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# **Stress-Testing a Quasi-Market: Unintended Consequences of the Swedish School Voucher System**

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# Stress-testing a quasi-market: Unintended consequences of the Swedish school voucher system

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## Abstract

Quasi-markets in the provision of public services are increasingly common but also highly contested. We formulate a conceptual framework based on economic theory to describe how quasi-markets differ from traditional markets in five aspects: 1) revenues, costs, and profits, 2) the matching of supply and demand, 3) competition, 4) structural change, and 5) rent-seeking. Using the assumption of profit-maximizing actors, we provide a stress test of quasi-market design and highlight how these differences affect incentives and expected outcomes. Applying the framework to the Swedish school voucher system, we show how design decisions have generated unintended consequences that are detrimental to service quality and run counter to policy goals.

Keywords: quasi-markets, school vouchers, market structure, public administration

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# 1. Introduction

Quasi-markets in the provision of public services are increasingly common but also a highly contested issue (Dickinson et al., 2022). Quasi-markets differ from traditional markets in some but not all aspects. In the provision of public services, a fundamental aspect of quasi-markets is that they allow a separation between funding and provision of a service (Le Grand, 1991). The use of quasi-markets is often motivated by a desire to retain political control and public financing, combining these with desirable features of private markets such as freedom of choice, speed of innovation, and efficiency-enhancing competition. The critique against quasi-markets is often based on whether or not the free market logic prevails in a specific setting, such as schooling (e.g. Harris 2024). Beyond this, there is a further need for an analysis of how quasi-markets differ descriptively from traditional markets, how those differences affect expected outcomes, as well as if and how quasi-markets can be managed. Several authors have stressed that quasi-markets must be properly designed and “stewarded” to ensure that citizens receive the gains of market models while being protected from market failures or market-produced inequities (Brown & Potoski 2004, Le Grand 2009, Le Grand 2011, Carey et al. 2018).

Many of the concerns, uncertainties, and issues related to quasi-markets when compared to monopolized public provision come down to the consequences for service users (Le Grand 2011). While these consequences are difficult to predict in the individual case, a better understanding of how a quasi-market’s structure tends to shape outcomes can inform policy-making on what to expect from quasi-markets in public service provision. Thus, an approach grounded in economics is apt for analyzing issues and challenges associated with translating a free market logic to a quasi-market (Harris 2024).

We contribute by constructing an analytical framework based on a comparison of traditional markets and voucher quasi-markets.<sup>3</sup> We distinguish between three categories of issues that give rise to issues in a static market structure (the relation between price, cost, and revenue, the matching of supply and demand, and competition) and two categories of issues that arise due to dynamics in the market structure (structural change and rent-seeking). Exploring these differences under the assumption of profit-maximizing actors, we devise a form of stress-test for quasi-market design.

Applying our framework to the case of school vouchers in Sweden, we identify a number of unintended and (from most normative positions) undesirable outcomes of the Swedish system, such as grade inflation, cream-skimming, market dominance, and distorted incentives for innovation. We conclude by noting that, while it is unlikely that independent providers are driven only by profit maximization, the incentives created by the system are not aligned with the stated policy goals when the reform was introduced.

## 2. Markets and quasi-markets: A framework.

Standard (neo-classical) economic theory analyzes markets using theoretical models of profit-maximizing firms and consumers that choose rationally based on their preferences and limited budgets (see e.g. Mankiw 2019). As noted by many (e.g. Downs 1957, Johansson 2004, Johansson

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<sup>3</sup> While quasi-markets include both voucher system and procurement models, we focus on voucher quasi-markets because the Swedish school system is one.

2004) the standard models are not well adapted to analyzing structural change and politics, because they typically lack innovation, entrepreneurship, and institutional aspects of the market economy and the political system. We therefore add these aspects to our framework using insights from entrepreneurial economics, institutional economics, and public choice.

Our framework consists of five aspects that are important for understanding the consequences of profit maximization in traditional markets. In all five aspects, voucher quasi-markets differ from markets: The relation between revenues, costs, and profit, the matching of supply and demand, rent-seeking & regulatory capture, and the nature of competition and structural change. The differences between traditional markets and voucher quasi-markets are summarized in Table 1.

**Table 1. Traditional and voucher quasi-markets compared**

Aspect	Traditional markets	Voucher quasi-market
The relation between revenues, costs, and profit	Profit = Revenue - Costs. Revenue depends on a freely negotiated price and the number of consumers	Profit = Revenue - Costs. Revenue depends on a politically determined reimbursement rule.
Matching of supply and demand	The price serves as a signal that facilitates the matching of supply and demand. Excess demand increases prices.	Excess demand requires a rationing mechanism other than price, for example a waiting list.
Competition	Competition in both the price- and quality dimensions simultaneously. Stronger competition leads to lower prices and benefits consumers.	Competition in the quality dimension only.
Structural change	Mergers and cost-advantage (can be) balanced by entry and innovation.  Exogenous changes generate a need for innovation and adaptation for market supply to match demand.	Innovation incentives are distorted towards unregulated areas.  Possible advantages for politically connected firms and cost-advantages for incumbents.
Rent-seeking and regulatory capture	Incumbents have incentives to lobby for subsidies for their own business and/or increased regulation which limits competition at the expense of consumers.	Because policymakers are already invested in restricting market mechanisms in the quasi-market, the potential for regulatory capture increases significantly.

As a result of the differences summarized in Table 1, profit maximization will have different consequences in traditional markets than in quasi-markets. Important structural differences include the rules for price formation and revenues, the cost structure, how costs are regulated, and the conditions for competition between suppliers. These factors influence the environment for change, the role and function of innovation, and how firms respond to rivals' innovation. The outcome of profit-maximization in a particular quasi-market setting furthermore depends on trade-offs between political priorities in its design. Using the case of school vouchers in Sweden, we will illustrate how these differences have led to unintended and (from many normative viewpoints) undesirable outcomes.

### 3. Unintended Consequences of the Swedish School Voucher System

In 1990, the main responsibility for schools in Sweden was moved from the state level to municipalities (see Ringarp 2011). Municipalities must offer school placement to all children within the municipality. Introduced in 1992, the Swedish school voucher system is a voucher quasi-market with public funding that includes public, private non-profit, and private for-profit providers. In 1993, immediately after the reform, only 1-2 percent of students attended independent schools. In 2024, the share had risen to 32 percent for secondary schools and 16 percent for primary schools.<sup>4</sup>

Students have the right to apply to any type of school, and the voucher is calculated using the average cost of students in public schools. When the system was introduced, the voucher was set at a minimum of 85% of the average student cost in their municipality, and in 1997 the voucher was increased to 100%, and supplementary parental fees were disallowed.<sup>5</sup>

The establishment of new schools run by private providers can be blocked by the national authority Swedish Schools Inspectorate (Skolinspektionen), which also has the mandate to close schools that do not live up to their obligations. When demand exceeds capacity, primary schools have the right to manage their admissions through a waiting list (the most common method), and a few other methods such as geographic proximity and sibling advantage (see SOU 2020:28). Admission to secondary schools is based on grades.<sup>6</sup>

As expressed in Government Bill 1991/92: 95, the desired outcomes of the reform were:

- To achieve the greatest possible freedom for children and parents to choose a school,
- To stimulate an increased commitment to the school on the part of parents and greater responsiveness at schools and municipalities to students' and parents' wishes,
- The development of independent schools with alternate profiles and organizational forms. Examples that were explicitly mentioned were parent-run cooperatives, schools with special subject teachers, and the preservation of rural schools under threat of closure.
- Competition between schools, contributes to raising the quality within the entire school system.

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<sup>4</sup> Source: Ekonomifakta (2024).

<sup>5</sup> It has become increasingly common to complement the voucher with extra remuneration on based socio-economic factors, a system currently under investigation (Dir. 2023:153).

<sup>6</sup> For a more detailed description of the Swedish school voucher system, see e.g. Lundahl (2024) and Blix and Jordahl (2021).

It is worth noting that right-wing politicians often argued for the reform by stating that through vouchers, a situation would be avoided where independent schools were affordable only for an economically strong elite, as described by Grundberg Wolodarski (2022, especially ch. 3) and Wärneron (1990). Note also that provider heterogeneity was an explicitly stated goal of the reform.

Early evaluations of the reform concluded that competition promoted quality also in public schools (Bergström and Sandström 2005), but effects tend to be smaller or non-existent in later studies (e.g. Böhlmark 2016, Irmert et al. 2023). More recent studies have also documented problems and unintended consequences, as described below. Overall, it is fair to say that the reform has not fully delivered on its stated goals (Blix & Jordahl, 2021; Elert & Henrekson, 2024). Our discussion of unintended consequences of the reform below follows the five aspects described in Table 1. As noted in the introduction, we assume that all actors in the quasi-market are profit-maximizing, not because they necessarily always are but because this allows us to stress-test the quasi-market design with respect to its ability to restrict certain aspects of market mechanisms and balance the outcome in a desirable way.

## The relation between revenues, costs, and profits

- **Profits instead of consumer surplus**

To increase profits, producers will strive to lower costs, and this holds true for markets as well as quasi-markets. On markets, the competitive process will push prices down towards costs, transforming profits into consumer surplus (defined as the difference between the consumer's willingness to pay and the price). When a lower cost means lower quality, the market will be segmented into expensive high-quality products and cheap low-quality products.

In the Swedish school voucher system, revenues depend on the politically determined voucher size, and parents do not pay fees. That has two implications. First, lower costs will increase profits, but no counter-force will turn profits into consumer surplus. In situations when the profit motive leads to a more efficient use of resources, the resulting value is collected by the provider and not passed on to consumers (or to tax-payers).

Second, there are no prices that act as quality signals to consumers, who thus risk choosing schools where costs have been lowered at the expense of quality to increase profits.

- **Cream skimming**

When revenue per student is fixed, a profit-maximizing provider will want to attract low-cost students and avoid high-cost students, i.e. engage in so-called cream-skimming (cf. Epple & Romano, 2008). If independent schools engage in cream skimming, the voucher system will lead to increased segregation between schools as a (plausibly) unintended consequence.

The risk of cream skimming was a part of the debate regarding the reform (see, e.g., Wärneron 1990), and independent schools are not allowed to admit students based on academic ability or socio-economic background. Nevertheless, to engage in cream skimming, independent schools can choose to locate in socio-economically strong areas and also use waiting lists (which will have a cream-skimming effect if parents with better socio-economic backgrounds are more prone to put their children on the waiting list). Descriptive evidence

(Skolverket 2024, SOU 2019:40), as well as more detailed studies (Böhlmark et al. 2016, Brandén & Bygren 2022), suggest that cream skimming is in fact taking place.<sup>7</sup>

## The matching of supply and demand

- **Gaming the system**

Because schools have capacity constraints, a voucher system requires a mechanism that allocates students to school based on their preferences also when some schools are in excess demand. Without the price mechanism in action, the design of such algorithms is a non-trivial problem. In particular, parents may try to game the system by providing false preferences over available schools (to maximize their actual or perceived chances of being allocated to their most preferred school). The relevance of these concerns was demonstrated on US data by Fack et al., (2019) and confirmed using Swedish school choice data by Andersson et al., (2024).

- **Uninformed choice**

When information on school quality is unevenly distributed, well-informed parents will have an advantage, benefiting students from strong socioeconomic backgrounds. Thus, the use of school-specific waiting lists further enables cream-skimming. Even in the absence of grade inflation (see below), providing information about school quality is difficult because such measures should ideally be conditioned on students' socio-economic background, thus providing some school-level measure of value added. As noted by Elert & Henrekson (2024), the site provided by The Swedish National Agency for Education (Skolverket) to facilitate the comparison of schools does not contain any such information, even though such measures exist. It bears noting, however, that value-added measures are contested due to their implicit assumptions, methodological sensitivity, and endogeneity (Amrein-Beardsley & Holloway 2019, Goldhaber et al., 2013, Manzi et al., 2014). In practice, there is a risk that even comparatively well-informed parents will rely on information that reinforces existing aggregate perceptions and prejudices.

- **Noisy information**

Information is unevenly distributed among students/parents and schools market themselves by emphasizing tangible features that are quickly communicated. Such marketing results in noise that makes it more difficult to evaluate the quality of schools. Schools with poorer quality then have higher incentives to contribute to such noise. Empirically, marketing efforts include cheap merchandise such as sweets, pens, and reflector tags but also e.g. opportunities to win portable music players (Arreman & Holm, 2011), and according to Greaves et al. (2023), schools' marketing activities are rarely accompanied by substantive curricular change.

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<sup>7</sup> For example, (Brandén & Bygren, 2022) conclude that choice to independent voucher schools is positively associated with increased school segregation between immigrants and natives, and between pupils of immigrant/Swedish background.

## Competition

- **Grade inflation**

Grades are one of the observable and quantifiable dimensions in which the output of different providers can be easily compared. In Sweden, grades from secondary education are effectively a currency to get into university (and, to a lesser extent, for getting a job). The demand for high grades from students and parents (rather than grades that accurately reflect attained knowledge) creates incentives for lenient grading. Unless there are counteracting forces, grade inflation may result, as documented empirically in Sweden in several studies (Edmark & Persson 2021, Wikström & Wikström 2005). Similarly, Hinnerich & Vlachos (2017) have shown that independent schools are more generous than municipal schools in their internal test grading, especially among students at academic programs. An evaluation from the Swedish National Agency for Education (Skolverket) finds that finishing grades from secondary schools are slightly higher for students from independent schools compared to public ones, while the frequency of high school graduation three years later is very similar. This suggests some small degree of grade inflation, controlling for observable differences such as gender, choice of high school program, and parents' level of education (Skolverket 2022a).

In 1994, the relative grading system was replaced with a goal-related grading system, and since 2011, grades are set according to a six-point grade scale from A to F. In the words of Henrekson & Wennström (2019) the grading criteria are “entirely subjective and open to interpretation” (p. 22). The interaction between the school voucher quasi-market and the change in grading system seems thus to have exacerbated grade inflation.

Interestingly, regardless of the quasi-market setting, grades act as a currency for high school students applying to university programs as higher grades translate into increased freedom of choice and less competitive pressure from other students. This dynamic is potentially increased not only by unintended consequences in the quasi-market but also by the fact that higher education in Sweden is state-funded and free for students. Given this context, grade inflation is not necessarily undesirable for students or parents in the short term, giving them further incentives to demand high grades from teachers and secondary schools.

- **Skewed Product variation**

In response to competitive pressure, firms in a market often try to differentiate their product from others to create their own niche in the market. In the school voucher quasi-market where central aspects of quality are safeguarded by regulation and when quality is difficult to define and measure, regulation and control will play a crucial part in quality assurance. Thus, the scope for product variation is limited and tilted toward less regulated aspects of education. Consequently, it is not uncommon to see differentiation through offers of free laptops for students, training for driver's licenses included in the curriculum journeys abroad as part of the school semester or “free Wednesdays” (Kristiansson 2007, Pihl 2021).

- **Skewed competition due to asymmetric information**

In a quasi-market like the Swedish school voucher system, public and private providers compete with each other but are also subject to partially different regulations. Public schools are subject to the Principle of availability of public documents (Offentlighetsprincipen, aka



the publicity principle), according to which all of their documentation including grades can be made public on request. Private providers are not subject to the same regulation. Requiring independent schools to obey the publicity principle would likely inhibit innovation incentives among private providers (who prefer to keep business secrets non-public), but the lack of transparency results in skewed competition in the quasi-market. As noted above, the asymmetry in information also affects students' and parents' possibilities to make informed decisions.

In 2021, a government inquiry was initiated to investigate how to assure sufficient information transparency from private providers in the Swedish school voucher system. The results, which were presented in 2024, suggest either that private school providers should be included in the Principle of availability of public documents, or that they should be subject to a specific transparency regulation for private schools (SOU 2024:28).

- **Dominant market position**

Since reimbursement per student is fixed in the Swedish school voucher system, revenues will rise linearly with the number of students. Because economies of scale cause costs per student to fall, larger providers will have an advantage over smaller and the market will tend towards groups with a dominant position. In Sweden, the 1997 increase of the voucher from 85% to 100% was followed by a 10-year period with a substantial expansion of schools owned and run by for-profit groups (Lundahl, 2024).

For independent schools in general, the average number of students per school is smaller than municipal schools, and the vast majority of providers are small and only run a single school. But schools run by for-profit groups as limited liability firms are on average larger than municipal schools. In fact, The International English School is Sweden's fourth largest primary school principal in terms of number of students, after the three largest municipalities of Stockholm, Gothenburg and Malmö. Summarizing the state of the market, The Swedish National Agency for Education (Skolverket 2024) noted that the trend points towards an increased concentration of ownership within the independent school sector, as the largest actors become increasingly larger. To our knowledge, the Swedish Competition Authority has never investigated the Swedish school voucher system.

The previous three categories describe issues that arise in a given and static quasi-market structure. There are also issues related to changes in market structure, and we will focus on two categories: structural change and rent-seeking.

## Structural change

- **A trade-off between innovation scope and quality regulation**

The ways in which quasi-markets differ from traditional markets may affect both the incentives and scope for innovation and entrepreneurship. In the case of the Swedish school voucher quasi-market, both price and many aspects of quality are regulated.

The fixed voucher remuneration per student means that there are no incentives to capture market shares by lowering the price of education. However, there are incentives to improve quality to attract more students. If the competitive pressure is weak, e.g. because of

transaction costs or a (perceived) lack of alternatives, economic incentives to increase efficiency are tilted towards unconditionally extracting larger profits. As long as some dimensions of quality are not regulated, providers may prioritize profit over quality. If students do not “vote with their feet”, i.e. avoid schools with inferior quality, low-quality schools may continue to operate as long as they are not shut down by a regulatory authority.

These schools become the equivalent of a zombie firm in traditional markets, i.e. a firm survives only as a result of fiscal or monetary stimulus (Caballero et al. 2008). For this reason, it is important to safeguard both barriers to entry and mechanisms for exit in a quasi-market setting. To achieve this, restrictions and regulations on quality measures must be enforceable. Otherwise, these restrictions limit the positive aspects of a market setting, without upholding the intended ambition of a quasi-market setting.

The consequences of detailed regulation create a challenge for quasi-market design: On the one hand, restrictions and regulations of quality in the provision of education have to be detailed enough to safeguard quality in a way that is enforceable. On the other hand, when regulation is highly detailed, the scope of experimentation and innovation in the provision of education is limited and skewed towards the more peripheral parts of the service, such as marketing or management (Lubienski 2009). While innovations in these areas may contribute positively, they are peripheral to core activities like curricula, teaching, testing or grading (Bloom et al. 2015).

In Sweden, the national authority Skolinspektionen can both block the establishment of new schools and shut down existing schools that violate relevant laws. In 2021, the Swedish parliament passed a law to increase Skolinspektionen’s ability to shut down schools that exhibit serious and recurring failures in educational quality, and to extend these abilities from private schools to also include public schools.

- **Inefficient use of new technologies**

Research on structural change suggests that there is a significant difference between adopting new technologies and reaping the potential productivity gains from these technologies. The latter requires complementary organizational investments and innovations, i.e. the re-organisation of work (e.g. Brynjolfsson and Hitt 2003, Varian 2010, Brynjolfsson and McAfee 2014). Thus, restrictions on how work is organized tend to limit the potential for fully leveraging new technologies even after they have been introduced into the organization.

Complementary investments related to new technologies are costly. If there is no economic incentive - through competition or through enforcement of quality regulation - to make these investments they tend to be overlooked. In a worst-case scenario, investments in new technological equipment, especially if favored in a governmental digital transformation strategy or used as a marketing signal to attract students, may be used to cut costs rather than to improve educational quality.

If restrictions on the organization of work are combined with pressure (from policy-makers, parents, or students) to invest in new technologies, the result may be overinvestment in technologies that are underutilized. This is exemplified in Swedish schools - both public and private - and elsewhere with digital transformation strategies measuring primarily the number of laptops or tablets as well as skills related directly to the use of these technologies, rather

than how they are used to promote educational quality in other subject areas (Skolverket 2022b).

## Rent-seeking and regulatory capture

- **Rent-seeking:** Firms are said to engage in rent-seeking (the term was coined by Krueger 1974) when they try to obtain benefits for themselves through the political system, for example by getting a subsidy for a good they produce or by lobbying for regulations to hamper their competitors (see e.g. Gustafsson et al 2009).

Given the widespread evidence on the value of political connections for firms (Fisman 2001, L  v  que 2020, Fu & Sun 2024), the incentives for rent-seeking must be taken into account when a quasi-market is designed. When education providers lobby to promote profit opportunities that conflict with the goals of the reform, regulatory capture emerges as another unintended consequence of the reform. In a case study of Sweden, Sebhatu & Wennberg (2023) show how voucher schools rely on and benefit from political ties.

- **Regulatory capture:** Regulatory capture can be understood as a form of rent-seeking. The modern capture theory of political behavior was given a foundation by Downs (1957), who noted that private interests are willing to expend resources to see policies put into effect that will entrench their positions and enhance their wealth.

Opportunities for rent-seeking activities are present whenever government is present, but because quasi-markets are not only shaped by but in fact created by political decisions that limit ordinary market mechanisms, incentives for regulatory capture and rent-seeking are significantly increased. The aim of regulatory capture is often to restrict or limit the scope of future competition through, for example, market entry or innovation. Because there is already a regulatory structure in place to limit competition in the traditional market sense, the quasi-market is more exposed to such attempts at regulatory capture.

Note that lobbying is not in and of itself necessarily a bad thing. Through lobbying, stakeholders channel what they deem to be important information towards legislators and policy-makers. Firms can choose to lobby in order to improve the conditions for their own business or to limit their competition. Ideally, lobbying conveys factual information from the lobbyist's point of view, but firms can choose to present limited or even false information too. The issue for policy-makers is to weed out the relevant information conveyed through lobbying, to weigh it against other sources of information and, last but not least, to consider if there are additional stakeholders that have not been heard on a particular issue.

## 4. Conclusion

In this paper, we have highlighted the differences between markets and quasi-markets. We have made the case that underestimations of these differences have given rise to a wide array of unintended and undesirable consequences in the Swedish school voucher system introduced in the 1990's, many of which still remain today.

In a traditional market, optimal conditions can to a large degree be deduced with economic theory. In quasi-markets, however, some market mechanisms are by definition politically restricted. Because of this, optimal conditions hinge to a much larger degree on political trade-offs and priorities. Economic theory can be used to highlight these trade-offs and priorities, but not to settle them. Using our framework and the assumption of profit-maximizing actors in a quasi-market setting, we have demonstrated how policy-makers across policy areas can stress-test the structure of their intended quasi-markets to get a more coherent overview of how political trade-offs affect outcomes, as well as to identify potential unintended consequences. Hopefully, this can contribute to the further development of successful quasi-market stewardship.

As for the Swedish School voucher system, our results emphasize that the profit motive on its own is neither inherently good nor bad in a quasi-market for schooling. The effects of profit-seeking behavior depend heavily on the structure of the quasi-market, which in the Swedish case calls for serious reform. However, simply prohibiting the extraction of profits is unlikely to solve any of the problems described in this paper. Restrictions on profits or the amount of profits that can be extracted will create incentives to find loopholes in the regulation. A profit-restriction may also inhibit positive effects of market dynamics meant to be preserved in the quasi-market. Furthermore, there is no point in turning schools that generative profits as the result of genuine improvements or as a consequence of exogenous events illegal. Instead, past experiences can and should be used to determine, from a political stand-point, what aspects of educational quality are important to regulate and then, from an economic point of view, what regulatory approach to take, how to enforce these regulations and how to secure exit for those who do not comply, as well as how to promote innovation, market entry, and adaptability. When reforming the regulatory framework, stress-testing the quasi-market structure in the way proposed in this paper is a way to maximize the chances of that reform process resulting in the intended outcomes. Quasi-market governance is increasingly proving to be an ongoing learning process.

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