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Protectionism and Economic Growth: Causal Evidence from the First Era of Globalization

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Protectionism and Economic Growth: Causal Evidence from the First Era of Globalization

Abstract

We investigate how protectionist policies influence economic growth. Our empirical strategy exploits an extraordinary tax scandal that gave rise to an unexpected change of government in Sweden. A free-trade majority in parliament was overturned by a protectionist majority in 1887. We employ the synthetic control method to select control countries against which economic growth in Sweden can be compared. We do not find evidence suggesting that protectionist policies influenced economic growth and examine channels why. Tariffs increased government revenue. However, the results do not suggest that the protectionist government stimulated the economy in the short-run by increasing government expenditure.

JEL-Codes: C330, D720, F100, F130, N100, O110.

Keywords: protectionism, economic growth, first era of globalization, synthetic control method, causal inference.

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1 Introduction

How trade policies influence economic growth has been examined for a long time. Empirical evidence based on data for the late 20th and the early 21st century suggests that protectionist policies decrease economic growth (e.g. [Sachs and Warner, 1995](#); [Edwards, 1998](#); [Frankel and Romer, 1999](#); [Rodríguez and Rodrik, 2000](#); [Dreher, 2006](#); [Eaton et al., 2016](#); [Gygli et al., 2019](#); [Irwin, 2019](#); [Andersen et al., 2020](#)). The empirical evidence from the late 19th and the early 20th century is less conclusive; most studies report a positive correlation between tariffs and economic growth (‘tariff-growth paradox’) (e.g., [Bairoch, 1972](#); [Irwin, 1998, 2002](#); [O’Rourke, 2000](#); [Lehmann and O’Rourke, 2011](#); [Schularick and Solomou, 2011](#)). The previous studies on trade policies and growth in the first era of globalization report correlations and do not provide causal evidence on the impact of protectionism. We use an unexpected change of government to estimate the causal effect of a protectionist regime on growth in Sweden in the late 1880s.

Our empirical strategy exploits that an extraordinary tax scandal gave rise to an unexpected change of government in Sweden. A free-trade majority in parliament was overturned by a comfortable protectionist majority in the fall of 1887. Swedish trade policies had been liberal for decades in the 19th century. Advocates of free trade (free-traders) also won the Swedish national elections in 1887. Shortly after the fall election of 1887, an extraordinary event took place. A free-trade candidate for the Stockholm electoral district had outstanding tax liabilities. Based on the parliamentary act of 1866, the election committee declared him an illegitimate candidate and discarded all 6,585 ballots that included his name. In January 1888, the supreme court confirmed the decision of the election committee and instated 22 protectionist candidates as representatives for the Stockholm electoral district in the *Riksdag*. As a result, the free-trade majority in the second chamber of parliament (125 free-traders, 97 protectionists¹) was overturned by a comfortable protectionist majority (119 protectionists, 103 free-traders), and the free-trade government resigned. A protectionist government took office in February 1888 and drastically increased tariffs. This unexpected change of government provides an ideal case for investigating how protectionist policies influence short-term economic growth.

We employ the synthetic control (SC) method ([Abadie and Gardeazabal, 2003](#)) to select control countries against which economic growth in Sweden can be compared.

¹Some sources claim that the initial result was 124 free-traders and 98 protectionists (e.g. [Lindorm, 1936](#)).

We do not find evidence suggesting that protectionist policies influenced short-run economic growth in 19th century Sweden. The results show that tariffs increased government revenue. However, there is no evidence that the protectionist government increased government expenditure to stimulate the economy in the short-run.

Our study contributes to the literature examining the tariff-growth nexus in the late 20th and 21st century (e.g. [Sachs and Warner, 1995](#); [Edwards, 1998](#); [Frankel and Romer, 1999](#); [Rodríguez and Rodrik, 2000](#); [Dreher, 2006](#); [Eaton et al., 2016](#); [Gygli et al., 2019](#); [Irwin, 2019](#); [Andersen et al., 2020](#)) and in the late 19th and early 20th century (e.g., [Bairoch, 1972](#); [Irwin, 1998, 2002](#); [O’Rourke, 2000](#); [Lehmann and O’Rourke, 2011](#); [Schularick and Solomou, 2011](#)).

Methodologically, our paper is related to the growing body of work using the synthetic control method to make causal inference in aggregate panel data settings (e.g., [Billmeier and Nannicini, 2013](#); [Pinotti, 2015](#); [Cunningham and Shah, 2018](#); [Andersson, 2019](#); [Born et al., 2019](#); [Potrafke and Wüthrich, 2020](#)).

2 The 1887 change in government

Sweden pursued a liberal trade policy since Louis De Geer became Prime Minister for Justice in 1858 ([Rustow, 1955](#)).² In 1885, members of both chambers of the Swedish parliament started to organize themselves according to their stance on trade policy ([Rustow, 1955](#); [Lewin, 1988](#)). The result was a face-off between free-traders and protectionists. The free-traders won the election in fall 1887 by a large margin ([Andersson, 1950](#)).³ Thus, it was very likely that the liberal trade policy would be continued.

Shortly after the fall election, an unexpected event took place, which was called “sensational” ([Lewin, 1988](#)), “preposterous” ([Carlsson and Rosén, 1961](#)), and “scandalous” ([Esaiasson, 1990](#)). Stockholm’s electoral district was entitled to 22 seats in the second chamber of parliament ([Rustow, 1955](#)). Citizens in Stockholm elected only free-traders into parliament by large vote margins.⁴ The election’s appeal period lasted until October 4, 1887. Two citizens filed appeals against the election results in Stockholm’s electoral district ([Stockholms Dagblad, 1887](#)). The appeal by Wilhelm

²Louis De Geer was Prime Minister for Justice from 1858 to 1870 and again from 1875 to 1876. He became the first Swedish Prime Minister in 1876.

³See [Lehmann and Volckart \(2011\)](#) for a description of the electorates of free-traders and protectionists.

⁴Stockholm was the main stronghold of free-trade sentiment at this time.

Alexander Bergstrand, the publisher of the newspaper *Nya Dagligt Allehanda*, induced a political turmoil in Stockholm and soon after in the whole country.

On October 4, 1887, shortly before the appeal period ended, Bergstrand submitted his appeal and published it in *Nya Dagligt Allehanda* on the same day (Bergstrand, 1887). In his appeal, Bergstrand claimed that Olof Larsson, one of the 22 free-trade candidates, owed a small amount of crown and municipal taxes for 1881 and 1882. According to paragraphs 25 and 26 of the Parliament Act of 1866, a candidate with tax debt is disqualified and all votes with the candidate's name are invalid (Lagerbjelke et al., 1866). Bergstrand demanded that all ballot papers including Larsson's name be declared invalid. He further demanded a recount of all valid votes. On October 5, 1887, Bergstrand published proof for Larsson's tax liabilities: The tax collection commissioner for Adolf Fredriks and Kungsholms (two districts in Stockholm) had issued a certificate confirming Larsson's tax liabilities on October 4, 1887 (Geete, 1887).

Events unraveled during the following days. Many newspapers published opinions about the legitimacy of the appeal. Larsson's statement in *Aftonbladet*, one of the most influential newspapers at the time, disputed any tax liabilities but remained without the intended effect (Larsson, 1887). On October 12, 1887, the election committee accepted Bergstrand's appeal and invalidated all ballot papers with Larsson's name on them (Lindorm, 1936). It ordered a recount of the votes and declared the 22 protectionist candidates winners of the election. Disputes followed and the decision of the election committee was challenged. On January 25, 1888, the supreme court ruled that the 6,585 ballot papers with Larsson's name on them are indeed invalid and officially instated the 22 protectionist candidates as legitimate representatives of the electoral district of Stockholm in the *Riksdag*. The free-trade majority in the second chamber of parliament (125 free-traders, 97 protectionists) was overturned by a comfortable protectionist majority (119 protectionists, 103 free-traders).⁵ As a result, the liberal government resigned on February 6, 1888, and the experienced protectionist Gillis Bildt became prime minister.⁶ In February 1888, Bildt's government issued the first tariff laws raising tariffs on agricultural products in a first step from duty free to around 15 percent and subsequently to more than 20 percent (Andersson, 1950; Rustow, 1955; Bohlin, 2005). See Appendix A for a timeline of the main events.

The change in parliamentary majorities in the aftermath of the 1887 fall election

⁵Both chambers of parliament decide on trade policy and each representative has one vote.

⁶Bildt served as Swedish ambassador in Berlin when the *Reichstag* under Bismarck introduced the agrarian protectionist system in 1879.

occurred unexpectedly. We reviewed hundreds of articles from regional and national Swedish newspapers from before the September 1887 election up to January 25, 1888.⁷ We found no indication that the tax debt was known before the election.

3 Data and empirical strategy

3.1 Data

We use data from the Jordà-Schularick-Taylor (JST) Macrohistory Database (Jordà et al., 2017).⁸ The JST Database includes annual data for 17 advanced economies since 1870. It encompasses measures of GDP⁹, imports, exports, government revenue, and government expenditure. Data comes from a broad range of historical sources and various publications of governments, statistical offices, central banks, and private banks. For some countries the authors extended data series from university databases and international organizations. The main source for our GDP measure is the *Macroeconomic Data Set* (Barro and Ursúa, 2010). Most trade and national account data come from Mitchel (2007), Flora et al. (1983), IMF international financial statistics, OECD national accounts statistics, and national statistics offices.

We examine data until the year 1890, because the next election took place in the fall of 1890. The free-traders won this election.

3.2 Synthetic control

To estimate how protectionism influences economic growth, we use the SC method invented by Abadie and Gardeazabal (2003); see Abadie (2019) for a review. SC approximates the unobserved counterfactual (i.e., what would have happened to Sweden with a free-trade government) using a weighted average of contemporaneous outcomes of control countries. We refer to this weighted average as “synthetic Sweden”. The weights are estimated based on the pre-treatment data and are restricted to be positive and sum up to one. To avoid concerns about specification search, we only use pre-treatment outcomes to estimate the SC weights and do not include additional pre-

⁷We used a search algorithm with keywords and time periods for Swedish newspaper articles provided by the National Library of Sweden (*Kungliga biblioteket, KB*).

⁸The data are available here: <http://www.macrohistory.net/data/>.

⁹We use real GDP per capita (index, 2005=100).

dictors.¹⁰

SC can be viewed as a generalization of the classical difference-in-differences approach. The main insight underlying the SC method is that a weighted average of control units often provides a more accurate approximation to the unobserved counterfactual than any individual control country or a simple average of control countries as used in difference-in-differences analyses.

To make inferences, we use the permutation method proposed by [Abadie et al. \(2010\)](#).¹¹ We permute the treatment assignment and estimate placebo treatment effects for all control countries. This yields a distribution of placebo effects against which the effect estimate for Sweden can be compared. If the treatment is randomly assigned, this inference procedure corresponds to classical randomization inference ([Abadie et al., 2010](#)); if random assignment fails, it can be interpreted as evaluating significance relative to a benchmark distribution of the assignment process ([Abadie, 2019](#)).

3.3 Choice of donor pool

We restrict our donor pool to countries that had free-trade governments from 1870 to 1890. From the 17 countries available in the JST Database, we exclude France, Germany, Italy, Spain, and Portugal because of protectionist trade policies.¹² Data is missing for Australia and Japan. Therefore, our donor pool includes Belgium, Canada, Denmark, Finland, the Netherlands, Norway, Switzerland, the United Kingdom, and the United States.

An important requirement for SC analyses is that the donor pool of control countries is homogeneous enough ([Abadie, 2019](#)). All countries in our donor pool were industrializing during the 1870s and 1880s. Citizens or elected representatives of the citizens possessed substantial political power and influenced national policies.

¹⁰We implemented SC using the Stata package `synth`.

¹¹The permutation inference procedure is a design-based approach that exploits the assignment mechanism. Alternative sampling-based inference procedures were proposed, for instance, by [Chernozhukov et al. \(2019a\)](#), [Chernozhukov et al. \(2019b\)](#), and [Li \(2019\)](#).

¹²We use country classifications of previous studies (e.g., [O’Rourke et al., 1996](#); [O’Rourke, 2000](#); [Irwin, 1998, 2002](#); [Rodríguez and Rodrik, 2000](#); [Clemens and Williamson, 2004](#); [Williamson, 2006](#); [Schularick and Solomou, 2011](#)) and classify countries either as “protectionist”/“tariff hikers” or “free-trade”/“non-tariff hikers”.

4 Results: Protectionism and growth

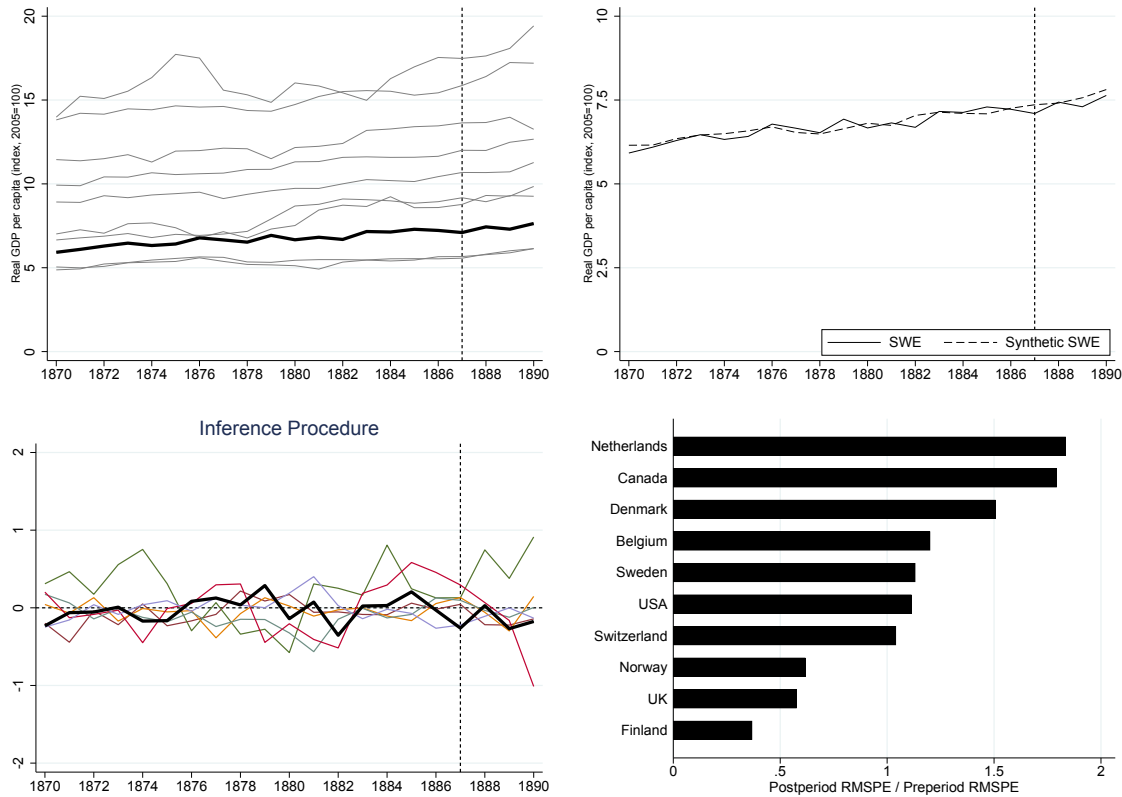
The upper left panel of Figure 1 shows real GDP per capita for each donor pool country and Sweden from 1870 to 1890. Sweden’s GDP is depicted in thick black; the other donor pool countries’ GDPs are depicted in grey. The upper right panel shows how real GDP per capita developed in Sweden and synthetic Sweden over the period 1870–1890. The synthetic Sweden consists of 21.7% of Denmark, 43.6% of Finland, 17.3% of Norway, 0.3% of the United Kingdom and 17.0% of the United States (see Appendix F).

We find no evidence suggesting that protectionism influenced real GDP per capita. From 1870 to 1887, Sweden’s average real GDP per capita grew from 5.92 to 7.10 (average annual growth rate (AAGR): 1.07 percent), and synthetic Sweden’s average real GDP per capita grew from 6.15 to 7.36 (AAGR: 1.06 percent). After the change in government, from 1887 to 1890, Sweden’s average real GDP per capita grew from 7.10 to 7.64 (AAGR: 2.47 percent), and synthetic Sweden’s average real GDP per capita grew from 7.36 to 7.81 (AAGR: 2.01 percent).

To make inferences, we iteratively re-assign the treatment to every country in the donor pool. Because SC does not yield good pre-treatment fits for some control countries, we exclude countries for which the pre-treatment mean squared prediction error (MSPE) is at least 10 times larger than Sweden’s pre-treatment MSPE (lower left panel of Figure 1). The results do not suggest that the effect of protectionism on GDP in Sweden was large relative to the distribution of placebo effects. Since the cutoff of 10 is arbitrary, we also report the ratio of post-treatment root MSPE (RMSPE) to pre-treatment RMSPE, as suggested by [Abadie et al. \(2015\)](#). A large ratio of post- and pre-treatment RMSPE is indicative of a true effect. The lower right panel of Figure 1 suggests that the ratio of post- and pre-treatment RMSPE was not large in Sweden compared to the other countries in the donor pool.

We examine the robustness of our results to potential spillover effects from Sweden’s tariff policy on its trading partners (see Appendix C). We exclude from the donor pool countries exporting more than 10 percent of total exports to Sweden in 1887. Changing the donor pool does not affect our results.

Figure 1: Real GDP per capita



Notes: Real GDP per capita is shown as an index (2005 = 100). The lower left panel excludes countries for which the pre-treatment MSPE is at least 10 times larger than Sweden’s pre-treatment MSPE.

Sources: Jordà-Schularick-Taylor Macroeconomic History Database

5 Channels

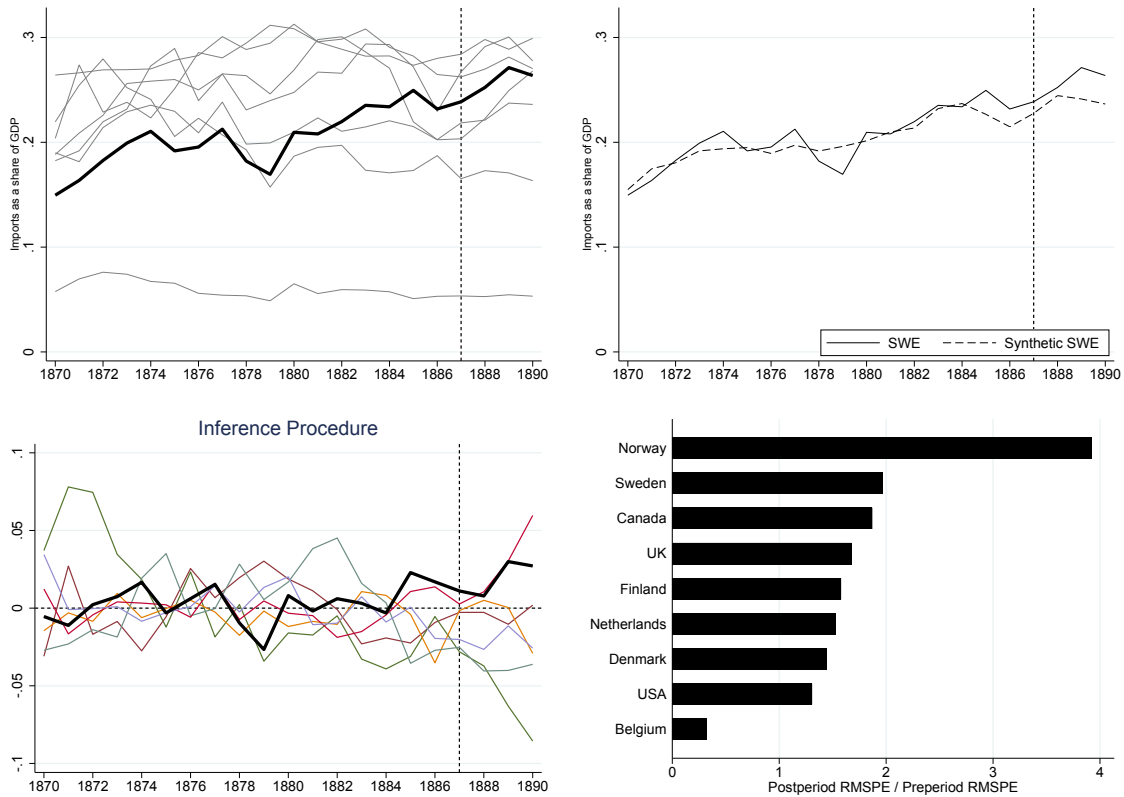
We examine channels for why there is no evidence suggesting that protectionism influenced economic growth. We focus on outcomes of international trade and fiscal policies that are, in turn, likely to influence short-run economic growth.

5.1 Imports

It is conceivable that protectionism decreased imports, especially from those countries from which Sweden imported a substantial fraction of its goods. However, Figure 2 does not suggest that the introduction of tariffs decreased imports. The total value of

imports increased from 297,410,000 kronor in 1887 to 324,709,000 kronor in 1888 (see Appendix D). The protectionist tariff policy implemented in early 1888 did not reverse the steady growth of imports. The total value of imports as a share of GDP increased from 14.95 percent in 1870 to 23.87 percent in 1887. In 1888, imports as a share of GDP increased to 25.23 percent and reached 26.37 percent in 1890.

Figure 2: Imports as a share of GDP



Notes: The Spaghetti graphs (upper left panel) do not show the Netherlands' imports. The Netherlands' imports as a share of GDP were between 54.43 and 107.95 percent (1870–1890). Data is missing for Switzerland. The lower left panel excludes countries for which the pre-treatment MSPE is at least 10 times larger than Sweden's pre-treatment MSPE.

Sources: Jordà-Schularick-Taylor Macrohistory Database

We do not find evidence that aggregate import levels masked heterogeneous effects of the Swedish tariffs on individual trading partners; see Appendix D for information on how Swedish imports from individual countries developed between 1870 and 1890.

Bildt's government increased tariffs to different extents across sectors. Appendix E shows how the composition of Swedish imports across sectors developed between 1870

and 1890. Agricultural imports remained stable on a high level and manufactured imports continued their growth path after 1888. Disentangling the effects of tariffs on agricultural imports and tariffs on manufactured imports is not possible because tariffs were raised simultaneously across sectors. However, we do not observe that the composition of imports changed substantially after 1887.

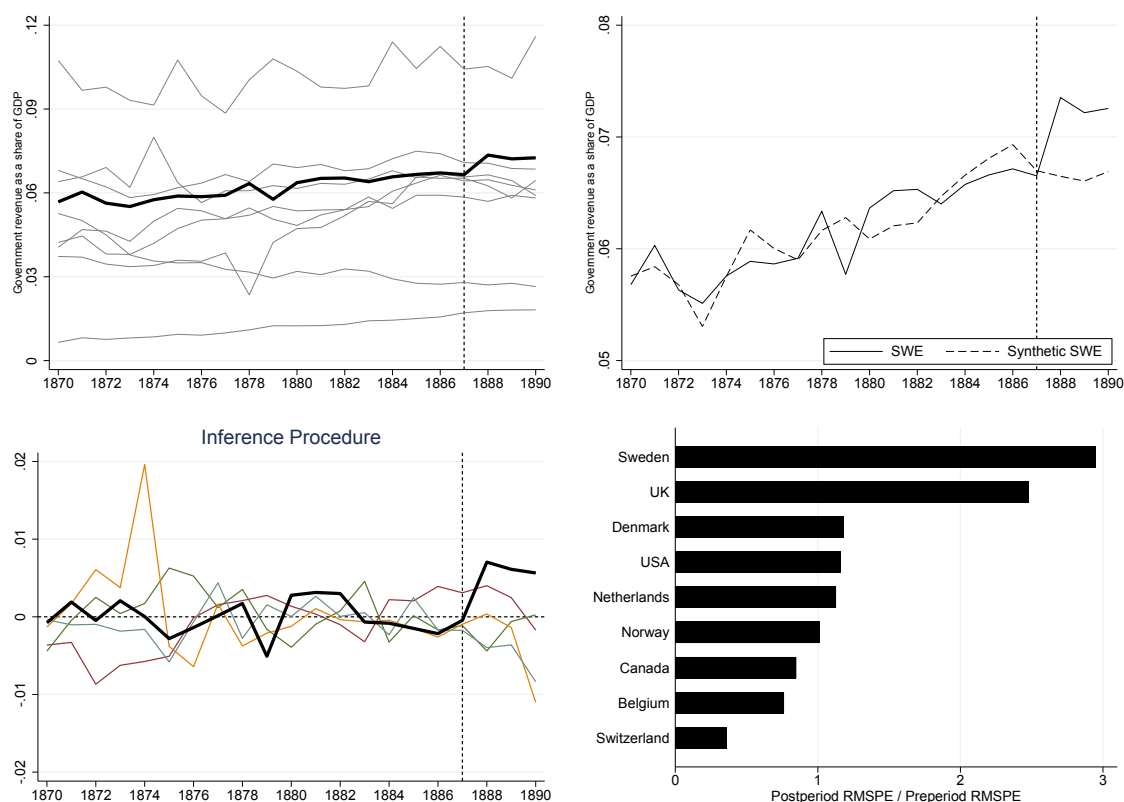
5.2 Government revenue

We examine whether protectionist policies influence government revenue. Higher tariffs may well have increased government revenue, which could be used, for example, to increase government expenditure and to stimulate short-term economic growth.

Figure 3 shows that the protectionist policies enacted after the change of government increased government revenue. The ratio of post-treatment to pre-treatment RMSPE is the largest for Sweden. If one were to pick a country at random, the probability of obtaining a ratio as high as Sweden's is 1/9 (see [Abadie et al., 2015](#), for a further discussion of this interpretation). Government revenue was 81.11 million SEK in 1887. It increased by 16.02 percent to 94.11 million SEK in 1888. As a share of GDP, government revenue increased from 6.65 percent to 7.35 percent and remained relatively stable until 1890 (1889: 7.22 percent, 1890: 7.26 percent). Meanwhile, synthetic Sweden's government revenue as a share of GDP decreased from 6.70 percent in 1887 to 6.65 percent in 1888. It remained relatively stable until 1890 (1889: 6.61 percent, 1890: 6.69 percent). Customs revenue were responsible for the increase in government revenue (see Appendix B for a description of Swedish fiscal policies 1888–1890). In 1888/89 customs revenue as a share of total government revenue reached its absolute maximum over the period from 1830 to 1913 (42 percent) ([Häggqvist, 2018](#)). Because imports did not decrease when the protectionist policies were introduced, it is unlikely that tariffs were systematically circumvented.¹³

¹³Further, it is unlikely that goods destined for Sweden were shipped to Norway and then crossed country borders on rail by investigating Norway's exports to Sweden after 1887; see Appendix D.

Figure 3: Government revenue as a share of GDP



Notes: Data is missing for Finland. The lower left panel excludes countries for which the pre-treatment MSPE is at least 10 times larger than Sweden’s pre-treatment MSPE.

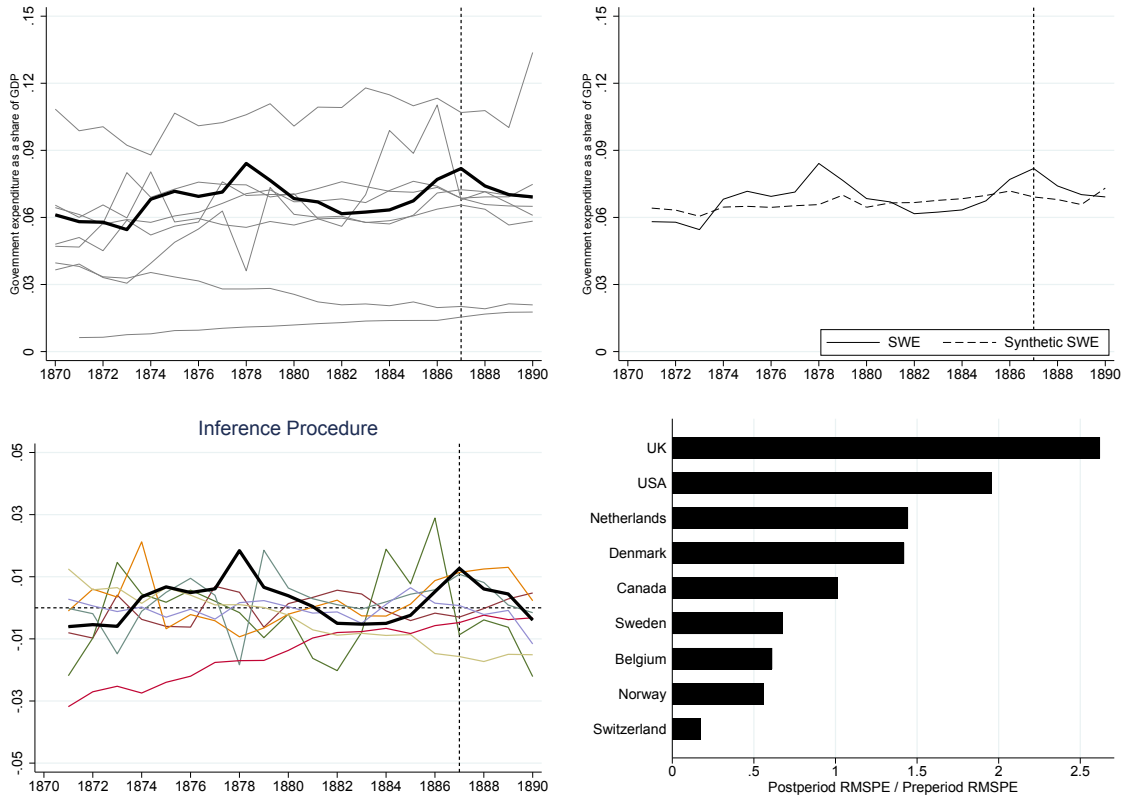
Sources: Jordà-Schularick-Taylor Macrohistory Database

5.3 Government expenditure

Figure 4 shows the SC estimates for government expenditure. The results do not suggest that the protectionists influenced government expenditure. Swedish government expenditure as a share of GDP decreased from 8.19 percent in 1887 to 6.92 percent in 1890. Synthetic Sweden’s government expenditure as a share of GDP increased from 6.92 percent to 7.31 percent over the same period.

Sweden went from a large primary budget deficit in 1887 to a small primary budget surplus in 1888. The primary budget surplus increased in 1889 and 1890. In both years, Sweden had a total budget surplus and total government debt decreased.

Figure 4: Government expenditure as a share of GDP



Notes: Data is missing for Switzerland’s government expenditure in 1870. Therefore, we calculate our synthetic Sweden based on the best pre-treatment fit from 1871 to 1887. Data is missing for Finland. The lower left panel excludes countries for which the pre-treatment MSPE is at least 10 times larger than Sweden’s pre-treatment MSPE.

Sources: Jordà-Schularick-Taylor Macrohistory Database

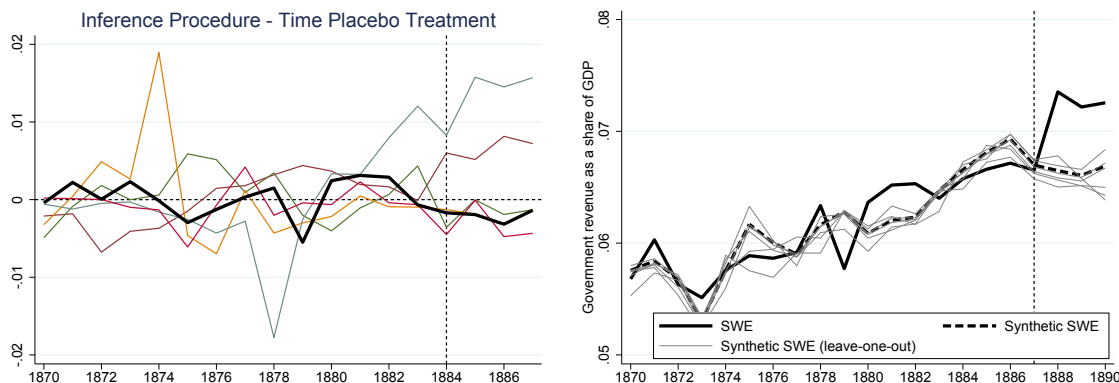
6 Robustness and sensitivity analyses

We submit the estimated effect of protectionism on government revenue to two sensitivity checks proposed by [Abadie et al. \(2015\)](#). First, we backdate the treatment and consider a placebo treatment in the previous election year (1884). A significant effect of the placebo treatment would threaten the credibility of our findings. The results from the permutation inference procedure do not indicate an effect of the placebo treatment on government revenue (the left panel of Figure 5). The ratio of post-treatment to pre-treatment RMSPE for Sweden is smaller than one (not shown) and only the sixth

highest among all countries.

Second, we perform a “leave-one-out” sensitivity analysis to examine whether our finding is driven by influential control units. We iteratively exclude from the donor pool each control country with positive weights when applying SC. The right panel of Figure 5 shows the results. We find that the effect of protectionism on government revenue is not driven by influential control units.

Figure 5: Government revenue: Placebo treatment in 1884 and leave-one-out



Notes: The left panel shows the results for government revenue for the placebo treatment in 1884 and excludes countries for which the pre-treatment MSPE is at least 10 times larger than Sweden’s pre-treatment MSPE. The right panel shows the Swedish counterfactuals for government revenue iteratively excluding each country in the donor pool with positive weights when applying SC.

Sources: Jordà-Schularick-Taylor Macrohistory Database

7 Conclusion

Previous studies did not yet explain the ‘tariff-growth paradox’ in the first era of globalization: Protectionism was shown to decrease economic growth in the 20th and 21st century, but tariffs and growth were positively correlated in the late 19th century. We provide causal evidence on how protectionist policies influenced economic growth in the late 19th century. We exploit an exogenous shock, unique in Sweden’s history, that changed the parliamentary majority from free-trade to protectionist. The new protectionist government increased tariffs.

Using the SC method, we do not find evidence suggesting that the protectionist policies influenced short-run economic growth in late 19th century Sweden. An interesting question is why. The results show that the increased tariffs did not deter

Sweden's trading partners from exporting goods to Sweden. The protectionist government increased revenue but refrained from stimulating the economy in the short-run by increasing government expenditure. Instead, it used the increased government revenue to balance the budget.

Further research needs to continue investigating the 'tariff-growth paradox' in the first era of globalization. More causal evidence is needed. The short-run effects of protectionism are likely to be context-specific (Eichengreen, 2019). Empirical strategies to identify causal effects should also be employed to examine how individual tariffs (agricultural tariffs, industrial tariffs, fiscal tariffs) influenced government revenue and growth (e.g. Lehmann and O'Rourke, 2011).

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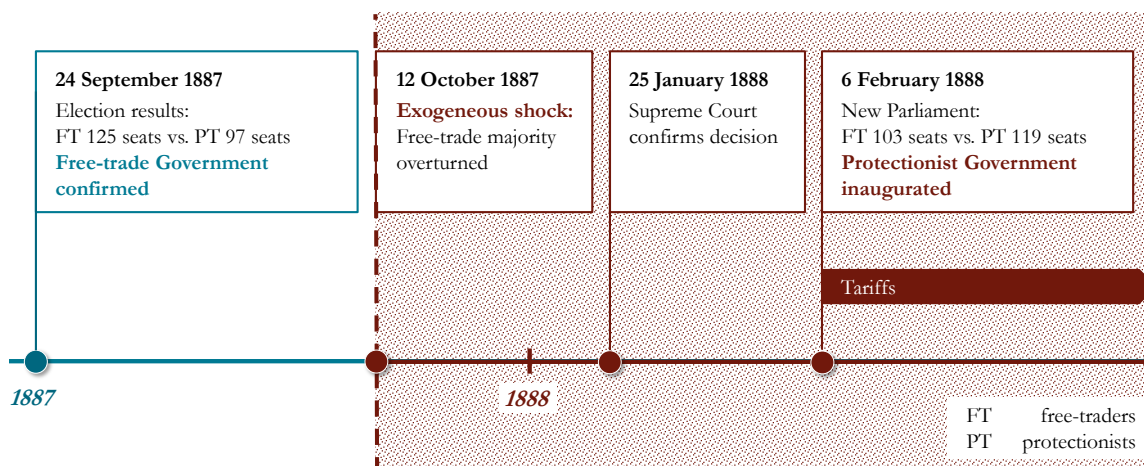
Appendix to *Protectionism and economic growth: Causal evidence from the first era of globalization*

Niklas Potrafke Fabian Ruthardt Kaspar Wüthrich

A	Timeline: 1887/1888 change in government	2
B	Swedish fiscal policies 1888–1890	2
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A Timeline: 1887/1888 change in government

Figure 6: The 1887/1888 change in government



Source: Own illustration

B Swedish fiscal policies 1888–1890

B.1 Government revenue

Customs revenue as a share of total government revenue was around 40 percent from 1888 to 1890 — the highest value over the period from 1830 to 1913 (Häggqvist, 2018). The composition of customs revenue changed drastically from 1887 to 1888. While, in 1887, agricultural products did not generate any customs revenue, the share of agricultural customs revenue of total customs revenue increased to almost 20 percent in 1888 (Häggqvist, 2018). The shares from coffee and sugar decreased. Changes in the shares of alcohol, fabrics, and tobacco were very small. Customs revenue coming from industrial products was low; its share of total customs revenue was only around 3 percent and just slightly increased.¹⁴

¹⁴From 1888 to 1890, changes in industrial tariffs were far less pronounced than changes in agricultural tariffs. Sweden was still bound to the commercial treaty with France, which prevented substantial

Consumption taxes also generated substantial government revenue. However, consumption tax rates hardly changed over the period 1862 to 1913. Consumption tax revenue ranged between 15 to 20 percent of total government revenue (Stenkula, 2015). The protectionist government did not increase direct tax rates from 1888 to 1890. Overall, increased customs revenue were responsible for the increase in total government revenue (Beck et al., 1911).

B.2 Government expenditure

The increased government revenue gave rise to financial desires across the parliamentary benches and the royal court. On October 12, 1888, Oscar II¹⁵ declared at the Council of State that he wishes to spend the surplus from increased customs revenue on insurance and pensions, the abolition of the land taxes, and lowering of the municipal taxes. However, the *Riksdag* devoted the increased government revenue to balance the budget (Beck et al., 1911). Overall, the budget composition changed little after the majority in parliament changed (Schön and Krantz, 2012).

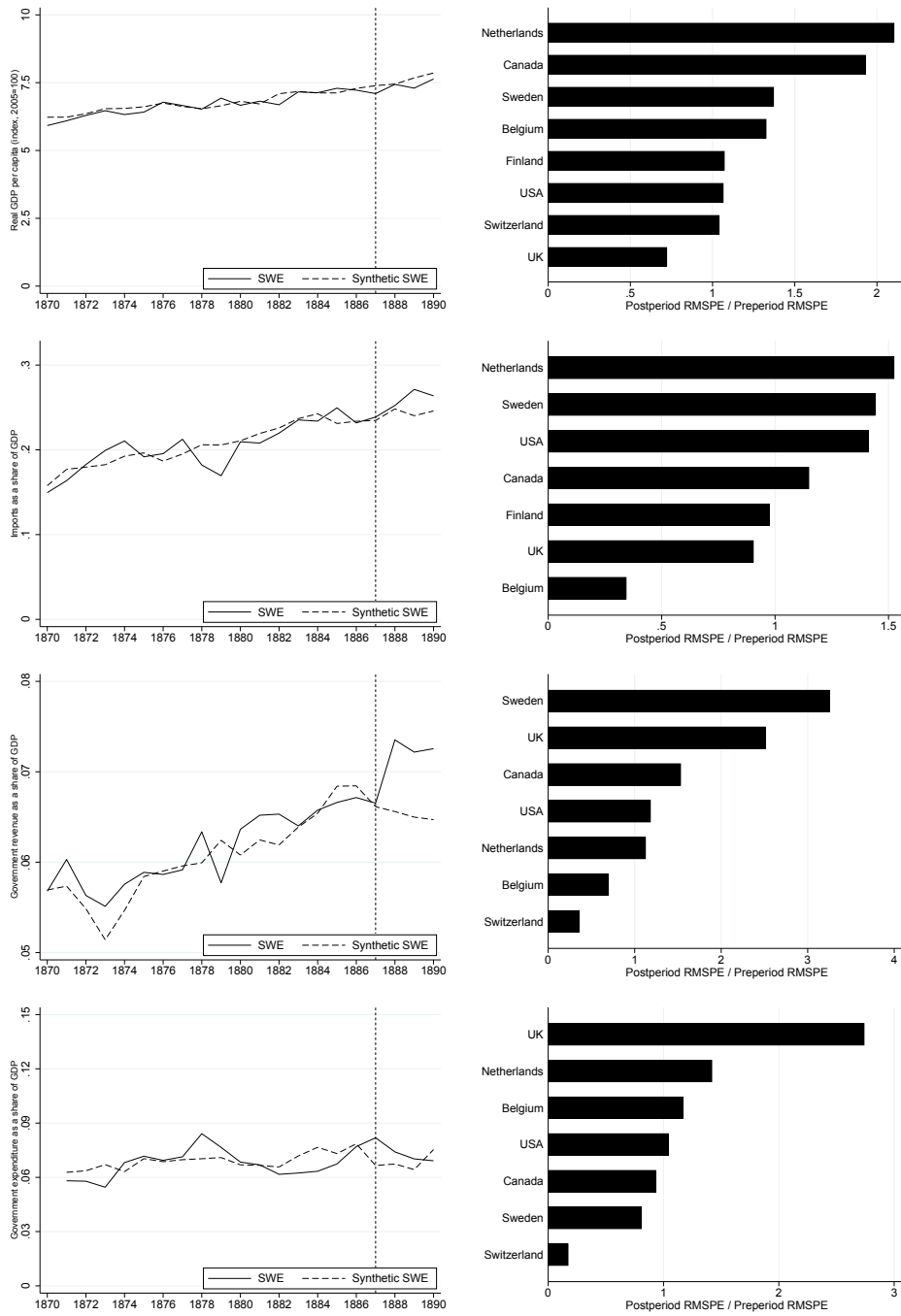
C Robustness: Excluding countries with >10% exports to Sweden in 1887

To assess the robustness of our results against potential spillover effects from Sweden's tariff policy on its trading partners, we exclude from the donor pool all countries which exported more than 10 percent of their total exports to Sweden in 1887. There are two such countries: Denmark and Norway. Figure 7 shows that excluding Denmark and Norway does not affect our results. We find no evidence that Sweden's tariff policy influenced GDP, imports, and government expenditure. However, Sweden's tariff policy increased government revenue.

increases of industrial tariffs. After the treaty expired in 1892, Sweden also increased industrial tariffs substantially.

¹⁵Oscar II was King of Sweden from 1872–1907.

Figure 7: Robustness: Excluding countries with >10% exports to Sweden in 1887

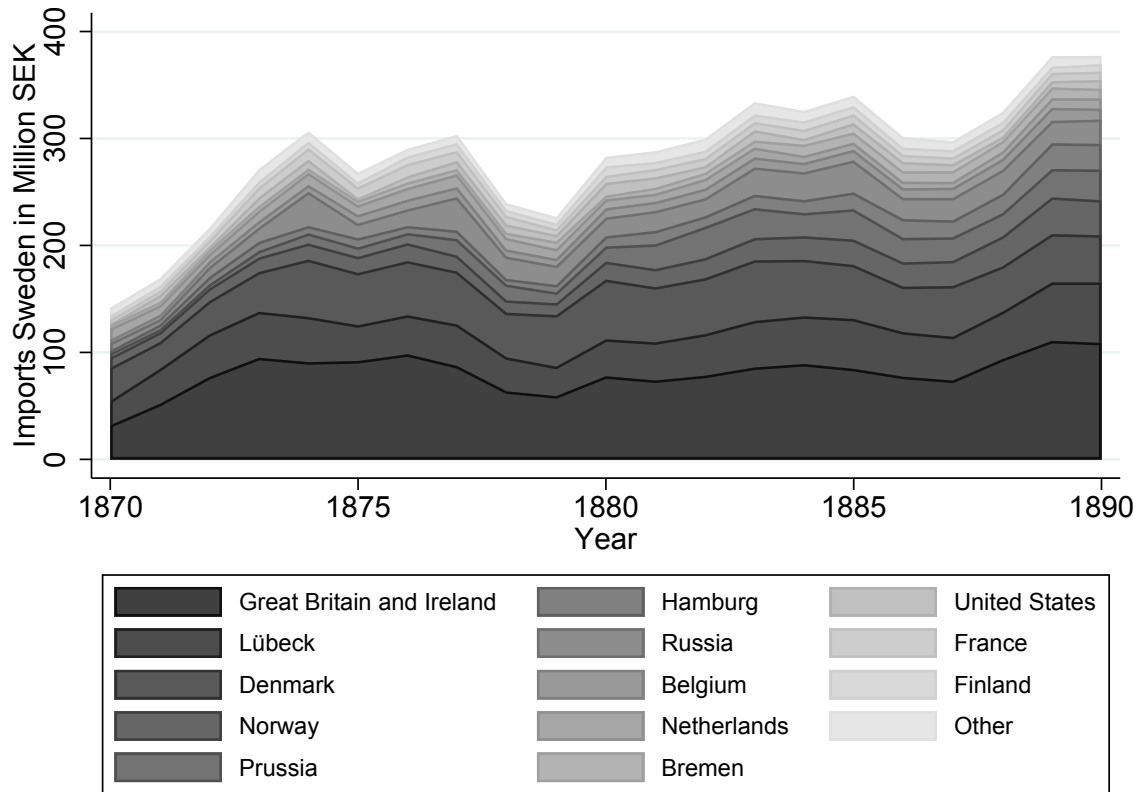


Notes: We exclude Denmark and Norway from the original donor pool.

Sources: Jordà-Schularick-Taylor Macrohistory Database

D Swedish imports by trading partner

Figure 8: Swedish imports by trading partner: 1870 to 1890



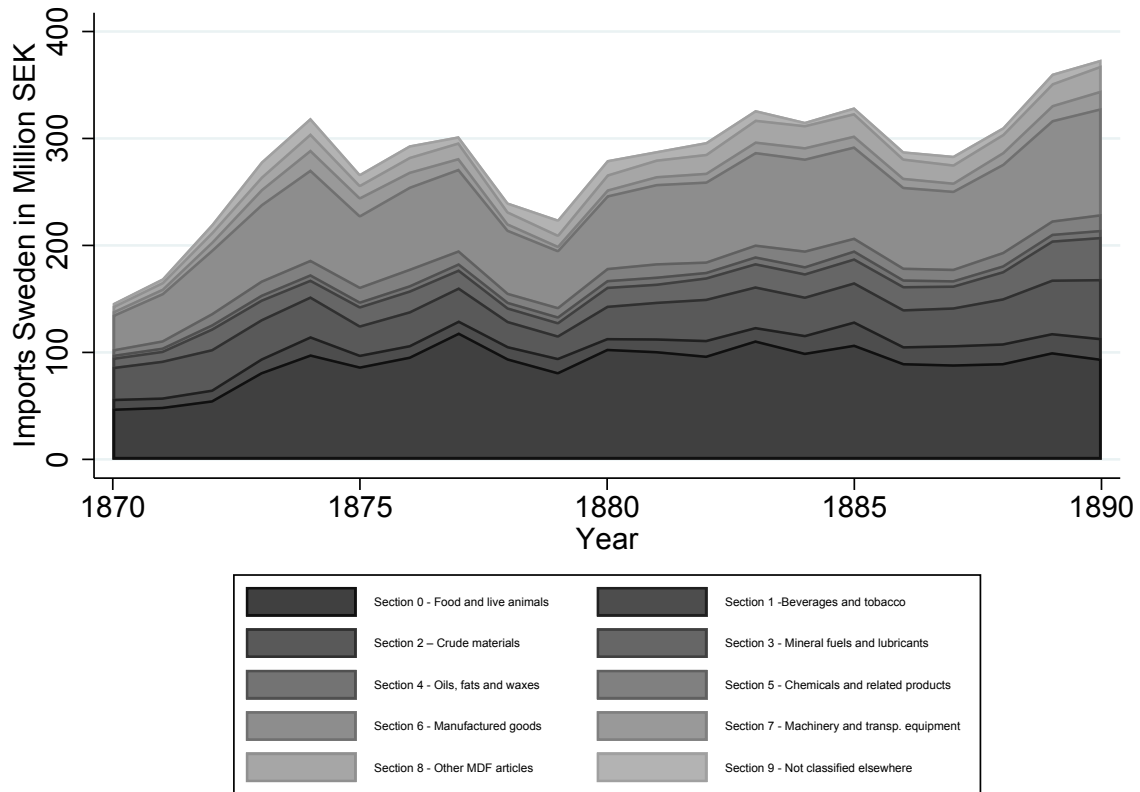
Sources: Swedish Board of Trade: Annual Statistics 1870 to 1890

Table 1: Swedish imports by trading partner: Growth rates

Countries	1871	1872	1873	1874	1875	1876	1877	1878	1879	1880	1881	1882	1883	1884	1885	1886	1887	1888	1889	1890
Norway	-4%	29%	14%	11%	0%	11%	-11%	-23%	-4%	51%	1%	11%	11%	6%	8%	-4%	3%	20%	22%	-4%
Finland	23%	-11%	40%	10%	-24%	52%	3%	-24%	-8%	73%	-25%	3%	6%	9%	0%	-16%	4%	2%	-17%	20%
Russia	-29%	87%	44%	138%	-57%	15%	100%	-33%	-13%	-3%	7%	-10%	51%	2%	15%	-34%	6%	6%	-6%	9%
Denmark	-19%	24%	20%	44%	-9%	4%	-2%	-16%	15%	16%	-8%	1%	9%	-7%	-4%	-16%	12%	-11%	7%	-3%
Prussia	-27%	34%	60%	57%	-7%	7%	64%	-5%	-31%	40%	63%	27%	-4%	-23%	31%	-20%	-3%	-2%	22%	8%
Luebeck	43%	22%	8%	-2%	-21%	9%	7%	-18%	-13%	25%	3%	9%	12%	3%	4%	-11%	-2%	8%	23%	4%
Hamburg	70%	58%	24%	-20%	25%	-23%	20%	-33%	31%	38%	31%	-21%	27%	-2%	29%	13%	-11%	15%	32%	0%
Bremen	0%	18%	9%	-9%	6%	22%	-5%	1%	41%	-51%	60%	4%	14%	59%	-8%	2%	2%	-3%	5%	-11%
Netherlands	-13%	-23%	45%	14%	-19%	19%	11%	-12%	-14%	-8%	-9%	19%	2%	-29%	2%	-10%	-9%	26%	29%	8%
Belgium	23%	28%	14%	10%	25%	12%	3%	-28%	-4%	35%	-2%	6%	4%	-6%	13%	-9%	5%	7%	19%	-17%
UK and Ireland	62%	49%	23%	-4%	1%	7%	-11%	-27%	-7%	31%	-5%	6%	10%	4%	-5%	-9%	-5%	27%	18%	-2%
France	1%	43%	58%	15%	-6%	15%	-20%	-14%	-32%	18%	20%	-2%	0%	12%	-5%	-17%	-8%	9%	13%	4%
USA	450%	-53%	179%	4%	-70%	126%	34%	2%	-20%	95%	-18%	-37%	56%	-44%	61%	0%	-24%	-37%	41%	39%
Other	-2%	7%	50%	-16%	-8%	-21%	10%	-18%	-6%	48%	11%	15%	0%	-14%	-3%	4%	-17%	12%	5%	-22%
Total	19%	28%	25%	13%	-13%	8%	4%	-21%	-5%	25%	2%	4%	11%	-2%	4%	-11%	-1%	9%	16%	0%

E Swedish imports by sector

Figure 9: Swedish imports by sector: 1870 to 1890



Sources: Persarvet (2019). Estimates based on *BiSOS F: 1858-1910, Handel: berättelse för år... 1911-13.*

F Synthetic control weights

Table 2: Synthetic control weights by outcome

	GDP	Imports	Government Revenue	Government Expenditure
Belgium	0	0	0.128	0
Canada	0	0	0.410	0
Denmark	0.217	0.365	0.061	0.222
Finland	0.436	0	.	.
Netherlands	0	0.102	0.126	0.229
Norway	0.173	0	0	0.052
Switzerland	0	.	0	0
UK	0.003	0	0.231	0.314
USA	0.170	0.532	0.045	0.182