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In a radical school choice reform in 1992, Sweden's education system was opened to private competition from independent for-profit and non-profit schools funded by vouchers. Competition was expected to produce higher-quality education at lower cost, in both independent and public schools. This two-pronged study first examines to what extent the consequences of this reform deviate from the predicted results. It demonstrates increasing discrepancies between absolute test results and grades, suggesting grade inflation. Secondly, the study investigates whether the school choice reform was institutionally secured against school competition based on phenomena that are unrelated with educational quality, such as grading. It reveals that the architects of the school choice reform overemphasized the potential positive implications of market reforms and therefore did not deem it necessary to establish appropriate rules and institutions for school competition. Instead, grading and curriculum reforms had unintended consequences such as grade inflation and similar forms of school competition in dimensions other than school quality. The analysis of how the objective of raising the quality in Sweden's schools through competition and choice was inadvertently undermined contains practical lessons for policymakers with regard to the use of privatization and co-production both in schools and in other fields.

Keywords: school choice; grade inflation; institutions; hazardous adjustment

1. Introduction

The school choice reform introduced in Sweden in 1992 has been called 'uniquely liberal' in its market design, comparable only to Chile's voucher plan (Vlachos 2012, 1).[1] At any rate, the reform created 'one of the world's most liberal public education systems' (Blomqvist 2004, 148), and is far more sweeping than the limited state-level voucher programs in the U.S. (Klitgaard 2008). Before the reform, few independent schools operated in Sweden, and over 98 percent of pupils attended their nearest public school. Overnight, private actors such as foundations, parental cooperatives, and for-profit firms were allowed to establish independent schools (*friskolor*) that operate on the same terms as public schools and are financed through a voucher scheme similar to the one proposed by Milton Friedman more than 60 years ago (1955).[2] Restrictions on independent schools were (and still are) few and did not include formal competence requirements for school owners,[3] such as previous management experience from the educational sector, or any restrictions on the right to pay dividends to the owners of the schools or to sell a school on the same terms as any other incorporated business.

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[1] Like in Chile, political ideology played a significant role in the enactment of the Swedish reform—more so than in the enactment of longstanding voucher programs elsewhere in Europe at the time, as it was intended to encourage choice among pupils and competition among schools and not settle religious differences in what should be taught (Carnoy 1998). Similar, but less sweeping, market-liberal education reforms have since been enacted in other Nordic countries (see, e.g., Chapter 4 in Verger, Fontdevila, and Zancajo 2016) and the UK.

[2] The reform was expanded from primary education to include secondary education in 1993 (Government Bill 1992/93:230).

[3] For example, in the UK, all businesses and charities applying to set up a 'free school'—a direct translation of the Swedish term *friskola*—must demonstrate 'a strong track record' in education and that the persons involved have 'the capacity and capability' to run the school (Department for Education 2018, 37).

The center-right coalition government of 1991 to 1994, which implemented the reform, valued freedom of choice as an end in itself (Government Bill 1991/92:95). However, there were also expectations that the new element of competition would produce education of higher quality at lower cost in both independent and public schools (Government Bill 1991/92:95, 9).[4] The Minister of Schools was Beatrice Ask, of the Moderate Party, the largest, and arguably the most right-wing, party of the four-party coalition. In an opinion piece launching the reform, she wrote (Ask 1992, 3): 'The independent schools have all the prerequisites to be the vitalizing force urgently needed in the public school system. New alternatives and new methods can be tried and contribute to the improvement and deepening of the level of knowledge among Swedish pupils, and affirm that schools remain strongholds of knowledge.' Such optimism was in line with the prediction of Friedman (1962/2002, 93), whose endorsement of school choice and competition gave rise to the Swedish reform, that 'the development and improvement of all schools would […] be stimulated.'

The principal aim of this study is to determine to what extent the consequences of the reform deviate from the predicted and intended results. Ostensibly, the goals appear to have been achieved; recent studies on the effects of school competition on educational outcomes indeed find that the expansion of independent schools has improved outcomes, in terms of grades in compulsory school and scores on Swedish standardized tests, in both independent and public schools (Ahlin 2003; Björklund et al. 2004; Sandström and Bergström 2005; Böhlmark and Lindahl 2015). However, concerns have been expressed over the reliability of grades and Swedish standardized tests as indicators of the quality of education (Tyrefors Hinnerich and Vlachos 2013,

[4] The aspect of cost is not discussed in this study.

2016). One of this study's main findings is that such concerns are warranted; while a dramatic rise in grades has occurred over the last 15 years, that rise is not matched by higher results of international tests of pupils' knowledge and adult cognitive skills. On the contrary, the results of Swedish pupils have dropped sharply both absolutely and relative to the OECD average. Hence, the evidence of grade inflation is quite strong, and it may, in fact, be caused by school competition.

A further aim of this study is to determine how this occurred despite the reformers' good intentions. Although a more comprehensive study would be necessary to firmly establish causality and exclude all alternative explanations, the study provides a plausible hypothesis regarding the emergence of competition-induced grade inflation. It leaves to future studies a fuller determination of whether this hypothesis can be supported.

Grade inflation can be considered a negative externality[5] in terms of basic human interests (Claassen 2016), as it is considered to have detrimental effects on knowledge acquisition,[6] which is one of the basic goods that individuals require to lead flourishing lives. Negative externalities are in turn the result of institutional failure (Ostrom 1990; Frank 2012). While institutional arrangements can lead to hazardous behavior—grade inflation in this case—such 'hazardous adjustments come with a lag and do not occur immediately,' according to Eggertsson (2005, 149), drawing on Lindbeck (1995). Therefore, educational institutions established in conjunction with the school choice reform must be examined; in addition, the incentives created regarding

[5] A negative externality is a concept from economics referring to a situation where someone's decision to produce or consume something has negative impacts on others (see, e.g., Claassen 2016, and the references therein).

[6] See Betts and Grogger (2003), Figlio and Lucas (2004), and Bonnesrönning (2004b) for studies demonstrating that pupils learn less when grading is not stringent.

grade setting in general and those related to school competition, in particular, must also be investigated. The study does precisely that.

The study finds that the school choice reform was not adequately secured against certain negative externalities of the nature discussed above. Inspired by Milton and Rose Friedman's proposal for a voucher program (1980), the architects of the reform in the liberal-conservative Moderate Party, which was in charge of education policy in the center-right coalition government from 1991 to 1994, placed much faith in the free market's ability to produce education of a higher quality at a lower cost irrespective of the regulatory framework. Establishing appropriate rules and institutions for school competition was deemed unnecessary because policymakers assumed that private actors under any circumstances would produce better and more cost-efficient educational services. They instead enacted reforms to grading and the curriculum, intended to be aligned and integrated with the school choice reform (Ask 1992), that made it institutionally possible for independent schools—and eventually also public schools—to compete in dimensions other than educational quality. The political Left likewise participated in ushering in such unintended consequences, which is noteworthy as privatization efforts are almost invariably associated with the Right (see the discussion in Wennström 2016). Indeed, the Social Democrats participated in creating the ambiguities of the institutional framework, and despite 12 years in government, from 1994 to 2006, they took no significant steps toward reforming the system and altering its functionality with regard to grade inflation and other related problems.

1.1. School vouchers reexamined

In light of the study's combined analysis of increasing discrepancies between absolute test results and grades, and the implications of other education reforms enacted simultaneously, it makes a novel contribution to the existing scholarship on Sweden's

internationally recognized school choice reform. In contrast to this study, most previous studies on school competition in Sweden have concentrated on easily measured educational outcomes—i.e., teacher-assigned grades and the results of Swedish 'standardized' tests, which are not kept hidden from students and teachers, not administered on the same day, often leak out onto the internet, and are not graded externally.[7] Some 25 years after its introduction, certain problematic aspects of Sweden's voucher system have yet to receive due consideration in international research. Hence, by addressing these problems, this study also adds to recent reexaminations of the successes of notable school voucher efforts that have now 'matured' (e.g., Dynarski 2016; Ford and Andersson 2016) and, in the larger public administration context, scholarship on the unanticipated effects of New Public Management (NPM) reforms and the limits of market mechanisms in public policy (e.g., Hood and Peters 2004; Christensen and Laegrid 2007; Denhardt and Denhardt 2015). The analysis of how the objective of raising the quality in Sweden's schools through competition and choice was inadvertently undermined contains practical lessons for policymakers for the use of privatization and co-production both in schools and in other fields in the U.S., the UK, and other countries. Moreover, U.S. Education Secretary Betsy DeVos (2018) states that she wants to enact the very same model of school choice—disruption, deregulation, and decentralization of the old education system combined with consumer choice—that is analyzed in this paper.

[7] The same is also true of most studies of school competition elsewhere, according to Levin (2002).

1.2. Outline

The study consists of six sections. The remainder of this introductory section accounts for the methodology of the study. Section two presents a brief overview of Sweden's education system and its school market. Section three sets out a detailed case for the existence of competition-induced grade inflation and surveys previous studies that are relevant to this discussion. Explaining the remaining findings of the study requires a discussion of the importance of well-designed institutions for the proper function of markets, and this is undertaken in section four. While few academics would dispute that market outcomes hinge on the rules governing the market, the fifth section demonstrates that this was either unknown to or ignored by those policymakers who brought market principles into the Swedish education system in the early 1990s. The last section presents the conclusions.

1.3. Methodology

To accomplish the first aim of this study, that of determining the outcome of school competition in Sweden in terms of educational quality, I draw on published research and the TIMSS and PISA studies. In pursuing the second aim of this study, that of determining the causes of the grade inflation that has emerged, I use government bills, documents from the Swedish National Agency for Education, and newspaper articles pertaining to the rules and regulations created from the different school reforms. The choice of materials is apt because policies can be understood as "textual interventions into practice" (Ball 1994, 12).[8] Public documents were selected because they are "the cornerstones and building bricks of policy" (Gibton 2016, 60) and, as such, deserve

[8] It falls outside the scope of the study to fully account for how rules influence actual behaviour in schools. The study examines how rules and policies affect incentives for the relevant agents and to what extent outcomes are consistent with these incentives.

specific attention in a qualitative policy study. The inclusion of newspaper articles may seem less obvious; however, as noted by Fairclough (2001), it is essential to analyze different genres (e.g., newspaper articles or email texts) that interact and together articulate ideas. Hence, I here consider both public documents and newspaper articles as expressions of policy and implementation.

The collection of public documents can most aptly be described as a cumulative 'snowball' process (Morgan 2008), whereas the newspaper articles were collected from the unique digitized archive of the Swedish national daily *Svenska Dagbladet* spanning from 1884 until today. All news articles, opinion pieces and editorials relating to the school reforms discussed in this study that were published during the 1990s were surveyed. From these, newspaper articles that either expressed the center-right government's and the Swedish National Agency for Education's views or interpreted the school policies were selected as primary sources for the analysis. The selection of the newspaper was made on two criteria. No other Swedish newspaper offers such a comprehensive digitized archive. The right-of-center *Svenska Dagbladet* is also important to the analysis for the reason that its editorial page supported the school reforms and explained the ideological rationale behind them.

Interviews conducted with three senior policymakers serve as a complement to documents and newspaper articles. The policymakers are Odd Eiken and Anders Hultin, who served as State Secretary and political advisor, respectively, in the Ministry of Education from 1991 to 1994,[9] and Ulf P. Lundgren, who was Director General of the Swedish National Agency for Education from 1991 to 1999. In his capacity as head of a

[9] Eiken and Hultin are, in addition, two of the 'Swedish former education policymakers that are currently active as commercial edu-business actors with the ambition to expand in the Global Education Industry (GEI)' identified by Rönnberg (2017, 234) in her study of 'edu-preneurs' who move from shaping national policymaking to being executives within the GEI.

parliamentary commission that was given the task of drafting a new curriculum in 1991, Lundgren was also an instrumental figure in the creation of the national curriculum discussed in section five. Thus, to strengthen the validity of the findings, I make use of two of the primary tools for qualitative policy studies: document analysis and interviews with policymakers (Gibton 2016).[10]

The interviews had to be conducted by email (Eiken) and by telephone (Hultin and Lundgren), which is not uncommon in the context of interviewing senior policymakers (Gibton 2016), and does not eliminate the possibility of asking probing questions (Leavy 2017). The telephone interviews were documented in writing; no audio recordings were made. The main purpose of the interviews was to gain further insight into the reasoning of the architects of the reforms at the time of their introduction, and Eiken, Hultin, and Lundgren were three of the central actors. Eiken's and Hultin's accounts provided important insights into the inspiration for the school voucher reform and the center-right government's thinking on various aspects of that reform, including monitoring of independent schools, while Lundgren's account verified the article's claims in regard to the simultaneously enacted curriculum reform.

2. The independent schools

Sweden's educational system is divided into compulsory primary education (grades 1 through 9) and voluntary secondary education. Most children begin compulsory school at the age of 7, some at the age of 6, and they finish at the age of 16. Most pupils then enter the secondary education system and finish at the age of 19.[11] Academic grades

[10] For a similar approach, see Ball's (2007) study of privatization of education in the UK.

[11] In 2013, 98 percent of pupils entered voluntary secondary education immediately after finishing year 9 of mandatory primary education (Swedish National Agency for Education

determine whether pupils will be admitted to the secondary school of their choice and into a university after they leave secondary school. However, despite the importance grades have regarding future success, 'the Swedish school system is unique when leaving the entire responsibility for the grading to the schools, and consequently to the teachers' (Wikström and Wikström 2005, 310). It is of paramount importance to note that even standardized tests are in fact graded by the pupils' own teachers as opposed to examination by colleagues or external examiners.

The comprehensive public school dominated the education sector in Sweden from the 1970s until the implementation of the school choice reform in 1992.[12] Independent schools then received funding through a voucher system of a minimum of 85 percent of the average cost per pupil in public schools—raised to 100 percent in 1997 in exchange for independent schools abandoning limited student fees, which were originally allowed (Government Bill 1995/96:200). And through a change in the legislation, it also became possible for pupils to choose a school—either public or private—other than the one closest to their homes. These changes abolished the government's near-monopoly on education and paved the way for competition among schools. The only restriction on independent schools was that they had to abstain from 'cherry picking' pupils based on ability or socio-economic background.[13] Since 2010,

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2014a). However, the fact that almost all pupils choose to pursue secondary education indicates that it is expected of them to do so. See also Harling (2017) for a discussion on how the marketization of Swedish secondary education may prompt pupils to enter secondary school.

[12] The share of pupils who went to independent schools in 1992 was 1 percent in primary education and 1,7 percent in secondary education (Jordahl and Öhrvall 2013).

[13] The law stipulates that admission to independent schools should be strictly based on queue time alone. However, this law can be circumvented with impunity since the records in the queue are not administered by an external agency.

they have also been explicitly required to follow the national curriculum (Swedish Law 2010:800).

The first year after the reform was enacted, the number of independent schools doubled, and during the next decade a new education market emerged at both primary and secondary levels. In the academic year 2016–2017, 15 percent of pupils in primary education attended any one of over the 800 independent schools at this level, and 26 percent of pupils in secondary education attended any one of the over 400 independent secondary schools that now exist in Sweden (Ekonomifakta 2018).

Most independent schools do not offer an alternative pedagogy, but, like most U.S. charter schools, have a general profile that competes directly with the public schools (Lubienski 2003). While non-profit and for-profit schools initially were about as common, the non-profit sector has contracted to a comparatively smaller number of actors—similar to 'prestige charter schools' in the U.S. (Brown and Vollman Makris 2018)—that stand out as having the most advantaged student composition and as being allowed to supplement school vouchers with private donations, whereas for-profit firms now enroll 74 percent of all students in independent primary and secondary schools, and 12.5 percent of all students aged 7 to 19 (Ekonomifakta 2018). Increasingly, independent schools are concentrated to large business groups. For example, in the academic year 2016–2017, the leading firm in the education sector, Academedia, enrolled two percent of all pupils in primary education and eight percent of all students in secondary education in any one of its wholly-owned but differently branded schools (Academedia 2017).

3. Evidence of grade inflation

In the 2012 Programme for International Student Assessment (PISA) survey, which

assesses the knowledge of 15-year-old pupils,[14] Sweden scored below average among Organization for Economic Cooperation and Development (OECD) countries in reading, mathematics and science (OECD 2013b). Likewise, in the Trends in International Mathematics and Science Study (TIMSS) 2011, which assesses the mathematics and science knowledge of 4th and 8th graders, even pupils of the heavily criticized American education system[15] achieved better results than Swedish pupils in mathematics in 8th grade at all student achievement levels (Mullis et al. 2012).[16] This represented the lowest point in a long decline of Sweden's results in international standardized tests since TIMSS 1995, the first year that Sweden participated, when Swedish 8th graders performed far above the international average and the European Union (EU)/OECD average in both mathematics and science (Hanushek, Peterson, and Woessman 2012; Henrekson and Jävervall 2017), reflecting an actual deterioration of knowledge among Swedish pupils that cannot be detected before the 1990s (Gustafsson, Sörlin, and Vlachos 2016).[17] However, since the mid-1990s, grades have continually risen in both primary and secondary schools in Sweden, as has the share of pupils who

[14] PISA is a worldwide study by the OECD. In Sweden, the test is taken in the year the pupils turn 16.

[15] See, for example, Murray (2008).

[16] TIMSS is a worldwide study by the International Association for the Evaluation of Educational Achievement (IEA). TIMSS 2015, released on November 29, 2016, showed improvement in both mathematics and science. However, Swedish pupils fare below the EU/OECD average in mathematics and Swedish 8th graders are still outperformed by American pupils. The exception is the weakest Swedish and American students, who perform identically (Henrekson 2017). In science, Swedish pupils are still trailing behind the results of TIMSS 1995, in which Sweden was ranked as the top science nation.

[17] PISA 2015, released on December 6, 2016, showed improvement in all three subjects. However, a shift to computer-based testing makes comparisons with previous results precarious (see Komatsu and Rappleye 2017; Jerrim 2018).

receive the highest grade (Vlachos 2010; Holmlund et al. 2014).

[Insert Table 1 about here]

These opposing trends become strikingly evident from the OECD's country report on education in Sweden (OECD 2015) and in one of its graphs reproduced here (Fig. 1). This figure shows both the development of the average merit rating in year 9 (the final year of primary education) and the PISA assessment data between the academic years 1997/98–2011/12.[18] According to the Swedish National Agency for Education (2014b), international standardized tests such as PISA give an accurate picture of the level of knowledge among Swedish pupils and closely resemble the national curriculum. While merit ratings have improved during these years, Swedish pupils have steadily deteriorated in all three areas of PISA—reading, mathematics and science—since the tests began in 2000. This contradiction—that grades have markedly improved in Sweden while the level of knowledge as measured by valid international tests has declined—suggests that grades do not reliably measure pupils' knowledge and cannot be used as a valid indicator of the quality of education.[19]

[Insert Figure 1 about here]

[18] The merit rating in elementary and secondary school is calculated based on the pupil's grades. Pupils are ranked for admission to the programmes available in secondary school/higher education according to this merit rating. Sweden changed its grade system in the fall of 2012, which makes comparability with previous grades difficult and explains why the figure does not include later years.

[19] PISA is not an uncontroversial assessment, particularly with respect to its ranking of countries (Kreiner and Christensen 2014; Bulle 2011). However, other international assessments as well as various domestic tests of knowledge among Swedish pupils show the same declining trend (Henrekson and Jävervall 2017).

In the past, poor levels of substantive knowledge among Swedish pupils have often been considered to be offset or attenuated by the fact that pupils performed strongly in other important skills that are also weighed into grades, such as critical thinking and creativity. However, another recent PISA assessment has also revealed shortcomings (below the OECD average) in critical thinking, creativity, curiosity and perseverance (OECD 2013a). Sweden was ranked 20th out of 28 countries when the test was given in 2012. Assertions that the improvement in grades reflects the strengthening of such skills—independent of the level of knowledge—can therefore be rejected.

Hence, neither the external tests of knowledge level nor the PISA assessment of problem-solving skills can explain the sharp increase in grades. Perhaps the most striking fact is that the share of Swedish pupils who receive the top grades increased dramatically, while at the same time the performance of the top group declined sharply on international tests, particularly in mathematics (Mullis et al. 2012). The combination of rising grades and declining international test scores thus suggests grade inflation (Holmlund et al. 2014).[20]

Yet another indicator of grade inflation is Sweden's results in the Programme for the International Assessment of Adult Competencies (PIACC) survey,[21] which has been carried out only once, in 2012, and which assesses adult cognitive skills in literacy, numeracy and problem-solving ability divided in age groups. Sweden's deteriorating results in PISA are perfectly mirrored in the same age cohorts in PIACC, which reveals that poor results at age fifteen 'remain unchanged at least twelve years after primary education' (Löfbom and Sonnerby 2015, 71). Indeed, the younger the persons assessed

[20] In this article grade inflation is defined as the difference between teacher-assigned grades and the results in international assessments.

[21] PIACC is an international survey by the OECD.

in PIAAC are, the more the results worsen (OECD 2013a). Because school competition in Sweden has raised educational outcomes in both independent and public schools, and given that this might be explained by grade inflation, it follows that grade inflation might be an unexpected and undesired consequence of the school choice reform and its voucher system.

The voucher reform has given schools an economic incentive to compete for pupils. However, the regulatory framework offers independent schools no particular incentive to compete based on quality of education rather than in terms of how grades are assigned and other material and immaterial rewards, such as free driving instructions, lunch coupons for eating at restaurants outside the school, personal computers, and a schedule that facilitates combining high school studies with a part-time job.[22] This grading competition is made possible, at least in principle, by the fact that teachers themselves (and not independent external examiners) assign grades in Sweden. Additionally, in the 'quasi market' (Le Grand and Bartlett 1993) that education has become, charging higher fees to provide a better service is not possible; hence, profitability can be boosted only by attracting more pupils (Lubienski 2003). The fact that parents and pupils are generally satisfied with independent schools (Svenskt Kvalitetsindex 2015), even though those schools took the lead early on in offering inflated grades, which is demonstrated by a study of competition among Swedish

[22] Such material and immaterial rewards are commonly offered to pupils, although not in all independent schools. See, for example, *Aftonbladet* (2007), 'Schools fight over secondary school pupils,' Neuding (2017), 'Junk food a new way for independent schools to attract students,' and *Svenska Dagbladet* (2009), 'Pupils in independent schools have superior computers.' The author has translated all headlines.

secondary schools in 1997 (Wikström and Wikström 2005),[23] may suggest that a preference for high grades and low effort has emerged. Changing social norms concerning the value of educational achievement might have strengthened such a preference because the appreciation for hard work and academic tenacity tends to decrease in wealthy and highly modernized welfare societies (Heller Sahlgren 2015b; Lindbeck and Nyberg 2006). Increasingly, academic credentials are not even expected to reflect possession of knowledge per se but are rather seen as information about the individual's productivity (Caplan 2018). The market setting itself may have created a 'moral disengagement' and reduced the salience of fairness in the minds of parents and pupils, as suggested by powerful experiments conducted in economics that revealed the 'corrosive effect of markets' on ethical reasoning (Bowles 2016, 112). Taken together, these factors would make it rational for schools, even public schools, not to compete by offering an education of high standards in a 'Darwinian market process' (Frank 2012).

That such a mechanism is likely has been shown by Vlachos (2010) in a study of the effect of school competition on grade inflation (measured in a different way).[24]

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[23] Wikström & Wikström (2005) is interesting because these authors study school competition at an early point in time when the independent school sector was still in its infancy. Thus, it is not surprising that they find 'small and selective' effects of *school competition* on grade inflation (317). However, it is noteworthy that as early as 1997, they found that 'independent schools seriously engage in grade inflation' and that 'students in independent schools appear to fare much better under decentralized grade setting than in the public schools' (317). This suggests that the incentive for parents and pupils to choose an independent school to receive good grades and for public schools to gradually adapt has been strong since the late 1990s, at least in secondary education.

[24] Vlachos (2010) studies grade inflation by looking at the difference between grades and performance on Swedish standardized tests, between grades in practical-aesthetic subjects and grades in subjects with standardized tests, and between grades in primary and

While that effect is small, the true impact of school competition on grade inflation is likely to be underestimated, according to the author.[25] [26] One important reason for this underestimation is that the grades are not compared to an objective and time-invariant measure of the level of knowledge (Vlachos 2010, 47). Swedish standardized tests cannot be used as a standard against which grades can be gauged. When independent graders reexamined test from different schools, it was clear that teachers in both primary and secondary education, particularly in independent schools, grade standardized tests too leniently (Tyrefors Hinnerich and Vlachos 2013, 2016).

By contrast, international assessments offer this type of objective measure of knowledge. Therefore, in principle, the effect of school competition on grade inflation could be studied by examining the difference between grades and Sweden's performance on PISA and TIMSS. However, the fact that matching PISA data with schools and municipalities is not allowed has impeded the possibility of performing such an analysis. For the time being, we therefore must rely on the available evidence, which is quite strong. A study of the Norwegian education system, which has many similarities to the Swedish system, is also relevant in this context, as it found that grading practices are correlated with the number of schools in the municipality and that

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secondary education. The relationship between grade inflation and school competition is also discussed in Fredriksson and Vlachos (2011).

[25] The result was supported by Holmlund et al. (2014) in a study using a similar methodology (grades and Swedish standardized tests). Although the effect was small, the authors found that independent schools are more generous in grade setting than public schools and that grade inflation has been more prevalent in Swedish municipalities with a high degree of school competition measured by the Herfindahl index.

[26] Böhlmark and Lindahl (2015) use the same approach as Vlachos (2010) and find no effect. However, since there were two different grading systems in operation during their period of study—one cohort-referenced and one criterion-referenced—the results should be interpreted with caution.

stringent grading is less likely to occur in competitive environments with credible exit options (Bonnesrönning 2004a).

3.1. Previous studies of school competition in Sweden

Until now, this section has presented evidence for the existence of competition-induced grade inflation in Sweden's schools. Although none of the findings discussed are original to this study, the collection of findings provides a more comprehensive perspective on Sweden's school choice system than the previous studies of school competition offer. I will next turn to these studies.

One of the first major quantitative studies in this field was Sandström and Bergström (2005) who studied grades and performance on Swedish standardized tests in a sample of public school pupils at the primary level in the academic year 1997–1998. This study found that 'the extent of competition from independent schools […] improves both the scores on a national standardized mathematics test and the grades in public schools' (Sandström and Bergström 2005, 355). When including both public and independent school pupils at the primary level in the same year, Ahlin (2003) reported a similar significant effect of school competition on standardized test scores in mathematics. Björklund et al. (2004) found a positive impact on standardized test scores and final grades in Swedish, English and mathematics for the time period 1998 to 2000.

The largest and most recent quantitative study of school competition after the school choice reform in 1992 is Böhlmark and Lindahl (2015). These authors studied whether the share of independent school pupils at the municipality level affects educational outcomes for pupils in both public and independent schools. By examining grades, Swedish standardized test scores, and certain long-term outcomes among compulsory school graduates from 1988 to 2009, the authors found that an increase in the share of independent school pupils 'improves average education performance both

at the end of compulsory school and, in the long run, in terms of [secondary school] grades, university attendance and years of schooling' (Böhlmark and Lindahl 2015, 542). The authors also analyzed cross-sectional TIMSS data on 8th grade students in the years 1995, 2003 and 2007. They found that the general decline in test results over those years is somewhat smaller in municipalities with a higher share of independent school pupils.

Although the results seem promising, their significance is uncertain and they should therefore be interpreted with caution. Independent schools have truly raised educational outcomes in terms of grades and test results, but whether this is the equivalent of more knowledgeable pupils is less certain. Grades are not a reliable measure of the level of knowledge. Ahlin (2003) acknowledged this and therefore studied Swedish standardized tests instead, but as we have observed, these tests are also not reliable because they are graded by the pupils' own teachers.

Even the significance of the most promising study thus far, Böhlmark and Lindahl (2015), is difficult to assess. For example, these authors find no evidence of grade inflation, but as mentioned above, two different grading systems were in operation during their period of study—one cohort-referenced and one criterion-referenced. Additionally, how do we reconcile their premise that Swedish standardized tests can be used as a standard against which grades can be measured with the research showing that schools—and particularly independent schools—grade these standardized tests too generously (Tyrefors Hinnerich and Vlachos 2013, 2016)? Moreover, how significant is Böhlmark and Lindahl's finding that a positive impact of school competition exists both on grades in secondary education and on university attendance when considering that grades in secondary education are possibly more inflated than

grades in primary education (Vlachos 2010) and that those grades are the most important selection criterion for university admittance?[27]

Perhaps the authors' most notable result is their analysis of cross-sectional TIMSS data, but this is also difficult to evaluate. The authors demonstrate that municipalities with low and high shares of independent school pupils seem to run parallel in TIMSS between the years 1995 and 2003. However, between 2003 and 2007, the decline becomes less pronounced in municipalities with a high share of independent school pupils compared to those with a low share. As Böhlmark and Lindahl (2015, 509) themselves explained, test results 'deteriorated less' in regions with a higher proportion of independent school students. When controlling for the number of books at home among the test-takers as well as the average socioeconomic composition in the municipality, this amounts to an increase of approximately 7 points, which corresponds to approximately 10 percent of a standard deviation (one standard deviation on the 2007 TIMSS test score is approximately equal to 71 points, according to the authors). This can hardly be considered a major positive effect of school competition on knowledge attainment.

I argue that all these studies illustrate that we need to widen the scope of research from grades and test scores to the institutional framework of the education system and the incentives it has created, particularly in combination with school competition. Indeed, the 'effects of vouchers […] depend on the specific structures in which they are embedded, and they can only be understood and evaluated in that way' (Moe 2008, 558). The remainder of this study will consider this issue.

[27] Entrance exams to universities are almost invariably never used in Sweden.

4. Markets and institutions

Markets require institutions to function as intended. Douglass North famously defined institutions as 'the rules of the game in society or […] the humanly devised constraints that shape human interaction' (North 1990, 3). More recently, Geoffrey Hodgson (2006, 7) has expanded the definition of institutions to encompass durable social structures that serve not only as constraints but also as enablers of behavior with the 'capacity to change aspirations' of agents. The vast majority of economists, particularly those of the New Institutional Economics school, have argued that markets cannot and should not be left alone but require appropriately designed institutions to function efficiently (Hodgson 2013; Nooteboom 2014). Since institutions shape moral habits (Ratnapala 2006), they are needed to limit the negative effects that markets may have, such as the 'crowding out' of intrinsic, non-material values and moral conduct from areas in which markets are allowed to operate (see, e.g., Sandel 2012; Bowles 2016), and to make markets work as well as they can.

Since markets are fundamentally about satisfying demand, whatever that might be to the individual consumer who has limited rationality and is frequently swayed by short-term considerations, it is not self-evident that markets serve collective aims (Nooteboom 2014). Hence, institutions must restrain markets and freedom of choice to some extent, as stipulated by North's definition (1990). A lack of appropriate, constraining institutions may ultimately lead to moral hazard, i.e., opportunistic behavior (Kasper, Streit, and Boettke 2013). The broader view of institutions as also having the capacity to change the aspirations of agents, as suggested by Hodgson (2006), brings another important point to light. Prisoners' dilemma-type situations in which agents such as firms think they cannot afford to take less self-interested courses of action, as others will not go along, is a well-known problem of markets and can have

detrimental effects on society at large (Nooteboom 2014). In these situations, appropriate institutions may support socially concerned actors and shift competition towards outcomes that are more desirable from a public perspective.

Institutions must be carefully designed, particularly in conjunction with privatization and in cases in which market actors become providers of publicly financed services (Hodgson 2013; Nooteboom 2014). Principals then must examine whether regulatory frameworks and incentives are designed to encourage moral behavior among agents. Education has often been identified as a good candidate for privatization of provision (e.g., Hart, Schleifer, and Vishny 1997). However, credence goods such as education, which necessarily entail elements of lack of verifiability, are particularily susceptible to manipulation by producers (Dulleck and Kerschbamer 2006). Therefore, voucher reforms and school competition necessitate institutions that both limit moral hazard and favor those schools that wish to compete in educational quality and not in other dimensions. As Hess (2008, 212) writes, '[t]he notion that charter school laws or voucher programs will inevitably spur the creation of good schools and programs is misleading. After all, we know that vacuums are not naturally or automatically filled by effective or virtuous actors.' Friedman (1955) suggested such a framework in his original proposal for a voucher reform program more than 60 years ago when calling for a basic core curriculum, set by the state to ensure homogenous performance standards and administered in privately run schools as well. A common curriculum was also suggested in a notable voucher plan prepared for the U.S. Office of Economic Opportunity (OEO) by Christopher Jencks (Center for the Study of Public Policy 1970). Another appropriate regulation is the external assignment of grades, as suggested by studies showing that teacher cheating is sensitive to incentives and that the presence of

external examiners reduces cheating by teachers and students.[28] In essence, when the state requires more from voucher schools, fewer survive (Ford and Andersson 2016), but quality of education may improve (Moe 2008). However, as will be shown, basic regulatory institutions were either absent or undermined in the Swedish case.

We can gain help in understanding the importance of institutions from a strand of literature on the financial crisis of 2008 that is linked to these perspectives, such as Richard Posner's book *A Failure of Capitalism* (2009) and Raghuram Rajan's book *Fault Lines* (2010). Both authors argue that the financial crisis cannot be blamed on either markets or the government alone, but that it was a 'systemic' crisis caused largely by hazardous incentives and a lack of appropriate regulation.

Posner argues that the period from the 1970s onward could be considered a 'deregulation movement' of profound range within the U.S. financial industry, which dissolved boundaries between traditional banks and new, competitive financial intermediaries such as hedge funds and lifted regulatory restrictions on risky lending. This movement intersected with falling interest rates in the early 2000s and the appetite for increased refinancing of existing house mortgages among borrowers 'with little thought for the future,' who often could not afford to service their loans (Rajan 2010, 129). Banks, according to both Posner and Rajan, behaved rationally from their point of view and in line with the market principle of satisfying demand when they began competing by lowering lending standards. 'Businessmen can no more afford to consider

[28] In a study of Chicago public schools, Levitt and Jacob (2003, 843) found that '[teacher] cheating appears to respond strongly to relatively minor changes in incentives.' This is also suggested by Borcan, Lindahl and Mitrut (2014, 32), whose study demonstrated that a wage loss for Romanian public sector employees, including teachers, 'induced better exam outcomes in public than in private schools.' Using evidence from a natural experiment in Italy, Bertoni, Brunello and Rocco (2013) found that the presence of an external examiner reduced cheating by teachers and students on standardized educational tests.

the effect of their decisions on the economy as a whole than consumers can,' Posner observes (2009, 325). Government regulators should have restricted this risky form of competition on the lending market, but instead, they trusted that markets would be self-regulating (Posner 2009). This left the financial system vulnerable when a housing bubble eventually burst and borrowers defaulted on their mortgages, which in turn caused the banks to fail. As will be shown in the next section of this study, similar mechanisms have been at work in the Swedish education system.

5. A failure of institutions

In 1991, one year before the center-right government implemented the school choice reform, Sweden's education system was decentralized and deregulated by a Social Democratic government.[29] The reform reduced the role of the central government in education to merely setting general goals and objectives and placed primary and secondary schooling under the full responsibility of the municipalities (Government Bill 1990/91:18). One reason for this reform was the trend of decentralization and management by objectives that swept through public administration in Sweden during the 1980s (Lewin 2014), but it was also congruent with a movement to reduce government regulation in education that had been developing since the 1970s (Haldén 1997). Both the political Left and the political Right had attributed the shortcomings of the comprehensive public school system to detailed regulation of the scope and content of education. They had argued that the quality of schools would improve if they were decentralized to local authorities and given greater freedom to pursue their own approaches (Ringarp 2011).

[29] Prior to the reform, the education system was heavily regulated—perhaps more than any other public institution in the world (Lewin 2014, 57).

The decentralization reform of 1991 reflected these political convictions. The Social Democratic Minister of Education at the time, Göran Persson (Prime Minister 1996–2006), vowed to reduce the size of the school regulatory system and swiftly abolished the Swedish National Board of Education (established in 1920), which was viewed as an obstacle to the realization of a new, deregulated and decentralized education system (Haldén 1997). In its place, a new agency was established: the Swedish National Agency for Education. However, it was not primarily a regulatory agency. In fact, the Swedish National Agency for Education defined itself in opposition to the abolished Swedish National Board of Education and pledged to 'dismantle traditional supervision and control' (Haldén 1997, 17). Its management explicitly disregarded the institutional memory of the previous organization and its first Director General Ulf P. Lundgren publicly voiced fears that that its 'bureaucracy was stuck to the walls' of the newly created agency (Kornhall 2013, 51).

The primary task of the Swedish National Agency for Education was not to regulate schools directly but to collect information and perform analyses. Upon the creation of the new agency, the Director General remarked that 'there are no central government rules anymore' (Svenska Dagbladet 1991, 6). It was believed that the agency's research into 'good examples' of successful schools would inspire other schools to improve themselves and that this would ultimately function as an indirect form of regulation (Haldén 1997). However, it can be argued that in effect, this amounted to a policy of self-regulation of schools. It was thus into this altered institutional setting that the independent schools were introduced only one year later when the school choice reform was enacted in 1992.

Ideas for a school choice reform based on vouchers had first emerged in the youth league of the Moderate Party in the 1970s. However, until the beginning of the

1980s, the 'the Young Moderates were fairly alone in having these ideas, also in relation to the policies of the mother party,' according to Odd Eiken (personal communication, January 12, 2014). During the second half of the 1980s, school choice and vouchers successively became a more popular issue to adopt, both within the mother party and outside of it by free market organizations such as the influential free-market think tank Timbro. An ideological movement for greater individual freedom and less government intervention was growing inside the Moderate Party (Reinfeldt 2015, 60). A general discussion throughout society, even in the Social Democratic Party, about the shortcomings of the public sector was also taking place. It noted the shortfalls in delivering welfare services of high quality and the need for private alternatives, which gave impetus to school choice as well as other ideas to reform public monopolies in the provision of education, healthcare, childcare, and elderly care (Jordahl and Öhrvall 2013). By the election of 1985, the Moderate Party had developed a plan to implement a school choice reform if elected to power (Odd Eiken, personal communication, January 12, 2014).

The Moderate Party's main source of inspiration for the reform that eventually came into effect in 1992—according to both Odd Eiken (personal communication, January 12, 2014) and Anders Hultin (personal communication, February 11, 2014)—was Milton Friedman's voucher scheme, as presented in his book with Rose Friedman, *Free to Choose* (1980). Based on their experience in the U.S., the Friedmans were critical of government monopolies in education and argued that publicly run schools serve the interests of teachers and administrators rather than those of parents and pupils, who have to conform to the bureaucracy's goals. To counter this transfer of power from 'consumers' to 'producers' in education, the Friedmans proposed giving vouchers to

pupils and thus the freedom to choose among schools, including those that are privately run.

This would open a vast education market in which 'only those schools that satisfy their customers will survive—just as only those restaurants and bars that satisfy their customers survive' (Friedman and Friedman 1980, 205). The comparison with restaurants and bars may sound frivolous. However, a voucher plan would 'bring learning back into the classroom', according to the authors, 'since parents have greater interest in their children's schooling […] than anyone else' (Friedman and Friedman 1980, 194). The Friedmans clearly intended public and independent schools to compete in educational quality and not in other dimensions. Indeed, they argued that, 'as the private market took over, the quality of all schooling would rise so much that even the worst, while it might be *relatively* lower on the scale, would be better in *absolute* quality' (Friedman and Friedman 1980, 206; emphasis in original). According to Anders Hultin (personal communication, February 11, 2014), the architects of Sweden's school choice reform shared this 'naïve view' of private actors' ability to improve educational quality. 'There was an instant air of quality about the private sector when compared to the public sector.'

This confidence in the market caused the center-right government to make certain regulatory choices when implementing the school choice reform. Here, I will point to two principal features conducive to unintended consequences.[30] First, the

[30] It may seem reductive to discuss the school reforms in terms of naivety and unintended consequences. However, a recent study from the Swedish Ministry of Finance's own 'think tank' discussing the deregulation of pharmacies, the postal system, telecommunications, railways, and schools in Sweden also pointed to a lack of foresight among politicians and policymakers. The study noted that 'it is incomprehensible in retrospect that it had not been

architects of the reform overlooked Milton Friedman's crucial point about enacting a basic core curriculum to ensure homogeneous performance standards (Friedman 1955)—perhaps because this point was not included in the proposal in *Free to Choose* (Friedman and Friedman 1980), published after Friedman was radicalized in the late 1960s and 1970s and became increasingly libertarian, not least on the subject of education (Ebenstein 2014). Indeed, it was not until 2010 that independent schools were explicitly made to follow the national curriculum; at first, they were only required to follow 'a curriculum' approved by the Swedish National Agency for Education (Government Bill 1991/92:95, 11), and then, after 1997, a curriculum that essentially corresponded to the national curriculum (Government Bill 1995/96:200). Second, the grading system was changed to give teachers greater flexibility and autonomy in awarding grades.

In conjunction with the school choice reform, the government enacted a curriculum that was considerably less prescriptive than the previous one and that lacked clear instructions regarding the scope and content of education (Swedish National Agency for Education 1994). However, this was in line with the spirit of the new, deregulated school system in which the government would only set general goals and objectives. It was also congruent with the views of the Moderate Party's Minister of Schools, Beatrice Ask, who had previously argued for 'less central management of content in schools' (Ask 1990, 367).

The new national curriculum stipulated that what was to be taught would be determined at the local level, in local curricula, in actual fact: 'It is really only in the individual school that one can talk about a curriculum in the true sense of the word,'

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possible to anticipate and mitigate certain consequences' (Forsstedt 2018, 17), for example, grade inflation in the area of primary and secondary education.

according to the Swedish National Agency for Education at the time (1996, 22). While being critical of this formulation more than 20 years later, Ulf P. Lundgren acknowledges (personal communication, February 9, 2018) that the curriculum could be interpreted to mean that schools could do anything they wanted. In addition, the responsibility for learning was largely transferred to the pupils themselves, who were expected to be involved in the planning of lessons and discussions about the content of their education, as well as to find their own answers to academic queries. While taking a more nuanced view today (personal communication, February 9, 2018), the Director General Ulf P. Lundgren believed at the relevant time that the old pedagogy of guided instruction and 'the right answer' was obsolete and did not enable students to develop abilities in reflection and critical thinking, and therefore should be replaced with a pedagogy of child-centered discovery (Svenska Dagbladet: Utbildning & Vetenskap 1994). This transfer of responsibility to the pupils had been prepared by the previous Social Democratic government whose Minister of Education, Göran Persson, had guaranteed 'pupil influence' in the law and argued that the education system could and should instill democratic values in pupils by applying 'democratic' and not 'authoritarian' forms of education (Government Bill 1990/91:115, 53). Having no objections, the center-right government carried out the policy and implemented it in the new curriculum. To Beatrice Ask, who is most aptly characterized as a liberal-conservative, giving pupils greater influence over their education was a matter of individual freedom (Svenska Dagbladet 1993b).

Moreover, the traditional concept of knowledge in education was marginalized or even eliminated in the new curriculum. While distancing himself from the label 'post-modern', Ulf P. Lundgren (personal communication February 9, 2018) recognizes that the description of knowledge in the curriculum went in that direction. Training in

diligence, perseverance and other non-cognitive skills, which facilitate the attainment of knowledge (e.g., Heckman and Rubenstein 2001) and which were emphasized in the previous curricula, was consequently abandoned (Hörnqvist 2012). The official commentary on the curriculum explained the new definition of knowledge: 'knowledge is seen as an expression of man's (the pupil's) relationship with the world rather than something "in itself" to be "attained"' (Swedish National Agency for Education 1996, 9). The soft curriculum effectively left it to the individual schools to decide on the importance of teaching traditional knowledge. The radical decline in knowledge in the PISA surveys is most pronounced among pupils who were educated in accordance with this curriculum (Henrekson and Jävervall 2017), and this fact suggests that classical knowledge was not prioritized.

Taken together, the changes to the curriculum meant that there was no longer a basic core of knowledge that all pupils were expected to master and which could have prevented school competition from undermining the quality of education. Intriguingly, this was partly intentional. As was explained in an editorial at the time in the moderate newspaper *Svenska Dagbladet* (Hellman 1993), the freedom given to schools to determine the content of education for themselves would also force public schools to develop different educational profiles and strengthen competition with independent schools. The Swedish National Agency for Education drew the same conclusion (Svenska Dagbladet 1994b).

In conjunction with the school choice reform, the government also introduced a new 'absolute,' i.e., criterion-referenced, grading system (Gustafsson 2012). In the previous relative grading system, in which pupils were 'awarded a grade from 1 to 5, on a scale representing the overall achievement in the country' (Wikström 2006, 117), teachers were required to justify in writing why they wanted to assign grades that

greatly diverged from the result of standardized tests (Swedish National Agency for Education 2005). These standardized tests were developed to help schools 'with the scale calibration, i.e., with placing their classes and students on the scale that represented the entire population' (Wikström 2006, 118). However, the new grading system eliminated the authority of standardized test scores and gave individual teachers full autonomy to assign grades (Wikström 2005). Paradoxically, as explained in an editorial in *Svenska Dagbladet* (1994a), the center-right government believed that this change would make grades fairer and more comparable, ultimately paving the way for school competition. The Swedish National Agency for Education, however, realized the actual significance of the grading reform, i.e., that it would open the possibility of more ambiguous ('qualitative' according to the official term) evaluations of pupils' knowledge (Swedish National Agency for Education 1996), and they welcomed this change.

According to the Swedish National Agency for Education, the old grading system had been 'characterized by the belief that it is possible to objectively measure knowledge.' However, 'ideas about the scientifically based and the "objective"' and the idea that all pupils are 'expected to learn the same things' were not in harmony with the new, objective-based education system (Swedish National Agency for Education 1996, 35). What was now needed was a 're-thinking when it comes to assigning grades and what grades are but also the meaning of the terms fairness, comparability and equivalence.' The agency concluded that 'taken together, the orientation towards local variations, individual diversity and qualitative dimensions of knowledge require a different way of looking at assessments and grades' (Swedish National Agency for Education 1996, 36). For example, it was deemed theoretically possible for a teacher to

assign grades in any subject based on observations of the pupil that the teacher had made in circumstances other than the lesson in class.

The soft national curriculum and the deregulated grading system, both influenced by the belief that knowledge is a fluid concept, offered little institutional resistance to grade inflation and school competition in dimensions other than educational quality. However, according to both Beatrice Ask (1992) and the editorial page of *Svenska Dagbladet* (1993a, 2; 1994a), the curriculum and grading reforms, which gave back power over content and grading 'from politicians and bureaucrats to the school staff, parents and children,' went hand in hand with the school choice reform, but with the tacit assumption that competition would only be based on educational quality.

Emblematic of this assumption is the fact that the center-right government 'never considered external examination of grades,' according to Anders Hultin (personal communication, February 11, 2014). 'The pupil's right to choose was the central part of the reform,' he says. Other aspects of the regulation of the independent schools had also not been thought through, despite the fact that Beatrice Ask (1992) had promised 'strict quality control' of the schools. 'The Swedish National Agency for Education was given the task of supervising independent schools, which was something entirely new to them and their first supervisory report was deplorable,' according to Anders Hultin (personal communication, February 11, 2014). 'There was no competence or readiness for this,' he says. Ulf P. Lundgren agrees with this assessment and compares early supervisory reports to travel literature (personal communication, February 9, 2018). Yet, this is perhaps not surprising given that the Swedish National Agency for Education did not consider itself primarily to be a regulatory agency.

Market liberal ambitions thus intersected with the post-modern view of knowledge, which was influential in the Swedish National Agency for Education (Kornhall 2013). While the free-market Right pressed for a criterion-referenced grading system to make grades more comparable between schools and hence facilitate competition, the Swedish National Agency for Education considered grading reform to be an opportunity to dismantle the notion that it is possible to objectively measure knowledge.

The ambiguities of this institutional framework could potentially have been rectified when the Social Democrats returned to governing in 1994. However, it was the Social Democrats who had decentralized the education system and abolished the Swedish National Board of Education. Accordingly, they had now also embraced the school choice reform and believed that competition between public schools and independent schools would improve the quality of education (Government Bill 1995/96:200, 37). To improve conditions for independent schools, the Social Democratic government raised the vouchers to the full average cost per pupil in public schools.

The Social Democrats also supported the new grading system, but they made a significant reform vis-à-vis the policy of the previous center-right government. The Moderate Party wanted grades in at least six levels beginning at the latest in grade 7. This would not only serve as a tool for selection into higher levels of education but also as a motivational incentive to promote diligence and hard work. When the Social Democrats returned to power in 1994 (which they would hold until 2006), they reversed this policy. In contrast to the Moderate Party, the Social Democrats did not believe that grades provided incentives for learning. Therefore, grades were introduced from grade 8 and the grading scale was made less nuanced with fewer (only three) steps to underline

that grades should be seen as a tool for selection into higher levels of education and nothing else (Gustafsson 2012). This resulted in the moral aspect of education being substantially altered and grades being reduced to a sort of currency, the main purpose of which was competition with others, which likely also played a part in creating a preference for inflated grades among parents and pupils.

6. Conclusions

Friedman (1962/2002, 93) famously predicted that 'the development and improvement of all schools would […] be stimulated' by competition among public and privately operated schools. However, while the implementation of Sweden's Friedman-inspired school choice reform has been a success—15 and 26 percent of pupils now attend independent schools at the primary and secondary level, respectively—this study has shown that its outcomes in terms of school quality are in need of critical debate.

The reform does not seem to have met the high expectations of its architects, i.e., that it would improve and deepen the level of knowledge among Swedish pupils. The results from the only study that uses a convincing measure of quality, i.e., TIMSS (Böhlmark and Lindahl 2015), are not impressive. The results of Swedish pupils in international knowledge achievement tests have declined, while domestic grades have increased. This suggests that (among other contributing reasons for the deterioration of knowledge)[31] school competition is taking place in other dimensions than educational

[31] A factor that one may want to consider is the large immigration to Sweden in recent years. According to one study (Heller Sahlgren 2015a), 29 percent of the overall decline in PISA between the years 2000–2012 can be mechanically explained by the change in student composition. However, that study does not heed the fact that immigration has increased in other comparable countries as well during this period, and the point raised here is that Swedish results have deteriorated both absolutely and *relative* to the results in other

quality, including grading and other material and hedonic rewards. Indeed, although the education market in Sweden is a quasi market, there is evidence that is behaves much like a regular market, adjusting to consumer demand regardless of whether this improves the quality of education.

This hazardous behavior is facilitated by regulatory failure, supporting theoretical claims that the rules governing school choice are decisive for its success. Because of overconfidence in markets, the center-right government that enacted the school choice reform in 1992 did not deem it necessary to appropriately regulate school competition. Through grading and curriculum reforms conducive to unintended consequences, the government instead paved the way for moral hazard. The succeeding Social Democratic government did not take any major steps to reform the system in order to improve its functionality, but instead created additional ambiguities. In a recent study, Toh et al. (2016, 1264) discussed the centralization and decentralization processes maturing in the Singaporean education system, concluding, '[i]t is not about transforming one component but all the components in the ecosystem in a coherent manner.' In Sweden, however, different stakeholders brought different ideological perspectives into the various reform processes and did not regard the educational system as an ecosystem in which the different components affect one another, thus producing the effects discussed in the study.

This analysis, which has pointed out flaws in the regulation of Sweden's school choice reform, should not be seen as an implicit defense of school vouchers that are implemented in a rational and predictable manner. The normative issue of whether markets should be applied to education falls outside the scope of this study. The most

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comparable countries. Thus, the decline in knowledge cannot be explained away by immigration.

important general lesson from Sweden's experience that might inform policymakers about the adoption of school vouchers and other policies of privatization and co-production elsewhere is instead that market reforms of tax-financed service production, particularly those that introduce for-profit producers, must account for the manner in which institutions and incentive structures affect behavior. While this has often been pointed out in the privatization literature, this study shows that policymakers may downplay the importance of rules. This study has demonstrated how that happened in the Swedish school system, but there are also other (quasi) markets for tax-financed welfare services that are characterized by similar institutional weaknesses, triggering welfare-reducing adjustments of behavior, which can be traced to the hesitancy of policymakers to take seriously the fact that individuals and organizations may be narrowly self-interested. As a result of this reluctance, policymakers have failed to design and continually adjust the regulatory framework so that it compels market actors to behave in line with the public interest and the general welfare. Instead, shortcomings in the regulatory framework permit, and competition among welfare providers encourages, the emergence of norms and behavior that are at odds with the public interest,[32] ultimately undermining the legitimacy of the systems that the private providers were intended to improve.

Disclosure statement

I have no potential conflict of interest pertaining to this submission.

[32] Cf. the discussion about government funding of private non-profit agencies in, for example, child and adult protective services, drug and alcohol treatment, services for the mentally ill and developmentally disabled, home care, and early childhood-education in Smith and Lipsky (1993).

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