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# Foreign trade as fiscal policy: tariff setting and customs revenue in Sweden, 1830–1913

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## ABSTRACT

Two of the most defining trends of the nineteenth century were the growth of international trade and the increased role of government activities in the economy. In the conjuncture between these developments lie taxes on foreign trade. Sweden was one of the examples where customs revenue became the single most important source of revenue before WWI. This article sets out to test how this source of revenue could increase as much as it did. The analysis focuses mainly on trade policy and how tariffs were set and how that affected revenue. The results show that Swedish liberalisation of trade forced a switch in the fiscal structure of tariffs, moving revenue to fewer commodities. Increased importance was given to consumption goods with lower elasticity of demand. Trade continued to increase under fiscal taxation, which led to increases in revenue. During the early period increased revenue was achieved with higher tariffs on a few key commodities. Towards the end of the century tariffs on agricultural and capital goods became more fiscally relevant, which could have clashed with protectionist intentions. The article highlights that more work is needed on this fiscal component of trade policy.

## ARTICLE HISTORY

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## 1. Introduction

‘Taxation of trade for revenue purposes has been a hardy perennial throughout recorded history (...) revenue considerations prevail almost universally’ (Hoekman & Kostecki, 2001, pp. 21–22). Taxes on imports and exports have had longevity, surviving from antiquity to medieval times and onwards through to the doorsteps of the twentieth century. As goods were registered directly on entry and exit in ports, customs revenue from foreign trade by sea border was typically easy to collect.<sup>1</sup> In times when the capacity of states to collect domestic direct and indirect taxes was relatively small and weak trade taxes were often the most viable alternative to domestic taxes (Tarschys, 1988). Tariffs for revenue purposes eventually reached their peak during the first half of the twentieth century and generally decreased in absolute and relative importance thereafter.<sup>2</sup>

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<sup>1</sup>Swedish foreign trade by land borders was very small for most of the nineteenth century. It was below one percent of total trade before the middle of the 1860s after which it begun to increase and went up to 5–6% of total trade during the 1880s and 1890s. These numbers concern only trade through the border with Norway. Data from BiSOS F.

<sup>2</sup>Note however that some of the poorest countries still retained a large share of their government revenue from tariffs well into the second half of the twentieth century. Even within the rich west there were exceptions – Switzerland for instance relied on customs revenue as their largest receipt until the end of the 1960s and even though the share dropped steadily it still made up around 15% of total government revenue as late as 1993. It was a source of revenue of some importance in France as well, making up on average 8.7% of the total between 1980 and 1993. See further Tarschys (1988, pp. 16–18). Figures are from Mitchell (2003a, Table H5).

The period where this study takes place is during a time when international trade grew tremendously. Between 1820 and 1870 it increased by more than nine times (O'Rourke, de la Escosura, & Daudin, 2010). Growth continued between 1870 and 1913, but by most accounts it was slower than during the previous half-century (Federico & Tena-Junguito, 2017; Findlay & O'Rourke, 2007; O'Rourke & Williamson, 1999). During the 1840s, 1850s, and 1860s, trade barriers disappeared; tariff rates were lowered and trade bans removed, transport costs declined and a network of bilateral trade agreements grew (Williamson, 2011). The taxation of trade however continued; for instance Great Britain kept import tariffs of over 100% on several alcohol items throughout their free trade period (Irwin, 1993). High tariffs were placed on wine, brandy, and rum, but also on coffee, tea, sugar, and tobacco (Dakhli & Nye, 2004; Nye, 2007). Several European trade nations practiced a similar policy as the British. Italy also placed high tariffs on 'fiscal' goods such as sugar and coffee during the last decades of the nineteenth century, but also the tariff on petroleum was 'unquestionably fiscal' as it did have any direct domestic substitute (Federico, 2006, p. 212). France did so particularly on cocoa, coffee, sugar, and petroleum (Tena-Junguito, 2006). Germany taxed items such as coffee, tea, tropical fruits, and wine quite high as well at between 30 and 50%, which was not as highly as did the British. Between 1880 and 1913 the highest import tariff was instead placed on petroleum (Dedinger, 2006, p. 234). In Portugal tobacco was placed with an import tariff of over 100% between 1843 and 1886 and sugar likewise after 1886 (Lains, 2006, p. 250). Adam Smith argued that tariffs on these types of more luxurious consumptions goods were deemed not to cause rebellion and hardship for the populace; "colonial goods" were "fiscal goods", appropriate targets for taxation' (Dormois, Foreman-Peck, & Lains, 2006, p. 3). As such, high tariffs do not necessarily denote a high degree of protectionism, 'but simply that it is the cheapest way to finance the state (Ibid, p. 7).' Williamson (2006) has shown that revenue needs was one of the main drivers (together with Stolper-Samuelson forces and strategic tariff behaviour) of tariff policy around the world between 1860 and World War II, more so than infant industry protectionism for instance. Furthermore, particularly high tariffs, such as in Latin America and the European periphery, were correlated with strong revenue needs. Countries which instead implemented domestic taxes for government revenue were no longer in need of high tariffs.

After 1820, state revenues as share of GDP increased in many countries and public spending (expenditure) increased both in relative (as share of GDP) and absolute numbers (Magnusson, 2009; Schremmer, 1989). The need for military spending generally decreased between the end of the Napoleonic Wars and the beginning of World War I, shown most dramatically in the British case where public spending in percent of GDP was only 7 in 1870 compared to 24 at its height in 1814 (Schremmer, 1989). Because of industrialisation and high economic growth many states could increase their military spending in absolute terms between 1870 and 1913 without it burdening the total economy (share of GDP) (Eloranta, 2007). Other public activities, such as education and poor relief, however increased as the nineteenth century progressed, which might have driven the need for increases in state's capabilities to raise revenue. The way that wars and military spending drove total public spending and state's fiscal systems during the eighteenth century could however have continued all the way until the middle of the 1800s (Magnusson, 2009, p. 16).<sup>3</sup> In Sweden on the other hand, both government expenditure to GDP and the tax-to-GDP ratio increased slightly between 1860 and 1910 (Henrekson & Stenkula, 2015, pp. 4–9). During the last decade of this era total tax revenue as share of GDP was completely stagnant (Rodriguez, 1980, p. 28).

This article will try to explain the rise of customs revenue and its importance for Swedish government revenue from 1830 to 1913. This was the period when customs revenue increased most markedly and reached its height in share of total state revenue. With the adoption of other taxes in the beginning of the twentieth century and the drop in Swedish trade during WWI the share would go down after 1910–1913. This research period is one for which we have good fiscal and tariff data on a detailed level. The focus will be put on tariff setting and the composition of customs

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<sup>3</sup>See Mathias and O'Brien (1978) on the impact of war on public spending and system for collecting taxes during the eighteenth century.

revenue to shine light on the fiscal component of foreign trade policy. Earlier research has contributed a number of possible answers as to why customs revenue increased as much as it did. I argue however that overall the answers are unsatisfactory in order to explain the long-run development. First, most research (such as Gårestad, 1985) focus on the period 1860–1870 until World War I, which in the Swedish case means we are missing vital information on changes and developments that occurred during the 1840s and 1850s which came to be fiscally important. Second, not enough attention has been paid to the connection between changes done to tariffs and its fiscal impact. Gårestad (1985) partly discussed tariff changes, but did not do so in a consistent manner over his investigation period. Montgomery (1921) analysed tariff policy over the whole period, but devoted only limited attention to fiscal matters and its connection to tariff setting over time. So there is no study devoted to the impact of tariffs on customs revenue over the whole period in question. Thus, in lights of these points the point of this article is to contribute new data on customs revenue by commodity and changes made to tariffs not previously quantified or properly analysed in order to answer these questions.

## 2. Customs revenue in previous research

### 2.1. The workings of customs revenue

In the transition from an old society to a modern one, in terms of public finance, the reliance on taxes on foreign trade would gradually be replaced by domestic taxes; direct ones such as taxes on income and capital, and by indirect taxes, typically consumption taxes such as excise and VAT (Hinrichs, 1966). Experiences from Anglo-Saxon countries support this view, as the dismantling of the dependence on customs revenue in Britain and the United States (albeit at different periods) coincided with the adoption of domestic taxes such as income and capital taxation (McLean, 2001; Prasad, 2012). There are however points of similarity between taxes on foreign trade and domestic consumption taxes (Tarschys, 1988). Both are indirect taxes, taxing physical commodities rather than activities of people and companies, even though they target them at different points – at the import stage and the final consumption stage respectively. There are also certain similarities in how the goods might be affected by the tax. If a commodity has a low elasticity of demand, then its import may not be hurt by a tariff increase or its consumption could increase even though there is rise in the excise or VAT. This means low elasticity goods can be highly taxed and still achieve their purposes for increasing revenue. With both tariffs and consumption taxes alcoholic beverages have typically been singled out, but also tobacco, sugar, tea, and coffee (Dormois et al., 2006).

Adam Smith pointed out the connection between tariff rates and customs revenue. When increased to a high enough point, the tariff would decrease the level of imports and hence cause a decrease in revenue. A late seventeenth century Swedish public official had even before that famously pointed out the same fact – ‘the Royal Majesty’s revenues would be larger with a moderate tariff than with a high one’ (Gerentz, 1951, p. 134).

As Douglas Irwin has pointed out, it is not necessarily the case that an increase in tariff rates yields increases in customs revenue. Higher tariffs could mean lower revenue and lower tariffs could bring higher revenues, by increasing imports, but it is sensitive to prices of imports and price elasticities. Analysing total imports, Irwin (1998) showed that the average revenue maximum tariff would fall when import demand elasticities were higher. It was however also true that it mattered whether tariffs changed the composition between dutiable and duty-free imports. Reducing the value of dutiable imports would yield a decrease in customs revenue. Irwin’s case concerned the US and the ‘Great Tariff Debate of 1888’ where the Democrats and Republicans represented diametrically opposing sides in the revenue discussion.<sup>4</sup> Irwin further argued that there does not have to be a

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<sup>4</sup>Democrats argued and proposed that lower tariffs would cause a reduction in revenue, while Republicans argued that higher tariffs would decrease imports and consequently reduce revenue.

conflict between trade policy and fiscal policy, since the tariff of 1890 achieved ‘both higher tariffs rates and lower revenue by raising protective duties and by setting some revenue duties [such as sugar] to zero’ (Irwin, 1998, p. 71). This case is however quite specific in the sense that the US government wanted to get rid of a ‘problem’ of fiscal surplus and actively sought to decrease customs revenue.

Hinrichs (1966) argued that the prime decider of the development of customs revenue was a country’s openness to trade ratio (typically import + export as share of GDP, but there import as share of GDP). Openness meant increased trade and therefore a rise in customs revenue, if trade was being taxed at all. Another study by Hinrichs (1965) found that openness to trade was a key determinant of increases in total government revenue as well, particularly so for low-income countries who retrieved a large share of their taxes from those on foreign trade activities.

Taxes on foreign trade for fiscal purposes are not uncomplicated because of their plausible distortionary impact, affecting trade flows and welfare levels. In the words of Cardoso and Lains (2010a, p. 21): ‘because of their negative impact on the economy, tariffs might be perceived as a worse source of revenue than taxes on domestic activity.’ This highlights the tension between setting tariffs for protectionist purposes and setting them to raise revenue; in the search of fiscal efficiency the overall economy may suffer as a result.

## 2.2. The impact of tariff policy on government revenue in Sweden

In 1919 the Swedish government launched a public investigation concerning the impact of tariff policy before World War I. In 1924 the investigation produced a government official report (SOU). It mapped the impact of tariffs on various economic areas, such as industry, employment, production, cost of living, income inequality, and government income. The latter received limited attention, some 10 pages out of a 391-page report,<sup>5</sup> and described the development of customs revenue as share of total government revenue from 1871 to 1914 and customs revenue by most important commodities in Sweden as well as in a few other European countries (see section 2.3).

One of the central figures in the investigation committee was Eli Heckscher, who generally didn’t see any major impact of tariffs on the Swedish economy. In the investigation he saw the main effect in the promotion of employment within protected home markets. Some 30 years after the reports were published he had come to undervalue the impact of foreign trade policy even more, writing that the overall consequences had ‘probably been rather negligible’ (Heckscher, 1954, p. 239). The report from 1924 itself stated that customs revenue was still relatively important by the eve of World War I, particularly compared to the early 1920s when customs revenue as share of total government revenue had decreased substantially. Some attention was devoted to the fact that a shift had occurred during the two decades preceding 1914, where the bulk of customs revenue increasingly came from protective tariffs and not from ‘purely fiscal tariffs’ (SOU, 1924:37, p. 64). The report didn’t however make any judgement on the fiscal effectiveness of the tariff system or what had caused customs revenue to increase over time.

Peter Gårestad mapped the development of Swedish taxation during the height of industrialisation, from 1861 to 1914, and devoted one chapter to the importance of customs revenue. In his treatment of tariffs and customs revenue he presented and discussed a couple of hypotheses as to why customs revenue increased as it did during the period. First, Gårestad (1985, p. 68) argued that the increase of customs revenue to ‘a significant part’ had caused the expansion in total tax revenue. The strong import increase during the free trade period up until the protectionist backlash of 1888, even during times when domestic production within agriculture, industry, and construction decreased, had caused the increase of customs revenue and total taxes (Gårestad, 1985, pp. 73–74). Hultqvist (1955) had earlier voiced similar thoughts that international trade grew during the

<sup>5</sup>Part I; part II mainly consisted of data appendix. SOU 1924:37, Betänkande angående tullsystemets verkningar i Sverige före världskriget, del I.

free trade period under the existence of mainly fiscal tariffs, which created customs revenue without hindering the growth of trade. Others have argued that customs revenue fluctuated with economic cycles; particularly that they increased during economic booms and usually only decreased slightly during economic downturns and crises (Widell, 1900).

Gårestad (1985, pp. 162–163) did not give much explanatory power to changes in tariffs during the first period from 1876 to 1887, when customs revenue as share of total government revenue increased, since tariffs were ‘largely unchanged’, even though some rates were increased. He also noted that the ‘automatic’ expansion of customs revenue up until 1888 was largely (and in his view ‘surprisingly’) absent in parliamentary debates (1985, p. 86). From 1888 to 1899 however, the increase in customs revenue stemmed from the protectionist backlash where tariffs were put back on agricultural goods, some of which became fiscally significant. Henrekson and Stenkula (2015, p. 18) similarly stated that customs duties (which they analysed together with consumption taxes) became of great importance during the second half of the nineteenth century because of ‘protectionist demands from industry and the general population.’

### 2.3. Customs revenue around the world, 1830–1913

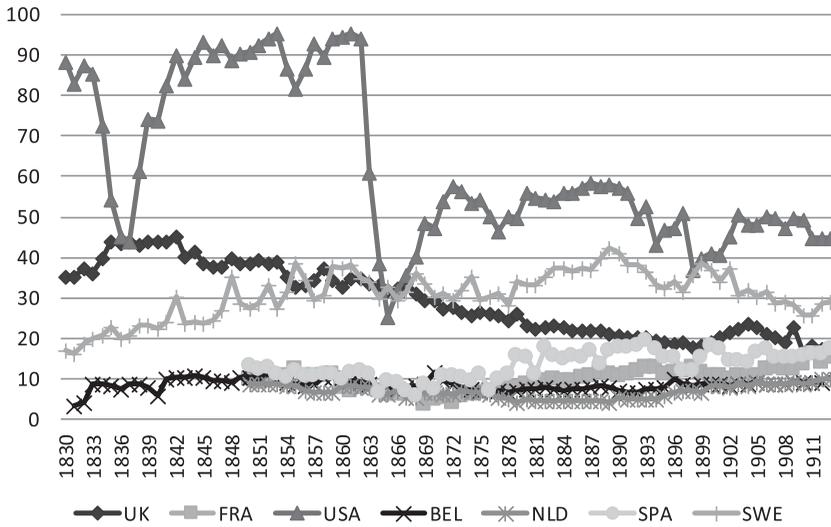
There was no one model of revenue during the nineteenth century. Even within Europe there were quite large variations and divergences between countries; Britain was not like Sweden which was not like Spain or Portugal.<sup>6</sup> Countries relied on different types of revenue and had different development paths. Furthermore, ‘there was also no national model that proved ideal or dominant in terms of efficiency or geopolitical outcomes’ (Cardoso & Lains, 2010a, p. 21).

Figure 1 below gives examples of a few countries who were either dependent on customs revenue to a high degree or a low degree. Inclusion has mainly been made on basis of trying to find a mix of countries geographically and economically and where data is available for most of the nineteenth century. This unfortunately leaves out many non-European countries. Other countries will however be mentioned as examples where applicable.<sup>7</sup>

Customs revenue was a very prevalent source of revenue in the US, particularly so before the civil war. During the 1840s and 1850s it made up between 90 and 95% of total government revenue. After the civil war numbers were still relatively high, but had gone down to between 40 and 60% of total government revenue from 1870 to 1913. Switzerland was a country similar to USA where customs revenue was a very dominant source of revenue. Several states in Latin America were also heavily dependent on foreign trade taxes; in some cases it was the only viable source of revenue (Bulmer-Thomas, 2013). Customs revenue as share of total government revenue was on average as high as 57.8% in eleven Latin American countries between 1820 and 1890 (Centeno, 2002). The high reliance on customs revenue was mainly driven by weak state capacity and increased demand for military spending brought on by numerous violent conflicts and military coups in the region (Coatsworth & Williamson, 1999). The Netherlands and Belgium generally had low tariffs, were more reliant on domestic direct taxes and so customs revenue in the two countries was only at around ten percent of total government revenue during the second half of the nineteenth century. Even though tariffs were higher in France its reliance on customs revenue was just slightly higher than that of its economically smaller neighbours. Customs revenue was rather low in Spain as well, but increased after the end of the 1870s. Sweden on par with the UK in the middle of the century, but the countries’ trends diverged. Towards the end of the century Sweden was in between the UK and the US in level of customs revenue.

<sup>6</sup>See Daunton (2010), on Britain, Schön (2010), on Sweden, Comín (2010) on Spain, and Cardoso and Lains (2010b), on Portugal.

<sup>7</sup>For some countries data is lacking (in Mitchell, 2003a; 2003b) for a large part of the period, such as Germany, Finland, Portugal, and the Latin American States. It should however be noted that Germany had a relatively high customs revenue share between 50 and 60% between 1880 and 1910. Others, such as Denmark, combine data for customs revenue and excise and so it is not possible to assess the share of customs revenue alone.



**Figure 1.** Customs revenue as share of total government revenue in the UK, France, the US, Belgium, the Netherlands, Spain, and Sweden, 1830–1913. Sources: Mitchell (2003a, Table H5, 2003b, Table H5). Except for Sweden, see Figure 2.

In the UK the strong tilt in public finance towards indirect taxes started to break already in 1798 with the introduction of the income tax. This trend would be strengthened even more with the liberalisation of trade and the cut of tariff rates during the 1840s. As a result, the British reliance on customs revenue steadily decreased through the century – going down from about 40% of total government revenue in 1850 to just about half by the eve of World War I. As mentioned earlier foreign consumption goods were taxed highly and as such brought in most of the total customs revenue. For instance, by 1913 the tariff on tobacco alone made up about half of total British customs revenue while ‘colonial goods’ (sugar, spices, fruits, etc.) made up around 21% and alcoholic beverages around 15%. Countries that had tobacco monopolies, such as France, Italy, and Spain, naturally didn’t get nearly as much customs revenue from tobacco. Countries with agricultural protection, France, Italy, and Germany for instance, got substantial amounts of revenue from the tariffs on grains, but also from raw materials such as mineral oils (SOU, 1924:37, pp. 61–62).

Tena-Junguito (2006) has shown that in several European countries (UK, France, Germany, and Italy foremost in his case, and Spain to a lesser degree) fiscal receipts were such integral parts of tariff setting that when removing them from the average tariff it decreased substantially. Fiscal tariffs generally made up a larger part of the total tariff as time passed (between 1827 and 1913), as they remained or were even increased when states turned to free trade after the middle of the 1840s. The Italian case is telling, where the majority of the increase in protection was made by rising tariffs sugar, coffee, and petroleum, which by most accounts were purely fiscal and non-protective (Federico, 2006, p. 200).

### 3. Swedish trade policy during the nineteenth century

By 1830 mercantilism and protectionism was still very much dominant in Swedish trade policy. Only a slight shift in tariff policy towards an increased focus on fiscal matters had occurred in the 1820s (Häggqvist, 2015, Ch. 5). The number of import bans, which before 1830 had been in the hundreds, was cut down to 36 in 1835 (Jonsson, 2005), even though as Montgomery (1921) has argued bans remained on the most strategic commodities, such as pig iron. Some important bans were however lifted during the late 1840s, such as those on processed sugar and syrup. Trade bans were gradually removed until the middle of the 1850s, when only eight remained, half of which pertained to exports.

By that time the import of fabrics and textiles were more or less completely free of prohibitions, although placed with rather high tariffs. The average import tariff was decreased dramatically between 1853 and 1857, while the Crimean War was ongoing and Swedish trade benefited as a result, going from around 30% ad valorem down to slightly over 10% (Hedberg & Häggqvist, 2018; Hedberg & Karlsson, 2015). The liberalisation of tariff rates was done almost across the board, but was most dramatic in agriculture and textiles. After 1857, when the Crimean War had ended, most agricultural commodities were imported completely duty-free, most notably grains, meats and dairy. This policy would change towards the end of the 1880s when agricultural tariffs were re-introduced as a response to the grain invasion from the New World (O'Rourke, 1997). Some other tariffs, such as those on a number of industrial goods, were increased during the 1890s (Montgomery, 1921). This together with an increase in alcohol tariffs brought up the average ad valorem tariff again during the first decade of the twentieth century, before tariffs decreased during WWI (Hedberg & Häggqvist, 2018).

The share of duty free imports in total imports increased from 18% in 1886–1890 to 31% in 1906–1910. Some of these duty free goods were capital and input goods such as coal, coke, pig iron, copper, and aluminium, and raw materials such as cotton, wool, silk, rubber, and hides and furs (Bohlin, 2005, p. 15). At the same time, non-competitive agricultural goods such as coffee, tobacco, wine, rice, and tropical fruits remained at the same share of total imports, 11–12% of the total. These were some of the goods which had strictly fiscal tariffs and hence decreased their share of total customs revenue. A few fiscal tariffs were actually lowered, such as that on coffee beans in 1889, which was done to offset the increase in consumer prices due to the introduction of agricultural tariffs in 1888 (Bohlin, 2005, pp. 16–17).

The period 1830–1853 can be categorised as still mercantilist, even though certain liberalisations were made, while 1854–1887 was the height of the free trade period in nineteenth century Sweden. The years 1888–1913 was not a reinstatement of the protectionism existing pre-1850, but the increase in trade barriers (most apparent in the tariff level) was still notable compared to the free trade period.

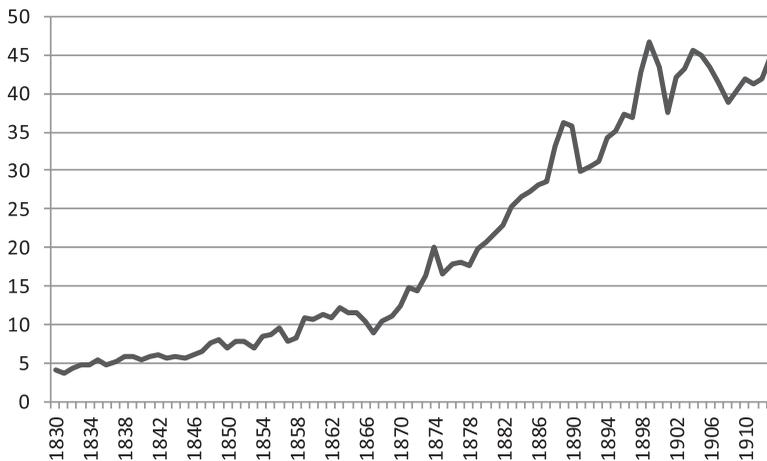
## 4. The structure of customs revenue in Sweden 1830–1913

### 4.1. Data and methodology

In this section customs revenue will be presented on the aggregate as well as by commodity. A certain selection has been made as to which individual commodities or coherent group of commodities have been included in the analysis. Preference has been given to the commodities which brought in the most revenue for some period of time. There are cases where groups consistently have contributed fiscally, such as fruits and spices, but made up such a low percent of the total that they are not presented in the figures. For sake of graphical clarity all commodities in the customs revenue structure cannot be presented, although all the most important will be discussed.

Detailed data on customs revenue is available in official sources (BiSOS F) from 1865 by commodity and by larger groups (agriculture, textiles, metals, etc.). This means estimations had to be made for the period 1830–1864. The same method has been used to calculate revenue by commodity as in the official sources from 1865. The traded quantity of each good times the nominal tariff of the same good equals customs revenue in current figures. Both import and export quantities and nominal tariffs have been taken from official published sources. Exports are included in the first period since they were taxed for part of the period and were fiscally important in the beginning. The second period consequently analyses only imports. Transformations into SEK from older currencies have been made following the proper relation (see Fregert & Gustafsson, 2014). When the changes made to tariffs are analysed in section 5 nominal tariffs are presented, i.e. not in ad valorem.

Section 4.2 divides the presentation of the data into two time periods, 1830–1864 and 1865–1913. This is done for two reasons. First, it follows the layout of the official statistics, where detailed data on customs revenue by commodity is only available from 1865. Second, the two time periods can also be



**Figure 2.** Customs revenue in million SEK 1830–1913. Sources: Customs revenue is taken from BISOS F, *Utrikes handel och sjöfart, 1834–1910*; *Statistisk årsbok för Sverige (SOS), 1914*. Deflated by CPI (1850 = 100) from Edvinsson and Söderberg (2010, Table A8.1).

separated analytically as they include partly different structures of customs revenue and partly different tariff setting.

#### 4.2. The broad picture

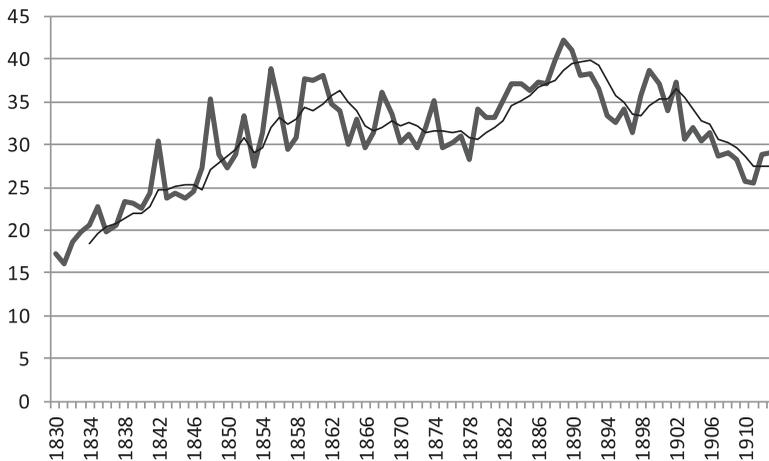
This section will be divided into three parts, with the first (4.2) giving a brief overview of the general trends, while the second (4.3) covers customs revenue by commodity between 1830 and 1864, and the third (4.4) covers the period of industrialisation from 1865 to 1913.

The development of state revenue in Sweden went through two major changes during the nineteenth century. As share of GDP it first decreased abruptly from ten to six percent after the end of the Napoleonic Wars. It then decreased further and steadily to below five percent in 1860, before it turned upwards again during four consecutive decades, reaching seven percent in 1900 (Schön, 2010, p. 164). Public services (as share of GDP) followed a similar trend to that of revenues. Annual growth rates were however a bit different – between 1850 and 1890 state revenue grew at 2.4% per annum, while expenditure grew at 1.9 percent per annum. From 1890 to 1914 the roles were reversed – expenditure outgrew revenues by 2.8% to 2.4% (Schön, 2010, p. 163).

As Figure 2 shows customs revenue grew tremendously over the period, particularly so after 1870 when it was at a little over 12 million SEK. From then it grew at 5.3% per annum on average until the highpoint in 1899 when it reached 46 million SEK. By comparison, the average growth from 1830 to 1869 had been on average 3.1% per annum. Customs revenue hence outgrew both total state revenue as well as state expenditure between 1830 and 1899. Customs revenue increased more rapidly when expenditure increased, but it is notable that when including pre-1860 conditions the correlation between expenditure and customs revenue changes substantially. Customs revenue more than doubled even when expenditure as share of GDP was decreasing from 1830 to 1860.<sup>8</sup>

Customs revenue as share of total government revenue as shown in Figure 3 had two major growth periods, the first being a rather long one, occurring from the early 1830s to 1860 when it increased from around 15% to over 35. There is hence one big growth period preceding the principal

<sup>8</sup>That is not to say that revenue increases were not at all driven by expenditure demand – from 1860 onwards spending mainly on education, but also on health, increased substantially both as share of total public services as well as share of GDP. Military spending (as share of GDP) was however probably not a driver as it decreased markedly after the end of the Napoleonic Wars until the end of the 1850s after which it was mostly stagnant until WWI. Figures from Schön and Krantz (2012, Table XIII).



**Figure 3.** Customs revenue as share of total government revenue 1830–1913 with five-year moving average. Sources: Customs revenue (in current prices): see Figure 2. Government revenue (in current prices): Fregert and Gustafsson (2014, Table A5.1).

one in Gårestad's analysis, which was between 1876 and 1887. This first growth spurt is rather surprising when contrasted with the contemporary parliamentary debate, which according to Jonsson (2005) rather moved from 'practical' fiscal issues towards an ideological discussion over protectionism versus free trade.<sup>9</sup> The second growth period took place between 1880 and 1890, increasing from slightly below 30% to its highpoint over the whole period at just above 40%. After the turn of the century customs revenue became less relevant, which had a lot to do with the introduction of taxes on income which gradually took a larger role in government income. The reform of 1903 which introduced this tax on labour income at the state level meant a decreased importance of customs revenue (Stenkula, 2014). Another central income receipt was specific consumption taxes on alcohol and beverages, which typically ranged from 15 to 20% of total government revenue between 1862 and 1913 (Stenkula, 2015, pp. 209–211). From 1888 to 1899 some direct taxes decreased and gave increased importance to indirect taxes such as customs revenue and consumption taxes, while direct taxes would increase again from 1900 to 1913, particularly with the adoption of the new progressive income tax and the increase of the general municipality tax.

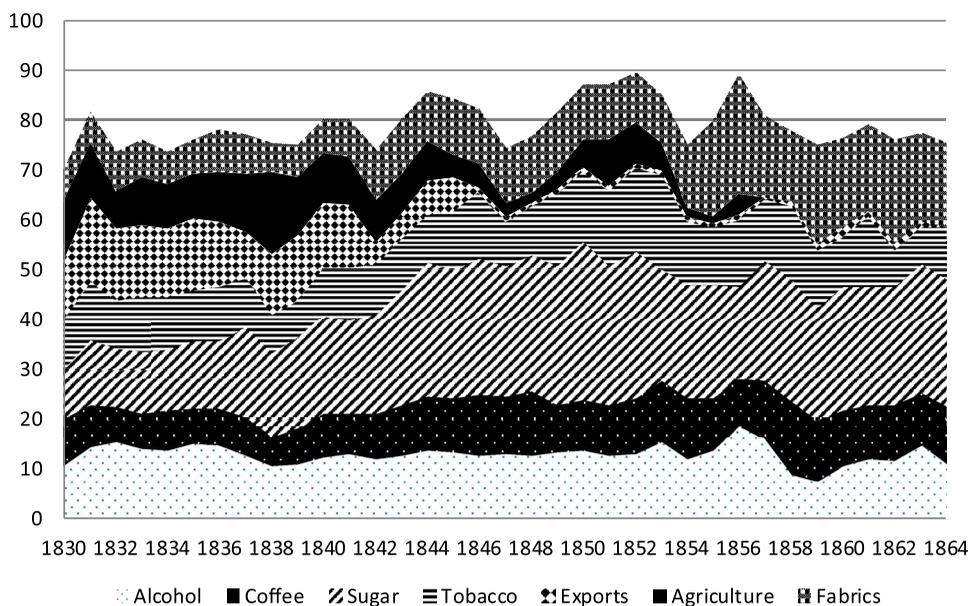
#### 4.3. Customs revenue before industrialisation 1830–1864

In this and in the subsequent section customs revenue is divided up by the largest contributing commodities. It is done so as to be able to analyse changes over time in more detail – why there were shifts in which commodities were the fiscally important.

Figure 4 shows that taxes on exports were still an important source of revenue during the 1830s, making up around 13% of the total on average each year. When export tariffs were cut almost to zero in the first half of the 1840s an alternate source of revenue had to be found to make up for the loss.<sup>10</sup> The choice fell on various consumption goods. Particularly sugar but also tobacco and coffee, and to a smaller extent alcohol, took up a significantly larger share than before. After 1845 sugar was the consistently single largest receipt, contributing around 25% annually. Coffee and tobacco respectively brought in on average 10 and 11% of total customs revenue between 1830 and 1864, with

<sup>9</sup>The government was still very much concerned with the fiscal aspects of foreign trade, while the parliamentary debate rather focused on the provisions of protectionism versus the provisions of free trade. The reasoning behind removing the numerous import bans during the 1830s and 1840s had however been largely fiscal according to Montgomery (1921).

<sup>10</sup>According to the contemporary parliamentary debate cited in Montgomery (1921) cuts to export tariffs were absolutely dependent on finding other sources of revenue. This was especially the case with bar iron, which was still Sweden's largest export and as such brought in significant amounts of customs revenue.



**Figure 4.** Customs revenue by commodity 1830–1864. Source: Authors calculations based on trade figures from *Generallullstyrelsens sammandrag över Sveriges import och export 1819–1831* and *BiSOS F*, and nominal tariffs from *SFS*, various issues.

their shares increasing slightly from the 1840s. Alcohol made up close to 13% of the total during the period.<sup>11</sup> The other major change during this first period occurred during the 1850s when agricultural goods first got a major tariff-cut and were then moved to the duty-free list. To make up for this loss in revenue larger fiscal burden was put on fabrics and clothes, cloth, etc. (as opposed to raw textiles which were imported duty-free or close thereto from this point on). This quite large category made up around 18% of total customs revenue between 1854 and 1864. Other goods of some minor importance (not shown in the graph) were other exotics, pepper, raisins, and prunes foremost of them, oils, salt (though decreased importance over time), and herring and train oil. Each of these minor imports made up 1–4% of the total, although ‘other’ as a total fluctuated year to year.

#### 4.4. Customs revenue during the industrialisation phase 1865–1913

The second phase of the development of customs revenue in Sweden during the long nineteenth century was more turbulent than the first. From 1865 to the middle of the 1880s the situation was very similar to that after 1854; sugar and fabrics were still the two major contributors of revenue with tobacco and coffee coming in quite closely thereafter. Then in quick succession a few key changes started occurring. When agricultural tariffs were re-introduced in 1888, grains, flour, meats, and dairy immediately started bringing in customs revenue. This had to do with the fact that even though tariffs of significant levels came back many agricultural goods were still being imported. Import of wheat even increased after 1888, while that of rye only decreased somewhat. Import of flour, pork, and butter decreased slightly, but still managed to create some revenue.<sup>12</sup> Taken together agricultural goods made up a little more than 20% of total customs revenue between 1888 and 1913. Of this the most important part were grains, while flour, meats, and dairy brought in less revenue. Out

<sup>11</sup>The Swedish import basket of alcohol during this time consisted mainly of wine and spirits such as cognac, rum, and arrack (used for making Swedish alcoholic punch, *punsch*). Beer was really a minor import for most of the nineteenth century (even though it increased over time) and carried more or less zero fiscal importance.

<sup>12</sup>Even though it is outside of the scope of this article one can wonder whether the re-introduced agricultural tariffs actually did anything to hinder the grain invasion as previously suggested. Gårestad (1985) also raised this doubt.

of grains wheat became the single most important fiscal good. Bakeries were increasingly gearing their production towards wheat based breads and cakes, to the detriment of rye based goods. By 1897 about 80% of bakeries were focused on wheat based production.<sup>13</sup> After the re-introduction of agricultural tariffs wheat hence became a taxed input into domestic production. Domestic output of wheat was low relative to rye, barley, and oats, so import was needed to fill production and consumption needs, and it doesn't seem as if the tariff hindered increased consumption of wheat based bread, cakes, and pastries.<sup>14</sup>

Second, sugar lost its dominant role as a fiscal receipt from 1895 when import of the commodity plummeted. This had to do with the fact that, as elsewhere in Europe, Sweden started growing its own supply of sugar beets, which started picking up towards the end of the 1880s and the beginning of the 1890s. Domestic production hence crowded out demand for foreign imports, which significantly affected the composition of customs revenue.<sup>15</sup> What remained in the sugar category after 1895 was mainly the import of syrup. As a result part of the fiscal burden was moved onto industrial imports, which included a big and broad range of goods from metals and machines to pulp and paper. Between 1897 and 1913 industrial imports made up around 12% of total customs revenue annually, with a slight increase occurring after 1903. Tariffs were put on capital goods, new types of machines and instruments for instance, while tariffs were also introduced on goods that had been previously duty-free.

Fabrics remained a large receipt of almost unchanged size and importance during the second phase. Revenue from coffee and alcohol decreased slightly over time, while that from tobacco increased marginally. Some other noticeable items (not shown in the graph) were fruits and spices (citrus, raisins, prunes, pepper, cinnamon, etc.) which were at 3–4% of total customs revenue before 1900, increasing to on average 5% between 1901 and 1913. Yarn and hides taken together were at a few percent of the total, while oils on average made up one percent of the total. The rest of the total up to 100% was made up of a myriad of goods, each contributing very little individually. As can be seen in Figure 5 'other' made up a slightly larger share of the total towards the end of the period.

## 5. What caused increases in customs revenue

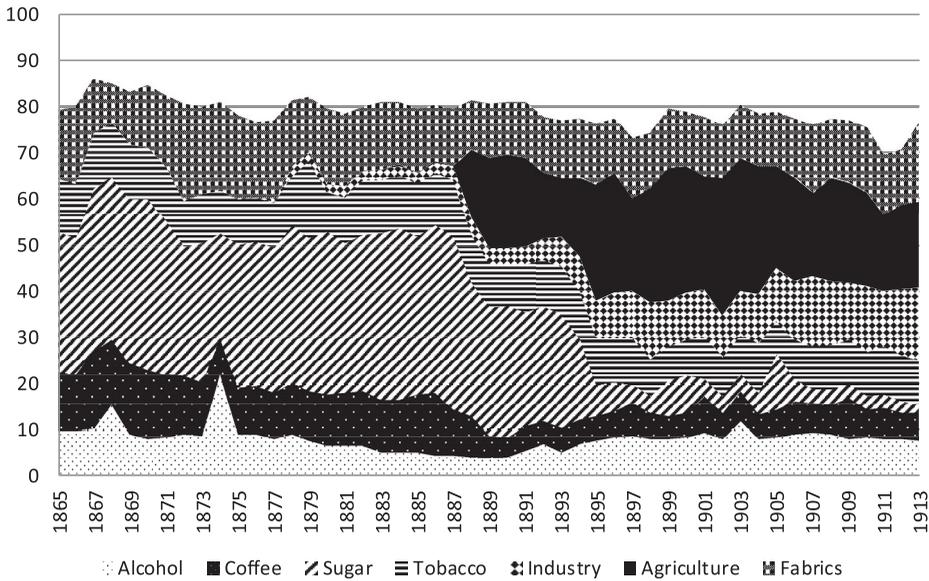
### 5.1. Import growth and openness to trade

Two factors which have been highlighted as having a positive impact on the growth of customs revenue is import growth and openness to trade. It has also been suggested that customs revenue grows when the economy is booming and decreases during downturns and economic crises. Figure 6 shows the development of imports, which exploded mainly from the middle of the 1860s onwards. Like Gårestad (1985) pointed out increases in customs revenue and import growth were highly correlated. He also suggested that import growth would cause 'automatic' increases in customs revenue. Over the whole period in question here the correlation coefficient is 0.977. If the sample is divided up into three sub-periods the coefficient is 0.940 between 1830 and 1864, 0.974 between 1865 and 1888, and 0.748 between 1889 and 1913. There are however a few problems with drawing too large conclusions based on these numbers. First, correlation is not causality and what we are seeing here is just much a case of co-linearity as correlation. Second, it is true that it is unlikely that customs revenue will increase if there is no growth in total imports. However, what matters more for customs revenue is whether there is an increase in trade in those goods that are deemed fiscally important and are taxed for that purpose.

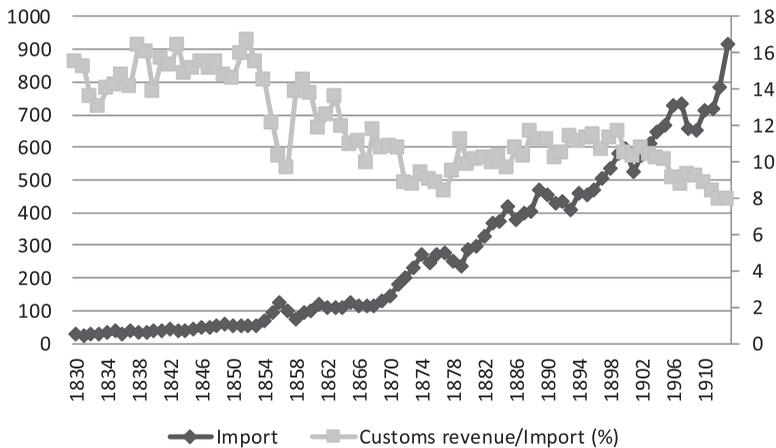
<sup>13</sup>Statistics from Kommerskollegium [National Board of Trade], 1899.

<sup>14</sup>It seems that in practice wheat came to function like a consumption good with low elasticity of demand. The tariff did not seem to have pushed prices upwards. Wheat and rye prices were no higher in the decade after 1888 than they had been during the preceding decade (Jörberg, 1972, pp. 634–636).

<sup>15</sup>The loss of customs revenue from the import of sugar was partly offset by the introduction of a domestic consumption tax on sugar. It was introduced already in 1873 but grew in relative importance from the early 1890s. Between 1890 and 1913 it contributed on average five percent to total tax revenue (Stenkula, 2015, Table 4.7, pp. 210–211).



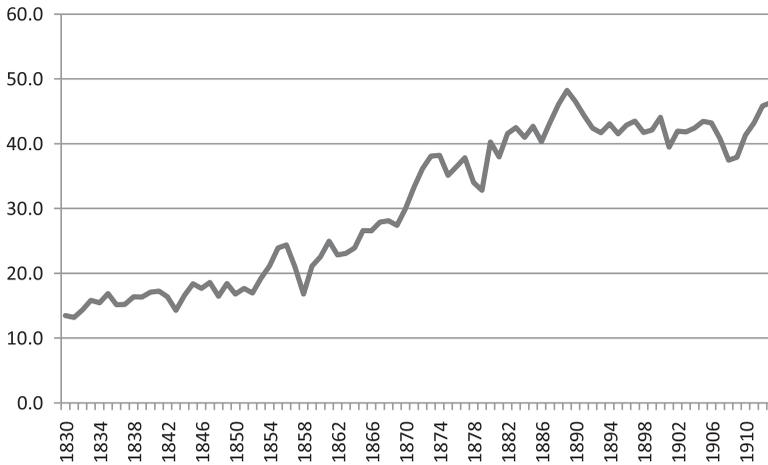
**Figure 5.** Customs revenue by commodity 1865–1913. Source: Based on official figures from BiSOS F and SOS. Category ‘industry’ includes metals, machines, vehicles and instruments, paper and pulp.



**Figure 6.** Import in million SEK, 1910/1912 constant prices (left axis), and customs revenue as share of import (current prices, right axis) 1830–1913. Source: import from Schön and Krantz (2012, Table VI). Customs revenue: see Figure 2.

What is interesting here in relation to tariff setting is mainly two things: first, import growth picked up after liberalisation of policy and cut of tariff rates; second, there was a drop in imports directly after the re-introduction of agricultural tariffs in 1888, but the trend was short and imports boomed again shortly after. The fact that customs revenue relative to total import decreased after liberalisation of trade has to do mainly with two things. First, that import growth was larger after 1860 than growth in customs revenue. Second, as mentioned in section 3, the share of duty-free goods in total imports increased towards the end of the period, which explains why the correlation between import and customs revenue was lower during the 1890s and 1900s.

Figure 7 shows openness to trade over the whole period. It increased mostly from the early 1860s to the beginning of the early 1880s when it nearly doubled. It was from then on rather stagnant until



**Figure 7.** Openness to trade (import + export/GDP in current prices), 1830–1913. Source: Schön and Krantz (2012, Table III and Table VI).

1913. The increase in openness has mostly to do with the fact, as alluded to earlier, that imports out-grew GDP following the liberalisation of trade policy. This trend was particularly poignant during the 1870s and 1880s – imports grew at 6.8% per annum in the 1870s and 7.5% per annum in the 1880s. Exports also boomed during these decades, but since tariffs on exports were removed in 1863 this did not matter at all for customs revenue. However, openness can be said to have the same effect as import growth, openness tends to have positive effects on trade growth which itself yields higher customs revenue (unless all tariffs are zero) (Hinrichs, 1966). One can argue that what decides both trade growth and openness in the first place is whether trade policy is liberalised and tariff rates are lowered or removed.<sup>16</sup> From the Swedish case it seems that lower tariffs had a positive impact on trade growth and openness.

### 5.2. Higher tariffs – lower revenue?

The ‘higher tariffs – lower revenue’ argument deserves some further attention, particularly since this article is interested in the structure of customs revenue and the impact of tariff setting on particular commodities. It is a difficult question to answer, one which merits its own article. Several issues need to be taken into account, such as how tariffs are measured against customs revenue, what the elasticity of total imports is, and whether the tariff changes the composition between dutiable and duty free imports (Irwin, 1998).

Gårestad discussed changes made to tariffs mostly after 1876, when the share of customs revenue to total government revenue increased. There were however significant changes made to tariffs during an earlier period when the importance of customs revenue first boomed. Apart from the liberalisations of the 1850s, there were smaller changes made which had significant fiscal effects. The nominal tariffs on three of the most important receipts, coffee, tobacco, and sugar, were changed in a couple of steps before 1863. These three items increased their share of total customs revenue from 30% in 1830 to on average 50% during the 1850s and early 1860s. The duties on coffee and tobacco were increased in a couple of steps (see Figure 8), while that on sugar was lowered during the 1850s and then up again in 1860.

<sup>16</sup>Removing barriers to trade are of course not the sole decider of trade growth. One also has to include transportation costs (and time), purchasing power, and other factors. It is also important to note that trade growth also depends on the trade policies of trade partners, not just the country’s own tariffs and barriers.

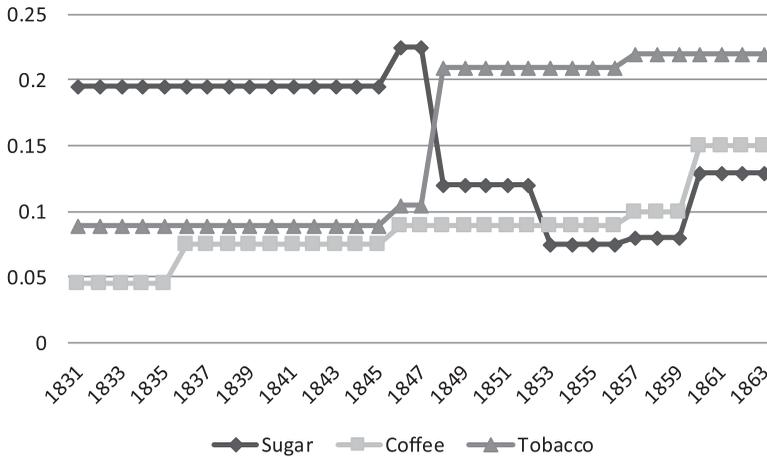


Figure 8. Nominal tariffs on sugar, coffee, and tobacco. In SEK per pound. Source: SFS, various issues.

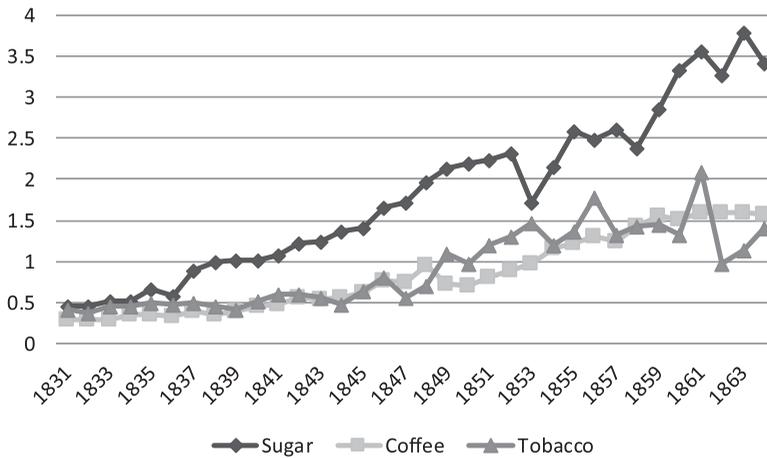
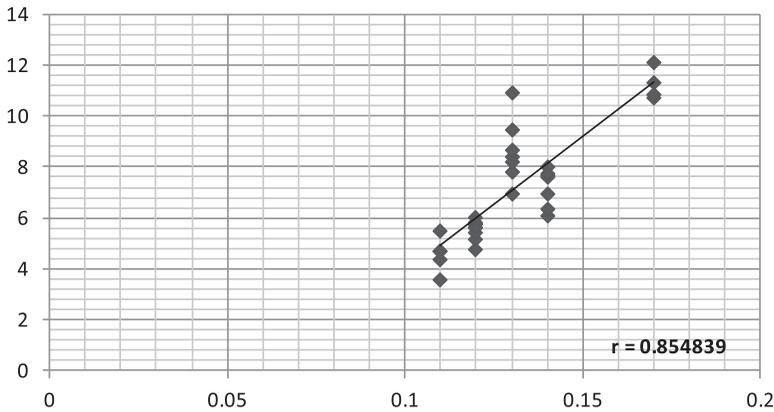
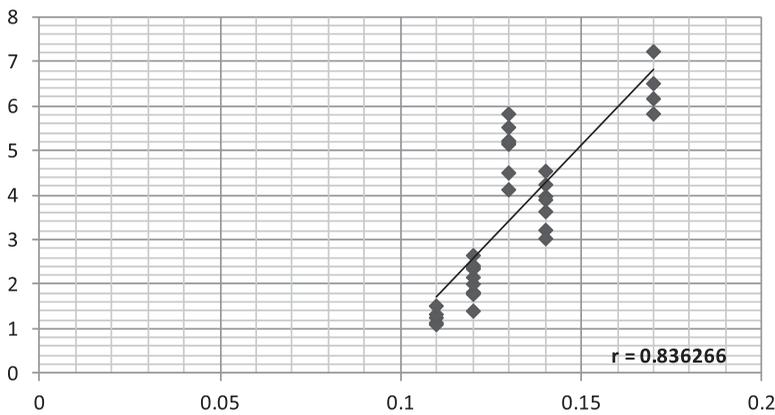


Figure 9. Customs revenue from sugar, coffee, and tobacco, in million SEK. Source: see Figure 4.

Figure 9 below shows that the secular growth in customs revenue from sugar was large from 1831 to 1864, going from 0.5 million SEK to about 3.5 million. It also shows that revenue increased: (1) when the nominal tariff was unchanged 1831–1845; (2) when the nominal tariff was lowered 1846; (3) when the nominal tariff was increased in 1860. The only major downturn happened from 1852 to 1853, before another lowering of the tariff. The nominal tariff on coffee was increased in four steps: in 1836, 1846, 1857, and 1860, meaning it had tripled over these 24 years. Almost in each instance the reaction was increased revenue, even though it happened in more moderate pace than for sugar. There was a drop from 1848 to 1850, but it followed an upturn 1846–1848 right after the tariff increase. The nominal tariff on tobacco was increased in three steps: in 1846, 1848, and 1857. The increase of 1848 was a doubling of the previous level, but the immediate impact was a rise in customs revenue which then continued throughout the 1850s. There were some year-to-year fluctuations in revenue where the tariff was stable towards the end of the 1850s and early 1860s. In total it seems as if higher tariffs did not yield lower revenue – if anything there was an increase. Higher tariffs



**Figure 10.** The correlation between tariffs (x-axis) and total customs revenue in million SEK (y-axis) (1831–1863). Source: see Figure 4 and Figure 8.



**Figure 11.** The correlation between tariffs (x-axis) and customs revenue on the three most important commodities in million SEK (y-axis) (1831–1863). Source: see Figure 4 and Figure 8.

on coffee and tobacco did not mean lower import levels, but rather a slow increase between 1830 and 1864. The impact of the sugar tariff is a bit more difficult to interpret, but it rather seems that lower tariffs meant higher revenue. Or simply that the import of sugar continued to increase regardless of the tariff; it increased when it was stable, lowered, and increased. Hence, Swedish policymakers seem to have set tariffs that were fiscally efficient during the 1840s, 1850s, and 1860s.<sup>17</sup>

The correlation between the average tariffs on sugar, coffee, and tobacco, and total customs revenue was notably positive during the first period, with a correlation coefficient of 0.85 (Figure 10). The relationship was quite linear and gives some indication that higher tariffs would have yielded higher revenue. When tariffs on more goods (other than the three mentioned above also tariffs on alcohol and agriculture) were included in the measure and calculated as ad valorem the relationship however disappeared. There was no correlation then with a coefficient of 0.022. The positive

<sup>17</sup>It is important to mention that the customs revenue from fabrics and clothing articles also rose a lot during this period. Since that category consisted of such a plethora of different items with varying tariffs it is however difficult to make an interpretation over the 'higher tariff – lower revenue' hypothesis. It is also likely that what mattered in this category was mostly the fact that earlier import bans were removed and replaced with tariffs, which caused growth in textile imports and hence also in customs revenue for this category.

relationship was also there when the three tariffs from [Figure 8](#) was measured against customs revenue on those three goods, with a correlation coefficient of 0.83 (see [Figure 11](#)). The relationship is still positive when the tariffs are measured as ad valorem, but it is weaker at 0.41. Increases in nominal tariffs seem to have had a positive impact on real increases in customs revenue, both on total level and on the three most important commodities. This was less so when prices were taken into account, but there was still a positive relationship on sectoral level. There is some indication that the government was able to raise fiscal tariffs on good with lower elasticity of demand and increase revenue as a result.

## 6. Conclusions

This article has set out to answer what determined the growth of customs revenue in nineteenth century Sweden. It has focused on tariff setting and the structure of customs revenue in order to answer this question. Integral changes were made to Swedish trade policy during the period, and many were undertaken before 1860. This article has shown that these changes need to be taken into account to properly analyse the fiscal development in nineteenth century Sweden, something which has typically been lacking in earlier research such as [Gårestad \(1985\)](#) and [Henrekson and Stenkula \(2015\)](#). First, the general development of Swedish nineteenth century trade policy served fiscal needs and goals. The move away from taxing exports to taxing only imports, and mainly imports whose growth were not hurt by the existence of tariffs, was instrumental in securing a steady flow of customs revenue. Not only was this likely a move that promoted export growth, but imports would come to outgrow exports during the second half of the century, and some decades even outgrew GDP. Taxes on imports hence created room for revenue growth that taxes on all of foreign trade could not. The several consecutive decisions to remove import bans and replace them with (often rather high) tariffs served the same purpose. Second, the liberalisation of trade policy during the 1850s forced a slimmer tariff structure that put fiscal burden on a smaller number of goods. These were particularly goods with low elasticity of demand, such as sugar, coffee, tobacco, and alcohol. This puts Sweden along the same lines of other European countries who also taxed these goods highly for revenue purposes. Certain items which were important in the revenue baskets of other countries, such as petroleum and oils, were however only of minor or no importance in Sweden. Sweden instead stood out by drawing lots of revenue from textiles and clothing, and during 1890–1910 also from capital goods. Revenue from agricultural goods, mostly wheat, also became relevant again when these tariffs were reinstated during the 1880s. Third, the rates on these types of goods could be increased at times when that was deemed necessary without losing revenue. Rather, the analysis in section 5 showed that revenue increased when tariff rates were heightened. The result that higher tariffs yielded higher revenues is interesting in relation to that issue as raised by [Irwin \(1998\)](#). This development took place during a critical time when customs revenue as share of total government revenue really took off and came to be the single most important tax receipt. Trade policy hence came to be a key driver of nineteenth century fiscal development in Sweden.

Revenue needs were a large driver of tariff policy in nineteenth century Sweden. This contrasts with earlier Swedish research ([Heckscher, 1954](#); [Jonsson, 2005](#); [Montgomery, 1921](#)) but rhymes well with international research and experiences in other countries (see for example [Williamson, 2006](#), and the cited work in [Dormois et al., 2006](#)). Tariffs could be set without discouraging imports and decreasing revenue, but as earlier research has pointed out, tariffs could have had other negative effects not discussed here. This was probably most likely towards the end of the period here when more customs revenue came from seemingly protective duties (on agriculture and industrial imports) than before. The state benefited in terms of growing revenue, but industry and agriculture could have suffered under a higher tariff burden. One can however wonder whether the actual effects were leaned towards the fiscal or the protectionist. An import like wheat grew after agricultural tariffs

were re-introduced and arguably came to function like a commodity with low elasticity of demand. Is it possible that tariffs served both fiscal and protectionist needs at the same time or are these mutually exclusive? This possible trade policy clash warrants further studies.

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