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Taxation of Goods and Services from 1862 to 2010

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IFN Working Paper No. 956, 2013

Taxation of Goods and Services from 1862 to 2010

Mikael Stenkula

Taxation of Goods and Services from 1862 to 2010*

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February, 2013

Abstract:

This paper presents annual Swedish time series data on consumption taxes, i.e. the indirect taxation of goods and services, between 1862 and 2010. As a share of total state tax revenues, consumption taxes were very high at the beginning of the period, though as a share of GDP it was rather low. At this time, customs duties and specific consumption taxes on alcohol and sugar were the most important tax revenues. The importance of consumption taxes decreased during the World Wars, in particular during World War I. However, between the Wars the consumption taxes were still important and vehicle taxation as well as tobacco taxation now also contributed significantly to the tax revenues. After World War II and the 1940s, the tax revenues from consumption taxes has increased slightly again. However, as a share of GDP it increased sharply. On the other hand, importance of specific consumption taxes and, in particular, customs duties has fallen dramatically. The mix of the specific consumption taxes has also changed with and increased emphasis on energy and environmental taxes. A permanent general consumption tax was introduced in 1960 and its importance has increased sharply since then.

JEL-codes: H20, N43, N44

Keywords: Consumption taxes, Taxation of goods and services, Excise duties, Customs duties, VAT

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1. Introduction

The tax system in a country consists of many different parts. Most developed countries today have a complex mixture between income taxes (personal and corporate), payroll taxes, property taxes and consumption taxes (goods and services taxes). The division between these taxes differs between countries and has changed substantially over time. Consumption taxes (including customs duties) were a very important tax base historically and are gaining in popularity again, as consumption taxes do not, unlike income taxes, reduce the incentives to save.¹

This paper will focus on consumption taxes in Sweden between 1862 and 2010. The purpose is to provide a detailed description of the various components of consumption taxes, i.e. general and specific consumption taxes as well as customs duties, and how they have evolved over time. It complements other papers presenting the evolution of the Swedish tax system for the same time period, covering labor taxes (Du Rietz et al. 2013a), capital taxes (Du Rietz et al. 2013b), inheritance and gift taxes (Du Rietz et al. 2012) and wealth taxes (Du Rietz et al. 2013c). The year 1862 is chosen because a major (income) tax reform was implemented in that year. The further back in time the analysis goes, the harder it will be to document the general tax pattern. The tax system during the first half of the 1800s was very heterogeneous and many taxes were paid in kind. To our knowledge this is the first paper which calculates annual series of the evolution of consumption taxes for this long timespan.

The paper is organized as follows. In section two, the data and methodology are discussed. Section three presents the general evolution of the consumption taxes through our time period examined. Section four provides thorough discussion covering customs duties, general consumption taxes and specific consumption taxes. Section five concludes.

2. Data and Methodology

Data is taken from several sources. The main source concerning tax revenues is Statistics Sweden (SCB) complemented with information from the Swedish National Financial

¹ See e.g., Slemrod and Bakija (2008).

Management Authority (ESV) and the OECD.² The tax revenues will be divided between customs duties, general consumption taxes (i.e., consumption taxes not directed to particular goods or service, like general sales tax or VAT) and specific consumption taxes (or excise duties, i.e. consumption taxes on a particular (type of) commodity or service, like tax on liquor or fuel). GDP data is taken from Statistics Sweden (SCB) and Edvinsson (2005).

This paper will focus on state (national) taxation. Consumption taxation on the local (municipality) level were limited during the examined period (and could also differ substantially across municipalities). According to SCB (1914, p. 177) there were no consumption taxes on the local level. According to Gårestad (1987, p. 234) citing a tax committee from 1900, the municipalities did not have the legal right to indirectly tax people through consumption taxes.³ The sales tax of liquor can, however, be seen as a form of semi-local tax. Formally, it was a state tax collected by the state, but it was distributed to the municipalities based on how much liquor that was sold in the municipalities. This tax is included.

The tax revenues will be shown as a percentage of state and total (i.e. state and local) tax income.⁴ It will also be shown as a percentage of GDP. GDP is rather straightforward to use, but there have been some methodological changes in how to measure tax revenues.⁵ Many of these changes give rise to temporary and small changes which will not affect the overall pattern. There are, however, some changes that deserve to be mentioned.

² *Statistical Yearbook of Sweden (Statistisk årsbok)* 1914–2010, Time series of the Outcome of the Central Government Budget 2009–2011 (Tidsserier, Statsbudgeten m.m.), OECD stat extracts, <http://stats.oecd.org/Index.aspx?DataSetCode=REV>.

³ Even if the municipalities were not legally entitled to tax people indirectly they were not forbidden to tax dogs. Hence, there existed a specific local dog tax paid by dog owners during the 19th century. This indirect tax was, however, of negligible importance. After World War I, the local authorities, nevertheless, introduced luxury consumption taxes which were later transformed to a state tax. The local authorities had also already introduced a minor excise duty on forest (*skogsaccis*) in 1912. When the economy started to be based on vehicle transportation, the County Administrative Board (*Länsstyrelsen*) was further allowed to introduce local road user charges. This tax may however be seen more as a fee than a tax.

⁴ One can use total (or state) revenues instead. The problem is that this figure will include temporary and sometimes extraordinary large revenues, like sales of state-owned companies, which will result in spikes in the time series. We have, however, included revenues associated with the social security system in the aggregate figure.

⁵ One reason for these changes is that the responsibility for maintaining the statistics concerning public finances has shifted from Statskontoret, Riksräkenskapsverket and Riksrevisionsverket (and published by Statistics Sweden) to a new body, ESV (Ekonomistyrningsverket) in 1998.

One major problem concerns the distinction between reporting gross and net revenues. Some revenues are (or have been) reported as a net figure correcting for different kinds of costs or deductions. During the 1990s, more and more figures have been reported as gross figures. This will mainly affect the evolution of the total tax revenues and to a lesser extent the tax revenues from different consumption taxes. Concerning consumption taxes, it mostly affects the general consumption taxes (like VAT). Until 1995, VAT was reported as a net figure corrected for the VAT paid by authorities and organizations within the governmental (state and local) sector. Whenever possible, I have corrected for this.⁶

There are several other changes made during the 1990s, making a comparison over time less straightforward. One concern relates to the accounting principles. Before 1996, tax revenues were based on actual taxes paid each year, i.e. the cash-flow. From 1996 onwards, an accrued revenue system for taxes collected was implemented.⁷ This is a normal procedure for private companies but had not been used by government until 1996. This does, however, not affect the consumption taxes that much. Membership in the EU also affected the state revenues and its costs, but this change is a real event that should affect the outcome. When it comes to the specific consumption taxes there are some reclassification problems, mainly related to the fuel tax.⁸

Other changes worth noting concern the way social security revenues and costs have been treated and has changed over time. This does not alter the consumption taxes, but will make the consumption tax as a share of total *state* tax revenues less reliable. Hence, the consumption tax share of state tax revenues must be interpreted with caution in the last 20 years of the period examined. This problem is not present when we use *total* tax revenues, and the different tax components as a share of GDP are also less problematic.

⁶ I have corrected for VAT paid by state authorities which is not included in my figures (about 20 billion crowns), although they are included in the official figures from 1996.

⁷ I.e., if taxes paid to the tax authority in January year t refer to an economic event (income, sales) from December year $t-1$, the tax revenues will be seen as revenue for the year $t-1$ when the economic activity generating the tax revenues were performed. See, e.g., Skattestatistisk årsbok 2012 for a further discussion of methodological changes

⁸ The statistics do not allow the separation of the vehicle tax from fuel tax before 1947. After 1995, the fuel tax is reclassified and it cannot be separate from other energy taxes. This will not skew the picture of the state tax revenues or total tax revenues from specific consumption taxes but will make the analysis of the disaggregate categories in Section 4.2 more difficult; see Figure 6.

3. General Development

How important have consumption taxes been for the tax revenues? Figure 1 depicts the evolution as a percentage of state tax revenues and as a percentage of total tax revenues for the whole examined period. Figure 2 depicts the evolution as a share of GDP.

As a share of state tax revenues, the consumption taxes have been rather high. During the late 1800s, the share could be as high as 75–85 percent. At the beginning of the 1900s, the share started to decline to less than 70 percent. During World War I, it declined sharply and reached a low point of 12 percent. There were several reasons for this sharp reduction. Customs duties declined due to restrictions in international trade. Consumption taxes on sugar and alcohol, which were the most important specific consumption taxes (see section 4.2), declined due to rationing. Besides, many consumption taxes were unit taxes (i.e., a constant tax amount per unit of output) and due to extremely high inflation during World War I (almost 50 percent in 1918 alone), the tax revenues in real terms declined rapidly. Temporary income taxes were introduced to cover government expenses including the increased military outlays.

Many of the temporary income tax increases were made permanent after World War I, and the consumption tax share of state tax revenues did not return to its original pre-war level. Just after World War I it was about 40 percent. In the 1920s and 1930s, many new consumption taxes were introduced (see Section 4.2) and the share increased further. In the mid-30s, the share was almost back at the pre-war share. During World War II, the share decreased again (to about 50 percent), but not as much as during World War I. A temporary general sales tax was also introduced during this time to compensate the decline in tax revenues and strengthen the budget. After World War II, the tax share hovered around 50 percent, after a short dip below 40 percent in the early 1950s.⁹ Consumption tax revenue as a percentage of total tax revenue follows the same pattern but at a lower level.

As a share of GDP, consumption tax revenue shows a different pattern. Although the share of tax revenue (state and total) was high during the 1800s, tax revenue as a share of

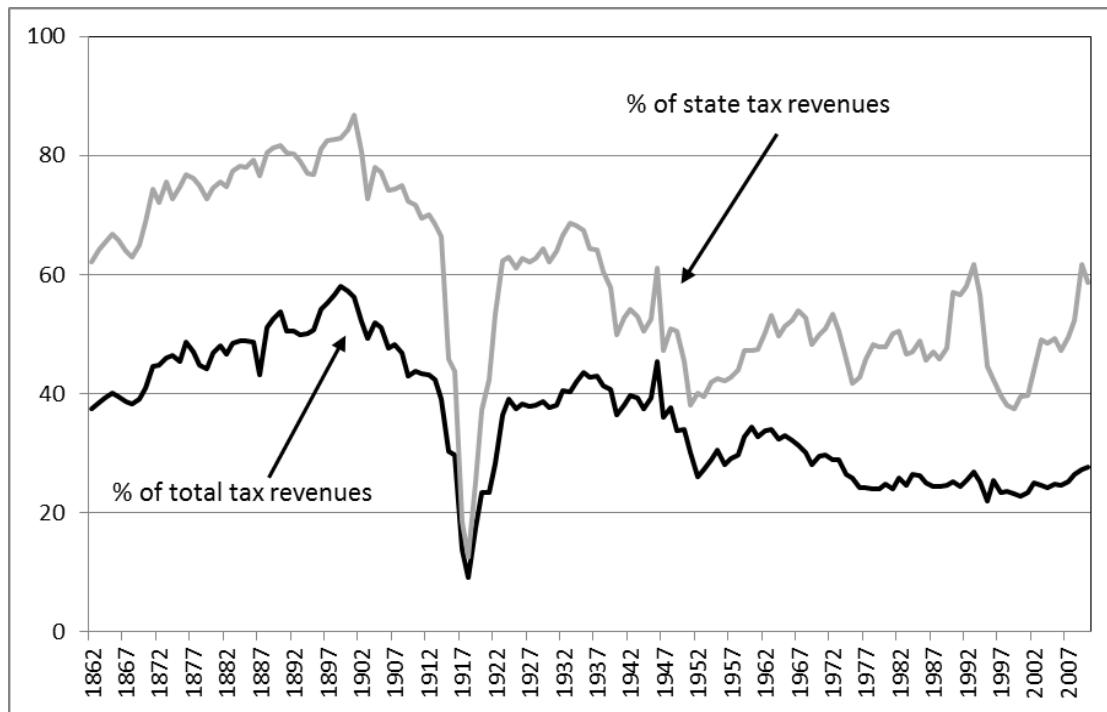
⁹ The share will, of course, depend upon the evolution of the other state taxes as well. During the crises in 1990s, social security contributions paid by employees, for instance, were (re)introduced to strengthen the state budget. In 2007, an earned income tax credit was introduced and extended in the following years.

GDP was rather small and around four percent at the turn of the century. Revenues declined during World War I, but despite that its share of tax revenues did not return to its pre-war level, its share of GDP increased. Ignoring the time just after World War II, tax revenues have continued to increase, and its share of GDP was about 12 percent at the end of the period examined.

Hence, at the beginning of the period examined, consumption taxes were the most important revenue for the state government, though tax revenue as a share of GDP was rather small. At the end of the period, consumption taxes were less important (though still important as it constituted 50 percent of state tax revenue), but the tax revenues were now rather large. Despite the pronounced increase of the consumption taxes as a share of GDP since World War II, its share of state tax revenues did not increase to the same extent. One reason for this modest increase is the importance of social security contributions paid by employers and payroll taxes which were introduced during the end of the 1950s and increased sharply during the 1960s and 1970s.¹⁰

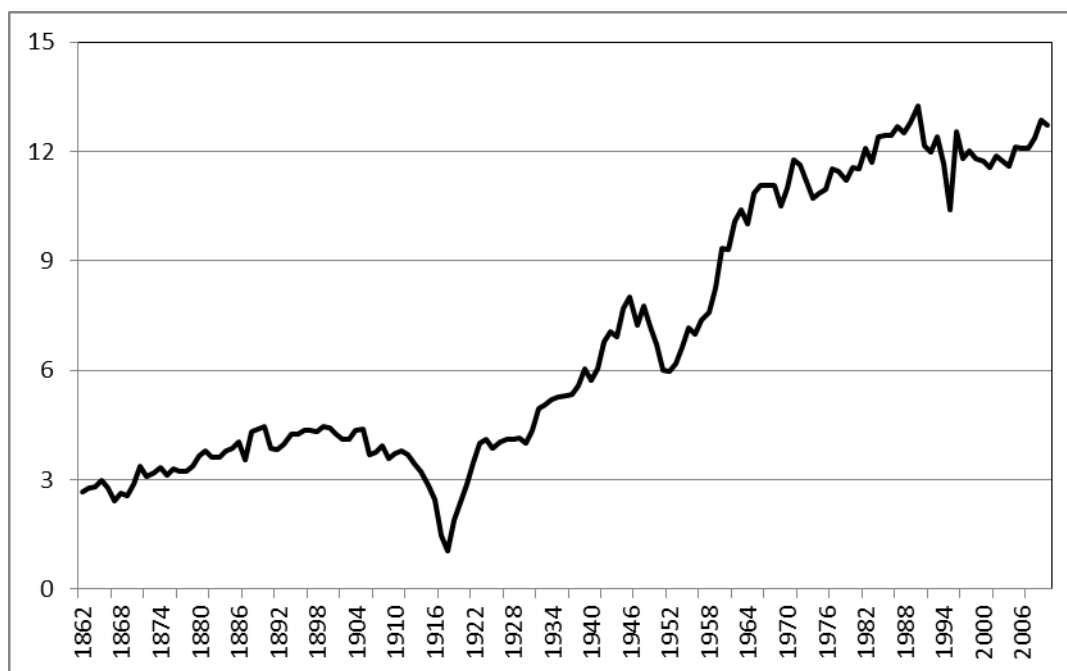
¹⁰ See Du Rietz et al. (2013a) for a further description of the development of the social security contributions.

Figure 1. Consumption taxes as a percentage of state tax revenues and total tax revenues, 1862–2010



Sources: SCB (1914–2011), ESV (2010–2012), Edvinsson (2005), Gårestad (1987) Rodriguez (1980), OECD stat extracts. <http://stats.oecd.org/Index.aspx?DataSetCode=REV>.

Figure 2. Consumption taxes as a percentage of GDP, 1862–2010

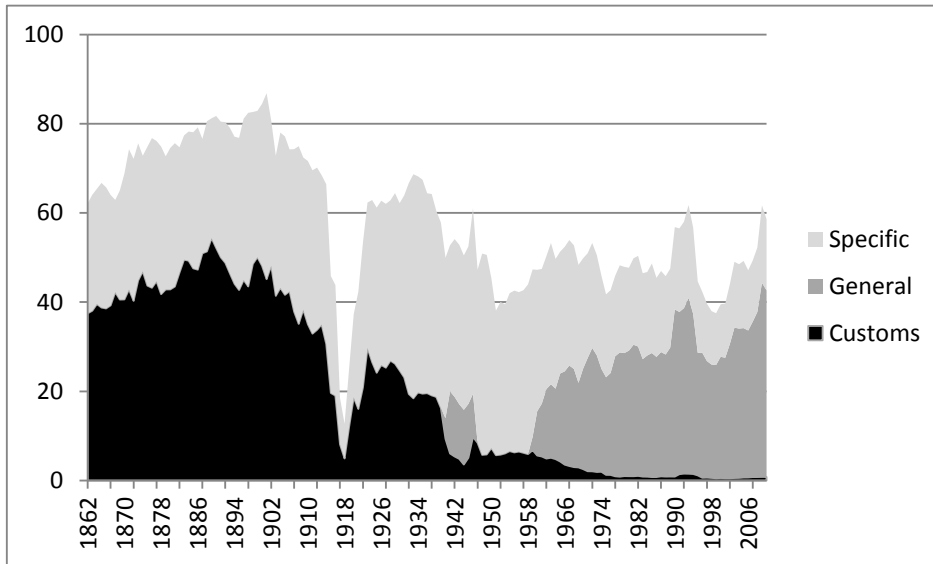


Sources: SCB (1914–2011), ESV (2010–2012).

4. The composition

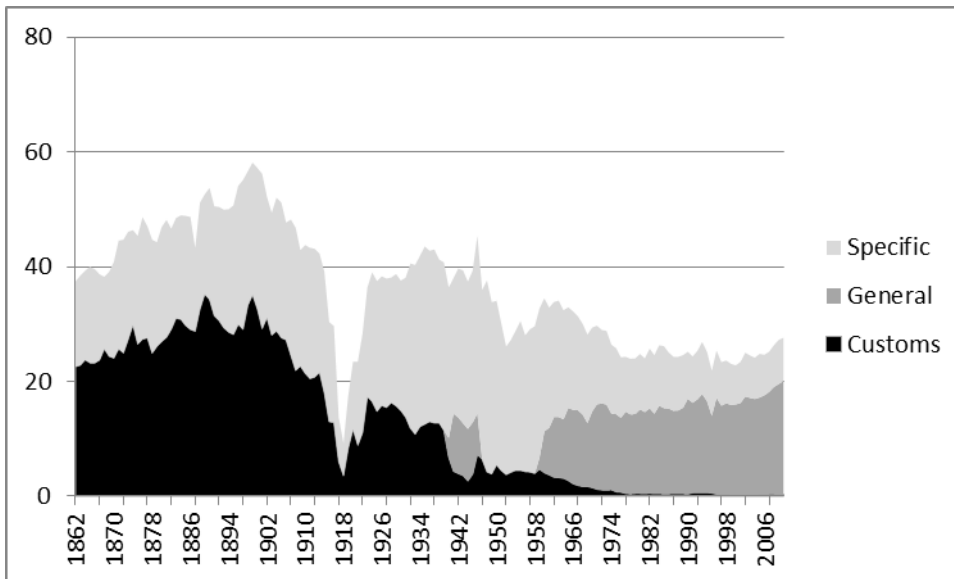
Figure 3 and 4 show the different parts of the consumption taxes (customs duties, general consumption taxes and specific consumption taxes) as a share of state and total tax revenues. Below each of them are discussed in more detail.

Figure 3. Tax composition, percentage of state tax revenues, 1862–2010



Sources: see Figure 1.

Figure 4. Tax composition, percentage of total tax revenues, 1862–2010



Sources: see Figure 1.

4.1 Customs duties

Figure 3 shows that customs duties have been an important income source for the state government. Customs duties in Sweden had both a fiscal purpose (to raise revenue) and a protectionist one (to protect vital or infant Swedish industries). In the mid-1850s, customs duties decreased internationally and Sweden followed this trend. At the end of the 1800s, political opinion changed and customs duties were raised in response to protectionist demands from industry and the general population.¹¹ During the 1800s, up to 50 percent of the state revenues could come from customs duties and there is an increasing trend during the late 1800s. This share decreased sharply during the World War I (together with all other consumption taxes). After World War I, the share of customs duties increased again (to about 20 percent) but it never reached the high share it had had before the war, i.e. it follows the same pattern as other consumption taxes.

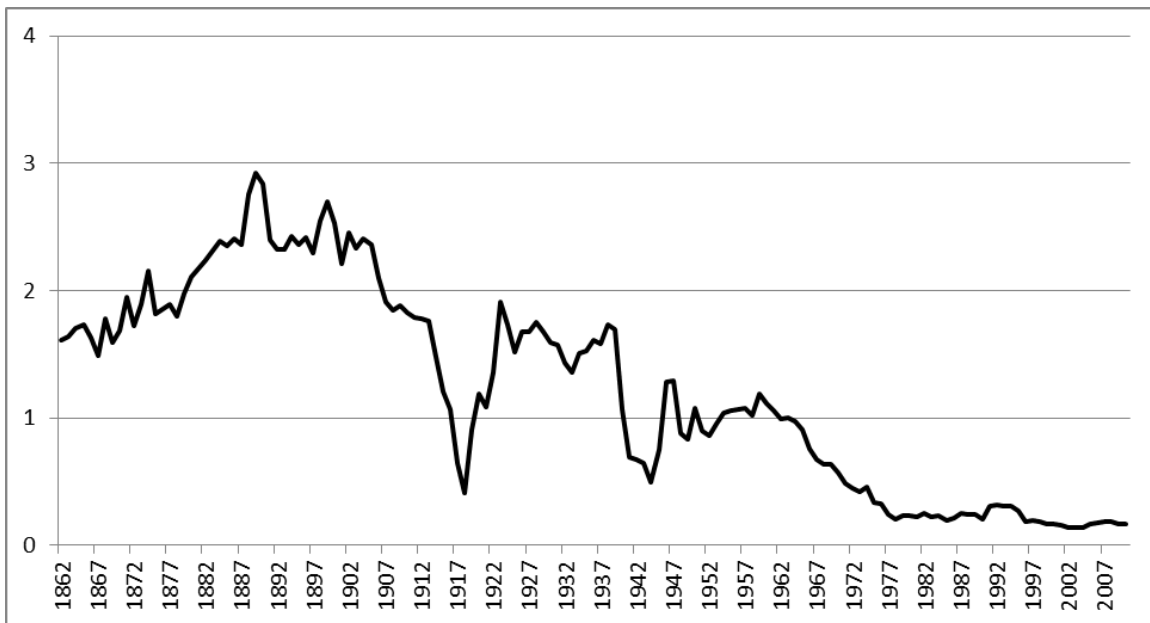
During World War II, the share of customs duties declined further to between five and ten percent. It increased slightly after the war but continued to decline in the 1960s. A tax committee from 1952 claimed that the main motivation for the customs duties still being in place was to protect the Swedish industry. The customs duties did not function as a device to generate tax revenues anymore, i.e., the fiscal purpose had deteriorated completely.¹² Today, the share is almost negligible and amounts to less than one percent of the state tax revenues and less than half a percent as a share of total tax revenues.

As a share of GDP (Figure 5), the customs duties' share was at most almost three percent (at the end of the 19th century). It has decreased profoundly since the turn of the century with two distinct dips during the World Wars.

¹¹ See Gårestad (1987, chapter 4) for a more thorough discussion about customs duties in the Swedish tax system during the 1800s and until World War I.

¹² See, e.g., Rodriguez (1980, p. 50).

Figure 5. Customs duties as a percentage of GDP, 1862–2010



Sources: see Figure 2.

4.2 Specific

Together with customs duties, the specific consumption taxes were the most important tax categories during the 19th century. Figure 6 specifies what kinds of goods or service were taxed.¹³ As can be seen from the figure, alcohol related taxes were the most important specific consumption tax until World War I. About 25–30 percent of the state tax revenues could be related to some form of alcohol tax.¹⁴ Together with alcohol, there was also a specific sugar tax that amounted to 10 percent of the tax revenues, implying that more than 40 percent of the state tax revenues could come from these taxes before World War I. There was a slightly increasing share over time until World War I.

As with the customs duties, the share of specific consumption taxes decreased profoundly during World War I. After the war, the share was reestablished at a high level,

¹³ The figure shows the share of state tax revenues. The share of total tax revenues resembles this figure but at a lower level and is not shown.

¹⁴ Taxes could be withdrawn both on the production and consumption side. Initially, Swedish vodka (*brännvin*) was the most important source of beverage tax. At the beginning of the 20th century, a specific malt tax (beer) as well as a tax on punsch (Swedish punch) was introduced. Punsch was a sweet arrack based liquor which was (and still is) very popular to drink among students and teachers at the university cities of Lund and Uppsala. The punsch tax, compared to other taxes at that time, was large and could be as high as 30 percent (of the pre-tax consumer price).

about 30–40 percent during the 1920s and almost 50 percent during the 1930s, which was higher than before World War I. In the mid-1930s, the tax share from specific consumption goods was the highest during the whole examined period.¹⁵ However, the goods that were taxed had now changed. Taxes on sugar decreased and finally disappeared. Taxes on alcohol decreased (to about 15–20 percent), but it was still the most important tax base between the wars. Two other specific taxes now contributed to a solid share of the government budget: tobacco taxes and vehicle taxes (automobile taxes). Tobacco taxes had been introduced already during World War I, its importance was, however, relatively modest at that time (a few percentage points at most). After World War I, its share increased rapidly to more than ten percent. In the beginning of 1920s, a vehicle tax was also introduced.¹⁶ The changing economic structure and the increasing use of cars made vehicles an important tax base. This tax became a popular tax during the 1930s and its share increased to more than ten percent during the Depression. It was also a tax that was supposed to hit high-income earners and was easier to accept for the population (and the politicians). Alcohol (and tobacco) taxes could also be motivated from a socio-political viewpoint.

During World War II, the importance of specific taxes decreased as its share of state tax revenues diminished. As a share of GDP, however, it continued to increase even during World War II (see below) but the tax revenues from other taxes increased faster. The tax revenues from vehicles diminished profoundly during World War II. The decrease was compensated by introducing new taxes on, for instance, “entertainment” (cinemas, theater, concerts etc.) and by increasing the tax on tobacco and alcohol.

After World War II, specific tax revenue as share of state tax revenues increased again but it never reached 50 percent as during the 1930s despite increasing taxes on many goods and the introduction of new taxes.¹⁷ During the 1960s, the share started to decrease profoundly as the sales tax/value added tax was reintroduced and sharpened. The importance of alcohol, tobacco and vehicle taxes has continued to decrease since

¹⁵ One reason for the increase during the 1930s was the Social Democratic Party which won the election in 1932 and mainly increased consumption taxes (and not income taxes), see Steinmo (1993, p. 86).

¹⁶ The tax on vehicles formally consisted of different parts. One tax was based on the weight of the vehicle. But there was also a specific tax on vehicle tires. It was soon also followed by a specific fuel tax. Initially, the revenues from these taxes were supposed to cover the costs of production and maintenance of the road network, i.e., they could be seen as fees. This connection was attenuated over time.

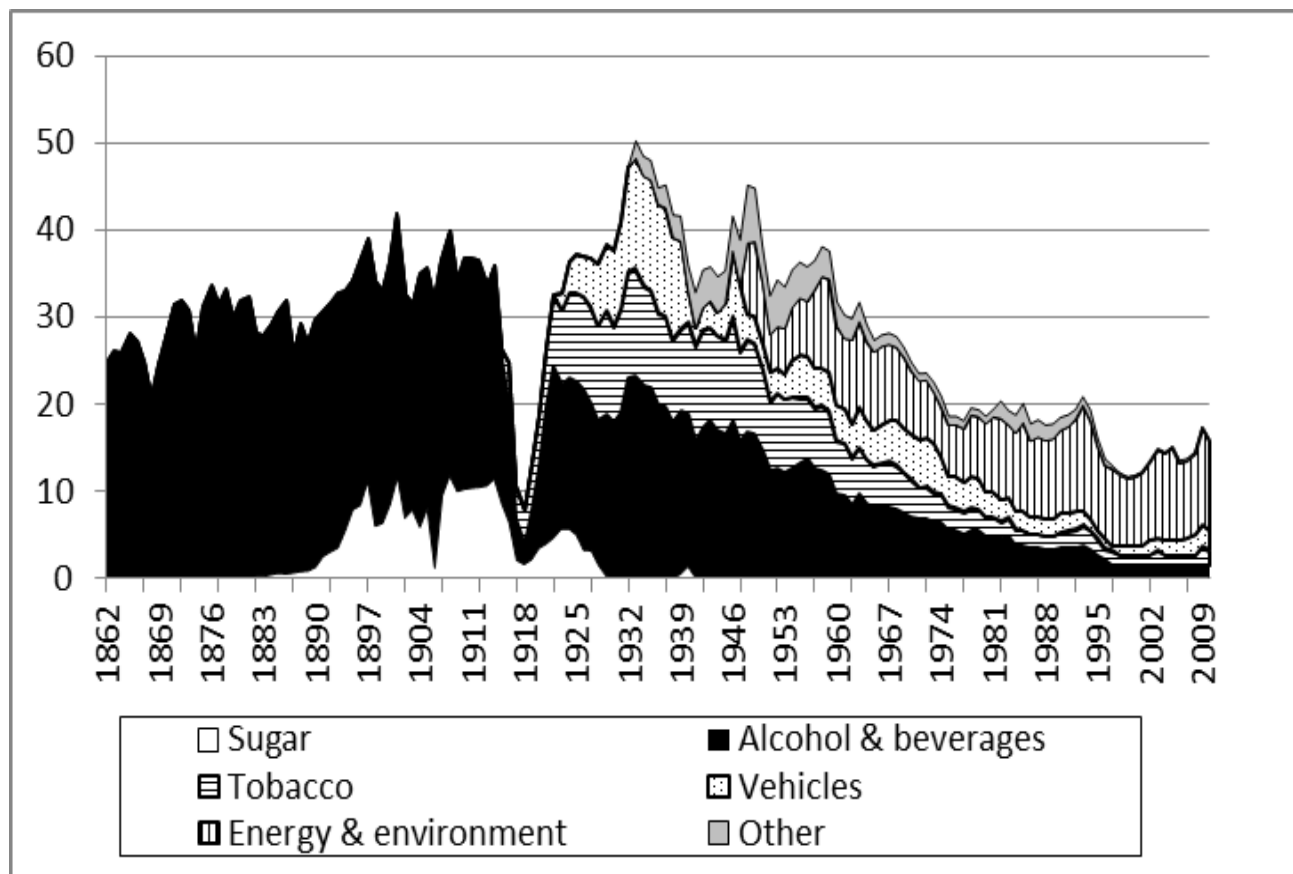
¹⁷ A general consumption tax on electricity was introduced in the 1950s.

then. Today these taxes only contribute slightly more than five percent of the state tax revenues together. However, new taxes have been introduced during this time, mainly related to energy or/and the environment. Today, these taxes constitute about ten percent of total state tax revenues. Despite these new specific taxes, the share has decreased since World War II, though there is a small increase after the 1990s. About 15 percent of the today's state tax revenues come from specific consumption taxes.

As a share of GDP (Figure 7), the specific taxes were at most about seven percent at the end of the 1940s. It increased sharply between the wars (from about two percent to four percent). It has decreased since the end of the 1950s to less than four percent. Although its share of total tax revenue is much smaller today compared to the 1800s, its share of GDP has doubled since the beginning of the period.

Until World War I, sugar and alcohol were the most important tax bases, between the wars alcohol, tobacco and vehicles were the most important tax bases, after World War II these tax bases continued to be important but decreased during the 1960s, whereas the importance of taxes on energy and environment have increased. As a share of total tax revenue specific consumption taxes peaked during the 1930s, though as a share of GDP it peaked in the 1940s.

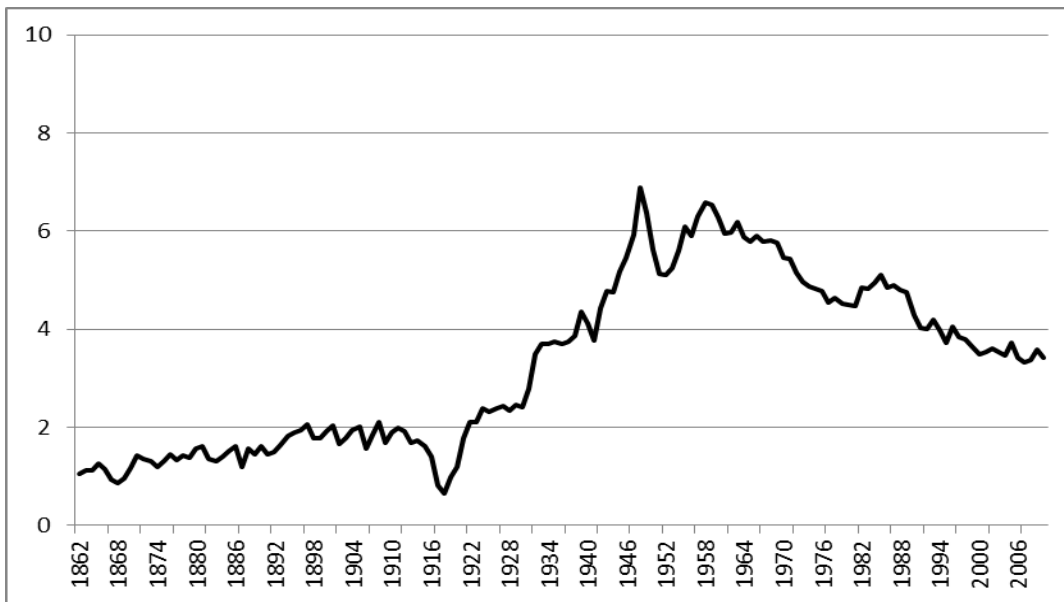
Figure 6. Specific taxes, percentage of state tax revenues, 1862–2010



Sources: see Figure 1.

Note: due to problems with classification, fuel tax is included in “Vehicles” until 1947 and in “Energy & environment” thereafter.

Figure 7. Specific taxes as a percentage of GDP, 1862–2010



Sources: see Figure 2.

4.3 General

General consumption taxes were introduced late in the Swedish system compared to the other tax components. This is evident in Figure 3. An important objection to general consumption taxes was that the tax was presumed to be regressive and hit people with low income the most. A temporary general sales tax was first introduced during World War II. The tax rate was set to five percent but it contributed to more than ten percent of the state tax revenues and was high enough to compensate for the drop in customs duties during World War II. After the war, the sales tax was abolished.

After World War II, there was an intense debate among politicians and several official reports analyzed a general consumption tax. It had become harder to increase the direct income taxes and a general consumption tax was seen as an interesting alternative and complement to ordinary income taxes. Several arguments were put forward in favor of a general consumption tax. The consumption tax avoided so-called bracket creep, i.e., when price and wage inflation in combination with a progressive tax schedule pushes taxpayers into higher income brackets with higher marginal tax rates. This was a severe problem as Sweden at this time had a highly progressive Swedish income tax system and

high inflation.¹⁸ Consumption taxes were less obvious to the taxpayers (and hence easier to introduce and increase without objections from the taxpayers) and could also encourage savings. If (part of) the revenues from the new tax were used to support low-income groups it did not have to be an unfair tax from a distributional perspective. A general consumption tax was less troublesome to collect and needed less control compared to a system with specific but highly differentiated tax rates on particular goods and services. A general consumption tax could also be used as a mechanism to stabilize the economy during booms and bust in a better and faster way than an income tax mechanism.¹⁹ After an intense debate, the sales tax was reintroduced in 1960. Initially the tax rate was four percent, but it increased quickly during the 1960s to ten percent (see Table 1). The sales tax's share of the state tax revenues also quickly increased to about 20 percent during the 1960s.

In 1969, the sales tax was transformed to a value added tax (VAT), due to practical and technical reason. A VAT would not hit investments and it paved the way for further increases in the tax rate during the 1970s. The VAT tax rate almost doubled from ten percent at the beginning of the 1970s to 19 percent at the beginning of the 1980s (see Table 1). The VAT's share of the state tax revenues continued to increase and was about 25–30 percent during the 1980s. The revenues from general consumption taxes started to exceed the revenues from specific consumption taxes during the beginning of the 1970s, i.e. about ten years after its reintroduction.

In 1990/1991, a major tax reform was implemented. The value added tax was increased to 20 percent and the base was broadened with tax exemptions for only a handful of services, such as dental care. Later on, the VAT was differentiated with a decreased tax rate on items such as food, hotels, passenger transports and books. On the other hand, some goods and services such as newspapers, cinemas and concerts, which were previously tax-exempt, began to be taxed, though at a low rate.²⁰ The VAT's share

¹⁸ See Du Rietz et al. (2013a) for a further discussion about the progressive income tax system.

¹⁹ See Rodriguez (1980), p. 138ff for a further discussion about indirect taxation and consumption taxes.

²⁰ Today there exist three VAT rates: full tax, with a tax rate of 25 percent (20 percent of sales price), and two lower tax rates of 12 (10.71) and 6 (5.67) percent. Mainly food, hotels and restaurants are taxed at 12 percent and passenger transports, books & newspapers and entertainment are taxed at 6 percent. A number of changes have been implemented in VAT rates for different goods and services since 1990.

of the state tax revenues has continued to increase and constitute more than a third of the state tax revenues at the end of the examined period.

In Figure 8, general consumption tax revenues as a percentage of GDP are depicted. As can be seen from the figure, the tax share increased sharply during the 1960s and 1970s. When the sales tax increased from four to more than nine percent, the share increased from about two to four percent. When the VAT increased from ten to 15 percent, the share increased from about four to six percent. It has continued to increase and stabilized around eight percent of GDP, though a new increase can be seen at the very end of the examined period.

Table 1. Sales tax rates and value added tax rates

Year	Percent of sales	
1941	5.0	
1942	5.0	
1943	5.0	
1944	5.0	
1945	5.0	
1946	5.0	
1947–1959	-	
1960	4.0	
1961	4.0	
1962	6.0	
1963	6.0	
1964	6.0	
1965	9.1	
1966	9.1	
1967	10.0	
1968	10.0	
Year	Percent of sales price	Percent of purchase price
1969	10.0	11.1
1970*	10.0	11.1
1971	15.0	17.65
1972	15.0	17.65
1973	15.0	17.65
1974**	15.0	17.65
1975	15.0	17.65
1976	15.0	17.65
1977	17.1	20.63
1978	17.1	20.63
1979	17.1	20.63
1980	17.1	20.63
1981	19.0	23.46
1982	17.7	21.51
1983	19.0	23.46
1984	19.0	23.46
1985	19.0	23.46
1986	19.0	23.46
1987	19.0	23.46
1988	19.0	23.46
1989	19.0	23.46
1990–***	20.0	25.0

Source: SOU 2005:57, Rodriguez (1980), Skatteverket (2011).

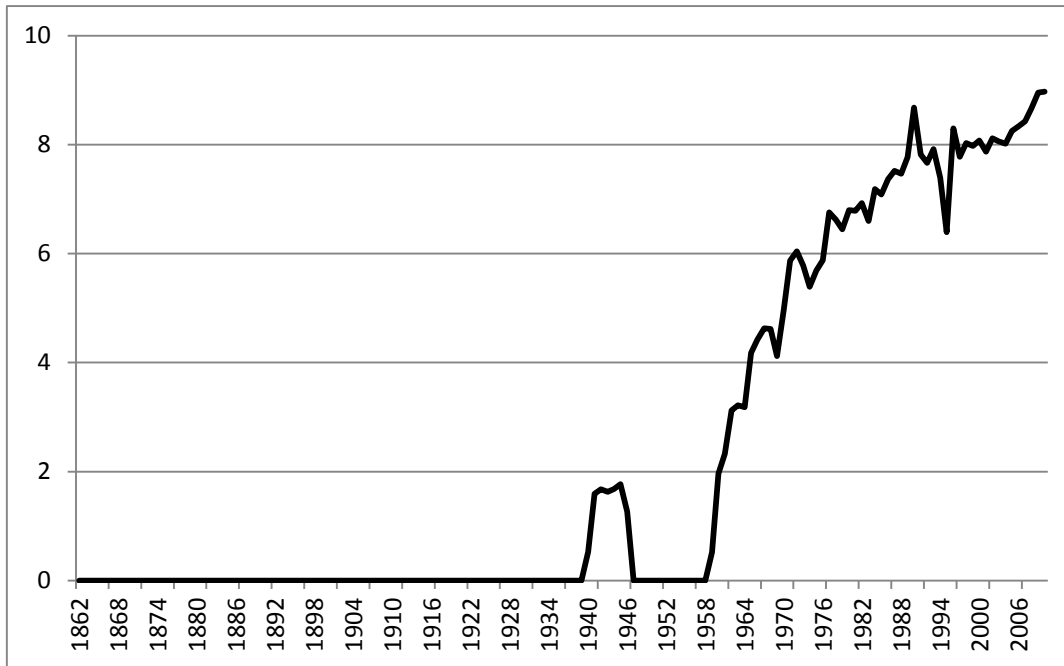
Note: The change did not always happen 1st of January each year.

* Already in 1970 the VAT had increased to first 14 and then 15 percent for some “luxury” commodities (TV, cars etc.)

** In 1974, the VAT was temporary reduced to 12.0 (13.64) percent during part of the year.

*** After the tax reform in 1990/1991, the VAT was differentiated between different products. 20 (25) percent is the highest VAT rate, see footnote 20.

Figure 8. General consumption taxes as a percentage of GDP, 1862–2010



Sources: see Figure 2.

5. Conclusion

This paper has described the evolution of consumption taxes between 1862 and 2010. The development has been divided between customs duties, general consumption taxes (such as VAT) and specific consumption taxes (such as tax on liquor or fuel).

At the beginning of the examined period, revenues from consumption taxes were high (and increasing) as a share of state or total tax revenues. At the turn of the century it could be as high as 85 percent of state tax revenues. As a share of GDP, its share was, however, rather moderate at about three percent during this time. Its share of tax revenues and of GDP decreased profoundly during World War I but quickly increased again after the war. Its share of tax revenues decreased again during and after World War II, whereas it decreased as a share of GDP only after the war, i.e. the tax revenues from consumption taxes continued to increase during the war but tax revenues from other taxes increased even more. After World War II, consumption taxes as a share of GDP have increased profoundly whereas no clear increasing trend as a share of tax revenues can be seen until very recently. One reason for this is the importance of social security contributions which

was introduced at the end of the 1950s and which has increased rapidly. This implied that consumption taxes as a share of tax revenues have been relatively constant though its share of GDP has increased. The highest share of tax revenues (state or total) was reached around 1900 but the highest share of GDP can be seen at the end of the examined period.

Concerning the type of consumption taxes, customs duties were the most important component before World War I, specific consumption taxes overtook this role just before the World War I, whereas general consumption taxes have been the most important component from the 1970s onwards.

Customs duties were initially used both as a fiscal device (to raise revenues) and as a protectionist device (to protect vital and infant industries). Its importance increased during the end of the 1800s due to more protectionist requirements from the industry and the general population. It decreased sharply during the World Wars but was still an important source to raise revenues between the wars. After World War II, its importance decreased sharply and its fiscal purpose was not seen as important anymore.

The importance of specific consumption taxes has also decreased. At the beginning of the period, mainly alcohol and sugar were taxed. Between the wars, when the specific taxes were the most important consumption tax component, mainly vehicles, alcohol and tobacco were taxed. After World War II, when the importance of specific consumption taxes started to decline, the composition changed and now environmental and energy taxes dominate.

General consumption taxes were first introduced temporarily during World War II and then permanently from 1960. The tax rate increased quickly during the 1960s and 1970s, and its share of state tax revenues and of GDP increased accordingly. In 1980, general consumption taxes constituted almost 30 percent of state tax revenues and almost seven percent of GDP. Its share has continued to increase but at a much slower pace.

Appendix

Table A1. Customs duties, specific consumption taxes and general consumption taxes,
percent of state tax revenues

Year	Customs duties %	Specific taxes %	General taxes %	Total %
1862	37.5	24.7	-	62.2
1863	38.1	26.0	-	64.1
1864	39.6	25.8	-	65.4
1865	38.8	27.9	-	66.7
1866	38.6	27.2	-	65.7
1867	39.3	24.7	-	64.0
1868	42.2	20.7	-	62.9
1869	40.6	24.4	-	65.0
1870	40.6	28.2	-	68.8
1871	42.8	31.4	-	74.3
1872	40.3	31.8	-	72.1
1873	44.8	30.7	-	75.6
1874	46.9	25.9	-	72.8
1875	43.7	31.1	-	74.8
1876	43.2	33.6	-	76.8
1877	44.7	31.4	-	76.1
1878	41.8	33.1	-	74.9
1879	42.8	29.8	-	72.7
1880	42.8	31.7	-	74.6
1881	43.5	32.1	-	75.6
1882	46.6	28.1	-	74.7
1883	49.5	27.9	-	77.4
1884	49.3	28.9	-	78.2
1885	47.6	30.5	-	78.1
1886	47.3	31.9	-	79.2
1887	50.9	25.6	-	76.6
1888	51.3	29.2	-	80.5
1889	54.3	26.9	-	81.2
1890	52.1	29.6	-	81.7
1891	50.1	30.4	-	80.5
1892	48.8	31.5	-	80.3
1893	46.4	32.6	-	79.0
1894	44.1	33.0	-	77.1
1895	42.7	34.1	-	76.8
1896	45.0	36.2	-	81.1
1897	43.5	38.9	-	82.4
1898	48.5	34.1	-	82.6
1899	50.1	32.8	-	82.9
1900	48.2	36.3	-	84.4
1901	45.1	41.7	-	86.8

1902	48.2	32.6	-	80.7
1903	41.4	31.4	-	72.8
1904	43.2	34.8	-	78.0
1905	41.6	35.5	-	77.1
1906	42.4	31.8	-	74.2
1907	37.9	36.4	-	74.3
1908	35.1	39.8	-	74.9
1909	38.3	34.1	-	72.4
1910	35.0	36.6	-	71.6
1911	32.9	36.6	-	69.5
1912	33.8	36.4	-	70.1
1913	35.0	33.5	-	68.5
1914	30.6	35.8	-	66.4
1915	19.6	26.2	-	45.8
1916	19.0	24.8	-	43.8
1917	8.13	10.4	-	18.5
1918	4.94	7.75	-	12.7
1919	12.1	13.1	-	25.2
1920	18.7	18.6	-	37.3
1921	16.0	26.3	-	42.3
1922	20.9	32.4	-	53.3
1923	29.7	32.6	-	62.3
1924	26.6	36.3	-	62.9
1925	24.1	37.0	-	61.2
1926	25.9	36.8	-	62.7
1927	25.3	36.7	-	62.0
1928	26.9	35.9	-	62.8
1929	26.2	38.2	-	64.4
1930	24.7	37.5	-	62.2
1931	23.1	40.8	-	63.9
1932	19.4	47.3	-	66.7
1933	18.4	50.2	-	68.7
1934	19.8	48.4	-	68.2
1935	19.5	48.0	-	67.4
1936	19.6	44.8	-	64.4
1937	19.1	45.1	-	64.2
1938	18.7	41.7	-	60.4
1939	16.3	41.6	-	57.8
1940	9.35	36.0	4.63	49.9
1941	6.06	32.8	13.9	52.8
1942	5.39	35.4	13.4	54.1
1943	4.86	35.8	12.2	52.9
1944	3.59	34.6	12.3	50.5
1945	5.11	35.3	12.1	52.5
1946	9.79	41.6	9.67	61.0
1947	8.45	38.8	-	47.3
1948	5.74	45.1	-	50.9
1949	5.84	44.7	-	50.6

1950	7.29	38.1	-	45.4
1951	5.67	32.4	-	38.1
1952	5.79	34.2	-	40.0
1953	6.07	33.4	-	39.5
1954	6.59	35.4	-	42.0
1955	6.30	36.3	-	42.6
1956	6.48	35.8	-	42.2
1957	6.21	36.5	-	42.7
1958	5.92	38.1	-	44.0
1959	6.80	37.5	2.99	47.3
1960	5.61	31.7	9.92	47.2
1961	5.39	30.2	11.8	47.4
1962	4.93	29.8	15.6	50.3
1963	5.10	31.7	16.5	53.2
1964	4.80	29.1	15.8	49.7
1965	4.27	27.3	19.7	51.3
1966	3.56	27.9	20.9	52.4
1967	3.26	28.1	22.5	53.9
1968	3.01	27.7	22.0	52.7
1969	2.94	26.5	19.0	48.4
1970	2.56	24.8	22.5	49.8
1971	2.09	23.5	25.4	51.0
1972	2.07	23.5	27.6	53.3
1973	1.92	22.5	26.1	50.5
1974	1.96	20.9	23.1	45.9
1975	1.27	18.6	21.9	41.7
1976	1.26	18.6	22.8	42.7
1977	0.95	18.1	26.9	45.9
1978	0.86	19.5	27.9	48.2
1979	1.00	19.3	27.6	47.9
1980	0.98	18.6	28.2	47.7
1981	0.97	19.4	29.5	49.8
1982	1.04	20.3	29.0	50.4
1983	0.88	19.3	26.3	46.5
1984	0.86	18.7	27.2	46.8
1985	0.78	20.1	27.8	48.7
1986	0.78	17.7	26.9	45.4
1987	0.94	18.2	27.9	47.0
1988	0.89	17.6	27.4	45.8
1989	0.90	17.7	28.9	47.5
1990	0.89	18.5	37.5	56.8
1991	1.43	18.7	36.4	56.5
1992	1.55	19.4	37.1	58.0
1993	1.53	20.8	39.4	61.8
1994	1.47	19.3	35.9	56.7
1995	1.16	16.0	27.5	44.6
1996	0.63	13.6	28.0	42.3
1997	0.66	12.9	26.1	39.6

1998	0.59	12.0	25.4	38.0
1999	0.53	11.6	25.4	37.5
2000	0.57	11.8	27.2	39.5
2001	0.53	12.1	27.0	39.7
2002	0.53	13.4	30.1	44.0
2003	0.57	14.8	33.7	49.0
2004	0.59	14.4	33.5	48.5
2005	0.68	15.1	33.5	49.2
2006	0.69	13.5	32.9	47.1
2007	0.78	13.7	34.8	49.3
2008	0.78	14.4	37.0	52.2
2009	0.81	17.4	43.5	61.7
2010	0.79	16.0	41.8	58.6

Source: see Figure 1.

Table A2. Customs duties, specific consumption taxes and general consumption taxes,
percent of total tax revenues

Year	Customs duties %	Specific taxes %	General taxes %	Total %
1862	22.6	14.9	-	37.4
1863	22.9	15.6	-	38.5
1864	23.8	15.5	-	39.3
1865	23.3	16.8	-	40.0
1866	23.2	16.4	-	39.6
1867	23.7	15.0	-	38.7
1868	25.7	12.6	-	38.2
1869	24.4	14.7	-	39.1
1870	24.1	16.7	-	40.8
1871	25.7	18.8	-	44.5
1872	25.0	19.7	-	44.7
1873	27.3	18.7	-	46.1
1874	29.9	16.5	-	46.4
1875	26.5	18.9	-	45.4
1876	27.4	21.3	-	48.6
1877	27.6	19.4	-	47.0
1878	24.9	19.8	-	44.7
1879	26.1	18.2	-	44.3
1880	27.0	20.0	-	46.9
1881	27.7	20.5	-	48.2
1882	29.1	17.6	-	46.6
1883	31.0	17.5	-	48.5
1884	30.8	18.1	-	48.9
1885	29.8	19.1	-	48.8
1886	29.1	19.6	-	48.7
1887	28.8	14.5	-	43.2
1888	32.6	18.5	-	51.2
1889	35.2	17.4	-	52.6
1890	34.3	19.4	-	53.7
1891	31.4	19.1	-	50.5
1892	30.6	19.8	-	50.4
1893	29.3	20.6	-	49.9
1894	28.6	21.4	-	50.0
1895	28.2	22.5	-	50.7
1896	30.0	24.1	-	54.1
1897	29.1	26.0	-	55.1
1898	33.3	23.3	-	56.6
1899	35.1	23.0	-	58.1
1900	32.6	24.6	-	57.2
1901	29.2	27.0	-	56.2
1902	31.1	21.1	-	52.2
1903	28.1	21.3	-	49.4
1904	28.8	23.2	-	52.0
1905	27.6	23.6	-	51.2

1906	27.3	20.4	-	47.7
1907	24.6	23.6	-	48.2
1908	21.9	24.9	-	46.8
1909	22.7	20.2	-	42.9
1910	21.4	22.4	-	43.8
1911	20.5	22.8	-	43.3
1912	20.8	22.4	-	43.1
1913	21.6	20.7	-	42.3
1914	18.0	21.1	-	39.1
1915	13.0	17.4	-	30.4
1916	12.9	16.8	-	29.7
1917	6.04	7.72	-	13.8
1918	3.59	5.62	-	9.21
1919	8.35	9.08	-	17.4
1920	11.7	11.7	-	23.4
1921	8.88	14.6	-	23.4
1922	11.1	17.2	-	28.3
1923	17.3	19.0	-	36.4
1924	16.5	22.5	-	39.0
1925	14.8	22.7	-	37.5
1926	15.8	22.5	-	38.3
1927	15.5	22.5	-	37.9
1928	16.3	21.8	-	38.1
1929	15.7	23.0	-	38.7
1930	14.9	22.7	-	37.6
1931	13.8	24.3	-	38.1
1932	11.8	28.8	-	40.6
1933	10.8	29.5	-	40.3
1934	12.1	29.8	-	41.9
1935	12.6	31.0	-	43.5
1936	13.0	29.8	-	42.8
1937	12.8	30.2	-	43.0
1938	12.8	28.5	-	41.2
1939	11.5	29.3	-	40.8
1940	6.81	26.2	3.37	36.4
1941	4.37	23.6	10.0	38.0
1942	3.95	25.9	9.79	39.7
1943	3.62	26.6	9.12	39.4
1944	2.66	25.6	9.08	37.4
1945	3.83	26.4	9.03	39.3
1946	7.27	30.9	7.19	45.4
1947	6.43	29.5	-	35.9
1948	4.24	33.3	-	37.6
1949	3.91	29.9	-	33.8
1950	5.47	28.6	-	34.1
1951	4.48	25.6	-	30.1
1952	3.77	22.3	-	26.1
1953	4.19	23.0	-	27.2

1954	4.53	24.3	-	28.8
1955	4.52	26.0	-	30.5
1956	4.30	23.7	-	28.0
1957	4.24	24.9	-	29.1
1958	3.99	25.6	-	29.6
1959	4.71	26.0	2.07	32.7
1960	4.09	23.2	7.24	34.5
1961	3.73	20.9	8.20	32.9
1962	3.32	20.1	10.5	33.9
1963	3.27	20.3	10.5	34.1
1964	3.13	19.0	10.3	32.4
1965	2.74	17.5	12.7	32.9
1966	2.19	17.2	12.9	32.2
1967	1.89	16.4	13.1	31.4
1968	1.72	15.8	12.5	30.0
1969	1.71	15.4	11.0	28.2
1970	1.51	14.6	13.3	29.4
1971	1.22	13.7	14.8	29.7
1972	1.13	12.8	15.0	29.0
1973	1.09	12.8	14.9	28.8
1974	1.13	12.0	13.3	26.4
1975	0.79	11.5	13.5	25.8
1976	0.71	10.5	13.0	24.2
1977	0.50	9.55	14.2	24.3
1978	0.43	9.70	13.8	24.0
1979	0.50	9.70	13.8	24.0
1980	0.51	9.66	14.6	24.8
1981	0.47	9.35	14.2	24.0
1982	0.53	10.4	14.8	25.7
1983	0.47	10.2	13.9	24.6
1984	0.48	10.5	15.3	26.3
1985	0.42	10.8	15.0	26.2
1986	0.43	9.77	14.9	25.1
1987	0.49	9.41	14.4	24.3
1988	0.47	9.32	14.5	24.3
1989	0.47	9.17	15.0	24.6
1990	0.39	8.18	16.6	25.2
1991	0.62	8.08	15.7	24.4
1992	0.68	8.46	16.2	25.3
1993	0.66	9.07	17.2	26.9
1994	0.65	8.58	15.9	25.2
1995	0.57	7.84	13.5	21.9
1996	0.38	8.19	16.8	25.4
1997	0.39	7.58	15.4	23.4
1998	0.37	7.46	15.8	23.7
1999	0.32	7.15	15.6	23.1
2000	0.33	6.80	15.7	22.8
2001	0.31	7.16	15.9	23.4

2002	0.30	7.61	17.1	25.0
2003	0.28	7.39	16.9	24.5
2004	0.30	7.18	16.7	24.2
2005	0.34	7.59	16.9	24.8
2006	0.36	7.06	17.2	24.7
2007	0.40	7.00	17.8	25.2
2008	0.39	7.28	18.7	26.3
2009	0.36	7.67	19.2	27.3
2010	0.37	7.52	19.7	27.6

Source: see Figure 1.

Table A3. Customs duties, specific consumption taxes and general consumption taxes,
percent of GDP

Year	Customs duties %	Specific taxes %	General taxes %	Total %
1862	1.61	1.06	-	2.67
1863	1.64	1.12	-	2.76
1864	1.71	1.11	-	2.82
1865	1.73	1.25	-	2.98
1866	1.63	1.15	-	2.78
1867	1.49	0.94	-	2.43
1868	1.78	0.87	-	2.64
1869	1.59	0.96	-	2.54
1870	1.69	1.17	-	2.86
1871	1.95	1.43	-	3.38
1872	1.72	1.36	-	3.09
1873	1.89	1.29	-	3.18
1874	2.15	1.19	-	3.34
1875	1.82	1.30	-	3.12
1876	1.86	1.44	-	3.30
1877	1.89	1.33	-	3.22
1878	1.80	1.42	-	3.22
1879	1.98	1.38	-	3.35
1880	2.10	1.56	-	3.66
1881	2.17	1.60	-	3.77
1882	2.24	1.35	-	3.60
1883	2.32	1.30	-	3.62
1884	2.39	1.40	-	3.79
1885	2.36	1.51	-	3.87
1886	2.40	1.62	-	4.03
1887	2.36	1.19	-	3.55
1888	2.76	1.57	-	4.32
1889	2.92	1.45	-	4.37
1890	2.84	1.61	-	4.45
1891	2.40	1.46	-	3.86
1892	2.32	1.50	-	3.83
1893	2.33	1.63	-	3.96
1894	2.43	1.81	-	4.24
1895	2.36	1.89	-	4.25
1896	2.42	1.95	-	4.36
1897	2.30	2.06	-	4.36
1898	2.54	1.79	-	4.33
1899	2.70	1.77	-	4.46
1900	2.53	1.90	-	4.43
1901	2.21	2.04	-	4.25
1902	2.46	1.66	-	4.12
1903	2.33	1.77	-	4.10
1904	2.41	1.94	-	4.35
1905	2.36	2.01	-	4.37

1906	2.10	1.57	-	3.67
1907	1.91	1.84	-	3.75
1908	1.85	2.10	-	3.94
1909	1.89	1.68	-	3.56
1910	1.82	1.90	-	3.73
1911	1.78	1.99	-	3.77
1912	1.78	1.92	-	3.70
1913	1.76	1.69	-	3.45
1914	1.48	1.74	-	3.22
1915	1.21	1.62	-	2.83
1916	1.07	1.39	-	2.46
1917	0.64	0.82	-	1.46
1918	0.41	0.65	-	1.06
1919	0.91	0.99	-	1.90
1920	1.19	1.19	-	2.37
1921	1.09	1.78	-	2.87
1922	1.36	2.11	-	3.47
1923	1.91	2.10	-	4.01
1924	1.74	2.37	-	4.11
1925	1.52	2.33	-	3.84
1926	1.67	2.38	-	4.05
1927	1.67	2.43	-	4.11
1928	1.75	2.35	-	4.10
1929	1.68	2.45	-	4.12
1930	1.59	2.42	-	4.01
1931	1.58	2.78	-	4.36
1932	1.44	3.50	-	4.93
1933	1.36	3.71	-	5.07
1934	1.51	3.70	-	5.21
1935	1.52	3.75	-	5.27
1936	1.61	3.69	-	5.31
1937	1.58	3.75	-	5.33
1938	1.73	3.86	-	5.59
1939	1.70	4.34	-	6.04
1940	1.07	4.11	0.53	5.71
1941	0.69	3.76	1.59	6.05
1942	0.68	4.43	1.67	6.78
1943	0.65	4.77	1.63	7.05
1944	0.49	4.74	1.68	6.92
1945	0.75	5.17	1.77	7.68
1946	1.28	5.45	1.27	8.01
1947	1.29	5.93	-	7.23
1948	0.88	6.88	-	7.75
1949	0.83	6.37	-	7.20
1950	1.07	5.61	-	6.69
1951	0.90	5.12	-	6.02
1952	0.86	5.11	-	5.97
1953	0.95	5.24	-	6.19

1954	1.04	5.59	-	6.64
1955	1.06	6.10	-	7.16
1956	1.07	5.91	-	6.98
1957	1.07	6.30	-	7.38
1958	1.02	6.57	-	7.59
1959	1.19	6.54	0.52	8.24
1960	1.11	6.28	1.97	9.36
1961	1.06	5.94	2.33	9.32
1962	0.99	5.98	3.13	10.1
1963	1.00	6.19	3.22	10.4
1964	0.97	5.87	3.18	10.0
1965	0.90	5.79	4.18	10.9
1966	0.75	5.90	4.42	11.1
1967	0.67	5.78	4.63	11.1
1968	0.63	5.82	4.62	11.1
1969	0.64	5.75	4.12	10.5
1970	0.57	5.46	4.96	11.0
1971	0.48	5.43	5.87	11.8
1972	0.45	5.15	6.04	11.6
1973	0.42	4.97	5.78	11.2
1974	0.46	4.88	5.39	10.7
1975	0.33	4.83	5.69	10.9
1976	0.32	4.78	5.88	11.0
1977	0.24	4.53	6.76	11.5
1978	0.20	4.64	6.62	11.5
1979	0.23	4.52	6.45	11.2
1980	0.24	4.48	6.79	11.5
1981	0.22	4.46	6.78	11.5
1982	0.25	4.85	6.92	12.0
1983	0.22	4.83	6.60	11.6
1984	0.23	4.95	7.19	12.4
1985	0.20	5.11	7.09	12.4
1986	0.21	4.84	7.36	12.4
1987	0.25	4.90	7.52	12.7
1988	0.24	4.79	7.47	12.5
1989	0.24	4.76	7.77	12.8
1990	0.21	4.27	8.68	13.2
1991	0.31	4.03	7.82	12.2
1992	0.32	4.00	7.67	12.0
1993	0.31	4.18	7.91	12.4
1994	0.30	3.97	7.39	11.7
1995	0.27	3.72	6.40	10.4
1996	0.19	4.04	8.30	12.5
1997	0.20	3.83	7.77	11.8
1998	0.19	3.78	8.03	12.0
1999	0.17	3.65	7.98	11.8
2000	0.17	3.50	8.07	11.7
2001	0.16	3.54	7.87	11.6

2002	0.14	3.61	8.12	11.9
2003	0.14	3.53	8.06	11.7
2004	0.14	3.45	8.01	11.6
2005	0.17	3.71	8.25	12.1
2006	0.18	3.41	8.33	11.9
2007	0.19	3.31	8.43	11.9
2008	0.18	3.38	8.67	12.2
2009	0.17	3.57	8.95	12.7
2010	0.17	3.42	8.97	12.6

Source: see Figure 2.

Table A4. Specific taxes, percent of state tax revenues

Year	Alcohol & beverages %	Sugar %	Tobacco %	Vehicles %	Energy & Environment %	Other %
1862	24.7	-	-	-	-	-
1863	26.0	-	-	-	-	-
1864	25.8	-	-	-	-	-
1865	27.9	-	-	-	-	-
1866	27.2	-	-	-	-	-
1867	24.7	-	-	-	-	-
1868	20.7	-	-	-	-	-
1869	24.4	-	-	-	-	-
1870	28.2	-	-	-	-	-
1871	31.4	-	-	-	-	-
1872	31.8	-	-	-	-	-
1873	30.7	0.07	-	-	-	-
1874	25.8	0.10	-	-	-	-
1875	31.0	0.06	-	-	-	-
1876	33.5	0.07	-	-	-	-
1877	31.4	0.09	-	-	-	-
1878	33.0	0.07	-	-	-	-
1879	29.8	0.07	-	-	-	-
1880	31.6	0.11	-	-	-	-
1881	32.0	0.15	-	-	-	-
1882	28.0	0.17	-	-	-	-
1883	27.7	0.19	-	-	-	-
1884	28.6	0.38	-	-	-	-
1885	30.0	0.55	-	-	-	-
1886	31.4	0.48	-	-	-	-
1887	25.1	0.58	-	-	-	-
1888	28.4	0.75	-	-	-	-
1889	26.0	0.83	-	-	-	-
1890	28.3	1.24	-	-	-	-
1891	27.9	2.47	-	-	-	-
1892	28.5	3.00	-	-	-	-
1893	29.1	3.46	-	-	-	-
1894	27.5	5.48	-	-	-	-
1895	26.3	7.85	-	-	-	-
1896	27.8	8.34	-	-	-	-
1897	27.8	11.1	-	-	-	-
1898	28.1	5.96	-	-	-	-
1899	26.5	6.30	-	-	-	-
1900	27.8	8.44	-	-	-	-
1901	30.0	11.7	-	-	-	-
1902	25.7	6.87	-	-	-	-
1903	23.6	7.81	-	-	-	-
1904	29.0	5.82	-	-	-	-

1905	27.5	8.03	-	-	-	-
1906	30.7	1.15	-	-	-	-
1907	27.0	9.44	-	-	-	-
1908	28.1	11.7	-	-	-	-
1909	24.1	9.97	-	-	-	-
1910	26.4	10.2	-	-	-	-
1911	26.3	10.4	-	-	-	-
1912	25.9	10.4	-	-	-	-
1913	22.9	10.6	-	-	-	-
1914	24.4	11.4	-	-	-	-
1915	16.7	8.54	0.94	-	-	-
1916	13.7	6.34	4.78	-	-	-
1917	4.73	2.04	3.60	-	-	-
1918	2.30	1.55	3.89	-	-	-
1919	5.75	2.12	5.25	-	-	-
1920	9.33	3.44	5.88	-	-	-
1921	15.8	3.94	6.54	-	-	-
1922	19.7	4.65	8.11	-	-	-
1923	16.6	5.63	8.58	1.81	-	-
1924	17.4	5.64	9.68	3.57	-	-
1925	17.7	4.97	10.1	4.26	-	-
1926	18.4	3.20	10.7	4.52	-	-
1927	17.1	3.15	10.8	5.68	-	-
1928	16.6	1.45	10.9	6.95	-	-
1929	18.7	0.24	11.8	7.51	-	-
1930	17.9	-	11.0	8.60	-	-
1931	19.1	-	11.8	9.88	-	-
1932	23.1	-	12.1	12.1	-	0.07
1933	23.3	-	12.1	12.8	-	2.02
1934	22.1	-	11.4	12.7	-	2.29
1935	21.9	-	11.0	12.7	-	2.26
1936	20.0	-	10.4	12.5	-	1.90
1937	19.8	-	10.3	12.4	-	2.63
1938	17.9	-	9.36	11.8	-	2.65
1939	18.8	0.47	9.41	10.1	-	2.86
1940	17.6	1.32	10.4	3.66	-	2.99
1941	15.7	-	11.0	2.05	-	4.10
1942	17.4	-	11.0	2.61	-	4.34
1943	18.1	-	10.6	3.09	-	3.92
1944	17.1	-	10.8	2.57	-	4.15
1945	16.6	-	10.8	4.21	-	3.78
1946	18.2	-	11.7	7.64	-	4.01
1947	15.8	-	10.2	7.55	-	5.26
1948	16.8	-	10.5	2.83	8.32	6.68
1949	16.7	-	10.3	3.09	8.55	6.12
1950	14.6	-	9.28	2.83	7.22	4.18
1951	12.5	-	7.70	3.39	4.39	4.48
1952	12.6	-	8.63	2.77	4.83	5.42

1953	12.2	-	8.32	2.87	5.24	4.78
1954	12.6	-	8.10	4.14	6.19	4.35
1955	13.3	-	7.37	4.93	6.56	4.14
1956	13.8	-	6.84	4.65	6.49	3.98
1957	12.6	-	6.87	4.45	9.15	3.35
1958	12.4	-	7.37	4.36	10.5	3.45
1959	11.9	-	7.18	4.52	10.8	3.21
1960	9.76	-	5.98	3.99	9.21	2.78
1961	9.53	-	5.88	3.98	8.09	2.73
1962	8.36	-	5.43	3.88	9.66	2.46
1963	9.76	-	5.21	4.56	9.92	2.22
1964	8.68	-	4.97	4.32	9.22	1.91
1965	8.10	-	4.73	4.02	9.10	1.37
1966	8.30	-	4.88	4.50	8.91	1.33
1967	8.23	-	5.11	4.75	8.72	1.32
1968	8.00	-	4.82	5.10	8.56	1.25
1969	7.56	-	4.52	5.17	8.11	1.11
1970	7.18	-	4.09	5.10	7.43	0.96
1971	6.76	-	3.58	5.43	6.82	0.90
1972	6.84	-	3.57	5.63	6.67	0.83
1973	6.32	-	3.53	5.43	6.06	1.13
1974	6.39	-	3.24	4.20	5.81	1.23
1975	5.61	-	2.61	3.40	5.96	1.00
1976	5.44	-	2.50	3.69	5.93	1.00
1977	5.09	-	2.48	3.39	6.18	0.90
1978	5.51	-	2.46	3.64	7.11	0.81
1979	5.41	-	2.46	3.53	7.12	0.80
1980	4.79	-	2.22	2.80	7.88	0.88
1981	4.84	-	2.20	2.78	8.68	0.89
1982	4.55	-	1.89	2.50	9.37	2.02
1983	4.78	-	2.16	2.15	8.50	1.67
1984	3.77	-	1.76	2.13	8.98	2.08
1985	3.77	-	1.69	2.22	10.1	2.24
1986	3.50	-	1.48	1.94	8.79	2.02
1987	3.42	-	1.55	1.96	9.22	2.02
1988	3.27	-	1.50	1.88	9.09	1.83
1989	3.25	-	1.53	1.95	9.22	1.76
1990	3.56	-	1.68	2.15	9.55	1.51
1991	3.57	-	1.71	2.12	9.93	1.39
1992	3.59	-	1.91	2.09	10.7	1.10
1993	3.69	-	2.26	1.64	12.3	0.98
1994	3.35	-	2.11	1.18	11.5	1.20
1995	2.74	-	1.72	0.96	9.64	0.93
1996	2.10	-	1.29	1.00	8.50	0.76
1997	1.71	-	1.34	1.08	8.43	0.30
1998	1.56	-	1.17	0.95	8.04	0.26
1999	1.58	-	1.10	0.95	7.75	0.23
2000	1.62	-	1.16	1.02	7.73	0.25

2001	1.61	-	1.17	1.12	8.06	0.17
2002	1.68	-	1.27	1.24	9.04	0.15
2003	1.80	-	1.35	1.37	10.1	0.16
2004	1.61	-	1.28	1.38	9.98	0.17
2005	1.48	-	1.18	1.62	10.6	0.18
2006	1.44	-	1.16	1.58	9.05	0.27
2007	1.46	-	1.29	1.73	8.95	0.27
2008	1.52	-	1.32	2.14	9.25	0.21
2009	1.90	-	1.66	2.56	11.0	0.27
2010	1.70	-	1.48	2.30	10.2	0.25

Source: see Figure 1.

Note: due to problems with classification, fuel tax is included in “Vehicles” until 1947 and in “Energy & environment” thereafter.

Table A5. Specific taxes, percent of total tax revenues

Year	Alcohol & beverages %	Sugar %	Tobacco %	Vehicles %	Energy & Environment %	Other %
1862	14.86	-	-	-	-	-
1863	15.61	-	-	-	-	-
1864	15.52	-	-	-	-	-
1865	16.76	-	-	-	-	-
1866	16.36	-	-	-	-	-
1867	14.95	-	-	-	-	-
1868	12.56	-	-	-	-	-
1869	14.70	-	-	-	-	-
1870	16.75	-	-	-	-	-
1871	18.85	-	-	-	-	-
1872	19.74	-	-	-	-	-
1873	18.71	0.04	-	-	-	-
1874	16.43	0.06	-	-	-	-
1875	18.83	0.04	-	-	-	-
1876	21.21	0.04	-	-	-	-
1877	19.38	0.06	-	-	-	-
1878	19.73	0.04	-	-	-	-
1879	18.13	0.04	-	-	-	-
1880	19.89	0.07	-	-	-	-
1881	20.37	0.09	-	-	-	-
1882	17.45	0.11	-	-	-	-
1883	17.34	0.12	-	-	-	-
1884	17.87	0.24	-	-	-	-
1885	18.75	0.35	-	-	-	-
1886	19.32	0.30	-	-	-	-
1887	14.15	0.33	-	-	-	-
1888	18.07	0.48	-	-	-	-
1889	16.87	0.54	-	-	-	-
1890	18.63	0.81	-	-	-	-
1891	17.54	1.55	-	-	-	-
1892	17.90	1.88	-	-	-	-
1893	18.42	2.19	-	-	-	-
1894	17.84	3.56	-	-	-	-
1895	17.33	5.18	-	-	-	-
1896	18.56	5.56	-	-	-	-
1897	18.59	7.45	-	-	-	-
1898	19.27	4.08	-	-	-	-
1899	18.59	4.42	-	-	-	-
1900	18.86	5.72	-	-	-	-
1901	19.43	7.55	-	-	-	-
1902	16.62	4.44	-	-	-	-
1903	16.01	5.30	-	-	-	-
1904	19.33	3.88	-	-	-	-
1905	18.24	5.33	-	-	-	-

1906	19.69	0.74	-	-	-	-
1907	17.52	6.13	-	-	-	-
1908	17.53	7.33	-	-	-	-
1909	14.29	5.90	-	-	-	-
1910	16.12	6.25	-	-	-	-
1911	16.36	6.44	-	-	-	-
1912	15.95	6.41	-	-	-	-
1913	14.13	6.55	-	-	-	-
1914	14.39	6.69	-	-	-	-
1915	11.09	5.66	0.63	-	-	-
1916	9.25	4.29	3.23	-	-	-
1917	3.52	1.52	2.68	-	-	-
1918	1.67	1.13	2.82	-	-	-
1919	3.98	1.47	3.63	-	-	-
1920	5.86	2.16	3.70	-	-	-
1921	8.75	2.18	3.62	-	-	-
1922	10.46	2.47	4.31	-	-	-
1923	9.66	3.28	5.01	1.06	-	-
1924	10.81	3.50	6.01	2.22	-	-
1925	10.86	3.05	6.18	2.61	-	-
1926	11.26	1.95	6.53	2.76	-	-
1927	10.45	1.93	6.62	3.47	-	-
1928	10.09	0.88	6.62	4.22	-	-
1929	11.22	0.14	7.11	4.51	-	-
1930	10.81	-	6.65	5.20	-	-
1931	11.41	-	7.03	5.89	-	-
1932	14.05	-	7.34	7.34	-	0.04
1933	13.69	-	7.13	7.48	-	1.19
1934	13.57	-	7.00	7.80	-	1.41
1935	14.16	-	7.13	8.22	-	1.46
1936	13.26	-	6.92	8.33	-	1.26
1937	13.25	-	6.90	8.32	-	1.76
1938	12.22	-	6.39	8.05	-	1.81
1939	13.23	0.33	6.63	7.10	-	2.02
1940	12.81	0.96	7.58	2.67	-	2.17
1941	11.29	-	7.90	1.48	-	2.96
1942	12.74	-	8.08	1.91	-	3.18
1943	13.51	-	7.90	2.30	-	2.92
1944	12.68	-	7.99	1.91	-	3.07
1945	12.39	-	8.05	3.15	-	2.83
1946	13.54	-	8.71	5.68	-	2.98
1947	12.03	-	7.75	5.74	-	4.00
1948	12.44	-	7.73	2.09	6.15	4.94
1949	11.16	-	6.89	2.06	5.71	4.09
1950	10.94	-	6.97	2.12	5.42	3.14
1951	9.83	-	6.08	2.67	3.47	3.54
1952	8.21	-	5.63	1.81	3.15	3.53
1953	8.43	-	5.73	1.98	3.61	3.30

1954	8.68	-	5.56	2.84	4.25	2.99
1955	9.51	-	5.28	3.53	4.70	2.97
1956	9.16	-	4.54	3.09	4.31	2.64
1957	8.62	-	4.69	3.04	6.24	2.28
1958	8.35	-	4.96	2.94	7.07	2.32
1959	8.20	-	4.97	3.12	7.45	2.22
1960	7.12	-	4.37	2.91	6.72	2.03
1961	6.60	-	4.08	2.76	5.61	1.89
1962	5.63	-	3.66	2.61	6.50	1.66
1963	6.25	-	3.33	2.92	6.35	1.42
1964	5.66	-	3.24	2.82	6.02	1.25
1965	5.20	-	3.04	2.58	5.84	0.88
1966	5.10	-	3.00	2.76	5.48	0.82
1967	4.79	-	2.97	2.77	5.07	0.77
1968	4.56	-	2.74	2.91	4.87	0.71
1969	4.40	-	2.63	3.01	4.73	0.64
1970	4.24	-	2.41	3.01	4.39	0.57
1971	3.94	-	2.09	3.17	3.98	0.52
1972	3.73	-	1.94	3.06	3.63	0.45
1973	3.60	-	2.01	3.10	3.46	0.65
1974	3.68	-	1.87	2.42	3.35	0.71
1975	3.47	-	1.61	2.10	3.69	0.62
1976	3.09	-	1.42	2.10	3.37	0.57
1977	2.69	-	1.31	1.80	3.27	0.48
1978	2.74	-	1.22	1.81	3.53	0.40
1979	2.72	-	1.23	1.77	3.57	0.40
1980	2.49	-	1.16	1.45	4.10	0.46
1981	2.33	-	1.06	1.34	4.18	0.43
1982	2.32	-	0.96	1.28	4.79	1.03
1983	2.53	-	1.14	1.14	4.49	0.88
1984	2.12	-	0.99	1.20	5.05	1.17
1985	2.03	-	0.91	1.20	5.45	1.20
1986	1.93	-	0.81	1.07	4.84	1.11
1987	1.77	-	0.80	1.02	4.77	1.04
1988	1.73	-	0.80	1.00	4.82	0.97
1989	1.68	-	0.79	1.01	4.78	0.91
1990	1.58	-	0.74	0.95	4.23	0.67
1991	1.54	-	0.74	0.91	4.28	0.60
1992	1.57	-	0.84	0.91	4.66	0.48
1993	1.61	-	0.98	0.72	5.34	0.43
1994	1.49	-	0.94	0.52	5.09	0.53
1995	1.34	-	0.84	0.47	4.72	0.46
1996	1.26	-	0.77	0.60	5.10	0.46
1997	1.01	-	0.79	0.64	4.97	0.18
1998	0.97	-	0.73	0.59	5.00	0.16
1999	0.97	-	0.68	0.59	4.77	0.14
2000	0.93	-	0.67	0.59	4.46	0.14
2001	0.95	-	0.69	0.66	4.76	0.10

2002	0.96	-	0.72	0.70	5.14	0.09
2003	0.90	-	0.68	0.68	5.04	0.08
2004	0.80	-	0.64	0.69	4.97	0.08
2005	0.74	-	0.60	0.81	5.35	0.09
2006	0.75	-	0.61	0.83	4.73	0.14
2007	0.74	-	0.66	0.88	4.57	0.14
2008	0.77	-	0.67	1.08	4.67	0.10
2009	0.84	-	0.73	1.13	4.85	0.12
2010	0.80	-	0.70	1.08	4.82	0.12

Source: see Figure 1.

Note: due to problems with classification, fuel tax is included in “Vehicles” until 1947 and in “Energy & environment” thereafter.

Table A6. Specific taxes, percent of GDP

Year	Alcohol & beverages %	Sugar %	Tobacco %	Vehicles %	Energy & Environment %	Other %
1862	1.06	-	-	-	-	-
1863	1.12	-	-	-	-	-
1864	1.11	-	-	-	-	-
1865	1.25	-	-	-	-	-
1866	1.15	-	-	-	-	-
1867	0.94	-	-	-	-	-
1868	0.87	-	-	-	-	-
1869	0.96	-	-	-	-	-
1870	1.17	-	-	-	-	-
1871	1.43	-	-	-	-	-
1872	1.36	-	-	-	-	-
1873	1.29	-	-	-	-	-
1874	1.18	-	-	-	-	-
1875	1.29	-	-	-	-	-
1876	1.44	-	-	-	-	-
1877	1.32	-	-	-	-	-
1878	1.42	-	-	-	-	-
1879	1.37	-	-	-	-	-
1880	1.55	0.01	-	-	-	-
1881	1.60	0.01	-	-	-	-
1882	1.35	0.01	-	-	-	-
1883	1.30	0.01	-	-	-	-
1884	1.39	0.02	-	-	-	-
1885	1.48	0.03	-	-	-	-
1886	1.60	0.02	-	-	-	-
1887	1.16	0.03	-	-	-	-
1888	1.53	0.04	-	-	-	-
1889	1.40	0.04	-	-	-	-
1890	1.54	0.07	-	-	-	-
1891	1.34	0.12	-	-	-	-
1892	1.36	0.14	-	-	-	-
1893	1.46	0.17	-	-	-	-
1894	1.51	0.30	-	-	-	-
1895	1.45	0.43	-	-	-	-
1896	1.50	0.45	-	-	-	-
1897	1.47	0.59	-	-	-	-
1898	1.47	0.31	-	-	-	-
1899	1.43	0.34	-	-	-	-
1900	1.46	0.44	-	-	-	-
1901	1.47	0.57	-	-	-	-
1902	1.31	0.35	-	-	-	-
1903	1.33	0.44	-	-	-	-
1904	1.62	0.33	-	-	-	-
1905	1.56	0.46	-	-	-	-

1906	1.52	0.06	-	-	-	-
1907	1.36	0.48	-	-	-	-
1908	1.48	0.62	-	-	-	-
1909	1.19	0.49	-	-	-	-
1910	1.37	0.53	-	-	-	-
1911	1.42	0.56	-	-	-	-
1912	1.37	0.55	-	-	-	-
1913	1.15	0.53	-	-	-	-
1914	1.18	0.55	-	-	-	-
1915	1.03	0.53	0.06	-	-	-
1916	0.77	0.36	0.27	-	-	-
1917	0.37	0.16	0.28	-	-	-
1918	0.19	0.13	0.32	-	-	-
1919	0.43	0.16	0.40	-	-	-
1920	0.59	0.22	0.37	-	-	-
1921	1.07	0.27	0.44	-	-	-
1922	1.28	0.30	0.53	-	-	-
1923	1.07	0.36	0.55	0.12	-	-
1924	1.14	0.37	0.63	0.23	-	-
1925	1.11	0.31	0.63	0.27	-	-
1926	1.19	0.21	0.69	0.29	-	-
1927	1.13	0.21	0.72	0.38	-	-
1928	1.09	0.09	0.71	0.45	-	-
1929	1.19	0.02	0.76	0.48	-	-
1930	1.15	-	0.71	0.55	-	-
1931	1.31	-	0.80	0.67	-	-
1932	1.71	-	0.89	0.89	-	0.01
1933	1.72	-	0.90	0.94	-	0.15
1934	1.69	-	0.87	0.97	-	0.18
1935	1.72	-	0.86	1.00	-	0.18
1936	1.65	-	0.86	1.03	-	0.16
1937	1.64	-	0.86	1.03	-	0.22
1938	1.66	-	0.87	1.09	-	0.24
1939	1.96	0.05	0.98	1.05	-	0.30
1940	2.01	0.15	1.19	0.42	-	0.34
1941	1.80	-	1.26	0.23	-	0.47
1942	2.18	-	1.38	0.33	-	0.54
1943	2.42	-	1.41	0.41	-	0.52
1944	2.35	-	1.48	0.35	-	0.57
1945	2.42	-	1.57	0.62	-	0.55
1946	2.39	-	1.54	1.00	-	0.53
1947	2.42	-	1.56	1.15	-	0.80
1948	2.57	-	1.60	0.43	1.27	1.02
1949	2.38	-	1.47	0.44	1.22	0.87
1950	2.15	-	1.37	0.42	1.06	0.62
1951	1.97	-	1.22	0.54	0.69	0.71
1952	1.88	-	1.29	0.41	0.72	0.81
1953	1.92	-	1.30	0.45	0.82	0.75

1954	2.00	-	1.28	0.65	0.98	0.69
1955	2.23	-	1.24	0.83	1.10	0.70
1956	2.28	-	1.13	0.77	1.07	0.66
1957	2.18	-	1.19	0.77	1.58	0.58
1958	2.14	-	1.27	0.75	1.81	0.60
1959	2.06	-	1.25	0.79	1.88	0.56
1960	1.93	-	1.18	0.79	1.82	0.55
1961	1.87	-	1.16	0.78	1.59	0.54
1962	1.68	-	1.09	0.78	1.94	0.49
1963	1.91	-	1.02	0.89	1.94	0.43
1964	1.75	-	1.00	0.87	1.86	0.39
1965	1.72	-	1.00	0.85	1.93	0.29
1966	1.75	-	1.03	0.95	1.88	0.28
1967	1.69	-	1.05	0.98	1.79	0.27
1968	1.68	-	1.01	1.07	1.80	0.26
1969	1.64	-	0.98	1.12	1.76	0.24
1970	1.58	-	0.90	1.13	1.64	0.21
1971	1.56	-	0.83	1.26	1.58	0.21
1972	1.50	-	0.78	1.23	1.46	0.18
1973	1.40	-	0.78	1.20	1.34	0.25
1974	1.49	-	0.76	0.98	1.36	0.29
1975	1.46	-	0.68	0.88	1.55	0.26
1976	1.40	-	0.64	0.95	1.53	0.26
1977	1.28	-	0.62	0.85	1.55	0.23
1978	1.31	-	0.59	0.87	1.69	0.19
1979	1.27	-	0.57	0.83	1.66	0.19
1980	1.16	-	0.54	0.67	1.90	0.21
1981	1.11	-	0.51	0.64	2.00	0.21
1982	1.09	-	0.45	0.60	2.24	0.48
1983	1.20	-	0.54	0.54	2.13	0.42
1984	1.00	-	0.46	0.56	2.37	0.55
1985	0.96	-	0.43	0.57	2.58	0.57
1986	0.96	-	0.40	0.53	2.40	0.55
1987	0.92	-	0.42	0.53	2.49	0.54
1988	0.89	-	0.41	0.51	2.48	0.50
1989	0.87	-	0.41	0.52	2.48	0.47
1990	0.82	-	0.39	0.50	2.21	0.35
1991	0.77	-	0.37	0.46	2.14	0.30
1992	0.74	-	0.40	0.43	2.20	0.23
1993	0.74	-	0.45	0.33	2.46	0.20
1994	0.69	-	0.43	0.24	2.36	0.25
1995	0.64	-	0.40	0.22	2.24	0.22
1996	0.62	-	0.38	0.30	2.52	0.22
1997	0.51	-	0.40	0.32	2.51	0.09
1998	0.49	-	0.37	0.30	2.54	0.08
1999	0.50	-	0.35	0.30	2.44	0.07
2000	0.48	-	0.34	0.30	2.29	0.07
2001	0.47	-	0.34	0.33	2.35	0.05

2002	0.45	-	0.34	0.33	2.44	0.04
2003	0.43	-	0.32	0.33	2.41	0.04
2004	0.39	-	0.31	0.33	2.39	0.04
2005	0.36	-	0.29	0.40	2.62	0.04
2006	0.36	-	0.29	0.40	2.29	0.07
2007	0.35	-	0.31	0.42	2.17	0.07
2008	0.36	-	0.31	0.50	2.17	0.05
2009	0.39	-	0.34	0.53	2.26	0.06
2010	0.36	-	0.32	0.49	2.19	0.05

Source: see Figure 2.

Note: due to problems with classification, fuel tax is included in “Vehicles” until 1947 and in “Energy & environment” thereafter.

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