

Building the Spanish Imperial Trade Bloc: The Cánovas Tariff in Philippine markets.

Alejandro Ayuso-Díaz

Pablo Delgado-Perea

Antonio Tena-Junguito

Draft version. Please do not quote

0. Abstract.

This article contributes to the literature on trade policy by analyzing the impact of a tariff reform on imports in colonial settings—an often-neglected area in historical studies. We focus on Spain's 19th-century protectionist turn and its effects on Philippine imports. To that end, we build a novel dataset on Philippine imports at product and country level (3-digit SITC Rev 2) for some benchmarks between 1873 and 1893. Results show the existence of a potential Spanish colonial trade bloc in the late 19th Century by tariff discrimination since Philippines imported from Spain more than what gravity forces predict. The 1891 Cánovas tariff had a positive impact on Philippine imports from Spain driven by tariff discrimination, particularly in cotton textiles.

Then, we study the use of tariffs as a trade policy instrument in colonial settings. Our results indicate that ad valorem tariffs reduced imports from trading partners other than the metropole, particularly after 1891. These tariffs provided greater protection for cotton textile imports compared to other products.

1. Introduction.

The recent victory of Donald Trump, along with trade sanctions following following political or geopolitical convenience are encouraging new studies on the impact of discriminatory tariffs on trade flows (Rogers et al., 2024; Absell et al., 2024; Steinbock, 2018; Li et al., 2020; Mao & Görg, 2020; Fajgelbaum et al., 2021). Economic history contributes to these studies by offering long-term analyses of tariff policies causes and consequences and their effects over time. In this sense, contemporary trade policies are often implemented within the framework of trade blocs, and history offers numerous examples of the use of tariffs to construct imperial trade blocs during the late 19th and early 20th centuries.

In this regard, in recent years, economic history has increasingly relied on granular data—disaggregated by country and product—rather than aggregate figures, in order to better understand the consequences of trade policies (Betrán and Huberman, 2016; Timini, 2021; Hungerland and Wolf, 2021; Becuwe, Blancheton and Meissner, 2018; 2021; Meissner and Tang, 2018; Huberman, Meissner and Oosterlink, 2017). More specifically, granular data is also being analyzed to understand the effect of trade policies on commercial flows between metropolises and their colonies (De Bromhead, 2019; Absell, 2024).

In this context, Mitchener and Weidenmier (2008) and Tena-Junguito and Restrepo examine trade blocs in French, U.S., and Portuguese colonies prior to WWI, while Eichengreen and Irwin (1995), Ayuso-Díaz and Tena-Junguito (2020), and Okubo (2007) analyze British, German, and Japanese imperial blocs during the 1930s. The literature on trade blocs has largely marginalized studies of the Spanish colonies, as the construction of a trade bloc within the Spanish Empire began with the 1891 Cánovas Tariff but was short-lived, ending soon after with the 1895 revolutions in Cuba and the Philippines.

The 1891 tariff was particularly controversial in this regard. Palafox (1997) argues that it primarily aimed to protect the agrarian sector, while Tena-Junguito (1999) contends that industrial protection was the main priority. As a result, the consequences of protectionism translated into a loss of competitiveness for Spanish industry (Prados 1988; 1997; 1999; Tena 2010; Carreras and Tafunell 2010, p. 193; Rosés 2001). However, recent studies show that, when disaggregated by product and country,

Spanish industry during the protectionist shift did exhibit dynamism and succeeded in finding new markets for its exports—although these markets had limited demand potential (Delgado, 2022). On the other hand, it has also been argued that late 19th-century protectionism was driven by fiscal motivations (Sabaté et al., 2024).

However, none have empirically examined whether Spanish protectionism fostered exports to its colonies, as suggested by Ayuso-Díaz & Tena-Junguito (2025) with the 1891 Cánovas tariff using Philippine imports at country level. Backward steps toward protectionism in the late 19th century fostered French and Spanish imperial trade blocs. In Spain's case, however, the imperial trade system with the Caribbean (Cuba and Puerto Rico) and the Philippines came to an end in 1898.

This focus on an Asian colony, rather than on Spanish Caribbean territories, is justified by the high population density of Southeast Asia, which led to intense competition among imperial powers to secure markets for their manufactures. The differing colonial imports in Caribbean and Southeast Asian trade blocs was shaped largely by the relative political and market power of the United States over each colony in the early 1890s. The U.S. exercised a stronger monopsony power over sugar exports in Cuba and Porto Rico than in the Philippines. So, in the first US enjoyed stronger negotiating positions to get concessions in the Spanish colonial market for U.S. manufactured goods.¹

Here we pretend, a proper understanding of protectionist dynamics in colonial markets that forced us to initiate a country-product level analysis, as recently undertaken for the Dutch East Indies (De Zwart et al., 2024), British India (Arthi et al., 2024), and the interwar Philippines period under United States rule (Ayuso-Díaz & Tena-Junguito, 2024). Furthermore, the lack of rigorous and comprehensive trade data for Cuba complicates the replication of this analysis for the Spanish West Indies.

This article builds on latest granular studies by adopting a country- product level approach to assess the impact of protectionist policies over Philippines imports.

¹ Sanchez-Padilla (2010, p.13) : “Las negociaciones fueron relativamente rápidas porque se tomó como base el fallido Tratado de 1884: rebaja considerable de los derechos al azúcar cubano a cambio de la entrada en Cuba de una larga serie de productos manufacturados estadounidenses. El 30 de abril de 1891 se firmó en Madrid el protocolo Foster-Canovas.” This protocol finish in the trade Foster-Canovas de April 20th 1891 According to Irwin (2010) Figure 2; of the total Consumption of US sugar in 1890 around 40% correspond to US imports coming from Cuba against a 2% coming from Philippines, 27% Domestic production and 31% Other imports sources. The relevance of the Cuban sugar in US and

We also examine the use of effective and bound tariffs in attracting Spanish exports and diverting imports from outside the metropolis during key benchmarks in the late 19th century.

In this context, certain laws—such as the Moret Tariff of 1871 or the Law of Commercial Relations with the Antilles of 1882—established a gradual reduction in tariffs on Spanish products exported to the Philippines. However, these laws were somewhat ambiguous, as the Philippines retained the ability to negotiate trade agreements independently. By contrast, the Cánovas Tariff of 1891 was clearly protectionist, as it significantly increased tariffs on imports from countries other than Spain.

Using the full universe of Philippine import data by country and product for the years 1873, 1884, 1886, and 1893, this article analyzes—through a differences-in-differences approach and a gravity equation—the impact of Philippine tariffs and the 1891 Cánovas Tariff on Spanish exports to the Philippines and on imports from third countries. To this end, the study uses as a primary source the volumes of the *Estadística Mercantil del Comercio Exterior de las Islas Filipinas*. To analyze the impact of tariffs, we collect information on total import duties gathered by Philippine customs and the value of imports in pesos at the product level. The ratio of these two variables provides the ad valorem equivalents of tariffs effectively applied by product.

Our results indicate that during the final quarter of the 19th century, the Philippines imported more from Spain than would be predicted by standard gravity forces, suggesting the existence of a Spanish imperial trade bloc. These trade linkages were further strengthened by the implementation of discriminatory tariffs favoring Spanish manufactures following the 1891 Cánovas Tariff, with a particularly notable impact on imports of Spanish cotton textiles. Among the various trade policy instruments aimed at promoting Spanish exports to its colonies, tariffs appear to have been especially effective in reducing imports from non-Spanish partners—particularly after 1891 and in the case of cotton textiles.

2. Spanish Protectionism in the Philippines.

2.1. Literature review on Spanish protectionism.

The economic impact of Spanish commercial protectionism in the late 19th century has been the subject of considerable debate in recent decades (Nadal and Sudrià, 1993). The mid-19th century was marked by liberalization measures that reduced tariffs across Western Europe through bilateral agreements such as the Cobden-Chevalier Treaty, the expansion of Most Favored Nation (MFN) clauses, and unilateral policies such as the abolition of the Corn Laws as described by (Tena-Junguito et al., 2012). Spain also followed this trend with the establishment of the *Asociación para la Reforma de los Aranceles de Aduanas* in 1859, which ultimately led to the implementation of the *Arancel Figuerola* in 1869 (Sanz, 2017). This law, known as the *Ley de Bases*, represented the culmination of earlier trade liberalization efforts, such as the tariff reforms of 1841 and 1849, though it was less radical than the Cobden-Chevalier Treaty. The main pillars of this law were the abolition of all import barriers, the equal treatment of all trading partners, and the gradual implementation of the reform. The final pillar facilitated a swift reduction of tariffs on raw materials for the Catalan textile industry while maintaining over a decade of protection for textile manufactures. As a result, this liberalization was regarded as industrialist in nature (Schwartz Girón, 2005).

The free trade approach continued with the 1877 tariff, which granted lower duties to countries that had signed a trade agreement with Spain or benefited from a Most Favored Nation (MFN) clause. The final tariff reductions occurred with the bilateral agreements signed with France in 1882 and Great Britain in 1885. From that point onward, the late 19th-century agrarian crisis prompted protectionist demands from the wheat sector (Sanz, Sabaté y Fillat, 2021). They were joined by the textile and other industrial sectors in their demand for higher tariffs. In response to these demands and the French protectionist Méline Tariff of 1891, the new conservative government of Cánovas del Castillo introduced a new tariff on December 31, 1891 (Sanz, 2011).

The primary objective and economic impact of this tariff have sparked considerable debate among economic historians over the past three decades. First, there is a debate between researchers who argue that the 1891 tariff was primarily designed to protect agrarian interests and those who contend that industrial protection was given priority. Palafox (1997) leads the first group of scholars, arguing that protectionist

measures on wheat, coal, and food in general were responsible for Spain's economic backwardness between 1891 and 1931. Similarly, Cacigal (2009) argues that industrial protection was merely a strategy to pressure France into reducing its tariffs on Spanish wine, while the primary goal of the 1891 tariff was to substitute imports of American wheat with domestic production. Sanz (1987) concludes that the 1891 tariff was primarily agrarian, a view corroborated by Tirado (1996), who provides data showing that the law granted higher levels of protection to agricultural goods. Junyent (2007) also emphasizes the agrarian nature of the 1891 tariff, arguing that it reduced imports of Champagne, thereby incentivizing the production of sparkling wine in Spain.

On the other hand, Tena-Junguito (1999) presents statistics showing that both the 1891 and 1922 tariffs provided greater nominal protection to the industrial sector, while the 1906 tariff favored agrarian interests. Similarly, Sabaté (1995) argues that the 1906 tariff had a clear industrial orientation. Within the industrial sector, the 1891 tariff provided more intensive protection to traditional sectors such as textiles and iron. In the same line, García (2004) shows that the 1891 tariff specifically increased tariffs on iron and steel, as well as agricultural machinery, thereby favoring domestic production. Lastly, Esteban-Oliver (2016) notes that the average tariffs on machinery increased from a mere 6% ad valorem to between 13% and 17%. This led to import substitution in the machinery sector. Therefore, several studies identify late 19th-century Spanish protectionism as a key factor behind the loss of efficiency in the industrial sector and, consequently, a delay in the country's industrialization (Prados 1988; Prados 1997; Fraile 1991; Tena 2010; Carreras and Tafunell 2010, p. 193; Rosés 2001).

So far, we have outlined the debate over which sector benefited more from the import substitution effects of the 1891 law. However, some scholars argue that the Cánovas Tariff did not lead to significant reductions in foreign imports. In this regard, Sabaté et al. (2024) note that there are very few studies on the fiscal motivations behind Spanish protectionism. Their thesis argues that revenue generation was the primary driver of the tariffs implemented in 1877 and 1891, though this was not the case for the 1891 tariff. Pardos-Martínez (1998) also emphasizes the fiscal nature of the 1891 tariff.

This review of the literature highlights the lack of studies examining the potential export promotion effects of Spanish protectionism. Tena-Junguito (1999) highlights the administration's efforts to protect the interests of the export sector,

whereas Sanz (1987) argues that the 1891 tariff was detrimental to exporters. Delgado (2022) argues that, despite protection, Spanish industry was dynamic in finding new, low-demand markets for its exports. Finally, Carreras-Martín and Blasco-Martel (2004) show that the 1891 tariff fostered Spanish exports to its colony in Cuba. In this line, the present research focuses on a colony often marginalized by the literature as the Philippines. In the past we have already shown that the application of discriminatory tariffs favoring the metropolis during this period contributed to the expansion of exports to the Philippines, although a proper analysis should be done at the product level (Ayuso-Díaz & Tena-Junguito, 2024). To properly contextualize late 19th-century protectionism in Spanish colonies, the following section will summarize the evolution of tariffs in the Philippines during this period.

2.2. Historical context: Spanish protectionist measures in the Philippines.

The Philippines became a Spanish colony in the 16th century, and until 1789, Spain maintained a monopoly on trade with the islands. From that point onward, other nations were permitted to trade with the Philippines. During the 19th century, Great Britain—and later the United States—became the primary exporters of manufactured goods to the islands, in exchange for sugar and hemp. Spain remained a secondary trading partner. The 1837 tariff aimed to promote the production and export of Philippine goods that were in global demand. As a result, Philippine ports were gradually opened to international trade. By 1855, the ports of Iloilo, Sual, and Zamboanga had been opened to free trade, followed by the port of Cebu in 1860 (Elizalde Pérez-Grueso, 2008).

The free trade nature of the Philippines' trade policy can also be observed by examining the *Aranceles de Aduanas para las Islas Filipinas: Aprobados por Decreto de 16 de Octubre de 1870*, derived by the *Arancel Moret* implemented in Spain in 1871. This law aimed to reduce tariffs to purely fiscal rates and eliminate flag discrimination. Its main objectives were to increase public revenue, to incentivize consumption expand Philippine trade, and curb British influence in products deemed essential for the spread of Spanish culture.

The 1871 tariff complemented the 1868 reform, which had established an average ad valorem tariff of 10.5% and taxed 766 goods. After 1871, only 107 goods remained subject to an ad valorem tariff of approximately 10%. The list of dutiable

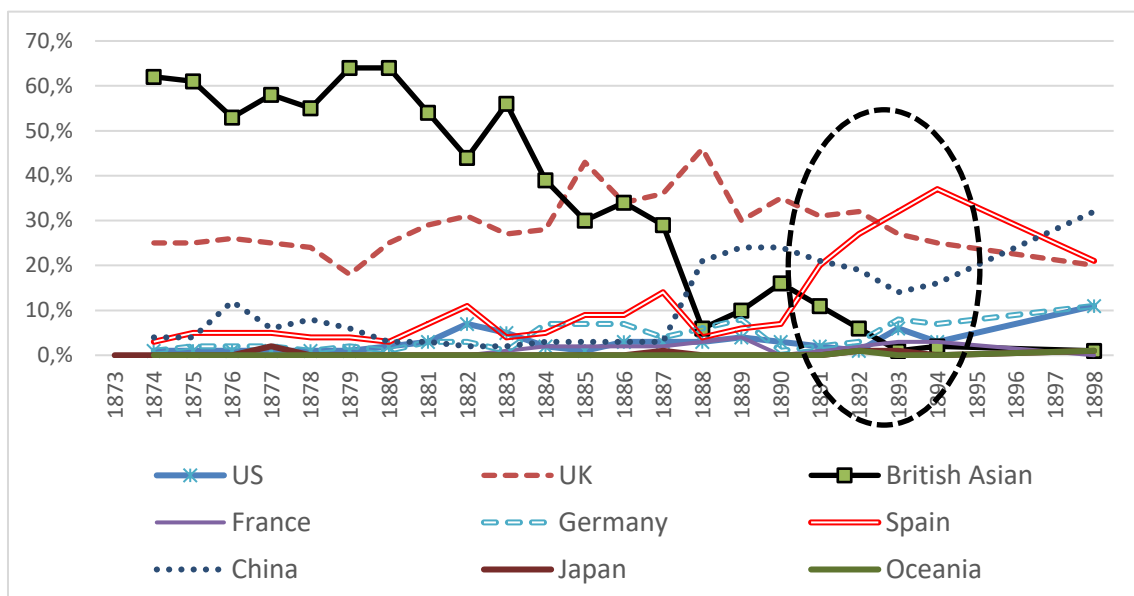
products included food, wine, textiles, glass, pottery, iron and steel, chemicals, pharmaceuticals, and paper products. In contrast, goods considered essential for the expansion of wealth and culture—such as books, scientific instruments, agricultural and transport equipment, industrial and agricultural machinery, raw materials, and fertilizers—were exempt from duties. Nevertheless, the most ambitious measure of the 1871 tariff conflicted with the principles of free trade, as it granted duty-free status to all goods arriving from Spain, a policy known as *Cabotaje* (Ministerio de Ultramar, 1870).

However, this policy was not strictly enforced, as the *Ley de Relaciones Comerciales con las Antillas* of 1882 reaffirmed it for all Spanish colonies (Martínez et al., 2021). This law aimed to gradually eliminate tariffs on merchandise imports from Spain to the islands of Cuba, Puerto Rico, and the Philippines. The scheduled tariff reduction was set at 5% per year from 1882 to 1884, 10% per year from 1885 to 1888, and 15% per year from 1889 to 1891 (Sudriá, 1983). This law was primarily promoted by Catalan industrialists, who viewed the colonies as retail markets for their textiles (Mora et al., 2006; Prat and Soler, 2002). Armero-Martínez (2016) supports this argument, stating that the 1882 law effectively forced Filipinos to consume Catalan textiles and Piqueras (1998) argues that rising exports to colonial territories saved cotton textiles from the crisis in 1886. Yáñez (2006) also coincides in the quick reduction of tariffs to textile imports with tariffs to flour products following the same trend. Meanwhile, Ramón-Muñoz (1994) demonstrates that the main beneficiary of the *Ley de Relaciones Comerciales con las Antillas* was Barcelona's soap industry. This tariff reform also eliminated tariffs on imports of Spanish wines in colonial territories (de Montaud, 2003).

However, the 1871 tariff had already established *Cabotaje*, and the elimination of flag discrimination allowed Great Britain and the United States to secure greater tariff reductions through trade agreements than those granted to Spain under *Cabotaje* (Sudriá, 1993). Therefore, we would not expect Spain's share in overall Philippine imports to increase significantly after 1882. Therefore, the ambiguity of both reforms makes their analysis particularly challenging, which is why this article focuses on the 1891 tariff.

In fact, this tariff was the most decisive boost to Spanish penetration in the Philippine market during the 19th century. It was only after this date that Spain became the principal supplier to the Philippines (Elizalde Pérez-Grueso, 2008). As shown in Figure 1, while earlier tariff reforms may have had some impact, their effect is overshadowed by the sharp rise in Spanish exports following the 1891 Cánovas Tariff. These data suggest the formation of a Spanish imperial trade bloc, though it was short-lived, as the onset of the Philippine Revolution in 1895 curtailed imports from the metropolis.

Figure 1: Share of Philippine imports by main countries 1873-1898.



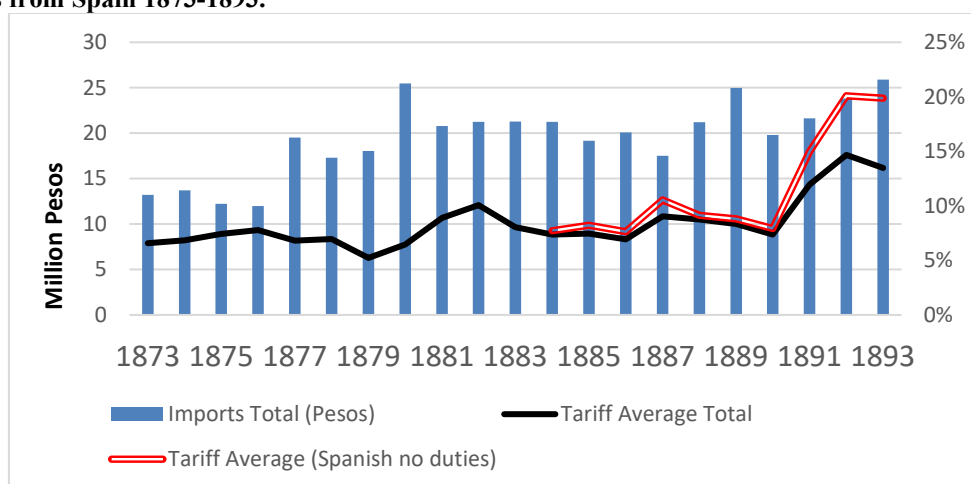
Sources: Table 3 by Yoshiko Nagano, Y. (1997)

Figure 1 suggests that the 1891 Cánovas Tariff aimed to protect key Spanish industries by securing them an exclusive market. The primary beneficiaries included Catalan textile manufacturers, Castilian wheat producers, and the Basque iron and steel industries. Spanish goods were supposed to enter duty-free under *Cabotaje* since 1882, although in practice Spanish goods still faced an average 4% tariff, which was much more smaller than the one faced by other countries (14% on average). The 1891 law was going to finally guarantee 0 tariffs for Spanish merchandise and to impose high and rising tariffs on foreign imports, further consolidating Spain's commercial dominance in its colony (Elizalde Pérez-Grueso, 2008). Under the new regulation, the only goods from outside Spain that were admitted duty-free included mineral water, trees and

plants, lime, copper minerals, painted paper, small pieces of trimmings gold and silver, and gypsum.

According to the literature, to promote colonial exports it was not a matter of reducing the duties that affected Spanish colonial products, which were to be eliminated in 1891, but rather of substantially increasing those to be paid by foreign products. (Sudriá, 1983).² Figure 2 illustrates the discriminatory nature of the tariff system against third-country exports. Following the 1891 Cánovas Tariff, a clear gap emerges between ad valorem rates applied to Spanish imports and those applied to others. Prior to 1891, average tariffs were similar regardless of whether Spanish imports were included. After the reform, excluding Spanish goods yields significantly higher average tariffs, indicating tariff discrimination in favor of the metropole.

Figure 2: Philippines Imports (million Pesos) versus ad valorem tariffs calculated with and without imports from Spain 1873-1893.



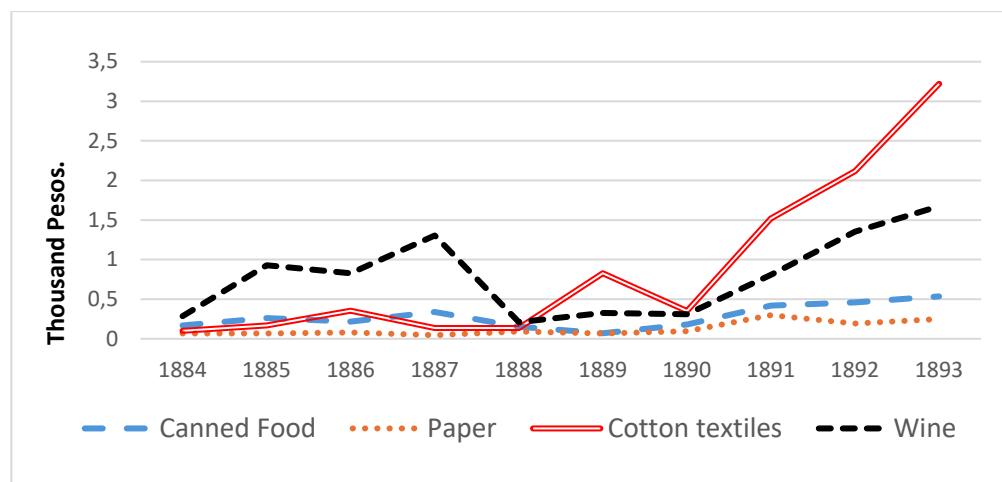
Sources: *Estadística General del Comercio Exterior de las Islas Filipinas 1893*.

² It was no longer a matter of reducing the duties affecting Spanish products—which were to be eliminated in 1891—but of substantially increasing those to be paid by foreign products.” Sudriá (p. 374, 1983)... “The substantial increase in exports was accompanied by the recovery of the declining peninsular market. The increase in production between 1890 and 1898 was distributed between colonial demand and the domestic market, in approximately a 40 to 60 percent ratio, respectively.” ...“In the most profitable years (1893–1897), peninsular cotton exports reached around 9,000 tons, of which 45 percent went to Cuba, 17 percent to Puerto Rico, and 33 percent to the Philippines.” Sudriá (pp. 374–75, 1983). *Author’s translation from Spanish*.

The Catalan textile industry benefited substantially from these discriminatory tariffs, although they ultimately reduced its competitiveness (Armero-Martínez, 2016). Apart from the impact of discriminatory tariffs, textile exports to the Philippines also benefited from the Cuban Crisis of 1896 (Elizalde Pérez-Gruoso, 1998). Delgado (1999) corroborates this assertion, showing that in the second half of the 19th century, Spanish exports to the Philippines increased twenty-fivefold, with textiles emerging as the principal commodity by 1896. Similarly, Fradera (2004) demonstrates that Spanish exports to the Philippines grew at a much faster pace than Philippine exports to Spain, displacing European powers that had traditionally dominated Philippine markets (see Figure 1).

This increase was particularly pronounced in textiles and foodstuffs, with textile exports rising from an annual average of 826 tons during 1880–1884 to 6,891 tons during 1895–1899. Lastly, Coe (2014, p.397) argues that the nationalistic tariffs of 1891 enabled Catalan producers to surpass Great Britain as the primary suppliers of cotton textiles to the Philippines. Spain's market share experienced significant growth, rising from just 1.32% in 1883 to 6% in 1886, 12.2% in 1889, 25% in 1891, and reaching 42.6% by 1895. Figure 3 corroborates this pattern, showing that the primary beneficiaries of the 1891 tariff were cotton textile exports, followed by a significant rise in wine exports.

Figure 3: Philippine main Imports products from Spain (million Pesos).



Note: Only products over 100 thousands pesos as average on the period 1889-1893.

Sources: Estadística General del Comercio Exterior de las Islas Filipinas 1893

3. The new databases and statistical evidence.

3.1 Methodology and data sources.

This research aims to analyze the impact of protectionism on Philippine imports. Specifically, it examines the overall impact of the 1891 Cánovas tariff on the Philippine import market, as well as the use of tariffs as a tool to restrict imports from countries other than Spain. The objective is to apply the highest possible level of disaggregation in the analysis. To this end, we rely on the complete universe of Philippine imports for four benchmark years before and after the 1891 tariff, as well as product-level ad valorem tariffs.

Our main sources are the *Estadística Mercantil del Comercio Exterior de las Islas Filipinas* (1873) and the *Estadística General del Comercio Exterior* (1884, 1886, and 1893), from which we obtain Philippine imports by product and country in Philippine Pesos (3-digit SITC Rev. 2) for these four benchmarks. This data will help to determine whether late 19th-century protectionism effectively promoted colonial imports and which sectors benefited the most.

Lastly, we also explore the impact of effective tariffs applied by Philippine colonial authorities over imports at the product level, to see if they could reduce imports from Spanish competitors. In that sense, *Estadística Mercantil del Comercio Exterior de las Islas Filipinas* (1873) and the *Estadística General del Comercio Exterior* (1884 and 1886) also provide information on import duties collected in Philippine Pesos at the product level, differentiating between imports from Spain and from the rest of the world.³ To estimate an ad valorem equivalent of tariffs by product, we divide this variable by the total import value for each product with and without Spanish import values.⁴ With this information, we construct an unbalanced panel, as not every country

³ There is controversy regarding tariffs effectively faced by Spanish merchants. In the main estimation we assume tariffs were zero for Spanish products since 1873 as the source for this year includes imports from Spain among duty-free merchandise. However since this didn't happen in the 1884 and 1886 volumes we will also estimate the model assuming that in 1873 Spanish goods faced the same tariffs as the rest of Europe and then enjoyed the discounts scheduled by the 1882 *Ley de Relaciones Comerciales con las Antillas*.

⁴ Philippine Commercial Statistics provide import values for each product by geographical origin, but only report the total revenue collected. Therefore, as mentioned, we assume that no revenue was collected on Spanish products. The ad valorem tariff is then calculated as the revenue collected for the product divided by the total value of imports of that product, excluding imports from Spain.

traded all goods. This new dataset covers imports of 286 different products from up to 23 different countries, totaling 4,726 active import flows. The number of observations significantly grows until 102,889 when we balance the panel and incorporate zero trade flows

An increase (or decrease) in real ad valorem tariffs may result either from an increase in effective tariffs driven by domestic policy decisions or from exogenous changes in international prices. In the case of internationally manufactured cotton, although prices declined from 1880 to 1895, they remained relatively stable between 1889 and 1893.⁵

There is a possibility that the evolution Philippines imports from Spain is not the result of discriminatory tariffs but of improved competitiveness of Spanish goods. For that reason, we incorporate to our study information about prices and transport costs of Spanish goods. We collect data for the first variable from Carreras & Tafunell (2006) who provide prices of the principal goods produced in Spain. We classify them according to SITC Rev. 2 at the three-digit level and link them with the corresponding export item.

Regarding transport costs, we obtain the freight of transport Manila hemp from Manila to London and divide it by the international price of Manila hemp in pounds per ton. Both variables come from Federico & Tena (2019) and their ratio shows the freight factor as a % of total price. We assume that the freight factor between Spain and Manila is equivalent and then we compute the freight factors for the rest of the products (again SITC Rev. 2 at the three-digit level) using equivalencies from Moneta (1959).

3.2 Statistics on Philippine imports and tariffs.

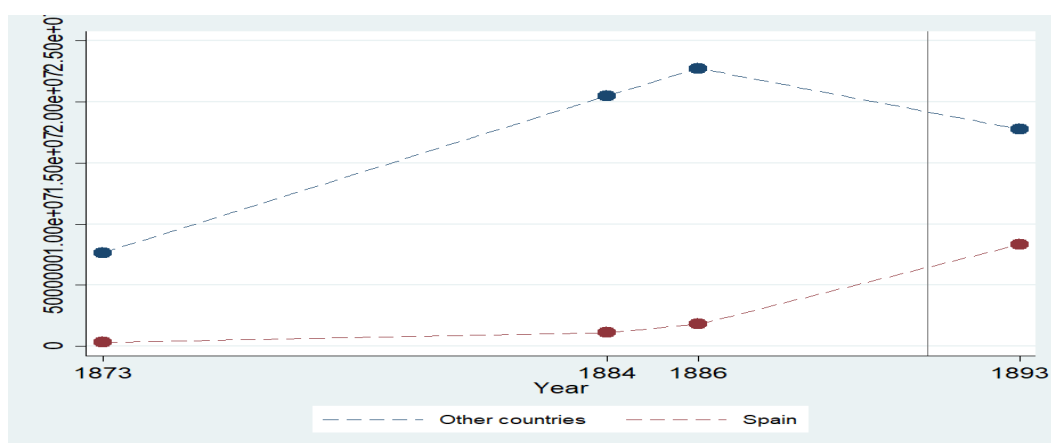
As discussed in previous sections, the main objective of this research is to gain a deeper understanding of the impact of protectionism on Philippine imports, especially those coming from its metropolis. As previously mentioned, we use product- and country-level data from four benchmark years (1873, 1884, 1886, and 1893).

An overview of Philippine imports from Spain and other countries across the four time periods reveals signs of an emerging imperial trade bloc beginning with the

⁵ The average of 5 cotton textiles manufacture prices fall between 1889 to 1893 is 1.5% and from 1880 to 1895 34%. According Appendix G database Federico, G. and Tena-Junguito A. (2019)

1891 Cánovas Tariff. Specifically, Figure 4 shows a decline in imports from third countries alongside a general rise in exports from the metropole.

Figure 4: Value of Philippine Imports from Spain and Other Countries by benchmarks in 1873, 1884, 1886, 1893.



Sources: *Estadística Mercantil del Comercio Exterior de las Islas Filipinas (1873)* *Estadística General del Comercio Exterior de las Islas Filipinas (1884, 1886 and 1893)*.

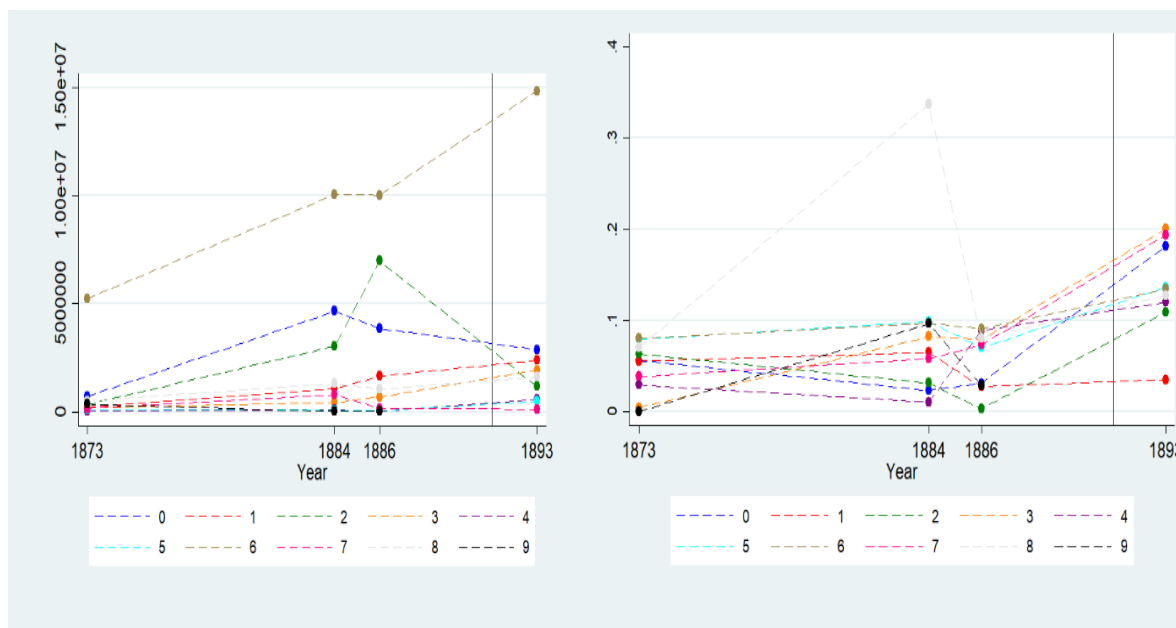
Among the policy instruments used to promote imports from the metropole, this analysis focuses on the implementation of discriminatory tariffs. Figure 5 presents the evolution of imports and average ad valorem tariffs by SITC 1-digit sectors. The evolution of imports reflects the impact of tariff changes. The largest tariff increases occurred in primary products (SITC 0 and 2), which also saw the greatest declines in import volumes. In contrast, SITC 6 products faced only moderate tariff increases but registered the highest growth in imports.

The results in Figure 5 highlight a clear dichotomy between tariffs on primary and industrial goods, warranting more detailed investigation. The SITC classification allows us to distinguish between primary and industrial products⁶. In this case, figure 6 considers agricultural products those included between digits 0 and 4, and industrial

⁶ The Standard International Trade Classification (SITC), developed by the United Nations, is an international system for categorizing traded goods based on their stage of processing, material composition, and intended use. It facilitates consistent cross-country and temporal comparisons of trade statistics. This study employs SITC Revision 3 at the 1-digit level, with the following categories: 0 = Food and live animals; 1 = Beverages and tobacco; 2 = Crude materials (inedible, except fuels); 3 = Mineral fuels, lubricants, and related materials; 4 = Animal and vegetable oils, fats, and waxes; 5 = Chemicals and related products, n.e.s.; 6 = Manufactured goods classified chiefly by material; 7 = Machinery and transport equipment; 8 = Miscellaneous manufactured articles; and 9 = Commodities and transactions not elsewhere classified.

products those between digits 5 and 9. The upper part of the figure shows that for both agricultural and industrial goods, the 1891 tariff appears to mark an increase in imports from the metropole, more evident in the case of manufactures.

Figure 5: Total Import Value to the Philippines (left) and weighted Ad Valorem Tariffs (right) by Sector in 1873, 1884, 1886, 1893.



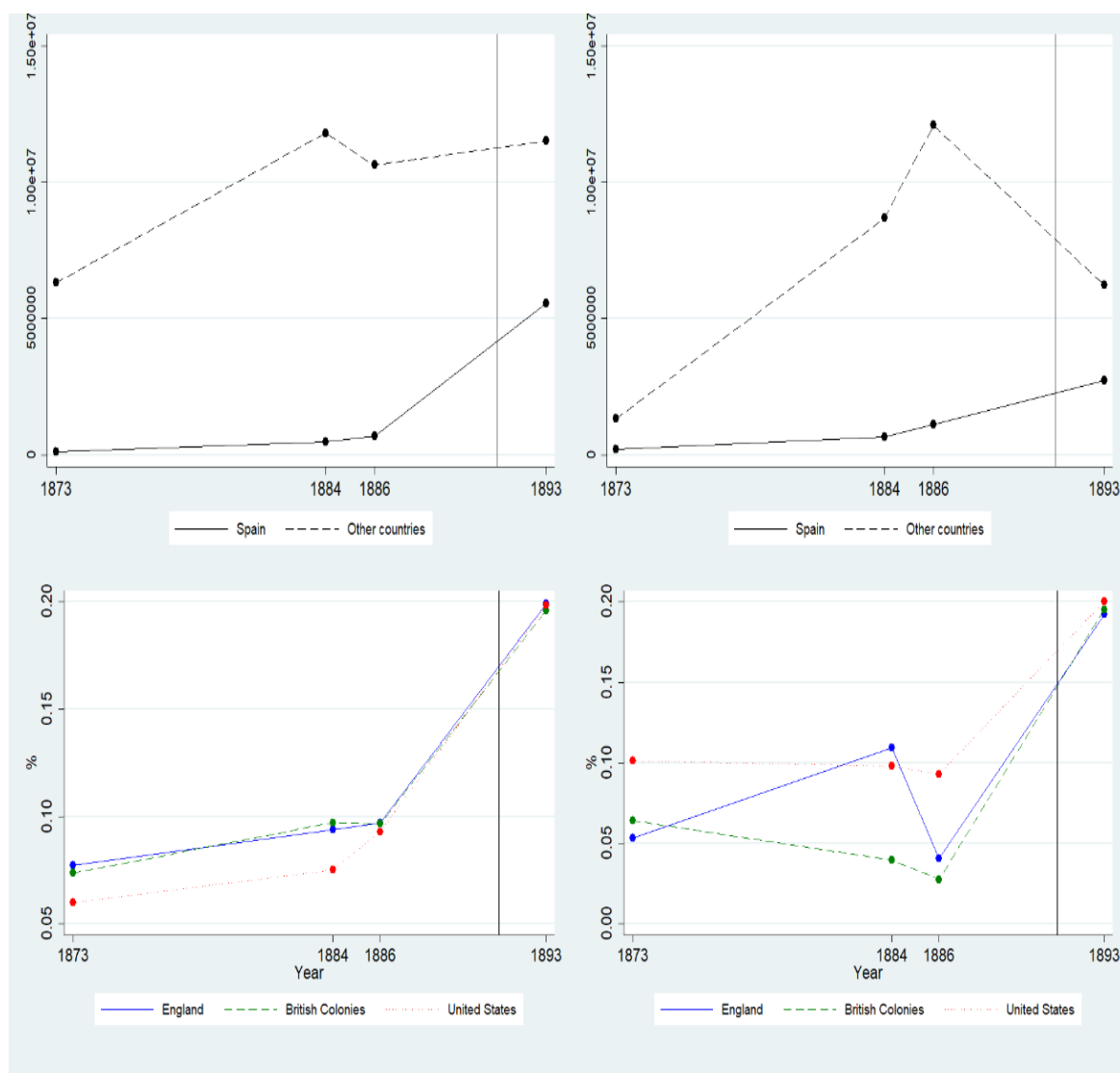
Sources: Estadística Mercantil del Comercio Exterior de las Islas Filipinas (1873) Estadística General del Comercio Exterior de las Islas Filipinas (1884, 1886 and 1893).

At first glance, protection against third countries appears more pronounced for agricultural products than for industrial ones. As shown in the lower panel of the figure, tariffs on agricultural goods rose more sharply than those on industrial products following the 1891 reform. This likely contributed to a decline in imports from non-metropolitan partners, suggesting a process of import substitution. The evolution of tariff rates indicates that raising agricultural protection was primarily directed at British colonies, whereas the increment in industrial tariffs appear aimed at curbing the rise of an emerging economic power with growing interests in the Asia-Pacific region—namely, the United States.

Nonetheless, agricultural goods were heavily dominated by rice imports, whose behavior was highly volatile. This volatility is largely explained by the years of prolonged drought or by import substitutions during years of good harvests. As a result,

agricultural imports of rice—the most important grain consumed in the Philippines—were less influenced by tariff discrimination.⁷

Figure 6: Value of Philippine Imports from Spain and Other Countries for Industrial and Agricultural Products (above) and agrarian and industrial tariffs to principal partners outside the metropolis (below) by Benchmarks in 1873, 1884, 1886, 1893.



Source: *Estadística Mercantil del Comercio Exterior de las Islas Filipinas (1873) Estadística General del Comercio Exterior de las Islas Filipinas (1884, 1886 and 1893).*

For this reason, the study focuses on industrial protection, with particular attention to textile products. Given the dominance of textile manufactures within SITC

⁷ It will be noted from the above table that about one-sixth of the rice consumed is imported. The biggest importation ever made during the last ten years was in 1912 when there was a prolonged drought.” (see Camus, J. (1921) p. 12).

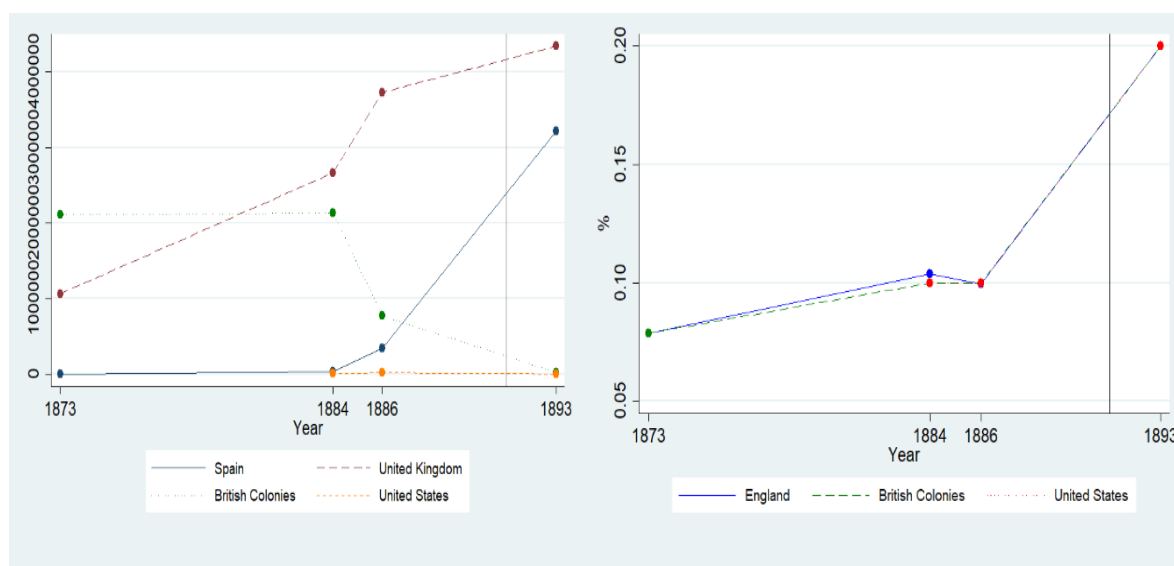
digit 6 in both Philippine imports and Spanish exports (Rosés, 2001), the econometric analysis centers on this sector.

As previously noted, Catalan industrialists engaged in cotton textile production actively lobbied for higher tariffs and for the use of colonies as privileged markets for their goods (Sudrià, 1983). Figure 7 illustrates both the increase in cotton textile imports from major exporting countries and the corresponding average ad valorem tariffs imposed on these exporters by the Spanish colony.

Consistent with earlier observations, the 1891 tariff appears to have contributed to a substantial increase in textile imports from the metropole, aligning with Catalan industrialists' demands. However, it is notable that England also expanded its exports to the colony. Since ad valorem tariffs on textiles rose similarly across major exporters—with the exception of Spain—this suggests that, alongside protectionism and the emergence of an imperial trade bloc, other factors may have influenced trade patterns. For example, the rise in cotton textile imports from Great Britain alongside the decline in imports from British colonies may reflect the gradual shift from transit trade through British Southeast Asian entrepôts—such as Hong Kong and Singapore—to direct imports from Britain itself, a trend observed in the late 19th century (Ayuso-Díaz, 2022). The deterrent effect of the 1891 policy on Philippine cotton textile imports from Spanish competitors is evident in the fact that those imports rose by 67.9% in the decade between 1873 and 1884, but increased by only 1.9% in the following decade

As descriptive data alone cannot fully account for these dynamics, the following two sections outline the methodology and present the econometric analysis to more clearly assess the extent and nature of Spain's imperial trade bloc.

Figure 7: Import Value (left) and average tariffs (right) of Cotton Tissues (652 digit) to the



Philippines from Spain, British Colonies, Great Britain & USA in 1873, 1884, 1886, 1893.

Sources: *Estadística Mercantil del Comercio Exterior de las Islas Filipinas (1873)* *Estadística General del Comercio Exterior de las Islas Filipinas (1884, 1886 and 1893)*.

4. Methodology.

So far, we have outlined the objectives of this article. Our primary aim is to assess the impact of Spanish protectionism through the 1891 Cánovas Tariff, with particular attention to the use of ad valorem tariffs as an instrument of this policy.. For that purpose, we try to determine whether the tariffs imposed by colonial authorities in the Philippines were effective promoting imports from Spain or at least restricting imports from foreign countries. In the following section, we outline the different methods used to address these issues.

First, we will assess the impact of the two reforms of interest on Spanish exports to the Philippines through differences in differences. Our dependent variable consists of Philippine import values (in pesos), disaggregated by country of origin and product category for each of the four benchmark years.. The model estimated in this case is presented in Equation 1.

$$Imp_{ijt} = \beta_0 + \beta_1 Post1891_t + \beta_2 Spain_i + \beta_3 Post1891_t * Spain_i + \alpha_{ijt} + \varepsilon_{ijt} \quad (EQ1).$$

In this equation, $PostReform_t$ is a dummy variable equal to 1 for years after the 1891 Cánovas Tariff, and 0 for the rest. $Spain_i$ is a dummy equal to 1 for imports from Spain, which was the metropole at that time. The key variable is the interaction between both dummies, indicating the overall impact of the policy over Philippine imports from Spain.. We estimate the equation using a DR-DiD approach, which allows us to account for potential violations of the parallel trends assumption. This is done by incorporating different sets of covariates, represented in the matrix α_{ijt} . At this stage, we control only for multidimensional fixed effects—specifically Product-Year, Country-Year, and Product-Country interactions. However, we plan to extend the model by including additional variables that capture competitiveness and trade costs, as outlined in Section 3. Lastly, ε_{it} is the country and year variant error term.

Under this methodology, we also implement a triple differences (DDD) estimation to assess whether the 1891 Cánovas Tariff disproportionately favored imports from Spain in cotton textiles compared to other products. In this case, the variable of interest is the triple interaction term: $Post1891_t * Spain_i * Cotton_{j}$

Once we evaluate the behavior of Philippine imports from Spain after the 1891 protectionist shift, we want to determine whether ad valorem tariffs were used to increase colonial trade. To this end, we estimate a gravity model, as specified in Equation 2, to measure the impact of tariffs at the product level.

The rationale behind gravity models is that trade between two partners increases with their economic size and decreases with distance and transport costs (Tinbergen, 1962). Anderson (1979) and Bergstrand (1985) developed the multiplicative form of the gravity model, while Frankel and Wei (1995) applied the log-linear form to assess the impact of Regional Trade Agreements (RTAs) on trade flows. Anderson and Van Wincoop (2003) suggested incorporating exporter-time and importer-time fixed effects in gravity models to account for country-specific factors and global trade dynamics. Additionally, Berthou and Ehrhart (2017) recommended the use of panel data to better address multicollinearity, estimating the model using PPML, as proposed by Santos Silva and Tenreyro (2006).

Ultimately, these models have been widely used to analyze the impact of tariffs at the product level in trade between a colony and its metropolis (Arthi et al., 2024; De Zwart et al., 2024; Ayuso-Díaz & Tena-Junguito, 2024). These studies serve as the foundation for the present analysis.

The dependent variable in this equation represents Philippine imports (in Pesos) from country i for product j in period t . The key explanatory variable is the ad valorem equivalent of import duties, calculated as the ratio of import duties collected divided by total imports of product j in period t . The data sources employed provide different duties for imports originated in Europe and in the rest of the world in the 1884 and 1886 volumes, allowing for some differentiation across country i . Furthermore, for the case of Spain, we assume that tariffs are zero throughout the period as established, though not enforced in the 1871 Arancel Moret.

Since tariffs on Spanish goods were set at zero, the coefficient on β_1 captures the effect of tariffs on imports from non-Spanish countries. To avoid losing observations we take the log of $1 + \text{Tariff}$. To disaggregate the impact of tariffs across time and products, we interact the tariff variable with the post-1891 dummy and the cotton textiles dummy, respectively

$$\ln Imp_{ij,t} = \beta_0 + \beta_1 \text{Tariff}_{ij,t} + \gamma_{it} + \mu_{ij} + \pi_{jt} \quad (\text{EQ2}).$$

Following Yotov (2022) we add multidimensional fixed effects to better control for Multilateral Trade Resistance (MTR). In that sense, γ_{it} represents country-year variant fixed effects, μ_{ij} control for country-product fixed effects, while π_{jt} denotes product-year fixed effects.⁸ Finally $\varepsilon_{ij,t}$ corresponds to a country, time and product variant error term. As an alternative, we address Multilateral Trade Resistance (MTR) by including the log of exporter-population-weighted imports at the product level, rather than relying on fixed effects, following the approach suggested by Egger and Staub (2024).

5. Results.

This section presents and interprets the results obtained from the regressions outlined in Section 4. We begin by examining the impact of the 1891 Cánovas Tariff on exports to the Philippines by means of the diff-in-diff presented in Section 4.

The regression results presented in Table 1 suggest the presence of a colonial effect on Philippine imports, as the coefficient on the dummy variable indicating imports from Spain is positive and statistically significant in columns 1 and 2. Specifically, the Philippines imported between 4.4 and 5.7 times more from Spain than from its other trading partners .

Columns 3 and 4 present the DiD estimation results under the parallel trends assumption. The coefficients confirm the existence of a Spanish colonial trade bloc and, most importantly, reveal a positive and significant impact of the 1891 Cánovas Tariff on Philippine imports from Spain. Specifically, the interaction term *Spain after 1891* indicates that Spanish products experienced a relative increase in imports between 5.35

⁸ When we include interactions, multivariate fixed effects lead to multicollinearity, so we must eliminate them. When analyzing the impact of tariffs for specific countries, we maintain only year-product fixed effects.

and 6.09 times higher than imports from other countries following the implementation of the tariff.

In column 5, we present a more robust specification that addresses concerns about potential violations of the parallel trends assumption. The results indicate a moderate and more plausible 83.9% increase in imports from Spain, relative to other countries, following the implementation of the 1891 tariff. This supports the hypothesis that the protectionist policy favored the metropole's exports.

Furthermore, in column(6), the triple interaction term focusing on Spanish cotton tissues shows a strong and statistically significant positive effect, suggesting that this specific industrial product benefited especially from the new tariff structure. Overall, the results provide robust evidence that the 1891 tariff acted as a preferential boost to Spanish exports, particularly in key industrial sectors.

The remaining of the section aims to explore the trade policy instruments employed by the colonial administration in the Philippines. Most specifically, we are going to measure the impact of tariffs set by the colonial administration on Philippine trade at the product level.

Table 1: DiD Impact 1891 Tariff Law over Philippine imports from Spain at product level (1873-1893).

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
VARIABLES	PHL IMP Pesos	PHL IMP Pesos	PHL IMP Pesos	PHL IMP Pesos	PHL IMP Pesos	PHL IMP Pesos	PHL IMP Pesos	PHL IMP Pesos
Spain	1.483*** (0.563)	1.741*** (0.492)	0.587*** (0.161)	0.806*** (0.271)				
Post 1891			-0.0346 (0.259)	-0.00271 (0.367)				
Spain after 1891			1.807*** (0.164)	1.676*** (0.149)	0.609*** (0.0476)	0.602*** (0.125)		
Spanish cotton tissues after 1891.				1.287** (0.598)			3.865*** (0.0470)	1.463*** (0.337)
Method	PPMLHDFE	PPMLHDFE	PPMLHDFE	PPMLHDFE	DR-DiD	DR-DiD	DR-DiD	PPMLHDFE
Covariates	No	No	No	No	No	Yes	No	Yes
Fixed Effects	Product-Year	No. Pop share-weighted exports.	Product	NO	Product-Year, Country-Year and Product-Country	Product-Year, Country-Year and Product-Country	Product-Year, Country-Year and Product-Country	Product, Year, Country.
Observations	35,209	102,889	102,169	102,889	102,889	106,313	102,889	105,569

*Note: Robust standard errors in parentheses *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$*

Table 2 presents the results from a gravity model assessing the impact of tariffs on Philippine imports at the product level. In column 1, the coefficient on the tariff variable is negative (though not always significant), suggesting that higher tariffs were generally associated with lower import values, in line with economic intuition. Moreover, the coefficient is slightly higher than the -1 to -5 range reported by Anderson & Yotov (2025), suggesting that tariffs had a stronger-than-average impact on Philippine import markets during Spanish rule

Columns 2 and 3 provide a temporal disaggregation of the tariff impact. In both cases, the positive coefficient on the tariffs variable alongside the negative coefficients on the interaction between ad valorem tariffs and the post-1891 dummy indicate that the adverse effect of tariffs emerged only after 1891, suggesting that it was following this

policy change that tariffs were used to restrict imports from outside the metropolis. In our preferred specification (column 3), the coefficient on the interaction between tariffs and the post1891 dummy is equal to -1.758 (1.358-3.116). This means that after the reform a 1-unit increase in the log of 1+tariffs is associated with $\exp(-1.758)-1 \approx -0.828$, or about an 83% reduction in imports, holding other factors constant.

Additionally, the interaction term for cotton tissues (a key industrial product) shows a significant negative effect in columns (4) and (5), implying that textile products were especially sensitive to Philippines tariffs. In our preferred specification (column 5), the impact of tariffs on sectors other than cotton textiles is positive, likely reflecting endogeneity. However, for cotton textiles, a one-unit increase in $\log(1+\text{tariff})$ is associated with an $\exp^{f_0}(5.794-5.958)-1 \approx -15.2\%$ reduction in imports. Overall, the results reinforce the notion that tariffs in the Philippines were used to deter imports from competitors to Spanish producers, particularly after 1891 and in key industries such as cotton textiles.

Table 2: Gravity model impact tariffs over Philippine imports at product level (1873-1893)

VARIABLES	(1) Philippine imports in pesos	(2) Philippine imports in pesos	(3) Philippine imports in pesos	(4) Philippine imports in pesos	(5) Philippine imports in pesos
Tariff	-5.150*** (1.245)	4.395 (4.996)	1.358*** (0.463)	5.794*** (1.169)	4.726*** (1.069)
Post 1891		2.299*** (0.339)	1.430*** (0.294)		
Tariff Post 1891		-12.73*** (4.226)	-3.116*** (0.433)		
Cotton Tissues				3.644*** (0.362)	0.859 (1.205)
Tariffs Cotton Tissues				-5.958*** (1.920)	-2.908*** (1.036)
Constant	12.38*** (0.0264)	10.86*** (0.380)	5.862*** (0.202)	7.871*** (0.203)	6.221*** (0.357)
Fixed Effects	Product-Year, Country-Year and Product-Country	Country-Product	No. Pop share- weighted exports.	Country-year	No. Pop share- weighted exports.
Observations	3,567	13,605	102,888	62,656	102,888

*Note: Robust standard errors in parentheses *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$*

6. Conclusions.

This research addresses the growing interest in the impact of protectionism on trade patterns. Economic history offers a long-term perspective to assess past trade policies' effects. Traditionally, colonial territories have been marginalized in such studies due to their limited policy autonomy. However, they deserve attention because tariffs in these regions were shaped by bloc strategies, analogous to contemporary trade policies.. Our findings contribute to the broader literature emphasizing the importance of colonial import markets for the Metropolis and how the introduction of imperial preferences in the 1890s strengthened imperial trade blocs. Moreover, our results reveal the existence of a short-lived Spanish imperial trade bloc—often overlooked in the literature—that dissolved in 1895 following the revolutions in Cuba and the Philippines.

Historiography on the impact of Spanish tariffs has largely examined the extent of import substitution driven by the protectionist shift in the late 19th and early 20th centuries and the sectors targeted by these policies, yet none have thoroughly examined the implementation of discriminatory tariffs favoring the metropole in the early 1890s that intensified the influence of colonial ties on import patterns in the territories that adopted them. Ayuso-Díaz & Tena-Jungutio (2025) already offered strong evidence about it, but recognizing the need of a product level study to corroborate their results.

Building on this, our study investigates Philippines Imports at geographical and product level in some benchmark years between 1873 and 1893 using two new databases and integrating them. During this period, two major tariff reforms impacted the colony: *the Ley de Relaciones Comerciales con las Antillas* in 1882, followed by the Cánovas Tariff in 1891.

First, we have assessed the impact of the 1891 reform using a difference-in-differences approach. We find robust evidence that the 1891 tariff acted as a preferential boost to Spanish exports, particularly in key industrial sectors as cotton tissues. Then, we have measured the impact of ad-valorem effective tariffs in Philippine imports markets. Our results indicate that tariffs effectively curtailed imports from countries competing with Spanish producers, particularly after 1891 and in strategically important sectors such as cotton textiles. Nevertheless, confirming the existence of this short-lived

Spanish imperial bloc following the 1891 Cánovas Tariff requires replicating the analysis for Cuba, which was the principal colonial market for Spanish producers.

References.

- Absell, C. (2025). The Price and Welfare Consequences of the British Sugar Act of 1846. *The Journal of Economic History*, 85(1), 215-249.
- Absell, C, Federico, G. Tena-Junguito A. (2024) "Breaking the ties that bind: Metropolitan dependence and export growth in the poor periphery, 1950-90. *Structural Change and Economic Dynamics* 68, 281-297. <https://doi.org/10.1016/j.strueco.2023.11.002>.
- Anderson, J. E. (1979). A theoretical foundation for the gravity equation. *American Economic Review*, 69, pp. 106 – 16.
- Anderson, J. E., & Van Wincoop, E. (2003). Gravity with gravitas: A solution to the border puzzle. *American economic review*, 93(1), 170-192.
- Anderson, J. E., & Yotov, Y. V. (2025). Gravity in transition. *Review of International Economics*.
- Armero Martínez, A. (2016). El proceso de electrificación inicial en la provincia de Valencia (1882-1907) (Doctoral dissertation, Universitat Politècnica de València).
- Arthi, V., Lampe, M., Nair, A., & O'Rourke, K. H. (2024). Deliberate surrender? The impact of interwar Indian protection. *The Economic Journal*, 134(657), 23-47.
- Ayuso-Díaz, A. (2022). Natural trading partners versus empires in East and Southeast Asia regional integration (1840-1938). *Journal of the Japanese and International Economies*, 63, 101184.
- Ayuso-Díaz, A., & Tena Junguito, A. (2024). US and Japan rivalry in Philippine interwar import manufactures market: Power politics, trade cost and competitiveness (No. 265). EHES Working Paper.
- Bergstrand, J. H. (1985). The gravity equation in international trade: some microeconomic foundations and empirical evidence. *The review of economics and statistics*, 474-481.
- Berthou, A., & Ehrhart, H. (2017). Trade networks and colonial trade spillovers. *Review of International Economics*, 25(4), 891-923.
- Betrán, C., & Huberman, C. (2016). 'International competition in the first wave of globalization: New evidence on the margins of trade'. *The Economic History Review*, 69 (1), 258-287.
- Becuwe, S., Blancheton, B., & Meissner, C (2018). Stages of diversification: France, 1836–1938. *European Review of Economic History*, 22(4), 430–461.
- Cagigal, J. C. R. (2009). Los industriales vascos y el estado liberal: economía y grupos de presión en la crisis de la restauración. In *Extranjeros en el pasado. Nuevos historiadores de la España contemporánea* (pp. 213-238). Servicio de Publicaciones.
- Camus, J. (1921): "Rice in the Philippines" *Agricultural Review*. Vol XIV. Nº1 1921
- Carreras, A., & Tafunell, X. (2010). *Historia económica de la España contemporánea (1789-2010)*. Barcelona: Crítica
- Carreras Marín, A., & Blasco-Martel, Y. (2004). Las exportaciones de España a Cuba (1891-1913): pervivencias históricas en la demanda cubana de productos españoles. *Secuencia. Revista de Historia y Ciencias Sociales*, 2004, num. 59, p. 131-156.
- Coo, S. M. R. (2014). *Clothing and the colonial culture of appearances in nineteenth century Spanish Philippines (1820-1896)* (Doctoral dissertation, Université Nice Sophia Antipolis).
- De Bromhead et al., (2019). When Britain Turned Inward: The Impact of Interwar British Protection. *American Economic Review*, 109 (2). 325–52.
- De Montaud, I. R. (2003). La política española en Cuba: una década de cambios (1876-1886). *Ayer*, 175-203.
- De Zwart, P., Lampe, M., & O'Rourke, K. H. (2024). The last free traders? Interwar trade policy in the Netherlands and Netherlands East Indies. *The Economic History Review*, 77(3), 1057-1085.
- Delgado, J. M. (1999). "Menos se perdió en Cuba". *La dimensión asiática del 98. Illes i imperis*, 49-64.
- Delgado Perea, P. (2019). Crecimiento intensivo y extensivo de las exportaciones españolas durante el Viraje Nacionalista (1890-1913).
- Delgado, P. (2022). The behaviour of Spanish industry in international markets (1890–1913). *Revista de Historia Industrial/Industrial History Review*, 85, 145-180.
- Egger, P. H., GEP, W., & Staub, K. E. (2024). Estimating trade network models without network econometrics.

- Elizalde Pérez-Grueso, M. D. (1998). España y Filipinas: antes y después de 1898.
- Elizalde Pérez-Grueso, M. D. (2008). Filipinas, ¿una colonia internacional?. *Illes i imperis*, 203-236.
- Esteban Oliver, G. (2016). Competencia internacional durante la primera globalización: El mercado de maquinaria en España (1877-1913).
- Fajgelbaum, P., Goldberg, P. K., Kennedy, P. J., Khandelwal, A., & Taglioni, D. (2021). The US-China trade war and global reallocations (No. w29562). Cambridge, MA: National Bureau of Economic Research.
- Federico, G. and Tena-Junguito A. (2019): World trade, 1800-1938: a new synthesis. *Revista de Historia Económica-Journal of Iberian and Latin America Economic History*, Vol 37, n.1. <https://doi.org/10.1017/S0212610918000216>.
- Fradera, J. M. (2004). The historical origins of the Philippine economy: a survey of recent research of the Spanish colonial era. *Australian Economic History Review*, 44(3), 307-320.
- Fraile, P. (1991). Industrialización y grupos de presión la economía política de la protección en España, 1900-1950. Alianza.
- Frankel, J. A., Wei, S. J., Canzoneri, M., & Goldstein, M. (1995). Emerging currency blocks. In *The international monetary system: its institutions and its future* (pp. 111-170). Berlin, Heidelberg: Springer Berlin Heidelberg.
- García, M. Á. S. (2004). Herraduras, clavos y arados. Siderurgia y demanda agraria en la España de la segunda mitad del siglo XIX. *Revista de historia industrial*, 183-183.
- Huetz de Lemps, X., & Elizalde Pérez-Grueso, M. D. (2024). Liberalising Tobacco in the Philippines During the Nineteenth-Century Late Spanish Colonial Period. In *Tobacco in Global Perspective, 1780–1960: Trade, Knowledge, and Labour* (pp. 21-47). Cham: Springer Nature Switzerland.
- Hungerland, WF., & Wolf, N. (2021). The Panopticon of Germany's Foreign Trade, 1880-1913: New facts on the First Globalization. *European Review of Economic History*, 26(4), 479–507.
- Huberman, M., Meissner, C., & Oosterlink. (2017). Technology and Geography in the Second Industrial Revolution: New Evidence from the Margins of Trade. *The Journal of Economic History* (77), 1, 39-89.
- Junyent, F. V. (2007). Compitiendo con el champagne. La industria española de los vinos espumosos antes de la Guerra Civil. *Revista de Historia Industrial—Industrial History Review*, 16(33), 47-79.
- Li, M., Balistreri, E. J., & Zhang, W. (2020). The US–China trade war: Tariff data and general equilibrium analysis. *Journal of Asian Economics*, 69, 101216.
- Legarda Jr, B. J. (2012). The economic background of Rizal's time. *Philippine Review of Economics* (Online ISSN 2984-8156), 48(2), 1-22.
- Mao, H., & Görg, H. (2020). Friends like this: the impact of the US–China trade war on global value chains. *The World Economy*, 43(7), 1776-1791.
- Meissner, C., & Tang, J. (2018). Upstart Industrialization and Exports: Evidence from Japan, 1880–1910. *The Journal of Economic History*, 78(4), 1068 – 1102.
- Moneta, C. (1959). The estimation of transportation costs in international trade. *Journal of Political Economy*, 67(1), 41-58. Cuba. Alcores: revista de historia contemporánea, (2), 59-105.
- Mora, L. M. G., & García, A. S. (2006). La savia del imperio: azúcar, comercio y relación colonial en Nadal, J., & Sudrià, C (1993). La controversia en torno al atraso económico español en la segunda mitad del siglo XIX (1860-1913)', *Revista de Historia Industrial*, 3, 199-224
- Palafox, J. (1997). Las luces y sombras del crecimiento económico. 1900-1930. *Ayer*, (28), 61-90.
- Pardos Martínez, E. (1998). La incidencia de la protección arancelaria en los mercados españoles (1870-1913). Banco de España. Servicio de Estudios.
- Piqueras, J. A. (1998). La renta colonial cubana en vísperas del 98. *Tiempos de América: revista de historia, cultura y territorio*, 47-69.
- Piqueras Haba, J. (2005). La filoxera en España y su difusión espacial: 1878-1926.
- Prados, L. (1988). De imperio a Nación. Crecimiento y atraso económico en España (1780-1930). Madrid: Alianza Universidad
- Prados, L. (1997). Política económica liberal y crecimiento en la España contemporánea: un argumento contrafactual, *Papeles de Economía Española*, 73, 83-99
- Prados, L. (1999). 'El sector exterior español durante el siglo xix'. In *Historia Económica de España: siglos xix y xx*, edited by Gonzalo Anes Álvarez de Castrillón, 289-339. Barcelona: Galaxia Gutenberg y Círculo de Lectores.
- Prat, M., & Soler, R. (2002). La formación de redes comerciales y el fracaso de la penetración internacional de los tejidos catalanes, 1850-1930. *Revista de Historia Industrial*, 21, 201-225.

- Ramon-Muñoz, R. (1994). Los Rocamora, la industria jabonera barcelonesa y el mercado colonial antillano (1845-1913). *Revista de Historia Industrial*, 1994, num. 5, p. 151-162.
- Rosés, J. (2001). La competitividad internacional de la industria algodonera española (1830-1860), *Revista de Historia Económica/Journal of Iberian and Latin American Economic History*, 19 (1), 85-109.
- Rogers, Z. S., Golar, S., Abdulsalam, Y., & Rogers, D. S. (2024). Protect Me not: The effect of tariffs on US supply networks. *Journal of Purchasing and Supply Management*, 100897.
- Sabaté, M. (1996). La impronta industrial de la reforma arancelaria de 1906. *Revista Industrial*, 7, 81-107.
- Sanz, J.M.S. (1987) El viraje proteccionista en la Restauración: la política comercial española, 1875-1895. (No Title).
- Sanz, J. M. S. (2011). Librecambio y protección en la España liberal. *Historia contemporánea*, (43).
- Sanz, J. M. S. (2017). Con el viento a favor. La Asociación para la Reforma de los Aranceles de Aduanas, 1859-1869. *Revista de Historia Industrial*, 26(68), 47-79.
- Sanz, J. M. S., Sabaté, M., & Fillat, C. (2021). Trigo y política: El proteccionismo cerealista en el Parlamento, 1886-1890. *Historia Agraria*, 85, 157-184.
- Schwartz Girón, P. (2005). Proteccionismo y nacionalismo en el pensamiento de Cánovas del Castillo. In *Anales de la Real Academia de Ciencias Morales y Políticas* (pp. 335-375). Ministerio de Justicia.
- Silva, J. S., & Tenreiro, S. (2006). The log of gravity. *The Review of Economics and statistics*, 88(4), 641-658.
- Sudrià, C. (1983). La exportación en el desarrollo de la industria algodonera española, 1875–1920. *Revista de Historia Económica-Journal of Iberian and Latin American Economic History*, 1(2), 369-386.
- Steinbock, D. (2018). US-China trade war and its global impacts. *China Quarterly of International Strategic Studies*, 4(04), 515-542.
- Tena-Junguito, A. (1999). Un nuevo perfil del proteccionismo español durante la Restauración, 1875–1930. *Revista De Historia Económica-Journal of Iberian and Latin American Economic History*, 17(3), 579-621.
- Tena-Junguito, A. (2010). Tariff History Lessons from the European Periphery. Protection Intensity and the Infant Industry Argument in Spain and Italy 1870-1930, *Historical Social Research*, 35 (1): 340-362.
- Tena-Junguito, A., Lampe, M., & Fernandes, F. T. (2012). How much trade liberalization was there in the world before and after Cobden-Chevalier?. *The Journal of Economic History*, 72(3), 708-740.
- Timini, J. (2021). The drivers of Italian exports and product market entry: 1862–1913. *European Review of Economic History*, 25(3), 513-548.
- Tirado, D. A. (1996). Protección arancelaria y evolución de la economía española durante la Restauración: un ensayo interpretativo. *Revista de Historia Industrial*, 53-81.
- Tinbergen J (1962), *Shaping the World Economy*, The Twentieth Century Fund, New York.
- Yáñez, C. (2006). Los negocios ultramarinos de una burguesía cosmopolita. Los catalanes en las primeras fases de la globalización, 1750-1914. *Revista de Indias*, 66(238), 679-710.
- Yotov, Y. V. (2022). On the role of domestic trade flows for estimating the gravity model of trade. *Contemporary Economic Policy*, 40(3), 526-540.

OFFICIAL PUBLICATIONS.

- Estadística General del Comercio Exterior de España con sus Provincias de Ultramar y Potencias Extranjeras (1890 and 1895)
- Estadística General del Comercio Exterior de las Islas Filipinas (1884 and 1886).
- Estadística Mercantil del Comercio Exterior de las Islas Filipinas (1873)
- Ministerio de Ultramar. (1870). Aranceles de aduanas para las Islas Filipinas: Aprobados por Decreto de 16 de Octubre de 1870. Imprenta Nacional.
- Ministerio de Ultramar. (1891). Aranceles y ordenanzas de aduanas para las Islas Filipinas. Establecimiento Tipográfico Sucesores De Rivadeneyra.