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Essays on Voting Behaviour

A Historical Perspective

by

Sibylle H. Lehmann

A thesis to be submitted for the degree of

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at the

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Sibylle H. Lehmann

Summary

The present thesis consists of two parts. The first part contains two essays that study voting behaviour in general elections that took place before turning points in trade policy. They aim to shed light on why European countries pursued different trade policies at the end of the 19th century, although often the structure of the societies were quite similar and therefore the preferred trade policies should have been similar as well.

The first essay focuses on late 19th century Germany and the second on Sweden in the same time period. The essay on Germany studies voting behaviour during the 1877 and 1878 elections. Bismarck introduced high tariffs in 1879, a step that changed the course of European development because it prompted other European countries to also increase their levels of protection. In order to introduce tariffs, Bismarck needed a conservative majority in the parliament. In 1878 the liberal parties lost so many votes that they lost the majority, which they had defended in the general election just one year before. In this chapter, the questions of from which sector the voters came and whether it was floating voters or new voters who made the change are re-examined. Another important question in this context is whether voters' choices were rational, considering the income distributional consequences of tariffs: did those who gained from tariffs vote for protection and did those who were harmed by tariffs vote for free trade? Thus can economic models explain voters's decisions? The analysis uses a new set of data aggregated at a lower level than those examined by previous studies; it also makes use of the tools provided by modern political science, specifically King's Algorithm, to solve ecological interference problems, and also simpler econometric tools such as weighted least squares

regressions. The major finding of this chapter is that liberal losses in 1878 were, in contrast to the existing view, not only caused by an increased turnout among agricultural workers, but mainly by agricultural workers who had previously voted for free trade turning to protection in 1878. Furthermore, there is evidence that agriculture did not vote homogeneously for protection as generally believed. It voted rationally for what seemed to them to have been the best trade policy according to product mixes.

The second chapter addresses the same questions for Sweden by investigating the general elections of 1887. Amidst the discussion on whether to introduce tariffs in the parliament, the king dissolved the parliament and called for new elections before it came to a final vote. The special election of March 1887 therefore resembles a referendum about tariffs. Again, I apply King's Algorithm to solve for ecological inference and a simple logistic model to determine which income classes, property owners and sectors voted for free trade or protection and whether this was rational according to theoretical and empirical expectations. The major findings for this chapter are that again voters rationally chose the trade policy that made them better off, just as they did in Germany. There were, however, other influences, such as suffrage or cultural pressures that heavily influenced the political outcome.

The second part of the thesis concentrates on the interwar period in Germany, the 'Weimar Republic', and the decision-making process in parliament. Governments did not last long and historical research has tried to determine what caused this instability. Those historical hypotheses are re-examined by studying a completely new dataset covering 489 bills in the parliament during the 14 years in question. According to the findings of this study the parliament was not as unorganised and chaotic as is often suggested and the reasons for instability are likely to be found outside parliament.

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1. Introduction

The present thesis is a collection of essays that all study how political decisions are made. The first two essays analyse voting behaviour in general elections and the third, voting behaviour among politicians in parliament.

It consists of two parts. The first part comprises two essays that study voting behaviour in general elections that took place before turning points in trade policy. The aim of these essays is to shed light on why European countries pursued different trade policies from one another at the end of the 19th century, although often the structure of the societies was quite similar and therefore the preferred trade policies should have been similar as well.

The first essay focuses on late 19th century Germany and the second on Sweden in the same time period. The essay on Germany analyses voting behaviour during the 1877 and 1878 elections. Bismarck introduced high tariffs in 1879, a step that changed the course of European development by prompting other European countries to also increase their levels of protection. In order to introduce tariffs, Bismarck needed a conservative majority in parliament. In 1878 the liberal parties lost so many votes that they lost the majority, which they had defended in the general election just one year before. In the first chapter, the questions of from which sectors the voters came and whether they were new or floating voters are re-examined. This chapter does not just provide estimates of how members of several occupational groups voted, and of how large their respective turnout was. Furthermore, it is also important to see whether voters' choices were rational, considering the income distributional effects of tariffs. In other words did those who gained from tariffs vote for

protection and did those who were harmed by tariffs voted for free trade? Traditionally two theories have been used to explain the formation of commercial policy interests. On the one hand there is the Heckscher-Ohlin-Samuelson model, which assumes that factors of production are perfectly mobile across sectors. Land and capital owners would then have favoured protection, because by assumption land and capital were relatively scarce in Germany. Employees (labour), on the other hand, being mobile between occupations and, therefore, not strongly interested in the welfare of their current sector, would generally be interested in free trade, because they were relatively abundant. Other scholars do not agree that labour was perfectly mobile, and assume a 'specific factors model'. The model's name refers to its distinguishing feature: the assumption that one factor of production is 'specific' to a particular industry. A specific factor is one that is stuck in an industry or is immobile between sectors in response to changes in market conditions. Here, labour is assumed to be specific, and workers immobile between sectors, seeing their fate tied to the sector for which they work. Thus they would favour protection if they were working in an import-competing sector and free trade if they were working in an export sector. There are, however, some problems with those traditional theories which I will outline in the following two chapters.

This question of whether voter's choices were rational is particularly interesting with regard to the agricultural sector, which constituted the major part of the workforce and the electorate and was the sector that was hit hardest by the increased competition from Russia and the United States. The analysis uses a new set of data aggregated at a lower level than those examined by previous studies; it also makes use of the tools provided by modern political

science, specifically King's Algorithm, to solve ecological interference problems and also simpler econometric tools such as weighted least squares regressions.

The second chapter investigates two more elections in which the major point on the agenda was whether or not to introduce tariff rates: the Swedish general elections of 1887. The general election in March of 1887 resembled a referendum about the introduction of tariffs, because the king dissolved the parliament and called for new elections while the major issue in parliament was the introduction of tariffs, which subsequently became the major point on the agenda for the general elections. In contrast to Germany, where all men above the age 25 years were allowed to vote, suffrage in Sweden was much more restricted: only men of 25 years and over owning or having inheritance rights to farmland equivalent to at least 1000 Kronor; leaseholders for at least five years of farmland valued at least 6000 Kronor, or those with a yearly income from work or capital gains of at least 800 Kronor were allowed to vote. National statistics therefore provide very detailed data about the structure of the electorate, indicating who was allowed to vote and why. That makes it possible to estimate which income classes, property owners and sectors voted for free trade or protection and to compare this with the empirical and theoretical expectations, again applying King's Algorithm and logistic regressions.

The second part of the thesis concentrates on the interwar period in Germany - the Weimar Republic - and goes one step further in the political process: the decision-making process in parliament. After general elections, politicians take their seat in parliament and bargain about policies. In this essay I study roll-call votes in the parliament in order to detect factors that disrupted the functioning

of the parliament and its government. The parliament of the Weimar Republic was quite unstable. Governments did not last long and the instability of the parliament cleared the way for Hitler and his followers. Many scholars from different disciplines have tried to determine which influences caused such instability. In this essay the most important hypotheses are re-examined by studying a complete new dataset covering 489 roll-call-bills in parliament during the 14 years of the Weimar Republic. According to the findings of this study the parliament was not as unorganised and undemocratic as is often suggested and the reasons for instability are likely to be found in the constituencies rather than in the parliament.

This thesis is organised as follows. Chapter 2 comprises the essay on why Germans chose protectionism in 1878. Chapter 3 analyses the case of Sweden and its tariff elections. Chapter 4 contains the study of roll-call votes in the parliament of the Weimar Republic. The final section (Chapter 5) draws some conclusions and puts the essays in a broader research context.

2. Why Germany Chose Protectionism in the Late 1870s

2.2. Introduction

Scholars have always seen the years 1878 and 1879 as a turning point in 19th century history: they marked "the greatest internal revolution in the modern history of Imperial Germany", as the historian Hermann Oncken (1910, 302) later recalled. During these years, Bismarck, Prime Minister of Prussia and Chancellor of the newly founded Reich, dismissed his former liberal partners and forged a new alliance with the conservative forces in the imperial parliament. While this move has occasionally been overrated, with some historians calling it a "second foundation of the Reich" (Böhme 1968; Böhme 1972; Barkin 1987), there is no doubt that it set a new strategic direction (Nipperdey 1992/98, 382 ff.; Wehler 1995, 934). From the point of view of commercial policy, the shift from free trade to protection for agricultural and industrial products is most important: while it conformed to a general trend in European commercial policies, Germany was one of the first countries to implement it in practice. The empire was at the forefront of what would become a large-scale set-back for the process of globalisation in the period before World War I.

The question as to why this fundamental change occurred has been viewed from diverse angles. Here, it is sufficient to briefly discuss the most influential explanations (they are surveyed by Gourevitch 1977/98, 707-716). Historians such as Wehler (1973/85) and Pflanze (1990, 449-488) have pointed out that in contrast to its member states, whose finances were based on their tax revenues, the Reich had a relatively small income from taxes. They suggest that

Bismarck intended to introduce tariffs in order to increase his financial leeway by netting profits from customs revenues. In so doing he could hit three birds with one stone: improve the financial situation of the Reich, increase its independence from the states, and get rid of liberals, whom he detested. Regardless of which motive dominated the Chancellor's decision-making process, to pursue his plans he first needed a co-operative majority in parliament. Given his well-known political preferences, this had to be a conservative majority.

The general election of 1878 made his plans feasible by causing fundamental changes in the distribution of seats in the parliament to the benefit of parties that favoured protection. Bismarck took advantage of two attempts on the Kaiser's life and concentrated his electoral campaign on attacking the Social Democrats, thereby trying to draw the attention away from the tariff issue. Bismarck's antisocialist campaign failed, however, and the first point on the agenda for the election of 1878 remained the tariff issue. Liberals cast the electoral struggle in terms of a debate over economic policy, which enabled them to fight on traditional liberal grounds (Steinbach 1990). The term 'protectionist election' applied by Böhme (1972, 446-8) to the election of 1878 seems to have been well-chosen. Trade policy was certainly the most important topic on the agenda. It was the issue which polarised the political parties of the Reich, with free-traders forming one block and protectionists another.

Table 2.1 shows that the free trade liberals had a majority in the Reichstag in 1877. That picture changed after the election in 1878, when the free trade supporting parties, German People's Party, National Liberals, Liberals Progressives, Social Democrats and Poles, together lost 45 seats, while the

parties that promoted protectionism, the two conservative parties and the Centre party, gained 39 seats.

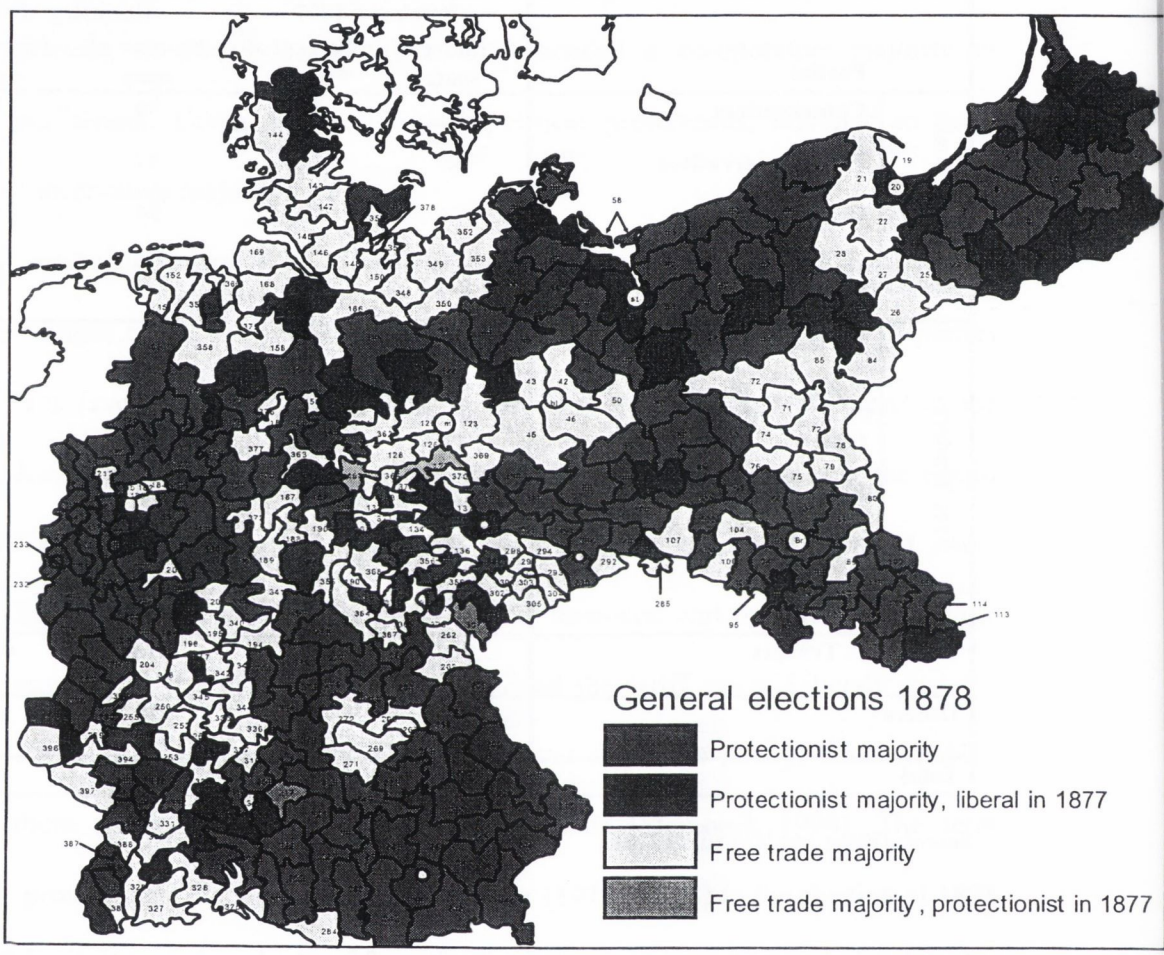
Table 2. 1: German general election results 1877 and 1878

	Parties	Reichstag 1877 Number of seats	Reichstag 1877 Percent of seats	Reichstag 1878 Number of seats	Reichstag 1878 Percent of seats
Protectionist	**Conservatives**	40	10.1	59	14.9
	Free Conservatives	38	9.6	57	14.4
	Centre	93	23.4	94	23.7
Total Protectionists		**171**	**43.1**	**210**	**53**
Free Traders	**German People's Party**	4	1	3	0.8
	National Liberals	128	32.2	99	24.9
	Liberals	13	3.3	10	2.5
	Progressives	35	8.8	26	6.6
	Social Democrats	12	3	9	2.3
	Poles	14	3.5	14	3.8
Total Free Traders		**206**	**51.8**	**161**	**40.9**
Others		20	5.1	26	6.6
Total		**397**	**100**	**397**	**100**

Source: (Ritter and Niehauss 1980).

Graph 2.1 shows the geographical distribution of free traders and protectionists after the general election in 1878, where the differently shaded areas denote the constituencies in which either the adherents of free trade or the protectionists won the majority of votes, and thus a seat in the parliament. The darker shaded areas indicate the constituencies in which the majority changed between 1877 and 1878. Free-traders lost votes all over Germany, although they suffered the greatest losses in East Prussia, which in 1877 had been fairly evenly divided between free-traders and the protectionists.

Graph 2. 1: Geographical distribution of free trade and protectionist votes, after general elections of 1878



The questions which this chapter seeks to answer are: From where did votes for protection come? Were voters who objected to free trade new voters, or did they change their political allegiance? From which economic sectors did they come and can voting behaviour be explained by applying economic theory and thus be considered as being rational?

The 'rationality' described by rational choice theory is different from most philosophical uses of rationality. Although models of rational choice are diverse, all assume individuals choose the best action according to their utility functions and constraints facing them (see for instance Arrow 1987, Becker 1978). For the analysis of voting behaviour on trade policy, I simply assume that voters voted rationally if those who were harmed by tariffs voted for protection and those who benefited from tariffs voted for free trade.

Gerschenkron (1943) believes that the collapse of the liberals occurred because of the antisocialist government campaign, in conjunction with the efforts of the conservatively inclined Junkers, which brought masses of rural labourers who had not voted before to the polls. Sheehan (1983) presents an informal analysis which confirms this view. Agriculture certainly played a significant role in changing the majority in the parliament but it is not clear in which way. Scholars do not even agree whether the interests of agriculture were uniform. Did peasants, Junkers and agricultural labourers have the same interest and vote in the same way? Thus did all men working in the agricultural sector vote for the same policy, independent of their status or the farm size or the production mix of the farms on which they worked? Did it make a difference where labourers worked and did Junkers motivate their labourers so much that the increased turnout among them caused the change in parliament? While the interest of large landowners, who mainly produced grain, can be identified

clearly as 'pro-tariff', the interest of small farm owners and peasants such as those prevalent in the south and west of Germany is harder to ascertain (Schonhardt-Bailey 1998, 297). Most of these farmers did not specialise in the production of grain, but in meat (mainly beef), eggs, milk and dairy products, while the smallest ones, with farms of less than two hectares, concentrated on the growing of potatoes and rearing of hogs. The traditional view is that while Junkers benefited from protection, smaller farmers and peasants suffered (Puhle 1981; Gerschenkron 1943). Given that imported fodder played a minor role in the value added to their products, however, Webb (1982, 325) suggests that the costs they incurred due to more expensive fodder were outweighed by the benefits that resulted from restrictions on the import of meat and dairy products. He states that even the smallest farmers would have benefited from agricultural protective tariffs and therefore voted for parties that supported agricultural tariffs. The issue of whether or not farmers voted homogeneously, and whether or not trade models can explain voter's decision is one major focus of this paper.

Apart from the hypothesis that the mobilisation of farm hands caused the power shift, there are other explanations which focus on motives of voters that may have changed between 1877 and 1878. Rogowski (1989), for example, applies the Heckscher-Ohlin-Samuelson model, which assumes that factors of production are perfectly mobile across sectors. In his model there are three factors of production: land, labour and capital. According to Rogoswki's account, Germany was relatively abundant in labour and land, but relatively scarce in capital until about the mid-1870s. A decline in transportation costs allowed a massive entry of producers from countries abundant in land, such as the United States and Russia, into the international grain market, making

Germany relatively scarce in both capital and land. Agriculture reacted to these changes by joining industry in support of protection, the two sectors concluding the notorious 'marriage of iron and rye' in 1879. This sounds compelling, but if Rogowski is right and the Heckscher-Ohlin model is the appropriate model, then taking into account the fact that most voters were workers (see Table 2.2), the majority of voters should have voted for free trade. Furthermore, it seems implausible that such a major realignment could have occurred within one year.

Other scholars do not agree that labour was perfectly mobile, and assume a 'specific factors model'. The model's name refers to its distinguishing feature: the assumption that one factor of production is 'specific' to a particular industry. A specific factor is one that is stuck in an industry or is immobile between sectors in response to changes in market conditions. For example, one could assume that labour is specific and workers immobile between sectors, seeing their fate tied to the sector for which they work. The change in 1878 can then perhaps be explained by changes in trade balances. Some sectors became more import-competing, while others, like agriculture, actually turned from being export-orientated to import-competing. Thus, the majority of workers were now employed in import-competing sectors, and thus would have voted for protection.

Gourevich (1977/98) implicitly applies a specific factors model and concludes that the demand for protection came from a coalition of owners of specific factors. The Junkers, who were motivated by a decline in grain prices, led this coalition together with the producers of iron and steel. Klug (2001) also applies a specific factors model in order to determine whether workers voted according to their sectoral interests. He finds that most sectors did not vote significantly

according to sectoral interest and, thus, he cannot explain the shift in interest in 1878. One explanation could be that sectors consist of different sub-sectors which cannot be distinguished by the available information, like for instance the mining sector. Some mines specialised in the production of brown coal, like those in East Prussia, others in black coal or iron ore. Brown coal was import-competing, whereas black coal and iron ore were export goods. Thus in a specifics factor framework, workers working in a brown coal mine would prefer protection and workers working in a black coal mine would vote for free trade.

Another explanation could be that not all firms in an "export sector" actually export and thus have an interest in supporting free trade. Melitz (2003) provides a theoretical model that shows how the exposure to trade can induce only the more productive firms to export while simultaneously harming the least productive firms in a sector which is generally considered as exporting. Thus some firms operating in export sectors might still have favoured protection rather than free trade.

In terms of other contributions, we find Schonhardt-Bailey (1998), who tests several hypotheses, including Rogowski's, by analysing roll-call ballots in the Reichstag, and Brawley (1997), who uses a model in which labour is not stuck in a sector but also not completely mobile. Schonhard-Bailey (1998) also tests whether agriculture had a common interest by testing whether constituency characteristics such as farmers specialisations, influenced the choice for a certain party. She finds that, indeed, there is evidence for a split between grain producers and animal producers in the voting behaviour for conservative parties. She does not, however, find clear patterns for liberal parties. Applying King's Algorithm it is possible to go one step further and provide more and

better information on the question of how many voters from the agricultural sector voted for free trade and protection in different constituencies and whether or not agriculture voted homogeneously. I will explain the advantages of my method in more detail in section four. However, Brawley (1997) like Schonhardt-Bailey (1998), focuses more on explaining the trade policy of Germany over a longer period, rather than why voters moved towards parties that supported protectionism in 1878.

As this brief synopsis of the research shows, the question of why voters turned from supporting free trade to protection has not yet been satisfactorily answered. The present chapter contributes to the discussion by closely studying the electorate and its social structure as well as 'first-time' and 'floating' voters, in order to explain whether the shift was caused by a mobilisation of rural workers or, rather, a shift in voting behaviour on the part of existing voters. In pursuing this aim, this chapter differs in several aspects from prior research, both in terms of the methodology and the data employed in the analysis.

Up to now, most research on the link between German elections and trade policies has made use of standard econometric tools, such as logistic models and multivariate regressions. However, since the 1990s political scientists have begun to use a more suitable approach, King's Algorithm (1997), to analyse modern elections. This method attempts to deal with the problem of making inferences about individual behaviour from aggregate data, the so-called problem of ecological inference. It basically provides estimates of voting behaviour of different groups of voters by firstly determining the bounds of the distribution of votes and then by applying a Monte Carlo simulation, estimating the average number of votes for certain groups for certain parties, or party

groups. By providing point estimates and confidence intervals for votes of different groups of voters for every constituency, it extracts much more information from the available data than simpler methods and is, therefore, preferable to older approaches.

As for the data, it is striking that most previous research is based on data aggregated not at the level of constituencies, but of larger administrative units: the '*Regierungsbezirke*'. The assumption that is made either implicitly or explicitly is that at the level of constituencies the necessary data do not exist. In fact, most data from the census of 1882 were compiled at the '*Kreise*' level (the basic administrative unit above the level of parish or township, and a component of larger constituencies). This makes it possible either to aggregate data or to approximate the values at the level of constituencies. Thus, with minor adjustments, the census data can be very well used to analyse the elections at the end of the 1870s. Admittedly, the procedure involves some guesswork and does not make a distinction between employees and employers, but it is still preferable to the alternative approach taken by Klug (2001), which reduces the number of observations from 397 (based on constituencies) to 68 (based on larger administrative units).

The rest of the chapter proceeds as follows. In section two, I discuss the political system of Imperial Germany. Thereafter, I examine the interests of several groups of voters (section three). In section four, I explain the problem of ecological inference, discuss the data and present the results of an analysis, using King's Algorithm. Section five goes one step further: it tries to find out more about the motivations of the voters by applying different trade models and examining the implications thereof. In the final section (six), I summarise the results and the hypotheses of this study.

2.2. The Constitutional Background

Before analysing where the protectionist voters came from and why they decided to vote or shifted to other parties, it is necessary briefly to outline the voting conditions.

The Kaiserreich's constitution was introduced just after the Franco-German War of 1870/71 (for the text of the constitution see Huber 1986, 384 ff.). According to the constitution, Germany was a federation of 38 states, all of which enjoyed equal rights and status. This was constitutional law. In reality, however, the Reich was dominated by Prussia, which accounted for almost 70 percent of the territory and population. State autonomy was, therefore, much less important than constitutional law implied. It was applied only in a fraction of the Reich, while the larger part was administered from Berlin, the capital of both Prussia and Germany.

A similar divergence between law and reality is apparent in the way parliament was elected. The constitution determined that general elections – that is, those at the level of the Reich – were to be held according to the principle 'one man, one vote'. The suffrage extended to men aged 25 and over with the exception of persons under tutelage, bankrupts and persons on poor relief. At that time, this was Europe's most modern franchise (the member states of the Reich, in particular Prussia, were less democratic). Constitutional reality, however, was different. For one thing, research regularly stresses the fact that the constituencies, originally based on the results of the census of 1864, remained unchanged between 1871 and 1918 (with the exception of 15 constituencies which were added for Alsace-Lorraine in 1873) (Ritter and Niehuss 1980, 28; Wehler 1995, 1044). Neither intra-German migrations nor rapid urbanisation was taken into account. As a consequence, in 1912 the slightly more than

10,000 inhabitants of the constituency of Schaumburg-Lippe, a small state in North-Western Germany, brought the same weight of votes to bear as the almost 340,000 inhabitants of the constituency of Teltow, which comprised the southern outskirts of Berlin (Ritter and Niehuss 1980, 28). In the long run, therefore, the principle of 'one man – one vote' gave rural constituencies an advantage over urban constituencies.

Furthermore, the parliament did not elect the head of the government and his fellow ministers. Instead, these were chosen by the Kaiser who usually appointed the Prussian Prime Minister as the Reich's Chancellor. The Reichstag did have some right of legislative initiative, being able to propose laws or refuse to agree to laws proposed by the executive, but its rights were quite limited as the emperor had the right to dissolve the parliament and call new elections at any time. In reality, however, the Kaiser left all decisions to his Chancellor, who needed the majority of the parliament to pass a law. The composition of the parliament clearly made a difference, otherwise it would be impossible to explain why people actually voted or why politicians took pains to gain seats in the parliament.

The constitution did not mention any political parties, but they were still a central part of Germany's political life. Among them, liberals had the longest tradition, but had never achieved political unity. In Imperial Germany, several liberal parties existed side by side, the left liberal groups being the most principled supporters of free trade. In the late 1870s, the National Liberals, although more governmental and prepared to make concessions in order to retain their influence on Bismarck, were on the whole also free-traders (Nipperdey 1992/98, 326). Like the National Liberals, Social Democrats had a history that pre-dated 1871. During the first decade of the Empire, their

position on free trade was somewhat ambiguous. While they had always been strongly opposed to any measure that might have resulted in a rise of the price of food, they saw industrial tariffs as a practical question where each case had to be decided on its own merits. Still, toward the end of the 1870s the party press warned workers 'not to pull the chestnuts out of the fire for the tariff-keen bourgeoisie', in other words, not to vote for protectionist parties (Schröder 1910, 570 f.). The Catholic Centre Party did not make recourse to any economic arguments in order to justify its stance on trade politics. Having been branded as 'anti-national' by Bismarck, it saw a chance to gain influence by supporting the Chancellor on issues of commercial policy. When the *'Kulturkampf'*[1] abated, it came out in favour of protectionism (Nipperdey 1992/98, 401).

The conservatives, although split between two parties, were closely linked with agrarian protectionist pressure groups and advocated protective tariffs (Nipperdey 1992/98, 333 f.). Finally, there were a number of parties that represented ethnic minorities, among which the Poles were the most important. In parliament, the Polish Party, whose stronghold was the Prussian province of Posen, regularly voted in favour of free trade (Schonhardt-Bailey 1998, 308). Thus, at the end of the 1870s parties formed the two blocs introduced above, the conservatives and the Centre being protectionist, and the others being in favour of free trade.

[1] Bismarck's anti-Catholicism, and in particular his campaign against the Centre Party, greatly increased the solidarity of German Catholics against the dominant Protestant population (Evans, 1981).

2.3. Commercial Policy Interests

Before looking at the models that can be used to explain commercial policy interests, one should note that in many sectors and regions of the Reich, the majority of voters were not the owners of farms or large estates, factories or smaller workshops, but rather agricultural or industrial workers, clerks or other employees. Hence, electoral results mainly represent the votes of the 'labour' factor. Table 2.2 shows the ratio of employees to the self-employed in the main sectors of the economy. The data are from the census of 1882, and in order not to make the table unwieldy they are aggregated at the level of the Prussian provinces and of the smaller member states of the Reich.

Table 2. 2: Ratio of employees to self-employed persons, 1882

	Agri-culture	Indus-try	Ser-vices		Agri-culture	Indus-try	Ser-vices
East Prussia	4.1	1.4	1.6	**Württemberg**	1.5	1.3	0.9
West Prussia	4.3	1.8	1.5	**Baden**	1.5	1.7	1.4
Berlin	3.8	2.9	1.7	**Hesse**	1.8	1.8	1.0
Brandenburg	3.4	2.5	1.1	**Meckl.-Schwerin**	6.0	1.3	1.3
Pomerania	4.0	1.7	1.5	**Thuringia**[2]	2.2	1.9	1.1
Posen	4.7	1.5	1.0	**Meckl.-Strelitz**	8.7	1.2	0.8
Silesia	3.1	2.7	1.1	**Oldenburg**	1.9	1.4	1.2
Province of Saxony	3.5	2.4	1.1	**Brunswick**	4.4	2.7	1.5
Schleswig-Holstein	2.7	1.5	1.1	**Anhalt**	4.4	2.8	1.0
Hanover	2.1	1.9	1.3	**Waldeck**	2.6	1.0	1.2
Westphalia	2.0	3.5	1.3	**Schaumb.-Lippe**	2.4	2.4	1.3
Hesse-Nassau	2.0	2.0	1.4	**Lippe**	2.4	1.4	0.9
Rhineland	1.8	2.9	1.1	**Lübeck**	4.2	2.1	2.3
Hohenzollern	1.3	0.8	0.6	**Bremen**	2.6	2.3	2.0
Bavaria	2.7	1.6	1.2	**Hamburg**	2.2	2.2	1.6
Kingdom of Saxony	3.0	3.7	1.2	**Alsace-Lorraine**	1.8	2.8	1.0

Source: Calculated from Statistisches Jahrbuch für das Deutsche Reich 7 (1886, 6 ff).

[2] Summarised from data for Saxony-Weimar, Saxony-Meiningen, Saxony-Altenburg, Saxony-Coburg-Gotha, Schwarzburg-Sondershausen, Schwarzburg-Rudolstadt, Reuss Elder Line and Reuss Younger Line.

As mentioned above, two different models have traditionally been used to explain the formation of commercial policy interests. On the one hand there is the Heckscher-Ohlin-Samuelson model, which assumes that factors of production are perfectly mobile across sectors. Land and capital owners would then have favoured protection, because land and capital were scarce in Germany at the time. Employees (labour), on the other hand, being mobile between occupations and, therefore, not strongly interested in the welfare of their current sector, were generally interested in free trade, because by assumption they were relatively abundant in Germany.

Policy preferences of the agricultural sector can then be determined by the production mix of farms of different sizes. On the basis of data collected by Dovring (1965) it seems clear that potatoes, for instance, were typical labour-intensive arable products for which the labour input per hectare was at least four times as high as the labour input for cereals such as rye and wheat. Comparable evidence of the labour intensity of livestock farming is less convincing. It is, however, clear that the production of pork and milk was relatively labour intensive, unlike, for instance, sheep-breeding which was often labour extensive (Van Zanden 1991). Smaller farms specialised in rather labour-intensive products, whereas large farm owners specialised in land - intensive products (see Table 2.3). Smaller farmers would then prefer free trade and large landowner protection. Thus, if the agricultural sector voted rationally, it would not vote homogeniously. Small farmers and agricultural workers then would vote for free trade, whereas large farmers would vote for protection.

Table 2. 3: Distribution of outputs on different farm sizes in 1907

Farm sizes in ha	Rye	Wheat	Oats	Potatoes	Total vegetable produce	Pork	Beef	Milk	Total animal produce
0-2	6	1	3	19	**32**	38	5	25	**68**
2-5	11	3	7	13	**39**	18	11	32	**61**
5-10	10	3	8	9	**35**	16	16	31	**63**
10-20	12	5	10	9	**42**	17	20	23	**60**
20-100	13	5	11	7	**45**	13	17	25	**55**
100	14	8	12	13	**66**	8	14	11	**33**

Source: Webb (1982, 324)

The other model which is often applied is the specific factors model. Here, labour is specific, it is immobile between sectors, and workers share the interests of their employers and generally vote in their sectoral interest. Thus voters working in an import-competing sector would have favoured protection, voters working in an export sector for free trade.

A question that might arise here is whether definitions of sectors as provided by national statistics were to narrow and the reported sectors consisted of sub-sectors with different interests like for instance the agricultural sector. Another explanation could be that not all firms subsumed in an "export sector" actually exported. Melitz (2003) provides a theoretical model that shows how the exposure to trade can induce only the more productive firms to export while simultaneously harming the least productive firms in a sector which is generally considered as exporting.

The question is, therefore, not only whether the voting behaviour of certain groups can be predicted by applying standard trade theory, but also which model is the appropriate one. There is, indeed some evidence from the 1870s that may point to workers favouring the protection of their specific sectors: Petitions they handed to the government address issues such as competition among labourers and the fear of loss of employment (Borchardt 1984, 33).

Still, there are three objections to employing a specific factors model. For one thing, the transportation of goods and passenger transport were already quite well established in 1880. Since 1870, migration within Germany had increased greatly, both in absolute numbers and relative to the populations of the affected regions (Grant 2005). Workers leaving their sectors in order to seek higher incomes increased the labour supply in sectors with higher wages while decreasing it in lower income sectors. In the long run, the wages of all sectors should have become more similar with increasing worker mobility. One would certainly not expect equal wages, but a significant tendency towards convergence. Hohls (1989) showed that such a process of convergence was already taking place from 1850, with sectoral earning differences consistently becoming smaller. The specific factors model, therefore, might be inappropriate to predict the workers' votes: they were not completely stuck in their sectors. In other words, even if they were currently employed in an import-competing sector, this does not mean that they favoured protection. In fact, workers' mobility might indicate that the country rather resembled a Heckscher-Ohlin world. Given the premises on which such a world is built, and in view of the fact that Germany was a labour-abundant country, this implies that workers should have opposed protection.

If, however, that was the case, it is hard to explain why Germany turned to protection, since most of the electorate consisted of workers (see Table 2.2) and was therefore free-trade-orientated. The answer to this paradox might lie in the fact that labour, while not completely stuck in its sector, was not completely mobile either. It is likely that mobility between sectors varied regionally and also depended on sectors.

If labour was partly specific, then the interests of certain groups of voters can be identified by trade balances (see Table 2.4). In the later 1870s, most sectors were affected by the cyclical downturn of the economy which followed the euphoria of the early years of the decade (the '*Gründerjahre*', 1871-3) and which contemporaries experienced as particularly severe. The slump caused widespread discontent with economic conditions in Germany, discontent which for many turned into disenchantment with liberalism and with liberal economic policies. Thus, the stage was set for the turn away from free trade. The sector that was hit hardest was the agricultural sector (rye, wheat, livestock, seeds and crops) as shown by the balances of trade in Table 2.4. This table provides an overview and a comparison of 1872 (a boom year) and 1877 (when the economic downturn was well under way).

Owing to advances in transport during the 1870s, Russia and the USA swamped European markets with cheap grain. This was a development that mainly affected owners of the large estates in the eastern provinces of Prussia: the Junkers, who had specialised in growing rye. The trade deficit for rye rose from 253.9 to 1720.4 million Marks within five years (Table 2.4). The same development can be observed for all other kinds of grain. The trade balance for wheat, for instance, deteriorated in total by 650.5 percent (502.4 million Marks). Again, policy preferences of the agricultural sector can be determined by the production mix of farms of different sizes. Owners of large farms which specialised in rye and wheat production had, according to the specific factor model, a clear interest in protection. The interests of peasants, however, are not so clear in a specific factor framework. If Webb (1982) was right, then peasants also benefited from protection on animal products and that outweighed the reduction in prices for fodder. If Gerschenkron (1943) was

right, they suffered from the imposition of protection because the reduction in fodder was bigger then the benefit through tariffs on animal products.

Agricultural workers, who benefited from a policy that made their sector better off, would have had an interest in protection if they worked on large estates. We cannot clearly determine the interests of agricultural workers working on small estates, because we cannot clearly determine whether small farms were harmed by tariffs or benefited from them as well. Smaller farmers, however, and especially those who owned less than two hectares, did not employ many workers. Table 2.3 shows the ratio of employees to self-employed persons in the agricultural sector. This ratio is quite high in areas dominated by large farms (East Prussia 4.1, Mecklenburg-Schwerin 6.0, Mecklenburg-Strelitz 8.7) and lower in areas with smaller farms (Rhineland 1.8, Bavaria 2.7). Thus, while it is not possible to clearly determine the interest of peasants, the majority of agricultural workers probably had an interest in protection if we assume that they were not mobile.

The problem of different interests within a sector does not just appear for the agricultural sector. In the mining sector, for example, interests were strongly dependent on the kind of coal that was produced. Some mines specialised in the production of brown coal, like those in East Prussia, others in black coal or iron ore. 2.5 shows that in 1877 brown coal was import-competing with a trade balance of -52 million Marks, whereas black coal and iron ore were export goods with trade balances of 78 and 16 million Marks, respectively. As for the construction industry, it neither produced tradable goods, nor depended on the import of raw materials. During this period, it did not yet require much factory-produced machinery or similar capital goods. Hence, the owners of construction firms were primarily interested in cheap labour, and therefore

should have opposed measures which might force them to raise wages, such as tariffs on imported food.

Table 2. 4: Sectoral trade balances, 1872 and 1877

	Trade Balances in million Marks		
	1872	**1877**	**Change in total 1872-77**
Rye	-253.9	-1720.4	-1466.5
Wheat	80	-440.4	-520.4
Chemicals	-403	-497	-94
Livestock	-43	-92	-49
Brown Coal	-3	-52	-49
Machinery	71	53	-18
Seeds and crops	-38	-55	-17
Rubber products	24	14	-10
Wool and cotton	-645	-642	3
Iron ore	-1	16	17
Fertilizers	-47	-23	24
Leather	-176	-135	41
Black Coal	13	78	65
Metalware	79	152	73
Wood	-357	-252	105
Textiles	-546	-436	110
Whole economy	-1,977	-2075	-98

Source: Calculated from Statistisches Jahrbuch für das Deutsche Reich 7 (1886, 81-90) and Statistik des deutschen Reichs, Band IV (1872, 189-224).

To summarize, in the case of workers who were not completely mobile between sectors, one would assume workers to vote according to sectoral interests. Thus trade balances should predict voting behaviour. Workers employed in import-competing sectors should have voted for protection and voters in export sectors for free trade. For the agricultural sector we would expect owners of large farms and their workers to have voted for protection. Smaller farmers, who mainly produced for their own consumption and specialised in animal husbandry, and thus did not face such competition from abroad should have voted for free trade. They could, however, also have voted

for protection because according to Webb (1982) they were in fact not harmed by tariffs, although they also did not benefit as much as owners of large estates. In the case that workers were mobile between sectors, a Heckscher Ohlin model would be the more appropriate model. Thus we would expect workers to have voted for free trade, independent of sectoral interests, and capital owners and landowners for protection.

In that case the majority of voters should have voted for free trade, since most voters received the major part of their income through wages, rather than rent or capital rewards. Thus we would not observe voting according to trade balances. This would imply for the agricultural sector that workers on large estates would have voted for free trade as would have peasants, since the latter were more specialised in labour intensive productions. Landowners of large-estates would have voted for protection since they were rather specialised in land intensive production and also would benefit more from higher rent in the absence of competition.

2.4. King's solution to the Ecological Inference Problem

2.4.1. The Problem of Ecological Inference

As briefly indicated in the introduction, King's (1997) solution to the problem of ecological inference makes it possible to estimate the votes for free trade of different occupations on the level of constituencies. In this section, I shall briefly explain and discuss the problem of ecological inference and King's solution.

An ecological inference problem is one like this: in a certain election, we know how many votes were cast for free-trade-supporting parties and how many for

protectionists, and we know how many voters were farmers and how many worked in other sectors. This information is available for every constituency. The information that we are really interested in, however, is individual voting behaviour, or at least sub-aggregates, such as how many farmers voted for free trade in a particular constituency.

Efforts to analyse which occupations caused the shift in parliament in 1878, whether new voters or floating voters were primarily responsible, and why these groups voted the way they did, face exactly that problem. Data exist only in an aggregated state: election results, shares of specific occupations in specific regions and so forth. But why is that a problem? A simple example will clarify this. Assume that in one constituency 30 percent of the electorate consists of farmers and that 30 percent of the votes are for parties that support free trade. In a second constituency 40 percent of the electorate consists of farmers and 40 percent of votes were cast for free-trade-supporting parties. Thus it seems that there is a perfect positive correlation between farmers and votes for free trade. Still, however intuitive this relationship might be, votes in the second district might come from quite a different sector; farmers in this district may not have voted for free trade at all. Postulating influences on the behaviour of individuals acquired from aggregate data, or in other words hypothesising about the behaviour of individuals by using data from whole populations, is often misleading. This is what is called making an ecological inference. The problem is well known in political science: Ogburn and Goltra (1919) introduced it in the very first multivariate statistical analysis ever to have been published in a political science journal, and it has been among the longest-standing unsolved problems in quantitative social science (King 1997).

King begins by observing that we can deterministically put some limits on individual behaviour from the available aggregate data. Assume that we observe two types of voters (farmers and non-farmers) and two voting options (free trade and protection). The total number of votes for free trade is just the proportion of farmers voting for free trade times the total number of farmers plus the proportion of non-farmers voting free trade multiplied by the total number of non-farmers. Since the number of free trade votes is fixed, the true proportions of free trade and protectionist voters must fall somewhere on a downward sloping line, whose slope is determined by the ratio of farmers to non-farmers, and whose intercepts will depend on the total number of votes as well.

If we had only one set of aggregate data, for example, information on free trade votes and the share of farmers for the whole of Germany, this would be as far as we could go, but we have aggregate data for every constituency. Each set of aggregate data, that is every constituency, gives us such a line, and King illustrates those lines by creating a 'tomography plot'. This is informative, but does not provide enough information to get a clear solution. There is no exact way of recovering the sub-totals. The simplest assumption to start with is that the true proportions for each constituency are picked at random from some distribution, but that all constituencies are drawn from the same population. King focuses on the case where that distribution fits the joint probabilities to a bivariate truncated bivariate normal distribution so that all proportions are between 0 and 1. In order to get the parameters from the truncated bivariate normal distribution, King uses the lines from the tomography plot. Most of them should pass near the mean of the truncated bivariate normal distribution. Consequently, we can guess the distribution by using the parameters that

maximise the probability of a sample falling on the observed tomography lines. Once a global distribution is constructed for each constituency we can estimate the true proportion by sampling from the constructed distribution, restricted to the tomography line for each constituency. Getting an exact closed form for that sampling distribution is certainly not possible, but point estimates and confidence intervals can be estimated in the usual way, applying a Monte Carlo simulation. Thus King's Algorithm provides sub-estimates for every constituency and thereby extracts much more information from the available data than simpler econometric tools.

Table 2.5 shows how the problem can be illustrated in a formal manner. Suppose one wants to find out whether or not workers in a specific sector voted for parties that supported free trade. The table shows the problem for one constituency and for two groups of voters, that is for those favouring free trade and protection, respectively. Here the workers employed in sector J are the voters of interest.

Table 2. 5: The ecological inference problem at the constituency level for occupation J

	Voting decision				
	Share of votes for free trade	Share of votes for protection	Turnout in percent	Abstention in percent	
Share of workers in sector J	λ_i^J	$1-\lambda_i^J$	β_i^J	$1-\beta_i^J$	x_i^J
1-Share of workers in sector J	λ_i^{-J}	$1-\lambda_i^{-J}$	β_i^{-J}	$1-\beta_i^{-j}$	$1-x_i^J$
	V_i	$1-V_i$	T_i	$1-T_i$	N_i

For every constituency, national statistics provide the values in the margins of the table, where index i indicates constituency i, and J indicates sector J. x_i^J is the share of the workforce in constituency i employed in sector J. This could be, for example, the share of farmers in constituency i. N_i is the total number of voters. V_i is the share of votes for free-trade-supporting parties in constituency i and $1-V_i$ the share of votes for parties that support protection. T_i is the percentage turnout for constituency i. Data on voting shares and turnout per constituency for Germany are provided by Caramani (2000). What these national statistics do not show, however, are the values in the inner cells of the table, such as the shares of various occupations in a particular constituency that voted for free trade, for protection, or abstained; that is the λ_i's and β_i's, which are not directly observed. λ_i^J is the share of workers in sector J that

voted for free trade and $1-\lambda_i^J$ is the share of workers of sector J that voted for protection. For example, assuming that J is the agricultural sector, λ_i^J is the share of farmers that voted for free trade and $1-\lambda_i^J$ the share of farmers that voted for protection. Similarly, λ_i^{-J} is the share of workers of sectors besides J that voted for free trade, and $1-\lambda_i^{-J}$ is the share of workers of sector besides J that voted for protection. β_i^J is the turnout of the workers in sector J.

Estimating these values does not only provide far more and better information about the voting behaviour of different sectors, but also creates new dependent variables that can then be used to study the influences on voters' decisions.

To refer back to Schonhardt-Bailey (1998), it is now possible to develop her idea of analysing the unity of the agricultural sector further. While she estimates the influence of different specialisations of farmers on voting behaviour for a certain party, it is now possible to estimate this influence in a regression in which the dependent variable is the share of votes for free trade from the agricultural sectors (λ_i^J), which has been estimated by King's Algorithm.

King's Model, however, as described above, is designed to solve for 2 x 2 or 2 x c problems. That are cases in which two groups of voters face two (or more in the case of 2 x c) voting options. Here it is applied to a R x 2 case, in which R is the number of sectors, i.e. the number of different groups of voters and two voting options: free trade or protection.

I solve this problem by estimating the model for 10 sectors[3] separately. King (1996) himself recommends this procedure in chapter 15 of his book. Other researchers have also followed his recommendation such as Benoit, Gianetti et al (2006) who used King's Method in a R x 3 case and also estimated the different rows separately.

This iterative approach, however, can lead to aggregation bias and multimodality, even when these problems were not present in the original data Ferree 2004). An alternative but more complicated way to estimate the quantities of interest would be the baysian and/or frequentist approach as suggested by Rosen, Jiang et al. (2001)

King's (1997) approach has some important advantages over previous solutions. Firstly, it offers realistic assessments of the uncertainty of ecological estimates. This is of particular importance when historical data are analysed: after all, in order to confirm the results of the model, one can hardly make surveys and ask 19th century farmers how they actually voted. King's method has been evaluated with survey data from recent elections in several studies and is robust for aggregation bias. In addition, his solution corrects not only for aggregation bias, but also for a variety of other serious statistical problems that affect ecological inference, such as the production of unrealistic results (for example 115 percent of an occupational group voting for a specific party). The most important advantage is that this method provides accurate estimates not only for the whole country, but also at the level of constituencies. For full details see King (1997)[4].

[3] The sectors are agriculture, chemicals, construction, iron, metal working, mining, other industries, stones, textiles, trade, unemployed and others.

[4] I have estimated the quantities of interest applying Benoit's and King's (2003) Ezi software.

However, the accuracy and reliability of King's Approach (1997) has been questioned by the reviewers of his book. They claim that there were indeed a handful of datasets where King's method succeeds, but they found another handful of datasets where his method fails. They further claim that the diagnostics do not discriminate between probable successes and failures (Freedmann et al, 1998, 1999).

However, King (1997) is like Freedman et al (1999) well aware that it is impossible to infere the behaviour of subgroups from aggregate data with complete accuracy, because relevant parameters are not identifiable. It remains a statistical exercise and the results have to be interpreted cautiously. The method is, however, still far better than simpler econometric approach such as logistical regression which have been widely used for the analysis of voting behaviour (see for instance Klug (2001 and Irwin (1998).

2.4.2. Results

Before I present the results[5] of the analysis of the voting behaviour of different groups of occupations, it is useful first to consider how the electorate was composed. Table 2.7 shows the occupational categories in Germany for males aged 14+. Although males were allowed to vote only from the age of 25, national statistics do not provide more detailed information about the ages of different occupational groups.

[5] Boxplot diagrams, which illustrate the standard deviation of turnout and share of free trade votes among the constituencies are provided in the Appendix.

Table 2. 6: Occupational categories in Germany: males aged 14+, 1882

Employment	Share of total in percent	Employment	Share of total in percent
Agricultural workers	19.8	**Food, drink**	4.3
Farm owners	19.2	**Clothing**	5.7
Mining	3	**Construction**	6.5
Peat	0.05	**Printing**	0.5
Stone working	2.3	**Artists, actors**	0.2
Metal working	0.5	**Industrial workers**	0.5
Iron, steel	3.2	**Trade**	4.7
Instruments	1.9	**Insurance**	0.08
Chemicals	0.4	**Land transport**	2.4
Fats, oils	0.2	**Water transport**	0.5
Textiles	4.6	**Lodging, refreshment**	1.1
Paper, leather	1.4	**Domestic servants**	1.5
Wood working	3.6	**Public servants**	6.5
Unemployed	4.2		

Note: Data on the employment of women were removed for those industries which constituted more than 1 percent of the workforce.

Source: Calculated from the Occupational Census 1882 (Statistik des Deutschen Reiches (1884, 214-429))

I assume that the share of occupations shown in Table 2.6 equals the distribution of the electorate among different sectors. The bias should not be severe as electoral law did not restrict the voting rights of certain social groups as was the case, for example, in Sweden (see chapter 3).

2.4.2.1 New Voters

First, I will present the results for the betas, i.e. the turnout among occupations, for the whole country and for different regions separately in Table 2.7-2.10, in order to investigate whether it was new or floating voters who made the difference.

The overall turnout increased slightly from 60.6 percent in 1877 to 63.4 percent in 1878 (Ritter and Niehaus, 1980, 38f). But the first notable result from applying King's technique is that the turnout in agriculture also only increased slightly, by about 0.5 percent, which is approximately 1660 votes more than in

1877 (see table 2.7). Thus it seems that it was not the agricultural turnout which made the change in the election in 1878.

The turnout of voters employed in the iron industry, the second part of the 'Marriage of Rye and Iron', even decreased slightly from 53.6 to 53.1 percent of votes. Most of the new voters came from mining, textiles and 'other industries',

Table 2. 7: Results for Germany, turnout (betas) among occupations

Germany	1877 Turnout (beta)	1877 Standard error	1878 Turnout (beta)	1878 standard error	Change in turnout in percent
Agriculture	0.629	0.035	0.632	0.061	0.48
Chemicals	0.525	0.09	0.551	0.058	4.95
Construction	0.537	0.078	0.567	0.04	5.59
Iron	0.536	0.079	0.531	0.087	-0.93
Metal working	0.539	0.079	0.559	0.055	3.71
Mining	0.551	0.065	0.95	0.098	72.41
Other Industry	0.393	0.068	0.546	0.08	38.93
Others	0.308	0.059	0.535	0.254	73.70
Stones	0.414	0.026	0.536	0.079	29.47
Textiles	0.451	0.019	0.629	0.107	39.47
Trade	0.547	0.078	0.54	0.079	-1.28
Unemployed	0.395	0.053	0.167	0.026	-57.72
Overall turnout*	0.606		0.634		
Constituencies	397				

Note: Figures are mean quantities by occupation

***(Ritter and Niehaus, 1980)**

King's Algorithm, however, allows us to mine the data for more information by breaking down the results for certain regions. Table 2.8 provides the results for Eastelbia, including Eastprussia, Westprussia, Pomeria, Posen, Brandenburg and Silesia). Here, however, the turnout in the agricultural sector increased by 10.5 percent from 56 to 61.9. The map in Graph 2.2 shows that the agricultural sector in this area was dominated by large estates, which as we

know from Table 2.3 were rather specialised in grain production and therefore possibly protectionist. Thus Gerschenkron's hypothesis (1943) that in East Prussia many rural workers who did not vote in 1877 ran to the polls in 1878 and caused the change in the parliament might in parts be true. The turnout among agricultural workers indeed increased in East Prussia, but as we will see later, the new agricultural workers did not make the difference.

Table 2. 8: Results for East Elbian Prussia, turnout (betas) among occupations

	1877		1878		
East Elbian Prussia	**Turnout (beta)**	**Standard error**	**Turnout (beta)**	**standard error**	**Change in turnout in percent**
Agriculture	0.56	0.03	0.619	0.051	10.54
Chemicals	0.33	0.077	0.28	0.043	-15.15
Construction	0.31	0.064	0.263	0.028	-15.16
Iron	0.308	0.065	0.327	0.074	6.17
Metal working	0.316	0.067	0.279	0.042	-11.71
Mining	0.718	0.056	0.94	0.082	30.92
Other Industry	0.429	0.071	0.323	0.069	-24.71
Others	0.337	0.06	0.561	0.266	66.47
Stones	0.737	0.018	0.312	0.065	-57.67
Textiles	0.289	0.018	0.755	0.082	161.25
Trade	0.318	0.067	0.314	0.065	-1.26
Unemployed	0.49	0.054	0.202	0.027	-58.78
Overall turnout*	0.564		0.622		
Constituencies	114				

Note: Figures are mean quantities by occupation

***(Ritter and Niehaus, 1980)**

Graph 2. 2: Geographical distribution of farms of different sizes

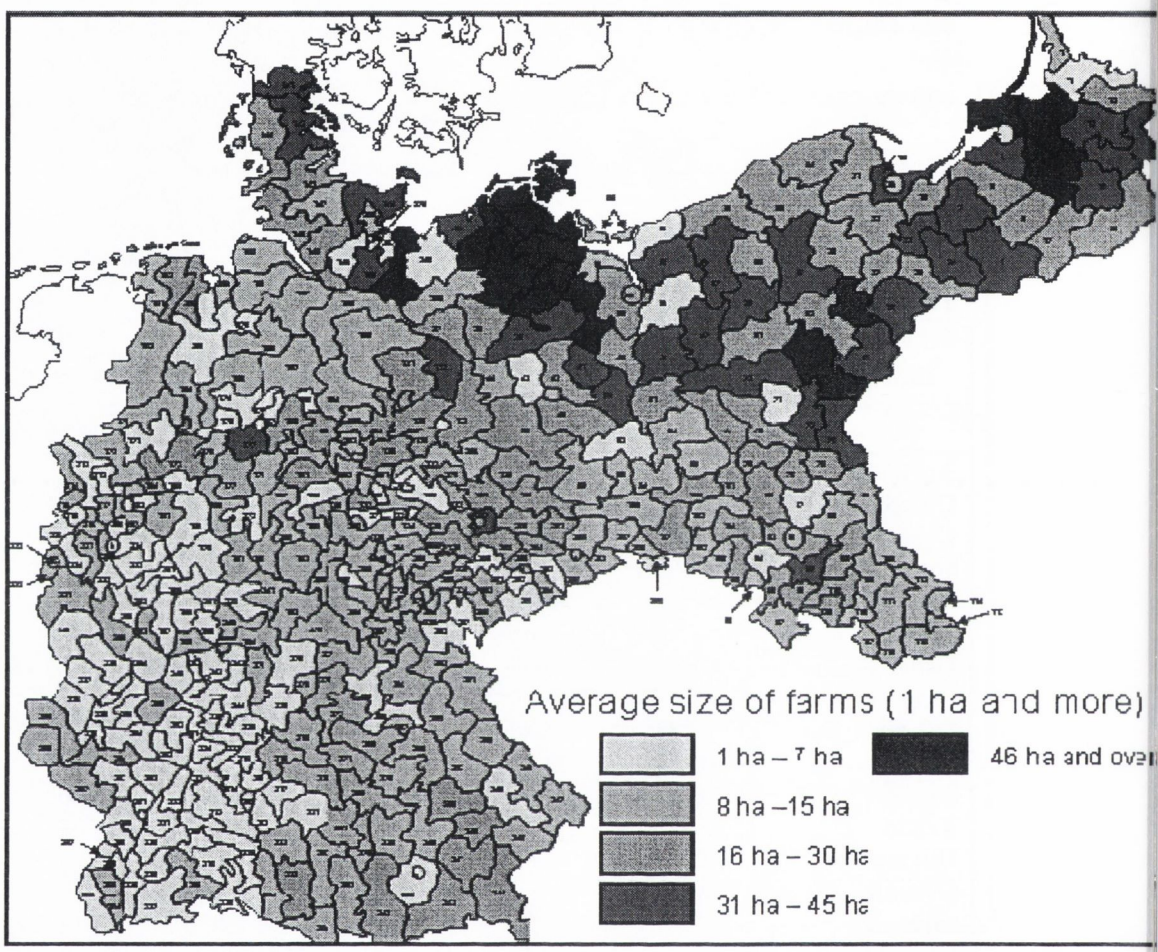


Table 2.9 provides the results for Bavaria. It is striking that the turnout in the agricultural sector fell by 18.42 percent. Graph 2.2 shows that the farm sizes in Bavaria were quite small. According to the discussion about the interest of small farms, it is hard to determine whether peasants actually benefited or suffered from tariffs. The voting behaviour of the agricultural sector in Bavaria may have reflected uncertainty about whether tariffs were bound to harm peasants or not. Furthermore, it may have been that peasants in Bavaria were in favour of free trade and thus not willing to vote for the Catholic Centre Party, which supported protection. But at the same time they might also not have been willing to vote for a free trade supporting party and thereby for the opponents of the Catholic Centre Party for non-economic reasons as we will see later.

Table 2. 9 Results for Bavaria, turnout (betas) among occupations

	1877		1878		
	Beta (mean)	**standard error**	**beta (mean)**	**standard error (mean)**	**Change in turnout In percent**
Agriculture	0.695	0.027	0.567	0.049	-18.42
Chemicals	0.527	0.109	0.535	0.078	1.52
Construction	0.53	0.096	0.543	0.06	2.45
Iron	0.527	0.099	0.529	0.103	0.38
Metal working	0.529	0.102	0.534	0.075	0.95
Mining	0.532	0.069	0.942	0.108	77.07
Other Industry	0.327	0.066	0.538	0.1	64.53
Others	0.302	0.06	0.58	0.213	92.05
Stones	0.452	0.039	0.526	0.099	16.37
Textiles	0.428	0.02	0.589	0.122	37.62
Trade	0.54	0.098	0.535	0.1	-0.93
Unemployed	0.29	0.054	0.161	0.028	-44.48
Overall turnout*	0.655		0.592		
Constituencies	47				

Note: Figures are mean quantities by occupation

***(Ritter and Niehaus, 1980)**

In 1878 the liberals lost 50 seats and won 4 (see Graph 2.1). In order to understand the causes of this decisive shift, it makes sense to take a separate look at the constituencies where the liberals lost the majority. This may provide more information about where the voters who made the difference came from.

The results for the constituencies in which the liberals lost the vote are provided in Table 2.10. The results support Gerschenkrons hypothesis (1943). Turnout among people employed in the agricultural sector increased by 9.6 percent in the constituencies in which liberals lost the vote. However, as we shall see later, the share of agricultural workers voting for protection increases by far more, indicating that floating voters made more difference to the created result than new voters. The other two sectors which experienced an enormous increase in votes were mining and textiles. Having estimated the turnout among voters of different occupations, the next section provides the results for the lambdas, that is the share of votes for free trade by occupation for different regions.

Table 2.10 Results for the constituencies in which the liberals lost the vote, turnout (betas) among occupations

	1877		1878		Change in turnout in percent
	Turnout (beta)	Standard error	Turnout (beta)	standard error	
Agriculture	0.593	0.033	0.65	0.063	9.61
Chemicals	0.468	0.076	0.489	0.046	4.49
Construction	0.479	0.065	0.51	0.031	6.47
Iron	0.484	0.066	0.477	0.075	-1.45
Metal working	0.472	0.067	0.496	0.042	5.08
Mining	0.601	0.058	0.942	0.064	56.74
Other Industry	0.429	0.071	0.486	0.069	13.29
Others	0.323	0.059	0.532	0.282	64.71
Stones	0.47	0.021	0.476	0.064	1.28
Textiles	0.388	0.017	0.682	0.092	75.77
Trade	0.486	0.066	0.484	0.065	-0.41
Unemployed	0.459	0.052	0.186	0.028	-59.48
Overall turnout*	0.579		0.631		
Constituencies	50				

Note: Figures are mean quantities by occupation

***(Ritter and Niehaus, 1980)**

2.4.2.2 Floating Voters

Tables 2.11 to 2.14 provide the average values of the estimation for both the 1877 and 1878 elections, by sector and for different geographical areas. The sectors are classified according to their trade balances in order to see whether the specific factor model can predict voting behaviour. All other sector, i.e. those which have an interest that cannot clearly be defined such as mining and non-traded sectors such as construction are not classified.

The results for Germany as a whole (Table 2.10) confirm Klug's findings (2001). In his regressions, most occupations were not significant. All sectors voted quite heterogeneous, that is the shares of votes for free trade were fairly similar: in agriculture, for example, 50.7 percent of voters voted for free trade and 49.3 percent for protection in 1877.

In 1878, however, the picture changes slightly. The majority of voters employed in agriculture, textiles, stones and metal working tended to vote according to their sectoral interests.

The largest change towards protection came from the agricultural sector. Here the share of votes for free trade decreased by 13.8 percent. It is closely followed by iron industry. The share of votes cast for free trade in this sector fell by 11.38 percent. It seems that the famous "marriage of rye and iron", the coalition between heavy industry and large landowners, dominated the change in votes in the election in 1878. In the textile sector, 52 percent of voters now voted for protection. In 1877, only 46.7 percent of votes in this sector were cast for protection.

Table 2. 11: Results for Germany, share of votes for free trade by sector (lambda)

		1877		1878		
	Germany	**Votes for free trade (lambda)**	**standard error**	**Votes for free trade (lambda)**	**standard error**	**percentage change in votes for free trade**
Negative trade balance	**Agriculture**	0.507	0.018	0.437	0.065	-13.81
	Chemicals*	0.53	0.151	0.552	0.071	4.15
	Stones	0.501	0.052	0.478	0.078	-4.59
	Textiles	0.533	0.034	0.48	0.075	-9.94
Positive trade balance	**Iron**	0.536	0.036	0.475	0.073	-11.38
	Metal working	0.545	0.041	0.578	0.072	6.06
Others	**Construction**	0.533	0.033	0.505	0.085	-5.25
	Mining	0.586	0.083	0.53	0.071	-9.56
	Other Industry	0.456	0.073	0.456	0.073	0.00
	Trade	0.533	0.032	0.466	0.081	-12.57
	Others	0.528	0.036	0.465	0.068	-11.93
	Unemployed	0.527	0.037	0.49	0.074	-7.02
	Constituencies 397					

Note: Figures are mean quantities by occupation

Again King's' Algorithm makes it possible to study voting behaviour in certain areas by providing information for different regions. East Elbian (Table 2.12)

voting behaviour deviates from Germany as a whole. In 1877 all sectors seem relatively indifferent between free trade and protection, but in 1878 the trend towards protectionist parties became visible for all sectors. The small majority of free-traders in agriculture tipped over to a clear protectionist majority. Although turnout in this sector increased by 10.53 percent, quite a large amount of voters shifted their allegiance from free trade, since the share of votes for free trade decreased by 27.9 percent. Referring to Gerschenkron (1943), turnout did indeed increase in the agricultural sector in Eastelbian Prussia, but it is unlikely that it was enough to change the electoral result significantly. Rather a large number of voters in the agricultural sector switched sites.

As we have seen in table 2.8 a large amount of new votes were cast in the mining and textiles sectors. In both sectors the share of votes for free trade was severely reduced in favour of protectionists, with a percentage decrease of 24.83 and 38.93, respectively. In East Prussia mainly brown coal was produced, which was import-competing (see Table 2.4). Thus the mines in East Prussia would have had an interest in protection and indeed voters from this sector voted for protection in both years supporting the hypothesis that the specific factor model can indeed predict voting behaviour to a certain degree.

Table 2. 12: Results for Eastelbia, share of votes for free trade by sector (lambda)

		1877		1878		
		Votes for free trade (lambda)	standard error	Votes for free trade (lambda)	standard error	percentage change in votes for free trade
Negative trade balance	Agriculture	0.493	0.017	0.355	0.055	-27.99
	Chemicals	0.476	0.19	0.402	0.056	-15.55
	Stones	0.52	0.05	0.313	0.055	-39.81
	Mining	0.439	0.068	0.33	0.05	-24.83
	Textiles	0.506	0.034	0.309	0.053	-38.93
Positive trade balance	Iron	0.51	0.035	0.313	0.056	-38.63
	Metal working	0.476	0.039	0.432	0.057	-9.24
Others	Construction	0.506	0.033	0.364	0.075	-28.06
	Other Industry	0.305	0.057	0.305	0.057	0.00
	Others	0.503	0.034	0.304	0.054	-39.56
	Trade	0.505	0.032	0.318	0.064	-37.03
	Unemployed	0.499	0.036	0.313	0.056	-37.27
	114 constituencies					

Note: Figures are mean quantities by occupation

Comparing the voting behaviour of East Prussia to Bavaria, we can observe a quite different pattern especially for the agricultural sector (Table 2.13) Agriculture was already quite protectionist in 1877 and remained so in 1878. Bavarian agriculture was dominated by small farms and peasants as we said above (Graph 2.2). Thus it seems small farmers voted for protection and actually even more so than large landowners. This might indicate their economically favoured policy as Webb (1988) suggested.

We should moreover bear in mind that the turnout in the agricultural sector severely decreased. This could, as mentioned above, indicate peasants unwillingness to vote for the protective Catholic Centre Party for economic reasons, while at the same time being unwilling to vote for its political opponents for non-economic reasons. However, most of the constituencies that caused the change in the parliaments were in East Prussia and just very few in Bavaria.

Table 2.13 Results for Bavaria, share of votes for free trade by sector (lambda)

		1877		1878		
		Votes for free trade (lambda)	standard error	Votes for free trade (lambda)	standard error	percentage change in votes for free trade
Negative trade balance	Agriculture	0.374	0.019	0.339	0.069	-9.36
	Chemicals	0.479	0.138	0.472	0.094	-1.46
	Stones	0.458	0.07	0.432	0.877	-5.68
	Textiles	0.454	0.046	0.434	0.113	-4.41
Positive trade balance	Iron	0.458	0.049	0.416	0.101	-9.17
	Metal working	0.487	0.054	0.493	0.097	1.23
Others	Construction	0.45	0.045	0.444	0.113	-1.33
	Mining	0.546	0.127	0.492	0.113	-9.89
	Other Industry	0.426	0.109	0.426	0.109	0.00
	Others	0.44	0.04	0.427	0.112	-2.95
	Trade	0.449	0.044	0.424	0.111	-5.57
	Unemployed	0.439	0.047	0.447	0.105	1.82
	46 constituencies					

Note: Figures are mean quantities by occupation

The results for the constituencies in which the liberals lost the majority are shown in Table 2.14. All sectors except 'other industries' voted for free trade in 1877. In 1878 voters employed in agriculture and textiles changed their voting behaviour, which eventually changed the electoral result. The free trade votes from agriculture crucially collapsed and fell by 43.07 percent to the benefit of protectionists. This is far more than the increase in turnout (from 0.6 to 0.641). Instead of new voters, it seems that it was floating voters in the agricultural sector who caused the change in favour of protectionists. Other sectors like textiles and iron also severely changed their voting behaviour to the benefit of protectionist. However, in absolute votes, the agricultural sector had much more power, since it constituted the major part of the electorate.

While in 1877 most sectors did not vote in the way that trade balances would predict, the picture changed in 1878. Most sectors now voted in a predictable

manner. The exceptions were chemicals, which were still in favour of free trade, but less so than in 1877 and the iron sector which was in favour for protection. The latter can be explained by the more complex structure of the iron industry. The iron industry needed semi-finished products, which were imported. Firms that specialised in the production of semi finished products thus claimed protection. The interest in protection can also be explained by a more Heckscher Ohlin driven framework. Heavy industry is capital intensive. Capital was scarce in Germany at the time and thus heavy industry would have had an interest in protection rather than free trade.

Table 2. 14: Results for the constituencies in which the liberals lost the majority, share of votes for free trade by sector (lambda)

		1877		1878		
		Votes for free trade (lambda)	standard error	Votes for free trade (lambda)	standard error	percentage change in votes for free trade
Negative trade balance	**Agriculture**	0.729	0.02	0.415	0.099	-43.07
	Chemicals*	0.695	0.189	0.589	0.081	-15.25
	Stones	0.733	0.05	0.44	0.082	-39.97
	Textiles	0.735	0.034	0.44	0.081	-40.14
Positive trade balance	**Iron**	0.736	0.036	0.445	0.076	-39.54
	Metal working	0.764	0.04	0.615	0.082	-19.50
Other	**Construction**	0.734	0.033	0.54	0.104	-26.43
	Mining	0.667	0.065	0.495	0.075	-25.79
	Other Industry	0.427	0.087	0.428	0.073	0.00
	Others	0.728	0.04	0.428	0.075	-41.21
	Trade	0.735	0.032	0.431	0.092	-41.36
	Unemployed	0.724	0.039	0.454	0.083	-37.29
	Constituencies 50					

Note: Figures are mean quantities by occupation

To summarise: voters' decisions did to a large extend depend on their sectoral interests, especially in the election in 1878 that caused the change towards protection. In every sector some voters, and mostly the majority, voted according to expectations derived from trade balances. Thus the specific

factors model seems to be the most appropriate model. However, there were always huge groups who voted in the opposite way. This can be explained in several possible ways. One explanation could be that sectors consist of different sub-sectors which cannot be distinguished by the available information. One example is the mining sector as mentioned above: some mines specialised in the production of brown coal, like those in East Prussia, others in black coal or iron ore. Brown coal was import-competing, whereas black coal and iron ore were export goods. Thus in a specifics factor framework, workers working in a brown coal mine would prefer protection and workers working in a black coal mine would vote for free trade.

Another explanation could be that not all firms in an "export sector" actually export. Melitz (2003) provides a theoretical model that shows how the exposure to trade can induce only the more productive firms to export while simultaneously harming the least productive firms in a sector which is generally considered an exporting sector. As a result the more productive firms would have an interest in free trade and the less productive firms in protection, although both are operating in an exporting sector.

In terms of the political landslide that occurred between 1877 and 1878, floating voters from the agricultural sector rather than new voters made the difference, although there was a significant rise in turnout. However, Gerschenkron's hypothesis (1943) that rural workers were brought to the polls to vote for protection and thus changed the distribution of seats in the parliament can be rejected.

As mentioned above the specific factor model worked quite well. Thus workers on large estates who voted for protection voted in their own interest, because they directly benefit from the benefits of the sector in which they were

employed. The question, however, why so many agricultural workers changed their mind within one year remains unanswered. Maybe the fact that the second election was more dominated by the tariff question caused the change. Other political dimensions, which became less important in 1878 might have biased the result to the favour of liberal parties in the election in 1877.

Another question, which has not been satisfactorily answered so far is whether the agricultural sector voted homogenously, that is whether agricultural workers, peasants and large land owners all voted for protection. Did farm size matter for the voting decisions? Did peasants and workers working on small farms vote for free trade? So far it seems that small farmers voted for protection. In the next section, however, I will go one step further in order to analyse what motivated voter's decisions in the agricultural sector.

2.5. Behind the Curtain of the Polling Booth

2.5.1. Analysis and Variables

As mentioned above, King's Algorithm provides estimates of the shares of several occupations that voted for free trade and the shares of those that voted for protection.

Based on the variables created in this way, it is possible to push the analysis one step further and examine which other factors influenced voting decisions by using the share of votes for free trade as estimated above as dependent variable in a second stage regression. The practice of using quantities generated by applying King's Algorithm as dependent variables is known in the methodological literature as 'EI-R'. I am aware of the problems involved in using these variables in a second-stage analysis and have carefully followed the recommendations made by Adolph, King et al. (2003). First, I exclude any quantities not originally included as covariates in the first-stage estimation as independent variables in EI-R. Second, I apply weighted least squares using the estimated standard errors from the first-stage estimation as weights, as recommended by Herron and Shotts (2004).Hence, I use the following equation for the second-stage analysis:

$$\lambda_i^{FT} = \beta_0 + \sum_{k=1}^{n} \beta_k x_{ki} + \varepsilon_i$$

The equation is linear and can be estimated by weighted least squares, as discussed above. The dependent variable λ_i^{FT} is the share of voters, working in the agricultural sector, who voted for free trade in district i as defined in

Table 2.5. β_0 is the constant term and the explanatory variables x_{ki} cover possible influences on voting behaviour across districts as I shall discuss below. ε_i is the error term. I use the share of immigrants per constituency as a right-hand side variable to account for regional diversity. Data on immigrants were taken from the *Statistik des deutschen Reichs* 1888. Regions with a larger share of immigrants were probably wealthier than others, offering more and better jobs and therefore attracting more workers than other regions. Consequently, they also had higher economic growth rates and were probably more free-trade-orientated than other regions. Furthermore, a larger share of immigrants might also indicate higher sectoral mobility which would support free trade according to economic theory, on the assumption that labour was the abundant factor in Germany. This share differs largely among regions as shown in Table 2.15.

Table 2. 15: Migrants in percent of population, 1888

	migrants in % of pop.		migrants in % of pop.
East Prussia	2.7	**Württemberg**	3.3
West Prussia	10.4	**Baden**	6.8
City of Berlin	56.5	**Hesse**	9.5
Brandenburg	15.9	**Mecklenburg-Schwerin**	9.3
Pomerania	8.5	**Mecklenburg-Strelitz**	11.6
Posen	8.1	**Oldenburg**	13.2
Silesia	3.6	**Brunswick**	21.5
Province of Saxony	12.5	**Anhalt**	23.9
Schleswig-Holstein	12.2	**Waldeck**	10.1
Hanover	10.4	**Thuringia**[6]	10.0
Westphalia	12.5	**Schaumburg-Lippe**	18.8
Hesse-Nassau	11.3	**Lippe**	8.2
Rhineland	8.1	**Lübeck**	39.4
Hohenzollern- Sigmaringen	10.8	**Bremen**	39.3
Bavaria	2.7	**Hamburg**	45.1
Kingdom of Saxony	9.1	**Alsace-Lorraine**	11.5

Source: Calculated from Statistik des Deutschen Reichs N.F. 32, Berlin (1888), 212-35.

[6] See footnote 2

As shown above, the agricultural sector voted quite heterogeneously. In every region there is a group of voters which voted for free trade in both elections. As discussed above, previous research does not agree on whether all agricultural producers benefited from tariffs or only owners of large estates. Peasants may have voted in favour of free trade because they thought it would make them better off. In line with Rogowski (1989), one would expect farm owners (land) to have voted for protection and agricultural workers (labour) to have voted for free trade. By extension, smaller farmers should have been more in favour of free trade than larger farmers, being endowed with a higher ratio of labour to land.

In a specific factor model one would also expect peasants to vote for free trade because the animal production in which they were specialised was not import-competing and because they benefited from cheap imported grain as fodder. Thus, the implications for the agricultural sector are quite similar, whether we apply the Heckscher Ohlin framework or a specific factors model. While information about specific groups of farmers is lacking on this level of aggregation, there are data on the area of the farms, which makes it possible to test whether farm size matters for the purposes of explaining the voting behaviour of the agricultural sector. Hence I include variables on the size in hectares of farms registered in the Occupational and Business Census from June 1895, which was published in *Statistik des Deutschen Reichs 112: Berufs- und Gewerbezählung vom 14. Juni 1895. Die Landwirthschaft im Deutschen Reich.*

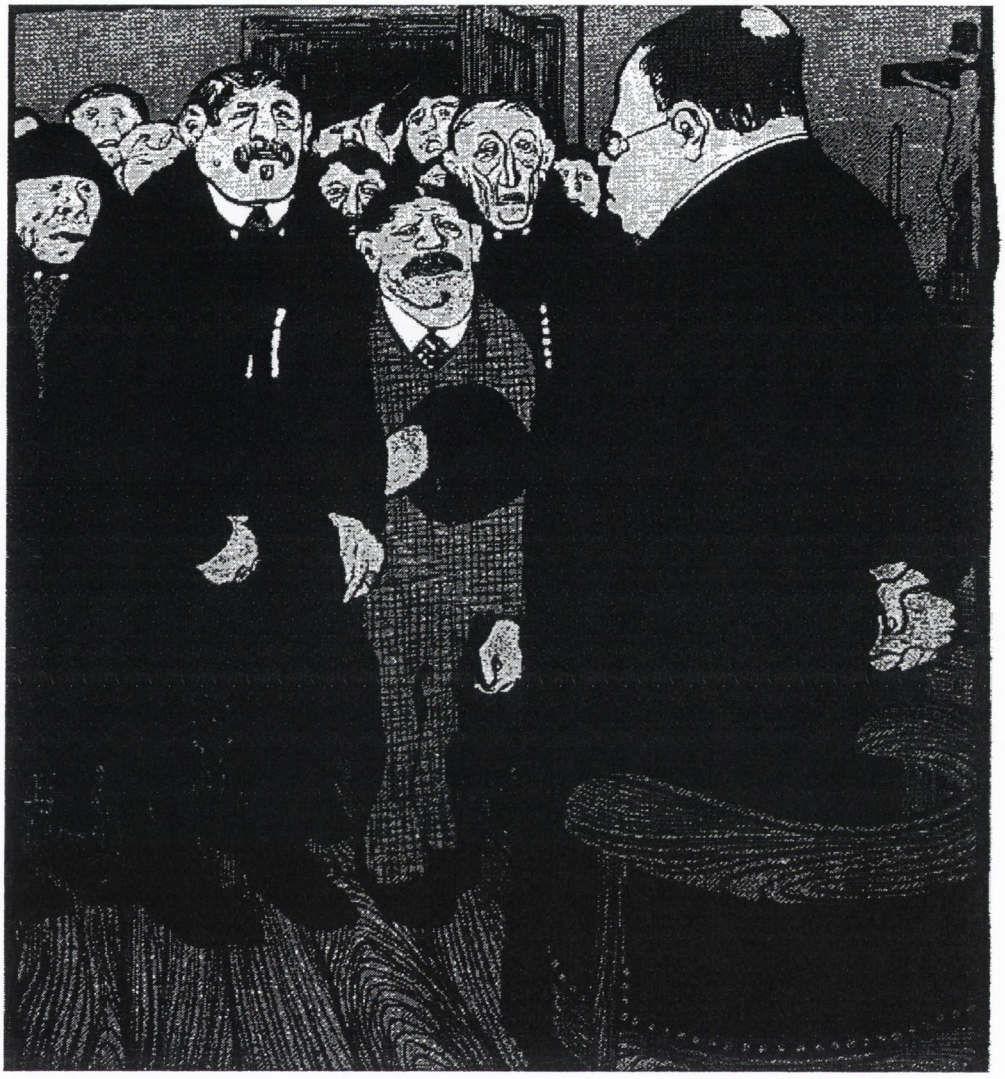
Apart from political questions such as the tariff issue, there were other, social influences on a voter's decision, such as tradition and religion (see next page). Catholic priests tended to encourage their parishioners to vote for the Centre

party; their influence is therefore expected to have a negative influence on the share of free trade votes. The population census of 1880 provides the share of Catholics on the level of regions. I assume that this share was equal in all constituencies belonging to a certain region. Table 2.16 gives an overview of all the variables.

Table 2. 16: Overview variables

Variable	Obs	Mean	Std. Dev.	Min	Max
Share of votes for free trade 1878	4409	0.49	0.32	0.00	1.00
Share of votes for free trade 1878	4409	0.49	0.32	0.00	1.00
Share of immigrants	4656	0.00	0.01	0.00	0.03
Turnout77	4656	0.61	0.13	0.23	0.91
Turnout78	4656	0.62	0.11	0.18	0.91
Share of Catholics	4656	0.37	0.34	0.00	0.99
Farm size: less than 1 ha	4656	0.07	0.05	0.01	0.41
Farm size: 20 to 50 ha	4656	0.01	0.01	0.00	0.03
Farm size: more than 100 ha	4656	0.00	0.00	0.00	0.00

Sources: see text.



Agitation: 'Dear confessants, I am far from wanting to influence your vote. But I have to tell you this: anyone voting Farmer's League loses his eternal salvation'.

Paul, B. (1898). Simplicissimus **3** (12), 96.

Taken from Anderson (1993, 1453)



Bavaria: "One more election and we won't even be able to see the Lord God anymore." (The stickers say "Vote Centre")

Schultz, W. (1911). Simplicissimus **15** (37)

Taken from Anderson (1993, 1449)

2.5.2. Results

Table 2.17 covers the results for the elections in 1877 and 1878. The dependent variables are the share of votes for free trade in 1877 and 1878, respectively. As the first line of Table 2.17 shows, the share of immigrants has a positive impact on voting for free trade, which suggests that richer and better-developed regions tended to attract people and were also more free trade orientated, although not significantly.

However, for the question of whether the agricultural sector voted in its owns self-interest and for distinguishing between the arguments provided by Webb (1988) and Gerschenkron (1943), the impact of differently sized farms on voting behaviour is most interesting.

Small farms, with less than one hectare, voted for free trade, although only significantly in 1877. Middle-sized farms seem to have been quite indifferent, as the very low t-statistics show. The large estates with more than 100 hectares have a negative sign, which is highly significant in 1878. Thus, according to the regression results it seems that Gerschenkron (1943) was wrong, and that small farmers tended to vote for free trade.

Whether that was rational or not depends on whether the Heckscher Ohlin and Specific factors model that small farmers were harmed by protection or Webb's (1982) prediction that peasants also gained from protection were right.

Another interesting result worth mentioning is the strong impact of the share of Catholics on the decision to vote for protection in both elections. This is, as mentioned above, driven by the votes for the Catholic Centre Party and is not surprising considering the '*Kulturkampf*', which had come to an end in 1878. Until the mid-19th century, the Catholic Church was still also a political power.

In the newly founded German Empire, Bismarck sought to reduce the power of the secular state and reduce the political and social influence of the Roman Catholic Church by instituting political control over Church activities.

In 1871 Bismarck started to impose a series of sanctions against Catholicism. One of the first measures taken to reduce the influence of the Catholic Church was the addition in 1871 of § 130a to the German Criminal Code (Strafgesetzbuch), which threatened clergy who discussed politics from the pulpit with two years of prison; this article was called the *'Kanzelparagraph'*. In the following years, Bismarck banned religious teachers from government schools, began to monitor the education of clergy closely, created a secular court for cases involving the clergy, and required notification of all clergy employment. In 1875, marriage became a mandatory civil ceremony, removed from the control of the Church. As this conflict threatened to bring him political defeat, Bismarck moderated his struggle with the Catholic Church and in lifted most sanctions in 1878 except for the *'Kanzelparagraf'* and civil marriage (see for instance Evans (1981)). However, during the struggles of the *'Kulturkampf'*, the Catholic Centre Party gained power. It managed to double the amount of its voters in 1874 and remained strong until the mid 1880s (Ritter and Niehauss 1980). According to Wehler (1973/85, 83f) the major reason for this was that in times of the *"Kulturkampf"*, i.e. in times of direct confrontation between the state and the church, there was a clear separation between the Catholic Centre Party one the one hand and its opponents, the protestant conservatives, on the other hand. Catholics were able to express their support for the Church by voting for the Centre party. With the slackening of the conflict the extreme enmity lost its strength and the Centre Party lost its attraction.

Nipperdey (1992/98, 439) even goes so far using the share of votes for the Centre as a measure for church affiliation of men. He argues that during the times of the "*Kulturkampf*" the Centre was strong, because average church affiliation was much stronger in that period than in the 1880s, where the church lost a lot of members.

Anderson (1993) collected a number of cases in which the elections were severely influenced by priest agitation in 1871 and in later years (see cartoons on page 51 and 52). She argued that not just priests, but all of Germany's elites- the majors, the Landrats and the Junkers tried to prevent the working class from usurping their traditional roles and that they were quite successful since the integrity of the imperial election system was not sufficiently protected by secrecy. Her argument follows Gerschenkron (1943), who also clamed that agricultural workers were forced to vote for protection. It is likely that Junkers and priests tried to influence voters and that they managed to be successful in some constituencies.

The above study, however, shows that in the 1878 election a lot of the voting behaviour was consistent with self-interests in that way that sectoral votes do largely confirm the prediction of trade models. It is clear too that non-economic factors such as religion mattered for a voter's decision.

It is also not unusual today that non-economic factors influence trade policy preferences as O'Rourke and Sinnots (2001) and Rodrik and Mayda (2005). have shown in recent studies, where they show for instance that variables like patriotism and chauvinism influence the choice of trade policy preferences.

Table 2. 17: Results second stage estimation

Dependent variable	(1) Lambda 1877= Share of voters from the agricultural sector that voted for free trade supporting parties in 1877	(2) Lambda 1878= Share of voters from the agricultural sector that voted for free trade supporting parties in 1878
Immigrants	6.413	4.014
	(1.94)	(1.83)
Turnout	0.208	0.411
	(2.00)*	(3.92)**
Share of Catholics	-0.276	-0.323
	(6.42)**	(9.04)**
Farm size: less than 1 ha	0.657	0.267
	(2.26)*	(1.14)
Farm size: 20 to 50 ha	-0.322	-1.330
	(0.12)	(0.60)
Farm size: more than 100 ha	-44.486	-104.283
	(0.87)	(2.64)**
Constant	0.400	0.358
	(4.32)**	(4.22)**
Observations	290	303
R-squared	0.21	0.28

Absolute value of t statistics in parentheses
*** significant at 5%; ** significant at 1%**

2.6. Conclusion

Toward the end of the 1870s, Europe began to turn away from the free trade policies which had characterised the middle decades of the century. Germany was one of the first countries to change its course, and German tariff policies had repercussions for practically the whole continent. Unsurprisingly, therefore, research has paid much attention to political decision-making in Germany, and there is a broad literature that seeks to explain the country's about-turn in commercial policies, which occurred after 1878.

While this political landslide, which ultimately transformed European politics, has been repeatedly studied from a quantitative perspective, the current research, especially on the tariff elections in Germany, hitherto suffers from a number of defects. On one hand, it applies methods such as simple logistic

regressions, which fail to explain voting behaviour in the elections.. On the other hand, it is exclusively based on data aggregated at a relatively high level. The applied models took aggregated election results as dependent variable, not at the level of constituencies, but at that of the Prussian governmental districts and of similar administrative subdivisions in the other member states of the Reich. Independent variables, which mirrored the sectoral and social structure of the electorate, were aggregated at the same level. This approach reduced the number of observations from 389 (the number of constituencies) to 68 – a fact which itself impaired the reliability of the results obtained by prior research. The use of inappropriate methods combined with highly aggregated data severely reduce the reliability and robustness of the results obtained.

In this chapter I use better data on the level of constituencies and furthermore apply King's (1997) Algorithm which generates shares of voters from different occupations that voted for protection or free trade for every constituency. This provides more specific information on how voters in the several parts of Germany behaved. It is possible to analyse whether it was new or floating voters who caused the shift towards protection, from which sectors they came and whether voters cast their vote according to the interest of the sector in which they were employed.

Indeed, most voters in most sectors voted according to sectoral interest in 1878, where sectoral interests is what is predicted by trade balances. Thus the specific factor model can be used to predict voting behaviour to a certain extent. There is, however, for each sector a large amount of voters that voted against sectoral interest. This might be caused by differences in mobility between certain sectors and regions, thus making a Heckscher Ohlin model more applicable in some areas. Another explanation could be that sectors

consist of different sub-sectors which cannot be distinguished by the available information as mentioned above, like for instance the mining sector.

Another explanation could be that not all firms in an "export sector" actually export and thus benefit from free trade. Melitz (2003) provides a theoretical model that shows how the exposure to trade can induce only the more productive firms to export while simultaneously harming the least productive firms in a sector which is generally considered as an exporting sector.

It could also be caused by the fact that other political dimensions apart from trade policy influenced voter's decisions, as well as other non-economics factors such as tradition and religion.

This chapter does not just provide estimates of how members of several occupational groups voted, and of how large their respective turnout was. In fact, from a historical perspective the real challenge is not just describing these election results, but explaining them. In this chapter this is done for the agricultural sector by treating the shares of votes for free trade estimated through King's Algorithm as the dependent variable in a standard multivariate regression. Careful attention was devoted to addressing the role that farm size played in affecting electoral behaviour, as a farm's size captures the different interests of different farmers. The question of whether agriculture voted as a single block has not yet been satisfactorily answered in the existing literature. Schonhardt-Bailey (1998) did provide some evidence that the agricultural sector did not vote homogeneously, but she showed this only for conservative parties. In my regressions, using the extracted quantities from King's Algorithm as the dependent variable, there is evidence that small farmers preferred free trade, whereas farmers owning large estates and workers on these estates favoured protection. This fits well the expectations of both the

Heckscher Ohlin and Specific factors model and thereby show that Gerschenkron (1943), who said they voted for protection, was wrong.

Thus if Webb (1982) was wrong and peasant were better off with free trade, they voted rationally. It will be left to future research, however, to further investigate whether small farmers indeed suffered from the introduction of tariffs or whether they would have been better off with free trade. Similar investigations have already been made by Bohlin (2006), who applied a general equilibrium model and found for Sweden that small farmers would at least not have been worse off after the introduction of tariffs on grain.

Another result worth mentioning is the surprisingly high influence of the share of Catholics. The larger the share of Catholics was, the higher the probability of voting for protection. Although it is well known that Catholics supported the Centre Party, the influence is still much stronger than expected and exceeds all other influences.

How do these results relate to what was hitherto done in this field of research? For one thing, they are obviously much more robust. Unlike previous work, these results are obtained carrying out a method that is based on importance sampling from constrained maximum likelihood and with low-level data. This makes it possible to break down the results for certain regions. This is particularly interesting because under these conditions, it is possible to focus on those constituencies where the liberals lost their seats in 1878, and to analyse them separately. This separate analysis crucially changes our picture of what went on between the two elections of 1877 and 1878. Looking at Germany as a whole turns out to be an inadequate strategy. The results of such analysis are consistent with those obtained by prior research, for example by Klug (2001) or Gerschenkron (1943). In both elections, most sectors voted

quite incoherently, and no distinct difference between 1877 and 1878 that could explain where the voters who caused the change came from, becomes apparent. By contrast, analysing voting behaviour in the decisive constituencies, that is those which the liberals held in 1877 but lost one year later, contradicts Gerschenkron's (1943) view that change was solely due to new voters from the agricultural sector, who went to the polls in 1878, having abstained a year before. He was right that there was a large amount of new voters (around ten percent more) from the agricultural sector and especially in East Elbian Prussia. But the losses that free-traders suffered to the benefit of protectionists were much higher (around 18 percentage points).

Thus, it was floating voters rather than new voters from the agricultural sector who caused the change and this group, as is evident from the second-stage analysis, comprised larger landowners and their employees, but not small farmers.

The question, however, as to why voters in the agricultural sector changed their behaviour in just one year remains unanswered and is left to future research. It seems likely that the fact that the second election was more dominated by the tariff question caused the change. Maybe other political dimensions, which became less important in 1878 biased the result to the favour of liberal parties in the election in 1877.

Explaining the political shift in 1878 is all the more important because it provided Bismarck with the conservative majority that he needed in order to push back the influence of his former liberal allies and to prevent the liberalisation – and ultimately democratisation – of Imperial Germany. Protective tariffs for industry and agriculture were the price the Chancellor paid. The price paid by the country as a whole ultimately proved to be much

higher. Behind the protective walls of new tariffs, agriculture retained its huge share in the economic structure and this did not bode well for Germany's development in the later 19th and 20th centuries, as Temin (2002) has shown.

2.7. References

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3. The Political Economy of Swedish Trade Policy in 1887

3.1. Introduction

In the 1870s, like in Germany and other European countries, the grain invasion from America and Russia led to a huge decline in Swedish wheat prices (O'Rourke 1997). Soon after, American pork also posed a threat to Swedish livestock producers and agriculture slid into a profound economic crisis during which many Swedish farmers had to give up and leave the country (Lewin 1988).

In Sweden, like everywhere else in Europe, the economic pressure heated the debate among politicians regarding the introduction of tariffs to protect the agricultural sector. As discussed in the previous chapter, Gerschenkron (1943) argued that in Germany agrarian protection only benefited a minority of relatively large landowners specialising in grain production. Small farmers and agricultural workers would not have gained much from agricultural protection, since they used the grain produce for their own consumption and fodder. Against Gerschenkron (1943), Webb (1982) took the view that animal production also received substantial tariff protection in Germany, implying that small farms as well as large farms should have been protectionist.

In Sweden, like in Germany, the campaign for grain tariffs was primarily conducted by large landowners who specialised in bread-grain production. The majority of small farmers specialised in animal husbandry, which was much less exposed to overseas competition. Agrarian protectionism was controversial from the beginning. In the debates on trade policy in the 1880s critics pointed out that grain tariffs primarily served the interests of large landowners in

southern and mid-eastern Sweden, specialised in bread-grain production. In order to win over the majority of small farmers, the protectionists also campaigned for the introduction of tariffs on maize and pork. Maize was considered as a substitute for oats in the feeding of pigs and adherents of protectionism argued that the maize tariff would primarily benefit small farmers, oats being their most important crop. However, as free-traders pointed out, pig farming was also important for small and middle-sized farms, and the feeding of pigs was made more expensive by the maize tariff. Moreover, the most important source of revenue for small farmers derived from milk, which was unprotected (Bohlin, 2006).

As seen in the previous chapter, the agricultural sector in Germany did not vote homogeneously. Small farmers voted for free trade and large landowners voted for protection, ceteris paribus. According to theoretical expectations small farmers would have gained from free trade and large farm owners were better off with a protectionist policy. Thus all farmers chose the policy that would have made them better off according to the theoretical predictions of either a Heckscher Ohlin or of a specific factor model if they were right.

For 19th century Sweden, Bohlin (2006) showed which farmers gained and which lost from agricultural tariffs, applying a general equilibrium model. He confirms for Sweden what Webb (1982) has argued for the case of Germany: small farmers did not suffer from protection, although they also did not gain as much as large landowners.

Sweden seems to be the perfect case study to analyse the question of whether the agricultural sector voted homogenously and whether this was rational: amidst the discussion in the parliament on whether to introduce tariffs, the king dissolved the parliament and called for new elections before it came to a final

vote. Thus, the special election of March 1887 can literally be seen as a referendum about tariffs. I analyse the 1887 elections applying the same method as in the previous chapter, King's Algorithm (see page 27ff). I will also apply a simple logistic model to further investigate whether the agricultural sector voted homogeneously. Using a logistic approach follows the tradition of Klug (2001) and Irwin (1994), who analysed elections concerning trade policy in England and Germany in order to explain the trade policy of these countries. This approach is useful in order to include information on constituency characteristics which are not directly related to voter's characteristics such as the production of wheat and milk per capita. Including variables that account for the product mix of the agricultural sector in different constituencies as right-hand side variables in regressions where the dependent variable is the log of the odds ratios of the total share of votes for free trade is useful to study the motivations of different types of agricultural specialisation. Grain producers were, as discussed in the previous chapter and in section 3 of this chapter, hit hardest by the increased competition from abroad and thus would have a higher incentive to vote for protection than farmers specialised in animal husbandry.

According to Lewin (1988), this major dispute about trade policy at the end of the 19th century turned out to be one of the most important political conflict in Swedish history overall and resulted in the introduction of tariffs on wheat, barley, rye and some industrial products.

In this 1887 special election free-traders first gained the majority but lost it again because of a political scandal that resulted in 22 free-trade-supporting members of the Stockholm parliament being replaced by protectionists.

Swedish elections in the 19th century have not been studied very intensively. Lewin et al. (1976) published a book about Swedish elections from 1887 to

1968 in which the authors tried to estimate the impact of social structure on voting behaviour. This book remains the only quantitative attempt to investigate the electorate and its voting behaviour in 19th century Sweden. It provides a good overview of the electorate but is not detailed enough to compare the voting behaviour of occupations with expectations derived from trade models or empirical results. Lewin et al. (1976) grouped occupations with similar voting behaviour and analysed voting behaviour for just four extracted groups. Some political scientists, for instance Esaiason (1990), have studied electoral campaigns during this period, but in a rather descriptive way. With regard to trade policy, Bohlin (2005, 2006) studied effective rate of protection during 1885 and 1914 and the impact of tariffs on income for certain groups of farmers.

This chapter is organised as follows: I first provide an overview of the historical tariffs debate. Thereafter I discuss the theoretical and empirical findings on commercial policy interests. Following this, I discuss the method and the data, provide the results and conclude in a final section.

3.2. Tariff Debates

At the time of the tariff debates, Sweden had a two-chamber system (Caramani 2000). In order to pass a law, it had to be accepted either in both chambers with a simple majority or by a simple majority in a joint vote of both chambers. A joint vote of both chambers was carried out if the law was accepted in only one chamber and rejected in the other one in the place.

The first attempt to raise tariffs, in 1885, was easily defeated in parliament. The call for grain tariffs was rejected in both chambers. The following year, the protectionists had strengthened their position and the second chamber now approved grain tariffs, whereas the first chamber rejected them, and the proposal was defeated in a joint vote of both chambers. The third assault on the free-trade system in parliament, in 1887, marked the culmination of the tariff dispute. The first chamber defeated the proposed rye tariff by a vote of 70 to 68, and then, in keeping with the 'all or nothing' principle, it rejected all other proposed tariffs. The second chamber, however, approved the rye tariff with 111 votes to 101. The country excitedly looked forward to the joint vote. Adding together the votes, it seemed as if the protectionists would now finally triumph. However, before the tariff issue could go to a joint vote, the king – backed by the prime minister and his government – took the extraordinary step of dissolving the second chamber and calling new elections. The king was pleased to be able to demonstrate his political power and use the dissolution prerogative, which the Swedish Constitution gave him but which until then had seemed to be a dead letter. The King stated that the aim was to obtain a clearer picture of public opinion (Andersson 1970, 373f). Both the special election in the spring of 1887 and the following general election in the autumn of the same

year were dominated by the tariff issue and more closely resembled referenda about tariffs than general elections. Election campaigns during spring of 1887 were intense. The country divided into protectionists and free-traders and the geographical distribution of free trade supporters and protectionists still matches the strongholds of party blocs today curiously well (Esaiasson 1990). Average turnout increased from 25 to 50 percent and from 21 to 44 percent, within the rural population, which usually was not very involved in political discussions (Caramani 2000).

Statements about the tariff question dominated the election campaigns. The opinions of candidates on this specific question became more important than any of their other characteristics, a trait which was quite unusual historically. Many candidates also published so-called 'political confessions' in local newspapers, in which they clearly stated whether they were free trade or tariff supporters (Esaiasson). Another new trend was the appearance of interest groups all over the country, for instance the 'Friends of Swedish Work' who demanded specific tariffs, and the 'Unification against Food Tariffs' group, who favoured free trade. Although there was no formal relationship between parties in the *Riksdag* and these organisations, most of their founders and members were members of parliament (Esaiasson 1990, 83ff).

The new *Riksdag* assembled in May with a free trade majority in the second chamber, but nothing in connection with the great question of customs was settled. In the meantime, the majority of free-traders in the second chamber began to sway - the Lantmanna party split into two parts: the new Lantmanna party, which approved protection in the interests of agricultural classes, and the old Lantmanna party, which continued to favour free trade.

However, the victory of free-traders was not to last for long. In autumn of the same year another general election was held, despite the special election in spring. The protectionists obtained a majority in both chambers in this autumn election, although this was not achieved by normal electoral procedure for the second chamber as mentioned in the introduction. The free-trade-favouring parties first seemed to have a safe but small majority, but then the result was modified in favour of the protectionists as a result of a political scandal. Shortly after the election it became known that Olof Larsson, a free-trade-supporting member of the parliament, owed 11 kronor and fifty-eight öre in unpaid municipal taxes. According to the parliament act, this misdeed not only disqualified him, but all candidates on any list that included his name. A supreme court ruling resulted in the replacement of 22 free trade members in Stockholm replaced by protectionists (Lewin, 1988, 46f). This difference was large enough to change the majority in parliament (see Table 3.1). Thus it seems that pure fate has decided a dispute in which the nation's most important political forces had been embroiled for three years.

After the free-trade government submitted its resignation, the King did not accept this, but he had to give in and a new government was formed (Lewin, 1980, 47). In 1888 several tariffs were introduced for agricultural and industrial products.

Table 3. 1: Results of the Swedish general election in 1887

	1887A		1887b		1887b post-replacement*	
	Seats	**in Percent**	**Seats**	**in Percent**	**Seats**	**in Percent**
Free-Trader	136	61.54	125	56.31	103	46.40
Protectionist	85	27.78	97	43.69	119	53.60
Total	221	100	222	100	222	100

Source: (Håstad 1941, 108).

* Results after the replacement in the Stockholm parliaments.

Håstad (1941) suggested that the new pro-tariff majority created by the disqualification of the Stockholm free-trader election slate actually meant that parliament better reflected public opinion. He argues that, although the population preferred protectionism, they did not manage to gain the majority in the parliament because: a) the restricted suffrage allowed just a small number of people to vote in rural areas, where people tended to support protectionists; and b) the turnout was higher in cities, which were generally more free-trade-orientated than rural areas. Thus, he claims that constitutional restrictions combined with a lower motivation among protectionists to vote biased the electoral result to the benefit of free-traders.

3.3. Commercial Policy Interests and its Determinants

Generally, there are two basic models that are used in similar studies, such as those of Klug (2001) and Irwin (1994) on Germany and Britain. First, there is the Heckscher-Ohlin-Samuelson model, which assumes that factors of production are perfectly mobile between sectors. In the present study, applying this model, land and capital owners would then have favoured protection, since land and capital were relatively scarce during the period in question.

Employees (labour) are assumed to be relatively mobile between sectors and, therefore, not strongly interested in the welfare of their current sector. The Swedish labour force would then have had an interest in free trade, as Sweden had a similar land/labour[7] ratio as Germany at the time of the tariff debates, which was considered to have been labour abundant (Van Zanden 1991). O'Rourke et al. (1996) also provide similar land/labour ratios for Sweden and Germany. The export goods would then be relatively labour intensive, while capital and land-intensive goods would be relatively import competing. On the basis of data collected by Dovring (1965) it seems clear that potatoes, for instance, were typical labour-intensive arable products for which the labour input per hectare was at least four times as high as the labour input for cereals such as grain and wheat. Comparable evidence of the labour intensity of livestock farming is less convincing. It is, however, clear that the production of pork and milk was relatively labour intensive, unlike, for instance, sheep-breeding which was often labour extensive (Van Zanden 1991). Smaller farms specialised in rather labour-intensive products, whereas large farm owners specialised in land-intensive products (see Table 3.3). Smaller farmers would then prefer free trade and large landowners protection, based on their endowments of land and labour.

The other trade model is the specific factor model, in which factors of production are specific to certain industries. Here different specifications are possible: (1) Labour can be specific to certain sectors, in which case a worker's wellbeing would then be directly connected to the performance of the sector in which he is employed. A worker employed in an import-competing sector is then expected to vote for protection as this would be the trade policy that

[7] 'Land' captures the arable land and 'labour' the total amount of workers.

makes his sector, and thus him, better off. Workers employed in export sectors are then expected to vote for free trade for the same reason. (2) In the Swedish case it makes sense to treat land as specific to certain types of production as well, because large parts of Sweden in the north were too unproductive for grain and only useful for animal husbandry. Furthermore, capital can also be specific to certain industries, which makes capital owners dependent on certain industries.

Milk, the major product of animal production, was indirectly exported in the form of butter. Butter was a major export article at the time. After the turn of the century butter exports stagnated and its relative share of Swedish exports sank to about 5-7 percent (Bohlin 2006). Labour-intensive goods indeed seem to be rather export orientated, while land-intensive goods were import competing. After 1888, exports of Swedish bread grain virtually ended, since producers benefited more by selling in the protected home market. For rye, the grain tariffs also led to a decline in the share of imports in the home market. Swedish agriculture turned from grain production towards animal husbandry, but agrarian protectionism did not fundamentally change its general direction. Animal products were protected, but far less than grain products. The most important animal product, milk, was free of duty (Bohlin 2006). The majority of farms cultivated an acreage that was smaller than five hectares as shown in Table 3.2. Of all farms 77 percent were smaller than ten hectares. They cultivated about one third of the total acreage. Measured in cultivated acreage, only two percent of the farms were larger than 50 hectares, but they cultivated about 20 percent of the total acreage.

Table 3. 2: Distribution of farms on various size classes (hectares) and the cultivated acreage per size class, Sweden 1919

Size classes of firms	Number of farms	Percent of total number of farms	Cumulative percent	Percentage of total cultivates acreage	Cumulative percentage
0.26–1	56232	13	13	1	1
>1–2	64556	15	28	3	4
>2–5	115947	27	55	10	14
>5–10	92857	50	77	18	32
>10–20	61707	14	91	23	55
>20–30	1869	4	95	12	67
>30–50	11459	3	98	12	79
>50–100	5355	1	99	9	88
>100	2576	1	100	12	100
Sum	428758				

Source: Bohlin (2006, 20).

Table 3. 3: Production of farms of different sizes in percent, 1919

Size in hectares	Bread grain (1)	Other Vegetables (2)	Total vegetable Produce	Pigs	Milk	Poultry	Total animal produce
0-1	4	17	21	11	47	10	79
1-2	6	17	23	9	49	7	77
2-5	8	20	28	9	44	5	72
5-10	11	24	35	10	38	4	65
10-20	16	27	43	10	31	3	57
20-30	23	28	51	10	27	2	49
30-50	26	28	54	9	25	2	46
50-100	27	29	56	8	25	1	44
> 100	30	29	59	7	24	1	41
All	18	26	43	9	33	3	57

Source: Bohlin (2006, 21).
Notes: 1) Barley, wheat, rye and other crops protected by tariffs, *i.e.* sugar-beets, peas and beans.
2) Oats, dredge (a mixture of rye and oats used for feeding animals) and potatoes. These crops were not protected by tariffs.

The output mix of arable and animal products of various sorts among farms of different sizes is shown in Table 3.3. Farmers owning up to ten hectares were clearly specialised in animal produce. Arable output on these farms was largely complementary to animal output, since it consisted predominantly of oats, which were mainly used to feed the animals. Production of bread-grain was of marginal importance on small farms. In contrast, for the larger farms

cultivating land of more than 20 hectares, bread-grain production was of much larger importance.

As seen above, both the Heckscher Ohlin and the Specific Factors model produce the same predictions of agricultural behaviour: peasants that were primarily specialised in animal husbandry should have favoured free trade and owners of large farms specialised in grain production should have favoured protection. Table 3.4 provides an overview of the expected policy preferences. Even considering the fact that farmers with less than two hectares were not allowed to vote, the majority of farmers would have preferred free trade.

Table 3. 4: Expected policy preferences for farmers owning different sizes of farms

Size in hectares	Total vegetable Produce in percent of total production	Total animal produce in percent of total production	Percent of total number of farms	Cumulative percent	Policy Preferences
0-1	21	79	13	13	**more liberal**
1-2	23	77	15	28	
2-5	28	72	27	55	
5-10	35	65	50	77	
10-20	43	57	14	91	
20-30	51	49	4	95	
30-50	54	46	3	98	▼
50-100	56	44	1	99	**more**
> 100	59	41	1	100	**protectionist**

An alternative perspective more like the one from Webb (1988) for Germany was presented by Bohlin (2006). He applied a general equilibrium model in order to investigate the income distributional consequences of the agrarian tariff. He applied different specifications, with less mobile and more mobile workers, specific capital and land, but the results of his different specifications do not differ much. He shows that bread-grain producers would unequivocally lose from the removal of agrarian tariffs. What would have happened for

farmers specialised in animal husbandry depends on to what extent producers in the bread-grain sector were able to switch over to animal husbandry. If they could convert without costs and in no time, the rewards for landownership would in this case fall by roughly 15 percent. This figure should be interpreted as what the average landowner would lose from a dismantling of agrarian and food tariffs given the opportunity to switch over from bread-grain to animal produce. More generally small farmers gained from agrarian protectionism, although not to the same extent as large farm owners.

3.4. Analysis

I apply King's Algorithm as discussed in chapter 1 (see page 27ff) in order to investigate the voting behaviour of different groups. In contrast to the analysis of the German electorate in the previous chapter, in which I use the share of workers from different sectors, my independent variables here cover information about the actual electorate, since national statistics provide detailed information on income, property and occupation of the entitled voters.

I further apply a simple logistic regression, which is quite common in the econometric analysis of voting behaviour. The dependent variable is the log of the odds ratio of the probability to vote for free trade (*pi*). I approximate the probability for each district *i* by the proportion of voters that voted for free-trade-supporting parties (see Irwin (1994) and Klug (2001)). The log of the odds ratios in the *ith* district will then be related to the distribution of employment across sectors, different production mixes and farm sizes. Unlike the standard logistic model, this equation is linear and can, in principle, be estimated by ordinary least squares, although the error term is heteroscedastic

and the appropriate estimator is weighted least squares, with $w_i = (pi * ni * (1 - pi))^{0.5}$, where n_i is the number of valid votes in district i (see Pindyck and Rubinfeld (1991) and Andress et al. (1997)).

3.4.1. Data

The data that I use come from different sources. This section describes the data, its sources and why I use it. As discussed earlier, the available electoral data are very poor. No party figures are available for this time period. However, considering that parties split over the tariffs issue and that they did not coherently vote for or against free trade, the concern is votes for free-traders and protectionists, which are provided by Håstad (1941, 127 ff). He took the data from different local newspapers that reported the statistics. For every constituency he states the votes for the elected politician and his competitor and also provided whether they were for or against protection. He further provides the number of people entitled to vote for almost every constituency. Based on this, I construct the variable 'democracy', which is the share of people entitled to vote. This variable can be used in order to test Håstad's hypothesis (1941) that protectionists were disadvantaged, since less people were entitled to vote in constituencies that were dominated by protectionists. The share of people entitled to vote is very low in general; it reaches a maximum of 21 percent in some constituencies, but on average just four percent of the population in a constituency was allowed to vote. An overview of the variables provided by the electoral data is given in Table 3.5.

Table 3. 5: Overview variables on election outcomes 1887 spring and 1887 autumn

Variable	Obs	Mean	Std. Dev.	Min	Max
Share of votes for free trade in 1887a	185	0.55	0.32	0	0.99
Share of votes for free trade in 1887a	185	0.49	0.34	0	0.99
Log of odds ratios 1887a	185	0.75	2.10	-4.55	4.60
Log of odds ratios 1887b	185	-0.55	3.34	-6.91	4.60
Democracy (share of people entitled to vote)	142	0.04	0.02	0.01	0.21

Source: Håstad (1941, 127ff).

For the independent variables, I use three different sets of data. The first data set which is taken from national statistics provides data on the electorate in the year 1885 on a higher level of aggregation (administrative districts), giving 40 observations. This data set contains information not on the whole population, but specifically on the small subgroup of men entitled to vote. This is a huge advantage given the very limited franchise and thus the analysis of this set of data will form the heart of this chapter.

Unfortunately the data does not include information about the sectors in which the voters were employed. I will therefore apply two additional sets of data, set 2 and 3. The second set covers information about occupations in '*läns*' and is taken from the populations census in 1890 (see Table 3.9). The third set of data is taken from the 1909 emigration census (*Emigrationsutredningen Bilaga 1909*). It provides information regarding the production of grain and milk on the level of districts '*läns*' (see Table 3.10). The second and third set of data will be used as right hand side variables in the logistics regressions. The analysis of these data sets is intended to backup the analysis of the first data set, but is certainly of minor reliability.

Only men of 25 years and over owning or having inheritance rights to farmland equivalent to at least 1000 Kronor, leaseholders for at least five years of farmland valued at least 6000 Kronor, or those having a yearly income from work or capital gains of at least 800 Kronor, were allowed to vote.

The first data set taken from national statistics therefore provides data about the structure of the electorate. It reports who was allowed to vote and why he received the right to vote, thereby providing detailed information on voters, sorted by the amount of land they owned, income and occupation.[8] There are four classes of income based on different tax levels: between 800-1200 Kronor, between 1200-1800 Kronor, between 1800 and 4000 Kronor and above 4000 Kronor. The data for the amount of property in cases where the voters gained the right to vote because of property is reported in values, rather than sizes. Land values, however, can be transformed into farm sizes using information about land prices from Lindahl et al. (1937). That provides us with three different groups of land owners: the ones who own 2.3-23 ha, the ones who own 23-191 ha and the ones who own more than 191 ha.

Furthermore, the statistics also provide the number of men who were not allowed to vote and their occupations. Table 3.6 contains the total number of the persons entitled to vote for every occupation and their percentage share of the total electorate. The major part of the electorate was constituted by landowners with 79 percent.

[8] Sometimes people qualified for the right to vote because they fulfilled two criteria: they owned a sufficient amount of land and earned a certain income. Those men appear twice in the statistics, because the total number of entitled men is lower than the sum of all listed men. This makes it impossible to estimate the total votes from certain groups as one cannot determine the exact size of the group. I can, however, estimate how people from certain income classes and how people owning a special amount of land tended to vote. For instance, I calculate the share of different income groups as the share of the total number of voters in order to study voting behaviour of different income groups. The number of men counted twice, however, is very small.

Table 3. 6: Overview electorate, occupations, 1885

Occupation	Total number of persons entitled to vote	Percent of the electorate
Landowner	193,224	79
Priest	2,016	1
Engineer	1,469	1
Officer	1,006	0
Civil servant	2,311	1
Secondary school teacher	666	0
Factory owner	1,922	1
Merchant	5,181	2
Primary school teacher	2,676	1
Captain	1,641	1
Clerk (merchandise)	633	0
Sergeant	1,314	1
Town councillor	1,470	1
Tradesman	5,663	2
Clerk	2,045	1
Pensioner	1,080	0
Factory worker	6,082	2
Fisherman	1,344	1
Servant	256	0
Other worker	3,228	1
All	**245,556**	**100**

Source: Bidrag till Sveriges officiella statistic, Reihe R, Valstatistik: Statistiska Centralbyåns underdånige berättelse r örande Riksdagsmannavalen 1885-1887 och 1888/1890, (1880).

Graph 3.1 provides the data on property. It distinguishes between constituencies in which the majority of the voters gained the right to vote because of income and the ones in which the majority gained the right to vote because of property. It plots the log odds ratios for the share of votes for free trade against the median amount of land owned per constituency. If the log of the odds ratios is zero, voters have no particular preference for a certain trade policy. If it is positive they rather support free traders, if it is negative they support protectionists. The numbers at the boxplots indicate the number of constituencies with a median amount of land owned of the particular class. For instance, in regions in which the majority of voters gained the right to vote because of a certain income, in 8 constituencies the median amount of land

owned by the electorate was 2.3-23 ha, in 5 the median amount of land owned was between 23 and 191 ha and in 3 constituencies the median amount of land owned was more than 191 ha.

The majority of people gained the right to vote because they owned land between 2.3 and 23 hectares. Peasants with less than two hectares were excluded from voting, although such farms constituted 28 percent of all farms at the time (see Table 3.2). Nevertheless, the majority of farmers, who were entitled to vote, also owned relatively small farms and should thus have favoured free trade if the predictions of the Heckscher Ohlin and Specific factor model are right.

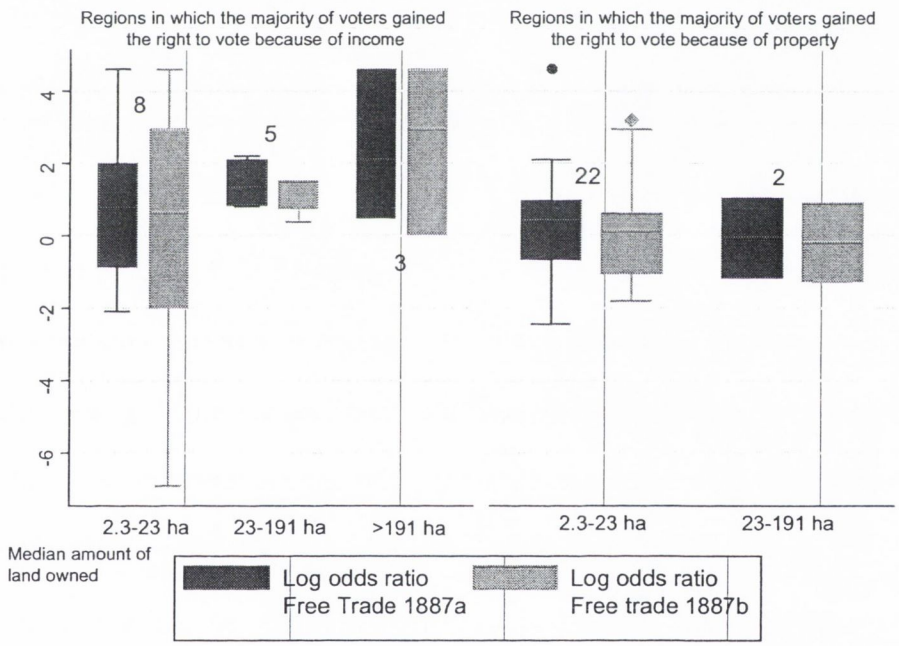
Graph 3.2 illustrates the data on income. As above, it distinguishes between constituencies in which the majority of the voters gained the right to vote because of income and the ones in which the majority gained the right to vote because of property. It plots the log odds ratios (page 71) against the median income per constituency. If the log of the odds ratios is zero, voters in the constituency have no particular preference for a certain trade policy. If it is positive they prefer to support free traders, if it is negative they support protectionists. The numbers in the boxplots indicate the number of constituencies with a median income of the particular class. Men who gained the right to vote because of their income most often earned between 1200 and 1800 Kronor.

The descriptive statistics do not provide much information. It seems however, that the constituencies in which the majority of voters was dependent on land rather than income (because they gained the right to vote because of property (see Graphs 3.1 and 3.2, right side)) were somewhat more protective than

constituencies in which the majority of voters gained the right to vote because of income (Graphs 3.1 and 3.2, left side).

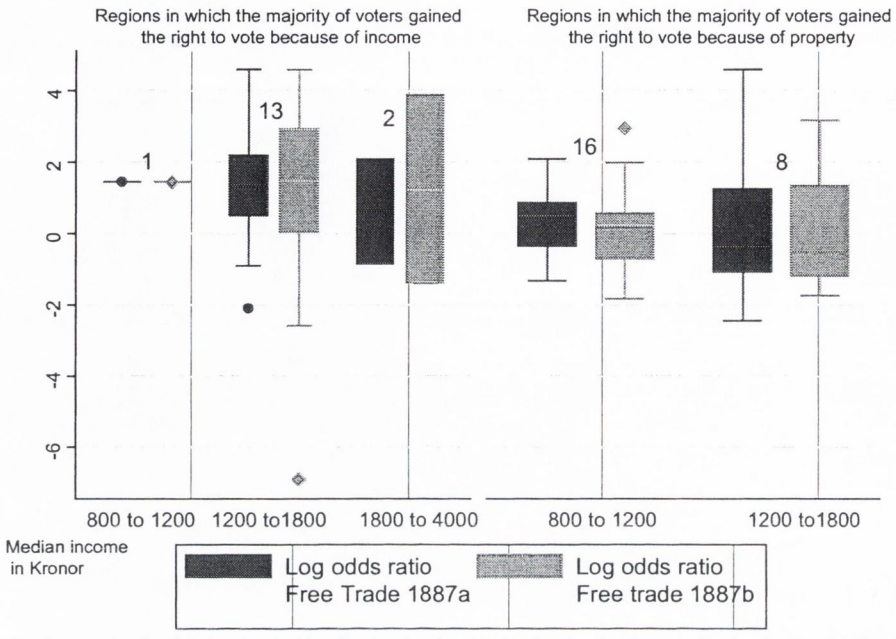
Graph 3.2 shows that there is a tendency that the higher the median income the more protective policies were preferred. In constituencies in which the median income was very low (between 800-1200 Kronor), free trade was the preferred policy. Higher incomes might also include capital rewards. Thus it seems that in regions in which the voters were richer, protectionist policies were preferred, indicating that the production factor capital had an interest in protection.

Graph 3. 1: Overview electorate, land



Source: Bidrag till Sveriges officiella statistic, Reihe R, Valstatistik: Statistiska Centralbyåns underdånige berättelse r örande Riksdagsmannavalen 1885-1887 och 1888/1890, (1880).

Graph 3. 2: Overview electorate, income (proxy for capital)



Source: Bidrag till Sveriges officiella statistic, Reihe R, Valstatistik: Statistiska Centralbyåns underdånige berättelse r örande Riksdagsmannavalen 1885-1887 och 1888/1890 (1880).

The second set covers information about occupations in '*läns*' taken from the populations census in 1890 (see Table 3.9). The census was based on house-to-house inquiries and parish registers, and therefore information was often incomplete. One of the consequences was that a large number of persons had to be classified as 'manual workers of indeterminate type'. Farmers were split into farm owners and agricultural workers, which is, like the specification given by Lewin et al. (1976), not sufficient to answer the question of whether small farmers voted for free trade and large landowners for protection. In order to include occupations in regressions, which also include variables that are available on the level of constituencies, I assume that shares of occupations were equally distributed among all constituencies in the particular '*läns*'. Table 3.7 provides an overview of those variables. The agricultural sector was the

most important sector. All other categories constitute a very small amount of the total workforce.

Table 3. 7: Overview variables, shares of occupations of men, 1890

Variable	Obs	Mean	Std. Dev.	Min	Max
Farm owners	187	0.19	0.07	0.00	0.36
Agricultural workers	187	0.42	0.09	0.01	0.54
Mining	187	0.01	0.00	0.00	0.02
Metalworking	187	0.02	0.02	0.01	0.09
Building	187	0.04	0.03	0.01	0.17
Food industry	187	0.01	0.01	0.00	0.04
Clothing	187	0.03	0.01	0.02	0.07
Chemicals	187	0.00	0.00	0.00	0.01
Instruments	187	0.00	0.01	0.00	0.03
Industrial workers	187	0.01	0.00	0.00	0.02
Trade	187	0.02	0.02	0.01	0.11
Transport	187	0.04	0.03	0.01	0.12
Public servants	187	0.01	0.01	0.00	0.04
Army	187	0.03	0.01	0.01	0.08
Teachers	187	0.01	0.00	0.00	0.01
Artists	187	0.00	0.00	0.00	0.01
Healthcare	187	0.00	0.00	0.00	0.01
Unspecified Workers	187	0.09	0.03	0.05	0.20
People living of pensions	187	0.00	0.00	0.00	0.00
Without specified occupations	187	0.00	0.00	0.00	0.00

Source: Population Census 1890.

The third set of data is taken from the 1909 emigration census (*Emigrationsutredningen Bilaga 1909*). It provides information regarding the production of grain and milk on the level of districts '*läns*' (see Table 3.8).

Table 3. 8: Overview variables on farm sizes and production, 1909

Variable	Obs.	Mean	Std. Dev	Min	Max
Grain production; per capita, in kg	187	513.44	392.73	0.00	1604
Milk production per capita, in kg	187	581.88	372.17	1.00	1714

Source: Emigrationsutredningen Bilaga 1909.

3.4.2. Results

3.4.2.1 King's Algorithm

As mentioned in the data section, national statistics provide detailed information on voters, their income and their property. By using these and King's Algorithm, I can estimate how voters with low incomes, high incomes and owning different amounts of land voted. The estimated betas (turnout) for both elections for voters from different income classes are reported in Table 3.9.. The standard deviations are quite high and thus it seem a bit too insecure to draw conclusions about floating voters. One thing, however, is conspicuous: Voters from higher income classes had a higher turnout than voters from lower income classes in the spring election. In the autumn election this difference disappeared. The special election in spring seems to have motivated more voters from higher income classes than from lower income classes to cast their ballot.

Table 3. 9: Results of King's Algorithm, turnout, Income classes

	1887a		1887b	
	Turnout*(beta)	Standard error	Turnout* (beta)	Standard error
Income between 800 – 1200 Kronor	0.56	0.11	0.44	0.07
Income between 1200 - 1800 Kronor	0.64	0.12	0.48	0.03
Income between 1800 – 4000 Kronor	0.71	0.10	0.42	0.10
Income 4000 Kronor and more	0.90	0.04	0.45	0.01

Note: *figures are mean quantities by group

Table 3.10 contains the results for the turnout of different groups of land owners and shows a similar phenomenon. Larger land owners had a higher

turnout than peasants and farmers with middle-sized estates. This effect is stable in both elections.

Table 3. 10: Results of King's Algorithm, turnout, land

Groups of voters owning agricultural land of	1887a Turnout* (beta)	1887a Standard error	1887b Turnout* (beta)	1887b Standard error
2.3ha-23ha	0.33	0.05	0.34	0.07
23 ha-191ha	0.48	0.11	0.47	0.03
> 191ha	0.99	0.00	0.99	0.00

Note: *figures are mean quantities by group

Table 3.11 reports the estimated results for the share of votes for free trade supporting politicians for the different income groups. The first outstanding result is that while in the spring election all income groups more or less voted for free trade, the majority of all groups voted for protection in the autumn election. The lowest income group entitled to vote, with an income between 800 and 1200 Kronor clearly voted for free trade in spring and was quite ambivalent in the autumn election.

The autumn election shows a clear pattern: the higher the income of a voter, the more he was in favour of protection. Assuming that higher income did not just include wages but also capital returns, those results indicate the interest of capital owners in protection as predicted by the Heckscher Ohlin model. Capital was relatively scarce in Sweden at the time and thus should have favoured protection.

Table 3. 11: Results of King's Algorithm, votes for free trade, income

	1887a		1887b	
	Share of votes for free trade* (Lambda)	**Standard error**	**Share of votes for free trade* (Lambda)**	**Standard error**
Income between 800 – 1200 Kronor	0.66	0.10	0.48	0.07
Income between 1200 - 1800 Kronor	0.51	0.11	0.40	0.04
Income between 1800 – 4000 Kronor	0.65	0.08	0.39	0.05
Income 4000 Kronor and more	0.59	0.09	0.37	0.04

Note: *figures are mean quantities by group

Table 3.12. provides the estimation results for the share of votes for free trade supporting politicians for the different groups of land owners. In the spring election all farmers voted for protection, although large farm owners (76 percent of votes) much more homogenously than small farmers (54 percent of votes). In the autumn election small farmers now voted for free trade with 60 percent of votes. Voters in possession of more than 23 ha of land voted for protection (51 and 54 percent of votes for protection).

The results of King's Algorithm fit well the expectations from the Heckscher Ohlin model: poorer voters and peasants tended to vote for free trade and larger landowners and capital owners favoured protection.

Table 3. 12: Results of King's Algorithm, votes for free trade, land

	1887a		1887b	
	Share of votes for free trade (Lambda)*	Standard error	Share of votes for free trade (Lambda)*	Standard error
agricultural land: 2.3ha-23ha	0.46	0.09	0.60	0.08
agricultural land: 23 ha-191ha	0.31	0.09	0.49	0.05
agricultural land: > 191ha	0.24	0.08	0.46	0.04

Note: *figures are mean quantities by group

3.4.2.2 Logistic Regressions

In this section I provide the results of the logistic regressions, where the dependent variable is the log of the odds ratios to vote for free trade as taken from the electoral statistics (Table 3.7).

First, I use the first set of variables, giving information about the actual electorate, as exogenous variables. In the regression which covers the amount of land property as exogenous variables, I further include a variable that is equal to one if the majority of the voters gained the right to vote because of land property (*'suffrage, land'*).

Table 3.13 provides the regression results for 'property'. The dependent variable is the log of the odds ratios for the share of votes for free-trade-supporting parties and the exogenous variables are shares of entitled voters owning different sizes of farmland.

The share of owners of farmland of less than 23 hectares is significantly and positively correlated with the votes for free trade. Surprisingly the same is true for the share of owners of farmland of more than 191 ha. This could also be observed in the descriptive statistics. As we saw above large land owners were concentrated in richer regions where the majority of the voters gained the right

to vote because of income. Applying King's Algorithm shows that large landowners indeed favoured protection as expected and thus the positive coefficient in this regression is biased driven by the structure of the constituencies, a typical problem of ecological inference. In regions, however, in which the electorate was more dependent on land than on income, because the majority gained the right to vote as they owned a certain amount of land, protection was preferred.

Table 3. 13: Results for property owners, electorate

Dependent Variable	**(1)** **Log of the odds ratios free trade 1887 Spring**	**(2)** **Log of the odds ratios free trade 1887 Autumn**
agricultural land: 2.3ha-23ha	2.320	1.848
	(1.91)*	(0.83)
agricultural land: 23 ha-191ha	-0.272	0.339
	(0.10)	(0.10)
agricultural land: > 191ha	7.632	7.154
	(2.28)**	(1.19)
City	0.855	0.540
	(0.92)	(0.26)
Suffrage, land dominant	-1.377	-1.619
	(2.07)**	(3.36)***
Constant	-0.102	0.181
	(0.11)	(0.09)
Observations	40	40
R-squared	0.22	0.24

Robust t statistics in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%

Table 3.14 provides the regression results using voters from different income classes as proxies for 'capital'. The dependent variable is the log of the odds ratios for the share of votes for free-trade-supporting parties. The results fit well the expectations and also what we already found applying King's Algorithm.

There is a positive correlation between the share of voters gaining an income lower than 1800 Kronor and votes for free trade in spring 1887. There is also a negative correlation between the share of voters gaining a higher income and voting for free trade. For the regression covering the autumn election of the same year the lowest income classes also have a negative sign, but the t-statistics are very low. The share of voters with incomes between 1200 and 1800 Kronor is still positively and significantly correlated with votes for free trade.

Table 3. 14: Results for electorate, income classes, used as proxies for capital

	(1)	(2)
Dependent variable	**Log of the odds ratios free trade 1887 Spring**	**Log of the odds ratios free trade 1887 Autumn**
Income between 800 bis 1200 Kr.	0.980	-0.327
	(0.30)	(0.12)
Income between 1200 - 1800 Kr.	19.960	39.863
	(1.81)*	(3.27)***
Income between 1800 – 4000 Kr.	-13.832	-18.872
	(0.98)	(1.36)
Income 4000 Kronor and more	-1.801	-4.137
	(0.17)	(0.43)
City	-0.527	-1.009
	(0.51)	(1.15)
Constant	-0.010	-0.473
	(0.04)	(2.07)**
Observations	40	40
R-squared	0.12	0.26

Robust t statistics in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%

In order to investigate how the output mix influenced voting behaviour of the agricultural sectors I apply the other two sets of data, covering occupations from the occupational census and the data about production and farm sizes from the emigration census.

Table 3.15 provides the result for the logistic regression in which the independent variables cover occupations and information on agricultural

production in order to see whether districts with a higher production of milk preferred to vote for free trade and districts with higher grain production for protection.

Table 3. 15: Results for the structure of the population 1887

	(1)	(2)	(3)	(4)
Dependent Variable	**Log of the odds ratios of the share of votes for free trade 1887 spring**		**Log of the odds ratios of the share of votes for free trade 1887 autumn**	
Farm owners	6.075 (1.72)*	3.147 (0.91)	5.072 (1.16)	3.696 (0.80)
Mining	-142.303 (2.17)**	-104.708 (1.69)*	-196.939 (2.48)**	-206.587 (2.38)**
Metalworking	-85.634 (1.90)*	-88.096 (2.18)**	-78.864 (1.19)	-51.139 (0.66)
Construction	118.805 (2.06)**	103.601 (1.92)*	101.332 (1.15)	55.246 (0.59)
Food	5.674 (0.07)	61.267 (0.82)	153.636 (1.46)	220.347 (2.03)**
Clothing	-58.568 (1.79)*	-78.344 (2.73)***	-89.021 (1.82)*	-106.897 (2.15)**
Chemicals	-237.463 (3.88)***	-240.540 (3.69)***	-304.056 (3.86)***	-292.602 (3.22)***
Instruments	-240.417 (1.32)	-34.717 (0.21)	-167.192 (0.74)	92.906 (0.39)
Industrial workers	31.212 (0.38)	56.830 (0.76)	-4.479 (0.04)	40.470 (0.31)
Trade	25.699 (0.59)	1.054 (0.03)	37.337 (0.66)	-4.934 (0.08)
Public Servants	-76.925 (0.82)	-224.197 (2.80)***	-212.462 (1.62)	-346.636 (2.99)***
Unspecified Workers	2.631 (0.21)	14.767 (1.15)	12.359 (0.77)	33.131 (1.85)*
Grain production	-0.002 (2.46)**	-0.002 (2.36)**	-0.006 (4.54)***	-0.006 (3.94)***
Milk production	-0.000 (0.15)	0.000 (0.26)	0.003 (2.30)**	0.003 (2.12)**
Democracy		13.058 (1.56)		32.994 (2.42)**
Constant	2.777 (1.81)*	2.523 (1.40)	2.059 (0.93)	0.215 (0.08)
Observations	172	128	185	140
R-squared	0.49	0.57	0.50	0.55

Robust t statistics in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%

The first two regressions cover the spring election and three and four the autumn election of the same year. Regressions two and four also include the total share of the population that was entitled to vote (democracy).

Although the data does not directly cover characteristics of the electorate but of the whole population and the method does not account for the problem of ecological inference, it is interesting to see that the regressions provide some evidence suggesting that voting was influenced by the sectoral structure.

There is for instance a strong correlation between the share of workers employed in the mining sector, metal working, clothing and chemicals and the votes for protection. The share of workers employed in the construction industry is strongly correlated with voting for free trade. Construction as a non-traded sector would not benefit from tariffs but the workers would face higher prices on food due to an introduction of tariffs and therefore oppose protection.

It further seems that product mix of farms also mattered. Grain production is positively correlated with votes for protection, whereas milk production is negatively correlated with protection, although the latter not significantly in the spring election (1, 2).

The variable 'democracy' is positive and in the autumn election significant at a level of 10 percent. The higher the share of people entitled to vote compared to the total population, the more likely that they voted for free trade. This supports Håstad's hypothesis (1941) that suffrage biased the electoral results to the benefit of free-traders and to the harm of protectionists, because in districts that were dominated by protectionist suffrage allowed a lower number of people to vote.

To summarize: like in the previous chapter, the analysis shows that trade models work quite well in order to predict voting behaviour of certain groups

of voters. The results from King's Algorithms are supporting the Heckscher Ohlin model. It seems that poorer voters voted for free trade and richer voters, presumably capitalists, and larger land owners seem to have voted for protection.

On the other hand the logistic regressions provide some evidence suggesting that it also mattered in which sector a voter was employed.

3.5. Conclusions

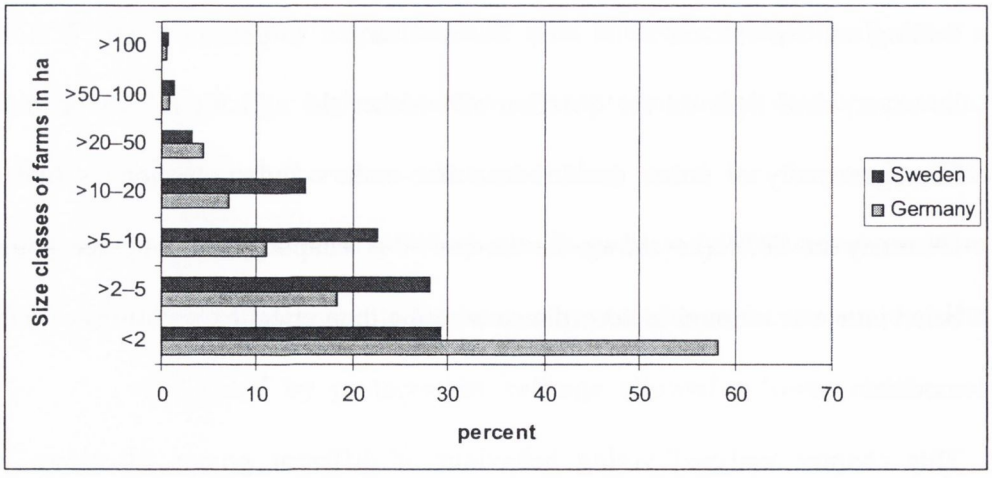
Sweden turned to protectionism in the late 19th century after protectionists gained the majority in the election in autumn 1887. The electorate, however, voted for free trade and protectionists gained the majority as a result of a political scandal. This event was unique in European history and was heavily criticised at the time. The King himself tried to interfere and prevent the free traders from having to resign, but the procedure was codified in the constitution and the King had to give in eventually (Lewin, 1988, 47).

Therefore, analysing why the electorate voted for free trade does not help in finding an explanation as to why Sweden turned to protectionism. It does, however, shed light on the question of whether the agricultural sector voted homogeneously or rather divided into free-traders and protectionists like in Germany in 1878 (as shown in the previous chapter) and whether voting behaviour was rational in accordance with the theoretical expectations of trade models.

This chapter analysed voting behaviour of different groups of voters for Sweden, classified by income, property and sector. Like in Germany, agriculture did not vote homogeneously. Smaller farm owners voted for free

trade and larger landowners were more in support of protection, at least in the autumn election (see Table 3.12). This seems to fit well with the Heckscher Ohlin model, in a labour abundant and land scarce society. Thus, the majority of farmers voted rationally by choosing the policy that would make them better off according to theoretical expectations. The regressions, which include variables on milk and grain production, support these findings as well: regions that were dominated by milk producers, which typically were farmers with small estates tended to vote for free trade while regions dominated by grain producers, which typically were dominated by owners of large estates seemed to prefer protection (see Table 3.13). Owners of capital, which was scarce, seemed to have voted for protection, if we assume that higher incomes include income from capital returns. The findings of chapters 2 and 3 imply that the majority of the agricultural sectors in both countries, Germany and Sweden, would have preferred free trade, which raises the question of why only Sweden voted for free trade while Germany voted for protection.

Graph 3. 3: Distribution of farms of different sizes for Germany (1885) and Sweden (1919)



Sources: *Statistik des Deutschen Reichs 112: Berufs- und Gewerbezählung vom 14. Juni 1895. Die Landwirthschaft im Deutschen Reich and Bohlin* (2006, 21).

Looking at the distribution of farms of different sizes in Graph 3.3 adds to the puzzle. The majority of farmers in Germany owned less than five hectares and only a minority of farms exceeding ten hectares. Thus one would expect that the majority of German farmers would have voted for free trade rather than protection. Smaller farmers and especially those that owned less than two hectares, did not employ many workers. Therefore, there was certainly a bias in terms of absolute votes towards protection. Table 2.2 in the previous chapter shows the ratio of employees to self-employed persons in the agricultural sector. This ratio is quite high in areas dominated by large farms (East Prussia 4.1, Mecklenburg-Schwerin 6.0, Mecklenburg-Strelitz 8.7) and lower in areas with smaller farms (Rhineland 1.8, Bavaria 2.7).

Another part of the solution can be provided by non-economic factors. I showed for instance in chapter 2. that religion strongly influenced voting behaviour.

On balance, the evidence in this chapter and the previous chapter shows that differences in trade policy in 19th century Europe certainly can to a large extent be explained by the Heckscher Ohlin and Specific factors model. On the other hand non-economic factors such as religion, cultural cleavages and the way in which the electoral result is respected - and not changed because one politician did not pay taxes - also severely influenced the final decision on whether or not to introduce tariffs.

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4. Parties in the Weimar Republic: Voting Behaviour in Parliament

4.1 Introduction

After a short life (1919-1933) of 14 years, the first chapter of German democracy came to a close resulting in the dictatorship of Adolf Hitler. Admittedly, the conditions which it had faced had been extremely unfavourable. Large parts of the population were irritated by Germany's defeat in the First World War, which came as a surprise to many. They demanded the rejection of the Treaty of Versailles, which they considered too severe, but the hands of the governments were tied, with the Allies insisting on its fulfilment. The high debts from the war plus the outstanding reparations to the Allied states, combined with a steadily increasing unemployment rate and the hyperinflation in the early 1920s made it even more difficult to establish a stable political system. Governments did not last on average longer than eight months and changed in total 13 times before the presidential government[9] took over in 1930.

A total of 489 reported parliament roll-call votes during 1920-1933 form the basis of this study. These bills are used as a sample in order to study the behaviour of politicians in the parliament of the first German democracy to shed light on the question of why the government was so unstable. By studying this new data base, which has not been analysed before, it is possible to revise the historical and political science research questions of previous years and improve our knowledge about the Weimar Republic, why its parliament was unstable, and why its governments were unsustainable.

[9] The president had the right to ignore the parliament and rule the country on his own, applying article 48 of the constitution (Kolb 2002, 18ff).

The following analysis focuses on the behaviour of politicians, as well as on both formal and informal coalition behaviour, in order to test the hypothesis that the failure of the political system was not caused by the parliament, its constitution and its actors, but rather by the fact that the democrats had no realistic chance to establish stable governments given the external circumstances.

4.2. Historical Background, Previous Work and Research Questions

As mentioned above, during the duration of the Weimar Republic, the government changed 13 times and the whole parliament was elected five times before the president decided to apply article 48 of the constitution and rule the country without the parliament (see footnote 9). Table 4.1 provides an overview of the different governing coalitions, their power in seats and their duration in days.

Table 4. 1: Overview governments

Day of nomination	Chancellor	Coalition	Share of seats	Duration in days
2/13/1919	Scheidemann (SPD)	SPD, Centre, DDP	78.1	130
6/21/1919	Bauer (SPD)	SPD, Centre, DDP	60.3	277
3/27/1920	Müller (SPD)	SPD, Centre, DDP	78.1	72
6/25/1920	Fehrenbach (CENTRE)	Centre, DVP, DDP	36.6	317
5/10/1921	Wirths (Centre)	SPD, Centre, DDP	44.6	549
11/22/1922	Cuno	Centre, DVP, DDP	41.2	263
8/13/1923	Stresemann (DVP)	SPD, DDP, Centre, DVP	58.8	51
11/30/1923	Marx (Centre)	DVP, Centre, DDP, BVP	36.6	48
06/03/1924	Marx (Centre)	Centre, DVP, DDP	29.2	177
01/15/1925	Luther	Centre, DVP, DDP, DNVP	55.5	496
05/27/1926	Marx (Centre)	Centre, DVP, DDP	30.83	214
01/29/1927	Marx (Centre)	Centre, BVP, DVP, DNVP	34.68	499
06/29/1928	Müller (SPD)	SPD, Centre, BVP, DDP, DVP	64.04	636
03/30/1930	Bruening (Centre)	DDP, DVP, Centre, BVP	17.7	556
10/09/1931	Bruening (Centre)	Presidential		223
01/06/1932	v. Papen (Centre)	Presidential		170
12/04/1932	v. Schleicher	Presidential		55
01/30/1933	Hitler (NSDAP)			

Source: (Falter et al., 1986). For a description of parties see Appendix Table 6.6.

In the relevant literature two major explanations for the instability of the parliament can be distinguished. One explanation focuses on the parliament itself and puts the blame on constitutional conditions or the motivation and background of politicians. The other explanation focuses on external conditions that made it impossible for politicians to react adequately.

Some historians, like Boldt (1998, 44), Bracher (1984) and Vogt (1998, 135), do not directly blame the constitution, but the quickly and insufficiently prepared transition from the authoritarian Empire to a modern democracy in 1918/19, positing that neither parties nor politicians were ready for such a change. Although I will not refer to this hypothesis in the analysis in particular, it is a frequently stated thesis and should be mentioned.

During the Empire, parties were excluded from direct participation in government and were not necessarily required to provide political solutions. When the Kaiser fled in November 1918, parties suddenly faced responsibilities they had never experienced before and for which they were unable to cope. However, no matter how influential the parliament in the Empire was or was not, one thing cannot be denied: parties in the Empire certainly negotiated and acted intentionally to reach political goals. Most of the parties in the Weimar Republic already existed in the Empire with more or less the same structure, and politicians certainly gained through them some degree of political experience (Ritter 1976). Clearly, they did not have the same power as in the Weimar Republic, but assuming they had no influence at all is not convincing. If that assumption were true it would be paradoxical that politicians made the effort to compete in expensive electoral campaigns to enter the parliament. However, it would be difficult to test a degree of

experience or motivation of politicans in general and even more difficult to test it by analysing roll-call votes.

Hermens (1951), Falter et al. (1986) and others have suggested that the electoral law was the source of instability in the Weimar Republic, because it allowed a large number of small parties to enter parliament. Therefore, given the high levels of fragmentation it was very difficult to build a stable majority. The present German constitution reflects this view. A party needs at least five percent of all votes to enter parliament. This hurdle was introduced to keep the number of parties low and protect the parliament from coalition formation problems caused by too many small parties, as had occurred in the Weimar Republic. It is, however, difficult to show whether a hypothetical five percent hurdle would have improved the situation in parliament. Table 4.2 shows that until the elections in May of 1928 small parties did not hold more than six percent of the seats.

Table 4. 2: Distribution of seats in percent after general elections

Parties	June 1920	May 1924	Dec. 1924	May 1928	Sep. 1930	July 1932	Nov. 1932	March 1933
KPD	0.8	13.1	9.1	11	13.3	14.6	17.3	12.5
USPD	18.3							
SPD	22.2	21.2	26.6	31.2	24.8	21.9	20.9	18.6
DDP	8.5	5.9	6.5	5.1	3.5	0.7	0.35	0.8
Centre	13.9	13.8	14	12.4	11.8	12.3	12.1	11.4
BVP	4.6	3.4	3.9	3.5	3.3	3.6	3.45	2.8
DVP	14.2	9.5	10.3	9.2	5.2	1.2	1.90	0.3
DNVP	15.5	20.1	20.9	14.9	7.1	6.1	8.9	8
NSDAP		6.8	2.8	2.4	18.5	37.8	33.8	44.51
Small parties	1.96	6.1	5.9	10.4	12.5	1.81	1.2	1.08
Total	100	100	100	100	100	100	100	100

Source: (Falter et al., 1986).

In the years between 1928 and 1932 small parties had quite a large influence but then they almost completely disappeared. With the above information in mind, the first question this chapter aims to study is:

Question 1: Did the large number of small parties harm the decision-making process of the governing coalition?

Fenske (1972), Knuetter (1998) and Peukert (1987) argue that the dominance of extreme parties made it impossible to build a stable democratic parliament. The extreme parties in question are the Communists (KPD) on the left side of the spectrum and the German National People's Party (DNVP) and National Socialists (NSDAP) on the right side. Other parties did not want to cooperate with the extremes, which were just interested in staying in opposition, from where they easily could sabotage the democratic system. Nevertheless, extreme parties constantly gained seats (see Table 4.2). The KPD started off with less than one percent in June 1920 and ended with 12.5 percent of seats after the last election. National Socialists started off with 6.8 and ended with 44.5 percent of seats after the final election in March 1933. Consequently, the second research question is:

Question 2: To which extent did extreme parties influence the decision-making process in parliament?

While the first two questions focus on the parliament itself, there is a second direction of research, which focuses more on external factors. Otto Braun

(1949), prime minister of Prussia (1920-32), wrote in his autobiography that Hitler was able to make his way because of "Moscow and Versailles". He suggested that the strong restrictions of the Treaty of Versailles made it impossible for the government to deal with economic pressures and thus made it easy for Hitler to mobilise the frustrated population for his party. Ritschl (2002) recently formulated this hypothesis more explicitly. He suggested that politicians had no real chance to build a stable and functioning democracy because they were trapped in a double 'principal-agent' problem. This problem was due to the fact that, like all democracies, that of Weimar was based on the principle that all public authority derives from the people. In democracies, power is to be exercised by the people in elections and plebiscites through special legislative, executive and judicial institutions. In other words: politicians act as the agents of voters. Therefore, both politicians, or more precisely the coalitions they form, and the population are faced with typical principal-agent problems, such as information asymmetries, moral hazard and the self-interest of agents. However, in the Weimar Republic there was one additional important feature: politicians had a second principal, namely the Allies. Of course the Allies did not select politicians, but they tried to control and influence their decisions. They had a very strong position, because Germany did not capitulate until it was completely unable to continue fighting and had no power left to negotiate seriously. Furthermore, at the end of the war there was no powerful neutral party left that was able to control peace negotiations and thereby temper the requirements of the winners. The winners did not need to respect the demands and interests of Germany. Peace negotiations were just between winners. They provided a statement of requirements that Germany had to accept. Moreover, the foreign ministers and

chancellors also had their principals, that is their populations, who claimed compensations.

Politicians were not able to fulfil the demands of both principals, since they collided with each other. For example, if they paid the reparations in time, they had a very limited budget to finance programs to reduce unemployment in order to satisfy the demand of the population. Furthermore the economy at the time was in a recession and unemployment rose rapidly. It is well known that unemployment influenced voting decisions in favour of extreme parties in general election (Stogbauer 2001) and it could be possible that it also had direct effects on voting behaviour in the parliament between general elections. All these considerations lead to the third and final research question:

Question 3: Did external conditions, notably the conflict with the allies and the rise of unemployment, have a significant negative impact on agreement, stability and success of the parliament?

4.3. Theory and implications

The above research questions have been studied from diverse angels. I will try to shed more light on these questions by studying the roll-call votes in the time period from 1919 to 1933. The next section explains for each question how this can be done. Before I explain the research strategy for each question I must first provide some definitions[10].

All questions focus on possible forces that might have disturbed the efficiency of government. Thus, in order to answer the questions, it is necessary to first define government efficiency and then in a second step to investigate if and under which conditions the particular forces as outlined above in the questions disturbed this efficiency.

Governments are supposed to lead the parliament and determine policy. A functioning government is defined as one which wins bills. 'Winning a bill' is in turn defined as a bill in which the majority of the members of the governing coalition voted in line with the result of the bill. For example, if 70 percent of the governing coalition voted 'yes' in a vote on 'introducing law 'y' and altogether more than 50 percent of the parliament members voted 'yes' and law 'y' passes, this would be counted as a 'won bill' for the governing coalition which indicates a functioning government. In order to win a bill the governing coalition needs to behave as homogeneously as possible. A second criterion for a functioning government, therefore, is that there should be agreement within the governing coalition, which can be measured with the following 'Agreement Index' (AI) (Hix, Noury and Roland 2005):

[10] It would be useful to have a benchmark study to compare the efficiency of the Weimar parliament to others at the time, but there is no comparable case study available.

$$AI_i = \frac{\max(Y_i, N_i, A_i) - 0.5[(Y_i + N_i + A_i) - \max(Y_i, N_i, A_i)]}{(Y_i + N_i + A_i)}$$

where Y_i denotes the number of 'Yes' votes expressed by the governing coalition on a given vote, 'N_i' the number of 'No' votes and A_i the number of 'Abstain' votes. As a result, AI equals one when all members of the coalition vote together and equals zero when the members of a party are equally distributed among all three of these voting options.

In order to answer **question 1**, that is whether the large number of small parties harmed the decision making process, I will provide descriptive statistics about the voting behaviour of small parties. This will be done by calculating the above defined agreement index for all small parties, treated as one single group in order to see whether small parties voted together and thereby built a stronger opposition to the government. In a second step I will investigate the impact of this Agreement index and the share of seats held by small parties on the above defined performance of the government. If the existence of small parties had a negative influence on the government, we can expect that the agreement index of small parties and their share of seats have a negative relationship with the agreement and the success of the government.

In order to answer **question 2**, to which extent extreme parties influenced the decision-making process in parliament, I proceed as for question 1. I will provide descriptive statistics about the voting behaviour of extreme parties. This will be done by calculating the above defined agreement index for all extreme parties treated as one single group in order to see whether extreme parties voted together. In a second step I will investigate the impact of this Agreement index and the share of seats held by extreme parties on the above defined performance of the government. If the existence of extreme parties had

a negative influence on the government, we would expect that the agreement index of extreme parties has a negative relationship with the agreement and the success of the government. If the more extreme parties worked as one group and the larger their overall share, the worse should be the coherence and the success of the government.

In order to investigate **question 3,** that is to say external conditions negatively influenced the success and efficiency of the government, I will include dummies which indicate different topics, notably topics related to the Treaty of Versailles, and the unemployment rate in the regressions.

Before I am going to answer the three research questions, it is worth analysing how voting took place in general and if voting processes followed certain patterns. In this context I will investigate to which degree political positions influenced voting behaviour. The political position of parties can be shown on the following left-right continuum (Table 4.3):

Table 4. 3: Left-right continuum

KPD	USPD	SPD	DDP	Centre	BVP	DVP	DNVP	NSDAP
Left								Right

Source: Swaan (1973).

I use a simple one dimensional left-right continuum as defined by Downs (1957). Other methodological approaches drawn from the political science literature provide many possibilities to estimate party positions. Methodologies range from Laver and Garry's (2000) 'computerized content analysis' approach, the 'party-manifesto-based estimate' led by Budge et al. (2001) through the Comparative Manifesto Project (CMP) to 'expert survey analysis'

led by Benoit and Laver (2006). However, these techniques require a sufficient number of party manifestos for all parties, preferably over time. Parties of the Weimar Republic did indeed publish manifestos, but not at the same time and not regularly. For the KPD, for instance, just one official text is available, published in 1930 (Treue 1956). Most of the party propaganda, advertisement and acquisition of voters was oral or used pamphlets.

An alternative, more mathematically challenging, but more practical and feasible approach is to infer policy position from studying politicians' voting patterns. This method is called NOMINATE. NOMINATE's theoretical grounding lies in the spatial theory of voting, whereby MPs are assumed to have single peaked preferences over an *n*-dimensional space, which is the task of the NOMINATE method itself to identify. NOMINATE calculates the 'revealed' position of each MP based on an alternating three step algorithm using roll call votes (Poole and Rosenthal 1997 233-251). For this study the data on roll-call votes is aggregated by party and not by individuals. Thus expanding the database by looking at the votes of every individual and estimating party positions using the NOMINATE method is left to future research.

However, the left-right continuum I apply for the Weimar Republic is commonly used. The political scientist De Swaan (1973), for instance, applied the same measurement in order to test his coalition theory on Germany. Based on this left-right continuum, I will test whether political closeness between two parties increased the probability that they vote the same way.

I will further test the influence of political opinions on voting behaviour by testing whether the median voter model of Downs (1957) can be applied for legislative voting behaviour in this parliament. If parties are ordered on the

left-right continuum, the median legislator would be a member of the Catholic Centre Party and thus the Center Party should win most of the votes. The farther away a party is from the median legislator[11] the less likely is it expected to have won a vote. Table 4.4 gives an overview of the questions and the applied analysis.

Table 4. 4: Summary analysis

Questions	Analysis	
	Descriptive Statistics	**Econometrics[12]**
1: Small Parties	Agreement index of all small parties treated as one group (Table 4.6).	Dependent variable: Agreement index governmen (Table 4.14) Won bills government (Table 4.15) Independent variables: Agreement index small parties, share of small parties
2: Extreme Parties	Agreement index of all extreme parties treated as one group (Table 4.6).	Dependent variable: Agreement index governmen (Table 4.14) Won bills government (Table 4.15) Independent variables: Agreement index extreme parties, share of extreme parties
3: exogenous conditions		Dependent variable: Agreement index governmen (Table 4.14), Won bills government (Table 15) Independent variables: different topics , unemployment rate

[11] In this context the definition „median" does not refer to the votes of the electorate but to every voter in the parliament, i.e. the MP's (median legislator). When the parties are aligned on the left-right continuum, the median legislator is a member of the party whose cumulative proportion in terms of seats that it won in general elections was more than 0.50. After every election the median voter is a member of the catholic centre party. Furthermore it is important to note than the turnout for each bill does not change the proportions. The median voter is a member of the Center party in every roll-call vote.

[12] For a more detailed description see the next section.

4.4. Data

The data were taken from official protocols of the parliament, the '*Reichstagsprotokolle*', from 1920 to 1933[13]. The data cover all votes published by name, with the exception of roll-call bills, which were held to make sure that enough members of the parliament were present to constitute a quorum. At least 50 members of the parliament were required to demand a roll-call vote before the vote took place, otherwise the bills were held anonymously. It was inadmissible to run roll-call votes for the power of a committee, shortening of deadlines, meeting times and agenda of the day, postponing of meetings, postponing or end of meeting or division of the question (§ 106 standing order of the parliament (1922)).

As shown in Table 4.5, bills can be classified into eight categories, where the 'Enabling Act' includes all bills concerning paragraph 48, with which the president was allowed to make certain decisions without approval of the government. These bills were requests for the lifting of the Enabling Act. 'Public Finances' includes bills about public finances; 'Labour' includes all bills concerning labour regulations like unemployment insurance, minimum wages and so forth. 'Tax' covers bills about several tax laws, for example property and purchase tax and 'Trade' includes bills about regulations of tariffs, export and import regulations. 'Trust' includes 'votes of no confidence', 'votes of confidence' and confirmations about statements of government.

[13] It is not possible to exactly recall how representative the roll-call votes were of all votes, since the total number of votes is not reported separately. I am aware of the problems drawing general conclusions about legislative behaviour based on a sample which might not reflect the behaviour in all parliamentary debates (see Carrubba, Gabel et al. 2006). However, the reported roll-call votes in the Weimar Republic include all important votes of that period, such as votes on the London Ultimate, the Treaty of Versailles etc. It also includes bill about less important issue and roll-call votes took place in frequent intervals. Thus from a qualitative point of view, the roll-call bills seem to be a representative sample of parliamentary decisions.

During the 13 years under consideration, 60 bills concerned the relationship between government and parliament, which indicates how insecure and unstable the governments were. 'Versailles' includes all bills concerning the Treaty of Versailles, but also all following treaties or proposals concerning reparations, such as the Young Plan. The bills concerning this topic are used to answer question 3. 'Others' include all bills that do not fit in any of the other categories.

Table 4. 5: Overview of voting topics

	Frequency	In Percent
Enabling Act	23	4.70
Public Finances	63	12.8
Labour	39	7.98
Tax	54	11.0
Trade	30	6.13
Trust	60	12.2
Versailles	32	6.54
Others	188	38.45
Total	**489**	**100**

Source: calculated by author

The analysis is structured as follows. First, I provide descriptive statistics, including the results for the agreement indices and the percentage share of won votes for different parties and party groups. Second, I look at general voting behaviour asking whether decision making processes in the parliament have been disorganised or followed predictable lines. Third, I provide regression estimates for the influences of the above-discussed variables on the efficiency of the governing coalition in order to answer the above discussed research questions.

4.5. Analysis

4.5.1. Descriptive Statistics

Table 4.6 shows the average agreement index for each party and for three party groups: small parties, extreme parties and the governing coalition for each parliament, the so-called '*Reichstag*'. Given the strong positive correlation between the importance of a vote and the total turnout, roll-call votes are weighted by turnout. This eliminates the variability of agreement resulting from the variability of importance of bills. The descriptive statistics show that all parties voted almost completely homogeneously. Generally, parties in the Weimar Republic are known for having had high voting discipline; the term '*Fraktionszwang*', which describes the obligation of a party member to vote in accordance with party policy, was coined in that era (Bracher 1984, 73). The '*Fraktionszwang'*, was high and thus parties can undoubtedly be treated as single actors in the following analysis. The Independent Social Democrats (USPD) had the lowest average AI with 89 in total. The most cohesive party was the Social Democrats (SPD). All parties became increasingly cohesive in the last two parliamentary periods. The relatively low agreement index for small parties shows that they had no common interest and voted independently of each other.

All three extreme parties (KPD, DNVP and NSDAP) were very coherent. For the National Socialists one can observe an interesting development. They started quite cohesively in the second parliament, but the cohesion decreased after Hitler was arrested for his attempted putsch in November 1923 and the National Socialists were officially outlawed. The parliamentary members now changed the name of the party to 'NS liberty movement' and stayed in

parliament in almost the same formation. Hitler was granted early release from prison in 1925, but was not allowed to speak in public until 1928. After 1928 the party regained its high degree of cohesion. Losing their popular '*Führer*' as representative of the whole party seriously harmed the National Socialists and this can be seen in the behaviour of this party's MPs. When Hitler could comply with all formalities of a party leader again, he whipped the party back into shape.

Table 4.6 also provides the agreement index for the governing coalitions, which is used as a measure for stability. It is lower than the single party AIs, because sometimes four parties are included and the more members of a group, the less likely it is that they all voted together. Coalition coherence was variable between the different parliamentary periods and was at its lowest in the third period and in the last period before the president took over.

Table 4. 6: Measure of homogeneity by AI[14]

	All	RT1 June 1920-May 1924	RT2 June 1924-Dec. 1924	RT3 Jan. 1924 -May 1928	RT4 June 1928-Sept. 1930	RT5 Oct. 1930-July 1932	RT6 Aug. 1932-Nov. 1932)
KPD	0.97 (0.07)		0.96 (0.018)	0.944 (0.10)	1 (0)	0.99 (0.05)	1 (0)
USPD	0.89 (0.18)	0.89 (0.18)					
SPD	0.99 (0.27)	0.99 (0.018)	0.99 (0.009)	0.97 (0.042)	0.99 (0.001)	0.99 (0.01)	0.99 (0.005)
DDP	0.90 (0.17)	0.89 (0.18)	0.97 (0.057)	0.86 (0.19)	0.96 (0.13)		
Centre	0.94 (0.13)	0.94 (0.11)	1 (0)	0.92 (0.14)	0.92 (0.166)	0.97 (0.11)	0.98 (0.038)
BVP	0.94 (0.13)	0.89 (0.18)	1 (0)	0.94 (0.13)	0.93 (0.14)	0.98 (0.075)	1 (0)
DVP	0.96 (0.10)	0.94 (0.12)	0.99 (0.012)	0.96 (0.087)	0.95 (0.14)	0.98 (0.04)	
DNVP	0.94 (0.12)	0.94 (0.11)	0.98 (0.007)	0.94 (0.09)	0.93 (0.17)	0.99 (0.009)	1 (0)
NSDAP	0.97 (0.09)		0.99 (0.015)	0.93 (0.13)	0.99 (0.016)	1 (0)	1 (0)
Small parties	0.74 (0.23)	0.54 (0.21)	0.74 (0.13)	0.66 (0.18)	0.86 (0.19)	0.85 (0.19)	0.75 (0.27)
Governing coalitions	0.77 (0.29)	0.79 (0.21)	0.93 (0.19)	0.71 (0.24)	0.90 (0.16)	0.73 (0.43)	
Number of bills	**489**	**80**	**11**	**158**	**134**	**99**	**6**

Source: calculated by author

[14] The reported values are the average Agreement indices for different parties and party groups for each parliamentary period and for all periods together. Given the strong positive correlation between the importance of a vote and the total turnout, roll-call votes are weighted by turnout. The sample standard deviations are reported in parentheses ($SD = \sqrt{\frac{1}{N-1}\sum_{i=1}^{N}(x_i - \bar{x})^2}$, where xi is the sample and $\bar{x}$ is the mean of the sample. The denominator N-1 is the number of degrees of freedom in the vector ($x_i - \bar{x},\ldots, x_N - x$).)

Political closeness seems to have influenced voting behaviour (Table 4.7). Informal coalition patterns followed the left-right dimension for the first *Reichstag*. For instance it was more likely that the German Democratic Party (DDP) voted with the Centre (76 percent of all bills) than with the Bavarian People's Party (BVP) (only 65 percent of all bills) and so forth. The governing coalition consisting of DDP, Centre and DVP voted on average the same way in about 70 percent of the bills. The second *Reichstag* shows some deviation from the simple left-right continuum: Communists were more likely to vote like the right than like the left-wing parties and other parties on the left of the Centre were also less likely to vote like the Centre than like DVP and DNVP. The third *Reichstag* followed the left-right continuum for the centre right, but the Communists still voted with the National Socialists. Centre, BVP and DVP improved their coalition coherence by now voting similarly in about 90 percent of all bills. The fourth and fifth *Reichstag* again show voting patterns on the left-right dimension for most parties, whereas KPD still seems to be more related to right-wing parties. This voting behaviour of extreme parties indeed is not surprising as KPD and National Socialist had a similar interest in harming democracy.

Table 4. 7: Coalitions: proportion of times the party groups voted together

	Left wing		Left right continuum						Right wing
	KPD	**USPD**	**SPD**	**DDP**	**Centre**	**BVP**	**DVP**	**DNVP**	**NSDAP**
Reichstag 1 (RT1 80 bills)									
KPD									
USPD			0.77	0.4	0.37	0.33	0.33	0.22	
SPD				0.47	0.51	0.43	0.38	0.32	
DDP					0.76	0.65	0.68	0.52	
Centre						0.71	0.7	0.53	
BVP							0.67	0.55	
DVP								0.65	
DNVP									
Reichstag 2 (RT2 11 bills)									
KPD			0.18	0.09	0.09	0.09	0.09	0.54	0.5
USPD									
SPD				0.81	0.63	0.81	0.81	0.09	0.2
DDP					0.81	1	1	0.27	0.4
Centre						0.81	0.81	0.45	0.6
BVP							1	0.27	0.4
DVP								0.27	0.4
DNVP									0.9
Reichstag 3 (RT3 158 bills)									
KPD	-	-	0.83	0.59	0.14	0.17	0.97	0.17	0.6
USPD	-	-							
SPD				0.7	0.26	0.24	0.2	0.14	0.54
DDP					0.49	0.45	0.47	0.34	0.44
Centre						0.91	0.91	0.82	0.38
BVP							0.87	0.84	0.42
DVP								0.87	0.4
DNVP									0.47

Table 4.7, part two

Left wing			Left right continuum						Right wing
	KPD	**USPD**	**SPD**	**DDP**	**Centre**	**BVP**	**DVP**	**DNVP**	**NSDAP**
Reichstag 4 (RT4 134 bills)									
KPD			0.40	0.14	0.12	0.15	0.11	0.41	0.74
SPD				0.68	0.64	0.52	0.61	0.15	0.24
DDP					0.92	0.79	0.91	0.41	0.17
Centre						0.79	0.90	0.47	0.21
BVP							0.78	0.48	0.27
DVP								0.47	0.20
DNVP									0.62
Reichstag 5 (RT5 99 bills)									
KPD			0.17		0.07	0.06	0.11	0.43	0.88
SPD					0.82	0.80	0.74	0.14	0.11
DDP									
Centre						0.95	0.88	0.13	0.11
BVP							0.88	0.14	0.13
DVP								0.22	0.26
DNVP									0.77
Reichstag 6 (RT6 bills)									
KPD			0.83		0.16	0.16	0	0	0.16
SPD					0.33	0.33	0	0.16	0.33
DDP									
Centre						1.00	1.00	0.33	0.66
BVP							0.00	0.33	0.66
DVP								0.66	0.00
DNVP									0.16

Source: calculated by author

Table 4.8 provides descriptive statistics for the percentage share of 'won votes' for all parliaments, parties, small parties together, and the governing coalition. Extreme parties did not manage to win more than about 20 percent of all votes, before the 6th RT, although Communists often voted similarly to National Socialists, as we have seen in the previous section. These results seem surprisingly low.

Centre, BVP and DVP, won around 87 percent of the roll-call votes during that time period. The governing coalition, which voted less coherently in the fifth *Reichstag* than in the previous one (Table 4.6), increased the percentage share of votes won, while extreme parties that actually voted more cohesively in that time period only won around 13 percent of votes. In the sixth parliament extreme parties finally managed to improve their result and won the same number of votes as parties of the middle, but that might be caused by the small number of observations in this period. However, over the whole Weimar Republic's period, parties that often constituted the government and which were positioned in the middle of the left-right continuum, such as Centre, DDP and BVP, won most bills.

Concerning the descriptive statistics one can conclude so far that neither small parties nor extreme parties harmed the parliamentary work severely. Small parties voted very erratically and had no common interest. They won many bills, but so did the governing coalition. Furthermore, in times when small parties won quite a large amount of votes (RT2 and RT3), the government also won almost every vote, implying that small parties supported the government.

Table 4. 8: Percentage share of votes won

	All	RT1 June 1920 - May 1924	RT2 June 1924 - Dec. 1924	RT3 Jan 1924 - May 1928	RT4 June 1928 - Sept. 1930	RT5 Oct. 1930 - July1932	RT6 Aug. 1932 - Nov. 1932
KPD	0.15		0.09	0.21	0.16	0.13	0.50
USPD	0.10	0.63					
SPD	0.64	0.81	0.82	0.32	0.71	0.89	0.67
DDP	0.55	0.64	1.00	0.51	0.93		
Centre	0.88	0.70	0.82	0.93	0.92	0.92	0.67
BVP	0.81	0.57	1.00	0.87	0.80	0.85	0.67
DVP	0.81	0.57	1.00	0.86	0.90	0.92	
DNVP	0.50	0.48	0.27	0.82	0.43	0.86	0.17
NS	0.21		0.36	0.38	0.22	0.13	0.67
Small Parties	0.69	0.50	0.73	0.69	0.66	0.07	0.67
Governing Coalition	0.84	0.70	1.00	0.86	0.86	0.93	
Bills	**489**	**80**	**11**	**158**	**134**	**99**	**6**

Source: calculated by author

It is left to the econometric analysis in the next section to confirm this impression. Extreme parties from the left wing often worked together with extreme parties from the right wing and also voted quite coherently, but despite this they did not manage to win many votes.

As seen above, political closeness mattered for voting decisions. The closer parties were on the left-right continuum, the more likely they were to vote together. In Table 4.8 the influence of the left-right continuum can also be observed in form of the median voter model. The median legislator was a member of the Centre Party for all periods and the Centre Party won most bills. KPD and NSDAP are the parties farthest away from the median (see Table 4.9) voter and they also won the fewest bills. The closer a party was to the Centre Party, the more often did it win a vote. This classical median voter model can more or less be observed in all parliamentary periods and again the confirmation of its significance is left to the econometric analysis in the next section.

Table 4. 9: Distance to the median legislator (member of the Centre party)

	KPD	USPD	SPD	DDP	Centre	BVP	DVP	DNVP	NSDAP
MDistance	5	4	3	2	1	2	3	4	5
	Left wing				Median				Right wing

4.5.2. Econometrics

The series of bills will not be treated as a time series, because the time spans between the bills vary too much: sometimes there are a multiple bills on one day and sometimes none for weeks. Thus I treat each bill as a separate cross-section observation and I will do a cross-sectional analysis for the whole period and then run the regressions separately for three different time periods. The first period starts in 1919 and ends in 1923, which were the years of origin and development of the democracy. The second period, between 1924 and 1929, is a phase of relative stabilisation and the third period is the phase of dissolution of the democracy between 1930 and 1933.

4.5.2.1. General voting patterns in the parliament

Before I am going to answer the three research question, I will first look at overall voting behaviour of politicians. Thus I will test whether the median voter model, which could be observed in the descriptive statistics, is significant and whether political closeness influenced voting behaviour. In this respect I run the following two regressions:

1) In the first model the dependent variable is *INFORMAL COALITION*, which is the agreement index as described in the section 4.3, which is calculated for every pair of parties treated as one group. This creates a total of 36 pairs and 17604 observations. Unlike the standard ordinary least squares model, the dependent variable is censored on both sides: the lowest value is zero and the highest value is one. It will therefore be estimated applying a simple tobit model (see Johnston and Dinardo 1997).

For the independent variables, I use an ordinally scaled variable "Distance" to measure ideological closeness. Distance is equal to one if parties are next to each other on the left-right continuum, equal to 2 if there is another party in between and so forth, as shown in Table 4.10. Distance, for instance, is equal to one for the party pairs: KPD and USPD, USPD and SPD, SPD and DDP and so forth, which means that those parties are next to each other on the left-right continuum.

Table 4. 10: Variable Distance for party pairs.

Distance	Party pairs							
Distance=1	KPD, USPD	USPD, SPD	SPD, DDP	DDP, Centre	Centre, BVP	BVP, DVP	DVP, DNVP	DNVP, NSDAP
Distance=2	KPD, SPD	USPD, DDP	SPD, Centre	DDP, BVP	Centre, DVP	BVP, DNVP	DVP, NSDAP	
Distance=3	KPD, DDP	USPD, Centre	SPD, BVP	DDP, DVP	Centre, DNVP	BVP, NSDAP		
Distance=4	KPD, Centre	USPD, BVP	SPD, DVP	DDP, DNVP	Centre, NSDAP			
Distance=5	KPD, BVP	USPD, DVP	SPD, DNVP	DDP, NSDAP				
Distance=6	KPD, DVP	USPD, DNVP	SPD, NSDAP					
Distance=7	KPD, DNVP	USPD, NSDAP						
Distance=8	KPD, NSDAP							

To control for the effect of fixed coalition agreements I include a dummy variable that is equal to one if both parties were in the government (*Govdummy*). I further include dummies that control for certain topics.

2) In the second model and in order to study the significance of the median voter model, I run a second regression with *SUCCESS* as dependent variable. *SUCCESS* is a dummy variable, which is equal to one if the majority of the party members voted according to the electoral result. The regression is estimated applying a simple logit model. The regression covers in total 4491 observations (nine parties times 489 bills). To test whether distance to the median legislator influences the frequency of success I use the ordinally scaled variable "Median" that measures the distance to the median legislator. Median is equal to one if the party contains the median legislator; equal to two if the party is the next party on the left right continuum and so forth. Table 4.11 provides an overview of the variable "Median". The variable "Median" is only equal to one for the Centre Party, equal to two for DVP and BVP, equal to three for SPD and DVP and so forth.

Table 4. 11: Variable Median

Median	**Parties**	
	Left	**Right**
Median=1	Centre	
Median=2	DDP	BVP
Median=3	SPD	DVP
Median=4	USPD	DNVP
Median=5	KPD	NSDAP

I further include a dummy that is equal to one if the party was a part of the governing coalition (*Govdummy*). Other exogenous variables are the total agreement of the parliament as measured with the agreement index, the number of valid votes and dummies that control for different topics discussed in parliament.

Table 4.12 shows the regression results for *INFORMAL COALITION*, which is the agreement index of two party pairs. As above, the first regression includes all bills. Regression 2 only uses bills from the years between 1919 and 1923, regression 3, from the years 1924 to 1929 and regression 4 from the years between 1930 and 1933. Estimating the coefficients for all bills, the government dummy is positive and significant. Coalition agreements and higher pressure for parties in the government to find suitable solutions made them coalesce with higher probability than parties that were not in the government. However, breaking down the bills into the three time periods shows quite a different picture: parties that were in the government between 1919 and 1929 had a lower agreement index than parties in opposition. Just in the last three years before the presidential government took over the government dummy had a positive and significant influence.

Ideological distance had a strong influence on the probability to vote together and this is a stable effect over all periods. The coefficient is highly significant and negative. Thus the further away two parties were on the left-right continuum the less likely did they vote together.

Table 4. 12: Regression results for AI_coalition between party pairs (Tobin model)

	(1)	(2)	(3)	(4)
Time periods	**Whole Time period**	**1919-1923**	**1924-1929**	**1930-1933**
Dependent Variable	**Agreement coalitions**			
Govdummi	0.071	-0.083	-0.020	0.256
	(8.77)**	(3.19)**	(2.05)*	(15.03)**
Distance	-0.036	-0.013	-0.049	-0.049
	(18.96)**	(3.04)**	(21.42)**	(11.28)**
Enabling Act	0.074	0.089		0.001
	(4.46)**	(3.22)**		(0.03)
Public Finances	0.064	0.023	-0.013	0.151
	(6.25)**	(0.99)	(0.92)	(7.27)**
Labour	-0.082	-0.161	-0.049	
	(6.91)**	(2.57)*	(4.36)**	
Tax	-0.052	0.148	-0.049	-0.112
	(5.33)**	(5.12)**	(4.49)**	(4.37)**
Trade	0.028	-0.005	0.035	0.008
	(2.05)*	(0.17)	(1.70)	(0.35)
Trust	0.010	-0.026	-0.003	0.049
	(0.92)	(0.90)	(0.22)	(2.09)*
Versailles	-0.060	-0.099	-0.008	-0.124
	(4.79)**	(3.29)**	(0.53)	(4.67)**
Constant	0.973	0.876	0.992	1.020
	(116.75)**	(49.83)**	(96.52)**	(51.28)**
R-squared	0.055	0.018	0.078	0.14
Observations	13497	2720	6732	4045

Absolute value of t statistics in parentheses
* significant at 5%; ** significant at 1%

Table 4.13 shows the results for the logit regression in which *SUCCESS* is the dependent variable. It is a binary variable that is equal to one if the party won the bill. Again, the first regression includes all bills, regression 2 the bills between 1919 and 1923, regression 3 the years 1924 to 1929 and regression 4 the years between 1930 and 1933. Generally, the government dummy is positive and significant if all bills are considered. It seems that coalition agreements and higher pressure for parties in the government to find suitable solutions mattered in order to win a bill. However, this overall effect is created by the success of the government in the years of relative stabilisation between 1924 and 1929. The agreement index has a positive, and most of the time significant, coefficient. The more coherently a party voted the more likely that

it won a vote. The share of seats, which is the actual power in votes, is positive and significant for the time period between 1919 and 1930 and becomes negative after. The more seats a party had the more likely did it win a vote. The negative impact on the likelihood to win a vote can be explained by the extreme parties. They held a large share of seats at the end of the Republic but did not win many votes. It seems, however, that more than the size of a party, its position on the left-right continuum counts in order to win bills. The variable for the distance to the median legislator "median" is negative and highly significant for all periods. The closer a party was to the Centre Party, of which the median legislator was a member, the more likely did they win a vote.

Table 4. 13: Regression results for SUCCESS as dependent variable

Time periods	**(1) Whole Time period**	**(2) 1919-1923**	**(3) 1924-1929**	**(4) 1930-1933**
Dependent Variable	**Logit regression Success=1 if the party won the bill**			
Govdummi	0.342	-0.344	0.534	0.245
	(3.47)**	(1.47)	(3.89)**	(1.11)
Ai	1.955	0.908	2.659	0.795
	(5.36)**	(1.55)	(5.27)**	(0.61)
Share of seats	0.000	0.017	0.001	-0.004
	(0.17)	(3.64)**	(0.49)	(2.39)*
Enabling Act	0.306	1.155		-0.033
	(1.48)	(2.98)**		(0.11)
Public Finances	-0.080	0.285	-0.224	-0.130
	(0.62)	(1.01)	(1.12)	(0.56)
Labour	-0.128	-0.644	-0.182	
	(0.94)	(0.92)	(1.22)	
Tax	0.045	0.535	-0.048	-0.118
	(0.33)	(1.57)	(0.29)	(0.36)
Trade	0.074	0.036	0.188	-0.058
	(0.42)	(0.10)	(0.60)	(0.19)
Trust	-0.000	0.207	-0.075	-0.086
	(0.00)	(0.58)	(0.40)	(0.39)
Median	-0.700	-0.475	-0.625	-1.161
	(17.22)**	(3.28)**	(11.74)**	(10.59)**
Constant	0.052	-0.584	-0.823	2.805
	(0.15)	(1.00)	(1.64)	(2.02)*
Log pseudo-likelihood	-1878.46	-353.22	-974,29	-478.985
Pseudo R-squared (Mc Fadden)	0.16	0.042	0.16	0.31
Wald Chi2	565.49	29.04	307.76	266.98
Observations	3403	560	1764	1079

Robust z statistics in parentheses
* significant at 5%; ** significant at 1%

4.5.2.2 Research questions 1, 2 and 3

In order to answer questions 1 and 2 about the influence of small and extreme parties, I investigate the influences of the cohesion and the size of small parties and extreme parties on the success and the coherence of the governing coalition. Thus I calculate the following two dependent variables:

1) *GOVCOHESION*, which is the agreement index for the governing coalition. As above, this variable is censored on both sides and the regression will be estimated with a tobit model.

2) *GOVSUCCESS*, which is a dummy variable that is equal to one if the majority of the governing coalition's vote matches the electoral result. This regression can be estimated with a simple logistic regression.

For both regressions I use the share of seats of extreme parties and the share of seats of small parties, the agreement indices for both groups, the number of valid votes, the agreement index for the whole parliament and dummy variables that control for different topics as exogenous variables. Furthermore, I include an index of unemployment, which is equal to one in 1920.[15].

Table 4.14 shows the regression results for *GOVCOHESION*. Again, the first regression includes all bills. Regression 2 covers bills from the years between 1919 and 1923, regression 3 the years 1924 to 1929 and regression 4 the years between 1930 and 1933.

The shares of seats of extreme and small parties seem to have had rather a positive influence on the agreement index of the governing coalition. Just in

[15] This variable is not stationary, but I split the regressions in three time periods and do a cross sectional analysis instead of a time series. This data is taken from several volumes of the statistical yearbook.

the last period the coefficient turns negative, although only significantly for the share of small parties.

The agreement indices for both groups also had a positive influence on the agreement of the governing coalition. It seems that neither small parties nor extreme ones disturbed the cohesion of the governing coalition (questions 1,2). Unemployment, however, as external factor did have a negative impact in the time period between 1924 and 1929 (question 3).

Bills about the Treaty of Versailles and related conferences have a negative coefficient but did not significantly negatively influence the agreement of the governing coalition. The governing coalition, further, even agreed more on bills about public finances in the years between 1924 and 1929, which were debates about how to finance the reparations and how to consolidate the household (question 3).

Table 4. 14: Regression results for GOVCOHESION

	(1)	(2)	(3)	(4)
Time periods	**Whole time period**	**1919-1923**	**1924-1929**	**1930-1933**
Dependent variable	**GOVCOHESION = AI Governing Coalition**			
Shareothers	0.899 (1.18)	3.987 (0.86)	2.410 (2.31)*	-2.855 (2.02)*
Shareextreme	1.620 (3.81)**		2.740 (4.86)**	-0.158 (0.15)
ai_extreme	0.236 (2.63)**		0.097 (1.10)	0.276 (1.06)
ai_others	0.206 (2.94)**	-0.017 (0.10)	0.031 (0.38)	0.324 (2.04)*
ai_all	0.686 (6.90)**	0.430 (2.64)*	0.843 (7.83)**	0.643 (2.50)*
Unemployment	0.002 (0.19)	-0.056 (1.14)	-0.032 (2.49)*	0.045 (1.28)
VV	0.000 (0.14)	0.001 (1.10)	-0.001 (1.80)	0.001 (1.19)
Enabling act	0.015 (0.11)	0.152 (1.08)		0.240 (1.44)
Public Finances	0.070 (1.26)	-0.052 (0.60)	0.178 (3.01)**	-0.066 (0.58)
Labour	-0.141 (2.84)**		-0.071 (1.42)	
Tax	0.080 (1.76)	0.096 (0.86)	0.019 (0.41)	0.247 (1.93)
Trade	0.077 (1.18)	0.079 (0.65)	-0.093 (1.13)	0.280 (2.48)*
Trust	0.039 (0.74)	-0.035 (0.26)	0.001 (0.02)	0.224 (1.86)
Versailles	-0.106 (1.61)	-0.172 (1.43)	-0.106 (1.35)	-0.209 (1.66)
Constant	-0.075 (0.43)	0.290 (0.95)	0.259 (1.36)	-0.241 (0.39)
R-squared	0.179	0.166	0.315	0.182
Observations	348	77	221	127

Absolute value of t statistics in parentheses
* significant at 5%; ** significant at 1%

Possibly the most important evidence provides Table 4.15. It presents the regression results for the logit model in which *GOVSUCCESS* is the dependent variable. Neither the share of seats of small parties nor the share of extreme parties affected the probability of governments winning a vote, which means that neither extreme nor small parties harmed the government with increasing size, that is increased voting power (questions 1 and 2).

The agreement index for the governing coalition has a positive and significant influence. In bills where the government voted more coherently the probability to win was higher. '*Ai_all*', the agreement index for the parliament as a whole, had a positive influence. In times when the parliament was quite cohesive as a whole the government won most of the votes. The total number of votes is a proxy for the importance of votes, because the turnout was much higher for important votes than for less important ones. Thus the probability of winning a vote increased for more important votes.

The success of the government seems to have been independent of certain topics. Only in the last period between 1930 and 1933 did the probability of the government losing a bill increase if the topic of the bills was the payment of the reparations or other features of the Treaty of Versailles. It is also important to note that during the last period, unemployment had a negative and significant impact on the success of the government (question 3).

Table 4. 15: Regression results GOVSUCCESS

	(1)	(2)	(3)	(4)
Time periods	**Whole time period**	**1919-1923**	**1924-1929**	**1930-1933**
Dependent variable	**GOVSUCCESS=1 if the governing coalition won the vote**			
Shareothers	2.837 (0.40)	-30.883 (0.63)	-8.729 (0.54)	38.337 (1.41)
Shareextreme	1.011 (0.22)		-11.708 (1.39)	10.490 (0.57)
ai_coalitions	1.681 (2.52)*	5.430 (3.52)**	2.839 (2.38)*	1.746 (0.73)
ai_all	7.782 (4.86)**	10.560 (3.17)**	6.160 (2.45)*	12.619 (3.37)**
ai_extreme	2.341 (2.28)*		2.943 (2.37)*	-1.597 (0.23)
ai_others	-0.953 (1.05)	-1.161 (0.61)	0.090 (0.08)	-0.943 (0.39)
Unemployment	-0.205 (1.59)	-0.738 (0.93)	-0.064 (0.31)	-0.822 (2.33)*
Enabling act	-2.091 (1.67)	0.965 (0.49)		-8.258 (3.95)**
Public Finances	-0.529 (0.81)	0.192 (0.18)	-0.611 (0.74)	0.644 (0.41)
Labour	-1.052 (1.81)		-0.745 (1.08)	
Tax	-0.103 (0.15)	1.208 (0.67)	0.239 (0.32)	-1.340 (0.60)
Trade	0.133 (0.17)	-0.549 (0.50)		-1.666 (1.24)
Trust	-0.483 (0.66)	0.945 (0.65)	-0.451 (0.57)	
Versailles	-1.817 (2.50)*	1.607 (0.76)		-5.549 (3.18)**
Total number of votes	0.014 (2.60)**	0.012 (1.23)	0.001 (0.15)	0.057 (2.59)**
Constant	-8.301 (3.59)**	-9.238 (2.21)*	-3.323 (1.13)	-24.910 (2.25)*
Observations	348	77	199	111

Robust z statistics in parentheses
* significant at 5%; ** significant at 1%

4.6. Conclusions

The first German democracy was an eventful epoch of great instability that poses many unanswered questions and unsolved problems, such as the sources of instability of its parliament.

One line of research suggests that the major causes of instability can be found in the political system, constitutional conditions and its actors. This research still dominates general public opinion and the political system in Germany today reflects it as well.

According to the results of this study, this view can not be confirmed.

Indeed it seems the parliament worked quite well:

The parties voted coherently as the agreement index shows in Table 4.6. Furthermore political closeness and distance to the median legislator highly determined voting behaviour and voting success. The closer two parties were on the left-right continuum the more likely did they vote together. This can be shown in table 4.12, which provides the results of the tobit regression where the dependent variable is the agreement index between two partys. Table 4.13 provides evidence that the median voter model works well for the parliament. The closer a party was to the Centre Party, of which the median legislator was a member, the more likely did it succeed in winning a bill.

For research **question 1**, as to whether a large number of small parties harmed the decision-making process of the governing coalition: The argument that the electoral law was a cause of increased instability as a result of too many parties being able to enter the parliament seems logical (see Hermens (1951) and Falter et al. (1986)). Pure proportional representation indeed supports a large number of parties, none of which hold a large share of seats, and forces parties to build coalitions between three or four parties. It also seems to be plausible

that the more parties participate in the government the harder it is to find agreement.

However, small parties in the Weimar Republic only held a small share of seats, even when treated as one group - at least in the first years and towards the end – and according to the findings of this chapter, they supported the government rather than disturbed it. Table 4.14 and 4.15 show the econometric results in which the dependent variable is the agreement index of the governing coalition and GOVSUCCESS, which is a dummy variable that is equal to one if the government won the bill. In both regressions the share of small parties and the agreement index of the small parties were used as exogenous variables. Apart from the last period between 1930 and 1933, both variables had a positive influence on the dependent variables and thus on the probability that the government worked well. Thus, they did not really harm the political decision-making process and hence, it is very doubtful that a five percent limit would have changed history.

Extreme parties, as analysed by **question 2**, certainly played a big role. They gained an increasing number of seats during the duration of the democracy and also increased cohesiveness, but nevertheless they did not manage to transfer the power gained through seats into political power until the last parliament. This can be seen in Table 4.14 and 4.15. In both regressions the share of extreme parties and the agreement index of the extreme parties were used as exogenous variables. They rather had a positive influence on the functioning of the government, but were insignificant in most specifications. Furthermore, they did not play a big role at the beginning of the Weimar Republic, but rather mirrored the increasing distrust of the population.

Certain topics (question 3), however, seemed to have had some influence. Bills about the Treaty of Versailles and related questions harmed the success of the government, but only in the last period between 1930 and 1933 (see table 4.14 and 4.15). Furthermore Falter (1986) and Stogbauer (2001) showed a strong positive relationship between unemployment in certain constituencies and votes for National Socialists during general elections. This study has further shown that unemployment harmed the efficiency of the governments even in periods between general election.

Altogether, the parliament was not as dysfunctional and confused as is often suggested. The political process followed certain theoretical patterns such as those predicted by the median voter model. Political positions highly influenced both voting behaviour and coalition formation. The closer parties were to each other the more likely they were to vote together. Indeed, this study is consistent with the view that the major reasons for the problems of the parliament in the Weimar Republic are to be found outside parliament.

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5. Concluding Remarks

All the above essays have one thing in common: they study the political process. The first two essays focus on the first stage, the general elections in which voters choose their representatives. The third essay goes one step further and studies the decision-making process involving the elected representatives in the parliament.

The relationships between voters and politicians and between politicians and the institutional framework determine political decisions and in the long run the development of countries. Institutional differences often lead to differing developments, even if the social structure of the population and thus the demand for policies are similar.

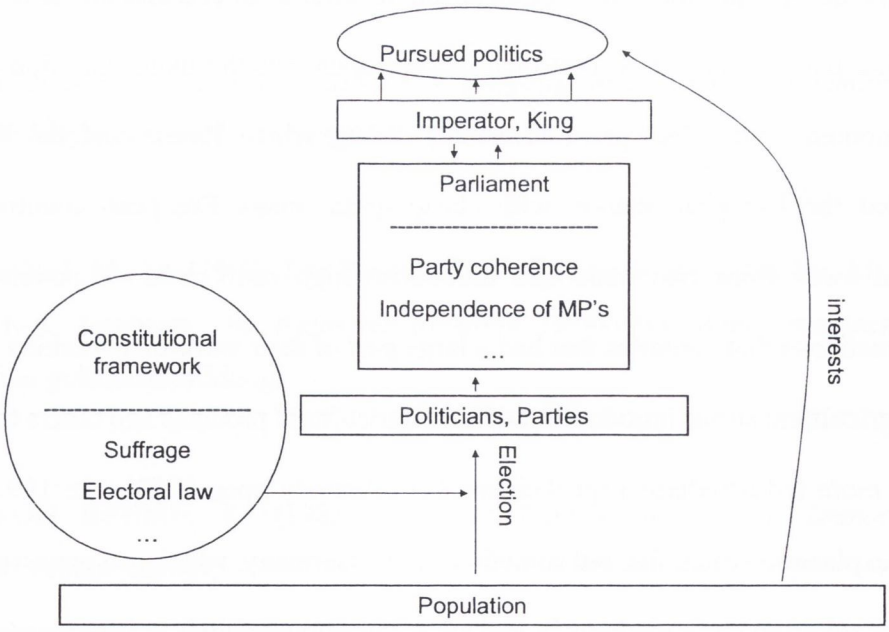
This thesis analyses the political process in its constitutional frameworks in 19th and 20th century Europe in the form of case studies. In 19th and early 20th century Europe the first wave of globalisation came to an end and the issue of whether markets should be protected or kept open was the major question of the moment. After the 'grain invasion', during which Russia and the US flooded the European market with cheap grain, many European countries turned away from free trade and introduced high tariff rates. A common explanation is that countries that had a large part of their workforce working in the agricultural sector introduced tariffs on agricultural products and others that were more industrialised kept their market relatively open (O'Rourke 1997). This explanation often fits, but sometimes fails. Germany, which had a massive part of the workforce working in agriculture, introduced high tariffs. Sweden, however, which had an even higher proportion of the population working in agriculture, turned to protection, but not because agricultural voters wanted it,

as we have seen in chapter 3. The majority of the voters, which mainly came from the agricultural sector, voted for free trade.

Late 19th and early 20th century Europe was a hotbed of constitutional development and political change. Regime types differed widely between countries, and changed fundamentally between the free-trade era of the 1860s and 1870s and the disintegration of the European economy at the end of the 1920s and during the 1930s. Thus, the institutions that determined how political decisions were made differed widely.

Graph 5.1 illustrates this by showing how the relationship between the policy demands of the population and the policies provided can be altered by the institutional environment.

Graph 5. 1: Process of political decision-making



The first major bias was caused by restricted suffrage. Generally only roughly 20 percent of the population in the 19th century was allowed to vote and sometimes even less. This restricts the right to vote to a certain group and limits political rights of the excluded part of the population.

The next bias was caused by the electoral law. Even in modern societies, some features of the electoral law lead to the unfair treatment of certain votes. Consider for instance the 'five percent limit' in Germany nowadays. Germany has a split voting system in which every voter has two voices. With one he chooses a representative of his constituency in a majority vote and his second vote is proportional representation in which he chooses a certain party. If a party gets four percent of all votes in the proportional representation and none in the majority vote, none of the politicians might enter the parliament and the votes, which might be a few thousand in total, have no influence at all. Another example is 19th century Germany. The electoral law was a simple majority law at the time. Constituencies, originally based on the results of the census of 1864, remained unchanged between 1871 and 1918 (Ritter and Niehuss, 1980, 28; Wehler, 1995, 1044). Neither intra-German migrations nor the quickly advancing urbanisation were taken into account. As a consequence, in 1912 the just over 10,000 inhabitants of the constituency of Schaumburg-Lippe – a small state in North-Western Germany – brought the same weight of vote to bear as the almost 340,000 inhabitants of the constituency of Teltow, which comprised the southern outskirts of Berlin (Ritter and Niehuss, 1980, 28). In the long run, this, of course, qualified the principle of 'one man – one vote' and gave rural constituencies an advantage over urban ones.

Furthermore, the decisions that voters made were sometimes not introduced properly, because of some other imponderable circumstances as we have seen

in the Swedish case in chapter 3. According to the parliamentary act all ballot papers carrying the name of a politician who is not allowed to stand as a candidate anymore have to be destroyed (Esaiasson 1990, 83ff). In 1887 a free trade member of the parliament was excluded from the election in autumn of 1887 because he did not pay communal taxes. This political scandal led to the replacement of 22 free trade supporters by protectionists in the Stockholm parliament and thus changed the majority to the benefit of protectionists.

The parliament that was elected under these conditions did not represent the demand of the population, but just the demand of certain groups and those that benefited from the deterioration of the electoral law.

Furthermore, the elected politicians and the population were caught in a typical principal-agent problem. Voters choose the politicians with the motivation to be represented in the best possible way. Politicians, however, do not just benefit from the fulfilment of their political goals, but also from income, power and prestige and as long as they can maximise their goals without being punished by losing votes, they will try to maximise these.

The thesis consists of three essays that all study directly the process of political decision-making and indirectly the factors disrupting this process. While on balance the evidence suggests rational decision–making by voters and politicians, institutional differences also mattered for outcomes.

I found many insights, new answers to old questions and new questions to old answers and I am aware that in order to understand history and to learn its lessons it is important to bear in mind that historical processes are complex and that answers which seem clear, might just show a part of the picture.

5.1 References

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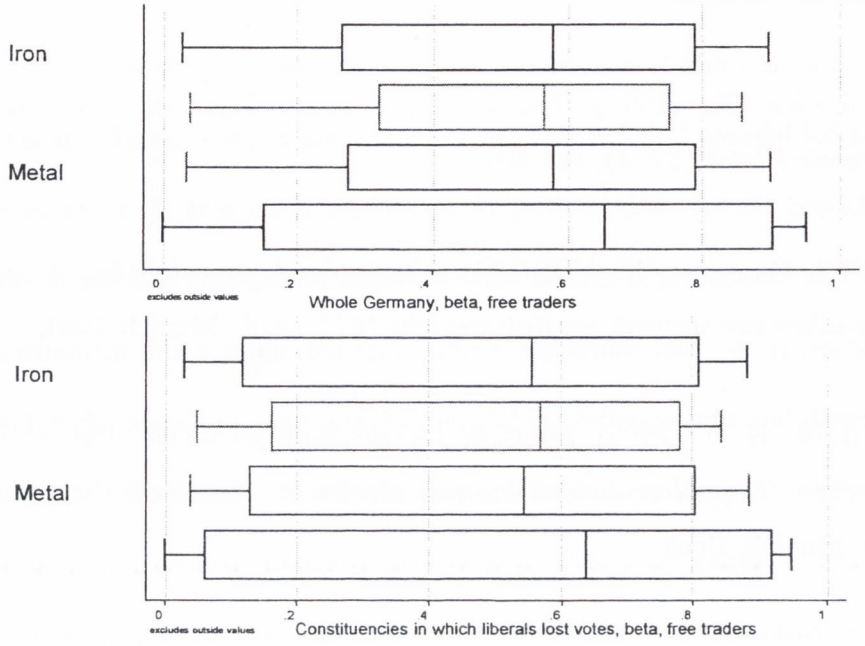
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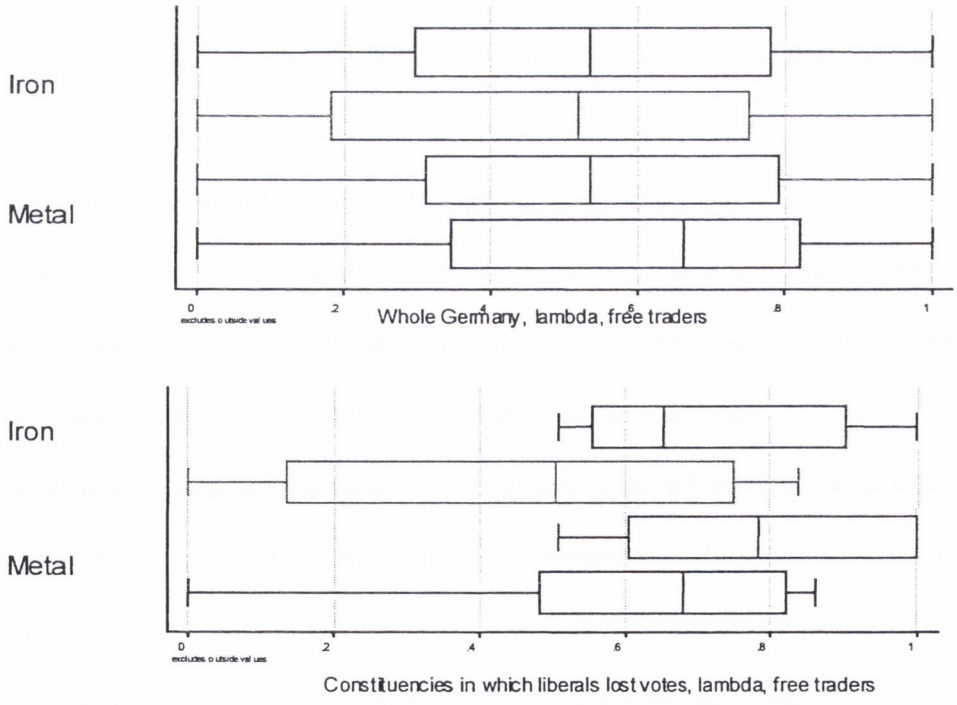
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6. Appendix

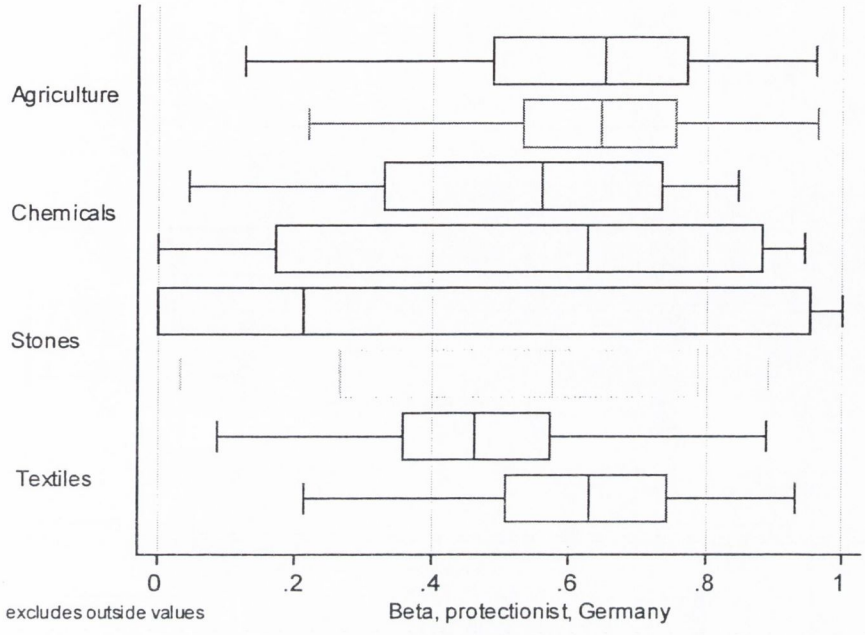
Graph 6. 1: Distribution of turnout (beta) among constituencies for free trade sectors and for different regions

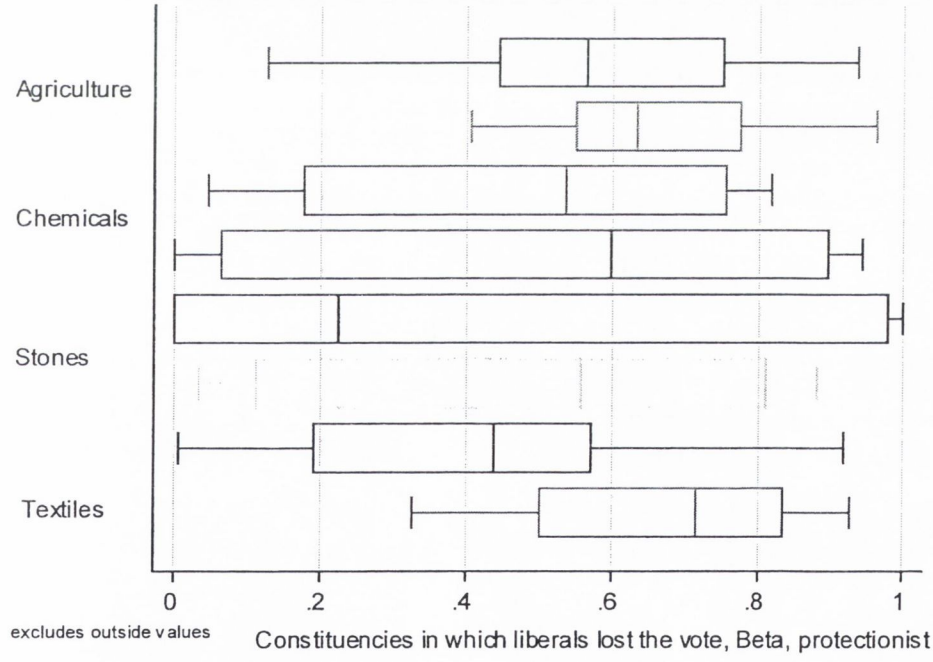


Graph 6. 2: Distribution of votes for free trade (lambda) among constituencies for free trade sectors and for different regions

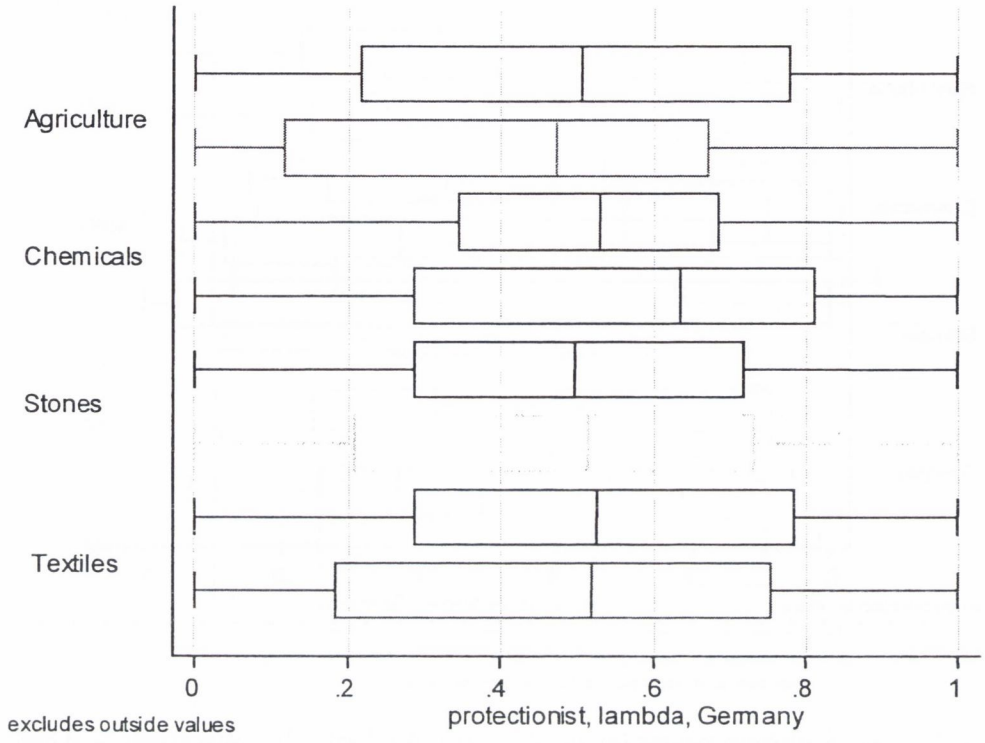


Graph 6. 3: Distribution of turnout (beta) among constituencies for protectionist sectors and for different regions





Graph 6. 4: Distribution of votes for free trade (lambda) among constituencies for protectionist sectors and for different regions



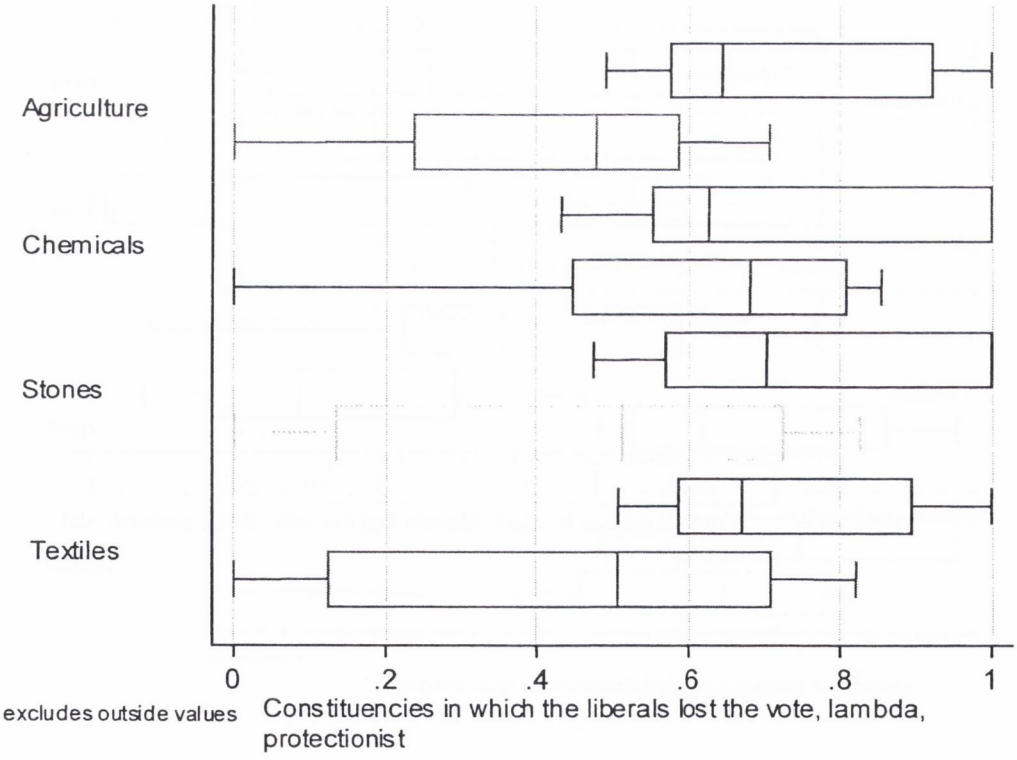


Table 6. 1: Overview parties (Weimar Republic)

Parties, abbreviation	German	Translation	Description
KPD	Kommunistische Partei Deutschlands	German Communist Party	Extreme left-wing party, which demanded a government by soviets
USPD	Unabhängige Sozialdemokratische Partei Deutschlands	Independent Social Demcrats	Former very left-wing of the social democrats that split from the main party in order to pursue more leftwing politics
SPD	Sozialdemokratische Partei Deutschlands	Social Democrats	Labour arty
DDP	Deutsche Demokratische Partei	German Demoratic Party	Liberal arty, which was in the government most of the time
Centre	Zentrum	Centre	Catholic party, which was always in the government, legislator
BVP	Bayrische Volkspartei	Bavarian People's Party	Bavarian sister of the BVP
DVP	Deutsche Volkspartei	German People's Party	A party that originally demanded a parliamentary monarchy, but became more and more democratic.
DNVP	Deutschnationale Volkspartei	German National People's Party	Party mainly supporting the interest of large landowners and heavy industry.
NSDAP	Nationalsozialistische Partei Deutschlands	National Socialists	Anti-democratic party founded by Hitler.

Source: TREUE, W. (1956). *Deutsche Parteiprogramme, Quellensammlung zur Kulturgeschichte,* Goettingen: Musterschmidt