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From a common empire to colonial rule: Commodity market disintegration in the Near East

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Abstract

This paper investigates the impact of the disruption of the Ottoman Empire on the integration of regional and colonial commodity markets in the Near East. Exploiting a novel dataset on commodity prices in Syria, Egypt, Turkey, France, and the United Kingdom covering the 1787–1939 period, it assesses the extent of price dispersion across markets before and after the end of the Ottoman Empire and investigates the causes behind the change in market integration. The results indicate that, while regional markets disintegrated during 1923–39, reflecting the anti-global environment of the interwar era, colonial market linkages strengthened. The empirical findings also highlight that border effects, rather the rise of protection per se, were the main drivers behind the increase of regional price dispersion.

KEYWORDS
colonial linkages, interwar era, market integration, the Middle East, price dispersion

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> 'The ancestors of the London bankers were still roaming the wilds with clubs in their hands, when the Phoenician sails were plying a prosperous trade between Syria and Egypt. The Phoenician sails have long since gone beyond the horizon but the Syro-Egyptian trade continues. Twenty-five centuries of commercial relations bind the two countries together.'
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> Burns, *Tariff*, p. 82.

> '*Le marché syrien ne peut plus compter, comme par le passé, sur les marchés voisins* [. . .] *Peu d'exportations sur les pays limitrophes, Irak, Turquie, Egypte, dont les récents tarifs douaniers ne permettent aux produits syriens de n'en franchir que difficilement les frontières.*'[1]
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> *Bulletin Économique Trimestriel, 1930*, p. 802.

The break-up of empires, and more generally of political unions, is often accompanied by a worsening of economic ties among successor states, driven by the creation of new institutions, the introduction of new currencies, and new barriers to trade. One of the key negative repercussions of political disintegrations is the deterioration of trade linkages and the related worsening of market integration among newly formed political entities.[2] At the same time, the dissolution of political unions is not always associated with trade destruction: well-established economic linkages can persist in new institutional settings.[3] Indeed, countries with a strong history of trading with one another often tend to continue doing so.[4] Hence, whether the influence of historical trade ties persists in a new institutional environment is an empirical question.

This paper contributes to this debate by investigating the impact of the collapse of the Ottoman Empire on the integration of a set of commodity markets in three of its largest economic regions, Egypt, Turkey, and Syria (comprising modern-day Syria and Lebanon), during the interwar years (1923–39).[5] This historical period coincides not only with the end of political and institutional unity in the Near East (Turkey had been part of the Ottoman Empire since the fourteenth century, and Syria and Egypt since 1516/7) but also with the worldwide spread of protectionist practices, which contributed to lowering international trade flows and led to the disintegration of the global market.[6] Furthermore, while Turkey gained independence post-First World War, Egypt and Syria

[1] 'The Syrian market can no longer count, as in the past, on neighbouring markets. There are only few exports to neighbouring countries, Iraq, Turkey, Egypt, whose recent tariffs make it difficult for Syrian products to cross the borders.'

[2] Some examples of studies documenting the negative effect of the end of economic/political unions are Djankov and Freund, 'Trade flows', on the countries belonging to the former Soviet Union; Fidrmuc and Fidrmuc, 'Disintegration', on the dissolution of Yugoslavia, Czechoslovakia, and the Soviet Union; Head et al., 'Colonial trade', on the end of colonial ties; and Glick and Rose, 'Currency union', on countries leaving currency unions.

[3] The persistence of economic linkages after a political dissolution are documented, among others, by De Ménil and Maurel, 'Customs union', on Austria, Czechoslovakia, and Hungary after the end of the Austro-Hungarian Empire and Wolf, 'Border effects', on Poland after the First World War.

[4] Eichengreen and Irwin, 'Bilateral trade'.

[5] When using the term Syria, I refer to the Ottoman areas comprising the Syria, Aleppo, and Beirut Vilayets (provinces).

[6] Hynes et al., 'Market disintegration'. The extent to which trade policy mattered in the fall of global trade during the interwar years is still debated. While some downplay its role, others consider it a major contributor to the dramatic drop in trade; see De Bromhead et al., 'When Britain'.

did not, but rather were incorporated into two different empires: In accordance with the so-called Mandate system, established by the League of Nations, Britain retained control over Egypt, which was declared a protectorate, and Syria became administered by France.[7]

How did the abrupt end of centuries of shared economic relations under a single imperial authority impact Near Eastern markets? Did Syria and Egypt become increasingly involved in colonial markets, or did old ties persist? Did short-distance trade suffer more or less than long-distance trade during this period of de-globalization? Answering such questions is not straightforward, since two opposing forces impacted the integration of Near Eastern markets after they exited the custom union that united them under the aegis of the Ottoman Empire: one reducing trade costs (fostering integration), via improvements in infrastructure and in commercial institutions, and the other acting in the opposite direction, the product of increased protectionism and other forms of inter-imperial rivalries. In other words, exiting the Ottoman Empire exposed Near Eastern markets to: (i) increases in trade costs associated with changes to trade policy and break-up of common economic, financial, and legal institutions; (ii) decreases in trade costs associated with efficiency gains in the transportation network and the banking system; and (iii) the creation of new imperial connections with France and Britain for Syria and Egypt.

The empirical analysis used to answer these questions has two components: The paper starts by measuring the process of market integration among Near Eastern markets and between Near Eastern and European markets (Great Britain and France) from the long nineteenth century to the outbreak of the Second World War. This involves testing two separate conditions of the law of one price (LOP): price convergence and market efficiency. The former estimates the existence of a long-run relationship between markets (or lack thereof); the latter computes how quickly short-run price differences correct themselves if their long-run equilibrium is disturbed.[8] Specifically, I test the LOP first by illustrating trends in commodity price ratios, and then by measuring the extent of price transmission by computing error correction models in a panel setting, following Razzaque et al.[9] While such an approach is widely used in the literature, as attested by a large body of theoretical and empirical studies, the results from the efficiency analysis should be interpreted with caution due to the nature of the historical data used, whose temporal aggregation and infrequent sampling may lead to non-negligible biases in the convergence estimates.[10] Given that trade costs were not constant throughout the period of study, the market integration analysis is performed at intervals, identified with Bai and Perron structural break tests.[11]

After illustrating a decline in integration between regional markets following the end of the Ottoman Empire and an increase in price convergence between colonial markets (Syria and Egypt

[7] After the First World War, the former unification of the Middle East under a single imperial authority was substituted with nine separate states with their own custom regulations and currencies: Egypt, Syria, Lebanon, Transjordan, Iraq, Palestine, Turkey, Saudi Arabia, and Yemen. Only the latter three exercised full sovereignty. The League of Nations granted Britain the right to administer Transjordan, Palestine, and Iraq and France the right to administer Lebanon and Syria (Cleveland, *Modern Middle East*). While the Khedivate of Egypt was occupied by British forces in 1882, it remained an autonomous province of the Ottoman Empire until 1914, and was not part of the British Empire.

[8] See Federico, 'How much do we know', for a formal discussion on market integration and the fulfilment of these two separate conditions: price convergence and market efficiency.

[9] Razzaque et al., 'Long-run trend'.

[10] Taylor, 'Potential pitfalls'. See, for example, Coleman, 'Storage'; Fackler and Tastan, 'Market integration'; Federico, 'European markets'; Ghosh 'Agricultural policy'; Marks, 'Unity'; Özmucur and Pamuk, 'European commodity prices'; Studer, 'India'; Bateman, 'Evolution'. Federico, 'How much do we know', provides a thorough literature review of market integration within the field of economic history.

[11] Bai and Perron 'Structural changes'.

with their respective metropoles), the paper investigates the main causes behind these processes, using a fixed effects (FE) panel regression analysis at the city-pair–year level (1787–1939). The two key variables tested are a set of post-First World War border dummies, capturing border effects, and average tariff rates imposed by the importing countries, proxying the rise of protectionism.

The data used in the analysis have been hand collected from a combination of archival and primary sources. For the interwar period, they comprise quarterly wholesale commodity prices for a set of traded goods in Syria (Aleppo and Beirut), Egypt (Cairo and Alexandria), Turkey (Istanbul and Eskişehir), France (Paris), and Great Britain (London) between 1923 and 1939.[12] These are complemented with data on yearly Ottoman prices in Syria (Damascus), Egypt (Cairo), Turkey (Istanbul), Great Britain (London), and France (Paris) in the nineteenth century (until 1912/3). The disruptions caused by the First World War, data availability constraints, and different levels of data frequency (quarterly for the interwar period, yearly for the nineteenth century) make the construction of a continuous price time series linking the pre- and post-Ottoman periods challenging. For this reason the main econometric analysis is undertaken at the yearly level, focusing on three commodities whose prices are available both during and after the Ottoman era: wheat, sugar, and olive oil. Specifically, I create a yearly series during 1923–39 by averaging quarterly prices, which are then linked to the yearly pre-First World War prices, thus generating a balanced panel with gaps (there are no data between 1914 and 1923). The additional quarterly commodities prices available only during the interwar era are used in a robustness exercise to corroborate the baseline results on market (dis)integration.

The empirical findings indicate that, while the rise in tariff rates during the interwar era did not have a significant effect on price gaps, borders were the main cause behind the worsening of integration between Syria, Turkey, and Egypt post-First World War. The magnitude of the border effect is found to be relatively high, contributing to up to a 13 per cent increase in price differentials. These results are in line with the border puzzle literature, which finds that border effects are still very large today.[13] However, becoming part of the French and British empires contributed to maintaining Syrian and Egyptian markets relatively integrated with the respective metropoles.

Why did borders matter above and beyond the rise of protectionist trade policies? While it is difficult to pinpoint the exact mechanisms behind the importance of border effects, they are likely to be related both to the new legal and regulatory institutions established with the birth of new nation-states, and more broadly to the spread of nationalism as an ideology.[14] This went beyond the implementation of economic policies favouring domestic markets, and may have also reorientated business and consumer networks, whose preferences became increasingly more directed towards domestically made products. Nevertheless, it is important to point out that these results need to be interpreted with caution, given that protectionism is measured using average importer tariff rates, rather than product-specific ones, due to data limitations.

Overall, the results provide two novel insights. First, neither sharing a long commercial and institutional history nor the investments in trade cost-reducing infrastructure and banking during the interwar period were enough to offset other non-observable border impediments which segmented previously integrated markets. Second, while the Near East shared the same anti-global

[12] The Turkish prices available for the interwar sample (1923–39) are only barley and wheat, while coffee, flour, rice, oil, and sugar data start in 1926.

[13] For instance, de Sousa, Mayer, and Zignago, 'Market access', report that, on average, a country traded 493 times more intra-nationally than internationally in 1990.

[14] There is no consensus in the literature on an explanation for border effects; for example, see the discussion in Nitsch and Wolf, 'Tear down'.

developments of the international economy in terms of regional disintegration, its colonial markets experienced the opposite trend, reinforcing their linkages, a process facilitated by pegged currencies and preferential trade agreements. This process of trade diversion may have partially mitigated the welfare loss generated by forgone regional trade.

This paper speaks to various strands of the literature. First, it makes a distinctive contribution to the topic of regional integration: it brings new insights to the growing market integration literature by focusing on a period that has strikingly received very little attention, the interwar era, and on a relatively unexplored region, the Near East. Over the past decades, economists have made a concerted effort in examining the dramatic changes that affected national economies worldwide in the interwar years, but, as recently highlighted by Kevin O'Rourke, only very few works have empirically explored the disruption of commodity market integration and hence the deterioration of the process of international price transmission, which brought to a halt the globalizing trends of the previous decades.[15] Furthermore, most empirical work focuses on developed nations, with studies on the so-called 'periphery' being scarce. In particular, the Middle Eastern region has yet to be fully incorporated into this research agenda, with most of the existing literature being predominantly of qualitative nature.[16] To my knowledge this is the first empirical study on regional and international integration of the Near East during this period.[17] Second, by analysing the development of market linkages between Syria and Egypt in their transition from one common empire to two rival ones, this paper relates to the large literature studying the trade implications of the break-up of political unions and colonial ties.[18] Similar to Head et al., this paper shows that the end of an empire is associated with a worsening of imperial ties among former members, but it also points out that (regional) trade disruption was complemented by (colonial) trade creation.[19] This strengthening of colonial linkages is consistent with the process of decreasing multilateralism and increasing intra-imperial trade that characterized the interwar years, as recently documented by De Bromhead et al. and Arthi et al.[20] Third, my findings contribute to the border puzzle literature by comparing short-distance with long-distance integration (regional versus colonial) and highlighting that border effects are important dimensions influencing trade and integration in the context of political dissolutions.[21]

The paper is structured as follows: I first provide background information on historical trade patterns in the Middle East before the disruption of the Ottoman Empire and during the interwar

[15] O'Rourke, 'Economic history'. Important exceptions are Arthi et al., 'Interwar protection'; De Bromhead et al., 'When Britain'; Hynes et al., 'Market disintegration'; Trenkler and Wolf, 'Economic integration'; Estevadeordal et al., 'World trade'.

[16] Quataert, *Manufacturing;* Issawi, *Middle East and North Africa*; Tignor, *Egyptian textiles*; Owen and Pamuk, *Middle East*. Notable exceptions using quantitative methods are Hansen, *Egypt and Turkey*; Yousef, 'Growth performance'; and Karakoç 'Industrial growth'.

[17] The only study on integration in the Middle East during the interwar era is Yousef 'Egyptian commodity markets', which focuses on Egypt's internal markets only.

[18] Libman and Vinokurov, *Holding-together regionalism*; Head et al., 'Colonial trade'; Redding and Sturm, 'Remoteness'; Grafe et al., 'Beyond borders'; De Sousa and Lamotte, 'Disintegration'; Fidrmuc and Fidrmuc, 'Disintegration'.

[19] Head et al., 'Colonial trade'.

[20] De Bromhead et al., 'When Britain'; Arthi et al., 'Interwar protection'.

[21] Anderson and Van Wincoop, 'Gravity'; Broda and Weinstein, 'International price differences'; Disdier and Head, 'Distance effect'; Berthelon and Freund, 'Distance'; Schulze and Wolf, 'Border effects'; Versailles, 'Market integration'; Aker et al., 'Borders'; Brenton et al., 'Food prices'; Bergstrand et al., 'Economic integration'. The border puzzle refers to the fact that national borders create obstacles to trade above and beyond the existence of explicit trade restrictions; see McCallum 'National borders'.

era, drawing attention to the commercial ties between Syria, Egypt, and Turkey (section I). I then analyse the factors which impacted on the degree of market integration, focusing on the role of trade policy, transport networks, and commercial institutions (section II). After presenting the dataset and describing the methodology used in the empirical analysis (section III), I discuss the empirical findings (section IV). Section V concludes.

I | HISTORICAL TRADE PATTERNS IN THE NEAR EAST

The Near East became progressively more integrated with the international economy during the first wave of globalization (first half of the nineteenth century to 1914), thus following the same path of many other regions of the world.[22] Declining trade costs from the mid-nineteenth century led to a spectacular increase in trade flows in most Ottoman provinces.[23] Such changes were particularly dramatic in Egypt, whose openness and integration with the world economy were the highest in the whole Ottoman realm.[24] Moreover, Egypt's linkages with Great Britain were strengthened after colonization in 1882, when it withdrew from the Ottoman custom union and signed a separate trade treaty with the Empire.[25] While trade with Europe grew also in the other parts of the Empire, intra-Ottoman commerce continued to represent a larger portion of trade of most Middle Eastern regions during the nineteenth and early twentieth centuries, facilitated by the de facto absence of internal trade barriers.[26] For example, in 1862 the value of Ottoman imports in the province of Damascus was five times greater than that of non-Ottoman goods.[27] In 1892, 80 per cent of all Damascus's exports were directed to the Empire.[28] While Egypt's trade with Europe started growing much earlier than the rest of the Empire, Egyptian regional trade figures were not negligible: for instance, imports from other parts of the Ottoman Empire covered about 20 per cent of Egyptian average annual imports in 1884.[29]

This descriptive evidence on internal Ottoman trade is validated empirically by Li et al., who establish the existence of strong market integration within the Ottoman Empire during 1586–914, using a variety of commodities across major cities.[30] Section IV further corroborates these findings

[22] See Issawi, *Middle East*; Owen, *Middle East*; Islamogu-Inan, *Ottoman Empire*; Kasaba, *Ottoman Empire*; Pamuk, *Ottoman Empire*; Pamuk, 'Prices'; Panza, 'Globalization'; Inalcık and Quataert, *Economic and social history*. For a discussion on the timing of the first wave of globalization, see Federico and Tena-Junguito, 'Two globalizations'.

[23] Harlaftis and Kardasis, 'International shipping'. Trade rose from 9 million Turkish lira in 1830 to 45.9 million in 1910–13 (Owen and Pamuk, *Middle East*, p. 4).

[24] See Panza, 'Globalization', for a study of market integration comparing the Egyptian and the western Anatolian cotton markets. Egypt's trade with Europe was conspicuous, with about two-thirds of Egypt's exports going to Britain and over one-third of its imports coming from there at the turn of the century (Musrey, *Arab common market*, p. 200, footnote 9).

[25] The trade treaty imposed a reciprocal 8 per cent *ad valorem* import tax. This continued to hold after the Ottoman imperial tariff increase to 11 per cent in 1907.

[26] Ottoman international exports formed around 25 per cent of Ottoman agricultural production so that the remaining 75 per cent stayed within the Empire (Inalcık and Quataert, *Economic and social history*).

[27] See Inalcık and Quataert, *Economic and social history*, pp. 836–7, for a detailed account of intra-Ottoman trade flows.

[28] Peter, 'Dismemberment', p. 418. These exports included primary commodities such as barley, millet, livestock, legumes, and wine, but also manufactures such as silk and cotton textiles.

[29] Musrey, *Arab common market*, p. 200.

[30] Li et al., 'The evolution'.

by providing quantitative evidence on the degree of integration between Egypt, Syria, and Turkey during the nineteenth century.

The First World War led to the political and economic dismantlement of the Empire, marking the end of its large free trade area and the beginning of significant economic divisions within the Middle East. The dissolution of the Ottoman Empire gave origin to a set of countries with separate customs and distinct currencies. The Republic of Turkey was established as an independent country in 1923, after a three-year War of Independence; the ensuing Peace Treaty of Lausanne constrained the country's ability to pursue independent commercial and tariff policies until 1929.[31] France obtained a mandate over Syria, comprising the states of Syria, Greater Lebanon, Jabal al-Duruz, Latakia, and the Sandjak of Alexandretta. The official currency became the Syrian pound, tied to the French franc.[32] Egypt became a British protectorate in 1914, and while it was unilaterally declared independent by Britain in 1922, this was only a nominal independence, and full independence was achieved in 1952.[33] In fact, the economic and political ties between the two countries remained very strong during the whole interwar period: the British High Commissioner held powers with a strong potential for intervention in Egyptian economic matters since London reserved rights over four areas: defence, imperial communications, the Sudan, and the protection of foreign interests.[34] Furthermore, the Egyptian pound remained pegged to the pound Sterling.

For Syria and Egypt, trade with the mandatory powers (France and Great Britain) became increasingly more important after the dissolution of the Empire: it was facilitated by tied currencies, preferential commercial agreements, foreign investments, and foreign political control. During the late 1920s over one-third of Egypt's exports went to and around one-fifth of its imports came from Great Britain.[35] France was one of Syria's leading trade partners, accounting for about one-sixth of Syrian imports and exports.[36]

Despite economic and political fragmentation, inter-Arab trade still constituted a substantial share of the total trade of most countries during the 1920s, aided by moderate tariff rates. Over one-third of Syrian exports went to and around one-tenth of its imports came from the region, with Egypt and Palestine being its most important partners.[37] Until the late 1920s there was still a semblance of a regional market in the Near East, which constituted an important outlet for foodstuffs and other agricultural commodities, as well as for a small number of manufactured goods produced in the region.[38] In the 1930s this market shrank, owing to a series of intertwined global and domestic factors, namely the Great Depression, tariff escalation, and monetary

[31] *Ad valorem* duties on imports were kept at the 1916 Ottoman rate of 11 per cent until May 1929 (Hansen, *Egypt and Turkey*, p. 311).

[32] On 1 April 1920 the French High Commissioner emitted a decree for the establishment of a new Syrian paper currency based on the French franc. Thus, the Syrian pound, equivalent to 20 francs and divisible in 100 piasters, became the unit of currency, replacing the Turkish gold pound (Himadeh, *Economic organization*, p. 264).

[33] Armbrust, 'National culture'.

[34] In Egypt, a Department of Foreign Affairs was created in the Ministry of Interior to safeguard foreign interests, which benefitted from a series of tax exemptions allowed by the so-called capitulations (Tignor, *Egyptian textiles*, p. 47). Moreover, British officials continued to play a fundamental role in the upper strata of the bureaucracy.

[35] Musrey, *Arab common market*.

[36] Méouchy and Sluglett, *British and French Mandates*.

[37] See Appendix table A1 for evidence of bilateral trade between Egypt, Syria, and Turkey for selected commodities in 1923, 1924, and 1930.

[38] Musrey, *Arab common market*.

policy developments. In fact, the international economy experienced a reversal of the trade-creating forces which had shaped it since the early nineteenth century.[39] The dramatic reduction in prices and output after the Great Depression led to an intensification of protectionist trade policies worldwide, which remained a widespread practice throughout the interwar era. For one thing, economic nationalism, which had not previously been a significant factor in inter-Arab trade relations, began to assert itself, mirroring a global trend. Furthermore, the deterioration of economic relations in the Near East was a manifestation of the rivalry between the French and the British Empire. The division of the world into currency blocs (dollar, sterling, and franc) had repercussions on the Near East, weakening trade linkages among countries belonging to different blocs.

II | ANALYTICAL FRAMEWORK

To assess the impact of the end of the Ottoman empire on regional and colonial markets, this section proceeds in two steps. First it measures the degree of price dispersion between markets before and after the establishment of new borders, drawing from the classic paradigm of the LOP, as specified by the standard spatial price determination model of Takashi Takayama and George Judge.[40] Second, it investigates the causes behind the change in the extent of market integration. Policies that impede the transmission of price signals, such as government-induced distortions (tariffs, quotas, subsidies, etc.), restrictions to firms' entry due to imperfectly competitive market structures, or asymmetric access to information, weaken the linkages between two trading economies, hindering, or *in extremis* preventing, markets from integrating. Conversely, policies that reduce trade or transactions costs across locations facilitate the process of price transmission. I identify two opposing forces that influenced arbitrage opportunities between Near Eastern markets. First, a series of factors, such as rising protectionism, particularly tariff escalation in the 1930s, as highlighted in section I, may have acted against market integration. These were reinforced by the practice of competitive devaluations, first of the Egyptian pound (1931) and subsequently of the Syrian pound (1936), which contributed to increased price fluctuations in both markets, and triggered further beggar-thy-neighbour policies.[41] Second, the establishment of Egypt/Britain and Syria/France preferential trade agreements may have further weakened regional ties to the gain of colonial ones. All these forces were linked to an increase in the price differentials between trading markets, potentially leading to their disintegration.

At the same time, other factors may have favoured integration: the relative low rates of protection in Turkey until 1929 and Egypt until the early 1930s, the expansion and improvements of infrastructure in all three countries, and the development of better commercial institutions which

[39] Uebele, 'Market integration'. One of the major causes for such an environment has been identified with the failure to dismantle the system of protectionist trade policies put in place during the First World War (see, e.g. Eichengreen, *Golden fetters*; Estevadeordal et al., 'World trade').

[40] Takayama and Judge, *Spatial and temporal*.

[41] Currency pegs to the franc and to sterling implied a renewed commitment to the gold standard. Countries of the sterling bloc, such as Egypt, had an overvalued exchange rate, as the British pound fixed its value at the prewar gold parity, despite the considerable change in financial strength and competitiveness. In contrast, the French franc's devaluation at one-fifth of its prewar parity gave Syria an initial competitive advantage over other countries in the region. Turkey had initially pegged its currency to the British Pound (1930); then pegged it to the French Franc in 1931 when Britain left the gold standard, concerned about exchange rate fluctuations. In 1936 the Turkish government continued to maintain the same implicit gold parity policy, linking the lira to the Reichsmark (Hansen, *Egypt and Turkey*).

lowered transport costs and transaction costs. The next paragraphs take a closer look at these two opposing factors.

After the First World War, Syria's duties were raised progressively from the old Ottoman rate of 11 per cent *ad valorem*: In 1926 they ranged between 25 per cent and 50 per cent. In contrast, Turkey kept the old Ottoman rate until 1929, and Egypt continued to apply a uniform 8 per cent *ad valorem* tariff on most imports until 1930. From the 1930s all three countries started raising their levels of protection. Both Turkey and Egypt introduced new tariffs to encourage industry and to protect agricultural interests.[42] In Egypt, a new general duty of 15 per cent was put in place together with specific duties applicable to a series of goods, reaching 25 per cent: duties rose particularly on fruit, cereals, and vegetables, which represented most of Syrian and Turkish exports to Egypt, and continued to grow over time. Despite the devaluation of the Egyptian pound in 1931, due to British abandonment of the gold standard, duties kept rising throughout the 1930s.[43] In Syria, too, import duties were raised substantially during the early 1930s, including the tariff rate on rice, the main import from Egypt, as retaliatory measure. In 1930, Syria's 10 main exports to Egypt were subjected to an average weighted duty of 21.1 per cent, whereas the 10 main Syrian imports from Egypt bore an average weighted duty of 14.6 per cent (see Appendix table A2). Syria raised its tariffs along with Turkey in 1930, and the latter lost the preferential treatment status it enjoyed relative to other League of Nations members. This was a retaliatory measure against Turkey's application of the maximum tariff rates to Syrian products since 1929, defined as prohibitive by the Aleppo Chamber of Commerce.[44]

After adopting a new tariff policy in June 1929, Turkey's average *ad valorem* equivalent tariff increased from 13 per cent to 46 per cent in 1930, and to more than 60 per cent by the second half of the 1930s.[45] Consumption goods were taxed ever more heavily than raw materials and intermediate goods.[46] The use of aggressive tariff barriers led to a reduction of regional trade, particularly affecting the major traded goods with Syria and Egypt, such as wheat, barley, soap, and olive oil.[47]

The escalation of protectionism continued during the 1930s.[48] The Syrian pound was devalued in 1936, and again during 1937, so that it depreciated by around 50 per cent. Duties were further raised by 15 per cent in 1936, followed by an additional 20 per cent in 1938. Turkey's exchange rate policies resulted in the appreciation of the lira. To improve the current account, the government supplemented tariffs with import quotas in 1931, which led to a severe 60 per cent reduction in imports between 1929 and 1933.[49] By the second half of the decade, more than 80 per cent of the country's foreign trade was being conducted under clearing and reciprocal quota systems.[50]

[42] Hansen and Nashashibi, *Foreign trade*.

[43] Musrey, *Arab common market*; Burns, *Tariff*.

[44] Burns, *Tariff*. Both Turkish and Syrian commercial groups complained about the harmful effects of the reciprocal rise in tariffs.

[45] Pamuk, 'Intervention'.

[46] Karakoç, 'Economic growth'.

[47] Ibrahim, *Syrian foreign trade*; Burns, *Tariff*.

[48] In April 1933 Egypt imposed a surtax of 100 per cent on Syrian imports, and in August 1933 Syria subjected Egyptian imports to its maximum duties, which were twice the normal rate. While a formal provisional most-favoured-nation agreement was signed in 1934, Egypt's tariff increase at the end of the 1930s and Syria's multiple devaluations did not aid a reinstatement of pre-depression trade relations.

[49] Hansen, *Egypt and Turkey*. Most quantitative trade restrictions were abolished in July 1937 (Karakoç, 'Economic growth').

[50] Pamuk, 'Intervention'.

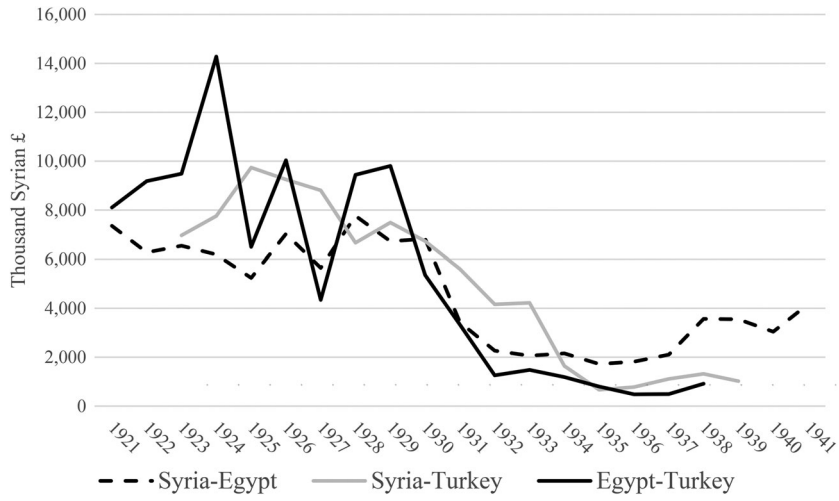

FIGURE 1 Trade between Syria, Egypt, and Turkey, 1921–41, in thousand Syrian £. *Sources*: Syria–Egypt: 1921—4: Haut Commissariat de la République Française en Syrie et au Liban (1927); 1925—33: Himadeh, *Economic organization*; 1934: Bulletin Économique Trimestriel (1934); 1935—41: Saade, *L'Agriculture*. Syria–Turkey: 1923, 1934–38: Bulletin Économique Trimestriel; 1924–33: Himadeh, *Economic organization*. Egypt–Turkey: Turkish Statistical Institute (2012).

Consequently, trade relationships between the three countries deteriorated remarkably, as shown in figure 1, which is illustrative of the timing of the onset of protectionism in each country; for instance, Syria's exports to Egypt experienced an 85 per cent decline between 1930 and 1933, when the latter adopted a policy of tariff escalation.[51] Similar patterns can be observed in Egypt–Turkey and Syria–Turkey bilateral trade.[52]

Syria, Turkey, and Egypt underwent a process of infrastructural development during the interwar period, which is associated with a reduction of transport costs domestically, regionally, and internationally. While such improvements in infrastructure were not explicitly directed at reducing regional trade costs, but rather were part of broader colonial efforts at improving transport networks in Syria and Egypt and of a state-led modernization effort in Turkey, regional trade indirectly benefitted from these trade-cost-reducing innovations. In Egypt, shipping costs dropped due to a series of improvements of the transport system.[53] The railway network expanded, and cost of rail transport declined constantly, in response to an increase in motor competition.[54] A further downward pressure on railway rates was the result of a government policy aimed at encouraging

[51] In fact, while during the 1920s Syria had exported to Egypt a substantial amount of different agricultural commodities, as well as various types of textiles, by 1939 Egypt imported only a limited range of Syrian goods (Musrey, *Arab common market*).

[52] The deterioration of the Egypt–Syria–Turkey trade relation was paralleled by an analogous worsening of the whole of Middle Eastern regional commerce. Similar policies of protectionism coupled with competitive devaluations were adopted by most countries of the region.

[53] Issawi, *Egypt in revolution*.

[54] Railways' length increased from 1900 miles in 1914 to 2268 miles in 1939 (Hansen, *Egypt and Turkey*). While water transportation along the Nile represented another source of competition, most commodities were transported by train due to the quicker delivery time and to the fact that river transport was not much available in Lower Egypt (Fahmy, 'Inquiry').

both exports and local production. Also international transport costs were reduced, through a series of subsidies granted to Egyptian shipping companies, which expanded their merchant fleet.

In Syria, the French administration embarked on an extensive program of transport development.[55] Road building was expanded systematically, based on the construction of three longitudinal trunk lines, each traversing one of the plains running parallel to the coast, and a series of transverse lines joining the plains by connecting them across the mountain ranges.[56] Rail tracks expanded considerably between 1914 and 1938, and as in Egypt, rail rates experienced a sharp decline starting in 1928, due to increased competition from motor vehicles.[57] Shipping facilities improved, too: in particular, the port of Beirut expanded, doubling in size, and was endowed with larger warehouses. Postal and telegraphic services experienced considerable progress, strengthening regional communications. Moreover, the first telephone lines were installed both within the Syrian territory and in connection with Palestine, Transjordan, and Egypt.

In Turkey the extension of state-sector activities in the economy involved the expansion of infrastructure. Almost half of all public sector investments during the 1930s went to railway construction and other forms of transportation, with the aim of creating a politically and economically cohesive state within the new boundaries.[58] The rail network almost doubled between 1925 and 1940 (growing from 3800 to 7381 km). Postal, telegraphic, and phone services expanded considerably, too.[59]

Furthermore, the interwar period saw the consolidation and expansion of a series of institutions focusing on trade, particularly commercial banks. In Egypt, some of the gaps of the credit system were filled by the creation of specialized, government-sponsored banks which facilitated trade transactions.[60] The foundation of the Egyptian Chamber of Commerce in Cairo was followed by the formation of more commercial banks in the 1920s easing both domestic and international trade. A particularly important role was played by Bank Misr, the first purely Egyptian-owned and -managed institution, mirroring the rise of the Egyptian merchant and business community. The increase in the capital base of the bank facilitated the availability of credit for import–export activities.[61] Its special linkages with Syria consolidated trade relations between the two countries. Moreover, new multinational bank branches dealing with domestic and international trade were opened: British and French banks, already widespread before the First World War, were joined by Italian and Belgian ones.

In Syria both foreign and domestic banks expanded the scope of their operation in the 1920s and 1930s, with commercial banking representing a major component of their activities. French banks opened new branches in different Syrian cities, all dealing with foreign trade.[62] Another chief

[55] French policymakers became particularly active from 1933/4 with the appointment of Count Damien de Martel as new High Commissioner, who established a six-year plan to promote the development of roads, railways, ports, and irrigation (Gates, *Merchant republic*, p.31).

[56] Himadeh, *Economic organization*.

[57] Grunwald and Ronall, *Industrialization*. Himadeh, *Economic organization*, pp. 184–5, reports that from 1928 railway rates were modified from week to week to meet this competition and that the freight rate dropped from 5.62–8.10 Syrian piasters per ton in the late 1920s to 1–2 piasters per ton in the mid-1930s.

[58] Pamuk, 'Intervention'.

[59] Turkish Statistical Institute, *Istatistik Göstergeler*.

[60] Issawi, *Egypt in revolution*, p. 33.

[61] Tignor, *Egyptian textiles*.

[62] Examples are the Banque Française de Syrie; the Crédit Foncier d'Algérie et de la Tunisie, which opened its first branches in Syria in the 1920s; the Compagnie Algérienne, which expanded to Beirut (1931) and Tripoli (1932); and the Banco di

banking establishment contributed to improving commercial operations, particularly between Syria and Egypt: the Banque Misr-Syrie-Liban. It was founded by the Bank Misr in collaboration with a group of Syrian financiers with the aim of improving trade and economic relations between the two countries.[63]

In Turkey the government promoted the expansion of credit both through state-owned and private banking.[64] This was part of a broader policy aimed at increasing the economy's monetization and commercialization, a process which also involved foreign banking: Between 1923 and 1932 more than five foreign banks opened branches.[65]

The development of national transport systems and better shipping facilities were associated with a general reduction in transaction costs. Furthermore, the improvement of commercial bank networks facilitated access to information and may have improved the process of price transmission both between the three countries and between the Near East and the international market.

III | DATA AND EMPIRICAL STRATEGY

One of the key contributions of this paper stems from the creation of a new dataset of Syrian, Turkish, and Egyptian prices for the interwar era and the Ottoman period. The interwar era data have been compiled using the following primary sources: the *Bulletin Économique Trimestriel des pays sous Mandat Français* for Syria; the *Annuaire Statistique de l'Egypte* for Egypt; and a combination of primary sources, as detailed in the data appendix, for Turkey. Specifically, I collected quarterly wholesale prices for seven commodities commonly used by Egyptian and Syrian consumers in Alexandria, Cairo, Beirut, Aleppo, Istanbul, and Eskişehir: barley, coffee, flour, olive oil, rice, sugar, and wheat. All prices have been converted in £GB per kg and are presented in Appendix figures A1 and A2 (see details in the data appendix). British price data (barley, rice, sugar, and wheat) for London are from the *London Gazette*, and French price data (barley, flour, rice, and wheat) for Paris are from the *Annuaire Statistique de la France*.

Ottoman yearly price data for wheat, olive oil, and sugar in Syria (Damascus), Egypt (Cairo), and Turkey (Istanbul) have been collected from the *Diplomatic and Consular Reports on Trade and Finance*, combined with a set of secondary sources, as outlined in the data appendix. Nineteenth-century French and British wholesale wheat price data are from Giovanni Federico et al.[66]

The baseline econometric analysis focuses on the three commodities for which there are data both before and after the dissolution of the Ottoman Empire – wheat, olive oil and sugar – and is conducted at the yearly level. The yearly price series for the interwar period has been created by averaging quarterly data, and then linked to pre-First World War price data. While this is the

Roma, which established three branches in Beirut, Aleppo, and Damascus after the First World War (Himadeh, *Economic organization*, pp. 287–8).

[63] Himadeh, *Economic organization*, p. 290.

[64] For instance, the first commercial bank founded by the Turkish Republic, Turkiye Is Bankası, was established in 1924 through a mix of state-owned and private capital. The agricultural bank Ziraat Bank promoted agricultural mechanization and commercialization. Denizbank was created to give incentives to maritime development (Gormez, 'Banking in Turkey').

[65] Gormez, 'Banking in Turkey'.

[66] Federico et al., 'European goods'. Sugar and olive oil prices in London and Paris are not available for the same years as Ottoman ones.

best price series I can create given data availability, it is important to highlight that both data aggregation and the linking of two price series which were likely sampled in different ways may generate possible biases in the LOP analysis.[67] Specifically, time averaging and low frequency temporal aggregation are problematic because they bias the findings towards a long half-life (slow convergence). The upward bias arises from the fact that price data are not observed at regular intervals (say, at the end of the month or quarter) but rather at irregular points in time and then averaged. This sampling issue affects both datasets.[68]

The data on tariff rates used in the panel regressions are from Inalcık and Quataert for the Ottoman Empire[69]; for the interwar era they are from *Bulletin Economique Trimestriel des pays sous Mandat Français* for Syria; Bent Hansen for Egypt; and Hansen and Ulaş Karakoç for Turkey.[70]

As introduced in section II, market integration is analysed drawing from the so-called weak form of the LOP, identifying the following relationship between prices:

$$y^{B}_{(i,t)} - y^{A}_{(i,t)} = c^{BA}_{i,t}, \tag{1}$$

where subscript i stands for different commodities, t denotes a year, A and B refer to two locations, and $c^{BA}_{i,t}$ to the cost of trading i from B to A. Such a relationship constitutes an equilibrium condition since spatial arbitrage will ensure that $y^{B}_{i,t}$—$y^{A}_{i,t}$ will move towards $c^{BA}_{i,t}$.

In the empirical analysis I first focus on the fulfilment of Equation (1), which represents the existence of price convergence (or low dispersion) between locations. This will be illustrated analysing trends of price ratios between pairs of markets, following a well-established tradition in economic history which defines a market as integrated if the price ratio between two trading locations shrinks over time, thus embodying a process of price convergence.[71]

While available data from primary and secondary sources document that the commodities included in my dataset were traded throughout the Near East, such evidence is not systematic.[72] Hence, I use the log price difference paid for the same good in each city-pair as a direct measure of deviations from the LOP: as a result, the full set of cities is included in the analysis.[73]

Next, I focus on a second aspect of the LOP, market efficiency, and estimate the extent and speed of price convergence across locations. Specifically, the rate of convergence and the half-lives are

[67] Taylor, 'Potential pitfalls'.

[68] The primary and secondary sources consulted to collect the data have scarce documentation on how the price data have been aggregated, and simply refer to the series as being 'annual averages' or 'quarterly averages'. This is unfortunately a very common problem in historical data, and often overlooked by researchers. Taylor, 'Potential pitfalls', points out that even the International Monetary Fund (IMF) International Financial Statistics, one of the international datasets most widely used to test for the LOP, is plagued by the same problems: infrequent sampling and lack of transparency on how the data has been averaged.

[69] Inalcık and Quataert, *Economic and social history*.

[70] Karakoç, 'Economic growth'. Hansen, *Egypt and Turkey*.

[71] Metzer, 'Railroad'; O'Rourke and Williamson, 'Factor-price convergence'; Federico, 'Commodity market integration'.

[72] See Appendix table A1 for the interwar era. Note that comprehensive information on product-specific bilateral trade flows covering the entirety of the historical period analysed is not available.

[73] An essential condition for markets to be integrated is that such markets are actually trading. In the absence of such evidence, it is common practice to include as many city-pairs as possible in the price dispersion analysis (Federico, 'Market efficiency'; Broda and Weinstein, 'International price differences'; Grafe et al., 'Beyond borders'; Brenton et al., 'Food prices').

computed using the following regression set up à la Razzaque et al.:[74]

$$\Delta lnPrice\ ratio_t = \alpha + \beta T + \psi lnPrice\ ratio_{t-1} + \gamma \Delta lnPrice\ ratio_{t-1} + \varepsilon_t, \quad (2)$$

where $lnPrice\ ratio_t$ represents the value of the log price ratio between two cities. t is a yearly time trend. ψ represents the error correction model coefficient: Having a statistically significant ψ and $-1 < \psi < 0$ implies that the lagged price ratio is negatively related to its current level. In this case, short-run deviations from equilibrium will return to a steady state long-run trend path. The rate of convergence in Equation (2) is computed as $-(\beta/\psi)$, and the null hypothesis of zero convergence is tested with a non-linear Wald test. $\Delta lnPrice\ ratio_{t-1}$ is included to address possible serial correlation. While this type of estimation is widely used in the literature, issues of data quality and aggregation may bias the results towards finding a slow convergence rate, as highlighted in the data description above.

Equation (2) is computed for each commodity in a city-pair panel setting. To distinguish periods of convergence from those of divergence, I test for structural breaks for each commodity using Bai and Perron tests in a panel set up, allowing both the constant and the slope to vary.[75] Both the trend analysis and the efficiency analysis are estimated for each sub-period identified by such breaks.

Finally, I investigate the effect that border changes, trade costs, and protectionism had on the process of integration, using the complete panel of price ratios between all possible city-pairs in the sample, drawing on more than 2400 observations.[76]

I estimate the following empirical specification:

$$lnPrice\ ratio^{c}_{ij,\,t} = \alpha + \beta_1 border_{ij,t} + \beta_2 lndist_{ij} + \beta_3 tariff_{ij,t} + \beta_4 Great\ Depression + \delta_i + \delta_j + \theta_t + \gamma_c + \lambda\ TIME_{ij} + \varepsilon^{c}_{ij,t} \quad (3)$$

where $lnPrice\ ratio^{c}_{ij,\,t}$ is the log price ratio for commodity c in city-pair $i\,j$ at year t; *border* is an exogenous dummy variable taking the value of 1 for city-pairs belonging to different Near Eastern countries after the dissolution of the Ottoman Empire. The lack of comprehensive data on transportation costs such as freight rates, railways, or paved road length prevents me from having a direct measure of transport costs; instead, they are proxied by the great circle distance between i and j ($lndist_{ij}$) and by city-pair specific time trends ($\lambda TIME_{ij}$), accounting for changes in transaction costs, such as improvements in road quality and investments in infrastructure and in the overall efficiency of the market.[77] *tariff* represents the *ad valorem* tariff rate imposed by the importing city; *Great Depression* includes dummy variables for years 1929–33, when Middle Eastern economies introduced further beggar-thy-neighbour policies (beyond tariff increases) such as quotas and exchange controls;[78] δ_i and δ_j include a set of city dummies to capture unobservable factors varying at the city level. θ_t is a vector of time fixed effects, and γ_c is a full set of dummies to capture unobservables at the commodity level, while $\varepsilon^{c}_{ij,t}$ is an independent and identically

[74] Razzaque et al., 'Long-run trend'.

[75] Bai and Perron 'Structural changes'.

[76] Since all city-pairs are included in the analysis, Equation (3) has a difference-in-difference set-up, where city-pairs in the same country/empire represent the control group.

[77] Both distance and time trends are commonly used in the literature as proxies for trade costs; see, for instance, Federico 'Market efficiency'; Broda and Weinstein, 'International price differences'; Schulze and Wolf, 'Border effects'.

[78] Pamuk, 'Intervention'.

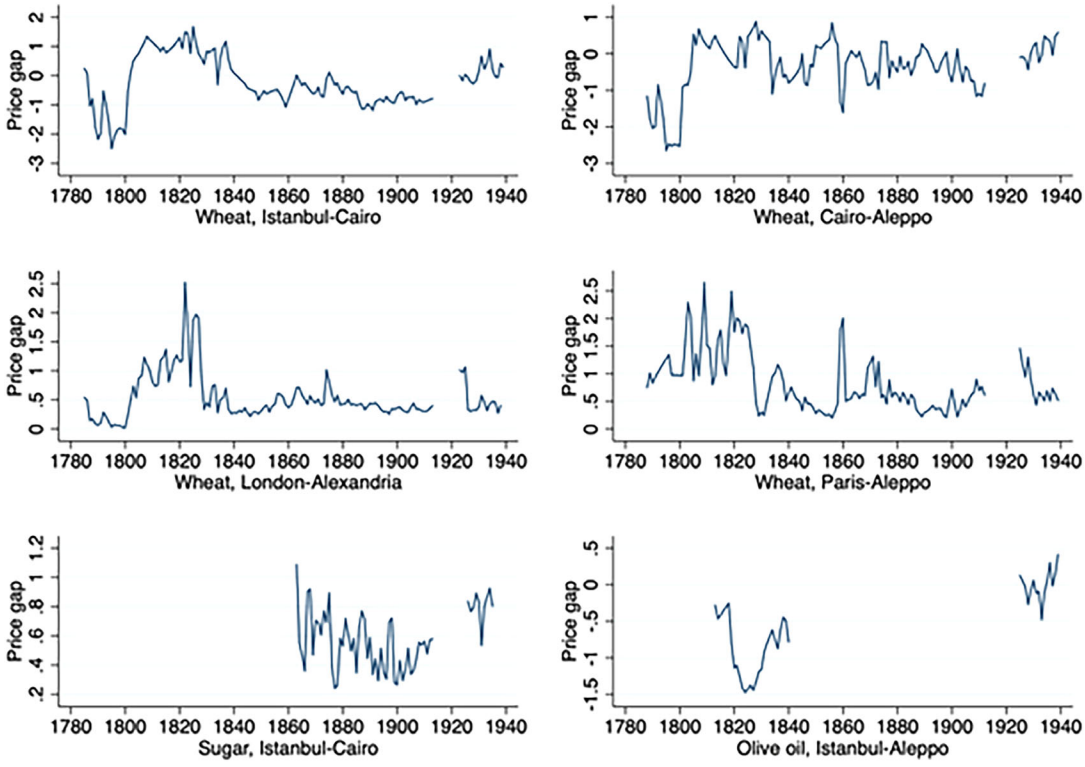

FIGURE 2 Price ratios, selected markets. *Notes*: Log price ratio, selected goods, and city-pairs. *Sources*: See section III and the data appendix. [Colour figure can be viewed at wileyonlinelibrary.com]

distributed (IID) error component. Standard errors are clustered at the city-pair level, given that this is the level of treatment.[79]

IV | EMPIRICAL FINDINGS

Figure 2 illustrates the price ratios of some representative series. They point to an initial decrease in dispersion across Near-Eastern city-pairs at the end of the eighteenth century, followed by a rapid increase in price gaps until the early 1820s, likely due to the disruptions of the Napoleonic campaign in Egypt and Syria and its aftermath, and then by a narrowing of price differentials in the nineteenth century.[80] We can also observe that, while colonial markets continued to experience declining price gaps during the interwar period, price ratios in regional markets underwent the opposite trend and started widening.

Table 1 reports the results of the trend analysis based on the breaks identified with the Bai and Perron tests in the constant and the slope. To be clear, the dependent variable in each regression is $lnPrice\ ratio_t$, and the only independent variable is the time trend. The first and

[79] Cunningham, *Causal inference*; Abadie et al., 'Standard errors'.

[80] Mansfield, *A history*.

TABLE 1 Trend analysis of price ratios: wheat, sugar, and olive oil

	Pairs (*N*)	N	Trends	Total change (%)
Wheat, Near East				
1790–99	12	130	−0.096***	−0.742
			(0.016)	
1800–46	12	564	−0.002	−0.699
			(0.002)	
1847–1913	12	796	−0.006***	−0.979
			(0.001)	
1923–39	12	186	0.022**	2.172
			(0.010)	
Wheat, Near East–Europe				
1788–99	4	54	−0.042***	−1.626
			(0.011)	
1800–26	4	108	0.042***	2.631
			(0.011)	
1827–1913	4	346	−0.003***	−0.367
			(0.001)	
1923–39	4	64	−0.018**	−3.547
			(0.007)	
Sugar, Near East				
1863–73	2	20	−0.011	−0.133
			(0.018)	
1874–1913	2	82	−0.003**	−0.243
			(0.002)	
1923–39	5	76	0.020**	1.012
			(0.008)	
Olive oil, Near East				
1813–40	2	24	−0.023**	−0.841
			(0.011)	
1923–29	5	29	−0.088***	−1.804
			(0.028)	
1930–39	5	50	0.044*	0.376
			(0.025)	

Note: The dependent variable in each regression is the yearly city-pair log price ratio; the only independent variable is the time trend. The total change for each period/commodity is computed as $\frac{\widehat{Price\ ratio}_t - \widehat{Price\ ratio}_0}{\widehat{Price\ ratio}_0}$, where $\widehat{Price\ ratio}_t$ and $\widehat{Price\ ratio}_0$ denote the fitted values at the end and beginning of the period, respectively. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

second columns provide information about the number of city-pairs and the total number of observations, by commodity and time period.[81] The third column reports the coefficient of the

[81] Note that the trend analysis excludes price ratios of markets in the same country; for instance, the wheat price differential between Cairo and Alexandria is not included.

time trend, whereby a negative (positive) and significant coefficient symbolizes price convergence (divergence). The fourth column estimates the total change for each period/commodity, computed as $\frac{\widehat{Price\ ratio}_t - \widehat{Price\ ratio}_0}{\widehat{Price\ ratio}_0}$, where $\widehat{Price\ ratio}_t$ and $\widehat{Price\ ratio}_0$ denote the fitted values at the end and beginning of the period, respectively.

The results of table 1 are in line with the descriptive evidence of figure 2. Overall, they indicate that markets were integrated both within the Ottoman Empire and between Ottoman and European markets during the nineteenth century, and that intra-Ottoman wheat price gaps started declining as early as Ottoman–European ones, in the late eighteenth century. In contrast, regional markets disintegrated after the First World War, while price differentials in colonial markets (Egypt–Great Britain and Syria–France) narrowed at a pace that was faster relative to the previous century. The Great Depression was detected as a shock (a break in the constant) only for the olive oil market, where it marked the start of the process of disintegration. The sugar market behaved slightly differently, as regional integration started late (1874–1913) and no significant trend was detected in the interwar period. This may be because sugar is a less homogeneous product than wheat and olive oil, such that price gaps might reflect quality differentials.

To further explore the patterns of (dis)integration in the Near East during the interwar period, I repeated the trend analysis using additional commodity price at the quarterly level for barley, flour, coffee, and rice. The results, reported in Appendix table A3, confirm the patterns observed using yearly data: namely they illustrate that regional price gaps increased, particularly in the 1930s (coffee and barley), while colonial price gaps underwent the opposite trend. Finding that markets disintegrated after the Great Depression is in line with existing empirical evidence in other contexts.[82]

Table 2 reports the price convergence estimates based on Equation (2) as a fixed effects panel for each commodity, following the same breaks as table 1. The results further corroborate the earlier findings. Markets within the Near East became more integrated throughout the nineteenth century and disintegrated thereafter; however, wheat market integration strengthened between the Near East and their colonizers during the interwar era. Table 2 also brings new insights: the rates of convergence are small, both regionally and internationally, relative to those computed for other parts of the world during the same time period.[83] Furthermore, the half-lives of shocks are quite high in the majority of the sub-periods, suggesting that markets were likely to be relatively inefficient. However, such results are likely to have an upward bias and need to be considered with caution. Indeed, slow convergence and large half-lives may be the results of data aggregation. Furthermore, the bias may be different before and after the end of the Ottoman Empire, hence making comparisons problematic.[84] To summarize, the empirical findings provide robust evidence on the lack of cross-border market integration between Egypt, Syria, and Turkey during 1923–39, reversing the trend of price convergence established when these markets operated under the aegis of the Ottoman Empire. Moreover, the results highlight that the incorporation of Egypt and Syria into the British and French empires reinforced pre-existing market integration patterns.

To assess the extent to which this process of regional market disintegration was determined by the establishment of new national borders during the interwar period, I use the empirical setup described in Equation (3) and estimate panel regressions at the city-pair year level. The results are

[82] Federico, 'How much do we know'; Hynes et al., 'Market disintegration'.

[83] Chilosi and Federico: 'Early globalizations'.

[84] Taylor, 'Potential pitfalls'; Brunt and Cannon, 'Measuring integration'.

TABLE 2 Long-run convergence

Period	Pairs (*N*)	Half-life in months	Convergence rate
Wheat, Near East			
1788–99	12	3	−0.091***
1800–46	12	26	−0.017***
1847–1913	12	15	−0.007***
1923–39	12	13	0.028*
Wheat, Near East–Europe			
1788–99	4	6	−0.067**
1800–26	4	14	0.029***
1827–1913	4	18	−0.001
1923–39	4	12	−0.051**
Sugar, Near East			
1863–73	2	–	−0.010
1874–1913	2	5	−0.003*
1923–39	5	75	−0.003
Olive oil, Near East			
1813–40	2	57	0.002
1923–29	5	–	−0.115***
1930–39	5	–	0.040***

Note: Estimation results based on Equation (2). The convergence rate is computed as $-(\beta/\psi)$, and the null hypothesis of zero convergence is tested with a non-linear Wald test. ***, ** , and * indicate significance at the 1%, 5%, and 10% level, respectively.

reported in table 3. I start with a parsimonious specification in column I, testing for border effects using only year and city fixed effects, and then commodity fixed effects are added in column II. Columns III and IV include transport cost proxies: log distance between *i* and *j*, and city-pair specific time trends, respectively. After including average tariff rates in column V, I control for the effect of the Great Depression using dummy variables for years 1929–33 (columns VI–VII), the period with the most negative repercussions for Middle Eastern economies. Finally, column VII presents the results using only wheat, being the commodity whose quality is most homogeneous and whose price series is most comprehensive (16 city-pairs across 154 years).

The results show that the border dummy is consistently positive and significant across specifications, indicating that the end of the Ottoman Empire contributed to an increase in price dispersion. In terms of magnitude, the estimated coefficients indicate that towns separated by a border had price differentials between 12 per cent and 13 per cent higher than those which did not.[85] Such effects are very large relative to those previously estimated in the literature using a specification similar to Equation (3).[86] I find that the sign on distance between cities is positive as expected, albeit not always precisely estimated.[87] The coefficients on the city-pair time trend

[85] The magnitude of the border effect is calculated as $exp(\beta_1) - 1$, where β_1 is the border coefficient, see equation (3).

[86] Estimated border effects typically ranged between 3 per cent and 5 per cent and were usually lower than 10 per cent. See, for instance, Broda and Weinstein, 'International price differences'; Schulze and Wolf, 'Border effects'; Versailles, *Market integration*; Aker et al., 'Borders'; Brenton et al., 'Food prices'.

[87] The effect on distance remains not precisely estimated also when excluding city fixed effects as controls.

TABLE 3 The causes of market disintegration in regional markets

	Full sample						Wheat
	I	II	III	IV	V	VI	VII
Border	0.122***	0.117**	0.115**	0.112**	0.116**	0.116**	0.113**
	(0.042)	(0.042)	(0.042)	(0.041)	(0.043)	(0.043)	(0.046)
Distance			0.015*	0.018**	0.014	0.014	0.018
			(0.008)	(0.007)	(0.017)	(0.017)	(0.017)
City-pair trend				−0.002***	−0.002**	−0.002**	−0.002*
				(0.0001)	(0.001)	(0.001)	(0.001)
Tariff					−0.004	−0.004	0.001
					(0.018)	(0.018)	(0.019)
Great Depression						0.066	0.056
						(0.063)	(0.069)
Year FE	Y	Y	Y	Y	Y	Y	Y
City FE	Y	Y	Y	Y	Y	Y	Y
Commodity FE	N	Y	Y	Y	Y	Y	N
N	2439	2439	2439	2439	2439	2439	2272

Note: The dependent variable is the yearly city-pair log price ratio in Syria, Turkey, and Egypt for the olive oil, sugar, and wheat markets during 1786–1939. Col. VII restricts the sample to wheat only. Standard errors are clustered at the city-pair level. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

are negatively signed and significant, hence capturing a reduction in information and transaction costs at the city-pair level over time, reflecting the narrative outlined in section II.

Neither increases in tariffs nor the Great Depression years, which saw a rise in beggar-thy-neighbour policies, played a significant role in the process of market disintegration. It is puzzling that tariffs did not significantly contribute to an increase in price dispersion. This may be explained by the imprecise nature of the data utilized as proxy, namely the average tariff rate imposed by the importing city, instead of product-specific tariff rates. Such a choice is likely to lead to an attenuation bias and large standard errors, given that the tariffs varied substantially across commodities.[88]

Overall, these findings, which are robust to restricting the sample to wheat only (column VII), have two implications. First, they show that historical commercial links did not persist and that cost-reducing investments in banking and infrastructure were not enough to counter the deterioration of economic relations among Near Eastern nations. Second, they suggest that borders segmented markets more than would be expected on the basis of increased trade costs generated by the rise of protectionism per se, and that these effects were rather large. Nevertheless, the results on the absence of tariff effects need to be interpreted with caution given the data limitations indicated above.

Finally, I investigate whether becoming part of the French and British empires contributed to the integration of each colony with its metropole. The sample is thus restricted to Syria–France and Egypt–United Kingdom, and the variable *border* of Equation (3) is replaced with the

[88] It is worth noting that other studies have also found duties not to contribute significantly to price dispersion, even when using product-specific tariff rates; see for instance tab. 6, cols. 3, 5, 6, 8, and 9 in Chilosi and Federico, 'Early globalizations'.

TABLE 4 The causes of market integration with colonial markets.

	Full sample			Egypt–United Kingdom	Syria–France
	I	II	III	IV	V
Empire	−0.028*	−0.028*	−0.046**	−0.027*	−0.246**
	(0.012)	(0.012)	(0.018)	(0.011)	(0.031)
Distance	0.061***	0.061***	0.057***	0.049**	0.099**
	(0.011)	(0.011)	(0.012)	(0.015)	(0.016)
City-pair trend		−0.004*	−0.004*	−0.001	−0.003***
		(0.002)	(0.002)	(0.001)	(0.001)
Tariff			−0.523	−0.004	−2.660***
			(0.343)	(0.417)	(0.073)
Great Depression			0.270**	0.117	−0.138
			(0.096)	(0.079)	(0.172)
Year FE	Y	Y	Y	Y	Y
City FE	Y	Y	Y	Y	Y
N	831	831	831	466	392

Note: The dependent variable is the yearly city-pair log price ratio in Syria–France and the United Kingdom–Egypt for the wheat market during 1800–1938. Col. III restricts the sample to Syria–France, and col. IV to the United Kingdom–Egypt. Standard errors are clustered at the city-pair level. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

indicator *empire*, set equal to 1 for post-First World War years, proxying for empire effects.[89] These include having pegged currencies and preferential free trade agreements between colonies and metropoles. Table 4 reports the results: the coefficient on empire is negative and significant across specifications, indicating that being part of the same empire had a positive effect on integration, thus reducing price gaps. The empire effect in the full sample varies between 3 and 5 per cent (columns I–III). In the last two columns, the sample is split in two along colonized–colonizer lines: column IV restricts the analysis to Egypt–United Kingdom and column V to Syria–France. The positive empire effects are confirmed in both cases, but the magnitude is much larger for Syria–France, where being part of the same empire is associated with a 28 per cent reduction in price differentials. In line with results outlined in table 3, the coefficients on the city-pair time trend are negatively signed and significant (with the exception of column IV), suggesting that changes in transaction costs had a positive effect on integration. Furthermore, pre-First World War tariffs did not play a significant role in integration and have a puzzling wrong sign in the specification restricted to the France–Syria sample (column V). This is likely due to data limitations as highlighted above.

One of the limitations of this paper lies in the inability to identify empirically the exact mechanisms behind border effects. It can be argued that two of the plausible channels driving the results are likely to be linked to the creation of nation-specific laws and regulatory institutions, which increased the cost of trade between newly established countries, as well as the spread of nationalism across businesses and consumers. Both factors are difficult to quantify. Available historical evidence points to the spread of nationalist economic campaigns across the Near East.

[89] This specification has no control group and thus represents a 'before-and-after' analysis, hence being less robust than the difference-in-difference regressions of table 3; see Sedgwick, 'Before and after'.

For instance, in interwar Turkey the Kemalist elites sought to boost the consumption of locally made goods, and to reach out to the masses, they used a broad range of policies, including mobilizing children in daytime parades, extracurricular activities, and patriotic displays.[90] Similar approaches were also adopted by the Egyptian and Syrian governments.[91]

V | CONCLUSIONS

After the collapse of the Ottoman Empire and the incorporation of Syria and Egypt into the French and British spheres of influence, trade linkages in the Near East deteriorated considerably, mirroring a global trend of advancing economic nationalism. The empirical analysis on market integration provided robust evidence of an increase in price dispersion between Egypt, Turkey, and Syria. The findings suggest that the improvements in infrastructure and commercial institutions experienced during the interwar period were not enough to outweigh the negative impact of border effects which led to the dismantlement of economic unity under the same empire. The increase in price wedges between the three economies inhibited regional price transmission, thus leading to the absence of cross-border price convergence.

This paper reveals that post-Ottoman bilateral commercial links in Egypt, Syria, and Turkey mirrored two broad patterns. First, they were reflective of the global trend of reversal of market integration that took place during the interwar period. Second, they highlight that the break-up of empires can lead to the dissolution of strong historical economic ties. However, regional commodity market disintegration was accompanied by one of trade diversion for Syria and Egypt, a process driven by new institutional environments. The disruption of historical regional trade was countered by the strengthening of colonial linkages, facilitated by monetary integration (via pegged currencies) and the establishment of preferential trade agreements. Hence, the welfare-reducing effects of regional market disruption may have been partially offset by increasing colonial integration. Taken together these findings provide evidence that borders can sharply reduce trade between countries. Indeed, the weakening of trade relations between Syria, Egypt, and Turkey represent another instance of the distance puzzle phenomenon, as short-distance trade integration suffered more than long-distance integration during the interwar years of de-globalization.

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[90] Gökatalay, 'Celebrating'.

[91] Tignor, 'Nationalism'; Burns, *Tariff*.

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APPENDIX
Data Appendix

Egyptian, Syrian, and Turkish prices in the interwar era.

All prices are reported at the quarterly level by the original sources.

All Egyptian goods were expressed in Egyptian piasters (100 piasters equals 1E£) and were converted into £GB using the following exchange rate: 1£E = 1.025£GB (El Imam 1962). Prices were reported in the following units: wheat (type Zawati) in *ardeb* of 150 kg; barley (type baladi Beheri) in *ardeb* of 120 kg; rice (type de Damiette, mahsous) in *kadah* of 1.835 kg; olive oil (type de Candie) and flour in *oke* of 1.248 kg; and sugar in *rotl* of 0.449 kg.

Syrian goods were originally either in Turkish or Syrian piasters and converted into £GB using the quarterly exchange rates published in the various issues of the *Bulletin Économique* (1923–39). The following units were used for prices in Beirut: *kantar* of 256 kg for wheat and barley; *rotol* of 2.564 kg for sugar and flour; and kg for rice. Prices in Aleppo were reported in kg or quintals.

Turkish prices are from *The statistical yearbook of Turkey* (1926–34), *Türk ticaret salnamesi* (1935–37), and *Sicil ve ticaret haberleri gazetesi* (1938–39).

Sources for Ottoman Prices

To complement the *Diplomatic and Consular Reports on Trade and Finance*, the following secondary sources have been utilized to construct the price series for the 19th century: Bowring, *Egypt and Candia*; Bowring, *Commercial Statistic*; Issawi, *The fertile crescent*; Raymond, *Artisans*; Owen, *Cotton*; Owen, *Middle East*; Amici, *Essai*; Sir Baring et al., *Report*; and Pamuk, *Istanbul*. All prices have been converted into Ottoman piasters using the exchange rate reported in Pamuk *A monetary history*.

TABLE A1 Average monthly bilateral trade between Egypt, Syria, and Turkey for selected commodities in 1923, 1924, and 1930 (in tons)

Commodity	Trade direction	1923	1924	1930
Barley	From Syria to Egypt	98 023	54 250	
	From Syria to Turkey		897 816	
	From Turkey to Syria	128 700		
Oil	From Syria to Egypt	4512	3812	7686
	From Syria to Turkey		720	
Wheat	From Syria to Egypt	28 550	81 616	198 307
	From Syria to Turkey	53 900	274 825	96 178
Sugar	From Syria to Egypt	6278		
Rice	From Egypt to Syria	67 500	67 500	96 717

Source: *Bulletin E'conomique* (1923, 1924, 1930); Zilkha, *Economic Survey*.

TABLE A2 The burden of the Syrian and the Egyptian tariff, 1930

Syrian exports to Egypt			Syrian imports from Egypt		
Commodity	**Value (£Syr)**	**Egyptian tariff (%)**	**Commodity**	**Value (£Syr)**	**Syrian tariff (%)**
Ovine animals	811 997	7	Rice	1 238 325	15
Butter	402 096	12.4	Asphalt	160 176	11
Fruit paste	369 828	23.7	Raw hides	64 131	Exempt
Olive oil	166 657	18.8	Box cartons	58 465	10
Dried legumes	148 309	62	Leaf tobacco	39 666	31
Cotton cloth	124 204	16	Sole leather	27 742	15
Oranges	103 265	65.1	Cotton cloth	26 516	20
Wheat	98 281	14	Cigarette paper	24 138	35
Dried apricots	92 216	12	Jute sacks	22 479	Exempt
Grapes	72 306	9.4	Beer	21 375	25

Source: Burns, *Tariff*.

TABLE A3 Trend analysis of price ratios: barley, coffee, flour, rice, quarterly data.

	Pairs (*N*)	**N**	**Trends**	**Total change (%)**
Barley, Near East				
1926q1–1930q4	12	240	−0.001 (0.011)	−0.148
1931q1–1938q4	12	384	0.015* (0.007)	1.462
Barley, Near East–Europe				
1924q1–1938q4	4	240	−0.006** (0.001)	−23.761
Coffee, Near East				
1926q1–1935q4	5	210	−0.0004 (0.0019)	−4.533
1936q3–1938q4	5	50	0.017* (0.006)	1.905
Flour, Near East				
1926q1–1938q4	5	223	0.030** (0.007)	6.140
Flour, Near East–Europe				
1924q1–1930q1	1	29	−0.023 (0.036)	−1.791
1930q2–1939q1	1	36	−0.054** (0.019)	−0.458

Note: The dependent variable in each regression is yearly city-pair log price ratio; the only independent variable is the time trend. The total change for each period/commodity is computed as $\frac{\widehat{Price\ ratio}_t - \widehat{Price\ ratio}_0}{\widehat{Price\ ratio}_0}$, where $\widehat{Price\ ratio}_t$ and $\widehat{Price\ ratio}_0$ denote the fitted values at the end and beginning of the period, respectively. ***, ** , and * indicate significance at the 1%, 5%, and 10% level, respectively.

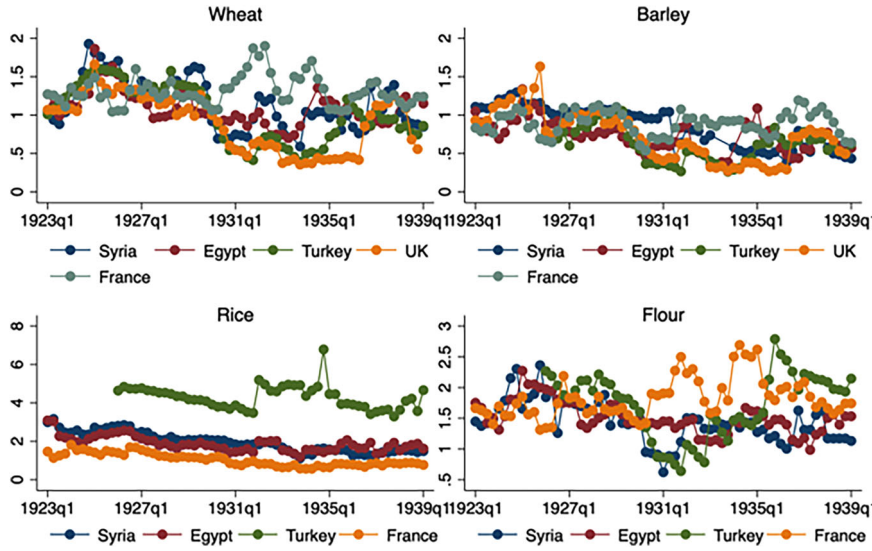

FIGURE A1 Quarterly wholesale prices of barley, flour, wheat, and rice in Syria, Egypt, Turkey, the United Kingdom, and France (£GB per kg). *Sources*: Syria (prices in Beirut): *Bulletin Économique Trimestriel des pays sous Mandat Français*; Egypt (prices in Cairo) *Annuaire Statistique de l'Egypte*; Turkey (prices in Istanbul): *Statistical yearbook of Turkey*, *Türk ticaret salnamesi*, and *Sicil ve ticaret haberleri gazetesi*; France (prices in Paris): *Annuaire Statistique de la France*; the United Kingdom (prices in London): *London Gazette*. [Colour figure can be viewed at wileyonlinelibrary.com]

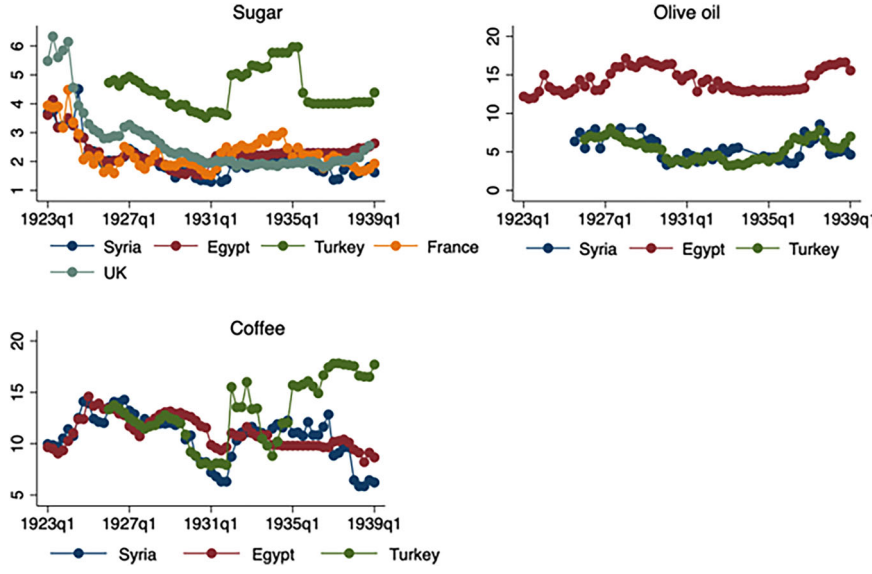

FIGURE A2 Quarterly wholesale prices of coffee, olive oil, and sugar in Syria, Egypt, Turkey, the United Kingdom, and France (£GB per kg). *Sources*: Syria (prices in Beirut for coffee and sugar and in Aleppo for olive oil): *Bulletin Économique Trimestriel des pays sous Mandat Français*; Egypt (prices in Cairo) *Annuaire Statistique de l'Egypte*; Turkey (prices in Istanbul): *Statistical yearbook of Turkey*, *Türk ticaret salnamesi*, and *Sicil ve ticaret haberleri gazetesi*; France (prices in Paris): *Annuaire Statistique de la France*; the United Kingdom (prices in London): *London Gazette*. [Colour figure can be viewed at wileyonlinelibrary.com]