Colonizer Identity and Trade in Africa: Were the British More Favourable to Free Trade?

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Abstract: It has often been claimed that the structure of export trade between Africa and Europe during the colonial period depended on the colonizer identity, with the British relying on free trade and the French employing instead monopsonistic policies. Yet, due to the lack of systematic data on colonial trade, this claim has so far remained untested. In this paper, I use recently available data on export prices from African colonies to estimate monopsonistic profit margins for British and French trading companies. The results challenge the view of the British colonizers as champions of free trade. The level of profit margins was determined much more by the local conditions in Africa than by the identity of the colonial power. The British did not necessarily rely on free trade more than the French and did so only when a stronger control of trade was not a viable option.

JEL Codes: N17, F1, O43.

Keywords: Africa, Trade Colonization, Development, Institutions, Market-Power.

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I.   Introduction

Since around 1885, under colonial rule, Africa experienced at the same time a decline in terms of trade and a deepening of the specialization in primary commodities. These contradictory trends can be attributed to the specific interaction of African factor endowments and colonial policies. Rich in land and poor in capital and labor, African colonies had a comparative advantage in the production of agricultural goods. At the same time, colonial policies reinforced these patterns of specialization, by making Africa an exporter of primary commodities and, at the same time, an importer of manufactures (Austin, Frankema, and Jerven 2017; Frankema, Williamson, and Woltjer 2018). Trade policies, in particular, mattered for the specialization of African economies in the production of primary goods, which deeply influenced their economic structure and subsequent development possibilities (Bleaney and Greenaway 2001; Jerven 2011; Rodrik, Hausmann, and Hwang 2007). Postcolonial trade structures were heavily affected by institutions established during the colonial times, often with the same trading companies operating both during colonial rule and under post-independence marketing boards (Van der Laan 1987). Moreover, the variation in the market power of colonial trading companies and marketing boards has been associated with differences in the subsequent paths of economic growth (Bates 1981 and 1983; Tadei 2018a).

The general view is that the extent of the market power of trading companies was strongly influenced by the identity of the colonial power under which they operated. According to most of the literature, the British, at least until the early 1930s, were more favorable to free trade, while the French made greater use of their political power in order to establish tariffs and trade monopolies. As claimed by Duignan and Gann (1975, pp. 8-9), 'European powers differed in their attitudes towards trade (…) British Africa was a free-trade area for most of the colonial period (…) In general, the British did not control the colonial exchange for the exclusive benefit of the metropole; neither did they enforce a monopoly on the purchase of colonial products. (…) France, on the other hand, was a protectionist country that tried to integrate its colonies into the metropolitan economy and to make the colonies serve the metropole'. Similarly, Ferguson (2003) and Lal (2004) emphasize the role of the British Empire in promoting free trade and reducing discriminatory tariffs globally in the period between the repeal of the Corn Laws in 1846 and the reintroduction of protectionist measures with the Great Depression.

Overall, it appears that, between the mid-XIX century and the early 1930s, the British colonies in Africa should have enjoyed the benefits of free trade much more than the French ones.

Yet, the extent to which a colony can benefit from free export trade does not only depend on the absence of discriminatory tariffs and official monopsonies. De facto monopsonies and oligopolies might also be present, distorting competition and affecting production and trade. Indeed, even in the British colonies, trading companies with de facto market power operated since the XIX century (Rönnbäck and Broberg 2019, pp.179-80), even if discriminatory tariffs and formal monopolies were introduced only after 1931 (Austin 2010, p. 15). Whether the British colonies enjoyed the benefits of free trade more than the French ones is thus an empirical question, depending on the relative importance of official trade policies vs. de facto market power. Were the British colonies effectively more relying on free trade? Was the market power of trading firms operating under the two colonial power different? Did producers in Africa who lived under British rule benefited from higher competition among trading companies by receiving higher prices than those living under the French?

To answer these questions, in this paper, I measure the degree of competitiveness of trade under the two colonial powers by computing profit margins for trading companies operating in British and French colonies. The intuition behind this approach is simple. With free trade, the prices at the African ports should be equal to the difference between world market prices and trade costs, implying zero profit margins.

Despite its clear theoretical appeal, applying this methodology requires information on African export prices that were not available until recently. Fortunately, in the last few years, new research on African trade has provided us with the necessary data to systematically test the claim that the British colonies in Africa were a free trade area. Frankema, Woltjter, and Williamson (2018) built a database of export prices from British colonies from Bluebooks, while Tadei (2018b) collected French export prices from statistical reports of the Ministry of the Colonies and several *Bulletins Economiques* and *Annuaires Statistiques*. Together, these sources allow us to reconstruct African prices for a sample of representative colonies and commodities. In particular, I use data on African port prices for five main agricultural commodities exported from twenty-one British and French colonies between 1898 and 1939. Focusing on the period before the Second World War provides the opportunity to examine the differences between the British and the French in the golden era of colonial rule, after the

establishment of colonial systems and before the changes in policies brought about by the coming of independence. In addition, I also collected data on world market prices for these same commodities and estimated trade costs from Africa to Europe, including shipping, insurance costs, and customs duties.

The results suggest that the market power of trading companies, and thus the extent of free trade, depended more on the local conditions in Africa than on the identity of the colonial power. If profit margins were low in British East Africa, they were much higher in both French and British colonies in West Africa, indicating that West African territories experienced a substantial control of trade both under the French and under the British.

To interpret these findings, I explore how the implementation of monopsonies was affected by the history of trade relationships between Africa and Europe and the presence of European settlers. In West Africa, the long history of trade and the higher level of commercialization reduced the operational costs of monopsonistic trading companies. At the same time, most of the agricultural production was based on small African farmers, with little political power and ability to oppose the establishment of monopsonies. On the other hand, in East Africa production was often controlled by European settlers, who had a much larger political influence before the colonial and metropolitan government, increasing the cost of enforcing monopsonistic policies. Overall, the evidence suggests that the British colonizers did not necessarily choose to rely on free trade more than other colonial powers and that they did so only when a stronger control of trade was not a viable option.

The rest of the paper is structured as follows. Section II outlines the historical context of colonial trade in British and French Africa. Section III describes the data and the methodology used to compute profit margins. Section IV compares British and French profit margins. Section V interprets the results. Finally, section VI provides concluding remarks.

II.   Colonial Trade Under the French and the British

Historians of colonial Africa have often argued that the identity of colonial power affected trade relationships between Europe and Africa (see, for example, Duignan and Gann 1975, pp. 8-9). According to this view, the British were more favorable to free trade and did not try to control African prices with monopsonies or coercive institutions. Indeed, it has been claimed that the

longer history as colonial power taught Britain the ineffectiveness of excessive colonial exploitation (Brett 1973, p.78). The French, on the other hand, made greater use of their political power in order to establish trade monopsonies and acquire African goods at prices lower than in the world markets (Suret-Canale 1971, p. 233; Tadei 2018b), employing compulsory cultivations and forced labor more often than the British (Duignan and Gann 1975, pp. 8-9) and implementing discriminatory tariffs. Since the Customs Act of 1892, the French colonial government did not commit to free trade and used protectionist policies that favored the French exporting firms (Hopkins 1973, p. 264; Suret-Canale 1971, p. 9). Exports to France coming from French colonies were favored with respect to those coming from other territories, enjoying lower charges and the advantage of a quota-system (Duignan and Gann 1975, p. 9). Tariffs on non-French imports were levied in Gabon, Senegal, French Soudan, and Guinea. A policy of non-discriminatory tariffs was instead applied in the Congo basin (Berlin Act of 1885 and the Brussels Act of 1895), in Ivory Coast and Dahomey (Anglo-French Convention of 1898), and in the territories under the League of Nations mandate, Togo and Cameroon (Suret-Canale 1971, p. 9; Duignan and Gann 1975, p. 9). In general, the British relied less on protectionist measures. No tariffs were implemented until 1931, except during the First World War (Austin 2010, p.15; Duignan and Gann 1975, pp. 8-10).

In West Africa, most of the agricultural production was in the hands of African farmers (Aromolaran and Aromolaran 1966, p. 48; Rodney 1972, p. 154) and the British government generally discouraged the establishment of European plantations (Owolabi 1972, pp. 77 and 194). Developing an economy based on settlers required in fact a huge administrative and economic support, while peasant agriculture was able to generate exports with minimal investments (Brett 1973, p. 217). Moreover, the high involvement of African farmers in the market economy since the early colonial period made it a better choice to favor local farmers instead of new settlers (Austin 2010, p. 22). Similarly, also in French West Africa exports were mostly based on productions by small African farmers and the role of European settlers was limited (Suret-Canale 1971, p. 218). These forces played a minor role in East Africa and production modes were there more heterogeneous. Agriculture was based on both African farmers and large plantations in Tanganyika, on African farmers in Uganda, and on European settlers in Kenya, Rhodesia and Nyasaland (Brett 1973, pp. 217-8 and 221; Thompson and Woodruff 1954, pp. 11 and 21).

In any case, whether production was organized through small African farmers, settlers, or plantation companies, trade revolved around the activity of European trading firms that exported goods from Africa to Europe. In West Africa, crops were usually bought from local farmers by small traders, who transported the goods to a marketing place. The trading company acquired then these goods, moved them to the port, and shipped to Europe (Pedler 1956, p. 59). The difference between the price in Africa and in Europe constituted the gain of the trading companies. Of these profits, only a small part was used for investments and infrastructure in Africa, while the majority was instead transferred to Europe (Hopkins 1973, p. 203; Owolabi 1972, p. 75).

In the late XIX century, a number of such companies started to export from the African coast. In 1879, the British United African Company (National African Company after 1882) began its operations in West Africa along the Niger River, enjoying a de facto monopsony power. The royal charter obtained in 1886, after which the company's name changed to Royal Niger Company, did not transform its power into a formal monopsony, but it allowed the company to obtain a de facto monopoly by stipulating treaties with local African communities. The challenge to its monopsonistic position, when the African Association entered the market in 1889, was short-lived. Already in 1893, the two companies agreed to divide the territories into two regions in which each company would be the only one to trade (Rönnbäck and Broberg 2019, p.179-80). In 1899, a new cartel agreement, lasting until the First World War, was established between the Royal Niger Company, the African Association, and two other smaller trading companies in order to establish zones of influence. After the war, a series of mergers and acquisitions consolidated the monopoly power of these trading firms. In 1919, the African Association and other companies merged into the African & Eastern Trade Corporation. In 1920, the Niger Company (ex-Royal Niger Company after the loss of the royal charter in 1900) was acquired by Lever Brothers. Finally, in 1929, the Niger Company merged with the African & Eastern Trade Corporation creating the United Africa Company (Rönnbäck and Broberg 2019, p.185-6). This trend towards concentration was common not only to trading companies but, in general, to West African firms. Among all companies operating in West Africa quoted in the London Stock Exchange, the largest three accounted for more than 90 percent of total market capitalization in the 1880s. In the subsequent decades, market concentration declined with the share of the largest three companies bottoming at 40 percent around 1910. In the 1910s,

however, the trend inverted and their market share increased, reaching 60-70 percent in the 1930s (Rönnbäck and Broberg 2019, p.105).

Similarly, also in French West and Equatorial Africa, over time, smaller business interests lost market share and concentration increased. Some monopsonies were formally established, such as in Equatorial Africa (e.g. rubber concessionary companies in Congo and Gabon at the beginning of the XX century- Coquery-Vidrovitch 1972- or the cotton monopsonistic trading companies of Ubangi-Shari and Chad since 1924- De Dampierre 1960), while others came into being de facto as a consequence of economic crises and protectionist policies, such as in West Africa (Coquery-Vidrovitch 1969 and 1972; Manning 1998; Suret-Canale 1971). By 1930, three companies (the French *Compagnie Francaise de l'Afrique Occidentale* and *Société Commerciale de l'Ouest Africain* and the British United Africa Company –owned by Unilever) controlled between two-thirds and three-fourths of all West African trade (Hopkins 1973, p. 188). In the 1930s, the process of concentration of trade in the hands of a few trading firms continued (Rönnbäck and Broberg 2019, p. 190). By the beginning of the Second World War, their share of total trade had increased further, reaching up to 90 percent for some commodities. Together with the consolidation of de facto monopsonies, the late colonial period also saw the rise of government-sponsored monopsonistic institutions, such as marketing boards in both British and French colonies (Hopkins 1973, pp. 285-86). Despite their formal objective was to insure African producers against fluctuations of world market prices, marketing boards were often used to tax farmers for the benefit of the colonial government and the trading companies (Rodney 1972, pp. 168-9).

In a similar way, also in British East Africa, the trading companies tried to organize production and commerce around their interests. In Uganda, for example, large companies, worried about excessive prices to African cotton farmers, were able to lobby the colonial government and establish a controlled marketing system based on an oligopoly of firms. Similar economic structures were also implemented with other commodities (coffee, groundnuts) and in other colonies such as Tanganyika (Brett 1973, pp. 247, 253, and 260). Nevertheless, trading firms tended to be smaller in East Africa (Rodney 1972, p.156) and their monopolistic power was more limited than in the Western colonies (Duignan and Gann 1975, p. 491).

The colonial administration generally supported the activity of trading companies, by interfering with labor markets and implementing coercive institutions (Hopkins 1973, p. 202),

which reduced the outside option of African producers. The relative poverty of French territories made the use of coercion a more attractive option than in the British colonies (Austin 2010, p. 16). Compulsory gathering and cultivation of crops were used by the French in both Equatorial (e.g., rubber at the time of big concessionary companies and cotton since the 1920s) and in West Africa (e.g., cocoa in the early colonial period). Forced labor practices were widespread (Fall 1993; Van Waijenburg 2018). The British did not use compulsory crops to the same extent as the French, but in British East Africa farmers were required to cultivate part of their land with cotton and groundnuts (Rodney 1972, p. 166). In these cases, the line between administrative pressure and open coercion was not easy to perceive. In addition, both colonizers also used indirect methods such as poll taxes. Introduced to raise the revenue of colonial governments, they also served the function of forcing Africans to produce cash crops in order to fulfill their tax obligations (Rodney 1972, p. 165).

Together, monopsonies and labor coercion allowed the colonial trading companies to pay to Africans prices which were lower than those in the world markets. Hopkins (1973, pp. 202-3) notes how for some commodities the profit of trading companies was larger than what we would expect in a competitive market and that, whenever competition between exporters increased (such as, for example, in the case of Nigerian groundnuts during the 1930s), African producers saw a rise in price. In addition, research on French trade shows that there was a gap between prices in Africa and in the world market, which cannot be explained by trade costs, suggesting a strong reliance on monopsonies in French Africa (Tadei 2018b).

III.   Computing Profit Margins

Overall, at least until the early1930s, the French relied on tariffs and formal trade monopsonies more than the British did, while both colonial powers facilitated the activity and development of de facto monopsonies. Depending on the relative importance of tariffs, formal, and de facto monopsonies, whether the British colonies enjoyed the benefits of more free trade with respect to the French territories is an empirical question.

To test whether the British colonizers relied on free trade more than the French, I compute profit margins for trading companies operating under the two colonial powers. Profit margin is defined as

$$\pi = \frac{p - t - pA}{p} \qquad (1)$$

where *p* is the price that the company receives in Europe, *t* are trade costs (including shipping, insurance, port charges, and customs duties), and *pA* is the price paid at the African port.

I estimate profit margins for a panel of colonies and commodities from 1898 to 1939. The dataset includes five main agricultural goods (groundnuts, palm oil, cotton, cocoa, and coffee) which were exported from both British and French colonies. Despite the limited number of products, given the heavy specialization, these five commodities are representative of African trade flows: in the period of the analysis, they accounted for almost half of the value of exports from British East Africa and for about 60 percent of exports from both British and French West Africa.[1] The sample of colonies consists of twenty-one African territories (see figure 1): twelve French colonies in West and Central Africa (Dahomey, Guinea, Haut-Senegal, Ivory Coast, Niger, Senegal, Togo, Cameroon, Congo, Gabon, Ubangi-Shari, and Chad), four British colonies in West Africa (Gambia, Gold Coast, Nigeria, and Sierra Leone), and five British colonies in East Africa (British Somaliland, Kenya, Nyasaland, Tanganyika, and Uganda). Northern and Southern Rhodesia are excluded because they did not export any of the five commodities which are the focus of the analysis, while French colonies in Eastern Africa (Madagascar and Reunion) are excluded because of the analysis of their profit margins would be driven just by one commodity, coffee. As I will show in the analysis, however, the inclusion of French East Africa does not change the results of the paper.

[Figure 1]

Data on African port prices for the British colonies were gathered by Frankema, Woltjer, and Williamson (2018), while data for the French colonies were collected by Tadei (2018b). The original sources are colonial yearly customs statistics, which reported the total value and the total quantity of exports by commodity. These statistics were registered at the local customs offices and then aggregated at the colony level. Statements of quantities and values were based

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[1] Calculations based on data from the African Commodity Trade Database by Frankema, Woltjer, and Williamson (2018).

on the declaration of exporters, checked by custom offices. British statistics almost always reported information at the colony level (the only exception being the period in which the customs offices of Kenya and Uganda were pooled together). For the French colonies, in some cases, statistics were reported for larger territories, including several colonies. I compute prices at the African ports as unit values, including only exports of goods produced within each colony, excluding re-exports. To ensure comparability, I convert all prices in British pounds per ton.[2]

European prices are measured in the UK for the British colonies and in France for the French colonies because each colony sent most of its exports to its respective colonial power (see table 1).[3] Port prices in France come from the *Statistiques Mensuelles du Commerce Extérieur de la France*, a statistical publication reporting total value and quantity of French imports and were collected by Tadei (2018b). British prices for cotton, coffee, and palm oil come from Jacks, O'Rourke, and Williamson (2011), while the prices for cocoa are taken from Federico and Tena (2016). Missing values are estimated by multiplying unit values in 1961 from the Faostat Database (FAO, 2016) by the price index in Jacks (2013). This concerns British prices of groundnuts and some missing years in the series of French prices of groundnuts and palm oil (about 18 percent of observations). The results, however, still hold when we exclude from the analysis observations for which the European prices were estimated.

Trade costs include shipping, insurance, port charges, and customs duties. I construct estimates by combining direct information from colonial statistical publications with evidence from secondary literature. Shipping costs from the African to the European port are estimated following the procedure detailed in the online appendix of Tadei (2018b). To estimate shipping costs varying across commodities, colonies, and over time, unit costs per km for the different commodities in 1938 and 1949 are first multiplied by the distance of each colony's port to Marseille (for the French colonies) or to Liverpool (for the British colonies) and then by an index of freight costs from Shah Mohammed and Williamson (2011). Insurance costs are based

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[2] This involves dealing with a number of different measurement units. British quantities were reported in long tons, bushels, centals/imperial hundredweights, gallons, or pounds, while values in pounds, shillings, and pence. French quantities were reported in tons, kg, or liters, while values in either French francs or francs CFA (franc des Colonies Francaises d'Afrique). Exchange rates between franc and pound are from Officer (2017).

[3] One might think that to measure the difference in profit margins between the two colonial powers, it would be more appropriate to use common world prices, given that prices in France and in Great Britain might be different. Yet, trading companies with market power would set prices to producers depending on what they could receive in their main export market (the UK for the British and France for the French), so using prices in England or France as a benchmark is justified.

on Persson's (2004) work on transatlantic trade and estimated at 2 percent of the port price in Europe before 1920 and 1 percent after 1920. Similarly, port charges are estimated as 1 percent of the value of goods at the African port (Persson 2004). Customs duties in British Africa are calculated by using information from colonial bluebooks. They were levied only on certain commodities and in some years, more often in West Africa than in East Africa. They could be fixed or ad valorem and ranged from 2 to 37 percent of the value of the exported goods. Nevertheless, since in most colonies and years, commodities were not subject to export taxes, in the sample, the average impact of export duties on British prices is less than 2 percent. In French Africa, customs duties on exports were not levied before the Second World War and thus do not enter the analysis.

Table 2 shows summary statistics for prices and trade costs. Since the estimates could be subject to measurement errors, a small proportion of observations (about 3 percent of the sample) have implausibly highly negative profits. Since the maximum profit margin observed in the sample is 83 percent, I treat all observations with profit margins below -83 percent as outliers and exclude them from the main analysis (see figure 2). Nevertheless, as I will show in the following sections, the results of the paper are not driven by this assumption. On average, the price at the African port was about 72 percent of the European price and trade costs were about 14 percent, implying an average profit margin of 14 percent. This relatively high average profit does not mean that trading in Africa was profitable for all companies. Many companies were unsuccessful (the median British company returned only 1.2 percent in nominal terms; Rönnbäck and Broberg 2019, p. 107) and the large average margin was determined by a small group of highly profitable companies.

[Table 2]

[Figure 2]

It is encouraging to notice how the magnitude of these estimates is similar to available direct measures of companies' profitability. For example, in 1939-1940, both the *Compagnie Française de l'Afrique Occidentale* and the *Société Commerciale de l'Ouest Africain* reported profits of 25-30 percent over the invested capital (Suret Canale 1971, p. 166). Interestingly, the

profit for the average colony/commodity in 1939 French West Africa, computed by using the methodology described in this paper, was about 25 percent. Moreover, the estimates of profit margins are also correlated to stock market returns. Given that stock returns can be decomposed in the sum of dividend yield, change in price-to-earnings multiple, and earnings growth, the *growth rate* of profits should be correlated with stock returns. To check this, I compare all regions and periods for which I have both information on stock returns and on growth rates of profit margin. By applying British inflation rate (Williamson 2020) to the real stock returns reported in Rönnbäck and Broberg (2019), I estimate compounded nominal stock returns in British West Africa in several different periods: -0.8 percent per year in 1897-1932 (African Association/African and Eastern Trade Corporation), 4.3 percent in 1901-1929 (various trading companies), 6.0 percent in 1900-1914 (average of African Association and Niger Company), and 6.5 percent in 1901-1919 (National African/Royal Niger/Niger Company). By using the methodology of Rönnbäck and Broberg (2019) and information on stock prices and dividends (Société d'études coloniales de Belgique 1902; Union Coloniale Française 1922), I also estimate the compounded nominal stock return of the *Compagnie Française de l'Afrique Occidentale* as around 10.8 percent per year between 1898 and 1918. In the same periods, growth rates of profit margins in British West Africa (weighted by the value of colony/commodity exports) were -12.9 percent, -0.5 percent, 11.5 percent, and 8.2 percent per year, respectively; in French West Africa between 1898 and 1914/1920, the growth rate of profits was 16 percent per year. The correlation between stock return and rates of profit growth is high (correlation coefficient=0.96), suggesting good reliability of the profit margin estimates.

IV.   Comparing British and French Profit Margins

To compare the extent of the market power of trading companies operating under the two colonizers, I regress profit margins on a British colony dummy for our panel of commodity-colonies-years.[4] To take into account the correlation of profit margins over time and across commodities within each colony, I cluster standard errors at the colony/territory level. Table 3 shows the results.

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[4] An alternative specification could be to regress the simple relative price gap between Africa and Europe on British dummy and trade costs, but this would not take into account the non-linear relationship between trade costs and the relative price gap.

In column (1), the simple regression is reported: the British colony dummy is negative and statistically significant. Profit margins in the British colonies were on average 10 percentage points lower than in the French colonies. Considering that the average profit in the French colonies was about 19 percent, this is a meaningful difference. In column (2), I include year fixed effects to control for differences in samples between years. In column (3), I add commodity fixed effects to take into account the different composition of exports between the two colonial powers. Finally, in column (4), I include commodity and year fixed effects together. The results are virtually unaffected. The coefficient of the British colony dummy slightly decreases in magnitude but is always negative and statistically significant.

In column (5), together with commodity and year fixed effects, I include an East Africa dummy to control for the location of the colonies. By doing so, the British colony dummy substantially drops in magnitude and is no more statistically significant. The East Africa dummy, on the other hand, is negative and significant. Profit margins in East Africa were about 13 percentage points lower than in West Africa. Since the average profit was about 16 percent in West and Central Africa, this implies that profit margins in the Eastern colonies were much closer to what we would expect in a competitive market. The result suggests that the entire difference in profits between the British and French colonies was driven by their different location. The identity of the colonizer did not matter as much since British and French colonies in West Africa had similar profit margins.

In tables 4 and 5, I check the robustness of these results to the inclusion of additional control variables and to alternative specifications. Column (1) of table 4 reports the same specification as column (5) of table 3 for comparison. In column (2), I control for inland trade costs by including the (log) distance of each colony's centroid to the coast from Gallup, Mellinger, and Sachs (2010). In column (3), I assume the possibility of errors in the world market price data by controlling for year by commodity fixed effects. As long as both French and British European prices are subject to the same systematic errors (but potentially different over time and by commodity), commodity/year fixed effect would eliminate the bias. In column (4), I control for productivity differences by including the (log) exported quantity, together with commodity/year

fixed effects. The idea here is that facing a common global demand captured by commodity/ year fixed effects, differences in the exported quantity should reflect productivity differences between colonies for the various commodities. In column (5), I control for the differences between West and Central Africa, by including a Central Africa dummy. This variable, however, is not significant, suggesting that it is more appropriate to consider West and Central Africa as a homogenous group when analyzing profit margins, as done in the main analysis. Overall, in all specifications, the results are unaffected: the East Africa dummy is always negative and statistically significant, with very small variations in magnitude, while the British colony dummy is never significant.

[Table 4]

In table 5, I check whether the results are robust to changes in the sample. Column (1) reports the main specification for comparison. In column (2), I include outliers, i.e. observations with highly negative profits. In column (3), I add colonies from French East Africa. In column (4), I include both French East African colonies and observations with very negative profits. In column (5), I exclude profit margins for territorial aggregates larger than a colony, such as French West or Equatorial Africa and Kenya-Uganda in certain years (about 13 percent of the sample). In column (6), the analysis is performed by excluding observations with estimated European prices (about 18 percent of the sample). Across all specifications, the results are virtually unaffected.

[Table 5]

Moreover, the result of lower profit margins in East Africa is also robust against alternative specifications of trade costs. Since the main conclusion is based on a comparison, systematic upwards or downwards biases in trade costs in both East and West Africa would not affect the results. Yet, if I overestimated trade costs for East Africa, I could observe lower profit margins which are not due to differences in the market power of trading companies. Given the magnitude of the results, however, this seems highly unlikely: to have the same profit margins as in West Africa, East African trade costs should be overestimated by more than 40 percent.

V. Explaining the East Africa Dummy

The results suggest that it is not true that the British relied on free trade more than the French. The level of monopsonistic profit margins depended more on the location of the colonies than on the identity of the colonial power. If monopsonistic profit margins were small in East Africa, West African colonies were subject to substantial control of trade both under the British and under the French, as indicated by the large profit margins. Explanations of colonial trade that emphasize the identity of the colonizer cannot take into account the observed patterns in the data.

To explain these findings, I consider the benefits and costs of establishing trade monopsonies from the point of view of the trading companies. If a colony produced large quantities of a highly valuable commodity, the companies had stronger incentives to establish monopsonistic institutions in order to extract a larger share of profit. On the other hand, enforcing monopsonies was costly. Control of trade was easier to establish if the trading companies had a long history of activity in the region. Because West Africa had a much longer history of trade with Europe and a higher level of commercialization, these costs were lower in the Western than in the Eastern colonies. Both qualitative and quantitative evidence confirms this view. Market forces shaped African production towards the export markets much earlier in West Africa than in East Africa (Frankema and Van Waijenburg 2012, p. 914): the African Commodity Trade Database by Frankema, Woltjer, and Williamson (2018) records the first export from West Africa in 1798 and from East Africa in 1894. In addition, the volume of trade from East Africa was relatively small until the Second World War (Rodney 1972, p.156): the average yearly exported quantity for each commodity was about 10 thousand tons in East African colonies, while it was more than 30 thousand tons in West Africa (African Commodity Trade Database, Frankema, Woltjer, and Williamson 2018).

The opposition from producers in Africa could also increase the enforcement cost of monopsonies. Producers, paid lower prices if monopsonies were established, had strong incentives to oppose such types of organizations. The effectiveness of this opposition closely depended on the producers' political influence before the colonial and metropolitan government. Given that the political power of African farmers was much more limited than the one of European settlers, the costs of enforcing trade monopsonies were higher when production was

in the hands of settlers and lower when it was based on African farmers. There are examples of African farmers trying to oppose the interests of trading firms, such as during the 1937-38 strike of cocoa producers in the Gold Coast (Aromolan and Aromolan 1966, p. 59; Austin 2005, p. 360). These attempts, however, were usually more successful when organized by settlers. In Kenya, for example, they were able to get the colonial government to approve policies that favored the internal instead of the export markets, against the interests of British firms and trading companies (Brett 1973, p. 77-8). On the other hand, the trading firms knew that they could obtain lower prices if the production was based on African farmers and did not back up the settlers when they lobbied for policies that transformed Africans peasant in wage laborers. More often than not, the commercial interests sided with African farmers against the interests of settlers (Brett 1973, p. 171). In French West Africa, for example, the trading companies, worried about the potential loss of profit, opposed the creation of European plantations and lobbied to maintain agricultural production in the hands of African farmers (Hopkins 1973, p. 213).

The historical evidence suggests that, due to the shorter history of trade and the larger presence of European settlers, establishing trade monopsonies was more costly in East Africa. Indeed, trading firms operating in the Eastern colonies tended to be smaller and their market share was lower than in West Africa (Duignan and Gann 1975, p. 491; Rodney 1972, p. 156), explaining the different profit margins that we observe in the data. To formally check this claim, I regress profit margins on the British colony dummy, the East Africa dummy, and measures of "history of trade" and "presence of settlers". If trade history and settlers are the reasons for the low profit margins in East Africa, then the East Africa dummy should become insignificant when we control for these factors.

I measure "history of trade" for each colony/year as the number of years since the first export of any commodity recorded from each colony in the African Commodity Trade Database (Frankema, Woltjer, and Williamson 2018). For territories in French Equatorial Africa, I use the number of years since the establishment of the first concession to European companies in 1899. On average, West African colonies started exporting in the 1830s, while colonies in East Africa started exporting in the 1900s. In the sample, East African colonies have an average history of trade of 20 years, while the history of trade in West and Central African colonies extends for more than 70 years. To measure the presence of settlers, we could look for

information on the numbers of Europeans in each colony from British colonial bluebooks and French statistical publications. Nevertheless, by regressing profit margins on the actual number of settlers, we would run the risk of incurring an endogeneity problem, as the choice of settlers to establish themselves in a colony could be affected by the market power of trading companies and the profitability of the trade. To solve this problem, instead of directly measuring the number of settlers, I use an indirect measure of the attractiveness of each colony for settlement, i.e. the (log) settler mortality from Acemoglu, Johnson, and Robinson (2001).[5] The mortality rate of early European settlers in East African colonies ranged from 26 to 213 out of 10000, while in West Africa it was much higher ranging from 165 to 2940 out of 10000, suggesting that colonies in East Africa were much more attractive for settlers.

A final challenge in running this test is that settler mortality, history of trade, and East Africa dummy are obviously highly correlated. In the sample, the correlation coefficients are -0.48 between East dummy and history of trade, -0.57 between East dummy and settler mortality, and 0.47 between history of trade and settler mortality. If we were to run a regression of profit margin on East dummy, history of trade, and setter mortality, all three coefficients would end up being not statistically significant due to multicollinearity. To solve this problem, I first compute the residuals of the regression of the East dummy on history of trade and setter mortality, i.e. the effect of being in East Africa which is not explained by the presence of settlers or by the shorter history of trade. Similarly, I also compute the residuals of the regression of settler mortality on history of trade (to measure the impact of the presence of settlers net of the impact of trade history) and the residuals of the regression of history of trade on settler mortality (to measure the impact of the trade history net of the impact of settlers). Then, I regress the profit margin on the British colony dummy and the residuals from these three regressions. Table 6 shows the results. All specifications include commodity and year fixed effects.

[Table 6]

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[5] For larger territorial aggregates, such as French West or Equatorial Africa or colonies reported together, I use the simple average of the component territories and, in case of missing data, I use settler mortality data from neighboring countries, following the same approach as Acemoglu, Johnson, and Robinson (2001). This is the case of Ubangi-Shari (average of Cameroon and Congo), Chad (average Niger, Ubangi-Shari, and Sudan), British Somaliland (Ethiopia), Dahomey (Togo), and Malwi (Tanzania).

In column (1) of panel A, I report the simple regression of profit margins on the British colony and the East Africa dummy, for comparison. In column (2), I include the (log) settler mortality and the length of the history of trade as regressors. The coefficient of the East Africa dummy drops in magnitude from -0.13 to -0.09, indicating that history of trade and presence of settlers can, at least partly, explain away the East Africa effect. The coefficient of (log) settler mortality is positive: fewer settlers are associated with higher profit margins for the colonial trading companies. The coefficient of history of trade is also positive: a longer history of commercial relationships with the African colonies is correlated with larger profit margins. As expected though, being highly correlated, none of the three coefficients is statistically significant.

To address this issue, in column (3), I report the regression using the residuals-approach discussed above. Panel B below reports the regressions of the East dummy on settler mortality and history of trade, and of settler mortality and history of trade on each other. Now, the East Africa dummy is not statistically significant, but both settler mortality and history of trade are. We can thus reject the hypothesis that being located in East Africa has an impact on profit margins that goes beyond trade history and settler presence. This suggests that trading companies in East Africa had lower profit margins because of the shorter trade history and the stronger presence of settlers with respect to West Africa. A standard deviation increase in (log) settler mortality is correlated with an increase in profit margins by about 4.0 percentage points, while a standard deviation increase in history of trade is correlated with a 3.9 percentage point increase in profit margins. Considering that the average profit margin in the sample is 14 percent, these are substantial increases.

Additional evidence comes from observing the coefficients of the British colony and East Africa dummies over time. To do so, I first run a regression of profit margins on the two dummies each interacted with year fixed effects, including commodity fixed effects. Then, I compute the estimated coefficients from 1898 to 1939. Figure 3 reports the results. The coefficient of the British colony dummy is positive at the beginning of the period and declines over time. Initially, trading companies operating in British colonies tended to have higher profit margins than those operating in the French colonies, but after the First World War, the situation reversed. The coefficient of the East Africa dummy follows the opposite path, negative at the beginning of the period and increasing over time. Before the First World War, the difference

between East and West Africa was the largest: trade relationships were well-established in the West facilitating the activity of monopsonistic trading companies, while they were just at the beginning in East Africa. Over time, however, as trade consolidated in East Africa, also the difference between the two regions declined.

[Figure 3]

In the previous analyses, I aggregated commodities together to take advantage of the larger sample size, at the same time taking into account differences between commodities with fixed effects. Yet, interesting insights can be obtained by analyzing each commodity separately. The results are reported in table 7. Differences between British West, French West, and British East Africa are shown in the bottom part of the table, together with F-tests of statistical significance.

[Table 7]

Cocoa and palm oil were produced only in West Africa. For cocoa, there is no statistically significant difference between British and French profit margins. Indeed, cocoa was produced mostly by African farmers both in French and British colonies (Austin 2005; Frankema and van Waijenburg 2012, p. 91; Thompson and Woodruff 1954) and the average trade history was similar between British and French cocoa-exporting colonies (61 vs. 67 years). In the case of palm oil, profit margins were larger in the British colonies. Like cocoa, also palm oil was produced by Africans in both British and French colonies (Frankema and van Waijenburg 2012, p. 91; Thompson and Woodruff 1954), but exports started much earlier in the British colonies: on average, exports from British West Africa began in the 1830s, while they started almost 30 years later from French West Africa.

Coffee, cotton, and groundnuts were produced in both West and East Africa. In the case of coffee, profit margins were larger in British West Africa, while they were lower and similar in French West and British East Africa. Coffee was in fact produced mostly by Africans in British West Africa (Frankema and van Waijenburg 2012, p. 91) and by settlers in both French West (Suret-Canale 1971, pp. 24 and 228; Thompson and Adloff 1957) and British East Africa (Wolff 1974, pp. 68-82). In this instance, the shorter average history of trade for British East African

exports (17 years vs. 53 years for French West Africa) does not seem to influence profit margins. This suggests that the type of producers might be more important than the history of trade relations in the decision to implement trade monopsonies. For cotton and groundnuts, profit margins were the lowest in East Africa and they were lower in British than in French West Africa. Both commodities were produced by African farmers both in East (De Haas 2017; Thompson and Woodruff 1954; Wolff, 1974, pp. 68-82) and in West Africa (Frankema and van Waijenburg 2012, p. 91), but the average history of trade for cotton or groundnuts-exporting colonies was the shortest in East Africa (22-24 years) and shorter in British West Africa (63-89 years) than in French West Africa (75-83 years).

VI.   Conclusion

In the literature, the British colonizers have often been considered champions of free trade, while the French have been taken as an example of a colonial power relying on a stronger control of trade, via tariffs and monopolies. In Africa specifically, it has been suggested that, at least until the 1930s, the British relied on free trade encouraging competition between trading firms, while the French made great use of their political power in order to establish formal trade monopsonies and acquire African goods at prices lower than in the world markets. Yet, the situation on the ground might have been quite different from what formal policies envisaged, as de facto monopsonies existed also in the British colonies. The extent of free trade in British Africa is thus an empirical question.

To investigate this issue, I measured the degree of competitiveness of trade under the two colonial powers by computing profit margins for British and French trading companies. To do so, I used data on African export prices, trade costs, and European import prices for a representative sample of agricultural commodities exported from British and French colonies during the golden age of colonial rule. On average, profit margins in the British colonies were lower than in the French colonies, suggesting a higher reliance on free trade in the British Empire. However, if we compare the two colonial powers within one same region, it appears that the actual extent of free trade depended more on the conditions in the colonies than on formal policies of the colonial power. On average, profit margins were statistically indistinguishable from zero in British East Africa, but they were large in West African colonies.

Moreover, in West Africa, profit margins were not statistically different between British and French colonies.

Overall, if profit margins of the trading companies in British East Africa were closer to what we would expect in a competitive market, West African colonies experienced substantial control of trade both under the British and under the French. These results suggest that, despite formal policies, other factors were at play in determining the actual extent of free trade in the African colonies. In West Africa, the longer history of trade and the higher level of commercialization reduced the operational costs of trading companies. At the same time, most of the agricultural production was based on small African farmers, with little political power and ability to oppose de facto trade monopsonies. Conversely, in East Africa, trade history was shorter and production was often controlled by European settlers who had a much larger political influence over the metropolitan government, increasing the cost of establishing trade monopsonies.

Despite formal policies, the ability of trading firms in West Africa to eliminate competition was likely to be costly in terms of economic growth (Bates 1981, Tadei 2018a). African producers received lower prices than they would have in a competitive market, while local firms and consumers paid more for imported goods (Yeats 1990). Overall, the results suggest that formal commitment to free trade policies, such as removing tariffs and protectionism, might not be enough to fully implement free trade.

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Figures and Tables

	French Africa (West & Central)
	British Africa (West)
	British Africa (East)
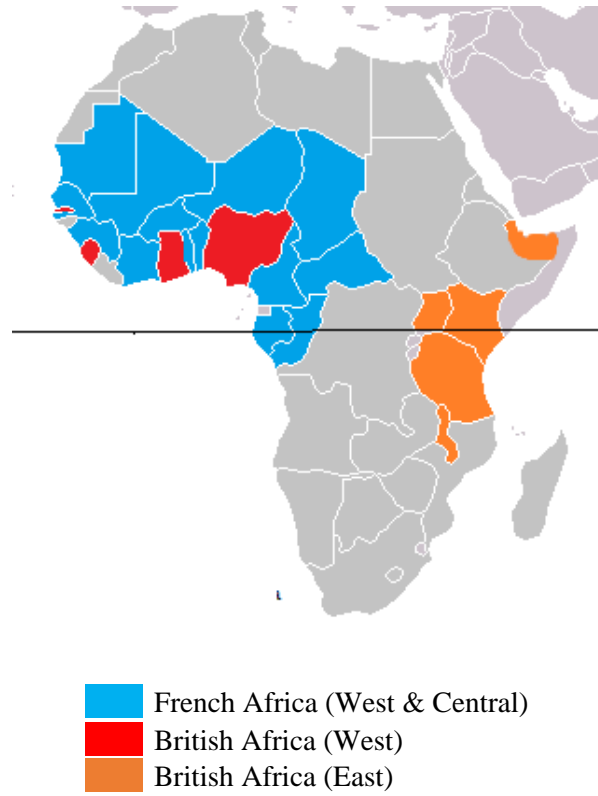
Figure 1
Sample of Colonies
The figure represents the sample of colonies used in the paper.
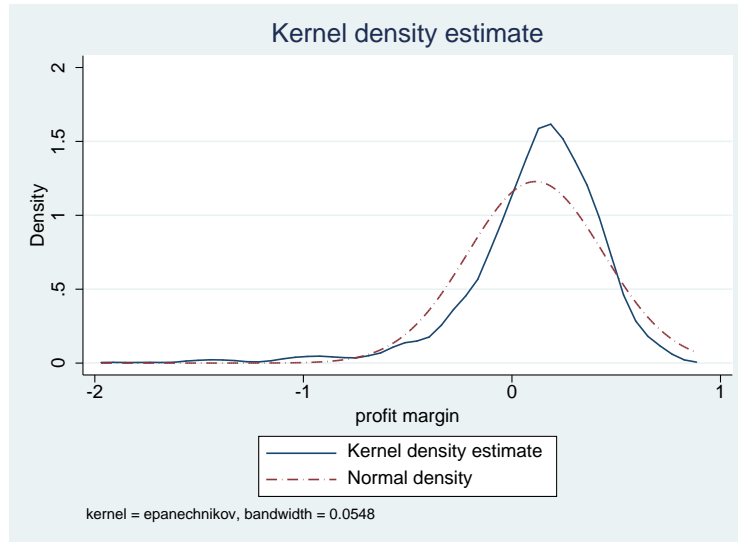
(a) Full Sample
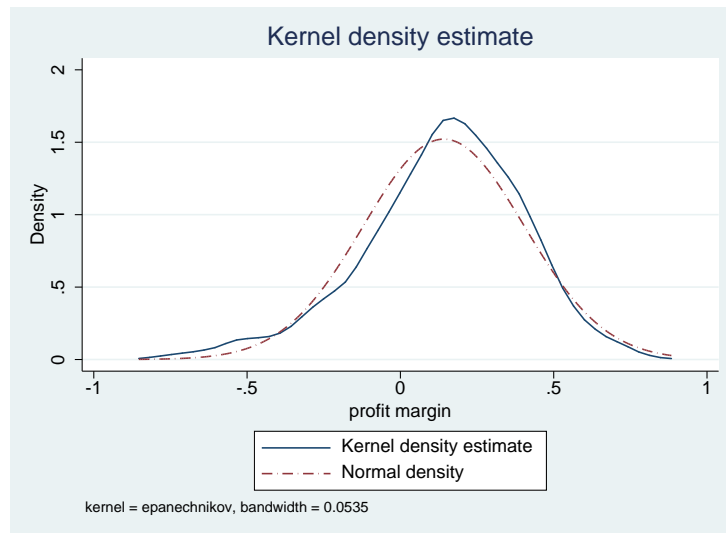
(b) Excluding Observations with Measurement Errors

Figure 2

Profit Margin Distribution

Kernel density distribution of profit margin. Panel B excludes observations with profit margins lower than -83%.
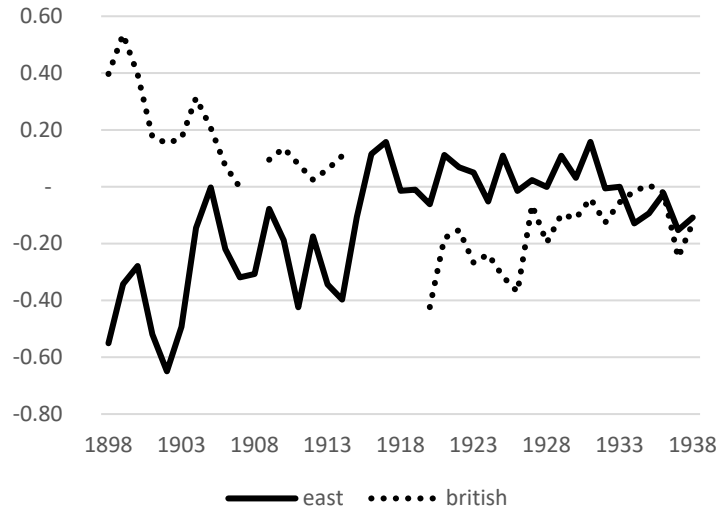
Figure 3
East and British Dummies over Time
The figure reports the coefficients of the British colony dummy and the East Africa dummy over time.

Table 1
Share of Exports to Colonizer

Colony	Colonizer/ Region	Share of Exports to Colonizer	Average
The Gambia	Great Britain / West	43%	
Sierra Leone	Great Britain / West	56%	53%
Ghana	Great Britain / West	57%	
Nigeria	Great Britain / West	57%	
Tanzania	Great Britain /East	27%	
Kenya-Uganda	Great Britain /East	40%	47%
Malawi	Great Britain /East	73%	
Togo	France	40%	
Cameroon	France	43%	49%
French Equatorial Africa	France	51%	
French West Africa	France	60%	

Share of export value to the colonizer. Average of all available years from 1898 to 1939. *Source:* RICardo Project database, available at http://ricardo.medialab.sciences-po.fr/#/).

Table 2
Summary Statistics

	Mean	Std. Dev.	Min	Max	average % price in Europe
price in Europe	48.2	35.7	6.6	249.9	100%
customs duties	0.18	1.02	0.00	18.40	0.4%
insurance	0.46	0.40	0.02	3.84	0.9%
port charges	0.35	0.28	0.02	2.91	0.7%
shipping	4.46	6.75	0.92	73.06	11.5%
price in Africa	34.8	28.4	1.5	290.6	72.1%
profit margin	14%	26%	-80%	83%	14.4%

Prices and trade costs in GBP/ton. N=1258. *Source:* see text.

Table 3
Colonizer Identity and Profit Margins

	(1)	(2)	(3)	(4)	(5)
British	-.100***	-.078**	-.095***	-.071**	-.028
	(.030)	(.032)	(.028)	(.030)	(.040)
East					-.133***
					(.045)
Year fixed effects		Yes		Yes	Yes
Commodity fixed effects			Yes	Yes	Yes
R^2	.04	.15	.05	.17	.19
N	1258	1258	1258	1258	1258

The dependent variable is the profit margin. Robust standard errors clustered at the territory level are reported in parenthesis. *** p<10%, **p<5%, *p<10.

Table 4
Colonizer Identity and Profit Margins: Robustness Checks

	(1)	(2)	(3)	(4)	(5)
British	-.028	-.025	-.030	-.046	-.048
	(.040)	(.033)	(.043)	(.045)	(.043)
East	-.133***	-.136***	-.124**	-.130**	-.134***
	(.045)	(.038)	(.050)	(.055)	(.044)
Central					-.059
					(.045)
Log (exported quantity)				.007	
				(.005)	
Log (distance to coast)		.011			
		(.024)			
Year fixed effects	Yes	Yes			Yes
Commodity fixed effects	Yes	Yes			Yes
Year/Commodity fixed effects			Yes	Yes	
Sample	Main	Main	Main	Main	Main
R^2	.19	.19	.35	.36	.19
N	1258	1258	1258	1258	1258

The dependent variable is the profit margin. Robust standard errors clustered at the territory level are reported in parenthesis. *** p<10%, **p<5%, *p<10%.

Table 5
Colonizer Identity and Profit Margins: Different Samples

	(1)	(2)	(3)	(4)	(5)	(6)
British	-.028	-.028	.009	.016	-.051	-.012
	(.040)	(.044)	(.044)	(.051)	(.042)	(.037)
East	-.133***	-.102*	-.197***	-.191**	-.112**	-.111**
	(.045)	(.055)	(.051)	(.072)	(.04)	(.047)
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Commodity fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Sample	Main	Include outliers	Include French East	Include both	Only single territories	Exclude estimated European prices
R^2	.19	.17	.21	.16	.18	.22
N	1258	1286	1314	1344	1097	1033

The dependent variable is the profit margin. Robust standard errors clustered at the territory level are reported in parenthesis. *** p<10%, **p<5%, *p<10.

Table 6

Explaining the East Africa Dummy: History of Trade and Presence of Settlers

Panel A

Dependent variable is profit margin

	(1)	(2)	(3)
British	-.028	-.045	-.045
	(.040)	(.053)	(.053)
East	-.133***	-.086	
	(.045)	(.086)	
Log (settler mortality)		.012	
		(.028)	
History of trade (10 years)		.003	
		(.005)	
East – residuals			-.086
			(.086)
Log (settler mortality)- residual			.051**
			(.027)
History of trade (10 years) – residual			.012**
			(.005)
Year fixed effects	Yes	Yes	Yes
Commodity fixed effects	Yes	Yes	Yes
R^2	.19	.19	.19
N	1258	1258	1258

Panel B

Dependent variable

	East	Log (settler mortality)	History of Trade
Ln (settler mortality)	-.180***		19.64**
	(.062)		(8.61)
History of Trade	-.027***	.114***	
	(.014)	(.037)	
R^2	.39	.22	.22

Robust standard errors clustered at the territory level are reported in parenthesis. *** p<10%, **p<5%, *p<10%.

Table 7

Colonizer Identity, Region, and Profit Margins: Analysis by Commodity

	cocoa	palm oil	coffee	cotton	groundnuts
British	-.010	.142***	.339***	-.190***	-.226***
	(.049)	(.041)	(.085)	(.051)	(.075)
East	-	-	-.266***	-.085***	-.219***
			(.055)	(.019)	(.071)
Year fixed effects	Yes	Yes	Yes	Yes	Yes
R^2	.29	0.30	.43	.53	0.51
N	214	294	215	246	227
			Differences		
British West - French West	-.010	.142***	.339***	-.190***	-.226***
British East - British West	-	-	-.266***	-.085***	-.219***
British East - French West	-	-	.073	-.275***	-.445***

Robust standard errors clustered at the territory level are reported in parenthesis. *** p<10%, **p<5%, *p<10%.