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Explaining differences in educational spending in rural Sweden in the 1870's

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Abstract:

This thesis gives a historical perspective on current debates on growing inequalities in Swedish schools, by analysing explanations to differences in educational spending between rural municipalities in Sweden in the 1870s using a multi-variate regression model. The results indicate that both absolute wealth and the size of the middle-class are good predictors of school spending at local level. This would seem to support a human capital explanation of the emergence of public primary education. The existence of top elites was found to have little significance, which seems to contradict social-control explanations to school development. The role of the diffusion of the franchise is difficult to analyse, given that Sweden was an elite democracy at the time.

Key words: school finance, primary schools, education, history, franchise, human capital, Sweden

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1. Introduction¹

”En fattig sate får viska när den rike talar med tordönets avgörande stämman.”

(“The poor man whispers, while the rich man decides”, author’s translation)

Möller (2010, p. 35)

1.1 Background

Equal access to education has been a corner-stone of educational policy in Sweden since the 19th century. Even though the reality was very different for a long time, by the end of the 1980s Sweden could boast a very equal school system with low geographical differences. In the first half of the 1990s the responsibility of primary schools was decentralised from the state to the municipalities and the possibility for pupils to attend private schools was introduced. Since then inequalities based on socio-economic factors between municipalities, schools and students have been growing, in parallel with overall reduced performance of Swedish students in international rankings (von Greiff 2009, p. 50; Skolverket 2012, p. 6).

This thesis aims to add a historical perspective to these developments by discussing geographical variations in school development a few decades after the introduction of public mass schooling in Sweden in 1842. Geographical differences in terms of spending and quality development of schooling persisted for a long time after the reform. Various explanations to these differences can be found in the literature on the emergence of public mass schooling in Sweden and more generally the Western world in the 19th century.

Some authors lay emphasis on various societal groups and how they promoted their interests and that the state perceived a need to address increasing poverty and promote nation-building. Others argue that growing classes of freeholders and merchants recognised the benefits of education. Some focus on ideas that came from abroad about how modern society should be constructed. Recently, Peter Lindert and Sun Go of the University of California have shown that there is an empirical relationship between the diffusion of the franchise and local spending on primary schools in the mid-19th century US.

1.2 Aim and scope

This thesis contributes to this literature by testing empirically different explanations to variations in school development for Swedish municipalities in the second half of the 19th century. The aim is to explain local variations in educational spending in the 1870’s. Based on a literature review a number of hypotheses are formulated and tested using a simple multivariate model based on cross-sectional

¹ Many thanks to Raquel Carrasco, Mats Olsson and Patrick Svensson for kind assistance with econometrics and sources.

data on individual school districts in southern Sweden. The focus is on the franchise and economic variables.

1.3 Outline

The thesis is organised as follows. The next chapter provides the theoretical framework to the thesis by combining institutional theory and various explanations to the emergence of public mass schooling. This chapter also includes a review of previous research. It ends with the formulation of a set of hypotheses. Chapter 3 gives a background to aspects of Swedish society and public primary schooling in the second half of the 19th century. Development of the political system and franchise at local and central levels are reviewed in some detail. Chapter 4 contains the main empirical section of the thesis. It introduces a simple multivariate model to test to the hypotheses based on a sample of Swedish municipalities. Chapter 5 provides some concluding remarks.

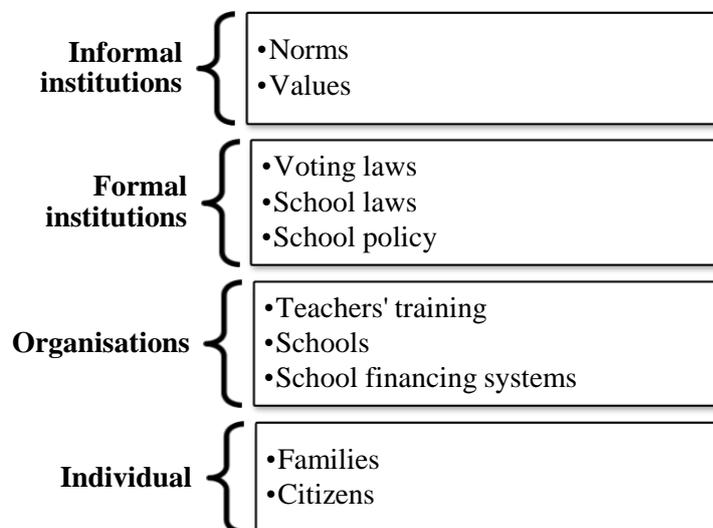
2. Theoretical framework and previous research

2.1 An institutional view of education

Institutional theory provides a good basis for developing a conceptual framework for the study of the emergence and development of mass schooling and the various explanations to why this happened. The exact definition of an institution has been debated since the days of the old institutionalists (Commons 1931). A widely adopted definition of institutions is that they are “...*humanly devised constraints that shape human interaction*” (North 1990, p. 3). Institutions are established to coordinate human action and reduce uncertainty in order to lower transaction costs. In this view, institutions (the ‘rules of the game’) are separated from organisations (‘the players of the game’).

However, the evolution of mass education clearly involves aspects of both institutions and organisations, such as attitudes towards schooling, school laws, school policy, school finance and educational bodies. In addition, there is also the role played by the family or individual in voting, paying taxes and sending children to school. Four levels of educational analysis can be distinguished as illustrated by Figure 1 (cf. Williamson 2000, p. 597).

Figure 1 Four levels of educational analysis



Informal institutions are norms and shared beliefs that influence schooling (North 1990, p. 36; Meyer and Rowan 2006, p. 6). Informal institutions exist and act at different levels – local, regional, national and global (Baker and LeTendre 2005, p. 9). *Formal institutions* are political, legal and economic rules and laws that regulate the basic political structure and property rights of a society (North 1990, p. 47). Of interest for the analysis in this thesis is the distinction between different interpretations of democracy (Stava 2001, p. 170). The participatory democracy view emphasises the need for high levels of participation in elections to give a clear mandate to politicians. The elite democracy view

doubts the ability of the people to rule itself and argues that the elite always rules. Finally, the communicative view argues that democracy is based on free and open debate. The two latter views give less importance to elections and voting patterns.

Public policy can also be considered a particular set of institutions, since “...*the institutions that impinge on the modern citizen most directly and intensively as she goes about her daily life are in fact public policies, not the formal political institutions that have preoccupied political scientists.*” (Pierson 2006, p. 116) Implementation of public policy takes to a large extent place through *organisations* (Hill 2005, p. 196). The education sector fits well the concept of a societal sector, which can be defined as “(1) *a collection of organisations operating in the same domain, as identified by the similarity of their services, products or functions, (2) together with those organisations that critically influence the performance of the focal organisations: for example, major suppliers and customers, owners and regulators, funding sources and competitors*” (Scott and Meyer 1991, p. 117).

The educational sector in each society is shaped by its unique set of educational priorities, available financial and human resources and administrative structures to implement them (Levin 1994, pp. 5234-5). Decisions have to be made on who should receive education and how much education that should be provided to the selected target group. A corresponding number of school places have to be created, staffed and financed. The content and quality of education have to be determined. The issues of public versus private provision and funding of education need to be resolved.

In addition, an appropriate government structure needs be put in place (Levin 1994, p. 5236). A balance has to be made between centralised education that can provide uniformity and benefits of scale and decentralised schooling, which has greater potential for responding to local needs. Involvement of local authorities inevitably gives rise to geographical inequalities, since different localities may have different preferences and abilities to pay for education.

One approach to studying different levels of government and their interaction in relation to education can be found in the fiscal federalism literature (Mitch 2004, p. 277). Originally, its basic tenet is that social welfare is higher if local government provides ‘local public goods’ tailored to its residents, rather than the central government providing uniform public outputs nationwide – the so called ‘Decentralisation Theorem’ (Oates 2005, pp. 351-2). In the presence of spill-overs between lower levels of government and mobility of population, central government should take the responsibility of macroeconomic stabilization policy, basic income redistribution, and national public goods. A second concern is the ‘tax-assignment’ problem – at what levels of government should taxation belong? The so-called ‘Tiebout model’ shows that local government should rely on benefit taxes – such as property tax - since otherwise mobile citizens will move to low-tax locations. Third, equalising intergovernmental grants may be applied from higher levels of government to lower levels. This

original version of fiscal federalism has been extended to include political processes, the utility function of public agents and asymmetry of information (Oates 2005, p. 357).

The *individual* plays a dual role as regards the educational system: she is a citizen who votes at both national and local levels and pays taxes to finance schools; she is also a parent who takes decisions about her child’s education, balanced against the cost of schooling and the potential loss of income from the child’s labour (Go and Lindert 2007, pp. 14-15).

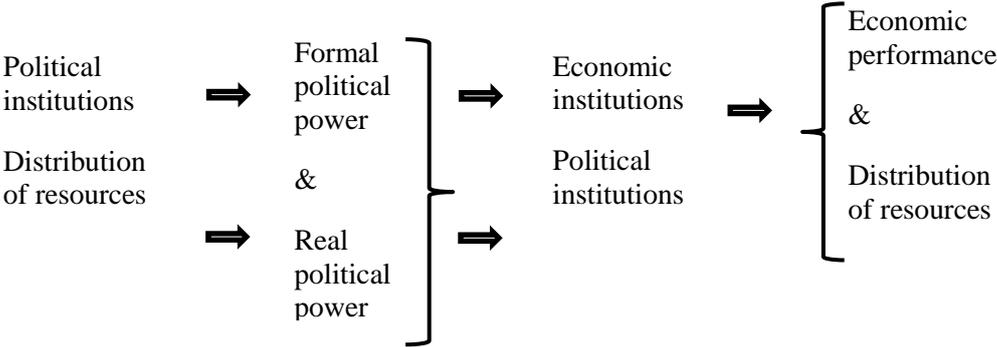
2.2 Explanations to institutional change and the rise of mass schooling

In the previous section a conceptual framework for the analysis of education was proposed based on institutional theory. But what factors can induce change in that system? There are a number of explanations to institutional change in general and the rise of mass schooling in particular in the literature. Three broad types of explanations will be considered here: political economy explanations, human capital explanations and sociological explanations.

2.2.1 Political economy explanations

Political economy explanations analyse policies and societal institutional choices (formal institutions level in the taxonomy presented above) through the lenses of the distribution of political power among different interest groups (Acemoglu 2003, p. 648). This ‘social conflict perspective’ asserts that inefficient institutions and policies arise because of “...severe misalignments in the economic interests of politically decisive actors and the rest of the society.” (Acemoglu 2003, p. 622) Powerful elites maximise their own output, rather than social welfare.

Figure 2 A social conflict perspective on institutions



Source: Acemoglu, Johnson et al. (2004, p. 6)

Figure 2 shows how political institutions and the distribution of resources at time t determine the distribution of formal and real political power, which in turn determine economic institutions and eventually future political institutions and the distribution of resources (Acemoglu, Johnson et al. 2004, p. 6). The system tends to be persistent for two reasons. First, large changes in the distribution

of political power are needed to change political institutions, which are inherently durable. Second, the distribution of resources tends to reproduce itself, since the wealthy hold the political power to promote economic and political institutions favourable to them. In this model, much of institutional change is endogenous, which means that initial factor endowments matter for how institutions emerge and evolve (Sokoloff and Engerman 2000). However, exogenous forces, such as changes in technology and the international environment, can modify the balance of the system and lead to changes in political and economic institutions.

This view relates to the social control perspective on schooling as a way for the elite to control the population, a perspective that has been widely accepted in both the Swedish and the US context (Boli 1989, p. 14-16; Lindert 2004, pp. 99-104). According to this perspective, supported by Sandin (1986) and Edgren (2011) among others, the ruling elite in Sweden developed schools as a means to deal with social unrest and growing poverty of the early 1800's. School reforms are seen as linked to the development of other social-control institutions such as the police, prison, health care system and in particular poor relief. In addition, it has been argued that the rising capitalist class pushed for mass schooling to produce disciplined workers and reinforce the existing social order. A variation on the social control view is that the government expanded education to promote its own interests in terms of nation-building and state control of education (Boli 1989, p. 14-16).

The social control perspective has been criticised for not having established whether elite interests actually increased or reduced the quantity and usefulness of mass education (Lindert 2004, p. 99). It could go both ways and interests changed over time. Five out of seven major social constituents in the US – with farmers, ethnic minorities and the aristocracy among them – initially opposed common schools and the taxes, loss of local control and secularism they would give rise to (Meyer 2006, p. 62-64). Mass influx of immigrants to Boston and New York caused social disorder that made the aristocracy change sides. They turned in favour of mass schooling to teach immigrants American values and customs. Since the aristocracy was highly organised they gave impetus to school reform.

In Sweden, there was opposition between liberal advocates of public education for all citizens and conservatives who placed schooling in the private domain and regarded education of the masses as threatening the social order and stability (Richardson 2010, p. 51). The emerging social issues were one reason why the balance tipped in favour of the liberals. The Peasant estate opposed compulsory state-financed primary education in the Swedish Parliament well into the 1860's as free-hold farmers did not want to pay for the education of girls and the children of the poor (Nilsson and Pettersson 2008, p. 220). There was also opposition to schooling at local level; in early modern Sweden, rural families were dependent on the work of their children, which put limited the possibility of these children to attend school (Sjöberg 1996).

Another question is why there was such a sudden break in the way social control was implemented? (Boli 1989, p. 17-18) Before the rise of mass schooling, social control was usually exercised through repression and mass schooling was considered to be dangerous for the masses. It can be argued that the enlightening character of the school curriculum, which was generalised and abstract, and the egalitarian basis of mass schooling speak against the social control perspective (Boli 1989, p. 18). However, this seems to be an idealist account of early public schooling. In terms of its actual implementation early public mass schooling in Sweden and the rest of Europe was targeted at the poor and reinforced a parallel schools system separating the poor and the wealthy with little communication between the two levels that in Sweden was to endure until the 1950s (Thunander 1946, pp. 403-404; Petterson 1992, pp. 164-165; Richardson 2010, p. 50). In addition, early on cheaper minor schools (as opposed to full-fledged primary schools) were introduced in the 1860's to accommodate the need for cheap flexible schooling of poorer families (Nilsson and Pettersson 2008, p. 222).

While the social control perspective places the emphasis on elite interest and is prudent about the potential of representative democracy (Erlingsson 2009, p. 83), Peter Lindert advocates a bottom up perspective and contends that decentralised control over taxes and schooling (through democratic voting rights) allowed advanced regions to develop mass schooling, which would not happen under centralised government (Lindert 2004, p. 105; Goldin and Katz 2008, p. 161). He presents evidence to show that democratic countries had more advanced public primary schooling than non-democracies or elite democracies (such as Sweden) (Lindert 2004, pp. 105-107). Lindert, together with Sun Go, move on to argue that greater affordability, autonomy of local governments and diffusion of voting rights in the northern states can explain why school enrolment was higher in the North than in the South in the United States by 1850 (Go and Lindert 2007; Go and Lindert 2010). In particular, they find that the diffusion of voting rights correlates well with both levels of tax support to and enrolment in primary education.

Stoddard (2009) tests two alternative explanations of why voters chose to fund education in the US in the mid-1800s: a) public funds as a means for voters to transfer wealth to themselves; b) voters may realise external benefits by subsidizing the education of others to raise social education levels. She shows that States where median and mean wealth was closer together had higher fractions of education revenue from public sources. Enrolment rates rose when the public share of education funding rose, especially for poor children. These facts are consistent with a model with external benefits of education.

2.2.2 Human capital explanations

Human capital explanations analyse how economic incentives influence the willingness of governments and individuals to invest in schooling in the tradition of Gary Becker. There is a general agreement in the modern literature that there are important returns to individual and government

investment in education, both in monetary and non-monetary terms. However, these returns vary over time and place and there are important measurement challenges involved (Björklund and Lindahl 2005; Dickson and Harmon 2011).

There is, however, considerable controversy about the role of human capital in the early modern and pre-modern period. Some view the industrial ‘revolution’ as an elite project:

“...we are talking about thousands, perhaps a few tens of thousands, not hundreds or millions of people in industrializing Europe; democratic instincts notwithstanding, what the large majority of workers knew mattered little as long as they did what they were told by those who knew more.”
(Mokyr 2005, p. 310)

The basic argument is that there is a possibility to substitute formal education for “...*various forms of more spontaneous or informal experiences*” (Mitch 1990, p. 39), when promoting science-based technology. This would hold for manufacturing as already mentioned, but also agriculture. Even though decision making in agriculture was more decentralized, diffusion of techniques was based on personal contacts rather than books or journals. Even commercial activity can be performed by illiterates. In these contexts, learning by doing and tacit skills can be just as important as formal education.

In contrast to this elite view, studies of the role of literacy in the Swedish agricultural transition show that functional literacy, which is more advanced than merely being able to read known texts, helped freeholders during the enclosure movement and to access credit (Nilsson, Pettersson et al. 1999). The initial stages of agricultural transition relied extensively on administrative procedures; literate farmers had an advantage since they could perform these tasks themselves and avoid being cheated. As such, literacy played the role of a transaction technology and more advanced farmers found it profitable to invest in education for their sons (Nilsson and Pettersson 2008). As early as the 17th century, wealthy layers of society were willing to pay for their children’s education and an extensive private school system emerged during the 18th century (Richardson 2010, pp. 37-38, 40). Studies of local school districts show that children’s schooling were closely related to the economic and social conditions of their parents (Sandin 1986, p. 18).

This latter explanation for schooling centres on a growing “middle-class” as opposed to the social control perspective that focuses on the wealthy top layers of society. The use of the label “middle-class” is not as anachronistic as it may first appear. In fact, it was used as early as the beginning of the 19th century to designate the growing group of merchants and other related groups in the cities. In this thesis I will use middle-class to describe the equivalent group in the rural context, including groups such as free-holding farmers, craftsmen, shop owners, supervisors in industries and mills and estate managers.

2.2.3 *Sociological explanations*

This type of explanations focuses on informal institutions that emanate from socially transmitted information or culture (North 1990, p. 37). They emphasise the public good character of education, which is caused by the external benefits discussed above (Mitch 2004, p. 265-7).

The ‘functionalist’ view argues that mass schooling arose as a response to a society that was becoming increasingly complex and based on division of labour caused by industrialisation (Boli 1989, pp. 11-13). Schooling provided a new basis for identity and social cohesion and means of preparing individuals for their adult roles as citizens. Individualism, secularism and mobility created the need for a new common societal basis. This view tends to ignore the differences and conflicts between societal groups and classes that we saw above and the view that mass schooling emerged before industrialisation and urbanisation started to accelerate in Sweden (Pettersson 1992, p. 55).

A related ‘modernisation’ viewpoint sees schooling as “...*an instrument for the transformation of society, for the pursuit of collective goals that affect all segments of society*” (Boli 1989, p. 24), rather than driven by functional necessity. According to this view promoting equality was an important goal of early Swedish school reformers and remained so to modern times (von Greiff 2009, pp. 29ff). Similarly, in the United States republican ideas of egalitarianism are considered to be important in the establishment of mass schooling (Goldin and Katz 2008, p. 161). The modernisation perspective can be accused of underestimating the mismatch between the abilities needed for adult life and the abstract school curriculum, which were of little practical use to disadvantaged children in particular (Boli 1989, p. 25). In addition, as we saw above, it seems that in reality concrete social concerns paved the way for mass schooling, rather than idealistic visions of society.

Boli (1989, pp. 25-31) criticises functionalist explanations for exaggerating the potential to use schooling for clearly specified goals, for not being able to explain why schooling (as opposed to other means of control or repression) was the response to modern society and for not accounting of the fact that mass schooling emerged before social differentiation associated with urbanisation and modernisation. Instead he proposes that mass schooling corresponds to a ritual ceremony of modern citizens; rather than a rational project, schooling is a rite the passage of individualised modern society (Boli 1989, pp. 47-50). These developments were transnational in that they permeated the whole Western world and promoted standardisation and universalism (isomorphism) (Boli 1989, p. 56; Baker and LeTendre 2005, p. 12). This view is in line with the tradition of sociologist John Meyer and others that associated the rise of public mass schooling in Western Europe and North America to European ideas of the state, citizenship and individualism (Rowan 2006, p. 204).

It can be argued that Boli underestimates the differences and conflicts between social groups and the fact that public schooling was initially aimed at the less fortunate layers of society (Pettersson 1992, pp. 56-58). It would take time before having attended public primary school would entail the possibility to

fully participate in society. The international influences were undoubtedly very important for the debate on and the actual organisation of public schooling in Sweden both before and after 1842. At the time comparisons were made with Denmark and Norway where public schooling for all had been introduced in 1814 and 1827 respectively (Lindmark 2011, p. 70). Theoretical and practical models flowed in from Germany and the British Isles. The British model was particularly influential in Sweden, exemplified by the promotion and widespread use of the monitoring system of education that had been developed by Joseph Lancaster (Petterson 1992, pp. 318, 322).

2.2.4 Discussion and hypotheses

As the review of explanations to the rise of mass schooling in this chapter shows, there are a great number of seemingly conflicting factors that influence school development. However, it is possible to take a more holistic and pragmatic position that combine different approaches into a more comprehensive explanatory model. Most authors recognise that there are several forces at play, even though many tend to lend primacy to one or a couple of factors. It should be clear from the discussion so far that there is a need to consider the interaction between economic, social and political forces in order to really understand the development of schooling (Richardson 2010, p. 53). The four layered model for institutional analysis presented in Figure 1 provides a useful basis for an integrated approach.

There was a flow of ideas as proposed by the sociological explanations, not the least from abroad, that shaped informal institutions and provided a normative context for the debate and models set up the formal institutions and organisations to organise schooling. There was on-going change in economic conditions, even though the industrial ‘revolution’ did not really start to transform Sweden until the last quarter of the 19th century as we will see below. A middle-class began to form that was to invest in their children’s ‘human capital’ at the individual level. Ideas and the distribution of resources fuelled the political debate and the balance of power, not the least the emergence of growing social problems that threatened law and order. As we will also see below, there were important reforms to modernise political institutions in Sweden during the 19th century; formal political power spread, but the persistence in terms of real political power is striking. Sweden remained an elite democracy.

The task now is to develop a set of hypotheses that can realistically be tested by using the data and quantitative methodology proposed in this thesis. The obvious place to start is Lindert and Go’s results that link school development and the franchise at local level. The assumption is that diffusion of the franchise is associated with higher degrees of school development, as more and more of the population gets a say in education. Furthermore, since formal voting rights were tied to wealth criteria, the diffusion of the franchise is also a measure of the size of the relatively well-to-do or middle class. Assuming that this group recognised the externalities of public education - as proposed by Stoddard (2009) - the first hypothesis can be formulated:

Hypothesis 1: A higher share of people with voting rights is associated with higher spending on public schools

The fact that voting rights were weighed by income/resources also created a situation where one or a few voters had very high shares of total votes. A highly weighted voter may potentially have gained even greater influence since smaller voters may not have found it worthwhile to vote at all, but may also have lost influence by having to consider the will of the majority. One can see a parallel with the elite versus the communicative views of democracy here. From a social control perspective, the top elite may be interested in promoting schooling for social order reasons, but may have less incentive to do so for other reasons. In addition, these interests changed over time. The net effect is therefore unclear, why the hypothesis we would like to test is:

Hypothesis 2: The presence of voters with large shares of the votes is significantly correlated (negatively or positively) with spending on public schools

So what can be said about the link between the absolute wealth of a locality and school development? Lindert and Go and the functionalist explanations assert that the association is positive. From the social conflict/control perspective this would depend on how the distribution of resources between social groups changed, with an unclear net effect. There are also opposing views within the human capital perspective on the role of human capital during different phases of industrialisation. It is beyond the scope of this thesis to consider the role of structural transformation in school development at any depth, but some reflections on the issue are pertinent. The 1870s was a time when Sweden really entered the industrial era. Boli and others argue that mass schooling emerged before industrialisation, while the elite interpretation of the human-capital perspective claims that industrialisation actually lowered the demand for formal education. We can get a sense of this issue by the inclusion of two different measures of wealth in the model presented below. The value of land can be considered to represent the traditional economy, while taxable income is more linked to industrialisation and the service economy. If we presume that more wealth implied more resources that could be freed for schooling and also that more families would be able to pay for schooling, the link is likely to be positive:

Hypothesis 3: The level of average wealth is positively correlated with spending on public schools

Other hypotheses could of course have been formulated pertaining to for example demographic factors or the socio-economic structure of a school district, but have been excluded to focus the scope of this thesis and reduce the data needs. Testing the importance of informal institutions – norms and values – as advocated by the sociological explanations would have been particularly interesting. To what extent was schooling part of a modernistic (intentional or not) project aimed at forming individual women and men? This could be analysed from a spatial perspective, based on the assumption that ideas travel

between neighbouring geographical areas. For example, proximity to urban centres (with enhanced access to their relative wealth of ideas and services) may have had an effect on how schooling is considered, even though the outcome of urban rural dynamics is difficult to predict (Jonsson, Sandgren et al. 2009, p. 232). What will be clear from the discussion below is that schooling developed at different pace in different Swedish regions for various reasons, which may be difficult to identify.

Before testing the hypotheses the next chapter sets the scene by briefly discussing the social, economic and political developments in Sweden, in addition to the development of public schooling.

3. Swedish society and primary schooling until the 1870's

3.1 Social and economic transformation

Rural Sweden in the 18th century was characterised by improved social, economic and political status of the peasantry, declining tax levels and a series of good harvests (Magnusson 1996, p. 109). Thanks to these favourable conditions, farmers could take advantage of the enclosure movement, improved technologies and growing internal and export markets to increase agricultural production. This process gained momentum in the first decades of the 19th century (Bengtsson 2005, p. 343). Agricultural progress was coupled with strong population growth; the Swedish population grew from around 1.8 million in 1750 to 2.4 million in 1810 and 4.2 million in 1870 (Statistics Sweden 1999). Declines in infant and child mortality from the late eighteenth century onwards led to increases in life expectancy, but there were periods of stagnation or even reversal until the end of the 19th century (Bengtsson 2005, p. 346).

The agricultural transformation led to a proletarianisation of the countryside (Magnusson 1996, pp. 211-213; Bengtsson 2005, p. 359). The number of peasants increased by 10 per cent between 1750 and 1850, while the number of landless quadrupled. Land-owning farmers could take advantage of increased commercialisation of agriculture, while the landless had to rely on self-sufficiency or wage labour. The process of proletarianisation started in Malmöhus county in the south of Sweden (see map in Appendix), with its agricultural plains. The effect on rural poverty levels is less clear (Andersson and Gunnarsson 2005, p. 17; Bengtsson 2005, p. 349). Starting from a higher level, poverty levels seem to have fallen in small-holder based western Sweden that experienced the most rapid transformation, compared to the less dynamic eastern Sweden, which was dominated by larger estates. When industrialisation accelerated in the 1860's the east benefited more in terms of poverty reduction relative to the west. By the 1870's, Sweden was still a rural society based on small family owned freehold farms (Andersson and Gunnarsson 2005, p. 21), with only 13 per cent of the population living in urban areas (Statistics Sweden 1999, p. 42).

3.2 The political system at central and local levels

3.2.1 Central political institutions

The Swedish political tradition is characterised by the co-existence of strong central government and local self-determination (Möller 2010, pp. 18-21). This may seem contradictory, but has its historical explanations. Basic local institutions – such as thing (*ting*), hundred (*härad*) and parish assembly (*sockenstämma*) - appeared during early medieval times. In a European perspective, the peasantry had a strong voice, since it was one of the four estates, while feudalism never was a strong feature of Swedish society. A strong central state started to emerge during the 16th century and in the 17th century

this development accelerated because of the need to finance Sweden's imperial ambitions around the Baltic Sea. During the 18th century the parliament got increasingly influential. The Freedom of Print Act (*Tryckfrihetsordning*) of 1766 was path-breaking in that it gave all citizens a right in principle to access public documents. This early period of parliamentarism degenerated and was followed by a period of monarchic rule, which ended in 1809 with a new constitution that was to remain in place until 1975.

The 1809 constitution was based on Montesquieu's principles of the division of power (Möller 2010, pp. 21-22). The king was given executive powers, while the parliament was given responsibility for taxes and expenses. The parliament also had to approve of new legislation proposed by the king and provided a controlling function of the government that formally was advisor to the king.

A number of factors fuelled the need for further reform (Möller 2010, pp. 25-26). The parliament did not work very well. Liberal opposition wanted to constrain the power of the king and strengthen the role of the government and the parliament. In parallel, new social groups emerged that did not fit into any of the four estates. The nobility was increasingly losing its economic dominance and the traditional clergy was challenged by pentecostalist movement. The peasantry was the first of the estates to demand reform of the representative system, inspired by the Norwegian parliament that had broad-based voting rights and strong farmer representation (Christensen 2006, pp. 727-728). The basic reason was opposition to what farmers perceived as the unjust tax exemptions of the nobility.

In 1866 there was a parliamentary reform that replaced the estate based parliament with a bicameral system, with indirect elections to the first chamber and direct elections to the second chamber. The chambers had equal standing and both chambers had to approve of new legislation. Möller (2010, p. 26) argues that the reform led to a modernised system of representation, with a stronger position of the parliament and a vitalisation of its work, while Lewin, Jansson et al. (1972, pp. 40-41) instead consider the reform to have made the parliament even more exclusionary since it favoured the land-holding aristocracy at a time when parliaments in other European countries were increasingly opening up for representation of the working class. Christensen (2006, p. 745) points out that the conservative interests of the parliament of the estates were preserved, since the first chamber of the new parliament was dominated by large land owners and wealthy individuals. In addition, the right to vote was only modestly increased from around five per cent to six per cent of the population or around 20 per cent of all men above the age of 21.

3.2.2 *Local political institutions*

The predecessors of the modern municipality were the independent towns and the parishes in the countryside (Gustafsson 1996, pp. 13-14). The main responsibility of the parishes was to deal with church related matters, but they were also the basis for local decision-making about secular issues. After the Reformation of the 16th century the parish was given responsibility for education and care of

the poorest. Gradually, tasks such as road maintenance, health care and election of peasant estate representatives to parliament were added. The parish council was the main decision-making body and was led by the local parish priest. During the 17th and 18th centuries, local autonomy lost ground to the emerging centralised state; the regional administration based on the historical province (*landskap*) was overtaken by counties (*län*) ruled by regional representatives of the central government (*landshövdingar*).

During the 19th century local rule was gradually strengthened (Gustafsson 1996, pp. 14-15). The secular role of the parish was emphasised. In 1843, church and non-church affairs were formally separated. This was emphasised in the 1862 municipal reform, which made municipalities independent legal entities, within the context of the central state. A general clause defined municipal responsibilities as opposed to earlier detailed regulation. The taxation right of the municipality was reaffirmed.

The 1862 reform created five types of municipalities (Gustafsson 1996, p. 16). Towns and townships were primary civil municipalities. In the countryside parishes were divided into primary civil rural municipalities and primary ecclesiastical municipalities (*församling*; parish), both basically covering the same geographical areas. The county council (*landsting*) was created as a secondary civil municipality. The reform reaffirmed a geographical municipal division that by and large followed the old parish structure, which led to large variations in size, population and economic resources of the rural municipalities. By 1863 there were around 2 500 municipalities – 2 400 rural municipalities, 10 townships and 89 towns. The geographical division of the municipalities was durable, with few changes until a process of amalgamation of municipalities into larger units was initiated in the 1940's (Wångmar 2003, p. 72). The highest decision-making body in the rural municipality was the municipal council, with a right to vote which depended on income or wealth.

Somewhat oddly a modern audience, the 1862 reform gave responsibility for primary education to the ecclesiastical municipalities or parishes, not the civil municipalities. The parish was governed by a parish council (*kyrkostämman*), with the same voting rights as for the municipal council (SFS 1862:15). In terms of schooling the parish council was responsible for teachers and their wages, auditing school accounts, maintaining school buildings and, no less important, school fees. The council's decisions were implemented by the school board (*skoloråd*) in the case of primary education and the parish board in other areas. The law stipulated that the school board should be chaired by the local parish priest. School board members were elected by the parish council among its participants and had one vote each. In the case of equal votes the chair's vote was decisive. One important role of the board was to prepare the annual school budget and submit it to a vote in the parish council.

3.2.3 Local decision-making and right to vote

Local decision-making in Sweden has traditionally been based on majority voting and the one-man, one-vote principle for male land-owning individuals (Mellquist 1974, pp. 17-21). Increasingly the nobility and the church gained influence and both groups could overturn the opinions of local farmers in important issues such as elections of the clergy. The peasant estate raised the issue at parliament and in 1739 it was decided that the local clergy should be elected by majority voting and that the right to vote should be determined by wealth (ownership of land or blast furnace/mill). This was a compromise outcome between the peasantry and the nobility. The former preserved its influence through its land owning, while the latter secured majority voting. These rules were basically confirmed in the 1817 decision on voting in the parishes (Mellquist 1974, p. 36). It took time for the reforms to take hold at local level, but increasingly graded voting became the established way to distribute voting rights. In 1843 it was decided that not only land, but also income could be a basis for voting above a certain limit (Mellquist 1974, p. 45).

Table 1 Voting rules for rural municipalities introduced in 1862

-
- Only men above the age of 21 had the right to vote.
 - The number of votes of an individual was based on land and income. Each unit of owned land (*mantal*) corresponded to 100 voting units (*fyrk*). Each *fyrk* represented one vote. The voting value of income was calculated based on the taxes paid. Income that required payment of taxes equal to the average amount of taxes paid on one *mantal* in the municipality was given 100 *fyrk*.
 - There was a minimum requirement of 10 *fyrk* to be allowed to vote. There was no maximum number of votes.
 - In addition, according to the tax laws no taxes were paid on income below 400 rd and on land valued to less than 100 rd, which implied a loss of voting rights below these levels.
 - The right to vote was extended to all tenant farmers without restriction.
 - Corporations were given the right to vote.
 - There were some geographical exceptions. In *Kopparberg* county the voting rights were based on monetary units instead of the *fyrk*, while earlier rules were maintained in the *Jämtland*, *Västerbotten* and *Norrbotten* counties (Mellquist 1974, p. 114).
-

Source: Mellquist (1974, pp. 49-52)

The voting rules for rural municipalities established by the 1862 municipal reform are presented in Table 1. The reforms meant that formally around 10 per cent of the total rural population and 18 per cent of the urban population were given voting rights (BISOS R 1871, pp. 7-8). The system of graded votes created a situation, where in many municipalities a few individuals or corporations could dominate local politics. In more than half of the municipalities at least one individual or corporation

had more than 10 per cent of the votes, a level that is considered to have given considerable influence on local affairs (Mellquist 1974, p. 127).

The formal rules aside voter turnout in both national and local elections was low. Möller (2010, p. 34) reports on a turnout of 10 per cent in local elections at the end of the 1800's and around three per cent in certain municipalities in the 1860's. He describes this as an apolitical culture. Lack of knowledge of local political rights may have been one explanation. Another reason was the disincentive for individuals with a few votes to vote, when there were individuals and corporations that held hundreds or thousands of votes. Another factor may be that municipal affairs were relatively apolitical and municipal activities limited during the 19th century. Schooling, limited care for the poor and infrastructure were the main issues. A more cultural explanation is the Lutheran based ideology that favoured contentment, obedience and faith in authorities (Möller 2010, p. 36).

It is difficult to make an across the board assessment of which individuals or groups that dominated local politics. There seems to have been large geographical variations and different issues were dealt with in different ways. The local councils can be described as unique political arenas where representatives of the different estates who were separated at national level met to defend their cause, and where the wealthy sometimes had to give in (Aronsson 2001, pp. 31-32, 61-62). Large corporations and landowners could dominate in parishes where they were present, thanks to their heavy voting rights, while in parishes dominated by smallholders peasants could manage local affairs. In total corporations held 20 per cent of the votes (Möller 2010, p. 34) Large vote holders could pressure people in subordinate positions to vote for them and even if decisions were taken unanimously and not through a vote, people are likely to have been keenly aware of the distribution of voting power (Mellquist 1974, pp. 131-132, 149-150). Financing of railways was one issue where large corporations and landowners used their voting power to impose their will on the majority with fewer votes.

It is difficult to empirically determine how decisions were actually made at the parish council since the names of the people present have rarely been documented in the protocols. A study of six parishes in the Stockholm area indicates that attendance varied depending on the matters at hand, but often seems to have been very limited. Unanimity seems to have been a shared ideal, but in practice the elites had the upper hand (Gustafsson 1989, pp. 78-87).

Local priests had great influence over school affairs as chairmen of the school council. This role was questioned in parliamentary debates from 1862 onwards (Sörensen 1942, pp. 32-37). One reason was the perceived need to increase the involvement of local citizens in schooling, to counter the prevailing view that the church was solely responsible for local schools. Another reason was a fear that the curriculum was focused on religious education under church tutelage to the detriment of secular knowledge. There was also a discussion regarding the competence of the priesthood to chair the school

boards. Of these proposals came nothing, the administration of local schools was not transferred from the parishes to the civil municipalities until the 1930 municipal reform.

A case study of parish school boards in Bolstad in western Sweden shows that the school boards early on based their work on instructions issued by the regional government school inspectors that had been introduced in 1859 (Sjöberg 1996, pp. 47-55). However, the boards do not seem to have been very active in promoting school attendance. The chair of the school board, the priest, was the most active e.g. in visiting schools. The board members of the four studied parishes were almost exclusively land-owning and relatively well-educated men (Sjöberg 1996, pp. 173-177). The board met on average less than two times a year and focused mainly on school building and maintenance, which indicates that the parish council was more important than the school board in ruling over local schooling.

3.3 The rise of Swedish primary schooling

3.3.1 Central reforms

The chronology of the rise of mass schooling has been extensively dealt with in the Swedish literature (Aquilonius 1942; Sörensen 1942; Thunander 1946; Boli 1989, ch. 10; Richardson 2010). In this section the focus is on developments until around the 1870's and geographical differences in order to situate the empirical chapter that follows. Some important milestones in terms of central reforms are worth mentioning.

The most important is of course the landmark decision in parliament to introduce public mass schooling (*folkskola*) in 1842, even though school attendance was not made mandatory (Pettersson 1992, p. 312). The majority of the peasantry opposed the decision and had rejected earlier proposals since they feared having to pay higher taxes to finance the reform (Nilsson and Pettersson 2008, p. 220-221). The 1842 reform therefore came with a minimal financial envelope from the state; it was up to the local school districts to fund their schools. The decision prescribed that every parish should have at least one school and minimum knowledge requirements related to reading, writing, mathematics and the Scripture. No minimum requirement of attendance was stipulated and different forms of school such as ambulatory and part-time schools were allowed. The state took responsibility for teacher training and a minimum wage for teachers was determined. The end result was that implementation of the reform was slow and that poor children were sent to school as little as possible.

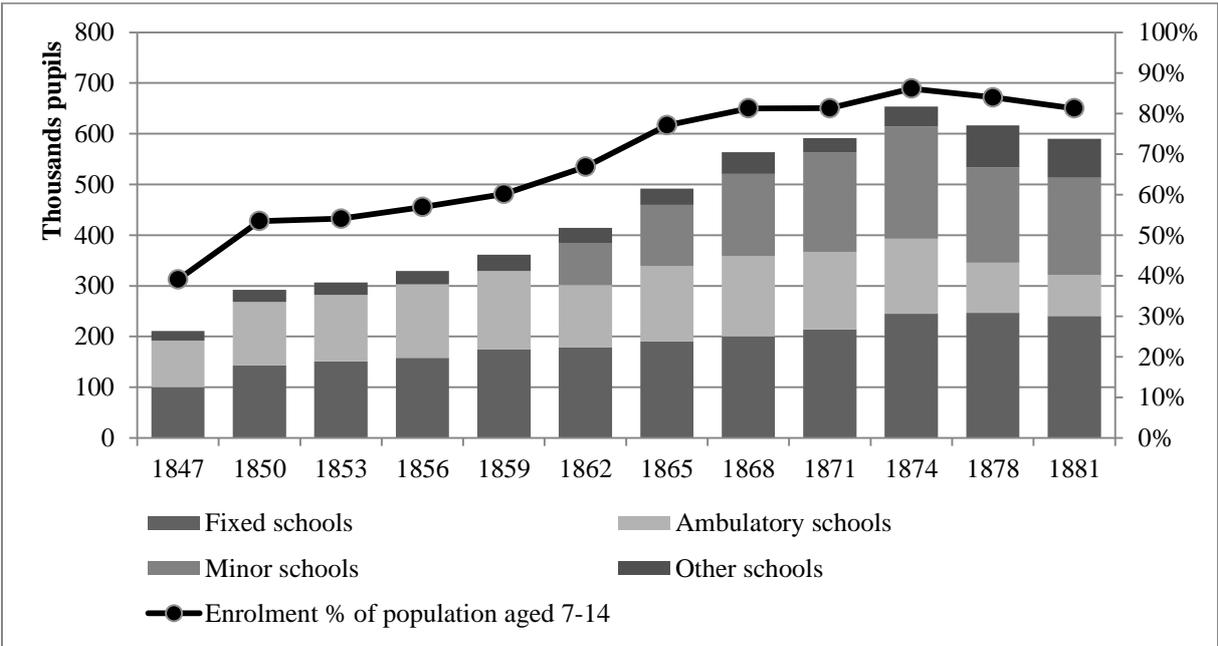
Subsequent parliamentary decisions added important elements to the initial reform to address implementation challenges. In 1846 a public education tax was introduced by the conversion of half of an existing flat tax (*skyddsavgiften*) (Aquilonius 1942, p. 339). Minor schools, which were based on only three years of schooling usually staffed by less educated female teachers, were introduced in 1858 as a response to demands for more flexible, less burdensome schooling (Nilsson and Pettersson 2008, p. 222). A public schools inspectorate was introduced in 1860, against the will of the clergy that

historically had been responsible for primary education (Aquilonius 1942, p. 415). In 1871 the state grant system was streamlined by merging various grants into a single budgetary item to be allocated proportional to the number of teachers employed in each school district (Wallin 1978, p. 382).

3.3.2 Development of schooling

It is a challenging task to measure the development of Swedish schooling in the 19th century. Schools came in many forms, pupils attended education to varying degrees and the statistics are unreliable (see discussion in next chapter). Using official statistics, Figure 3 shows that school enrolment rose steadily from below 40 per cent of all children in 1847 to a peak near 90 per cent in 1874, after which there was a reversal of the trend. This reversal is likely to be due to inconsistencies in the data in Schelin (1978), but some kind of levelling seem to have taken place since BISOS P 1882 (p. 4) reports enrolment rates of 87 per cent in 1876, 89 per cent in 1878 and 88 per cent in 1881. This stagnation also appears in Lindert (2004, pp. 91-92), which indicates a higher enrolment ratio in 1880 than in 1920. Other estimates speak of an enrolment rate in compulsory primary schools of 65 per cent in 1865, 73 per cent in 1890 and 75.3 in 1910 (Ljungberg and Nilsson 2009, p. 80). These differences between measures have not been explored here, but are likely to be due to differences in data sources on the number of pupils, the total number children in school age and the ways to classify schools. The stagnation or even decline in terms of school enrolment in the 1870s/1880s, may also be related to socio-economic factors, such as the changes in the agricultural market structure caused by competition of cheap grain from America and Russia (which was offset by a growing domestic market in Sweden) (Olsson 2005, p. 137).

Figure 3 School enrolment in Sweden (rural and urban) 1847-1881



Source: Enrolment data from Schelin (1978) and population data from Wilmoth and Shkolnikov (2011)

In an international perspective Sweden appears as relatively well advanced in terms of enrolment, even though international comparisons are hazardous to make because of the measurement difficulties just mentioned. In terms of pupils in public schools as a share of the 5-14 age group, Sweden was at around 60 per cent in 1870 and 70 in 1880, which was lower than in countries such as the US (78 and 80 per cent) and Prussia (72 and 74), but higher than in Norway (62 and 61) and Spain (40 and 52) (Lindert 2004, pp. 91-92).

One important driving force for increases in enrolment in Sweden was the development of the minor schools. The use of fully-fledged fixed primary schools, arguably a more advanced type of schooling than ambulatory and minor schools, evolved relatively slowly. Low attendance and a short effective school year contributed to a situation where the actual average schooling received by a pupil corresponded to only around two years in 1868 and 3.1 years in 1890 (compared to 7 years in 1950) (Ljungberg and Nilsson 2009, p. 80).

Table 2 Total school resources and costs for selected years 1839-1881

	1839	1868	%	1876	%	1881	%
Resources (no)							
School buildings	1 009	3 976		5 427		6 535	
Teachers (primary and minor)	1 040	7 145		9 299		10 588	
Revenue (1914 thousand kronor)							
School districts	-	2 502	72%	6 127	72%	8 105	72%
State grants	-	968	28%	2 406	28%	3 109	28%
Total	-	3 470	100%	8 533	100%	11 214	100%
Costs							
Teachers	-	2 979	86%	5 676	67%	7 632	68%
Buildings and facilities	-	329	9%	1 831	21%	2 054	18%
Other	-	163	5%	1 026	12%	1 528	14%
Total	-	3 470	100%	8 533	100%	11 214	100%

Source: 1839 - BISOS P 1882, p. 5; 1868 - BISOS P 1868, p. XII, 66 and 67; 1876 and 1881 - BISOS P 1882, Tab 1.

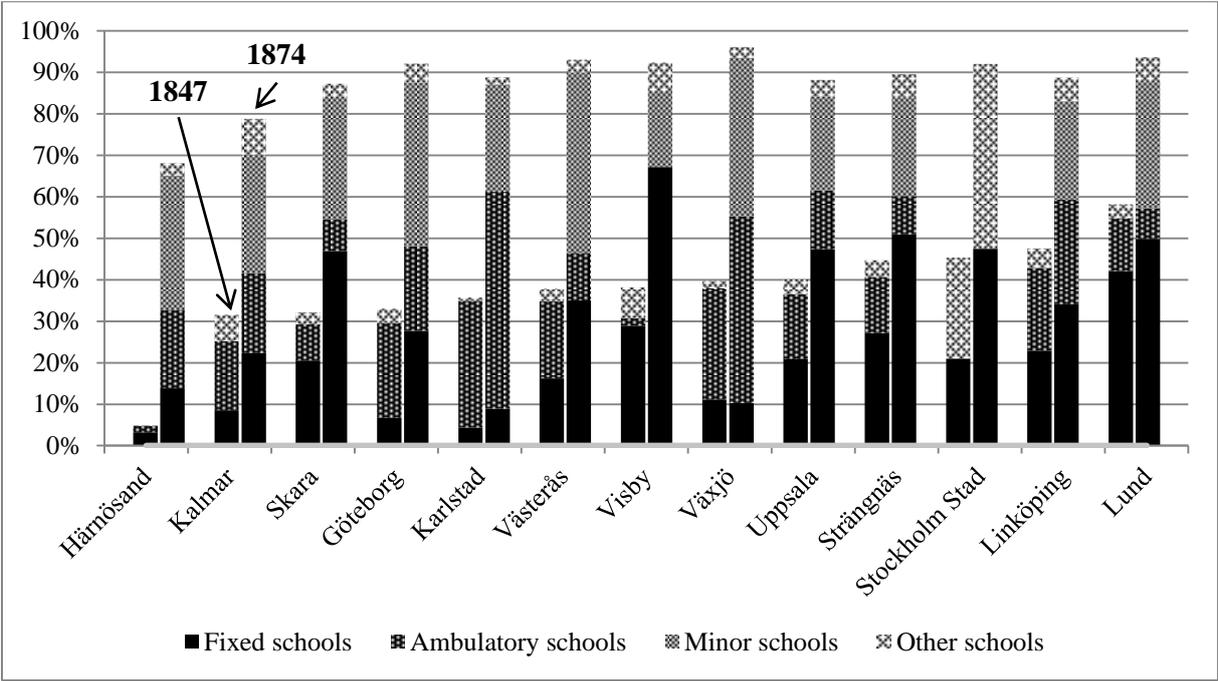
Note: In 1868, 617 thousand SEK (in 1914 prices) of local taxes (*Folkskoleavgiften*) was counted as state grant, but was actually paid by the school district. If excluded, the state share corresponded to only 10 per cent that year. In 1876 and 1881, an additional 2 425 and 2 508 school buildings were rented by school districts. The amounts were transformed into 1914 prices by using the consumer price index of Sweden for the years 1830-2003 published in Statistics Sweden (2004).

The expansion of resources dedicated to primary education can be seen in Table 2. Half of the parishes are reported to lack schools in 1839. Thirty years later the number of school buildings had quadrupled (around half likely to be minor schools), while the number of teachers was multiplied by seven. The table also indicates that the schooling system developed rapidly in the 1870's, with around 3 500

school buildings and 3 400 teachers added between 1868 and 1881. Overall spending on primary schooling more than tripled in real terms during this period, in spite of falling enrolment. Teacher salaries were by far the highest cost item, even though the share decreased between 1868 and 1876.

Funding sources varied between school districts. Before 1842 schools were essentially paid for by the local population, through local taxes, fees and donations (Klose 1992/2010). State grants emerged slowly and covered around 30 per cent of total costs by around 1868, a share that was maintained in the years to come (cf Andersson 2011; Westberg 2011).

Figure 4 School enrolment in various types of schools per diocese in 1847 and 1874



Source: Enrolment data and number of children in school age in 1874 from Schelin (1978) and population data for 1845 mainly from Tabell-commissionen (1854) (see notes).

Note: The share of children in school age in each diocese in 1847 was estimated by multiplying total populations of each diocese by the share of children in school age from 1868 (BISOS P 1868). The total population of each diocese in 1847 was estimated by multiplying the 1845 data with the national rate of population growth between 1845 and 1847 calculated from the Swedish population for 1847 (BISOS A 1851/55, p. LVI).

Around the time of the introduction of mass primary schooling in 1842, the far south of Sweden appears to have been well ahead of the rest of the country in terms of school development. Figure 4 shows that over 40 per cent of children in school age attended fixed public schools by 1847 in Lund diocese (county level data is not available), with a total enrolment rate of close to 60 per cent. Visby diocese, on the Baltic island of Gotland, also had a relatively developed fixed school system. Enrolment of around 5 per cent is reported from the north (Härnösand diocese). By 1874 total enrolment rates had risen dramatically. Härnösand diocese was still the worst performer, but

enrolment had reached 68 per cent. However, not more than around 14 per cent of all children in school age attended fixed public schools in Härnösand diocese, while minor schools had emerged as an important type of schools. The pattern is the same for Kalmar and Växjö dioceses in the south-east and for Karlstad diocese in the mid-west in particular. It was only in Visby diocese and the city of Stockholm that fixed schools really predominated by 1874, in the case of Stockholm in the form of private and higher education schools. Overall, the coefficient of variation for total enrolment at diocese level fell from 0.31 in 1847 to 0.08 in 1874, but the coefficient of variation for enrolment in fixed schools only fell from 0.60 to 0.49.

4. Determinants of school development

4.1 Approach and limitations

We now turn to the main empirical section of the thesis where the hypotheses formulated in chapter 2 are tested and discussed. The methodology adopted here is to use a multivariate analysis to test the hypotheses. This means there are some limitations as to what is possible to do. Ideally, we would like to build a complete model of how the level of schooling was decided at school district level in the 1870's to avoid omitted variable bias. However, time and resource constraints and limitations in terms of data availability and quality necessitate a more limited approach. To start with, school spending will be used as a proxy for school development, since other input and output variables, such as enrolment and learning levels have not been compiled and published for this period (even though primary data exist in archives). Moreover, it has been possible to include only a limited number of socio-economic variables and no geographical or demographic variables (such as the share of the population consisting of school age children and the level of urbanisation used by Go and Lindert (2007)) will be used. The exclusion of demographic data is a particular loss, since Go and Lindert show that age distribution matters. Finally, the model only allows us identify associations, not causality between variables.

4.2 Model and variables

The empirical test will be done using a simple linear multivariate regression model using cross-sectional data on Swedish municipalities compiled from published historical statistics from Statistics Sweden (BISOS) and some additional sources. The model to be estimated is:

$$\ln SchoolSpend = \beta_0 + \beta_1 \ln StateGrant + \beta_2 VoteRate + \beta_3 VoteShare5 - 10 + \beta_4 VoteShare10 - 25 + \beta_5 VoteShare25 - 50 + \beta_6 \ln TaxValue + \beta_7 \ln TaxIncome + \varepsilon$$

SchoolSpend is the model's independent variable and is the logged total amount in kronor of spending on public primary schooling per capita in each municipality. Total spending data are from 1874 as published in BISOS P 1874 and have not been corrected for any differences in cost of living between the different municipalities. Three main items are included in the spending data: school buildings and inventory (24 per cent of total school expenditures at national level); teacher's wages (63 per cent) and other expenditures (13 per cent). Teacher's wages were recurrent costs and did not vary substantially between years. Spending on buildings includes one-off investments in the building stock, which means that there may be great variations between individual years. This could be evened out by taking averages over several years, but since there was a secular increase in school spending in the mid 1870's this would be a complicated task. In the model population extreme spending only appears in a

few observations, why the procedure that has been adopted is to eliminate a share of the highest spenders (see below).

The reliability and quality of the published school data and the reports on school spending from the local school districts from which the data have been compiled have been disputed, not the least by contemporary sources. Municipalities compiled and reported the data by using various methods and coverage, payment in kind caused problems for accounting and in some instances expenditure by sub-municipal school units (*rotar*) did not enter the accounts (BISOS U 1874, p. IX). Hultqvist (1965, p. 290) cautions against any attempt to use the data for quantitative comparisons between local administrative units over space and time, without testing the data at their local archival sources. In a critique of school spending data Waldow (2002, p. 153) calls for using the same critical examination of quantitative data as for qualitative data.

The population data are from 1871 as published in BISOS R 1871. These data were reported by the local clergy and followed the old parish division that does not match completely the division into municipalities (BISOS R 1871, p. IV). Since schooling was managed by the church, it seems appropriate to use these data. They differ from the population data reported in BISOS U 1874, which are based on tax records (BISOS U 1874 U, p. X). During the period 1871-1874 the total Swedish population grew rather quickly by 3.2 per cent (BISOS A 1874), why the use of 1871 population data may over-estimate spending per capita per capita school and does not account for differences in population growth between counties.

Dividing school spending by child in school age instead of total population would have been preferable, but that kind of demographic data at municipality level are not available from the published sources used here. School children are usually considered to be children of age 7-14 years, a group which represented 17 per cent of Sweden's total population in 1874 (BISOS A 1874), with variations between counties. Other demographic variables may also have influenced the willingness to spend on education, but these are not captured by the model.

StateGrant is the absolute amount of state grant in kronor received by the school district in 1874 from the central government. As was explained above, the grant was distributed in relation to the number of teachers employed, why it can be expected to be highly correlated to overall school spending.

VoteRate represents the ratio between the number of franchised individuals or corporations published in BISOS R 1871, table 1, column 10 and total population. The variable allows us to test Hypothesis 1 on the presumed positive association between school spending and the relative share of the middle-class with voting rights. It should be clear from the discussion above that the voting data do not tell us much about how decision-making took place in practice, but represent the share of the population that

was given voting rights because they met the stipulated wealth or income requirements (Mellquist 1974, p 115). It is also important to keep in mind that the votes were weighted according to income.

VoteShare 5-10, 10-25, 25-50 represent the absolute number of franchised individuals or corporations that hold voting shares corresponding to the intervals 5-10 per cent, 10-25 per cent and 25-50 per cent of all votes in the municipality. This is a measure of the concentration of power, in that for example somebody holding more than a quarter of all votes was likely to wield substantive influence over municipal affairs. The source is BISOS R 1871, table 1, column 27-32. This variable allows for a test of Hypothesis 2 on the correlation between the existence of a small elite and school spending.

TaxValue represents the taxable value of land (*Taxeringsvärdet å fast egendom*) in kronor in 1873 per capita sourced from BISOS U 1874. Taxation based on land value was introduced in the beginning of the 19th century. According to law taxable value of land should be based on quality, output and price, but actual practice varied between administrative areas (Olsson 2005, p. 76).

TaxIncome represents taxable income (*Beskattningsbar inkomst*) in kronor in 1873 per capita extracted from BISOS U 1874. The taxable income was the sum of income from capital, employment, pensions and business. Examples of groups concerned include blacksmiths, carpenters, parish priests, school teachers, inspectors, gamekeepers and train station masters (from registers of tax payers held at the Regional state archives in Lund).

TaxValue and *TaxIncome* are both measures of municipalities' wealth. Hypothesis 3 presupposes a positive association between these measures and school spending. The two variables can also be said to represent pre-modern (*TaxValue*) and modern (*TaxIncome*) measures of wealth and can thus also be used as indicators of the economic structure of municipalities. Historically, land was the most valued asset, but as industrialisation accelerated and the private sector grew, non-land income became increasingly important. This trend is apparent in statistics on tax values. The total taxable value of agricultural real estate increased by 25 per cent between 1862/70 and 1881/90, while the value of other estate grew by 150 per cent and taxable income grew by 120 per cent over the same period, albeit from low levels (Statistics Sweden 1960, table 237, pp. 224-225). This changed the share of votes based on agriculture as opposed to other sources of wealth or income, from 68 per cent in 1871 to 56 per cent in 1892 (Mellquist 1974, p. 124). The 1870s seems to mark an acceleration of this trend. For example, wage statistics indicate that sustained growth in real wages did not occur until around this time (Söderberg 2010, p. 467).

4.3 Geographical variations at county level

To get a sense of geographical variations within Sweden a good start is to look at county level data. In the 1870s Sweden had 24 counties (see map in the Appendix). They can be grouped in various ways to facilitate the analysis. One simple but useful way is to distinguish between the three traditional Swedish lands (*landsdel*), covering the North (*Norrland*), Middle (*Svealand*) and the South (*Götaland*) of Sweden. The Middle (Kopparberg, Vermland, Örebro, Gävleborg, Vestmanland, Uppsala, Stockholm, Södermanland) includes Stockholm and the historical mining heartland of Sweden. The North (Jemtland, Vesternorrland, Vesterbotten and Norrbotten) is scarcely populated and traditionally the land of the sami. The South (Blekinge, Elfsborgs, Göteborgs och Bohus, Halland, Jönköping, Kalmar, Kristianstad, Kronoberg, Malmöhus, Östergötland, Gotland) includes both good agricultural land forested areas and areas with a Danish history.

Figure 5 shows that it is difficult to discern any obvious relationship between school spending per capita in rural areas and the share of the population with voting rights if all Swedish counties are considered, casting doubt on Hypothesis 1. The association between school spending and the value of land, which relates to Hypothesis 2, is more evident in Figure 6. From Figure 6 one may distinguish two groups of counties. There are the wealthy high spenders encompassing the extreme south of Sweden (Malmöhus and Kristianstad) and a number of counties covering a good part of mid-Sweden from Uppsala and Stockholm to Skaraborg and Östergötland. These two geographical areas correspond well to historical centres of power and good farm land. The other group consists of the northern counties, the west coast and south-east, which were poorer and in some cases settled later. Thus, there seems to be an interplay of factors related to geographical location, wealth and spending on public schools.

Figure 5 School spending (1874) and vote rate (1871) per county in rural municipalities

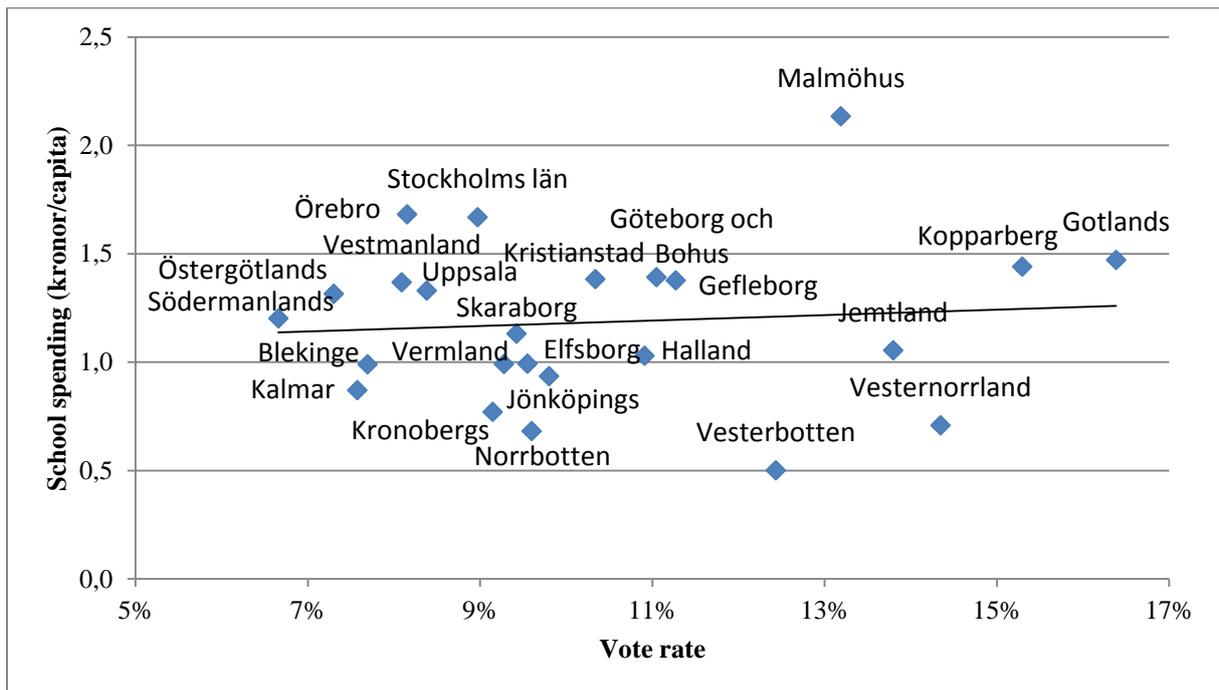


Figure 6 School spending (1874) and value of land (1873) per county in rural municipalities

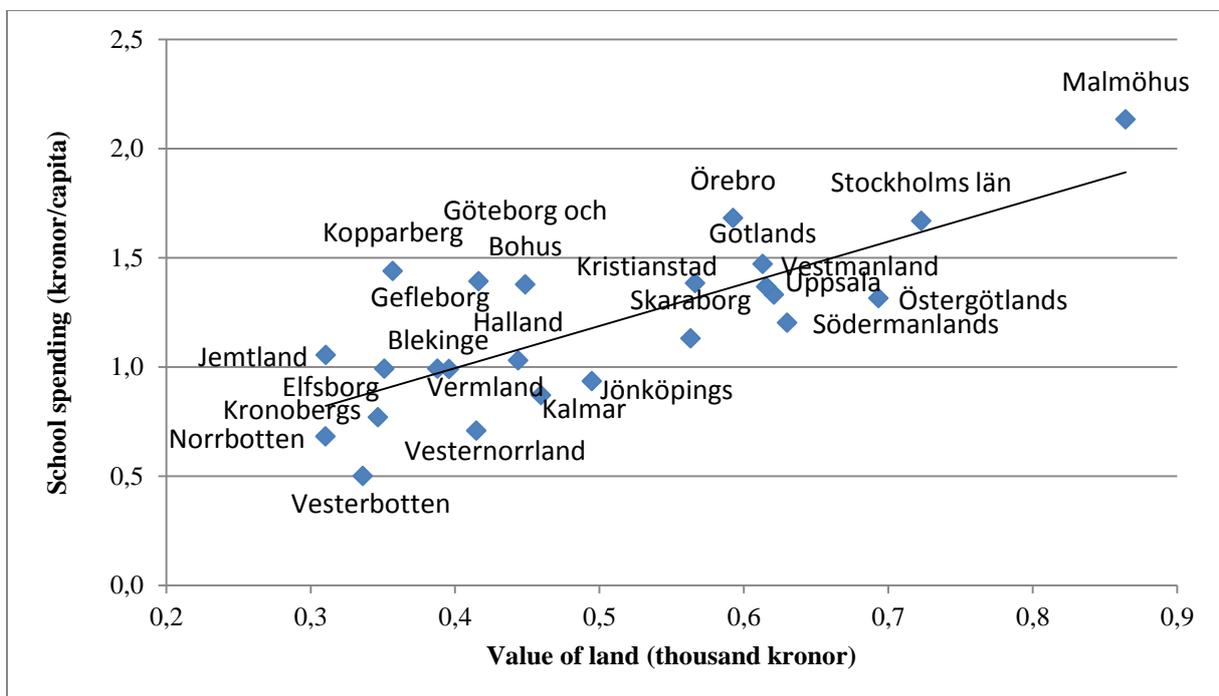


Table 3 Regression results for counties

	<i>lnSchoolSpend</i>	Significance at 99% level	<i>lnSchoolSpend</i>	Significance at 99% level
	N=24		N=20	
	Adj R2=0.52		Adj R2=0.84	
Constant	0.350		-0.281	
<i>VoteRate</i>	1.916		3.484	***
<i>lnTaxValue</i>	0.862	***	0.593	***
<i>lnTaxIncome</i>	0.076		0.185	***
<i>Urban</i>	0.350		0.504	

With only 24 observations/counties a testing of the full model at county level is not a rigorous exercise, but may show some basic correlations between the dependent and independent variables. *StateGrant* has to be excluded because it has a very strong correlation (0.6) with *TaxValue* at county level, indicating a risk for multicollinearity. The *VoteShare* variables are excluded since they cannot be aggregated. Instead, the degree of urbanisation (*Urban*) is included as an independent variable, calculated from Statistics Sweden (1999, pp. 50, 52). The regression results show that only *TaxValue* is significantly correlated with *SchoolSpend* at the 95 per cent level (Table 3), why only Hypothesis 3 find support at county level. The franchise was relatively widespread in counties such as Vesterbotten and Vesternorrland compared to their level of school spending.

“Old” wealth seems to have mattered more for school spending in this period, since *TaxIncome* is not significant. Urbanisation levels can also be seen as another indicator of the advancement of industrialisation of an area (Boli 1989). The regression results do not support an association between school spending and urbanisation. Göteborg and Bohus county in particular a low level of school spending compared to its high level of urbanisation.

One can readjust the model by excluding the North (i.e. Jemtland, Vesternorrland, Vesterbotten and Norrbotten), both on the grounds of its historical and geographical particularities and based on the fact that the right to vote was distributed differently compared to the south. This makes the explanatory power of the model increase dramatically as shown on the right hand side of Table 3. *VoteRate* becomes strongly significant, providing support to Hypothesis 1 for the southern part of Sweden. *TaxIncome* also becomes significant, but with a lower coefficient than *TaxValue*. *Urban* remains insignificant. This indicates that there are associations between the independent and dependent variables that allow us to test the hypotheses and are worth exploring further with a larger sample.

4.4 Descriptive statistics of parish data

A more rigorous test of the model will use data on all rural municipalities in 10 counties: *Blekinge, Elfsborgs, Göteborgs och Bohus, Halland, Jönköping, Kalmar, Kristianstad, Kronoberg, Malmöhus* and *Östergötland*. These counties correspond to the South land mentioned above, with the exclusion of the island of Gotland. This area demonstrates substantial variation in terms of geography and level of urbanisation, while excluding areas of considerably different character such as the Stockholm area and the sparsely populated north. Only rural municipalities are covered since towns and townships had different characteristics in terms of administration, voting patterns and school spending.

The 10 counties comprise 1 266 municipalities or slightly more than half of all Swedish municipalities at the time. 114 municipalities were excluded from the sample mainly because they shared common school districts (*VoteShare* cannot be aggregated since the underlying statistics are based on intervals of percentages) and in some cases because data for one or more of the variables were missing. In order to correct for one-off events, such as investments in buildings, and other irregularities in the spending data, the highest five per cent spenders per capita of the remaining sample were excluded, corresponding to 58 observations. One municipality was excluded because it did not receive any state grants, making it impossible to log the state grant variable.

Table 4 gives descriptive statistics for the remaining 1 093 municipalities. It shows that the average municipality had a population of 1 575 inhabitants, spent 1.2 kronor per capita on public primary schooling and received 0.4 kronor in state grants per capita. The average rate of franchise was 10% and in general there were two individuals with a voting share of above 5%. The variation in all variables is quite large. Some extremes affect the distribution. Three municipalities had populations above 7 000 people, while one had less than 200 inhabitants. One municipality had a franchise rate above 23 per cent, while one had below 2.5 per cent. A few municipalities had a very high concentration of votes; one had 10 voters with *VoteShare5-10*, five municipalities had five voters with *VoteShare10-25*, and three municipalities had two voters with *VoteShare25-50*, in all cases implying that a handful of individuals or corporations had more than half of all votes (there are also cases of one individual or corporation having more than half of the votes). 141 municipalities did not have any voters with voting shares in the 5-50 per cent spectrum, thus indicating that they had a more equal distribution of resources and voice. *TaxValue* is much higher than *TaxIncome* and the higher difference between the average and the median indicate that *TaxIncome* is more unevenly distributed than *TaxValue*.

Table 4 Descriptive statistics for the sample (n=1 093)

	Average	Standard deviation	Median	Minimum	Maximum
Population	1 575	33	1 282	136	8 827
<i>SchoolSpend</i>	1.2	0.02	1.0	0.2	3.4
<i>StateGrant</i>	0.4	0.005	0.3	0.1	1.1
<i>VoteRate</i>	10%	0.1%	10%	1%	26%
<i>VoteShare5-10</i>	1.5	0.04	1	0	10
<i>VoteShare10-25</i>	0.6	0.02	0	0	4
<i>VoteShare25-50</i>	0.1	0.01	0	0	2
<i>TaxValue</i>	581	9.0	510	48	1 948
<i>TaxIncome</i>	9.1	0.4	5.8	0.2	163

A first sense of geographical differences at county level is given in Table 5, which also includes population density. The counties vary in terms of the number and average population size of the municipalities. Malmöhus includes densely populated plains in the extreme south-west, with the highest average value of land. In fact 77 out of the 100 wealthiest municipalities on this account were located in Malmö. School spending is by far the highest in Malmöhus and bordering Kristianstad. Jönköping, Kronoberg, Kalmar and Elfsborg in particular are more characterised by poorer less populated forested areas. The municipalities in Göteborg county have the highest average taxable income seemingly because of a couple of high earning municipalities close to the city of Göteborg. Östergötland also stands out as relatively wealthy in terms of both taxable income and value of land, thanks to the inclusion of Motala municipality, which had by far the highest total taxable income in the sample.

Table 5 Characteristics of the sample by county

County	No obs	Average population	Average pop. density	Average School-spend	Average VoteRate	Average TaxValue	Average Tax-Income
Östergötland	127	1 544	27	1.07	7%	734	11.0
Jönköping	119	1 346	15	0.95	10%	500	6.6
Kronoberg	70	2 007	17	0.81	9%	363	8.0
Kalmar	92	2 209	23	0.89	8%	477	7.4
Blekinge	31	3 243	39	1.07	8%	423	6.3
Kristianstad	138	1 501	43	1.43	10%	616	7.0
Malmöhus	202	1 121	65	1.89	13%	943	11.8
Halland	76	1 407	30	1.14	11%	473	6.7
Göteborgs och Bohus	71	2 043	55	1.07	11%	443	15.8
Elfsborgs	167	1 406	25	1.10	10%	341	8.7
Total	1093	1 575	36	1.23	10%	581	9.2

The one-on-one correlations between the model variables are shown in Table 6. The most significant relationship is between *SchoolSpend* and *StateGrant*, which is to be expected considering that the state grants were provided as matching grants. *VoteRate* and the *VoteShare* variables are all weakly correlated to *SchoolSpend*, indicating that the relationships are quite weak and that other independent variables may be more important. *TaxValue* is a strong candidate with a correlation coefficient of 0.44 with *SchoolSpend*, while *TaxIncome* appears as less significant.

Among the independent variables, there is some correlation between *TaxValue* and *StateGrant*, but not to the extent that it would indicate multicollinearity; the coefficient is below 0.4. The same goes for the correlation between *TaxValue* and *TaxIncome* (0.34). In that case, higher correlation could have been expected. Interestingly, there is a slight negative correlation between *VoteRate* and the *VoteShare* variables. This could indicate that uneven distribution of the votes is associated with lower diffusion of the franchise, which would seem reasonable.

Table 6 Correlation coefficients for the sample

	<i>lnSchool Spend</i>	<i>lnState Grant</i>	<i>Vote Rate</i>	<i>VoteShar e5-10</i>	<i>VoteShare 10-25</i>	<i>VoteShare 25-50</i>	<i>lnTax Value</i>	<i>lnTax Income</i>
<i>lnSchool Spend</i>	1							
<i>lnState Grant</i>	0.75	1						
<i>VoteRate</i>	0.26	0.27	1					
<i>VoteShare 5-10</i>	0.22	0.25	-0.06	1				
<i>VoteShare 10-25</i>	0.16	0.19	-0.20	0.05	1			
<i>VoteShare 25-50</i>	0.12	0.14	-0.21	-0.12	-0.08	1		
<i>lnTaxValue</i>	0.44	0.38	0.10	0.27	0.25	0.12	1	
<i>lnTax Income</i>	0.21	0.12	-0.02	0.17	0.20	0.21	0.34	1

4.5 Regression results and interpretation at parish level

The regression results are displayed in Table 7. The *VoteShare* variables are not significant, while the other independent variables are significant at the 99 per cent level. Since *SchoolSpend* is logged, the coefficients represent the increase in *SchoolSpend* in per cent associated with a one per cent increase for the logged independent variables and a one unit increase for the vote variables.

The coefficient for *StateGrant* shows that a one per cent increase in state grants is associated with a 0.77 per cent increase in school spending. Running the regression in its original non-log form shows that an increase in state grants by one krona is associated with an increase in total spending on schools of more than two kronor. State grants were provided in relation to teachers employed, why a strong

relationship between total spending on schools and government grants received is to be expected. Teacher salaries represented on average 63 per cent of total school spending in Sweden in 1874 (BISOS U 1874, pp. 238-239)

Table 7 Regression results for municipalities

	<i>lnSchoolSpend</i>	Significance at 99% level
Adj R2=0.60	N=1093	
Constant	0.857	***
<i>lnStateGrant</i>	0.771	***
<i>VoteRate</i>	1.064	***
<i>VoteShare5-10</i>	0.004	
<i>VoteShare10-25</i>	-0.0013	
<i>VoteShare25-50</i>	0.009	
<i>lnTaxValue</i>	0.143	***
<i>lnTaxIncome</i>	0.038	***

Let us now turn to interpreting the results in relation to the three hypotheses proposed above.

Hypothesis 1: A higher share of people with voting rights is associated with higher spending on public schools

The regression results seem to lend clear support to the existence of a positive correlation between the diffusion of the franchise and school spending as proposed by Lindert and Go. An increase of one percentage point in the share of the population with a right to vote yields a 6.4 per cent in school spending. Since the right to vote was based on wealth or income, the results can be interpreted as showing that a growing middle-class tended to favour public education, even though they may not actually have voted in local councils. The exact mechanisms for this remains to be explored, preferably through case studies of individual parishes. It is possible that in some instances there was direct participation in decision-making by the middle-class group. Where participation was low, it is also possible that the parish priest or whoever else who had a decisive influence on spending decisions was quite familiar with the general sentiment and wishes of the local population at large.

Hypothesis 2: The presence of voters with large shares of the votes is significantly correlated (negatively or positively) with spending on public schools

There is no significant correlation between the presence of dominating voters and school spending in the sample. This would indicate that schooling was not an issue that large voters automatically took interest in as opposed to the case of railway construction reported by Mellquist (1974). Other interest

groups were left to decide on the level of school spending. This result does not support an elitist interpretation of the social control perspective on school development at local level. The situation seems to have been quite different when the first primary schools were established in rural areas. Klose (1992/2010) lists several occurrences where schools were built and run by the land-owning nobility and industries already in the 18th century.

Hypothesis 3: The level of average wealth was positively correlated with spending on public schools

The model indicates a strong positive correlation between wealth per capita and school spending. A doubling of average taxable value of land increases total school spending by 14 per cent. What are the mechanisms at play here? *TaxValue* measures taxable value of land, which is an indication of the land's productivity. One could hypothesise that high-value regions were settled quite early in history and had the potential to support a relatively wealthy land-owning class with interest in schooling, which could explain the early leadership in terms of school development of Malmöhus county and the relative backwardness of counties such as Kronoberg, Kalmar and Elfsborg. Such an interpretation also showcases the path dependency involved in shaping the organisation of education at local level, since the correlation is so strong well into the second half of the 19th century.

Industrialisation is only beginning in this period. *TaxIncome* is taken here as a proxy for industrialisation since it represents non-land income. The positive coefficient indicates that there is a correlation with school spending, but that the size of the coefficient is much smaller than for the value of land. One interpretation is that in the beginning of the 1870s, non-land income was not sufficiently significant across all municipalities to have a systematic effect on spending on education. Indeed, the coefficient of variation of the variable for the sample is a high 2.3 compared to 0.67 for *TaxValue*. This could indicate that industrialisation was not a key driver of early school development, which may be interpreted as providing support to sociological explanations related to modernisation. But it could also indicate that there was a school-demanding rural middle-class that emerged before industrialisation took hold.

It should be emphasised that so far the analysis of the model results has centred on associations, not causality, between variables, since the relationship between school development and wealth in particular may be subject to simultaneity bias and reverse causality (Go and Lindert 2007, p. 16). Reverse causation would occur if greater wealth led to higher levels of school spending instead of the other way around. In fact this type of causality is what is usually tested in human capital models that try to measure the returns to investment in education in terms of social or individual income. As was shown above the existence of such returns during industrialisation is disputed. Simultaneity bias entails that the relationship between school spending and wealth goes both ways, which is perhaps the most realistic situation.

Since we focus on associations in this thesis and the effects on income of increased school spending may in general be expected to be lower in 19th century Sweden than today, causality related biases has not been corrected for. This could be done by introducing a time element in the model or using instrument variables, such as historical population density (cf Acemoglu, Johnson et al. 2004).

5. Conclusions

This thesis started off by discussing a range of explanations to the rise of public primary schooling that led to the formulation of a set of hypotheses. These were in turn tested quantitatively in the previous chapter. It is now time to close this thesis with some concluding observations about the factors that may explain variations in local educational spending in Sweden in the 1870's.

A relatively robust correlation has been found between the share of individuals and corporations with voting rights and local school spending as predicted by Hypothesis 1. This would seem to support Lindert and Go's results from the US that diffusion of the franchise is correlated with school development. However, Sweden was an elite democracy in the 1870s in the sense that the franchise was not only limited according to wealth and income, but the votes were graded according to those same variables. In addition, we have very limited knowledge about actual voting behaviour on school issues at municipal level, but active participation seems to have been limited. It is doubtful whether the diffusion of the franchise really changed local decision-making to any greater extent. The few authors that have looked into the matter and are referenced above seem instead to agree that continuity reigned. The franchise, conceived as it was, gave perhaps clarity to local decision-making, but seems to have built on earlier tradition of decision-making.

Because of these reasons the association between school spending and voting rights is more an indicator of a positive relationship between school spending and the share of individuals (and corporations) with income and wealth above a certain level than of the importance of the diffusion of the franchise. Regardless of who actually voted or if the parish priest was influential, these were the people who mattered and whose interests had to be considered. They represented to a large extent a growing middle-class that was favoured by the structural transformation that was accelerating at the time and wanted to invest in their children, as predicted by the human capital explanation of school development. This was possible since schooling was predominately a local responsibility as emphasised by Lindert (2004).

The middle-class view is corroborated by the fact that the model fails to show a significant correlation between the presence of very influential voters and school spending (Hypothesis 2). We see no signs of small elites that systematically opposed education for the masses or wanted to control the population. The elitist interpretation of the social control explanation does not seem convincing in the

local context. This being said, the political economy perspective is still important. With increasing economic power, the middle class could wield real political power to promote their interests.

The absolute level of wealth of a municipality mattered even more than the size of the middle-class. The more resources that were available, the more money went into schooling. The higher explanatory power of land compared to income would seem to indicate that functionalist explanations that centre on the role of industrialisation are not convincing. Organised schooling emerged before industrialisation and was driven by a rural middle-class that was still predominantly land-owning, precisely the group identified by Nilsson and Pettersson (2008). However, although only briefly investigated here, it seems clear that public primary school remained a school for the poor for a long time. The well-to-do seem to have hesitated to mix their children with the lowest layers. So, if the local middle-class invested in schooling it was also because they recognised the externalities of education, as shown by (Stoddard 2009). These externalities could involve both social control and modernisation elements, but hardly the 'ritualist' elements advocated by Boli.

As industrialisation really gained pace later on in the century, communication improved, democracy matured and wage labour became more important, which factors would come to matter for educational spending? Inertia and path dependency are clear features of school development as predicted by institutional theory and the model presented in Figure 2. One example is that a fully unified primary school was not created until 1962 in Sweden. In an overall movement of convergence individual municipalities are likely to have followed different pathways as regards school development; quick catch up, stagnation or continuity depending on the starting point, endogenous and exogenous factors (see the three case studies of parishes in Malmöhus county in Andersson (2011)). Malmöhus was the early adopter of organised primary education and remained at the top in 1870's. Future research is needed to test more fully how the growth of various socio-economic groups changed the priority given to public primary education at the end of the 19th century. In addition, initial factor endowment may matter as emphasised by (Sokoloff and Engerman 2000). The question is how far back in time one should go to seek explanations. It is probably no coincidence that schooling was more developed in areas with good agricultural farmland and political centres, i.e. the middle of Sweden with the capital Stockholm and the former Danish lands in the extreme south. Could this be a pattern that is strong enough to explain inequalities in terms of school development still today?

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Appendix Map of Swedish counties



Source: Högman (2010)