonies Oceania	Full			CMS
Hawai	Full			CMS

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Appendix Online

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

Table A
Constant market share analysis: Africa

			i)	ii)	iii)	iv)	v)	vi)
	Share world market	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
1830 sample	**Initial Share**	**Change**	**i)**	**ii)**	**iii)**	**iv)**	**v)**	**vi)**
1830-1850	0.668	0.057	-0.022	0.127	-0.090	0.004	0.000	0.038
1830-1870	0.668	-0.075	-0.065	0.076	-0.073	0.008	0.000	-0.020
1830-1938	0.668	1.529	-0.629	2.206	-1.018	0.508	0.004	0.458
Full sample	**Initial Share**	**Change**	**i)**	**ii)**	**iii)**	**iv)**	**v)**	**vi)**
1850-1870	1.924	-0.147	-0.216	-0.144	0.487	0.092	0.000	-0.366
1870-1890	1.776	-0.353	-0.120	0.070	-0.170	-0.001	0.000	-0.132
1890-1900	1.423	0.231	-0.218	0.174	0.121	0.069	0.000	0.085
1900-1913	1.654	0.386	0.143	0.128	-0.079	-0.014	0.000	0.208
1913-1929	2.040	0.552	-0.144	0.340	0.292	0.058	0.005	0.001
1929-1938	2.592	1.033	-0.279	0.237	0.405	0.090	0.000	0.580
1830-1870	0.705	1.071	-0.375	0.071	0.766	0.274	0.013	0.322
1850-1913	1.924	0.116	-0.528	0.657	-0.085	0.291	0.000	-0.218
1870-1913	1.776	0.264	-0.252	0.565	-0.280	0.072	0.000	0.159
1913-1938	2.040	1.585	-0.479	0.514	0.692	0.272	0.005	0.581
West Africa	**Initial Share**	**Change**	**i)**	**ii)**	**iii)**	**iv)**	**v)**	**vi)**
1850-1870	0.459	-0.214	-0.030	-0.084	-0.041	-0.018	0.000	-0.041
1870-1890	0.245	-0.063	-0.016	0.026	-0.046	-0.001	0.000	-0.027
1890-1900	0.182	0.140	-0.040	0.112	-0.017	0.020	0.000	0.064
1900-1913	0.322	0.150	0.032	0.018	0.046	-0.009	0.000	0.062
1913-1929	0.472	0.539	-0.060	0.335	0.169	0.041	0.000	0.054
1929-1938	1.011	0.384	-0.115	0.211	0.039	0.034	0.000	0.214
1850-1913	0.459	0.013	-0.120	0.219	-0.171	0.027	0.000	0.056
1870-1913	0.245	0.227	-0.057	0.208	-0.055	0.032	0.000	0.099
1913-1938	0.472	0.923	-0.197	0.475	0.225	0.151	0.000	0.269

Centre East Africa	Initial Share	Change	i)	ii)	iii)	iv)	v)	vi)
1850-1870	0.224	-0.051	-0.012	-0.008	0.001	0.004	0.000	-0.036
1870-1890	0.172	-0.058	-0.005	0.001	-0.015	0.001	0.000	-0.040
1890-1900	0.114	-0.009	-0.008	0.011	-0.008	0.002	0.000	-0.006
1900-1913	0.105	-0.001	0.003	0.001	-0.020	0.001	0.000	0.015
1913-1929	0.104	0.059	-0.006	-0.008	0.064	0.005	0.000	0.004
1929-1938	0.162	0.018	-0.013	0.010	0.029	0.006	0.000	-0.014
1850-1913	0.224	-0.120	-0.010	-0.004	-0.032	-0.005	0.000	-0.069
1870-1913	0.172	-0.069	-0.005	0.004	-0.034	-0.002	0.000	-0.032
1913-1938	0.104	0.077	-0.023	0.002	0.087	0.021	0.000	-0.010

Centre West Africa	Initial Share	Change	i)	ii)	iii)	iv)	v)	vi)
1850-1870	0.112	-0.049	-0.009	-0.014	-0.014	-0.004	0.000	-0.008
1870-1890	0.063	0.045	-0.010	0.039	-0.003	0.005	0.000	0.014
1890-1900	0.108	0.082	-0.027	0.065	0.010	0.015	0.000	0.019
1900-1913	0.190	-0.025	0.012	0.008	-0.061	0.005	0.000	0.012
1913-1929	0.165	0.091	-0.012	0.063	-0.002	0.005	0.000	0.036
1929-1938	0.255	0.185	-0.034	0.054	0.080	0.018	0.000	0.067
1850-1913	0.112	0.053	-0.042	0.175	-0.135	0.018	0.000	0.036
1870-1913	0.063	0.102	-0.020	0.120	-0.055	0.013	0.000	0.045
1913-1938	0.165	0.276	-0.058	0.102	0.087	0.041	0.000	0.103

East Africa	Initial Share	Change	i)	ii)	iii)	iv)	v)	vi)
1850-1870	0.511	-0.102	-0.050	-0.061	0.039	0.001	0.000	-0.032
1870-1890	0.409	-0.181	-0.021	0.120	-0.203	-0.007	0.000	-0.070
1890-1900	0.227	-0.032	-0.025	0.028	-0.039	-0.001	0.000	0.006
1900-1913	0.195	0.103	0.021	-0.007	0.049	-0.006	0.000	0.047
1913-1929	0.299	0.011	-0.015	-0.008	0.032	0.003	0.000	0.000
1929-1938	0.310	0.180	-0.038	0.003	0.133	0.018	0.000	0.064
1850-1913	0.511	-0.212	-0.076	0.264	-0.333	-0.017	0.000	-0.051
1870-1913	0.409	-0.110	-0.036	0.313	-0.363	-0.006	0.000	-0.018
1913-1938	0.299	0.192	-0.065	0.010	0.148	0.036	0.000	0.064

Southern Africa	Initial Share	Change	i)	ii)	iii)	iv)	v)	vi)
1850-1870	0.008	-0.003	0.000	0.000	0.000	0.000	0.000	-0.003
1870-1890	0.005	0.000	0.000	0.001	-0.001	0.000	0.000	0.000
1890-1900	0.005	0.002	0.000	0.000	0.001	0.000	0.000	0.001
1900-1913	0.007	0.146	0.002	0.002	0.015	-0.002	0.000	0.129
1913-1929	0.153	-0.020	-0.001	-0.001	-0.001	0.001	0.000	-0.019
1850-1913	0.008	0.145	-0.008	0.002	0.016	0.008	0.000	0.127
1870-1913	0.005	0.148	-0.004	0.003	0.016	0.004	0.000	0.130
1913-1938	0.153	0.234	-0.009	0.005	0.021	0.009	0.000	0.209

Egypt	Initial Share	Change	i)	ii)	iii)	iv)	v)	vi)
1850-1870	0.610	0.003	-0.001	0.004	0.001	0.001	0.000	-0.002
1870-1890	0.882	-0.001	0.001	0.000	0.000	0.000	0.000	0.000
1890-1900	0.787	0.000	-0.001	0.001	0.000	0.000	0.000	0.000
1900-1913	0.836	0.000	0.001	0.000	0.000	0.000	0.000	-0.001
1913-1929	0.848	-0.001	0.000	0.000	0.000	0.000	0.000	0.001
1929-1938	0.720	0.000	-0.001	0.000	0.000	0.000	0.000	0.000
1850-1913	0.610	0.002	-0.003	0.005	0.001	0.003	0.000	-0.003
1870-1913	0.009	0.000	0.001	-0.001	0.000	0.000	0.000	0.001
1913-1938	0.008	-0.001	0.001	0.000	0.000	0.000	0.000	0.000

Table B
Constant market share analysis: America

		Share	i)	ii)	iii)	iv)	v)	vi)
	Share world market	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
Total America	**Initial Share**	**Change**	**i)**	**ii)**	**iii)**	**iv)**	**v)**	**vi)**
1830 sample								
1830-1850	14.56	-5.10	-0.30	-0.69	-2.18	-0.08	0.00	-1.85
1830-1870	14.56	-4.25	-1.51	-0.80	-0.25	-0.17	0.14	-1.66
1830-1938	14.56	-10.01	-2.12	-1.70	-1.48	-2.13	0.05	-2.63
Full sample								
1850-1870	9.40	-3.07	-0.79	-1.01	-0.04	-0.08	0.00	-1.14
1870-1890	6.33	-0.85	-0.46	0.51	-0.79	0.01	0.06	-0.18
1890-1900	5.48	-0.52	-0.66	0.13	0.06	0.09	0.02	-0.16
1900-1913	4.96	0.19	0.41	-0.17	0.11	-0.02	0.00	-0.14
1913-1929	5.15	0.07	-0.24	0.13	-0.57	-0.02	0.01	0.75
1929-1938	5.22	0.14	-0.29	-0.36	0.05	0.00	0.00	0.74
1850-1913	9.40	-4.25	-1.51	-0.80	-0.25	-0.17	0.14	-1.66
1870-1913	6.33	-1.18	-0.72	0.25	-0.42	0.05	0.14	-0.48
1913-1938	5.15	0.20	-0.50	0.01	-0.70	-0.11	0.00	1.50
1830-1938	15.36	-10.01	-2.12	-1.70	-1.48	-2.13	0.05	-2.63
	Initial Share	**Change**	**i)**	**ii)**	**iii)**	**iv)**	**v)**	**vi)**
Independent American								
1830 sample								
1830-1850	8.74	-1.34	-0.22	0.31	0.23	0.07	0.00	-1.73
1830-1870	8.74	-3.16	-0.60	-0.20	0.13	0.14	0.01	-2.64
1830-1938	8.74	0.06	-0.44	-0.08	-0.69	-0.12	0.00	1.39
Full sample								
1850-1870	7.36	-2.12	-0.62	-0.67	0.16	0.00	0.00	-0.99
1870-1890	5.24	-0.55	-0.38	0.49	-0.55	0.04	0.06	-0.21
1890-1900	4.69	-0.33	-0.56	0.10	0.16	0.10	0.02	-0.15
1900-1913	4.36	0.43	0.38	-0.09	0.32	-0.05	0.00	-0.13
1913-1929	4.79	0.08	-0.22	0.09	-0.48	-0.02	0.01	0.70
1929-1938	4.86	-0.02	-0.26	-0.37	-0.05	-0.02	0.00	0.68

1850-1913	7.36	-2.58	-1.40	-0.37	0.34	0.23	0.14	-1.51
1870-1913	5.24	-0.45	-0.67	0.36	0.05	0.16	0.14	-0.49
1913-1938	4.79	0.06	-0.44	-0.08	-0.69	-0.12	0.00	1.39

	Initial Share	Change	i)	ii)	iii)	iv)	v)	vi)
Cuba and Puerto Rico								
1830-1850	4.37	0.23	-0.44	-0.04	0.75	0.10	0.03	-0.16
1850-1870	4.60	-1.21	-0.54	-0.55	0.16	-0.05	0.00	-0.24
1870-1890	3.39	-0.74	-0.27	0.26	-0.77	-0.05	0.00	0.09
1890-1900	2.65	-0.35	-0.34	-0.17	0.07	-0.01	0.00	0.09
1900-1913	2.30	0.39	0.24	-0.10	0.33	-0.03	0.00	-0.04
1913-1929	2.69	-0.56	-0.14	-0.12	-0.15	-0.01	0.00	-0.15
1929-1938	2.13	-0.59	-0.14	-0.27	-0.19	-0.05	0.00	0.06
1830-1870	4.37	-0.98	-0.93	-0.30	0.50	0.12	0.04	-0.41
1850-1913	4.60	-1.91	-0.88	-0.56	-0.12	-0.24	0.00	-0.11
1870-1913	3.39	-0.69	-0.42	-0.10	-0.25	-0.06	0.00	0.14
1913-1938	2.69	-1.15	-0.24	-0.41	-0.28	-0.13	0.00	-0.09
1830-1938	4.37	-2.82	-1.00	-0.68	-0.16	-0.63	0.02	-0.38

	Initial Share	Change	i)	ii)	iii)	iv)	v)	vi)
Brasil								
1830-1850	2.26	0.42	-0.10	0.06	0.47	0.03	0.03	-0.07
1850-1870	2.67	-0.91	-0.27	-0.38	-0.02	-0.05	0.00	-0.19
1870-1890	1.76	0.11	-0.20	0.35	-0.01	0.05	0.00	-0.08
1890-1900	1.87	-0.21	-0.30	0.10	0.02	0.03	0.00	-0.06
1900-1913	1.66	0.05	0.17	-0.16	-0.03	0.02	0.00	0.04
1913-1929	1.70	-0.35	-0.09	-0.22	-0.07	-0.02	0.00	0.05
1929-1938	1.36	-0.51	-0.07	-0.40	-0.02	-0.05	0.00	0.02
1830-1870	2.26	-0.39	-0.26	0.07	0.01	0.03	0.01	-0.24
1850-1913	2.67	-0.97	-0.62	-0.06	0.00	0.00	0.00	-0.29
1870-1913	1.76	-0.06	-0.30	0.29	-0.02	0.06	0.00	-0.09
1913-1938	-1.20	-0.31	-0.43	-0.07	-0.17	0.00	-0.22	-1.20
1830-1938	2.26	-0.86	-0.13	-0.59	-0.09	-0.14	0.00	0.07

	Initial Share	Change	i)	ii)	iii)	iv)	v)	vi)
Mexico								
1830-1850	3.14	-1.88	0.00	-0.10	-0.02	0.03	0.00	-1.78
1850-1870	1.25	-0.60	0.00	-0.06	-0.01	0.03	0.00	-0.56
1870-1890	0.66	0.09	-0.02	0.13	0.01	0.03	0.01	-0.08

1890-1900	0.75	0.13	-0.03	0.05	0.00	0.02	0.00	0.09
1900-1913	0.87	-0.03	0.03	0.04	0.00	-0.02	0.00	-0.09
1913-1929	0.84	-0.06	-0.01	-0.10	-0.01	0.00	0.00	0.06
1929-1938	0.78	0.16	-0.01	-0.01	0.00	0.01	0.00	0.18
1830-1870	3.14	-2.44	0.00	-0.17	-0.01	0.07	0.00	-2.33
1850-1913	1.25	-0.42	-0.10	0.15	0.01	0.15	0.02	-0.65
1870-1913	0.66	0.18	-0.05	0.21	0.01	0.07	0.02	-0.08
1913-1938	0.84	0.10	-0.02	-0.10	-0.01	-0.01	0.00	0.24
1830-1938	3.14	0.10	-0.02	-0.10	-0.01	-0.01	0.00	0.24

	Initial Share	Change	i)	ii)	iii)	iv)	v)	vi)
French colonies								
1830 sample								
1830-1850	1.10	-0.727	-0.016	-0.218	-0.424	-0.029	0.000	-0.040
1830-1870	1.10	-0.840	-0.039	-0.352	-0.304	-0.104	0.000	-0.042
1830-1938	1.10	-0.977	-0.044	-0.454	-0.196	-0.256	0.021	-0.048
Full sample								
1850-1870	0.37	-0.127	-0.040	-0.073	0.000	-0.012	0.000	-0.002
1870-1890	0.24	-0.120	-0.013	0.004	-0.100	-0.011	0.000	0.000
1890-1900	0.12	-0.020	-0.016	0.005	-0.008	0.000	0.000	0.000
1900-1913	0.10	-0.027	0.006	-0.023	-0.013	0.004	0.000	-0.002
1913-1929	0.07	-0.012	-0.004	0.008	-0.012	0.000	0.000	-0.004
1929-1938	0.06	0.033	-0.010	0.004	0.035	0.005	0.000	-0.001
1850-1913	0.37	-0.293	-0.024	-0.091	-0.100	-0.076	0.000	-0.004
1870-1913	0.24	-0.167	-0.011	-0.030	-0.099	-0.024	0.000	-0.002
1913-1938	0.07	0.021	-0.017	0.034	0.001	0.008	0.000	-0.005

	Initial Share	**Change**	**i)**	**ii)**	**iii)**	**iv)**	**v)**	**vi)**
British colonies								
1830 sample								
1830-1850	3.801	-2.637	-0.044	-0.686	-1.763	-0.109	0.000	-0.035
1830-1870	3.801	-3.086	-0.104	-1.171	-1.265	-0.387	0.000	-0.160
1830-1938	3.801	-3.391	-0.107	-1.502	-0.850	-0.922	0.080	-0.091
Full sample								
1850-1870	1.160	-0.486	-0.106	-0.183	-0.035	-0.032	0.000	-0.129
1870-1890	0.670	-0.176	-0.049	0.001	-0.154	-0.014	0.022	0.019
1890-1900	0.500	-0.120	-0.056	0.038	-0.089	-0.007	0.000	-0.006
1900-1913	0.380	-0.109	0.020	-0.035	-0.110	0.014	0.005	-0.003
1913-1929	0.270	-0.033	-0.011	0.037	-0.068	-0.001	0.000	0.011
1929-1938	0.230	0.092	-0.025	0.009	0.070	0.011	0.000	0.026

1850-1913	1.160	-0.891	-0.074	-0.232	-0.311	-0.189	0.039	-0.124
1870-1913	0.670	-0.405	-0.035	-0.068	-0.291	-0.059	0.039	0.010
1913-1938	0.500	0.059	-0.043	0.060	-0.008	0.013	0.000	0.037

Table C
Constant market share analysis: Asia

			i)	ii)	iii)	iv)	v)	vi)
	Share world market	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
Asia	**Initial Share**	**Change**	**i)**	**ii)**	**iii)**	**iv)**	**v)**	**vi)**
Sample 1830								
1830-1850	6.70	0.86	-0.40	-0.38	0.90	0.17	0.18	0.40
1830-1870	6.70	0.35	-1.69	0.12	1.00	1.01	0.72	-0.80
1830-1938	6.70	-0.70	-2.76	-0.82	0.34	1.66	1.86	-0.98
Asia	**Initial Share**	**Change**	**i)**	**ii)**	**iii)**	**iv)**	**v)**	**vi)**
Full sample								
1850-1870	8.72	-0.95	-0.75	0.03	0.97	0.35	0.00	-1.54
1870-1890	7.77	0.83	-0.49	0.41	-0.15	0.11	0.02	0.94
1890-1900	8.61	-1.63	-0.57	-0.20	-0.27	0.04	0.01	-0.63
1900-1913	6.98	1.18	0.40	-0.20	0.56	-0.11	0.01	0.51
1913-1929	8.16	0.16	-0.34	0.05	0.83	0.12	0.05	-0.56
1929-1938	8.31	-0.14	-0.48	0.21	-0.12	0.07	0.00	0.19
1850-1913	8.72	-0.57	-1.49	0.07	0.81	0.72	0.07	-0.75
1870-1913	7.77	0.38	-0.71	-0.03	0.08	0.13	0.07	0.84
1913-1938	8.16	0.02	-0.83	0.12	0.76	0.31	0.04	-0.38
	Initial Share	**Change**	**i)**	**ii)**	**iii)**	**iv)**	**v)**	**vi)**
British India								
1830-1850	5.51	-0.15	-0.10	-0.45	0.17	0.03	0.11	0.09
1850-1870	5.33	0.02	-0.47	-0.03	0.77	0.24	0.00	-0.49
1870-1890	5.35	0.53	-0.24	-0.28	-0.06	0.02	0.00	1.10
1890-1900	5.88	-1.90	-0.22	-0.30	-0.25	0.00	0.00	-1.12

1900-1913	3.99	0.69	0.18	0.07	0.29	-0.09	0.00	0.23
1913-1929	4.68	-0.78	-0.12	-0.19	0.21	0.04	0.00	-0.71
1929-1938	3.90	-0.69	-0.13	-0.28	-0.04	0.00	0.00	-0.24
1830-1870	5.51	0.18	-0.46	-0.41	0.57	0.21	0.48	-0.21
1850-1913	5.33	-0.65	-0.66	-0.34	0.39	0.23	0.00	-0.27
1870-1913	5.35	-0.67	-0.32	-0.32	-0.25	-0.02	0.00	0.24
1913-1938	4.68	-1.46	-0.56	-1.02	0.08	0.04	0.50	-0.50
1830-1938	5.51	-1.47	-0.22	-0.44	0.14	0.02	0.00	-0.97

	Initial Share	Change	i)	ii)	iii)	iv)	v)	vi)
Indonesia								
1830-1850	0.51	1.06	-0.05	0.01	0.72	0.04	0.00	0.33
1850-1870	1.55	-0.65	-0.10	-0.20	-0.06	-0.03	0.00	-0.26
1870-1890	0.90	0.09	-0.10	0.20	-0.11	0.05	0.24	-0.18
1890-1900	0.99	0.08	-0.15	0.04	0.04	0.02	0.00	0.13
1900-1913	1.06	0.46	0.11	-0.01	0.17	-0.02	0.00	0.21
1913-1929	1.52	0.31	-0.10	0.02	0.21	0.03	0.05	0.11
1929-1938	1.83	-0.07	-0.12	0.09	-0.24	-0.01	0.00	0.21
1830-1870	0.51	0.46	-0.10	-0.05	0.43	0.07	0.00	0.11
1850-1913	1.55	-0.03	-0.42	-0.13	-0.07	0.17	0.53	-0.11
1870-1913	0.90	0.62	-0.20	0.03	-0.01	0.12	0.53	0.15
1913-1938	1.52	0.24	-0.20	0.06	-0.74	0.03	0.77	0.32
1830-1938	0.51	0.24	-0.20	0.06	-0.74	0.03	0.77	0.32

	Initial Share	Change	i)	ii)	iii)	iv)	v)	vi)
British Malaya								
1850-1870	0.67	-0.26	-0.01	-0.03	0.00	0.01	0.00	-0.23
1870-1890	0.41	0.25	-0.01	0.05	0.00	0.01	0.00	0.20
1890-1900	0.66	0.18	-0.03	0.04	0.00	0.02	0.00	0.15
1900-1913	0.84	-0.12	0.02	0.03	0.00	-0.02	0.00	-0.16
1913-1929	0.72	0.26	-0.04	0.32	0.03	0.03	0.00	-0.08
1929-1938	0.98	0.33	-0.09	0.24	0.00	0.04	0.00	0.14
1850-1913	0.67	0.05	-0.07	0.12	-0.02	0.08	0.00	-0.05
1870-1913	0.41	0.31	-0.04	0.13	0.00	0.03	0.00	0.19
1913-1938	0.72	0.60	-0.15	0.51	0.04	0.13	0.00	0.06

Table D
Constant market share analysis: Oceania

	Share world market		i)	ii)	iii)	iv)	v)	vi)
			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
	Initial Share	Change	i)	ii)	iii)	iv)	v)	vi)
1850-1870	0.05	0.02	-0.01	0.00	0.03	0.01	0.00	0.00
1870-1890	0.07	0.17	-0.02	0.02	0.13	0.02	0.00	0.02
1890-1900	0.24	0.10	-0.06	0.04	0.09	0.03	0.00	0.00
1900-1913	0.34	-0.22	0.01	-0.03	-0.23	0.03	0.00	0.00
1913-1929	0.12	-0.01	-0.01	0.00	0.00	0.00	0.00	-0.01
1929-1938	0.10	0.01	-0.01	0.00	0.01	0.00	0.00	0.01
1850-1913	0.05	0.07	-0.03	0.04	0.01	0.02	0.00	0.02
1870-1913	0.07	0.05	-0.01	0.07	-0.04	0.01	0.00	0.02
1913-1938	0.12	0.00	-0.01	0.00	0.01	0.00	0.00	0.00

Appendix Sources

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]
Ribeiro Salgado (1939)

Belgium Congo (Zaire)
1908 [1900]. 1912 [1913]
United Kingdom (foreign countries): *Statistical Tables Relating Foreign Countries*

British East Africa (Kenia & Uganda)
1910 [1900]. 1913 [1913]. 1929 [1929]. 1936 [1938]
United Kingdom (colonies) *Statistical abstract for the several Colonial and other Possessions*

British Somaliland
1901 [1900]. 1913 [1913]. 1927 [1929]. 1936 [1938]
United Kingdom (colonies) *Statistical abstract for the several Colonial and other Possessions*

Camerun
1929 [1929]. 1936 [1938]
United Kingdom (colonies) *Statistical abstract for the several Colonial and other Possessions*

Egypt
1912 [1913]. 1929 [1929]. 1936 [1938]
United Kingdom (1855 [1850]. 1874 [1870]. 1889 [1890]. 1897 [1900] *Tables of the Revenue. Population.* &
United Kingdom (1912 [1913]). *Statistical Abstract for the Principal and other Foreign Countries*
League of Nations (]. 1929 [1929]). *Memorandum*.
League of Nations (1936 [1938]). *International Trade Statistics*.

French Equatorial Africa-Congo-Final
1896 [1890]. 1900 [1900]. 1911 [1913]
France (Colonies). *Évolution économique des possessions françaises de l'Afrique équatoriale,*

French Somalia
1901 [1900]. 1913 [1913]. 1927 [1929]. 1936 [1938]
United Kingdom (colonies) *Statistical abstract for the several Colonial and other Possessions* *United Kingdom*

Gambia

1836 [1830]. 1913 [1913]. 1929 [1929]. 1936 [1938]
United Kingdom (1836 [1830]. *Tables of the Revenue. Population.* &
United Kingdom (colonies) *Statistical abstract for the several Colonial and other Possessions*

German South West Africa
1919 [1913]. 1929 [1929]. 1938 [1938]
*United Kingdom (*1919 [1913]. 1929 [1929]. 1938 [1938])*Statistical Abstract for British Self-governing Dominions*

Ghana-Gold Coast
1890 [1890]. 1900 [1900]. 1913 [1913]. 1929 [1929]. 1936 [1938]
United Kingdom (colonies) *Statistical abstract for the several Colonial and other Possessions*

Italia Somalia
1901 [1900]. 1913 [1913]. 1927 [1929]. 1936 [1938]
United Kingdom (colonies) *Statistical abstract for the several Colonial and other Possessions*

Madagascar
1896 [1890]. 1900 [1900]. 1906 [1913]
U.S.A (1909) *Statistical Abstract of Foreign Countries Parts I-III- Statics of Foreign Commerce 1850-1909*

Malawi
1901 [1900]. 1914 [1913]. 1929 [1929]. 1938 [1938]
United Kingdom (colonies) *Statistical abstract for the several Colonial and other Possessions*

Mauritius
1836 [1830]. 1890 [1890]. 1900 [1900]. 1913 [1913]. 1929 [1929]. 1936 [1938]
United Kingdom (ad annum) Tables of the Revenue, Population, & Commerce *1836.*

United Kingdom (colonies) *Statistical abstract for the several Colonial and other Possessions*

Mozambique (Portuguese Africa)
1901 [1900]. 1913 [1913]. 1929 [1929]. 1936 [1938]
Ribeiro Salgado (1939)

Nigeria
1870 [1870]. 1890 [1890]. 1900 [1900]. 1913 [1913]. 1929 [1929]. 1938 [1938]
United Kingdom (colonies) *Statistical abstract for the several Colonial and other Possessions*

Rodhesia
1914 [1913]. 1929 [1929]. 1936 [1938]
United Kingdom (colonies) *Statistical abstract for the several Colonial and other Possessions*
Board of Trade (1931)
Board of Trade (1937)

S.Tome e Principe (Portuguess Africa)
1850 [1850]. 1870 [1870]. 1890 [1890]. 1900 [1900]. 1913 [1913]
United Kingdom (colonies) *Statistical abstract for the several Colonial and other Possessions*
(only product exported Cacao)

Sierra Leone
1836 [1830]. 1909 [1900]. 1913 [1913]. 1929 [1929]. 1936 [1938]
United Kingdom (ad annum) Tables of the Revenue, Population, & Commerce *1836*

United Kingdom (colonies) *Statistical abstract for the several Colonial and other Possessions*

Sudan (Anglo-Egyptian Sudan)
1909 [1900]. 1913 [1913]. 1929 [1929]. 1936 [1938]
United Kingdom (colonies) *Statistical abstract for the several Colonial and other Possessions*

Tanganica (German East Africa)
1920 [1913]. 1925 [1929]. 1935 [1938]
United Kingdom (colonies) *Statistical abstract for the several Colonial and other Possessions*

Zanzibar Isl.
1893 [1890]. 1900 [1900]. 1914 [1913]. 1929 [1929]. 1936 [1938]
United Kingdom (colonies) *Statistical abstract for the several Colonial and other Possessions* Board of Trade

AMERICAS

Bahamas
1820 [1820]. 1830 [1830]. 1850 [1850]. 1870 [1870]. 1890 [1890]. 1900 [1900]. 1911 [1913]. 1926 [1929]. 1936 [1938]
Bulmer-Thomas (2012) (file Tables A.10)
U.S.A (1909) *Statistical Abstract of Foreign Countries Parts I-III- Statics of Foreign Commerce.*
Statistical Department. Board of Trade (1926)

United Kingdom (colonies). *Statistical abstract for the several Colonial and other Possessions*

Barbados
1820 [1820]. 1830 [1830]. 1850 [1850]. 1870 [1870]. 1890 [1890]. 1900 [1900]. 1914 [1913]. 1929 [1929]. 1936 [1938]
Bulmer-Thomas (2012) (file Tables A.10)
United Kingdom (colonies) *Statistical abstract for the several Colonial and other Possessions*

Bolivia
1840 [1850]. 1908 [1900]. 1914 [1913]. 1929 [1929]. 1936 [1938]
United Kingdom (foreign countries). *Abstract of Reports of Trade of Various Countries and Places for the year 1854*.

United Kingdom (foreign countries): *Statistical Tables Relating Foreign Countries* (several years)

League of Nations (1925-29), *Memorandum*
League of Nations (1933, 1936, 1938)), *International Trade Statistics*

Brazil
1821 [1820]. 1830 [1830]. 1850 [1850]. 1870 [1870]. 1890 [1890]. 1900 [1900]. 1913 [1913]. 1929 [1929]. 1938 [1938]
Brazil. Anuario Estatistico do Brasil. 1939-40
Absell-Tena (2015)

British Guiana
1820 [1820]. 1830 [1830]. 1850 [1850]. 1870 [1870]. 1890 [1890]. 1900 [1900]. 1914 [1913]. 1929 [1929]. 1936 [1938]
Bulmer-Thomas (2012) (file Tables A.10)
United Kingdom (colonies) *Statistical abstract for the several Colonial and other Possessions*

British Honduras (Belize)
1820 [1820]. 1830 [1830]. 1850 [1850]. 1870 [1870]. 1890 [1890]. 1900 [1900]. 1913 [1913]. 1929 [1929]. 1938 [1938]
U.S.A (1909) *Statistical Abstract of Foreign Countries.*
United Kingdom (colonies) *Statistical abstract for the several Colonial and other Possessions*

Colombia
1836 [1830]. 1856 [1850]. 1876 [1870]. 1890 [1890]. 1898 [1900]. 1913 [1913]. 1929 [1929]. 1938 [1938]
United Kingdom (ad annum) Tables of the Revenue, Population, & Commerce

League of Nations (1925-29), *Memorandum*

Costa Rica
1860 [1850]. 1903 [1900]. 1913 [1913]. 1929 [1929]. 1937 [1938]
Hanson, John R., II (1980). Table (2)

U.S.A (1909) *Statistical Abstract of Foreign Countries*

League of Nations (1925-29), *Memorandum*
League of Nations (1933, 1936, 1938)), *International Trade Statistics*

Cuba
1820 [1820]. 1830 [1830]. 1850 [1850]. 1870 [1870]. 1890 [1890]. 1900 [1900]. 1913 [1913]. 1930 [1929]. 1936 [1938]

Bulmer-Thomas (2012) (file Tables A.10)
League of Nations (1925-29), *Memorandum*
League of Nations (1933, 1936, 1938)), *International Trade Statistics*

Danish Virgin Island
1820 [1820]. 1830 [1830]. 1850 [1850]. 1870 [1870]. 1890 [1890]. 1900 [1900]. 1913 [1913]. 1929 [1929]. 1938 [1938]
Bulmer-Thomas (2012) (file Tables A.10)

Dominican Republic
1820 [1820]. 1830 [1830]. 1850 [1850]. 1870 [1870]. 1890 [1890]. 1900 [1900]. 1913 [1913]. 1929 [1929]. 1936 [1938]
Bulmer-Thomas (2012) (file Tables A.10)
League of Nations (1925-29), *Memorandum*
League of Nations (1933, 1936, 1938)), *International Trade Statistics*

Dutch Antilles
1820 [1820]. 1830 [1830]. 1850 [1850]. 1870 [1870]. 1890 [1890]. 1900 [1900]
Bulmer-Thomas (2012) (file Tables A.10)

Ecuador
1852 [1850]. 1902 [1900]. 1913 [1913]. 1930 [1929]. 1936 [1938]
United Kingdom (foreign countries). *Abstract of Reports of Trade of Various Countries,* 1854.
United Kingdom (foreign countries): *Statistical Tables Relating Foreign Countries*
League of Nations (1925-29), *Memorandum*
League of Nations (1933, 1936, 1938)), *International Trade Statistics*

El Salvador
1854 [1850]. 1869 [1870]. 1901 [1900]. 1913 [1913]. 1930 [1929]. 1936 [1938]
United Kingdom (foreign countries). *Abstract of Reports of Trade of Various Countries*, 1854.
United Kingdom (foreign countries): *Statistical Tables Relating Foreign Countries*
League of Nations (1925-29), *Memorandum*
League of Nations (1933, 1936, 1938)), *International Trade Statistics*

French Guiana (French Colonies)
1820 [1820]. 1830 [1830]. 1850 [1850]. 1870 [1870]. 1890 [1890]. 1900 [1900]. 1913 [1913]. 1929 [1929]. 1938 [1938]
Bulmer-Thomas (2012) (file Tables A.10)
U.S.A (1909) *Statistical Abstract of Foreign Countries*

Granada (Winward Island)
1820 [1820]. 1830 [1830]. 1850 [1850]. 1870 [1870]. 1890 [1890]. 1900 [1900]. 1913 [1913]. 1929 [1929]. 1938 [1938]
Bulmer-Thomas (2012) (file Tables A.10)

Guadalupe (French Colonies)
1820 [1820]. 1830 [1830]. 1850 [1850]. 1870 [1870]. 1890 [1890]. 1900 [1900]. 1913 [1913]. 1929 [1929]. 1938 [1938]
Bulmer-Thomas (2012) (file Tables A.10)
U.S.A (1909) *Statistical Abstract of Foreign Countries*

Guatemala

1850 [1850]. 1868 [1870]. 1913 [1913]. 1929 [1929]. 1936 [1938]
United Kingdom (foreign countries). *Abstract of Reports of Trade of Various Countries and Places*
United Kingdom (foreign countries): *Statistical Tables Relating Foreign Countries*
League of Nations (1925-29), *Memorandum*
League of Nations (1933, 1936, 1938)), *International Trade Statistics*

Haiti
1820 [1820]. 1830 [1830]. 1850 [1850]. 1870 [1870]. 1890 [1890]. 1900 [1900]. 1913 [1913]. 1929 [1929]. 1938 [1938]
Bulmer-Thomas (2012) (file Tables A.10)

Honduras
1913 [1913]. 1928 [1929]. 1936 [1938]
League of Nations (1925-29), *Memorandum*
League of Nations (1933, 1936, 1938)), *International Trade Statistics*

Jamaica
1820 [1820]. 1830 [1830]. 1850 [1850]. 1870 [1870]. 1890 [1890]. 1900 [1900]. 1913 [1913]. 1929 [1929]. 1938 [1938]
Bulmer-Thomas (2012) (file Tables A.10)
United Kingdom (colonies) *Statistical abstract for the several Colonial and other Possessions*

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 (2012) (file Tables A.10)

Martinique (French Colonies)
1820 [1820]. 1830 [1830]. 1850 [1850]. 1870 [1870]. 1890 [1890]. 1900 [1900]. 1913 [1913]. 1929 [1929]. 1938 [1938]
Bulmer-Thomas (2012) (file Tables A.10)

Mexico
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St. Barthelemy (Norvegian Colonies)
1820 [1820]. 1830 [1830]. 1850 [1850]. 1870 [1870]
Bulmer-Thomas (2012) (file Tables A.10)

St. Vicente (Winward Island)
1820 [1820]. 1830 [1830]. 1850 [1850]. 1870 [1870]. 1890 [1890]. 1900 [1900]. 1913 [1913]. 1929 [1929]. 1938 [1938]
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St.Lucia (Winward Island)
1820 [1820]. 1830 [1830]. 1850 [1850]. 1870 [1870]. 1890 [1890]. 1900 [1900]. 1913 [1913]. 1929 [1929]. 1938 [1938]
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Surinam (Duch Guayana)
1820 [1820]. 1830 [1830]. 1850 [1850]. 1870 [1870]. 1890 [1890]. 1900 [1900]. 1913 [1913]. 1929 [1929]. 1938 [1938]
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