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Markets in Education: An Analytical Review of Empirical Research on Market Mechanisms in Education

Sietske Waslander,

Cissy Pater,

Maartje van der Weide

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MARKETS IN EDUCATION: AN ANALYTICAL REVIEW OF EMPIRICAL RESEARCH ON MARKET MECHANISMS IN EDUCATION

Education Working Paper No. 52

by Professor Dr. Sietske Waslander, Cissy Pater (MSc) and Maartje van der Weide (MSc)

For further information contact: Henno Theisens, Analyst, CERI: Email: Henno.Theisens@oecd.org

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ABSTRACT

In the last three decennia, many governments have introduced market mechanisms in education. They have done so by enhancing parental choice and encouraging school competition, through policies like abolishing catchment areas, creating voucher programmes and setting up charter schools. These market mechanisms have given rise to fierce debates in both political and scientific circles. However, most prior reviews of research literature in this area have concluded that the effects of market mechanisms in education are small, if they are found at all. This review tries to answer the question why that is the case, by analysing the causal pathways that link market mechanisms to educational outcomes and by reviewing the empirical evidence for each step along those causal pathways. The findings of this review point to the need for a nuanced and qualified discussion about market mechanisms in education. What market mechanisms mean in actual practice strongly depends on (local) contexts, while the impact of market mechanisms is related to other policies impacting on parental choice behaviour as well as actions taken by schools.

RÉSUMÉ

Au cours des trois dernières décennies, de nombreux gouvernements dans le monde entier ont introduit des mécanismes de marché au sein de leur système éducatif. Ils ont procédé ainsi en valorisant le choix des parents d'élèves et en encourageant la compétition scolaire à travers des politiques telles que l'abolition des zones scolaires, la création de programmes accessibles à l'aide de chèques scolaires, et mise en place des écoles à charte. Ces mécanismes de marché ont donné naissance à des débats passionnés dans les milieux politiques et scientifiques. Cependant, les toutes premières recherches dans ce secteur ont conclu que les effets des mécanismes de marché dans le secteur éducatif sont mineurs, lorsqu'ils sont déterminés. Cette étude essaie de comprendre pourquoi il en est ainsi en analysant la chaîne causale qui lie les mécanismes de marché aux résultats dans le secteur éducatif**,** en passant en revue les données empiriques à chaque étape du processus. Les résultats de cette étude soulignent le besoin d'un débat nuancé et modéré sur les mécanismes de marché dans l'éducation. Ce que *mécanismes de marché* signifie en pratique dépend fortement du contexte, alors que l'impact des mécanismes de marché est lié à d'autres politiques qui influencent le choix des parents d'élèves ainsi que les actions mises en place dans les écoles.

TABLE OF CONTENTS

Tables

INTRODUCTION

1. In the last three decennia, many governments around the globe have introduced market mechanisms in education.[1] They have done so by enhancing parental choice and encouraging school competition, through policies like abolishing catchment areas, creating voucher programmes and setting up charter schools. These market mechanisms have in turn given rise to fierce debates in both political and scientific circles. Proponents claim that relying more on market mechanisms results in higher quality, more efficiency and more demand sensitivity; while opponents stress the danger of schools with increasingly unequal quality, unequal access to high quality schools and, as a consequence, segregation; they also stress the negative consequences for social cohesion if students no longer go to similar schools. A growing body of empirical evidence on the impact of market mechanisms on education outcomes has been developed. But, the evidence points to small effects, is fragmented and often inconclusive.

The market mechanisms and stakeholder behaviour in education systems project

2. Because of the widespread and growing importance of market mechanisms in education, the intense (ideological) debates and the growing, if inconclusive, body of empirical evidence, the OECD/ CERI project, entitled *Market Mechanisms and Stakeholder Behaviours in Education Systems*, was launched to achieve three main objectives:

1. To improve our understanding of what we mean by market mechanisms in education by clarifying the concept of market mechanisms in education and assessing the current evidence base for their impact.

2. To contribute to the empirical knowledge base by collecting data on market mechanisms introduced in education systems and the effects these have had on school and stakeholder behaviour.

3. To explore "governing beyond the market". With the increased operation of market mechanisms the relationship between governments and the education system has fundamentally changed. What steering options are effective under these new conditions?

The focus of this review

3. The literature review in front of you falls under the first objective of this project, but it takes a slightly different focus than that of simply trying to answer the question asking what the effects of market mechanisms on education outcomes are. A number of research projects have made these policies and their effects the focus of their inquiries. Based on this substantial body of empirical work, numerous reviews have already been conducted. Most prior reviews have concluded that the effects of market mechanisms in education are small, if they are found at all (see Chapter 2). The discrepancy between the ongoing heated debates and the repeated small-to-non-existent effects found by researchers raises the question of why the effects found by researchers are so small. And, indeed, many reviews that conclude that the effects are minimal and differ across contexts are followed by suggestions and speculations as to why this might be the case.

4. This review treats the outcomes of those earlier reviews as given, and takes small and/or inconsistent effects as the starting point. The question this review tries to answer is not *whether* parental choice and school competition have any of the intended effects, but *why* research finds effects to be so small or absent entirely. In attempting to answer this question, a somewhat unusual analytical approach has been adopted. We deliberately chose to open the "black box" of market mechanisms – filled with assumptions about how market mechanisms are linked through a chain of causes and effects to education outcomes – in order to empirically examine the evidence for these chains of assumptions. The review makes explicit the underlying assumptions regarding how parental choice and school competition are expected to affect education. This is then followed by a systematic review of the available empirical research claimed in support of each of the consecutive steps identified in the chain of reasoning. The focus is, therefore, less on *effects* themselves of market mechanisms and more on the *behavioural responses* of the different agents involved in education. If similar findings are found in different contexts and/or as a result of different research methods for any particular step, this is considered to be an indication of the robustness of such findings

5. Every review of literature is necessarily limited. In this review we have limited the scope by focusing on primary and secondary education. In other words, preschool, vocational training, higher and postgraduate education are not part of the study. There are several reasons for this; most importantly, it is at these education levels that much of the available empirical research focuses, and these education levels are relatively comparable across countries. This review is also limited by the perspective it takes. Markets can be seen as a form of governance, a mindset or even a value system. However, because this review is a systematic analysis of the available empirical research, and most empirical research takes the implicit view that market mechanisms can be regarded as a set of interventions or practice that have empirically verifiable effects, we build on this perspective. At no point does this review take a stand in the ideological debate on markets, nor in the debate on which theoretical perspective is most useful to study markets.

6. This review is organised as follows. After the initial overview of the outcomes of research into the effects of market mechanisms in education (Chapter 2), we discuss the methodology of this review (Chapter 3). We then make a distinction between demand and supply-side mechanisms, focusing on parents and choice (Chapter 4) and on competition (Chapter 5). Having reviewed over two hundred pieces of empirical research, we draw conclusions about the steps in the causal chains linking parental choice and competition to education outcomes that are confirmed, questionable or invalidated (Chapter 6). In this field, different terms can be used for similar phenomena, while the same term can refer to different phenomena. This linguistic state of linguistic affairs is partly related to differences between countries and their histories and policies. In appendix two a list of definitions as used in this review are provided.

NOTES

[1] Governments introducing these market mechanisms in education can now be found in Asia (China; Hong Kong, China; Kazakhstan and Pakistan), Africa (Tanzania), Latin America (Chile and Nicaragua), Europe (Finland, France, Poland, Spain and Sweden), North America (Canada and the United States), Australasia (Australia and New Zealand) and the Middle East (Qatar). See e.g. Brewer and Smith (2008) for a general overview; Anderson and Heyneman (2005) for Central Asia, particularly Kazachstan; Johannesson et al. (2002) for Finland, Iceland and Sweden; Klitgaard (2007) for a comparison between the United States, Sweden and Germany; Mok et al. (2009) for China; Piwowarski (2006) for Poland; see list of references for other contributions.

MARKETS IN EDUCATION: WHAT DO WE KNOW ABOUT OUTCOMES?

7. Education systems have multiple goals.[1] Our main focus here is on the two goals that have been the subject of most empirical research: quality and equality. At the system level, realising multiple educational goals seems to involve trade-offs.[2] When focusing on the impact of market mechanisms on any specific goal, we need to be aware of possible trade-offs with other goals at the system level. Such goals may include freedom of choice – as a goal in its own right – parental satisfaction, innovation, social cohesion and civic competences.[3]

8. In this chapter we give a brief overview of research findings about the impact of market mechanisms on educational quality and equality as found in a large district, a state or a country. Ultimately, these are the most important levels of aggregation for governments and government policies. As we shall see later, we may need to look at other levels of aggregation for a complete understanding of how market mechanisms work in practice.

9. Our focus is on the impact of parental choice and school competition; the performance of public *versus* private schools as such is beyond the scope of this review. For an overview of these issues we refer the reader to work by others.[4]

Quality: student achievement

10. Empirical research about the impact of market mechanisms on the quality of education is limited. One limitation lies in its measurement. Quality of education is usually reduced to student achievement and is measured by standardised test scores for reading and mathematics. For the most part, indicators are lacking for student achievement in other subjects or other kinds of achievements. Indicators on future student attainment in high school, college or university and indicators related to labour market outcomes are largely lacking as well. Another limitation is the narrow range of contexts in which large-scale, sound, comparative research is conducted. By far the majority of studies have been conducted in the United States.

Positive effects

11. Studies focusing on the effect of market mechanisms on student achievement come to conclusions ranging from positive effects, *via* differential effects, to no effects at all. The following short presentation of studies indicates that market mechanisms can have a positive effect on student achievement. This applies to the introduction of magnet schools, charter schools and voucher systems.

Magnet schools

12. The state of Connecticut stimulates the creation of magnet schools by funding arrangements. The state not only pays for student transportation but also pays school districts for pupils who live within their boundaries and attend a magnet school. The magnet school itself is also funded proportionally to the number of pupils attending it, so that the state is paying twice for students attending magnet schools. Oversubscribed magnet schools select their students by lottery. A research project compared the performance of students who "won" and students who "lost" the lottery (Bifulco *et al.*, 2009). Students who "won" the lottery achieved better performance ratings in reading and, to a lesser extent, in mathematics.

13. Positive outcomes for children were also found in Chicago. Children attending a magnet primary school were found to have increased chances of enrolment in a selective public high school. The researcher notes that this effect may be caused by the quality of the magnet school, but it may also be attributed to magnet schools acting as feeder schools of specific high schools (Lauen, 2007). In this latter case, it is not the quality of teaching and learning but the connections that make the difference.

Charter schools

14. Positive effects of market mechanisms on student achievement were also reported for charter schools. Around 2002 in Texas, about 1% of students attended a charter and about 20% of counties and districts had a charter school within their boundaries. The presence of charter schools were found to be positively related to the performance of students in public schools in those districts (Bohte, 2004). These positive results were particularly noticeable among students coming from low-income families. It should be noted that it is not quite clear what causes these increased performance rates. Because charter schools in Texas cater to a disproportionate number of at-risk students, enhanced performance in public schools could be the result either of improved teaching and learning due to competition or due to the changing composition of schools. Texas is not the only state for which improved student achievement was related to the creation of charter schools. In Florida and Chicago, students who attended a charter school were found to perform better than other students in the district, as indicated by subsequent high school attendance and college completion (Booker *et al*., 2008).

Voucher programmes

15. Apart from magnet and charter school initiatives, positive effects on student achievement were also reported for voucher programmes. Milwaukee has become well-known for its Milwaukee Parental Choice Programme (MPCP). This voucher programme has been carefully evaluated over the years. An overly brief and all too general conclusion following one strand of evaluations is that it has had positive effects on student achievement. However, these effects are very modest is size, they were found in later rather than earlier phases of the programme, and they apply more to reading than to mathematics (*e.g.* see Chakrabarti, 2008; Wolf, 2009).

Open enrolment

16. An example of positive effects of market mechanisms on student achievement outside the United States was found in the Netherlands, which has a long history of parental choice. Competition among primary schools was found to have a positive but small effect on student achievement (Noailly *et al*., 2009). In line with the findings mentioned above, positive effects were larger for reading than for mathematics. To give an idea of the size of the competition effect: when school A has five additional schools within a distance of 1.5 kilometres compared with school B, test scores of school A tend to be 5% to 10% higher.

17. What these studies indicate is that market mechanisms can potentially have positive effects on student achievement but that these effects are rather small. Furthermore, positive effects for reading are quite consistently found to be larger than effects for mathematics.

Differential effects

18. Studies reporting positive effects of market mechanisms often show effects that are modest in size and vary by subject. Other studies elaborate on these findings by pointing out a range of differential effects. Positive effects are sometimes found to be limited to some grades, some groups of students or some measures and tests. In Wisconsin, for example, students attending a charter school performed better

than students in public schools, but only in fourth grade and not clearly in eighth grade (Witte *et al*., 2007b).

Competition

19. In a review based on research from the United States and large-scale cross-sectional data concerning whether competition with private schools improves performance in public schools, the researchers conclude that there is:

> … reasonably consistent evidence of a link between competition (choice) and education quality. Increased competition and higher educational quality are positively related. However, the effects of competition on educational outcomes appear to be substantively modest. Between one-third and two-thirds of the estimates lack statistical significance (Belfield and Levin, 2002, p. 297).

20. This conclusion seems to hold for research conducted in the United States after the review was made. In a study set in the state of Georgia on private school competition and public school performance, some models show positive effects, while others do not (Geller *et al*., 2006). In New York, the impact of competition on student performance – irrespective of whether the competition came from public or private schools – was found to be positive for some but not all measures of student outcomes (Greene and Kang, 2004).

21. The conclusion also seems to hold for some other countries. In Sweden, the competition of independent schools was found to have positive effects on public school performance when competition was measured in one way, but not in others (Wikstrom and Wikstrom, 2005). In Great Britain, an estimation of the effect of school competition within the public sector concludes that there is a small positive association between competition and performance, which partly depends on the measurements used (Gibbons *et al*., 2008). The voucher programme in Chile seems to have positive effects on student achievement, but the effects are small and not all effects were found to be statistically significant (Lara *et al*., 2009).

22. The United States review of 2002 also shows that effects on students depend on whether measures are taken primarily on the supply or the demand side of the market. On the supply side, school competition can benefit low-income students more, while large-scale choice programmes targeted to the demand side, seem to favour higher-income families (Belfield and Levin, 2002). Who benefits depends on many factors, including particular local circumstances.

Charter schools

23. Indications for different effects across contexts have also been found in later years. A large study covering charter schools in 16 U.S. states demonstrates that charters may benefit some students but not others (Credo, 2009; see also Miron and Applegate, 2009). On the whole, this study finds that 17% of charter school students outperform an imaginary twin in a public school; 46% of students perform equally well, and 37% perform worse. In primary and middle school, charter school students perform better, but they do worse in high school. Charter school students from African-American and Hispanic origins do worse than their imaginary twin in a public school, while students living in poverty do better. Charter school students were found to perform better than their imaginary twins in five states, while there were no differences in four states, and six states found lower performance rates for charter school students. A picture of differential effects is also painted in a study for the Great Lakes states, of which some were included and others not, in the study covering seventeen states (Miron *et al*., 2007). Differential effects were also found in a study focusing on charter schools solely in Chicago (Booker *et al*., 2009).

24. Mixed results are often found - for example, in the evaluations of the District of Columbia Opportunity Scholarship Program (Wolf *et al*., 2009). Three years into the programme, researchers reported achievement gains for reading but not for mathematics. Broken down into subgroups of participants, the study finds positive effects for roughly half. An interesting addition to this picture comes from surveys tapping into satisfaction: participating parents are satisfied, but participating students are not more satisfied than non-participants.

Voucher programmes

25. Research from other countries on voucher programmes also paints a mixed picture. In Chile, an evaluation covering fifteen years following the introduction of a large voucher programme concludes that students in public schools in Santiago perform better, while students in the rest of the country – where three-quarters of the population lives – perform slightly worse (McEwan, 2000b).[5] A study in Denmark points to yet another kind of differential effect: independent schools perform better for students from high socio-economic backgrounds, while public schools realise better performances for students with a lower socio-economic background (Andersen, 2008).

26. One interpretation of differential effects is that market mechanisms may benefit some students, in some ways, in some circumstances. Another reading is that positive effects resulting from market mechanisms are so small that it is a matter of chance whether a particular effect is statistically significant or not. In all cases, effects of parental choice and school competition need to be further qualified.

No effects

27. When further elaborating the issue of small effects of market mechanisms, studies which find no statistically significant effects at all must be mentioned as well. For example, in Texas no differences in the performance of students in charter and regular public school were found (Hanushek *et al*., 2007). In London, a broader choice in primary schools was not found to be related to student performance (Gibbons *et al*., 2008). Neither was more competition among schools related to student performance.

28. Several researchers conclude that the voucher programme in Chile has had no effect on student achievement (Hsieh and Urquiola, 2006; Garces, 2009). Also in Denmark, competition among schools resulting from the introduction of vouchers was not found to be related to student performance (Andersen and Serrizlew, 2007). The same conclusions have been drawn for New Zealand and the United States (Ladd, 2002b). One strand of evaluations of the well-known Milwaukee Parental Choice Programme concludes that competition among schools has had no impact on achievement gains (Carnoy *et al*., 2007). Similarly, competitive pressures resulting from charter schools in California were not found to be related to student achievement in public schools (Zimmer and Buddin, 2009). Focusing on the very macro level of country comparisons, no associations were found between the degree of school choice, on the one hand, and indicators for school effectiveness, on the other (Dronkers and Avram, 2009). To our knowledge, very few studies report significant negative effects of competition.[6]

29. All in all, the evidence provided by large-scale quantitative studies focusing on the impact of market mechanisms on student achievement is unstable among research methods, subjects, subgroups, contexts and research methods. If any conclusion is to be drawn, it might be that market mechanisms bear potentially positive effects, but even in cases where positive effects are found, they are very modest in size.

Equality: segregation between schools

30. The educational goal of equality is mostly measured by looking at indicators for **segregation** between schools. In practice this usually means segregation along ethnic and/or socio-economic lines. Few

studies include segregation between low and high achievers independent of the social and ethnic background of students.

31. To be sure, segregation between schools is a result of many factors, including zoning and the selection policies of schools; regional and urban planning; and choice of residence and also school choice (see also Archbald, 2004; Bartlett *et al*., 2002; Taylor, 2009; Urquiola, 2005). Drawing zones around schools may in itself not be "class-neutral". For example, some studies find that attendance at the nearest school results in smaller degrees of segregation when compared to attendance according to zones. This suggests that the definition of zones around schools may be part of a political process (Taylor, 2009, for a city in Wales).

32. In most cases, research looking at segregation in relation to market mechanisms compares at least two different choice regimes. Although regimes differ widely, usually the new regime increases choice options for parents in one way or another. It must be noted, though, that desegregation is not always an explicit goal of such policies.

33. Research findings indicate that market mechanisms may have an impact on segregation between schools. Very few large-scale research projects find clear evidence that segregation between schools decreases across the board as a result of more parental choice.[7] What does differ across research findings is the level of increase in segregation and whether this applies to all schools.

No effects

34. In the United States, the introduction of magnet schools was deliberately aimed at school desegregation. Magnet schools usually have preset quotas for students from different ethnic backgrounds. Based on a large nationwide dataset from the early nineties, no differences between districts with and without magnet schools were found with regard to the amount of economic segregation between schools. Goals of desegregation may not be realised, but fears of increased segregation also found no ground.[8]

35. Schools catering to pupils from higher socio-economic backgrounds were inaccessible to those from lower and middle-class backgrounds in a city in Wales that used a zoning system. The introduction of a controlled choice programme did not, on the whole, increase socio-economic segregation between schools (Taylor, 2009). More interesting is that the study points to differential effects that even each other out at aggregated levels. In some areas, segregation was found to decrease as more lower and middle-class families gained access to schools that formerly catered solely to pupils with high socio-economic backgrounds. In other areas, pupils that did not exercise choice were concentrated in schools that others had left. In those areas segregation increased.

Levels of (increased) segregation

36. Indications of overall increased school segregation were found across contexts while comparing very different choice regimes. When comparing choice regimes, the specifics of both regimes need to be known in order to interpret a change in segregation. In many countries a choice regime with attendance areas – zoning – was succeeded by regimes based on open enrolment of any kind. In Stockholm, Sweden, this shift was found to result in increased levels of school segregation. Differences between schools in terms of ability of students increased, which was correlated with ethnic and socio-economic segregation between schools. However, not all of the increase in socio-economic and ethnic segregation could be attributed to differences in ability (Söderström and Uutsitalo, 2010). The degree of segregation can be expressed with many indices, among them the so-called dissimilarity index. This index is easy to understand as it represents the percentage of students that would need to change schools in order to achieve a situation in which all schools have equal proportions of students with the characteristics studied. So, if

the dissimilarity index for black and white students is 0.2, it means that 20% of students would need to change schools to achieve a situation in which all schools have equal proportions of black and white students. In Stockholm over a period of four years, ability segregation between schools increased from 0.308 to 0.615, ethnic school segregation increased from 0.140 to 0.196 and socio-economic school segregation increased from 0.222 to 0.291. In the United States, open enrolment between districts was also found to increase segregation between districts, in terms of both socio-economic segregation and ability segregation (Witte *et al*., 2008, for Minnesota and Colorado, United States).

37. Due primarily to a lack of data, studies tend to focus on ethnic and socio-economic segregation, leaving out ability segregation. Both ethnic and socio-economic school segregation were found to increase after the introduction of open enrolment in the United Kingdom (Reay, 2004; Allen, 2007) and New Zealand (Fiske and Ladd, 2000; Woodfield and Gunby, 2003).

38. In the Charlotte-Mecklenburg school system of North Carolina, a former choice regime consisted of a system of controlled choice with limited mandatory bussing and magnet schools with ethnic quotas. This regime was succeeded by open enrolment combined with specific regulations (see also Case B). Under the new regimes, students were guaranteed access to their "home" school but could also state preferences for any other public school in the district. Parents received free transportation to schools within one of four zones and also to magnet schools anywhere in the district. The new regime was found to have increased school segregation along three lines: ethnic, socio-economic, and ability segregation (see Godwin *et al*., 2006). The dissimilarity index for ethnic segregation increased from 0.382 to 0.481.

39. A different comparison was made in the school system of Copenhagen, Denmark, which has relatively low to moderate levels of ethnic residential segregation (Rangvid, 2007). A hypothetical situation with students attending the nearest school was compared with the actual situation with both open enrolment and independent schools. These comparisons show that attendance of the nearest school would have resulted in lower degrees of ethnic segregation. As with the previous cases, school choice resulted in higher levels of segregation. In particular, attendance patterns of independent schools resulted in higher ethnic segregation. Furthermore, independent schools were found to have both relatively high as well as low concentrations of immigrant children.

40. Studies in other settings also show that the nature of segregation differs. The introduction of extensive reforms in Chile resulted in middle class flight to private schools and increased segregation along socio-economic lines (Hsieh and Urquiola, 2006). A multi-country study also finds a consistent pattern that middle-class parents opt for schools attended by children of other middle-class parents (Dronkers and Avram, 2009). Apart from "white flight", however, ethnic segregation can also be the outcome of some groups of immigrant parents deliberately opting for certain schools (also called self-segregation). In western countries with Muslim schools this seems to be a recurring pattern (see Denessen *et al*., 2005, for the Netherlands; Rangvid, 2007, for Denmark). The same may hold for parents with particular religious affiliations (see Denessen *et al*., 2005, for orthodox Protestants in the Netherlands).

41. Likewise, charter schools differ in their profile and programme and seem to have a differential impact on segregation. On the whole, the introduction of charter schools in Chicago was not found to have an impact on racial segregation (Booker *et al*., 2009). A study set in Arizona looked at different profiles of charter schools and found differential effects (Garcia, 2008). Charter schools for at-risk students were found to cater to a more diverse student population in terms of academic ability and ethnic background than district schools. The same was true for traditional and Montessori charter schools. Back-to-Basics charter schools, on the other hand, proved to cater to a less diverse and whiter student population. Concerns are raised that schools with different profiles may "legitimise" ethnic segregation under new and more acceptable headings.

42. In very general terms it seems that regimes providing parents with more choice bear a risk of increasing segregation between schools in terms of ethnic, socio-economic and ability segregation. Findings also indicate that differential effects may underlie general findings of overall changes in segregation. Some groups of parents may exercise choice options resulting in less exclusive schools for students from advantaged backgrounds, while schools in other areas simultaneously face increased segregation. Research also indicates that segregation may result from self-segregation by ethnic minority groups and/or specific school profiles attracting some types of students more than others.

Other outcomes

43. As mentioned above, education systems have multiple goals. Although this review's main focus is on the goals of quality and equality, we point very briefly to some empirical evidence related to other goals, specifically those of *efficiency* and *innovation*.

Efficiency

44. Efficiency can be defined in different ways.[9] Empirical research related to market mechanisms mostly focuses on the so-called x-efficiency – that is, productivity given a set of inputs. In the case of education, this is mostly translated as a question of whether schools achieve higher student test results given the students' background and a certain amount of funding. We discussed these findings under the heading "Quality". Other studies put the focus on productivity or technical efficiency by asking whether similar student outcomes can be achieved for lower prices.

45. The costs of choice regimes depend, of course, heavily on specific characteristics of the programme. In Connecticut, for example, enrolment in magnet schools and transportation costs are funded by the state. School districts do not lose state funding when a student within their boundaries attends a magnet school. In a sense, the state is therefore paying twice for magnet school students (Bifulco *et al*., 2009). During the first phase of the Milwaukee Parental Choice Programme, the voucher programme was funded by cuts in the budget for public schools. After a change in policy and extension of the programme, additional costs were funded by the state (Chakrabarti, 2008).

46. Studies looking at effects of school competition on efficiency report opposite findings. One of the best-known studies about market mechanisms and efficiency in education was conducted by Hoxby (Hoxby, 2000). She concluded that parental choice and school competition caused substantial efficiency gains resulting from increased student achievement and concurrent spending drops. However, researchers analysing the same data with other methods found no effects.[10]

47. School competition has also been found to cause efficiency loss. In Denmark, districts facing competition from independent schools were found to increase their expenditure and invest more in their public schools (Andersen and Serritzlew, 2007). To satisfy parents and students and retain attractiveness of public schools, districts spend more. These additional costs did not translate into higher student achievement and resulted in a net efficiency loss.

48. Another strand of market mechanisms in education is the introduction of for-profit suppliers. These new suppliers are thought to have greater incentives to provide the best education for the lowest price. In the United States, Michigan is one of the states in which several Educational Management Organisations (EMOs) are active. A comparison between EMOs linked to a for-profit business with EMOs linked to a non-profit organisation indicates no differences in efficiency. If anything, for-profit EMOs might be less cost effective because they were found to have lower student achievement scores while not spending less (Hill and Welsch, 2009).

49. As with quality and equality, differential effects also seem to occur in the case of educational efficiency. A study set in the state of New York suggests that efficiency gains or losses may be linked to the domain of spending and depend on whether schools face competition from private or public schools (Greene and Kang, 2004). Competition from private schools was found to increase spending on instruction, while competition from public schools was found to increase spending on non-instructional spending categories.

50. Market mechanisms may also have an effect on the division between public and private expenditure on education. Not much research has been done on this issue. One obvious category of expenses in which a shift may occur is travel costs. Exercising parental choice often implies that students travel further distances from home to school. In the United Kingdom, 11-16 year-olds are estimated to travel five million kilometres more per day than if they would attend the school nearest to where they live (Allen, 2007). If new choice regimes encourage mobility between home and school, parents may take on greater travel costs. Depending on specific regulations, travel costs may also – or partly be – covered by school districts or government bodies.

51. In sum, research findings of effects of market mechanisms on (technical) efficiency are inconclusive. Some studies indicate efficiency gains, while others point to increased expenditure without gains in student achievement, and still others point to shifts from one domain of expenditure to others.

Innovation

52. Innovation is another goal governments may have for their education system. The introduction of market mechanisms is repeatedly related to an aim of increased innovation. Not much empirical work has been done to test these claims. For a review of this research we refer to the work of Lubienski (2009b and 2006). Put very briefly, the conclusion of this work is that innovation in the classroom is not found to be causally related to market mechanisms. Pedagogical and curricular innovation seems to have stronger links with government intervention. Complicating the ability to give a clear answer is the fact that many policies attempting to introduce market mechanisms in education do so simultaneously with increased accountability. It cannot be ruled out entirely, therefore, that the promise of innovation through market mechanisms is thwarted by accompanying accountability systems which may undermine rather than encourage innovation (Looney, 2009).

Summary

53. Market mechanisms in education were introduced for several reasons. Improving the quality of education is probably the most important goal, with desegregation, realising gains in efficiency and encouraging innovation closely following suit.

54. Many reviews on aspects of market mechanisms in education have come to similar conclusions (Belfield and Levin, 2002). In 2002, a review on market-based reforms concluded that, "[a]ny gains in overall student achievement are likely to be small at best (Ladd, 2002a, p. 21). After pointing to serious limitations in the research, a 2009 review on vouchers concluded that:

> …the best research to date finds relatively small achievement gains for students offered education vouchers, most of which are not statistically different from zero. …the research designs of these studies do not necessarily allow the researchers to attribute any observed positive gains solely to school vouchers and competitive forces. The evidence from other forms of school choice is not much more promising (Rouse and Barrow, 2009, pp. 38-39).

55. Research findings on segregation as a result of market mechanisms in education indicate a risk of increased segregation. Efficiency may either increase or decrease, while more innovation seems to be an

unlikely response. For all these outcomes, findings point to differential effects: some students and schools may experience positive effects, while others face negative effects. Although most of the research and reviews to date are only or primarily based on research conducted in the United States, the same conclusions seem to hold for research conducted in other countries.

56. Compared with government aims when market mechanisms are introduced in education and the fierce tone of the political as well as the academic debate on these issues, the effects as reported in empirical research are modest to say the least.

57. After two decades of empirical research, the most interesting questions turns out to be: why are observed effects of market mechanisms on educational outcomes on the whole so small? And, why are observed effects on outcomes so inconsistent across contexts?

NOTES

1 Whether these goals themselves may or may not be influenced by market interventions is beyond the scope of this review.

2 See also Waslander (2001); Waslander and Hopstaken (2005); Kenneth Godwin *et al.* (2006); Levin (2002); Belfield and Levin (2005); Levin (2009).

3 See Levin (2002) on system-level goals; Lubienski (2009b) on innovation; and Gill *et al*. (2007) for a rare example of a review including effects on civic socialisation.

4 Peterson and Laudet (2006); Lubienski and Lubienski (2006a); Lubienski and Lubienski (2006b); and Corten and Dronkers, (2006) for 19 western countries.

5 Note that other studies on Chile derive different conclusions.

6 For an exception, see Dijkgraaf *et al.* (2008) for secondary school competition in the Netherlands.

7 For example, Garcia (2008) reports decreased segregation in charter schools, but not across the board.

8 For example, see Archbald (2004) for 355 districts across the United States, based on data from the early 1990s, some ten years after the first magnet schools were introduced.

9 Distinctions must be made between (a) productive or technical efficiency; (b) allocative efficiency; (c) dynamic efficiency and (d) x-efficiency. Often a broader distinction is made between technical and allocative efficiency. See also Hoxby (2000); Belfield and Levin (2002); Levacic (2004); Bradley *et al*. (2004); Arsen and Ni (2008); Telhaj *et al*. (2009).

10 For more details, see Hoxby (2000); Rothstein (2007); and Hoxby (2007).

METHODOLOGY

58. To date, reviews on aspects of market mechanisms in education have been somewhat unsatisfactory from a policy point of view. They often do little more than conclude that the empirical evidence is inconclusive, unstable, and insignificant, and that effects are, if anything, small.

59. If another general conclusion can be drawn, it is that the impact of parental choice and school competition is highly dependent on contextual factors. Not only do specific details of the intervention, other laws and regulations, and funding arrangements matter in understanding why market policies do or do not have their intended effects, but also geographic factors, transportation infrastructure and social networks. Put differently, the actual working of market mechanisms seems to be very much embedded in local contexts.

60. Several scholars have pointed to the importance of contextual factors and argued for detailed and contextualised studies.[1] In recent years, more research projects take as their starting point that education markets are local by nature and include all kinds of local peculiarities.[2] This approach is aided by a growing availability of socio-geographic data and appropriate statistical techniques. The use of these data and techniques is relatively new to this research domain and proves to be worthwhile.[3] However, a conclusion that "it all depends on context" provides few clues for policy makers aiming to achieve educational goals at the system level.

61. A question to be addressed is how findings from empirical research can inform policy, and whether another kind of review might enhance our understanding and, as a consequence, be more fruitful for policy. When no clear relations are found between intervention and effect, we may need to open the black box and deal with more detailed and complex phenomena. Because "the devil is in the details" a review should take such details into consideration. The focus of this review is, therefore, on the *mechanisms* that are thought to link parental choice and school competition on the one hand, with educational outcomes such as student performance and school segregation on the other. Our understanding of how market mechanisms work out in practice might be expanded when similar mechanisms are found in different contexts. It is unknown from the outset whether any general patterns will be identifiable and, therefore, what the result of this approach will be.

62. The remainder of this chapter explicates how this review came to be. First, we clarify how different components of market mechanisms were separated analytically and how they came to serve as guiding questions for analysing empirical research. Next, we account for the way we selected research to be included or excluded from this review and how we analysed the vast number of articles, books and working papers included. Before we discuss the results of this approach in the following chapters, a few comments concerning the body of empirical research itself are appropriate.

An analytical review

63. Although policies such as charter schools, magnet schools, open enrolment programme, public choice programme, and vouchers programme are all very different from each other, on a basic level the mechanisms they aim to evoke are rather similar.[4] In very general terms those mechanisms can be described as enabling more parents to choose a school and to increase competition between schools. Policies differ in the extent of parental choice they aim to increase: some policies are directed to all parents,

while others target very specific subgroups of parents. Policies also differ in the extent of school competition they aim to realise: some policies include all public, independent and private schools, while others target very specific – often public – schools.

64. In this review, the focal point is not what empirical research can tell us about the effects of quasi-market policies (see Chapter 2), but what we can learn about the mechanisms through which these policies are thought to be connected with educational outcomes. In doing so, we follow a realist methodology.[5] This approach does not pose the general question of "what works", but takes differential effects as a starting point by asking "what works for whom in which circumstances?" In this line of reasoning, policy outcomes are the result of mechanisms that can either be evoked or hindered by contextual factors. A deeper understanding of both the mechanisms and the contextual factors is required to cumulate research findings and build a more extensive knowledge base.

65. We limit this analysis to the policy *outcomes* of quality and equality. Next, we elaborate on the assumed *mechanisms* evoked by quasi-market policies, summarised under the broad headings of parental choice and school competition. As said, these basic mechanisms bring very different policies together. Following the economic theory underlying these policies, we distinguish actors and actions on the demand side – parents and choice – from actors and actions on the supply side – schools and competition. The assumed mechanisms are broken down in considerable detail, and small steps in a line of causal reasoning are examined. Each step is then rephrased as a question to guide the review.[6] Subsequently, the systematic review of empirical research focuses on two issues. First, for each of the questions, findings from empirical research are collected, which may or may not help to provide an answer to the question. And second, we look at whether *contextual* factors seem to play a role, and if so, what they are and why they might have an impact on a particular aspect of choice or competition. When several pieces of empirical research that are conducted in different contexts with different research designs and methodologies come to a similar conclusion, we consider the findings robust and that an answer can be given to the question posed. When pieces of research come to different conclusions, without contextual factors explaining such differences, we consider the findings inconsistent. In that case, the guiding question remains unanswered.

66. By focusing on each small step in a line of causal reasoning, our focus is not limited to formal characteristics of education markets (*e.g.* formal competition, formal rules), but explicitly includes behavioural responses (enacted competition, enacted rules). This approach stresses the importance of agency above structure, and broadens the scope from stated policies to the implementation of policies by different actors.

67. As outlined above, we look at similar findings across different contexts, derived from different research designs, in a robustness check for empirical results. In such cases, the illuminated patterns are likely to point to general features of mechanisms of choice and competition that appear to be relatively insensitive to contextual factors.

68. Our choice of methodology has several consequences. Following the notion that education markets are essentially local and must be studied within their context, an overview of findings must acknowledge and provide information about those contexts. To keep the size of this review within readable limits, only the seemingly most crucial contextual information is provided in the text. Following the notion that similar findings across contexts may act as a robustness check, references also provide information about the context in which the study is set so that readers have some indications of the robustness for themselves. Our methodology also implies that one piece of research can provide relevant findings for several questions guiding this review, resulting in a substantial number of references in the text. To also illustrate the connection between different aspects in one and the same study, a number of studies that we found particularly suited to illustrate an important point in this review were added as case studies in Appendix 1.

Search strategies and analyses

69. This is a review of empirical research on aspects of market mechanisms in primary and secondary education, with a particular focus on educational quality and equality. Given this purpose, several topics and particular kinds of studies were excluded from the outset. Excluded were studies on preschool, vocational training, higher and postgraduate education; and studies on effects of market mechanisms on social cohesion, civic behaviour and labour market outcomes. This review does not pay attention to the impact of pricing education or school fees, nor does it focus on performance pay for teachers and the potential impact thereof. Neither are studies included that look at competition *within* schools, such as different departments or groups of teachers. Following from the starting point that we are interested in empirical research on students, parents and schools, particular kind of studies were also excluded. This applies to: the study of simulation models; econometric studies; descriptions, discourse analyses, reflections and criticism of policies; and theoretical contributions.

70. Within these limits, and in line with our approach, the net was spread wide. We did not limit the selection of empirical studies to include (quasi-)experimental designs and/or large studies, but also included (qualitative) studies which might particularly illuminate aspects of parental choice and school competition and the interplay with contextual factors.

71. Considering that most empirical work is currently published in journals, books were not included in the review. Only work available in the languages English, German and Dutch were included. Because we wanted to focus on recent work, the search was limited to journal articles published from 2004 onwards. We adopted an extended timeline for reviews and meta-analyses because they are conducted less frequently; reviews and meta-analyses published in 2000 or later were included.

72. In order to search systematically for relevant pieces of empirical research, three different types of searches were executed.

- First was the systematic literature search using bibliographic databases. For this review we used: Econlit, ERIC, PsychInfo, SocIndex and the International Bibliography of the Social Sciences. Additional searches were conducted for PiCarta, a bibliographic database containing all work available in any of the Dutch scientific libraries, including Online Contents which contains all fields of science. General search terms were: “market(s)” in combination with “education”, “markets in education”, “education markets”, all excluding higher and labour/labor; “school choice”; “for-profit” in combination with “education”; “privatisation” in combination with “education”. Additional to the general search terms also a few specific search terms were used: “educational management organisation”, “voucher”, “charter” or “charter school”; “league tables”, “information” and “Edison”. For these searches combined, over 13 000 articles were found, counting many overlaps. In case specific searches resulted in large numbers of articles, only the first 200 (ordered by relevance) were judged. After a quick judgement on relevance, a total of 3 285 abstracts were seriously scanned. After adopting the selection criteria about topics and kinds of studies mentioned above, a total of 255 articles were selected to be included in the review.

- The second type of systematic search was by author; for a total of 25 well-known authors in this field specific searches were conducted to trace their work. Most of their work had already been included, only a few additions were made.

- It can take quite a long time before research is published in papers and accessible for others. Limiting the review to published work bears a risk of missing the most recent work in the field. In a attempt to overcome this drawback, websites of eight institutes and groups of researchers

known to work in this field were systematically screened for recent working papers (published in 2008 or later). In this manner, a total of 40 working papers were found, of which 22 were added to the selection.

73. Analysing the articles and their reference lists resulted in a few articles added later on. This was the case particularly when little research had been conducted on a specific topic.

74. After collecting the studies to be included in the review, all studies were analysed. These analyses comprised five consecutive steps.

1. A format for the systematic analyses of articles was developed first. This format gives a summary of: country and/or local context for the study; context information about public/private funding, governance and operation (when available); policy changes under study; research questions; methodology, including type of research, research design, data gathering and analyses; and the most important conclusions.

2. A series of assumptions underlying the introduction of market mechanisms were explicated for both the demand side (parents and choice) and the supply side (schools and competition) of the market. These assumptions were based on our previous work and background reading. Assumptions were then rephrased as questions to guide the systematic analyses of available research.

3. The most substantive articles we were not familiar with yet were analysed using the format mentioned in step 1. A total of 115 formats were made.

4. For each of the guiding questions representing a small step in the line of reasoning, studies were collated referring to that particular step. This step in the analyses involved an iterative process of adding and removing questions on the basis of available and lacking empirical research. The final list of questions therefore reflects primarily topics which have been subject of research somewhere sometime. The list of questions does *not* reflect all possible assumptions underlying policies introducing market mechanisms from either a theoretical or practical viewpoint.

5. Before the analyses two topics were identified is requiring specific attention in the review. These topics were (a) the use of information by parents and the impact of performance indicators; and (b) educational management organisations and for-profit companies getting involved in education. Research on these topics was collated separately.

75. Following these steps in the analyses, this report was written on the basis of the collated studies, the formats and the original works.

76. Before we turn to the review itself, a few remarks must be made about the body of research itself.

Comments on the body of empirical research

77. Looking over the vast amount of empirical research related to market mechanisms in education, some general comments are appropriate. We discuss issues related to ideology, time, methods, conceptualisation, measuring key concepts and lack of information and evidence. By no means do these issues provide an exhaustive list of concerns related to empirical research in this field. Most importantly, what these comments provide is general background information so that readers can put the available evidence into perspective. The short discussion also shows that, despite the large number of research projects and scientific output based on those projects, much is yet unknown or unclear. In fact, inconclusive, inconsistent findings and the small effects so often found in empirical research on parental

choice and school competition may be an artefact of research itself. It cannot be ruled out that market mechanisms do have effects but that, as yet, research has been unable to detect those effects in a reliable and consistent way.

Ideology

78. The topic of parental choice and school competition is heavily charged with ideological issues and at the heart of many political disputes. This is true not only for the United States but for other countries as well. The charged nature of the topic also affects research on market mechanisms. Organisations lobbying for one or the other side of the polarized debate also fund research. These liaisons are not always immediately apparent for readers. In short, the research domain deals with issues of independence (*e.g.* Forster, 2009, and Lubienski *et al*., 2009b).

79. Another point to make is that not only the policies but also the research on market mechanisms may itself be a subject of "performativity" (For example, see Youdell, 2004; Codd, 2005; and the work of Ball). That is, the focus is often primarily put on what can be produced, what can be observed and on what can be measured. Partly related to this is putting high value on evidence-based methods, which has become more pronounced in recent years. In other words, what counts as evidence in this field is also a point of debate (Gorard and Fitz, 2006; Noden and Goldstein, 2007). An implication of these shifts in focus is that research on market mechanisms looks at relatively easy measurable outcomes, while less research is available which applies other kinds of methods and/or looks at outcomes that are difficult to measure. This may provide a limited view on the impact of market mechanisms in education.

Time

80. Secondly, the effects of time on research on market mechanisms or policy research in general are important to note. While most research covers only limited time spans, effects of policies tend to take many years and may require a longitudinal approach. Effects may be small or insignificant in the short term but may become substantial in the long term. Most research uses cross-sectional rather than longitudinal data. There are various indications that choice regimes have long-term effects and, moreover, that they may differ from short-term effects. To start with, studies tracing the impact of policies in the long-run show that effects change with time (Bagley, 2006; Buckley and Schneider, 2006; Chakrabarti, 2008; Credo, 2009; Wolf, 2009). It seems to take time for parents to understand and act upon new choice regimes, with some groups of parents acting more quickly than others. For instance, a study covering entire cohorts of students in Chicago found that the number of students opting for a non-neighbourhood school increased over the years (Lauen, 2007). Once set in motion, student flows out of their respective neighbourhoods may gradually create a common practice of school choice. It has even been suggested that choice is in a sense socially contagious and spreads within social networks (Rincke, 2006; Witte *et al.,* 2007a). All in all, we know very little about the long-term effects of newly adopted choice regimes.

Methods

81. Inconsistencies of research findings might partly be attributed to the use of different methodologies. An important issue in this field is the use of controls in statistical analyses. Reasons for such differences range from lack of required data to researchers disagreeing about which controls to include and how.[7] Lack of consistency complicates comparisons. One of the most crucial issues in this field is which groups to compare and which factors to include in case of "selection bias". Another crucial issue is which students or schools to include in the study: choosers or also non-choosers, all schools or just schools facing competition. Only occasionally does research include effects of choice programmes on those who do not exercise choice (*e.g.* Imberman, 2008).

82. Related to the issue of methodology is the use of the most rigorous standards. Studies satisfying such standards tend to be small. The evaluation of the Milwaukee Parental Choice Program (MPCP) is a case in point. Initially, MPCP was a very small programme with only three private schools accepting vouchers. Despite the scale of this experiment, far-reaching conclusions were drawn about vouchers in general (*e.g.* McEwan, 2000b). Most studies in the field of market mechanisms have been conducted in the United States. This means that the knowledge base on market mechanisms in education in general is mainly based on a small number of very specific, small-scale programme in the United States (Merrifield, 2008).

Conceptualisation

83. Conceptualisation refers to the way concepts are translated into adequate research methods. The crucial question here is: what is the appropriate level of analysis? It is a matter of debate as to what the level of analysis ought to be in research on markets in education. Despite that debate, most academics would agree that parents do not choose just any school, but a school which the child can feasibly travel to on a daily basis (*e.g.* Bohte, 2004; Abdulkadiroglu *et al.,* 2006; André-Bechely, 2007). Issues related to "family logistics" such as the number of parents and school-aged children in the home, the hours parents work, the distance from home to work, and available child care are likely to play a role. As we shall see later (Chapter 4), distance and proximity are important criteria and factors in the school choice process. The implication is that schools compete with schools in their own vicinity and that characteristics of the schools nearby must be taken into account for a more adequate interpretation of particular patterns of school choice in particular areas. It also means that socio-geographical factors such as the composition of neighbourhoods, transportation infrastructure and urban planning come into play.

84. In accordance with how market mechanisms are conceptualised, inappropriate levels of analyses can easily lead to ecological fallacies. As indicated in Chapter 2, differential effects may even each other out at a high level of aggregation. For example, effects at the school level may become undetectable when aggregating data at the district level. The more relevant it becomes to differentiate effects for districts, schools or students, the lower the level of analysis ought to be. For example, when taking a school district as the level of analysis, it may appear that magnet schools have little if any effect on the intended goal of desegregation (see Archbald, 2004, for magnet schools in the United States). However, it is debatable whether one magnet school in a large school district is likely to have a detectable effect on the amount of segregation in the entire district. Were the unit of analysis to be reduced to the surrounding area of a magnet school – that is, the area from which the magnet school may realistically attract parents – findings might differ.

85. For similar reasons, straightforward comparisons between pupils attending public and charter schools can be quite misleading (Garcia *et al*., 2008; Zimmer and Buddin, 2009). If it were found that pupils attending charter schools have lower average performance than pupils attending public schools, it cannot be taken for granted that charter schools attract low-performing pupils. It may well be that pupils choosing charter schools are pupils that were performing relatively well in their original schools, which happen to have a lower average performance. The growing number of research projects using (socio-) geographic data in combination with school and student-level data try to overcome ecological fallacies (*e.g.* Henig, 2009).

Measuring key concepts

86. Despite a substantial body of empirical research, there is little consensus about the measurement of key concepts. A case in point is the measurement of competition between schools (*e.g.* Belfield and Levin, 2002; Zimmer and Buddin, 2009). Understandably, most large quantitative studies have to make do with the data available to construct appropriate structural measures of competition. An impression of

measures used in research shows how widely such measures differ.[8] Some researchers measure competition as the presence of, for example, charter or private schools in a district or country (Bohte, 2004; Geller *et al*., 2006, respectively). Usual measures are also the current or historic share of Catholics in a local population as a proxy for the potential size of the local market of private (Catholic) schools (*e.g.* Cohen Zada, 2009). Others try to overcome the problem that district boundaries may not act as school choice boundaries by taking the number of schools within a certain distance as measure.[9] Still others take the distance itself as a measure of competition.[10] Analyses in which the school is the unit of analysis may use the number of schools surrounding the school as a measure.[11] Another line of reasoning underlies measures of market share of a school in a district (Bohte, 2004; Greene and Kang, 2004; Geller *et al,*. 2006). The Herfindahl and Herfindahl-Hirschman Indices are also based on estimates of market share in a particular geographical area (Hoxby 2000; Greene and Kang, 2004; Dijkgraaf *et al.*, 2008). Some measures take attendance patterns into account, either to count the proportion of students who live in a (former) attendance area without attending the home school (Chakrabarti, 2008) or to use attendance patterns to empirically derive local markets (Bifulco and Ladd, 2006). Many studies include more measures to check their results for robustness. It is not uncommon that some measures are found to be associated to some outcomes, while others are not.[12]

87. This compilation illustrates not only that comparing research findings can be a tricky matter, but also that various measures of the same key concept may in effect refer to different elements of market mechanisms.

Lack of information and evidence

88. This review takes as its starting point that education markets are local and must therefore be studied in context. However, many articles do not inform the reader about these contextual factors, such as formal regulations on both the demand as well as the supply side of the market under study. It is not always known whether parents have guaranteed access to their local school, how transport is organised or whether transportation costs are covered by some kind of public funding. Likewise, it is often not clear what happens when schools are oversubscribed, whether schools can select their students, whether attendance zones play a role, how schools are funded or how much autonomy schools have and in which domains. Lack of such contextual information seems to signify that "raw" de-contextualised comparisons can be made, which is questionable.

89. Obviously, different aspects of market mechanisms have received varying attention. Considerably more research has been conducted on structural characteristics of education markets, such as the number of schools parents can choose from, compared to characteristics of agency and enacted markets, such as strategies parents and school principals pursue. It is hardly known how teachers and pupils respond to market-related interventions on a daily basis. Some topics seem to be lacking altogether. The issue of school accommodation and, more specifically, the allocation of accommodation have received scant attention. It is also somewhat peculiar that hardly any links have been made yet with the knowledge base about school improvement and how the interventions discussed here affect conditions known to be related to school improvement. The same is true for the knowledge base on change processes and whether best practices can be replicated from one setting to another.

90. During the last three decades, an impressive amount of empirical research has been conducted to learn about the workings and effects of market mechanisms in education. Much of this research is of sufficient quality and extends our knowledge on these issues. However, the comments made above about the body of research indicate that the interpretation of these findings requires careful consideration. The same holds for this review.

NOTES

[1] Among others: Ball *et al*. (1995); Rincke (2006); Lauen (2007); Reinoso (2008); Arsen and Ni (2008).

[2] For example, Oberti (2007) for Paris, France; Reinoso (2008) for Granada, Spain; André-Bechely (2007) for Los Angeles, California; Bell (2009a) for Detroit.

[3] See Lauen (2007) for Chicago; Taylor (2009) for a city in Wales; Lubienski *et al*. (2009) in three urban areas in the United States; and Henig (2009) about the issue in general.

[4] See also Arsen and Ni (2008).

[5] See also Pawson and Tilley (1997) for an extensive account of realistic evaluation.

[6] This procedure resembles the qualitative methodology of process tracing (George and Bennett, 2005).

[7] See the infamous dispute in Hoxby (2000), Rothstein (2007), and Hoxby (2007); or the earlier disputes about the results of the Milwaukee Parental Choice Program. See also analyses of the New York City school voucher experiment in Krueger and Zue (2004) showing different results with different methods.

[8] For more measures, see Greene and Kang (2004) and Gibbons *et al.* (2008).

[9] Himmler (2009) works with a radius of 15 km in the Netherlands; Carnoy *et al.* (2007) work with a distance of one mile for voucher students in Milwaukee.

[10] Noailly *et al.* (2009) take the distance between the primary school and the town center as a proxy for the amount of competition in the Netherlands.

[11] Chakrabarti (2008) and Carnoy *et al.* (2007), take the number of voucher places nearby as a proxy for Milwaukee.

[12] See, for example, Gibbons *et al.* (2008), who use eleven different indicators to measure competition.

DEMAND SIDE MECHANISMS: PARENTS AND CHOICE

91. The focus in this chapter is on the demand side of the education market. As illuminated in Chapter 3, we try to systematically review findings from empirical research for each step in the mechanism that is thought to link choices made by individual parents to system-level goals of educational quality and equality. We first pay attention to the choice process itself. If the wider introduction of parental choice is to have any effect, a number of conditions have to be met. For example, when policies encouraging parental choice are introduced, parents also need to know about them, and at least a proportion of parents are expected to make a choice they would not have made otherwise. An issue related to equality is whether some groups of parents exercise choice more often than others. After looking into the choice process itself, we turn to questions about preferences and behaviour. What do parents state as being important in schools, and does that predict the kind of choices they actually make? Related to the issue of preferences and behaviour are questions about information on schools and performance indicators. For reasons of policy relevance, specific attention is given to performance indicators and their impact on choices made by parents. A last set of questions builds on the previous points and looks into parental choice in the case of underperforming schools. If parental choice is to have a direct effect on the quality of education received by students, the domain of underperforming schools is where one would expect changes in choice patterns. The first question to ask, however, is whether, and if so how, parents exercised school choice before market mechanisms were introduced in education. This is to underscore that parental choice as such is nothing new.

Did parents exercise choice before market mechanisms were introduced?

92. In order to conduct a fair assessment of how school choice programmes work in practice, a few comments need to be made about the situation before market mechanisms were introduced. In many countries, choice regimes replaced policies with school catchment areas. Characteristics of local schools tend to differ along with the neighbourhoods they are located in. Parents could buy into a neighbourhood in order to gain access to a particular school. With catchment areas, residential segregation translates almost automatically into school segregation. However, research across countries makes it very clear that school segregation exceeds residential segregation. One reason for this is that parents engage in defining catchment boundaries, so that the local school may not always be the nearest school. Another reason is that parents play the rules.[1] In other words, even though parents are not supposed to actively choose a school, some did anyway. Parents who find their way around rules and regulations – such as through cheating with home addresses or using addresses of friends and family – were more often well-educated and well-off.[2]

93. This goes to show that choice exists even without the introduction of market mechanisms such as open enrolment programmes and that some groups of parents tend to exercise this choice more than others. School choice expressed itself in practices such as buying houses in certain neighbourhoods and finding creative ways around official policies. This unequal access to schools with the best reputations was considered unfair and became one of the very reasons to introduce open enrolment programmes.

The choice process

Do parents know they have a choice?

94. For any choice programme to have an effect, a basic requirement is that parents become aware of the new policies. There is ample evidence that sufficient numbers of parents indeed know about existing choice policies but also that informing all parents takes considerable effort.

95. The introduction in 2002 in the United States of the federal regulation No Child Left Behind (NCLB) provides a good example of parents becoming aware of their options. In short, under this act parents whose children attend an underperforming school are informed by the district and given the opportunity to attend another school. In a survey of parents of elementary school children in Massachusetts held 18 months after the introduction of the programme, a large majority (70%) claimed to have heard of the act, and a small majority (52%) said they knew that switching is possible in the case of underperforming schools. Most of these parents (59%) said that their main source of information was the media, while 10% mentioned social networks (Howell, 2006).

96. Local policies require that parents become acquainted with local changes. The district of Charlotte-Mecklenburg, North Carolina, changed its choice regime considerably in 2002 (see Case B). Before 2002, students were required to attend their home school while magnet schools and limited mandatory bussing were aimed at promoting desegregation. The new regime introduced mandatory choice so that all parents had to state their preferences. The district set up an extensive programme to inform and assist families in the choice process, including targeted actions such as sending volunteers door-to-door in low-income and non-English speaking communities; setting up booths in shopping malls; organising a fair; and establishing phone hotlines in English, Spanish and Vietnamese. A high 95% of families filled in their forms, with African-American families participating at an even higher level (Godwin *et al.*, 2006). These results indicate not only that a (vast) majority of parents can be reached, but also that extensive information programmes can pay off in terms of parents participating.

97. In sum then, very large majorities of parents can learn about their choice options, provided that (considerable) efforts are taken to inform them.

Do parents know how choice programmes work?

98. For parents to exercise choice, they not only need to know that they have options, but also how they can go about making their choice. Every choice regime has to find some way to match parental preferences with available places in schools. The details of such matching procedures vary considerably across contexts. What parents are supposed to do differs accordingly, just like options for strategic behaviour (see also Abdulkadiroglu *et al.*, 2006; Roth, 2008). Detailed knowledge about matching procedures can therefore be very important to parents considering their options. A notable example comes from Beijing, China (see Case A). What this case illustrates is that choice programmes can be rather complex for parents and that specific details can evoke both unintended "mistakes" as well as strategic behaviour on the part of parents. The study also shows that the consequence of complex choice programmes may be that parents who do not quite understand the details may unintentionally harm their children's education career.[3]

99. The case of Beijing suggests that parents have unequal knowledge about details of choice programmes, particularly when procedures are complex. However, it is largely unknown how details of choice procedures may affect parents' knowledge and strategies.

How do parents choose?

100. Unravelling the choice process further, we must ask how parents go about making school choices. Many policies are built on assumptions of school choice being a very rational decision-making process. Does research support that that is indeed the case?

101. Various studies looking at the school choice behaviour of parents ask parents what they find important in choosing a school (choice criteria), how important they find these aspects (weighing choice criteria), sometimes followed by questions asking parents to give a number of specific schools a score on each of these aspects (assessing schools by criteria). This methodology builds on a conceptualisation of school choice as if it were a multi-criteria analysis (MCA), a common method used in policy analyses. The assumption is that parents define criteria, give each criterion a weight and then score a set of schools on each of the criteria. Following this logic, the school with the most points matches best with parental preferences.

102. More detailed and contextualised studies from very different parts of the world show that school choice might be more appropriately thought of as a two-stage process.[4] First, and often implicitly, parents make a short list of acceptable schools: the choice set. Subsequently, from this choice set, parents make their actual choice. This two-stage process appears to be similar for parents from different socio-economic strata, with parents placing an equal number of schools on their short list. The construction of the choice set seems to differ between groups of parents. Which schools enter the choice set in the first place is related to which social networks parents participate in and what is common in such networks. If attending the home school is common practice, or if a particular private school is the "obvious" choice, the choice set is likely to be very small.[5]

103. In short, the choice process itself seems to be a rational decision-making process only in part. Social and cultural factors play a role in this process, particularly in the tacit first stage when the choice set is (implicitly) constructed.

Who decides: parents or pupils?

104. Associated with the process of choice is the question of who actually decides. This question is particularly relevant on the secondary school level when the child is older. Research often finds that many parents state that their children take part in the choice process.[6] Detailed analyses of interviews reveal that involvement of children in the choice process may take on different forms in families with different backgrounds.[7] While working class families more often "allow" the children to choose, middle-class parents tend to limit their children's influence by giving them "a say". These latter parents pre-structure acceptable alternatives to their children. Giving children a say can also be interpreted as a strategy to commit the child to the final decision and the chosen school (Croft 2004; Reinoso 2008).

105. Although research on this issue is limited, secondary school students seem to play a part in the choice process. Studies suggest that students from working class backgrounds may influence the decision outcomes the most, while middle-class parents seem to define outcome boundaries.

Do (more) parents exercise choice?

106. Choice programmes enable parents to exercise school choice in one way or another. Based on our discussion so far, there seem to be no prohibitive reasons why parents would not choose at all. However, whether parents do actively exercise school choice is another matter. As mentioned above, in the case of strict catchment areas some parents find ways around the rules. The real question then becomes whether more parents exercise choice when they have a realistic option to do so.

107. A first finding is that – on the whole – a choice of secondary school is considered more important by parents than a choice of primary school. Proximity and travel distances bear different meanings for children of different ages, which might explain why choice is repeatedly found to be exercised more often on the secondary than primary school level (see Elacqua *et al.*, 2006, for Santiago, Chile).

108. Second, the proportion of parents exercising choice differs substantially across contexts. This variety is partly related to specific characteristics of choice regimes. To illustrate the variety of choice programmes, we give a few examples of programmes with limited choice and open enrolment schemes.

109. In Canada, choice options for parents are limited. About 5% of elementary and secondary pupils attend a private school, while charter and magnet school initiatives are rare. In this context, school choice seems to manifest itself in other ways. In recent years, the private tutoring business saw rapid growth in Canada. In a survey of over 500 parents with school-aged children, parents who hire a private tutor are less satisfied with the public school their child attends and have a stronger desire to send their child to a private school (Davies, 2004). For these relatively well-educated parents, private tutoring seems a more affordable and accessible option than private education.

110. In an unknown city in Wales, allocation is based on school attendance areas, but parents can express their preference for an alternative school. The number of places available is set by the local authority, as are the admission criteria in case schools are oversubscribed. Pupils living in the attendance area of a school have priority, followed by pupils with particular social or medical needs, pupils with siblings at the school and those living nearby *via* a walking route. In a local urban market of thirteen schools, three out of four secondary pupils attend the school they were allocated to by the local authority. Assuming that attending the home school is the default option, one in four can be said to fully exercise choice options (Taylor, 2009).

111. The allocation of pupils over the combined primary/lower secondary schools in the city of Copenhagen, Denmark, is similar in some respects (Rangvid, 2007). Public schools have catchment areas but pupils can apply to enrol in any public school in the municipality. When schools are oversubscribed, pupils living in the catchment area have first priority for entry. Unlike the city in Wales, however, Copenhagen has an extensive sector of independent schools with low fees because they are heavily subsidised. In Copenhagen, almost one in three pupils attends a public school which is not the home school, while an additional one in four pupils attends an independent school, leaving a slight majority attending the home school.

112. Zaragoza, Spain, assumes a more extended choice programme with open enrolment for compulsory education (ages 6-15). Parents can choose between public, independent (mainly religious and clerical) and private schools. Of the 140 schools in the city, 50% are public, about 40% are independent, and about 9% are private. Parents are free to choose a public school, but proximity is a criterion to gain access. In a study covering thirteen schools in the city, indications were found that half of the parents "choose" a school other than the local public school (Bernal, 2005).

113. These results resemble findings from the district of Charlotte-Mecklenburg, North Carolina, after the introduction of mandatory choice. Almost half of all parents did not state their home school as their highest preference. In that case, almost one in two families can be said to participate actively in the public choice programme (Godwin *et al.*, 2006).

114. Even higher numbers of students not attending their home school were found in the urban region of Chicago. Based on population data of a cohort of new entrants to high school, 6% of students were found to attend a private school; 10% a public school with selective enrolment, which is mainly based on test scores; 43 % a non-neighbourhood school; leaving just over 40% of students to attend their home

school (Lauen, 2007). In this context, in which many schools are accessible by public transport, a majority of students actively exercise choice options.

115. The proportion of parents exercising choice not only varies across settings with different choice regimes. In areas with the same choice regime, the proportion of parents exercising choice is also found to vary substantially. In an unnamed area in the United Kingdom, for example, parents attending a non-neighbourhood school were found to vary between 9% for the outskirts and 44% for the city centre (Parsons *et al.*, 2000).

116. All in all, there is substantial evidence that large numbers of parents exercise choice when given the option. The case of Canada seems to suggest that when parents have little options to exercise choice within the education system itself, other options outside the system may be found. The proportion of those who exercise choice varies widely, both within and across settings. However, as one would expect, it does seem that open enrolment schemes enable more parents to choose than do limited choice programmes. At the same time, substantial groups of parents choose the local school. Parents can have strong ties to local communities, which is also shown, for example, in case studies on school closures (*e.g.* Basu, 2007).

Do all parents exercise choice equally?

117. The observation that parents exercise choice when given options does not mean that parents from different subgroups in society exercise choice in equal numbers. Significant differences in participation rates are observed for different choice programmes, such as private schools, public choice programmes based on magnet or charter schools, and public choice programmes with open enrolment. Different subgroups of parents are over and under-represented in different programmes, related to specific details of policies. Obvious examples are private schools without vouchers, which are chosen disproportionately by parents who are relatively well-educated, well-off and white (see Goldring and Philips, 2008, for Nashville, Tennessee). In other words, fees do limit access. Likewise, means-tested voucher programmes for low income and minority pupils have only participants in their target groups (*e.g.* Lacireno-Paquet and Brantley, 2008). Programmes without specific targeting of subgroups – such as open enrolment for public schools – also differ in the degree and kind of selectivity of those who exercise choice. These differences seem related to policy design, which testifies once more that details do matter. In very general terms, choosers differ in three broadly described ways from non-choosers: in demographic factors, parent satisfaction and parent involvement.[8]

Demographic factors

118. Choosers and non-choosers differ most in terms of demographics. Various pieces of research indicate that choice is related to socio-economic background with more affluent and well-educated parents exercising choice options more frequently.[9] This holds true for all choice options whether it concerns non-neighbourhood public schools, selective public schools or private options.[10] More affluent parents are often found to avoid schools with high proportions of low-income students (Lacireno-Pacquet and Brantley, 2008). It is not very clear whether the connection with socio-economic background is because less educated and affluent parents tend to choose the local school or because they tend to use strategies of gaining access to non-neighbourhood schools that are less effective (Reinoso, 2008, for Granada, Spain; Reay, 2004, for three urban areas in the United Kingdom). Choice patterns may also be linked to the primary school that the student previously attended, which may or may not be able to help provide an entry to the secondary school of choice (Croft, 2004).

119. How school choice is related to ethnic background is less clear. Different studies find contradictory evidence for the impact of ethnic background on choice behaviour of parents.[11] For example, a population study of a Chicago cohort of new entrants in high school finds that – when controlled for a

number of other factors – black children are less likely to attend private and selective public schools, but equally likely to attend non-neighbourhood public schools (Lauen, 2007). On the other hand, choosing to attend a private school did not seem to differ between white and black parents in Nashville, Tennessee (Goldring and Phillips, 2008). Some studies find that minority students opt more often for schools with higher proportions of minority students, while other studies find the opposite.[12] Some groups of immigrant parents seem to opt deliberately for schools with students coming from similar religious backgrounds. In countries with Muslim schools this seems a common pattern.[13] The same may hold for parents with other religious affiliations.[14] This phenomenon is also known as self-segregation.

120. A recurring pattern across contexts is that white parents tend to avoid schools with high proportions of minority students.[15] A study looking at attendance patterns of charter schools across the United States finds consistent evidence for white flight towards charter schools. That is, the higher the levels of integration in a school district, the higher the proportion of white students attending local charter schools (Renzulli and Evans, 2005). Indications for white flight remain when taking the quality of local public schools into account, which is known to act as a push factor (see below and also Case C). In a study set in Texas, parents who indicated that they heavily weigh test scores into their choice considerations were found to leave higher performing but more mixed public schools for lower performing but whiter charter schools. This may point to some parents using the racial composition of schools – implicitly or explicitly – as a proxy for school quality.[16]

121. The decision to exercise school choice is not only related to demographic factors at the level of individual parents. Additionally, demographics of neighbourhoods are found to affect school choice. It has been found that parents who live in neighbourhoods with high concentrations of disadvantaged and black citizens tend to exercise choice for non-neighbourhood schools less often (Lauen, 2007, for Chicago). In other words, parents in the most disadvantaged neighbourhoods are more likely to attend the home school.

Parent satisfaction

122. Those who do and do not practice choice are also found to differ in terms of how satisfied they are with their neighbourhood school before they exercise choice.[17] In a study in Nashville, Tennessee, it was found that parents who are more satisfied with their public school, who have a good relation with the school and who feel that the school meets their needs adequately are less likely to consider choice options regardless of whether those options are public or private (Goldring and Phillips, 2008). Similar patterns were found in a nationwide study in Canada and in localised studies in London and Paris.[18] Both the perceived quality by parents as well as objective quality indicators of the local public school are repeatedly found to have an impact on chances that parents opt for schools further away (Lauen, 2007, for the city of Chicago; Garcia *et al.*, 2008, for the state of Arizona). This was found in the urban area of Chicago, in a context where almost one in two students attend a non-neighbourhood school (Lauen, 2007) and also in Texas where options for school choice are more limited and about 1% of pupils attend a charter school (Hanushek *et al.*, 2007). Similar patterns were found for student flows between districts in Minnesota and Colorado, which are both states with an open enrolment programme between districts. Districts with relatively high average performance scores attract students from other districts, while districts with relatively low average performance scores lose students to other districts (Witte *et al.,* 2008).

123. As these findings hold up across very different contexts, using both subjective measures of perceived quality by parents as well as objective quality indicators and adopting different methodologies, it seems fair to conclude that low quality of the local public school is a push factor to consider other options. The reverse is also true, that when parents are satisfied with the quality of the local public school they have less reason to look for alternatives (see also Case C).

Parent involvement

124. A third broadly defined category for differences between choosers and non-choosers is parent involvement preceding the choice. Parents opting for a charter school in the United States are found to be more involved with their children's education. This has led some to conclude that charter schools are more likely to succeed in getting parents involved. However, longitudinal studies show that parents who choose a charter school were already more involved with their child's education before they attended their school of choice (Ladd, 2002b; Hanushek *et al.,* 2007). Parents who opt for another public school for their children apart from their home school were also found to be more involved (Cullen *et al.,* 2005).

125. Other work suggests that it may be a combination of the way parents express their involvement and school responses which make parents look for alternatives to the local public school. Parents in the United Kingdom as well as parents in Nashville, Tennessee who believed their involvement in education would positively impact their children (parent self-efficacy) were more likely to consider private education (Croft, 2004, for the United Kingdom; Goldring and Phillips, 2008, for Nashville, Tennessee). These studies also show that communication and collaboration with teachers and the school is (very) important to some parents. In Nashville, apart from perceived quality by parents and quality indicators of schools, when parents experience lack of collaboration this serves as a push factor in its own right. The opposite was also true, the expectation of better communication and collaboration in private schools acts as a pull factor (Goldring and Phillips, 2008).

126. So, in accordance with assumptions underlying choice policies, lack of responsiveness of schools seems to be a reason for parents to choose to leave. Whether schools interpret these signals as such and act accordingly is another matter. Qualitative studies that look in more detail into the situation of middle-class parents with children who attend the local public school indicate that parents give schools signals about their wishes, and that schools try to find ways to accommodate these wishes. A study set in three urban areas in the United Kingdom shows that these parents can be quite ambiguous about their choices and decisions. While wanting to do the "egalitarian right thing" and to act out of principle – supporting the neighbourhood and the local school, the middle class supporting public services, preparing their children for a multiethnic and multicultural society – they also want the best for their child, which may come down to exiting the local school (Crozier *et al.,* 2008). Similar findings were reported based on interviews with parents in London and Paris (Raveaud and Van Zanten, 2007). Parents experienced tensions between aiming for a "good education" of their child at an individual level, and concern for equality and integration at a collective level. Parents considering the local school tend to try to enrol their children in special programmes for gifted or talented children, which schools introduce to remain attractive and prevent middle-class parents from leaving (Crozier *et al.,* 2008). We return to this issue in Chapter 5, where school strategies are discussed.

127. In conclusion, a general pattern underlying school choice seems to be that parents who are well-educated, well-off and involved in their children's education are overrepresented in the group of active choosers. In addition, push and pull factors related to school characteristics play a role. In very general terms, white parents more often try to avoid schools with high proportions of minority and low-income students, while minority and religious groups may opt for schools with high representation of their groups as well. If the local school can provide high (perceived) quality, a sense of communication and collaboration with parents, and overall satisfaction, then the likelihood that parents choose another school diminishes.

Preferences and behaviour

128. Now that we know that parents do take up choice options, albeit in different numbers for different subgroups, questions arise about the kinds of choices parents make. What do parents convey as

being important in schools is their actual choice behaviour in line with stated preferences, and do parents choose the "best" school available to them?

Preferences: what do parents say they look for in a school?

129. The proposition that school choice provides incentives for school improvement rests on assumptions that parents care and know about school quality and act accordingly. As mentioned previously, a considerable body of research on parental choice seems to implicitly assume that parental choice can be adequately conceptualised as a multi-criteria analysis. Parents are asked to formulate the criteria that they find important when choosing a school or to rank a set of given criteria in order of importance. Criteria mentioned most often and ranked highest are quality of education, distance, satisfaction and, to a lesser extent, school composition. In some urban areas, the issue of safety turns out to be an additional factor to consider schools. In Santiago, Chile, less well-educated parents more often mentioned safety, interpreted by the researchers as reflecting these parents' daily reality (Elacqua *et al.,* 2006). Particularly in urban areas, bus travel is not always regarded as a serious option because of safety issues.[19] In the United States, safety and drugs also appear to play a considerable role in decisions to home school children (Lacireno-Pacquet and Brantley, 2008).

Quality and academic aspects

130. When asked, parents in many countries report *quality* and *academic aspects* as being very important, if not the most important, aspects when choosing a school.[20] These findings hold up in different contexts. In a nationwide study in the Netherlands and a smaller study in Santiago, Chile, surveys were held to understand how parents choose a primary school.[21] In both countries schools have no catchment areas and parental choice is mandatory. Both studies find no significant relation between stated reasons for school choice and indicators for socio-economic background of parents.[22] Similarly, parents in Massachusetts mentioned very similar factors when evaluating a school, with quality on top, irrespective of whether their child attended an under or better performing school (Howell, 2006). It is less clear whether parents from different ethnic backgrounds attach equal weight to academic aspects of schools (Lacireno-Pacquet and Brantley, 2008). In Texas, the most important factor for school choice was found to differ with ethnic background, with white parents prioritising test scores; black parents, moral values; and Hispanic parents, discipline (Lacireno-Pacquet and Brantley, 2008).

Distance

131. Another important factor in school choice whose weight differs between subgroups of parents is *distance*. A primary reason for differences between subgroups is a financial one, referring to ability and willingness to bear costs of transport, be it by public transport or by private car. A second reason is cultural in nature. The distances between home and school that are considered realistic are related to socio-economic indicators, apart from costs (*e.g.* Ball *et al.,* 1995). A third reason for differences between subgroups of parents refers to social factors. Families have varying access to social resources to solve issues of family logistics, including flexibility of work schedules, child care arrangements, and nearby friends and family to help out.[23] The three factors combined may explain why distances covered by more affluent and higher educated parents tend to be greater than distances travelled by parents who are less advantaged.

Satisfaction

132. In both surveys and interviews, many subgroups of parents often state that their school choices are informed by their wish for their child to be happy. Analyses of in-depth interviews with middle-class parents illuminate that they attach specific meanings to these terms. For instance, parents in London, Paris

and Granada all want "the best" for their child and for them "to be happy" (*e.g.* Raveaud and Van Zanten, 2007; Reinoso, 2008). For middle-class parents, conceptions of "the best" include gaining opportunities to learn and to achieve, experiencing fulfilling social relationships, contributing to a meaningful and satisfying career, and also building relations with prospective classmates. For them "happiness" is related to educational goals as it refers to the child being at ease, so as to have an open mind towards all that is there to take in, or as making the most of his/her talents and potential. For middle-class parents, educational aspects seem more naturally incorporated in notions of "happiness" than they seem to be for working-class parents.

School composition

133. In surveys, parents rarely mention social and ethnic composition of schools as an important factor in school choice. An exception is found in a large Dutch survey of parents with primary school children which shows that, after reasons referring to academic quality, compositional factors come into play (Denessen *et al.*, 2005). Qualitative research seems to report considerations about school composition more often than surveys. Interviews with parents choosing a private school in Granada, Spain, reveal that they do so partly for reasons of social composition, or rather they consider the social relationships the child may develop at school (Reinoso, 2008 for Granada, Spain). Small research projects based on interviews also indicated that school composition is mentioned by parents in Paris and London but in a more subtle manner. Parents may say they find some schools more suitable than others, appreciate the general atmosphere of the school, and meeting parents who share similar values. These considerations were found to be closely related to the social composition of schools (Raveaud and Van Zanten, 2007).

134. The previous findings indicate which preferences parents convey as being important in school choice. In many other research domains preferences have limited predictive value for actual behaviour. Is that also the case for school choice?

What do parents do?

135. The body of research in the domain of school choice does indeed show substantial discrepancies between the preferences parents convey and actual choice behaviour (Schneider and Buckley, 2002; Howell, 2006; Lacireno-Pacquet and Brantley, 2008). The best proof of discrepancies between preferences and actual behaviour comes from studies that combine the two. In a survey conducted with more than 530 parents living in Santiago, Chile, parents answered an open-ended question about the most important reason for their choice of school (Elacqua *et al.*, 2006). Over half of the parents indicate that academic environment and curriculum are the most important issues, irrespective of their own educational attainment. Factors associated with school composition were mentioned by less than 0.5% of parents. These parents also mentioned up to three schools they had seriously considered. This data was then combined with independently derived indicators for quality and school composition. The schools that the parents considered – their choice set – appeared to differ widely in quality, but hardly in school composition.

136. Likewise, a review of U.S. studies looking at choice preferences and behaviour of parents who actively chose a school (public or private) concludes that academic factors are the most important stated reasons for their choice, but the socio-economic and ethnic composition of schools are the best predictors for actual choice behaviour (Lacireno-Pacquet and Brantley, 2008). The link between parental choice and school composition has been reported from countries around the world (Ladd, 2002a, also refering to Chile, New Zealand and Scotland). In a multi-country comparison it appears that particularly middle-class parents attend schools with a more homogeneous population of students (Dronkers and Avram, 2009).

137. All this may also indicate that parents use school composition – possibly implicitly – as indicators for school quality.

Do parents choose "the best" school available to them?

138. As outlined above, the most fitting conceptualisation of school choice is a two-stage process which begins with composing a choice set of acceptable schools. It was also found that proximity between home and school is an important condition in school choice, and that perceived lack of quality of the home school may act as a push factor to look for alternatives (see also Case C). The implication of these findings is that whether and to what extent parents exercise choice options also depends on (perceived) characteristics of the local school and other schools in the vicinity. The composition of the school also plays an important role in that choice. Combined, these findings reveal that it is by no means obvious that parents choose "the best" school available to them.

139. Empirical research from different contexts indicates that parents may not always choose the best performing school in their vicinity. In the research conducted in Santiago, Chile, further outlined above, information about the choice set of parents, quality indicators of these schools and actual choices were combined. Given their choice sets, only one in four parents happened to choose the school with the best performance (Elacqua *et al.,* 2006). The composition of the school played a more important role. The same seems to be the case in the district of Charlotte-Mecklenburg, North Carolina, after the introduction of mandatory choice. Parents stating another school than their home school as their first preference tended to prefer schools with more affluent students, taking also newer buildings and more experienced teachers into consideration (Kenneth Godwin *et al.*, 2006). In a Massachusetts survey, parents of primary school children were found to attach equally high value to the quality of teaching (Howell, 2006). When asked which school they would prefer for their child, parents in underperforming schools mentioned fairly often (44%) another underperforming school. Their alternative tended to be smaller and to cater to lower proportions of disadvantaged parents. This again indicates that school composition weighs heavier in actual behaviour than in stated preferences.

140. All in all, school composition proves to be an important factor in choosing schools. One possible reason for these findings might be that compositional features are more easily visible than schools' academic performance. An important and much debated question following from this notion is whether the provision of adequate information on school performance makes a difference for parents choosing schools.

Information

141. In neo-classical economics, information asymmetry is known as one of the classic reasons for market failure. Based on this notion, providing parents with sufficient and reliable information is a recurring theme in the debate on markets in education. The assumption is that parents act differently when such information is available and that information can overcome market failure. When breaking this assumption down, several questions arise. What information sources do parents use to inform their choices? Put differently, is there room for officially provided information to play a role at all? What kind of information should be provided? Does such information reach parents or, more specifically, does it reach the specifically targeted groups of parents who are thought to benefit most from such information? And maybe most crucially, do parents change their choice behaviour on the basis of information about the quality of schools?

What information do parents use when making school choices?

142. Parents make choices on the bases of "(sometimes oversimplified or misleading) local and contextual policy, information, misunderstanding and myth" (Croft, 2004, p. 935). This is the conclusion drawn in a summary of British research. In a study set in Detroit, a U.S. researcher derives very similar conclusions (Bell, 2009). When specifically asked why parents consider or choose a particular school, parents often refer to reputation.[24] Some scholars note that general reputations of schools may serve as

summaries of all kinds of formal and informal information. Getting acquainted with general reputations of schools may be much easier and less time-consuming than acquiring lots of official information. In that sense, acting on the basis of general reputation and "making use of the grapevine" may be considered a very efficient way to make choices because it requires low "search costs".[25] However, these sorts of reputations are not always accurate and tend to persist over long periods of time, despite actions taken by schools and changing facts.[26]

143. Informal social networks repeatedly turn out to be important sources of information in the choice process as people share experiences, opinions and advice.[27] "Social networks appear to act as a filter, informing parents about which schools they can realistically consider (Lacireno-Pacquet and Brantley, 2008, p. 13)." In that sense, social networks play a part in the construction of choice sets, mentioned earlier as the first stage of the choice process. That is not to say that the information circulating in social networks is accurate. There are indications that the information some parents (*i.e.* those that are generally better-off, well-educated, white) retrieve from their social networks is more reliable than information retrieved by others.

144. This may well be linked to findings that better-educated parents use performance indicators of schools more often (*e.g.* Karsten *et al.*, 2001) as well as indicators of school composition (Schneider and Buckley, 2002), while less well-educated parents give more weight to location. Information shared in social networks also plays a part in collective choice actions, such as seeking joint access to a school so that parents know prospective classmates and their parents (Reinoso, 2008).

145. The many different information sources that parents use limit the potential impact of performance indicators on school choice.

What performance indicators are needed?

146. A key question to consider is how the performance indicators that are offered to parents should be constructed. Issues here range from how to use confidence intervals to allow for uncertainty (especially when indicators are based on small numbers of observations), to the harm that categorisation (*e.g.* poor, average, excellent) may cause for schools located close to the boundaries of the categories, to the range of output indicators and whether similar indicators should be used for different purposes (parent information, quality control by inspectorates and governments), as is often the case.[28] There are also issues which appear to be technical, such as how to interpret and handle student mobility: as missing data or as a performance indicator in its own right (Van der Grift, 2009)?

147. Among researchers, a much debated problem is whether raw average test scores of schools are adequate indicators for school quality. Most researchers agree that so-called value-added scores are required, and that entry levels of pupils and/or indicators for school composition must be taken into account. Rankings based on raw test scores tend to overestimate the performance of schools with advantaged pupils while underestimating the performance of schools with disadvantaged pupils. To illustrate the significance of this point, in Texas schools are divided into four categories based on measures relying heavily on average achievement. Comparing this classification with a value-added measure shows that "(a)lmost one quarter of the bottom half of schools in terms of value added are rated exemplary" (Hanushek *et al.*, 2007, p. 842).

148. However, the dissimilarity between rankings based on raw data and value-added measures may vary between contexts. In countries with strong relations between student background and attainment, such as Chile, both kinds of rankings may be rather similar (Mizala *et al.* 2007; McEwan *et al.*, 2008). In the Chilean case, there seems to be a trade-off between stable indicators that rely more heavily on school composition on the one hand, and unstable indicators, which do more justice to the value added by schools,

on the other hand. The trade-off implies that school composition is a more stable characteristic of schools than their performance, which in turn provides some logic behind parents choosing primarily on the basis of school composition. In other countries, rankings based on raw and value-added measures may[29] or may not differ more widely[30].

149. Once value-added measures are constructed, naturally the next question to arise is what variables to include to "correct" for school composition and entry levels (Leckie and Goldstein, 2009). When performance of schools is related to their intake, it becomes a relative measure. Such relative measures may distract attention from an ambition to have all children achieve a certain minimum level, which is formulated in absolute terms.

150. When performance indicators are to be used by parents choosing a school, an additional question is raised. Do performance indicators have any predictive value? If parents choose a school on the basis of indicators in year one, a considerable amount of indicator stability is required for that information to have some predictive value for the time their child leaves school. The stability of rankings, in particular those based on value-added measures, tends to be low.[31] It proves to be very difficult to reliably separate "good" or "bad" schools from average schools. This leaves some to conclude "that publishing league tables to inform parental school choice is a somewhat meaningless exercise" (Leckie and Goldstein, 2009 p. 849).

151. The use of league tables and an underlying single, albeit composite, indicator suggests equal effectiveness for all pupils in school. However, research shows that school effectiveness may differ for subgroups of pupils – by gender, entry level or ability – and different subjects or departments within the school (Adnett and Davies, 2005; Wilson and Piebalga, 2008; see also Karsten *et al.*, 2010). Both the stability of school effects and the predictive value of rankings may therefore be even smaller than assumed. Several researchers have pointed out that regularly-used performance indicators may, in fact, mislead parents (Gorard, 2008). For these and other reasons, some countries have decided against the publication of school performance data.[32]

152. All in all, from a scientific point of view and apart from its use, it is unclear with what kind of information parents ought to be provided in order to potentially overcome market failure resulting from information asymmetry.

Do parents make different choices when performance indicators are available?

153. The next question in the line of argument is whether available performance indicators of schools are used by parents and whether they have any impact. Assessing the use and impact of school performance indicators is a complicated matter. Provision of this kind of information is only part of a more comprehensive policy, which is one reason why the impact of indicators is difficult to isolate from other policies and practices (Karsten *et al.,* 2010). Comparative studies bear the added difficulty that indicators are constructed differently, have different histories and uses, and are part of different broader policy contexts.

154. On the basis of available research, it seems fair to state that the very existence of performance indicators has an impact on parents as well as on schools (see Chapter 5 for their impact on schools). We name a few research findings to illustrate this point. For the United Kingdom, it has been estimated that a majority of parents make some use of performance indicators (Croft, 2004). For both England and France, research shows that well-educated parents more often know what performance information is available and how to interpret the rankings. Although well-educated parents tend to make more use of such information, for them publicised performance information is only one out of several information sources (See also West and Pennell, 2000). In another research study that approaches the question from another angle, parents who

were known to exercise school choice, the choosers, revealed that performance information is only one reason to choose a particular school and, furthermore, not the most important reason (Karsten *et al.,* 2001).

155. A review of U.S. research also points to limits on the impact of information. In this case, the research focused on information about education programmes in schools. It was found that the provision of such information alone is insufficient to have parents consider different schools. The composition of the school remained the most important factor for schools to enter the "choice set" of parents (Lacireno-Pacquet and Brantley, 2008). Evidence from Chile confirms that information about performance – in this case rewards given to good schools – hardly impact on choice behaviour of parents (Mizala and Urquiola, 2007).

156. A sophisticated and elaborate analysis of data on all pupils in Texas illustrates in some detail how school performance information may be related to parental choice (Hanushek *et al.*, 2007; see Case C). The results indicate that quality indicators may have the intended effect if parents have real and accessible alternatives. Put differently, the sensitivity of parents to information about school quality may be greater when they have more genuine choice options. Further evidence of transaction costs playing a role in switching schools comes from the state of Arizona in the United States. Students with relatively low performance rates were found to exercise choice options more often by switching schools during elementary school.[33] This was particularly the case for pupils entering charter schools and "disrupting" their education in a school they could have stayed in. This may indicate that parents who have a choice and feel that they have not much to lose from a transfer, or rather have much to gain, are more inclined to do so.

157. The study in Texas also compared the impact of publicly available accountability ratings (strong signals) with unpublicised quality indicators based on value added (weak signals).[34] The results indicate that parents respond to both kinds of signals (Hanushek *et al.*, 2007). That is, publicised ratings seem to be related to choice behaviour, but parents also seem to respond to their own experiences and informal reputations of schools. Nevertheless, when schools are labelled as "unacceptable" even though they are effective given their student intake, a number of pupils do leave the school when given the choice. What is also important to note is that the vast majority of students stay despite the label and poor achievement outcomes.

158. In Charlotte-Mecklenburg, North Carolina, two experiments were conducted to assess the impact of school performance information on the choices made by parents (Hastings and Weinstein, 2008; see Case B). What the study shows is that the timely provision of relevant information may be more important than the form it comes in. The same conclusion was derived through an evaluation of the NCLB programme across states (Vernez, 2009).

159. The findings summarised above indicate that the provision of school performance indicators can make a difference in choice behaviour of parents. The same findings show that the impact of such information tends to be of modest magnitude. This leads us to the more specific question of whether parents whose children attend low-performing schools are inclined to leave those schools when given the choice. If parental choice is to have an impact on school improvement, this is where one would expect the most discernible manifestation of market mechanisms.

Elasticity of demand

160. In this section we turn to the question of how specific subgroups of parents respond to information about the quality of the school their child attends. In particular we focus on parents of children attending low or underperforming schools. Empirical research providing relevant findings for this question comes predominantly from the United States.

Do parents bypass or leave underperforming schools?

161. The federal NCLB act in the United States offers an interesting context for seeing how parents respond to information about underperforming schools. Under this Act, states must provide information about average test scores. Children attending a school whose performance is unsatisfactory for a number of successive years can obtain access to another public school and/or supplemental educational services. Districts are obliged to inform parents when their child attends an underperforming school. The goal is to improve the quality of education for students immediately by having them leave underperforming schools and attend schools with better performance. A necessary but insufficient condition for this to happen is for parents to be made aware of how well or poor their child's school performs. Empirical research indicates that – again – this may look more straightforward in theory than in practice.

162. Eighteen months after the introduction of NCLB, a phone survey was conducted of 1 000 randomly chosen parents in the ten largest school districts around Boston (Howell, 2006). The findings indicate that roughly twice as many parents whose child attends a high performing rather than a low performing school know their school's status (about 60% and 30%) despite obligations for districts to inform parents when their child attends an underperforming school. Combining survey data with school performance indicators shows that the vast majority of parents are satisfied with their school, irrespective of their actual performance. Over 70% of parents whose child attends an underperforming school give that school a grade of A or (more often) B. Only 10% of parents give these schools grades of D or F. The satisfaction of parents attending high performing schools is even higher (85% A or B, 4% D or F). Although satisfaction is lower, it is unlikely that large groups of parents will act as a result of broad dissatisfaction with underperforming schools. Highly educated, non-Hispanics, well-off parents as well as parents whose networks connected strongly with the public school system knew more often how well (or how poorly) their child's school performed. Leaving the researcher to conclude a "sad irony: Those who thrive in the existing system have the information required to realise that NCLB will not help them any further, whereas those who struggle lack the information required to explore new schooling options that might improve their lot" (Howell, 2006, p. 157).

163. The aforementioned study in Charlotte-Mecklenburg, North Carolina, points to an additional issue concerning signals schools receive from parents who exercise choice (Case B). It was found that parents whose children attend the home school find proximity more important, while parents opting for a school further away place more value on test scores (Hastings *et al.*, 2005). A consequence of this difference might be that parents put unequal pressure on schools to improve. Lower performing schools are more often chosen because they are the home school and chosen by parents who may place less weight on test scores. On the other hand, it is possible that better-performing schools are chosen for their test scores in the first place and consequently experience more pressure from parents to improve. If this were indeed the case, it would be contradictory to basic assumptions underlying many choice policies which state that parents in low-performing schools will create the strongest incentives for schools to improve.

164. Providing parents with access to the required information proves to be a challenge. In a large 2009 evaluation of NCLB across states, it was found that the majority of parents had heard about NCLB, but only one in five of them knew that their child attended a school identified as underperforming by the programme (Vernez, 2009). The study shows the importance of timely notification of parents. Both states and districts were found to struggle with providing information on the status of their schools in a timely manner. The evaluation also showed that there was a need for improvement in the way information was given to parents since they often missed information about how to apply to another school or whom to contact in case of questions. However, the sender provides only half of the story in any communication process. Turning to the receiving end, 80% of parents living in districts that informed parents indicate in surveys that they were unaware of receiving such information. This may be caused by many different things, including not physically receiving the information, but also simply not being aware of the

importance of the information or not understanding what had been written. As in the Charlotte-Mecklenburg case, adequately informing parents proved to be an important factor for the school choices made by parents (Case B). In eight large urban districts that provide timely information, parents who knew the status of their school before the beginning of the year left that school twice as often as parents who were unaware of their school's status. The evaluation also concludes that only a small minority of students eligible for school choice under NCLB take up the opportunity. Of the eligible parents, up to a third indicated they did not know they had a choice despite districts taking efforts to inform all parents. Of the parents who did know, only 10% chose to send their child to another school. The reasons parents give sound familiar by now: they are satisfied, the local school is convenient and also children themselves do not want to change schools.

Drawing to a close

165. This review indicates that the assumed mechanisms on the demand side of the education market do not work as straightforwardly in practice as in theory. Parents did already make choices before the introduction of market mechanisms, even when they were not given formal options. A cautious reading of research findings indicates that details of policies do matter (see also Case A). For example, more parents exercise choice when they have realistic alternatives for the home school. Furthermore, the choice process appears to be conceptualised most accurately as a two-stage process. In the first stage, parents construct – often implicitly – a choice set of schools to consider seriously. During the second stage, a limited number of schools in the choice set are more closely examined to lead to a final choice. Although the process itself appears to be very similar for different subgroups of parents, cultural and socio-economic factors do play a role in each stage of the process. Demographic factors are most closely related to the distinction between choosers and non-choosers, but satisfaction with the local school and wanting to communicate and co-operate with the school also play a part.

166. The saying "actions speak louder than words" also applies to parental choice. Although research indicates time and again that parents attach the most weight to quality and academic aspects of schools, their actual behaviour is best predicted by indicators of school composition. Middle-class parents in particular seem to opt for schools attended by children from similar backgrounds. School composition may act as an implicit indicator for school quality. However, research shows that this indicator can be quite misleading. Formal information, such as performance indicators, does play a role in choice processes, if only because of its very existence.

167. It must be noted that the potential impact of performance indicators is easily overestimated (Case B). The difficult concept of "reputation" seems at least as important, and is based on many different kinds of information and information sources, including social networks. More important for governments are findings that parents who do know that the school of their child is underperforming leave that school only in small numbers. The vast majority of students stay, not receiving an education that satisfies minimum requirements. Although parents whose children attend underperforming schools tend to be somewhat less satisfied with the school, a large majority of parents convey that they are very satisfied. This indicates that market mechanisms by themselves are unlikely to provide the strong forces needed at the demand side of the market which could improve the quality of education in a substantial way.

NOTES

[1] See also Croft (2004) in a review on research in the United Kingdom.

[2] For example: Waslander and Thrupp (1995) for a city in New Zealand; Reay (2004) for three urban areas in the United Kingdom; Teelken *et al*. (2005) about England; Reinoso (2008) for Granada, Spain; Gill *et al.* (2007) for the United States; Taylor (2009) for a city in Wales; Lai *et al.* (2009) for Beijing, China.

[3] A study set in Chicago compares the achievements of students who where and were not selected by a lottery. In this context, selected students attended schools with higher average performance and more advantageous pupils, but no differences were found for student achievement of the students themselves (Cullen *et al.,* 2006).

[4] See Lacireno-Pacquet and Brantley (2008) and Bell (2009b) for the United States; Elacque *et al.* (2006) for Chile; Ball *et al.* (1995) for the United Kingdom.

[5] See also Crozier *et al.* (2008), for three areas in the United Kingdom.

[6] See Croft (2004) for an overview of the United Kingdom.

[7] See also Croft (2004).

[8] We build here on the work of Goldring and Philips (2008) and extend it to also include reviews and research from other countries. Goldring and Philips mention two additional categories. Category A: educational priorities, referring to choosers willing to make more sacrifices than non-choosers. This category is left out of this overview because research from other countries lacks sufficient information about this category. Category B: social networks, which is mentioned throughout this review because it is not restricted to differences between choosers and non-choosers.

[9] See Bernal (2005) for Zaragoza, Spain; Reinoso (2008) for Granada, Spain; and Gill *et al.* (2007) for charter schools and voucher programs across the United States.

[10] See Lauen (2007) for Chicago; and Lacireno-Paquet and Brantley (2008) for a review of the United States.

[11] See also Goldring and Phillips (2008) and Lacireno-Paquet and Brantley (2008).

[12] Lacireno-Pacquet and Brantly (2008) review research about attendance patterns for magnet schools; see also Zimmer *et al.*

[13] See Denessen *et al.* 2005 for the Netherlands; Rangvid 2007 for Denmark.

[14] See Denessen *et al.*, 2005, for orthodox protestants in the Netherlands; and Card *et al.*, 2008, for choice of Catholic school in Ontario, Canada.

[15] Croft (2004) in a review for the United Kingdom.; Lacireno-Pacquet and Brantly (2008) in a review for the United States about attendance patterns for magnet schools; Rangvid (2007) for Copenhagen, Denmark.

[16] Lacireno-Pacquet and Brantley (2008), citing Weiher and Tedin (2002); also Elacqua *et al.*, 2006.

[17] Buckley and Schneider (2006) find that parents choosing charter schools in Washington, D.C. are firstly somewhat more satisfied with the school after the choice is made, but over time differences fade out.

[18] Davies (2004) looks at Canadian parents who considered private schools and private tutoring; Raveaud and Van Zanten (2007) compare school choice in London and Paris.

[19] See Van Zanten (2002) for France; André-Bechely (2007) for Los Angeles; Bernal (2005) for Zaragoza, Spain; Bell (2009a) for Detroit.

[20] For example, see Howell (2006) for Massachusetts; Lacireno-Pacquet and Brantley (2008) in a review based on American research; Goldring and Phillips (2008) for a study in Nashville, Tennessee; Wylie (2006) for New Zealand.

[21] Denessen *et al.,* 2005 and Elacqua *et al.,* 2006, respectively.

[22] Wylie (2006) reports similar findings for choice of primary school in New Zealand, where schools have no attendance areas but many have enrolment schemes partly based on distance.

[23] Van Zanten (2002) for France; Lacireno-Pacquet and Brantley (2008) for the United States; Bell (2009) for Detroit.

[24] Van Zanten (2002) for France; Dennessen and Sleegers (2005) for primary education in the Netherlands and Teelken, Driessen and Smit (2005) for secondary education in the city of Rotterdam; Wylie (2006) for New Zealand; Howell (2006) finds reputation to be moderately important in Massachussets, while Bell (2009) finds high importance in Detroit, Wolf (2009) in Milwaukee and Lacireno-Pacquet and Brantley (2008) in a review for the United States as a whole.

[25] Adnett (2004); see also the well-known work of Willms and Echols (1992) for Scotland.

[26] Gorard (1999) in a review of British research; Bell, 2009 for Detroit.

[27] See Goldring and Philips (2008) on Nashville, Tennessee; Reinoso (2008) on Granada, Spain and Lacireno-Pacquet and Brantley (2008) in a review based on American research.

[28] See Karsten *et al.* (2010) for a recent overview of issues surrounding the construction and use of performance indicators for schools.

[29] See West and Pennell (2000), Wilson (2004) for the United Kingdom; Bradley *et al.* (2004) for Australia; Hanushek (2007) for Texas.

[30] Gerard, 2008 for the United Kingdom

[31] See *e.g.* Mizala *et al* (2007) and McEwan *et al.* (2008) for Chile; Adnett and Davies (2005), Telhaj *et al.* (2009), Wilson and Piebalga (2008) and Leckie and Goldstein (2009) for the United Kingdom; see also Karsten *et al.* (2010) for a general discussion.

[32] Karsten *et al.* (2010) mention Denmark, Scotland, Ireland and the Australian State of New South Wales as examples.

[33] Garcia *et al.* (2008), based on census type dataset of pupils, without controls for local contextual factors.

[34] The Academic Excellence Indicator System, with ratings ranging from unacceptable through acceptable and recognised to exemplary. As pointed out above, these ratings correspond to some extent with school composition (Hanushek *et al.*, 2007).

SUPPLY SIDE MECHANISMS: SCHOOLS AND COMPETITION

168. After unravelling the empirical evidence for market mechanisms on the demand side of education markets, this chapter makes a similar attempt on the supply side. Just like the demand side, a number of conditions must be met before competition between schools is to have any effect on educational quality and equality. For example, if school competition is introduced by policies, school principals are to note some kind of change. And if they do, a translation into some kind of action is expected. In this chapter we also ask how schools respond, if they respond. Do they put the focus on the selection of students and/or is their attention focused on improvements in the "hard core" of education, teaching and learning? Policies aimed at the introduction of education markets are also based on assumptions about some (underperforming or unpopular) schools closing and new schools opening. What do we know about the dynamics on the supply side of the market? The introduction of for-profit organisations in education represents one relatively far end on the spectrum of market mechanisms in education. Although experiences and research is limited, we also pay attention to these studies because they may not only help us to understand the way for-profit organisations in education work, but they may also deepen our understanding of market mechanisms more generally.

169. Before turning to the question of what research findings can tell us about these crucial questions, three points must be made.

170. First, although there has been much research that looks at outcomes and effects of choice programmes, empirical research focusing on how schools actually respond to competition is relatively scarce so that comparisons across contexts are not always possible. Large-scale comparisons across countries on a more general level show that students in publicly funded and privately operated schools (independent schools) achieve better results than students in either schools that are funded and operated privately or schools that are funded and operated publicly (Woessmann, 2006, 2007; Dronkers and Robert, 2008).

171. Second, unlike the demand side of the education market represented by parents and (indirectly represented by) students, it is not very clear who represents the supply side of the market. The mechanisms allegedly set in motion when schools compete suggest involvement by many actors in the process, such as districts, schools principals and teachers in classrooms. It is not clear from the outset whether responses by some actors, for example, principals, may be more important than others, for example, teachers. Neither is it clear whether the supply side is adequately conceptualised as one actor or whether it is the combination of behavioural changes across different actors that makes the difference. Responses of each actor are likely to depend on contextual factors, including the distribution of autonomy between states/countries and districts, between districts and school principals, and between principals and teachers (Zimmer and Buddin, 2009). Empirical research can hardly do justice to all such complexities simultaneously.

172. A third issue to mention from the outset is that market mechanisms on the supply side of the market are closely connected with government interventions and, therefore, also with differences between policy contexts. For example, attempts to increase competition between schools often go hand in hand with an increased focus on accountability, standardised testing and performance indicators. It is debatable whether or not such accountability measures are part of market policies. In the first case, such measures are

considered to overcome problems of information asymmetry and are aimed at informing parents. In the latter case, accountability measures are considered as direct government interventions alongside or on top of market mechanisms. Irrespective of the viewpoint, accountability is known to impact on schools. Responses that are a result of competitive pressure can, therefore, seldom clearly be distinguished from responses that are a result of changes in accountability systems.

173. When schools are found to improve their test scores, this may either be the result of parents leaving for other schools or the result of threats that they might (competition effect), the very fact that performance indicators are publicly available (naming and shaming effect), teaching to standardised tests ("gaming" effect), or a combination of all or some of the explanations given above. Our review is limited to market mechanisms and does not specifically address the way schools react to different accountability systems. However, for the reasons mentioned above, the impact of market mechanisms and accountability systems is difficult to distinguish in practice.

Perceptions of competition

174. For competition between schools to have any of the intended effects, actors comprising the supply side will need to perceive at least some kind of change if a behavioural response is to occur. Obvious as this may seem, it is an empirical question whether or not the introduction of market mechanisms translates in some way to principals perceiving a certain degree of competition.

Do principals perceive competitive pressure?

175. Empirical research looking at how principals perceive their "competitive" environment shows that links between structural measures of competition and perceptions of principals are complex.

176. First, student movement from one area to others is not always perceived by schools as competition. Research set in Texas suggests that charter schools cater to the lowest performing students. It remains to be seen whether other schools see these charter schools as threatening competitors and incentives to improve or, rather, that they view charter schools as a welcome addition to the education system by helping to ease their work. By no means does this indicate that charter schools play such a role in just any context. One illustration comes from the state of Wisconsin, where the introduction of charter schools did cause school competition with student movement as a result (Witte *et al.*, 2007a).

177. Findings from the United States give more indications of complex relations between structural measures of competition and principals' perceptions. In some states, charter schools were introduced in part to encourage competition with public schools. In California at the beginning of the millennium, about 4.5% of pupils were enrolled in a charter school. In a survey conducted in California in 2002, about half of the responding principals stated that there were students living in their local attendance area who attended a charter school (Zimmer and Buddin, 2009). In structural terms these schools faced some degree of competition. However, of these latter principals, between 80% and 95% indicated, that the introduction of charter schools had no effect on financial resources or on recruiting and retaining teachers and pupils. Similar findings come from Texas, where about 1% of pupils were enrolled in a charter school at the time of study (Bohte, 2004). Over 200 superintendents were surveyed, all of whom were known to work in districts adjacent to districts with a charter school (competition in structural terms). Almost half of these superintendents were not aware of the charter school. Of those who were, approximately 5% indicated they had changed or expanded curricular offerings.

178. Discrepancies between structural and subjective measures of competition were also found in a study of six local education authorities, both urban and rural, in the United Kingdom (Levacic, 2004). The number of schools mentioned by principals as being their competitors was only modestly related to the

degree of competition they experienced.[1] Whether principals perceive their environment as competitive also depends on relations with neighbouring schools. Interestingly, structural measures of competition were not related to improved educational performance, but measures of perceived competition were related to improved educational performance. This suggests that competition may have a positive impact on school improvement, provided that local circumstances are such that incentives are perceived by school principals.

179. Evidence for even more complexities surrounding perceptions of competition comes from New Zealand (Wylie, 2006). Primary school principals were surveyed over a period of seven years. As time went by, more principals expressed experiencing some degree of competition. Further examination of the panel data show that this rise is less straightforward than it may appear. Some principals did not experience competition in 1999 but did in 2003. However, almost equal numbers experienced competition in 1999 but did not in 2003. One in six principals experienced competition during the whole five-year period. This raises questions about competition being a stable characteristic of local markets. Analyses of the same New Zealand survey data, albeit from earlier years, show that schools who faced a drop in enrolment were more likely to perceive competition. More surprisingly, the findings also suggest that the social composition of schools is related to how much competition is experienced, with schools "in the middle" of local hierarchies experiencing the most competition. This effect is even stronger in urban areas (Ladd and Fiske, 2003).

180. This then takes us to other findings suggesting that effects of competition might be non-linear. That is, competition may need to exceed a certain threshold in order to bring about an effect (Belfield and Levin, 2002). The phenomenon of a threshold signifies that competition between schools may only have effects in highly concentrated markets such as those in urban areas.

181. All in all, the research indicates that structural measures of competition are inadequate predictors of whether principals experience competition from neighbouring schools. Competition is not something which is or is not present. Instead, different schools experience different levels of competition related to characteristics of their local markets. Neither does competition appear to be a stable feature; it may change over time in accordance with changes in local circumstances.

External responses

182. Schools can respond to competition in very different ways. We distinguish external responses from internal responses. The focus here is on external responses, meaning those that primarily impact interactions between the school and external environment. We start by looking at co-operative and competitive behaviour between schools, followed by ways schools attract and select students. The responses we call "external" do not directly have an impact on the daily reality of what goes on within the school itself. On the other hand, internal responses affect the internal organisation of the school, in the areas of teaching and learning. We turn to these latter responses in the next paragraph.

Co-operation or competition with neighbours?

183. The goal in providing school choice options for parents is usually to also increase incentives for schools to attract and retain students. An assumption underlying many market-related policies is that schools respond to such changes by competing with their neighbours rather than by seeking mutual co-operation. Is this indeed the reality? Research findings suggest that both competition and co-operation between schools may occur, depending on specific local circumstances and relations.

184. A case study in a local education market in an unnamed suburb of Stockholm, Sweden, shows that public schools sought mutual co-operation after a publicly funded, for-profit school entered the scene (Pater *et al.*, 2009) (see Case F). The public schools had a clear common interest in creating stability and

preventing student numbers from fluctuating. An added factor in this context was that students had an opportunity to attend the new school, but they also had a right to return to their "home school" during the year if they became dissatisfied with their choice.

185. As a result, at the beginning of the school year, local schools started with excess capacity anticipating students' return, which they did. To avoid unpredictability, all public schools informally agreed not to enrol students from each others' areas. Interviews with the principals a few years into the choice programme revealed ambiguity towards their neighbours. They wanted to respect their informal agreements, but they also considered breaking them to improve their own position in the local market.

186. These latter findings can be interpreted in several ways. First, it may be that actors need time to get acquainted with market mechanisms and that co-operative behaviour may eventually be succeeded by more competitive behaviour. A longitudinal case study of a limited number of secondary schools in the United Kingdom supports this interpretation as it finds that school principals experience increased competition and rivalry over the years (Bagley, 2006).

187. A slightly different interpretation is that co-operative behaviour may be the more vulnerable strategy and that competitive behaviour is more dominant. This may then account for the spreading of competitive behaviour over time. In the Swedish case this interpretation holds up: when one school decides to break the informal agreement, the agreement also loses its value for other schools. Studies from Michigan and Wisconsin support these findings. In Michigan, the supply side actor is not comprised of schools but districts. Voluntary inter-district school choice was introduced in 1996 with federal funding following students. Districts could choose whether and when they would enrol non-resident students. Tracking changes in district enrolment patterns revealed that the proportion of districts participating in the programme grew from 37% in the first year to 70% six years later (Rincke, 2006). Districts with higher average performance were more inclined to join inter-district enrolment, and districts with high relative housing prices compared to neighbouring districts were less inclined. Decisions of districts to enrol non-resident students are proven to depend on decisions taken by adjacent districts. If adjacent districts entered the competition, the likelihood of a district joining increased significantly. In a sense, competitive behaviour by districts was "contagious" and spread across the state. Another study set in Wisconsin also found that districts adopted charter schools more often when adjacent districts did as well. This resulted in a clustering of charter schools in certain regions (Witte *et al.,* 2007a).

188. In sum, competitive behaviour is essentially a characteristic of a school's relation with its neighbouring schools. The introduction of market mechanisms may change local relations in the direction of more competition, but this is not automatically the case. Schools may pursue their common interest by co-operation. However, research from different contexts suggests that co-operation is a vulnerable strategy and requires continuous mutual agreement. Competitive behaviour can be decided on by an individual school and has a tendency to spread with time.

Does competition affect attracting students?

189. Apart from relations with neighbouring schools, the introduction of market mechanisms may also impact the relation between schools and their potential "customers". Assumptions underlying policies often include enhanced responsiveness by schools as a result of incentives from competition. Do these assumptions hold up in empirical research?

190. Let us start with one finding that holds up across different contexts: schools experiencing competition tend to spend more time, energy and money on promotion and marketing (Lubienski, 2006, 2009b). In New Zealand, school principals who found themselves in competition with other schools were more likely to report having made major changes to promotion and marketing (Wylie, 2006). In Chile,

schools facing competition advertise considerably more than private schools, which face little competition by virtue of their status (Garces, 2009). In the United Kingdom, a longitudinal study indicates that competition between schools stimulates marketing and promotion, and also that these efforts become more sophisticated over time (Bagley, 2006).

191. Another study set in the United Kingdom illustrates this point. It found that some schools move from promotion and marketing to public relations by deliberately working on good relations with the (local) media so that they provide favourable reports about the school (Wilson *et al.*, 2006).

192. Research conducted in the United Kingdom indicates that competing schools become more responsive in some ways. In response to parent wishes, schools in the United Kingdom have been found to re-introduce school uniforms (Teelken *et al.*, 2005). For similar reasons schools were found to put a stronger emphasis on discipline and exam results. It is not always clear, though, whether these changes are put in place for promotion purposes or whether these changes also impact on teaching and learning in classrooms.

Does competition affect the selection of students?

193. A fiercely debated issue in both politics and science is whether school competition gives rise to stricter selection policies by schools. In other words, do schools predominantly improve the quality of teaching and learning or do they above all select the most desirable students?

194. In Chapter 4, the notion of local hierarchies of schools was briefly discussed. The position of a school in the local hierarchy was found to be related to the socio-economic and ethnic background of the students attending the school. Related to this notion, schools are found to compete – at least in part – on the basis of the students they educate (see also Case D). This seems to be the case in different contexts.[2] A Dutch study looking at secondary schools introducing international streams shows that school managers associate quality and excellence in education more with abilities of students than with quality of educational programmes, staff or facilities (Weenink, 2009).

195. Schools seem to use their position in the local hierarchy to obtain some control over their enrolment. Two motivations seem to play a role here.[3] First, schools try to secure a reasonably predictable number of entrants. Predictability greatly favours school planning. Second, when the number of applicants exceeds the number of places, schools are in a position to select students. Students who are white, perform well, have well-educated parents and come from affluent backgrounds were repeatedly found to be the most desirable students. More detailed studies of schools confirm these findings and show that schools facing competition do attempt to influence the enrolment of students (Lubienski, 2006; Lubienski *et al.,* 2009; Van Zanten, 2009; Ball and Youdell, 2009).

196. The way schools try to obtain some control over their enrolment is partly related to context-bound rules and regulations. When allowed, schools seem to try to select students on the basis of ability (*e.g.* West, 2006). If selection by ability is not allowed, they are more inclined to explore other avenues. One is to put an enrolment scheme in place. In New Zealand, where schools have a high degree of freedom to define their own enrolment schemes, the proportion of schools with enrolment schemes increased substantially over the years after market mechanisms were introduced, especially among secondary schools (Wylie, 2006). Enrolment schemes are school selection policies laying out which students can and cannot enrol, which students are given priority and what criteria play a role in these decisions. Enrolment schemes are often based on geographical areas, distance from home to school and sibling attendance. These criteria are less "neutral" than they may appear to be (see the Introduction). The composition of schools in terms of socio-economic background was clearly related to the introduction of

enrolment schemes, with schools that cater to students from the most advantaged backgrounds being more likely to introduce an enrolment scheme.

197. However, a survey of New Zealand primary school principals did not show any difference between schools which did and those which did not perceive competition as far as enrolment schemes were concerned. This may indicate that schools adopt enrolment schemes for different reasons. Schools at the top of local hierarchies, which do not experience competition as often, may introduce schemes to avoid overcrowding, while schools "in the middle" experience competition more often and adopt such schemes to advance their position in the local hierarchy.

198. Schools that are not allowed to select their students seem to try to improve their reputation in other ways, also related to student intake. One strategy is to diversify course offerings with, for example, sports, arts or info-graphics, with the knowledge that some courses attract some students more than others (see below and also Case D for further details). Another strategy is to track students into ability groups, hoping to attract more middle-class parents. However, the introduction of tracking is not only inspired by external considerations. Schools introducing such changes say they also adopt tracking as a way to cope with student heterogeneity in the school (Van Zanten, 2009).

199. Often it is impossible to distinguish responses to incentives primarily related to competitive pressure between schools – such as schools trying to improve their reputation and position in the local market – from responses to incentives resulting from government interventions – such as schools trying to improve their rankings on performance indicators. The accountability measures often accompanying the introduction of market mechanisms point to similar responses, and accountability measures may in a sense reward schools who select more able students (West, 2006). To further illustrate this point, we refer to a study set in Texas. There it was found that districts with a charter school have higher student achievement scores, especially for students coming from low-income families (Bohte, 2004). Charter schools in Texas are found to cater to disproportionate numbers of at-risk pupils. A possible explanation for these findings is the movement of at-risk students from public to charter schools. The researchers call this "reverse creaming". It is unclear whether these movements are the result of parents of the lowest performing students deliberately leaving public schools because they are dissatisfied or whether public schools push students towards charter schools in order to increase their average test scores.[4] In the first case, parents are the primary actors, and their response can be said to be in line with the intentions of policies introducing market mechanisms. In the latter case, schools are the actors most responsible for the outcomes, and their behaviour undermines the intended working of market mechanisms in education.

200. The available evidence from empirical research suggests that market mechanisms in education can affect how schools relate to other schools and potential "customers". When schools experience competition they may adopt competitive behaviour; where there are common interests, co-operation may prevail. For several reasons it seems likely that competitive behaviour of schools increases rather than decreases over time. Schools facing competition tend to spend more resources on promotion and marketing, while some turn to more sophisticated efforts in the realm of public relations. When interpreting findings from different contexts, the common denominator seems to be that schools facing competition try to gain some control over their intake. Implicitly or explicitly schools seek the most "desirable" students: first, students who are academically able followed by students who possess other favourable characteristics such as specific socio-economic and ethnic backgrounds. Since the introduction of market mechanisms often goes hand in hand with the introduction or intensification of accountability measures, it is seldom clear whether increased selection of students is the result of competition alone, a mixture of competition and accountability measures, or primarily accountability measures.

Internal responses

201. After discussing ways in which schools respond to competition in their relations with actors surrounding the school, we now turn to responses within the school itself. For competition to have an effect on student outcomes, something within the school itself will have to change.

202. Research looking in some detail into whether schools make changes in response to competitive pressure and, if so, what kind of changes they make, is scarce. Most of these studies rely solely on survey data and interviews, which may not be very reliable indicators for actual changes. Combined, the available studies do not present a very clear picture.

Competitive pressure and reasons for change

203. To start with, when schools facing competition make changes, a causal relationship between competitive pressure and changes cannot simply be assumed. A few studies indicate that competitive pressures on schools may affect teaching and learning. A longitudinal case study in the United Kingdom suggests that short-term effects may differ from long-term effects. Substantive and structural changes seem to be made more often in the long-run (Bagley, 2006). Research from California also finds some indications of a causal relationship and points to the importance of a threshold of competitive pressure to be met, as discussed above. In a survey conducted of principals of public schools in California, those who actually "lost" students from their attendance area to other schools and experienced the effects of competition first-hand indicated at a higher rate that they made changes. These changes ranged from restructuring the compensation of teachers to changing curriculum and instructional practices, with the latter mentioned most often (11.6%) (Zimmer and Buddin, 2009). The same study shows that, in six Californian districts with open enrolment programmes, two in five principals indicated they had made some changes in response to the introduction of charter schools. Again, these changes referred primarily to instructional practices and also to aspects related to professional development.

204. However, other studies put question marks behind causal relations between competition among schools and changes made within the school. As an illustration, a survey asked superintendents in Texas about changes made to educational programmes. Of those who adopted such changes, just about 5% attributed these changes in some way to the presence of charter schools, which were in all these superintendents vicinity (Bohte, 2004). Research conducted in New Zealand also casts doubts on a reasonably simple causal relation between competition and changes made within schools. Seven years after the introduction of market mechanisms, a survey of principals and teachers in primary schools asked them to evaluate the impact of the policies. More than half of the principals and – although somewhat more nuanced – more than half of teachers believed that on the whole the impact of market mechanisms had been positive, particularly for the content and style of teaching (Ladd and Fiske, 2003). But when analysed more thoroughly, perceptions of improved teaching and learning were not found to be related to degrees of competitive pressures faced by schools as perceived by principals (*e.g.* Wylie, 2006). For teachers, a relation was found between perceptions of their own school being in competition and their valuation of the reforms: teachers perceiving competition were somewhat more negative about the impact of the reforms.

205. Additionally, in case changes are found to be related to competitive pressure, it is not always clear how to value the outcomes. In a Californian survey, about one in seven principals in six districts with open enrolment programmes indicated that the introduction of charter schools has had a (very) negative effect on recruiting and retaining teachers. In the context of teacher shortages, the introduction of competition may induce an additional risk of some schools not being able to attract sufficient numbers of teachers or sufficiently qualified teachers.

206. Another issue is the impact of competition on innovation. A review specifically looking at this connection concludes that competition stimulates traditional rather than innovative methods (Lubienski, 2009b). Parental preferences, particularly those of advantaged parents, play a role in these changes so that schools can be said to have become more responsive to parents. However, if innovation through market mechanisms were also one of the goals of these policies, or for education systems as a whole, market-related policies may not meet these intended aims.

207. In all, the relation between (perceptions of) competitive pressure and improvements in teaching and learning may not be as straightforward as often assumed.

Responses to rankings

208. As mentioned several times, the introduction of market mechanisms is often accompanied by changes in accountability systems. Performance indicators and rankings accompanying parental choice and school competition are partly intended to inform parents when making choices, but they are also intended to provide incentives to schools to improve their performance. How schools respond to accountability systems more generally goes beyond the scope of this review. Our focus here is limited to ways schools are known to respond to performance indicators accompanying measures to increase competition between schools.

209. To start with, performance indicators are found to have some kind of impact on schools, as they have on parents, simply because they are there. Again, it is clear that education markets are essentially local in nature. Principals in the United Kingdom were found to compare their own standing on league tables primarily with neighbouring schools, rather than with schools in general (Wilson *et al.*, 2006). Furthermore, the effects of indicators and rankings appear to be differential, that is, they vary with the position of schools in their local hierarchies. For schools at the top of the local hierarchies, performance indicators seem to provide no or hardly any incentives to improve (Bagley, 2006). In accordance with notions that accountability measures may not have the same impact across schools, findings from the state of Florida suggest that accountability systems specifically targeted at a small number of schools may be more effective than universal systems (West and Peterson, 2006).

210. The most important question is: do schools respond to indicators and rankings by improving the quality of teaching and learning? The evidence to answer this question is scarce and mixed. For example, studies in Florida, set in a context of a fairly rigorous accountability system, indicate that accountability measures go beyond symbolic changes in schools and do indeed translate to the quality of instructional processes, which in turn are likely to improve education quality (Rouse *et al.* 2007). Other studies suggest that school responses are largely strategic adaptations, "playing it smart", not necessarily resulting in the improvement of student outcomes. For example, a response could be to narrow the focus to measured outcomes and/or to adopt easy changes to improve measured outcomes. Across contexts, school are found to respond to the specific way performance is measured (Ng and Chan, 2008, for Singapore and Hong Kong). In Sweden, there is fairly strong evidence that the new independent schools – introduced to create competition for public schools – inflate grades. In these schools the discrepancies between school grades and national test scores are greatest (Wikstrom and Wikstrom, 2005). In Edmonton (Alberta, Canada) passing rates in lower grades are not part of performance indicators, but those in higher grades are (Taylor, 2006). School principals were found to steer towards increasing failures in lower grades (unmeasured) in an attempt to achieve higher passing rates in higher grades (measured).

211. In the United Kingdom, undifferentiated league tables were found to provide no incentives for schools to focus on specific subgroups of students (Adnett and Davies, 2005; Wilson *et al.,* 2006). Schools may then encourage students to take "easier" rather than more difficult subjects so that general

performance is higher. The responses mentioned so far are primarily symbolic in nature since they are not clearly related to actual improvements in what students learn.

212. Specifics about performance indicators do matter. Performance indicators based on raw scores, with no adjustments for characteristics of students attending the school, were found to provide strong incentives to attract and select academically able students (Apple, 2001; West and Pennell, 2000; Adnett and Davies, 2005). Further testifying to the importance of detail is that schools are found to focus on students who are most clearly "between categories". With a little help, these students can cross the boundaries between categories and boost the score on an indicator (Wilson *et al.,* 2006). These specifically targeted students were found to attend extra or Saturday classes. Trying to avoid this kind of "strategic behaviour" by schools, the state of California introduced an accountability system which sets specific standards for specific subgroups of students.

213. The conclusion to draw from these findings is that performance indicators and rankings do matter, that they can induce strategic behaviour by schools and that to what extent such strategic behaviour does or does not benefit student learning depends on specific details of accountability measures.

Relations within the school: principals and teachers

214. As mentioned in the introduction of this chapter, it is not obvious which actor best represents the supply side of the education market. If competitive pressure is to change practices within schools, principals and teachers need to be involved in some way. In this paragraph we focus on possibly different responses by principals and teachers.

215. In research, the supply side of the education market is more often represented by principals than by teachers. School principals are asked more often about their perceptions and actions regarding market mechanisms than teachers. Research that looks specifically at teacher responses to policies such as the introduction of charter schools, vouchers or open enrolment schemes is very scarce (see also Ferraiolo *et al.,* 2004; Stoddard and Corcoran, 2006). However, in the studies that are available, teachers tend to be more sceptical about market mechanisms in education than principals.[5] This may not only be the case before policies are introduced but also during their implementation. It has been suggested that a certain hostility of teachers towards competition may result from unfamiliarity (Ferraiolo *et al.* 2004). A survey tapping into teacher attitudes towards school choice found teachers in the states of Arizona and Nevada to be less supportive of voucher programmes than charter programmes (teachers in Nevada were more supportive on the whole). This seems related to the introduction of choice policies in these states, with teacher unions in Nevada being more successful in avoiding large-scale charter programmes. Black and Hispanic teachers were more supportive of voucher programmes than white teachers. Teachers working in schools where they felt that few colleagues shared their values and vision were more supportive of charter schools, as were those who knew people working in a charter school. Another study trying to explain the wide range of charter policies across U.S. states finds that teacher unions have been rather effective in slowing or preventing charter legislation. Results also suggest that parents might be more supportive of choice programmes than teachers. Teacher unions do not necessarily represent a general hesitation of teachers towards policies such as charters. A survey in Wisconsin, for example, compared teacher attitudes in regular and charter schools. The study found that teachers in charter schools report that they not only desire, but also experience, greater autonomy (Witte, 2004). Findings that areas with strong teacher unions also see rising enrolments in charter schools may therefore also signify that teachers hold more diverse opinions than those accommodated by teacher unions.

216. Initial studies from different parts of the world find that school principals and teachers respond differently to the introduction of market mechanisms in education. Case studies in eight Dutch secondary schools revealed that principals are more inclined to adopt a so-called market orientation, while teachers

seem more committed to social justice (Weenink, 2009). This means that principals put more focus on attracting able students than teachers do and are more willing to introduce school fees to attract those students. The study also shows that market orientation and social justice are not necessarily mutually exclusive perspectives: there are principals who combine the two. Nonetheless, market mechanisms are believed to increase the ideological gap between school management and school staff. A study set in Singapore and Hong Kong also finds increasing tensions between value orientations of principals and teachers following policy changes (Ng and Chan, 2008). Possibly principals and teachers assess the situation differently. In New Zealand, almost half of primary school principals believed that market mechanisms had a positive impact on relations in the school, while in the same schools a majority of teachers believed nothing had changed (Ladd and Fiske, 2003).

217. Potentially, these different outlooks of principals and teachers may cause tension in schools. Comparative case studies suggest that some schools are more vulnerable to these tensions arising than others. What makes a difference is whether and to what extent schools need to engage with the market in order to survive. In schools at the top of their local hierarchy with no need to engage in the market, the risk of a gap between a so-called market mode and a professional mode of conduct is low (Weenink, 2009; Van Zanten, 2002). In schools aiming or trying to improve their position in the local hierarchy, the chance of rising tensions is greater (Van Zanten, 2009). In these schools, different and also changing coalitions were found among parents, teachers and principals. Sometimes teachers and parents tried to tone down the ambitions of a principal. In other instances, the principal worked with teachers to resist changes (*e.g.* streaming) desired by parents.

218. This then takes us to the question of whether and, if so, how schools try to improve their position in the local hierarchy of schools.

Positioning in local hierarchies

219. As mentioned before, local hierarchies of schools are partly based on the characteristics of students attending the respective schools. The actions of actors on both the demand and the supply side of the education market adhere in some way to the logic of this phenomenon. Parents are known to take school composition into account when choosing a school, and schools attempt to become or remain attractive to middle-class and high-performing students. It comes as no surprise then that responses of schools to competition appear to depend on their position in the local hierarchy. How does that work?

220. In the United Kingdom, school competition was found to bring about an erosion of vocational programmes. An explanation for this effect makes reference to local hierarchies and the basis on which schools are ranked in such hierarchies. Secondary schools in the United Kingdom tried to avoid a reputation as a vocational (as opposed to academic) school (Taylor, 2006). In an attempt to attract high-performing students, schools in disadvantaged neighbourhoods who used to offer vocational courses introduced elite academic programmes. As pre-vocational programmes are associated with less desirable clients, schools were reluctant to offer such courses, even though students might benefit from them. As a consequence, vocational programmes came under pressure and disappeared.

221. Other studies indicate that the position of schools in their local markets and the institutional context in which schools operate are related to strategic responses by schools. This is one of the findings of an analysis of a series of case studies in fourteen schools in five European countries (See Case D.) When institutional contexts allow schools to select their students, schools at the top of the local hierarchy tend to select students based on academic ability. Schools in the middle of their local hierarchies seem to adopt different strategies.

222. To start with, these schools try to maintain and improve their position by selecting students not so much on the basis of ability, as the high-ranked schools do, but on the basis of behavioural characteristics of students. These schools also try to improve their position by diversifying their programmes to include sports, arts or the like. Schools at the top of their local hierarchy try to guard their position by targeting their efforts to high-ability students by offering special programmes such as international and bilingual tracks. Very similar patterns were found in the Netherlands, where international streams were first introduced by popular schools, later followed by schools whose position in the local hierarchy was endangered. For the popular schools, the introduction of a new stream was less costly and less risky than for other schools (Weenink, 2009). Also, in New Zealand, schools with declining numbers of students were the ones who offered accelerated learning programmes more often (Wylie, 2006). Across settings, schools responding to (the supposed) wishes of middle-class parents do so by offering separate education settings for students.

223. Schools with bad reputations, which lose students and therefore funding, can be at risk of falling into a spiral of decline. These schools must radically change their profile to survive. In a small qualitative study in Edmonton (Alberta, Canada), interviews with school principals indicated that the radical change was geared towards attracting middle-class, academically-oriented pupils, in order to survive (Taylor, 2006). These attempts may go hand in hand with more streaming and more differentiation between vocational and academic courses.

224. Selecting students, offering programmes middle-class parents find more desirable, and creating separate settings for middle class students may be a recurring pattern in school responses although they are certainly not the only. As education markets are local in nature, the location of a school is an important factor. One public school in the United Kingdom struggling with declining enrolment was documented in a longitudinal case study (Bagley, 2006). The local education authority decided to relocate the school by closing the former premises and building a new school elsewhere. Together with a new management team which listened carefully to parents, this relocation did change attendance patterns not only for this particular school but consequently also for other schools in the local education market.

225. Summing up, available empirical evidence shows that the assumed causal link between structural measures of competition between schools on the one hand, and effects on student achievement and segregation on the other, is far from simple in actual practice. Structural measures happen to be bad predictors for the amount of competition experienced by school principals. It appears that competition is to exceed a threshold before schools are likely to respond in any way. If schools respond to such changes in their environment, external responses – including marketing and the overt or covert selection of students – are to be expected first. Internal responses, changes related to the "hard core" of teaching and learning, find less support in empirical research. The notion of local hierarchies of schools proves useful for furthering our understanding of mechanisms on the supply side. In very general terms, response of schools can be understood as attempts to maintain or improve their position in the local hierarchy. Schools differ in their responses, partly related to their initial position in the local hierarchy. Responses of schools are also related to opportunities and restrictions posed by policies (see also Case D).

Dynamics on the supply side

226. A point which is seldom made in empirical research is that according to neoclassical theory a certain amount of redundant capacity on the supply side is required for market mechanisms to work. To make this very concrete: only schools with a certain amount of spare capacity can take students in during the year (see also Case F). If parents have opportunities to choose, popular schools can only accommodate such choices when they have excess spaces and/or can rapidly increase the number of students they are able to educate. In practice, overcapacity in the education system as a whole is seldom realised. Because

large parts of primary and secondary education are funded by governments, public expenditures for overcapacity are easily thought of as inefficiency and therefore hard to legitimise.

227. Apart from the ability to rapidly increase the number of teachers, physical aspects of schools come into play as well. In many instances one public agency is responsible for multiple school buildings. In situations where popular schools have insufficient space and less popular schools have redundant space, even though all are publicly funded (and possibly governed by the same agency), one option is to build additional capacity, while another option is to redistribute pupils over available capacity of schools (Waslander and Hopstaken, 2005). A somewhat extreme but distinct case of inelasticity of supply is described for Los Angeles, United States (See Case E.)

228. An inextricable part of market dynamics is that providers come and go. The question of whether "failing" schools close as a result of "insufficient demand" (declining numbers of pupils) came up in Chapter 4. Research findings suggest that underperforming schools do face some decline in pupil numbers, but that large groups of parents are satisfied with these schools and stay with them (see also Case B). On the whole, market mechanisms alone do not seem to create forces strong enough for schools to frequently go "out of business". In this section we discuss research related to the question of whether new providers enter the education market when given a chance and what they may add to the education landscape.

229. Policies that aim to encourage school competition can include opening up opportunities for new schools to start. To understand dynamics on the supply side in the local market, an important distinction should be made between start-ups that add to the total supply of education on the one hand, and existing schools which convert to something different on the other. In this section, by conversion we mean only those schools for which changes in governance structure are made. Schools introducing specific themes, curricula or pedagogic visions are not part of our focus here. Conversion schools as we understand them here may include schools making a shift from public to independent status, as can be the case for charter schools. We also include in this notion the provision and/or management of an Educational Management Organisation (EMO), which may be either a non-profit organisation or a for-profit company.

230. The distinction between schools adding to total supply *versus* conversion schools is only occasionally made in empirical research. In studies that look at effects and outcomes of charter schools, for instance, it is not always known whether the charters under study are completely new schools or conversions. A study set in Wisconsin, United States, does make the distinction and indicates that almost one in three charter schools was a conversion from a former public school, rather than a new school adding to the total supply (Witte *et al.,* 2007a). In some cases, there were pragmatic reasons (such as receiving additional funding) for the conversion, while little, if anything, changed in how the schools actually operated. Depending on the research questions, inclusion of such conversions can contaminate findings.

231. Given the restriction that the distinction between new and conversion schools is not always made, the focus here is as much as possible on new schools that are added to local supply. A first question to ask is simply whether new schools are established, followed by the question of whether new schools enter certain submarkets in education more often than others. Furthermore, and probably more importantly in terms of potential impact, the question is raised as to whether schools started by new providers differ in their operations from existing schools. Lastly the focus is on for-profit companies managing and operating schools, as they represent a relatively far end on the spectrum of interventions aimed at market mechanisms. What is known about these companies and do they "run" schools differently from other providers?

Do "new" providers enter education markets?

232. One example of new providers entering the education market comes from Sweden (Pater *et al.,* 2009; also see Case F). The introduction of charter schools in many U.S. states can indicate whether new providers enter education. In Wisconsin, the first charter schools started in the large urban areas of the state (Witte *et al.,* 2007a). It also appeared that larger districts granted charter schools earlier than smaller districts, possibly because of administrative advantages to larger districts and/or because starting a charter school imposed smaller risks in larger districts. Districts with higher proportions of poor and minority students were also more likely to have charter schools.

233. Each state adopts its own regulations regarding charter schools, which allows for cross-state comparisons. The number of charter schools in a state appears to vary with specific details in state law and regulations (Witte *et al.,* 2007a; Shober *et al.,* 2006). Put differently, the ease of the application and authorisation process is a predictor of the number of charter schools in a state. Also, when public accountability systems of states are stricter, the number of charter schools is greater as well. This may support assertions that (federal) steering by standardised output measures is related to opening up possibilities for diversity in provision.

234. Another question is whether new providers enter some submarkets more often than others. The observation that education markets are quintessentially local makes the location choices of new schools an important feature of education markets. In a large and sophisticated comparative case study, location choices of new schools in New Orleans, Detroit and the District of Columbia were analysed (Lubienski *et al.,* 2009a). These comparisons showed that schools – given their mission and profile – opt for locations near the most (relatively) affluent students. So, if the mission is to provide education for at-risk students, schools tend to locate less often in the most severe areas and more often in somewhat less disadvantaged localities. The study also demonstrates that institutional factors do make a difference in geographical location patterns. In post-Katrina New Orleans, for example, schools can choose their location freely. Schools were then found to more often choose locations in the more affluent neighbourhoods of the city. In Detroit, schools have to pay a different price according to the affluence of the area they want to operate in, with the most affluent neighbourhoods being the most costly. Profit-oriented charter schools in Detroit were found to be willing to pay this additional price. A similar, but less perceptible movement was revealed for mission-oriented charter schools. In the District of Columbia, public, charter and private schools have been operating alongside each other for many years. Together with a federal voucher programme, this co-existence seemed to translate in location patterns with charter and private schools more often catering to disadvantaged pupils than in the other cities. But also in that case, schools chose not to locate within but rather near the most disadvantaged neighbourhoods. In all, then, there seems to be a preference for new schools to locate close to "desirable" pupil populations, while institutional factors can either allow these preferences to translate into action or provide incentives to tone down or even reverse these preferences.

235. A specific submarket in education is the provision of education for pupils with special education needs. In the debate on market mechanisms in education the issue whether new providers will or won't cater to pupils with special education needs is a recurring theme. Research shows examples of new schools catering to special needs pupils both less and more often than regular schools. Comparisons of participation rates across U.S. states find that special needs students participate less in charter and voucher programmes than in public schools (Gill *et al.,* 2007). Some charter schools are known to focus specifically on special needs education. A study across U.S. states looking specifically at attendance patterns of charter schools for special education found that white parents choose these schools more often. The researchers suggest that special education charter schools may be the result of a particular form of white flight from local public schools as special education classrooms in public schools tend to have higher proportions of

non-whites than the schools themselves (Renzulli and Evans, 2005). Again, the pattern seems to depend fairly heavily on regulations and also local circumstances.

How do new providers operate?

236. According to the theory, new schools entering the education system may improve efficiency and student outcomes in different ways. A possible direct effect is that they add to supply, offer something different, provide parents with more choice or instigate school competition. These effects of competition in general were discussed above. Another, indirect effect may be that new providers use different and more effective teaching methods, or organise themselves more efficiently and, therefore, outperform existing schools. In this latter case, the different practices of a new provider can set an example and instigate changes in education more widely. This effect is only likely to arise when new providers differ in some relevant respects from existing schools. A basic question to ask first is: what is known about how new providers in education operate?

237. An easy answer to the question is that little is known. A more elaborate answer, points to the small number of available studies, which all refer to the United States and show mixed results. Despite its small size, the findings of a study of three new urban charter schools, using a matched treatment-control design at student level, may provide important insights. The findings of this study resemble those from the vast amount of research on school change and school improvement (McDonald *et al.,* 2007). The newly established schools scored high in comparison to average scores on aspects such as shared mission and goals, principal leadership, teachers having high expectations of pupils, and teachers functioning as a professional community. However, on aspects known to be both the most important for student performance as well as the most difficult to change – the actual teaching and learning in classrooms – the differences between these new schools and existing schools were less clear. There were some indications that the new schools rely more heavily than they originally intended on traditional pedagogy and teaching. This may indicate that new entrants face very similar challenges as traditional schools do when it comes to school improvement.

238. More results on operations of new entrants concern a well-known and probably the most studied chain of public charter schools in the United States, KIPP. The Knowledge is Power Programme is a network connecting some 80 public schools across almost 20 states (Henig, 2008; Macey *et al.,* 2009; Angrist *et al.,* 2010). Although KIPP calls itself a network, others call it a non-profit Educational Management Organization (*e.g.* Molnar *et al.* 2009). Some schools are new start ups, while others are conversions. KIPP focuses on disadvantaged pupils. Although schools carrying this name can be very different, they all share a set of "operating principles". These "operating principles" resonate with findings from effective schools research. More time for learning is one of the principles and materialises in extended school days, weeks and years. The schools require commitment as well as time and effort on the part of both pupils and parents to go with it. Also, KIPP schools put the focus on academic performance, set high expectations for pupils and measure student achievement regularly. Another operating principle is that school leaders have great autonomy to make the choices at school level they think are necessary for effective learning to take place. A review of seven empirical studies looking at school effectiveness of different selections of KIPP schools indicates that KIPP schools are on the whole successful in their aim. They do not seem to be selective on some measured characteristics (which is not to say that self-selection does not play a role), while student performance seems to increase as students spend more time in KIPP schools. A more recent quasi-experimental case study comparing pupils winning and losing the lottery to attend one particular KIPP school supports these findings (Angrist *et al.* 2010). It seems fair to conclude that groups of disadvantaged pupils benefit from KIPP (Henig, 2008; Molnar *et al.,* 2009).

239. Our knowledge about how new providers operate is limited and sketchy. What can be said is that the available research is consistent with bodies of knowledge about school change and school improvement

as well as effective schools. The question concerning whether new providers share specific characteristics enabling them to become more effective than regular schools cannot be answered yet.

For-profit companies

240. Some countries allow or invite private companies into education for the same reasons mentioned above, especially with expectations of increasing competition and improving ways of operating. The introduction of for-profit companies comes with other – or, rather, complementary – reasons. One line of reasoning is that private sector participation in education can make more money available for education and add to its total budget. Other lines of reasoning are that for-profit involvement in education may encourage entrepreneurship, may make schools more efficient and focused, and may introduce management practices that have been found to be successful in other sectors of the economy.

241. Private sector participation comes in many different forms, such as companies providing buildings, setting up public-private partnerships for buildings or internet facilities, inspection of schools by private enterprises and companies providing venture capital for organisations wanting to invest in education (see Fitz and Beers, 2002; Bhanji, 2008; Chakrabarti and Peterson, 2009). The forms mentioned above concentrate mostly on infrastructure and do not necessarily or directly have an impact on teaching and learning in classrooms.

242. We limit the focus here on for-profit organisations providing, managing and/or operating schools. To our knowledge, hitherto four countries have some experience with such organisations: Chile, Sweden, the United Kingdom and the United States. As the policy regimes are very different, comparisons across contexts can hardly be made. For example, in Sweden, for-profit organisations are free to open new start-ups wherever they want. This is very different from the situation in various U.S. states, where for-profit organisations are mainly called in for the management and/or operation of specific underperforming public schools.

243. Experiences with for-profit provision and management of schools are limited, and research is scarce. We nevertheless pay attention to these studies because these organisations represent one far end on the spectrum of market mechanisms in education. Findings from these studies may not only help us to understand the way for-profit organisations in education work, but also deepen our understanding of market mechanisms more generally.

244. As was the case for new providers in general, the questions to be asked here are what for-profit companies provide and whether the schools they operate are in some relevant ways different from other schools, be they public or independent. One set of indications to answer these questions comes from Sweden (see Case F). In the early nineties, Sweden introduced the possibility for independent providers to start publicly-funded schools ("free skolar"). After a number of years with little change, the number of new schools increased rapidly (71% growth 2003-08) while, for demographic reasons, the overall number of students declined. These additions to supply are not spread evenly across the country; almost two out of three "free skolar" started in the largest urban areas of Stockholm, Göteborg and Malmö. The for-profit companies can start schools with public funding. Two thirds of independent schools are run by a for-profit company whose only business is the education business (Pater *et al.,* 2009). The fact that these for-profit companies enter education may indicate expectations that education in Sweden provides sound returns on investment. Little is known about the way these "free skolar" operate and in what ways that may be different from most schools.

245. In Chile, after major educational reform in the eighties, independent schools funded by government and operated by for-profit companies arose in substantial numbers (Elacqua *et al.,* 2006). Over the years, compared with other types of schools, for-profit schools saw the largest rise in number of

schools as well as number of students (Elacqua, 2009b). A disproportional number of these schools operate in metropolitan areas. Also for Chile, little is known about specific characteristics of the operations of these for-profit schools. There are indications that these schools seek and find specific "market niches" in middle-income as well as low-income communities (Elacqua, 2009b). In terms of student achievement, no consistent differences were found between schools run by non- and for-profit organisations (Elacqua, 2009a).

246. While in Sweden and Chile for-profit companies have considerable freedom as to where they want to start, it was another story for the United Kingdom. In the late nineties, for-profit companies were allowed into education as one of the measures to actively engage in schools with a long history of underperformance. Districts could allow for-profit companies – as well as non-profit organisations – to take over the management of these schools. Non- and for-profit organisations alike were not all that interested to enter this part of the "education market" and, as yet, there seems to be no for-profit management of schools in the United Kingdom.

247. The United States has the longest and largest for-profit involvement in the management and operation of schools (Gomez and Hentschke, 2009). The latest figures show that in about 30 states a total of 95 for-profit educational management organisations (EMOs) are active (Molnar *et al.,* 2009). For-profit EMOs as we understand them here are companies which are contracted – mostly by districts or charters – to manage and operate schools. They have authority to do so and receive public funds for what they do.

248. A survey concerning charter schools that was held in four states (Arizona, Michigan, Pennsylvania and the District of Columbia), including charter schools operated by for-profit EMOs, can give some insights about particular ways for-profit EMOs operate (Brown *et al.,* 2004). When comparing charter schools with and without a for-profit EMO as (co)founder, it appeared that for-profit involvement is accompanied by an aim to achieve economies of scale. Schools do so in a variety of ways, including the size of schools (EMO-involved charters were found to be almost twice the size of other charters), and centralisation of services and administration. Schools operated by for-profit EMOs tended to have less decision-making authority at the school level, particularly in the areas of curriculum, testing and standards, and student discipline. The survey also showed, though, that different for-profit EMOs go about their business in different ways. This may be related to the profile, reputation and branding that the EMO tries to establish (Witte, 2004). The largest and probably best-known EMO is now called Edison Learning, Inc (Molnar, 2006; Molnar *et al.,* 2009; Marsh *et al.,* 2008). Longitudinal case studies of 25 Edison schools indicate that schools which succeeded in sufficiently implementing all elements of the concept behind Edison also show the highest level of student performance (Marsh *et al.,* 2008, also for more details on the concept behind Edison schools). Key to the Edison concept is comprehensiveness and consistent translation of principles to all elements within the schools, with incentives reinforcing the same messages. This applies to pupils as well as to teachers and principals.

249. Do schools run by for-profit EMOs perform better than other schools? The Edison study cannot answer this question as it only includes Edison schools. Other studies, all conducted in three U.S. states, provide mixed results. One state is Pennsylvania, where the school district of Philadelphia took a number of substantial measures in 2001 to improve the quality of education. One of these measures included contracting both non- and for-profit organisations to manage the lowest performing schools in the district. A six-year longitudinal study compared the performance of students at 46 schools, all with new management, with comparable schools which remained under the management of the district (Peterson and Chingos, 2009). There were thirty cases where for-profit management entered the scene, including the already mentioned company Edison, and in 16 schools a non-profit organisation, including universities, took over. A first finding is that schools under new management be it non- or for-profit, tend to perform less well than comparable schools in their first year of operation. This may indicate an adaptation period or start-up phase, which is found repeatedly. The study shows that students in schools under the management

of non profit organisations performed less well then students in comparable schools of the district. Conversely, students in schools managed by for-profit organisations performed better, especially in arithmetic. Information about the operations of these for-profit organisations is lacking, however. How robust these findings are is not known either. In a study conducted earlier in the same district, all schools were found to make progress with no significant differences between schools run by an EMO and schools run by the district (MacIver and MacIver, 2007; see also Briggs, 2007).

250. A second state is Arizona. In Arizona, for-profit charter schools must enrol all students who apply and select by lottery if oversubscribed (King, 2007). One study shows no significant positive effects on achievement among for-profit charter schools. However, for-profit organisations operating as a chain – which may share facilities and a vision – were found to perform better than other schools in terms of student performance. Again, it is not clear how to interpret these differences. A third state with experience with for-profit EMOs is Michigan. A study comparing charter schools run by for-profit EMOs with other charters finds that for-profit EMOs show lower performance levels (Hill and Welsch, 2009). These findings hold up when controlled for different characteristics of schools and districts.

251. Returning to the question of whether new providers enter the education market when given an opportunity, the answer is yes, provided that new entrants see sufficient chances to succeed. Experiences in the United Kingdom suggest that for-profit companies may not step in when asked for the takeover of repeatedly "failing" schools, which is at odds with experiences in the United States. Specific circumstances, laws and regulations play a major role in either encouraging or discouraging new start-ups.

252. The same seems to hold for the location choices of schools. Institutional factors do seem to influence the pattern of new schools over different neighbourhoods. Consistent with the observation that education markets are local, a general tendency is for schools to choose their location strategically. Schools may opt for locations close to, rather than within, disadvantaged areas, to enable a more heterogeneous pupil population.

253. In the context of possible impact of market mechanisms in education, an important but little-researched question is whether new providers do things differently. New players entering the "education market" come with a great variety in almost every dimension. If the introduction of market mechanisms is aiming for more diversity, empirical material seems to suggest that new providers help to realise this aim. It is unknown, however, whether such differences are related to educational outcomes other than providing parents with more choice options.

254. Findings that KIPP and EMOs working as a chain seem to have somewhat higher performance levels can be interpreted in many ways. One interpretation is that collaboration and sharing experiences between schools may be part of the success, more or less despite the concept these schools are working with. An alternative interpretation focuses on the concept itself and states that a set of clear principles, carried through consistently in all aspects of the school, together with a certain amount of "control" from the outside, may be helpful to performance. Also, a combination of both is possible. Research on for-profit companies is scarce. As of yet, there are no strong indications that the for-profit character alone makes a substantial difference. Questions that cannot be answered yet are whether for-profit providers share some specific features across companies and contexts, whether those features are related to student performance, and, if so, whether those features are related to the for-profit character of the company or whether similar features are found in schools successfully run by non-profit organisations. Also unanswerable is the question of whether and why for-profit companies may find it easier to establish collaboration between and consistency within schools. Finally, an equally important question that cannot be answered yet is whether new providers contribute to systemic improvement. In all, the additions that for-profit companies can make to the educational landscape are as yet unknown and deeply connected to other features of education systems.

Drawing to a close

255. As was the case for the demand side of the education market, this review indicates that assumed mechanisms on the supply side of the market find mixed or limited support. If one pattern stands out in the body of research about supply side mechanisms, it is that effects of policies aimed to introduce market mechanisms are differential. That is, they differ according to a range of factors, such as contextual factors including other policies such as accountability measures or possibilities to overtly or covertly control the pupil population; the position of a particular school in the local hierarchy; and responses of neighbouring schools and options to co-operate instead of compete. Structural measures of competition hardly predict how school principals perceive their own environment. Competition is a variable condition rather than a dichotomy, which can differ considerably even between neighbouring schools and can also change over time if local circumstances change. There are indications that the amount of competition must surpass a certain threshold for it to have any effect on schools.

256. The notion of local hierarchies of schools can help us to understand a broad range of findings. Consistent with findings mentioned in Chapter 4 concerning the demand side, the position of a school in a local market is related to characteristics of the pupils attending the school. Different actions by schools can then be understood as attempts to maintain or improve their position in the local hierarchy. Such actions differ with the initial position of schools, with schools "in the middle" facing the most competitive pressure. One set of actions is geared towards gaining control over pupil intake, both in kind as well as in size. These actions can range from the selection of able affluent pupils, to specific marketing and promotion, to co-operation with neighbouring schools in order to establish predictable numbers. A related set of actions concerns the operations within the school. Changes in operations that can be directly related to competitive pressure are seldom found. Changes reported most often concern course offerings or tracking, while changes related to teaching and learning are reported less often. The limited number of studies on for-profit companies providing and managing schools show similar results.

257. These patterns of findings are consistent with the body of knowledge on school change and school improvement, which shows that external adaptations are much easier to make for schools than adaptations to the "hard core" of the school, that is, the quality of teaching and learning. All in all, there is little evidence that the introduction of market mechanisms in education is more effective in reaching this core of education than are other policy interventions.

NOTES

[1] Kendall's tau c 0.29

[2] Fiske and Ladd (2002) for New Zealand; Lubienski *et al.* (2009) for Detroit, New Orleans and the District of Columbia; Teelken *et al.* (2005) for a comparative perspective of England, Scotland and the Netherlands.

[3] Pater *et al.* (2009) for a local market in Sweden; Wylie (2006) and Ladd and Fiske (2003) for New Zealand; Van Zanten (2009) and Ball and Maroy (2009) for case studies of schools in five European countries.

[4] Hanushek *et al.* (2007) suggest that at least part of these movements stem from parent choices.

[5] Ng and Chan (2008) for Singapore and Hong Kong; Ladd and Fiske (2003) for New Zealand; Van Zanten (2002) for two suburbs in Paris; Van Zanten (2009) for case studies in five European countries; Peterson and Chingos (2009) for the introduction of for-profit management in Philadelphia.

CONCLUSIONS

258. Over the last decade a substantial body of research has emerged related to market mechanisms in education worldwide. Several reviews have been conducted and have come to quite similar conclusions regarding effects of policies aimed at increasing parental choice and school competition. In general, if any effects are found at all, they are small. At system level, multiple goals are relevant (*e.g.* educational quality, equality, efficiency, freedom of choice, social cohesion, innovation), and it is widely accepted that realising these multiple goals involves trade-offs. This review is limited to educational quality and equality, the goals that have been studied most.

259. For research purposes, educational quality is mostly reduced to student test scores for reading and mathematics. If effects are found, they are small, although increasing test scores are found more often than decreasing test scores. Further, significant effects seem to be found more often for student achievement in reading than in mathematics. In empirical research, equality is mostly reduced to indicators of segregation along socio-economic and ethnic lines. Segregation along ability lines is studied less frequently. Market mechanisms have been found to have different effects in different contexts. Desegregation is seldom reported, while the degree of increased segregation after the introduction of market mechanisms varies widely.

260. Given the efforts taken by governments to introduce market mechanisms by enhancing parental choice and encouraging school competition, and considering the fierce debates in both political and scientific circles, an interesting question is "why are effects found in research so small"? While many reviews conclude with the observation that effects are small, this review takes them as a starting point. An unusual analytical approach was adopted. Behind the intended effects of market mechanisms in education lie chains of assumptions regarding the working of market mechanisms – *i.e.* parental choice and school competition – in actual practice. These assumptions have been made explicit, followed by a systematic review of available empirical research for each of the consecutive steps in the chain of reasoning. The focus was, therefore, less on effects of market mechanisms and more on the behavioural responses of the different actors involved in education. If similar findings were found from different contexts and from different kinds of research for any particular step, this was considered to be an indication of the robustness of such findings.

Features of market mechanisms in education

261. The body of empirical research shows that some steps in the causal chain of reasoning are confirmed, others have question marks behind them, while still others must be invalidated. The fact that the assumed workings of parental choice and school competition are not straightforward in practice, may help explain why effects of market policies are small on aggregate levels of analyses and differ across contexts.

- There is strong evidence that education markets are essentially *local in nature*. That is, parents do not choose just any school but a school within travelling distance, and schools do not compete with any school but with schools nearby. This implies that characteristics of the local situation are important.

- *Contextual factors* are important to understand the way market mechanisms in education work out in practice. Such factors range from socio-geographic features of an area, specifics of choice policies, characteristics of local schools, responses of neighbouring schools, other policy measures such as those related to accountability, etc. This also helps explain why similar policies can work out differently in different local education markets.

262. The review points to two specific features of market mechanisms in education: the importance of local hierarchies, and the inelasticity of both demand and supply in education.

- The notion of a *local hierarchy of schools* helps explain behaviour on both the demand and the supply side of the market. A schools' position in the local hierarchy of schools can be thought of as the pivot point in education markets – somewhat like price/quality relation in classic markets - as it informs behaviour on both the demand and the supply side. The observation that a schools' position in the local hierarchy is partly based on school composition, that is, on characteristics of the student population, is crucial. Schools with able and white pupils from advantaged backgrounds rank highest in the local hierarchy, irrespective of objective measures of education quality. The position of a school in the local hierarchy plays a role in the choice behaviour of parents, as groups of parents try to gain access as high up as possible in that local hierarchy. Local hierarchies also play a role on the supply side of the education market, as schools try to maintain or improve their position. Since school composition is an element in positioning, actions of schools can be understood as either overtly or covertly attracting the most desirable students (see also Case D).

- A specific feature of education markets is the relative *inelasticity* of demand and supply in education. For markets to function efficiently, buyers need to respond to changes in the price/quality relation (elasticity of demand), and sellers need to respond to customer demand by either diminishing or extending production (elasticity of supply). In education markets both seem problematic in practice. On the *demand side* it is repeatedly found that parents do not respond strongly to underperforming schools. The vast majority of parents are satisfied with a school that does not perform well and do not leave or bypass that school. The implication is that an important correction mechanism does not work in education markets as it does in other markets. On the *supply side* the issue is that schools cannot, will not, or just do not grow easily when increasing numbers of parents and pupils wish to attend. The reasons for inelasticity of supply can be very different. For any market to function, a certain amount of overcapacity is needed so that customers can change easily from one supplier to another. In education, public agencies are often responsible for school buildings and the allocation of space. Providing excess capacity in schools is expensive and often hard to justify. The result may be that a popular school has insufficient space and does not get more space as long as there are schools with excess space. Another reason for inelasticity of supply is that schools may not want to increase the number of pupils, but rather may wish to utilise their "market power" by improving their status in the local hierarchy by overtly or covertly selecting pupils. The inelasticity of demand and supply has consequences for the allocation of pupils over schools. (See also Case E and Case F.)

263. These general findings point to the need for a *nuanced and qualified* discussion about "market mechanisms in education". What market mechanisms mean in actual practice can be quite different in different contexts, while the impact of market mechanisms is related to other policies impacting on parental choice behaviour and actions taken by schools. An example supporting the need of a nuanced view is the notion of competition. Competition is not a dichotomous characteristic that is either present or absent, nor is it a stable feature over time. Competition can be thought of as a feature of the relationship between a school and neighbouring schools, which can bring competitive as well as co-operative elements to bear in a wide range of combinations.

Demand side: parents and choice

264. The analyses conducted for this review indicate robust findings for several steps in the assumed chain of causal reasoning about the working of market mechanisms on the demand side. We call findings robust when similar findings were found in different contexts, based on different kinds of research.

- Groups of parents exercise school choice irrespective of any policy. In this day and age many people want to make choices for themselves and their children. If formal choice programmes are lacking, parents also exercise school choice if only by their choice of residence or by "playing the rules". Zoning policies do not prevent strategic choice behaviour by parents and may even encourage it. If choice options within the public system are lacking, options may be found in the private system.

- In systems where parents can exercise school choice, (very) large groups of parents can learn about their options provided that (considerable) efforts are taken to inform them. More complex choice programmes bear a greater risk of parents not being informed adequately (see also Case A). Spreading and acting upon information about school choice and choice programmes does take time.

- The choice process can be adequately understood as a two-stage process. The first and most implicit stage comprises the (implicit) construction of a choice set, a short list of acceptable schools. The second stage refers to the more explicit consideration of options on the short list. Proximity, travel arrangements and costs all play a role in the choice process, albeit more for some than for other parents.

- When given realistic options, groups of parents do exercise choice. The proportion of parents exercising choice differs substantially across contexts; between countries, between urban and rural areas, but also from one neighbourhood to another within the same city. There are strong indications that – as one would expect – more parents exercise choice in open enrolment schemes than in situations of controlled choice.

- Depending on characteristics of choice programmes, specific subgroups of parents may be over and under-represented. In the case of open enrolment programmes, choice is more often exercised by more advantaged groups of parents in terms of socio-economic background. Choosers and non-choosers tend to differ in three broad domains, combining characteristics of parents with characteristics of (local) schools:

  - *Demographic factors*: more affluent and well-educated parents exercise choice more often although the relation with ethnic background is less clear. In very general terms, white parents more often try to avoid schools with high proportions of minority and low-income students, while minority and religious groups may deliberately opt for their own schools.

  - *Parent satisfaction*: perceived high quality of the local school and overall satisfaction with the school act as a pull factors and diminishes chances that parents opt for a school other than their home school (see also Case C).

  - *Parent involvement*: for parents, experience with or expectations of a lack of co-operation with teachers acts as a push factor; parents who are more heavily involved in their child's education exercise choice more often. When a school does not accommodate parent involvement or respond to parental wishes, this also acts as a push factor.

- When parents state their preferences in school choice they refer mostly to educational quality and academic aspects, followed by proximity and satisfaction. However, actual choice behaviour is best predicted by school composition.

- Parents use a range of information sources in the choice process. These sources include among others information about school reputation circulated in social networks and – when available – performance indicators. Performance indicators can make a difference in choice processes, but the impact is small (see also Case C).

- When parents are informed about the bad performance of their child's school, some parents make other choices, but the vast majority does not (see also Case B). This offers further testimony to the fact that the impact of performance indicators is limited.

Supply side: schools and competition

265. Reviewing research related to the supply side of the education market is more difficult than for the demand side. For who is the main actor on the supply side? In education, the supply side of the market is multilayered and comprises many actors (districts, boards, principals, teachers). It is unknown which actor or combination of actors is the most important in case of market mechanisms. Furthermore, research focusing on responses by schools is relatively scarce.

266. The introduction of market mechanisms in education is often accompanied by changes in accountability measures. It is debatable whether such accountability measures are part of market policies or not. In the first case, such measures are considered to overcome problems of information asymmetry and are aimed to inform parents. In the latter case, accountability measures are considered as direct government interventions alongside market mechanisms. Irrespective of the viewpoint, accountability is known to impact on schools. Responses as a result of parental choice or competitive pressure from neighbouring schools can therefore seldom be clearly distinguished from responses as a result of changes in accountability systems. Further complicating the picture is the fact that short and long-term responses seem to differ, while lack of longitudinal research focusing on schools does not allow for a clear picture.

267. Nevertheless, a number of conclusions can be drawn.

- Structural measures of competition (*e.g.* the number of schools within a certain area) are inadequate predictors of the degree of competition as perceived by school principals.

- There are indications that competitive pressure must exceed a certain threshold. A certain level of actual experienced competitive pressure must be reached before any action is likely to be taken. A few students leaving or bypassing the school is not sufficient to provide the school with market signals. Conversely, a bad reputation and rapidly falling student numbers and funding may force schools to make radical changes. The latter does not seem to happen regularly.

- Competitive pressure on schools differs by local circumstances, the position of a school in the local hierarchy and (co-operative and competitive) behaviour of neighbouring schools. Competitive pressure is therefore not stable over time.

- In very general terms, responses of schools can be understood as strategies to secure or improve their position in the local hierarchy. Schools in the middle of the local hierarchy seem to face the most competitive pressure (see also Case D).

- Schools may respond to competitive pressure by competitive behaviour and/or co-operative behaviour. Co-operation can serve common interests (such as a stable and predictable intake) but seems a more vulnerable strategy (see Case F), while competitive behaviour tends to spread geographically over time. Competitive behaviour is in a sense contagious.

- Schools adopt various responses. One way to categorise responses is by distinguishing external from internal responses on the basis of whether responses affect the "hard core" of education, that is, the actual teaching and learning.

- The introduction of market mechanisms seems to come with increased investments in promotion and marketing (an external response).

- External responses are geared towards maintaining or gaining control over the intake of pupils, both in numbers and in kind. How this (implicit) aim works out in actual practice differs with contextual factors, such as what is and what is not allowed in terms of selection. Following from the notion that a school's position in the local hierarchy is partly related to school composition, other responses include measures to enhance a school's attractiveness to "desirable" students, such as enrolment schemes, offering certain courses, introducing tracking or offering advanced programmes. From the perspective of schools, the most "desirable" students seem to be students who are first of all able, followed by favourable characteristics such as socio-economic and ethnic background.

- Internal responses to market mechanisms are less obvious. There is little evidence of a straightforward causal relation between competitive pressure and changes made in school practices although cases of substantive changes are known. Responses of schools to rankings and accountability measures are mixed. What can be said is that the particular ways in which rankings are constructed do matter, as schools make strategic adaptations to improve their position on rankings. To what extent such strategic adaptations do or do not benefit student learning then depends on the specifics of accountability measures.

- New entrants do enter education markets, provided they are given a realistic opportunity. There are, however, no strong indications for inherent differences between new and existing schools, nor for schools operated by for profit providers, although both practice and research in this area are in very early stages. Research results allow different interpretations. An interpretation consistent with the body of research on school change and school improvement is one possibility. This reading holds that important elements are consistency within schools – with the vision of the school consistently translated to all aspects of the organisation – and co-operative learning between schools. It is unknown whether these features might be less difficult to realise by new (for-profit) providers.

- The combination of school responses to competition and the entrance of new providers in the education market do seem to add diversity to the educational landscape.

- There is little evidence that the introduction of market mechanisms in education is more effective in reaching the "hard core of education" than other policies are.

APPENDIX 1

COUNTRY CASE STUDIES

Case A: Beijing, China

Complexity of choice programmes

In Beijing an open enrolment scheme with preference-based random assignments for middle schools was introduced in 1998 (Lai *et al.*, 2009). The Eastern City District of Beijing encloses 28 middle schools and is divided into 15 neighbourhoods. Parents living in a particular neighbourhood have access to a particular subset of schools. Low-performing schools are only accessible to students living in one neighbourhood, while high-performing schools are accessible to students living in several neighbourhoods. Parents have to rank their preferences for three up to seven schools. Schools are given enrolment quotas for students from different neighbourhoods.

In a stepwise randomisation procedure, schools are filled with students. In a first allocation round, schools are filled with students who named the school as their top choice. When applications outnumber available places, a random lottery follows. This process is differentiated by neighbourhoods: each quota for a school is filled separately. Schools with available places after the first round enter a second round with students who were not assigned to a school in the first round. In this round, schools are filled with students ranking the school second on their preference list. The next steps in the allocation process follow a similar logic.

Four schools in the Eastern City District of Beijing hold the title "top tier school", granted by the government. These schools are well-known for their reputation and are heavily oversubscribed. Given the logic of the procedures, only parents who rank a top tier school highest on the list have a chance to gain access by lottery. Because these schools are oversubscribed, they are filled with students in the first round. Students ranking these top tier schools second do not stand a chance to even enter a lottery. Stating a top tier school as second or lower on the list can therefore be called a "mistake" made by parents.

In a study based on both survey data and detailed factual information of all students in the district, it was found that 30% of parents stated they had some knowledge about admission quotas and their chances to attend schools mentioned as second-choice options. This indicates that many parents do not really know how the choice system works. Further proof thereof was found in the factual information, showing that over half (57%) of the parents rank a top tier school second or lower. These rankings imply not only that these parents will have no chance to gain access to a top tier school, but also that they miss out altogether in the second allocation round. As a consequence, their chances of gaining access to a school high on their preference list diminishes. The researchers also found that children of parents making a "mistake" attend schools with lower average achievement scores when compared with children whose parents did not make this "mistake". The performance of these children seems to be hampered by the choice "mistake" of their parents. Parents making the "mistake" are more often less well-educated and are choosing for a child with lower achievement scores, both indicating social class bias.

Case B: Charlotte-Mecklenburg, North Carolina, United States

The potential impact of school performance information

In the school district Charlotte-Mecklenburg, North Carolina, two experiments with school performance information were evaluated (Hastings and Weinstein, 2008). In this district, parents have a right of access to their home school and can express preferences for up to three other schools. Access to non-neighbourhood schools is based on a lottery, which gives more chances to parents with a low-income aiming for a school with higher test scores than their home school. Parents receive a school choice guide (100-plus pages) with information provided by schools, without indications of standardised test scores, suspension rates or racial composition. The latter indicators were available *via* a website, on a school-by-school basis, making comparisons time-consuming and tedious. Resulting from the federal No Child Left Behind act introduced in 2002, the district provided additional information to parents from 2004 onwards. The additional information is made up of a three-page alphabetised list of schools with test scores performances, and for families with children attending NCLB-sanctioned schools, a separate list of schools not satisfying the AYP targets is also provided.[1] These latter parents have lower incomes and are more often African-American than are parents on average in the district. Comparing initial preferences in the spring with preferences disclosed after the performance indicators in July shows that an additional 5% (16% in all) more parents opted for a school with higher performance scores than their home school. Parents whose first preference was a school on the list opted in 14.5% of the cases for another school. Although these results show that one in seven children attended a non-sanctioned school after the information was provided, it is also true that six out of seven children attended a sanctioned school despite the information. Again, proximity turned out to be an important condition: parents with a better alternative to the home school close by utilised their choice options more often. Parents with no other children (yet) at school also utilised their options more frequently, which may indicate the importance of transport and/or family logistics. In the field experiment that followed, parents received performance information in different forms, including ranked schools based on clear indicators and, for a subgroup of parents, the odds of admission were also provided. Given the difference between no performance indicators and a comprehensive overview, no added differences were found related to the form in which the information was provided.

This research shows among other things that the timely provision of relevant information may be more important than the form it comes in. The same conclusion was derived in an evaluation of the NCLB programme across states (Vernez, 2009).

Case C: Texas, United States

The potential impact of school performance information

A sophisticated and elaborate analysis of data on all pupils in Texas illustrates how performance information about schools is related to parental choice (Hanushek *et al.*, 2007). In Texas, the state provides ratings of schools based on test scores. The four categories, ranging from unacceptable to exemplary, are based on preset standards and hardly any take school entry levels into account. As a consequence, the ratings have clear correspondence with indicators of school composition. The impact of the ratings themselves and school composition are, therefore, impossible to disentangle. Looking at students who switch schools, parents whose child attends a public school appear to react more strongly to low ratings than to high ratings when looking for alternatives (for these parents, quality is a push factor), while parents choosing a charter school react more strongly to high ratings than to low ratings (for these parents, quality is a pull factor). It is important to keep in mind that roughly 1% of Texan pupils attend a charter school, meaning that most Texan parents do not have a realistic prospect to opt for a charter school. These results indicate that when public choice options are lacking, poor quality of the local public schools might urge

parents to look for alternatives in the private sector. When a public choice option is available, such as a charter school nearby, it is the presumed quality of the charter school that draws parents away from the local public school. Also, parents attending a charter school always have a public school as a realistic option. That may help explain why parents choosing a charter school respond more strongly to quality indicators. Further, parents of all income groups are equally likely to respond to low-quality charter schools by leaving that school. Given that the group of low-income parents choosing a charter school is a selective group, they respond equally to indicators of school quality. These results indicate that, in cases of real and accessible alternatives, quality indicators may have the intended effect. Put differently, the sensitivity of parents to information about school quality may be greater when they have more genuine choice options.

The study also compared the impact of public accountability ratings[2] – strong signals – on the one hand, and unpublicised quality indicators based on value added – weak signals – on the other hand. The results indicate that parents respond to both kinds of signals. That is, publicised ratings seem to be related to choice behaviour, but parents also seem to respond to their own experiences and to schools' informal reputations. The impact of the classification based on raw scores is therefore somewhat toned down. Nevertheless, when schools are labelled unacceptable, even though they are effective given their student intake, a number of pupils leave them. In addition, it is also important to note that the vast majority of students stay despite the label and poor achievement outcomes. The chance that a parent leaves the school is roughly 4% greater if the school is performing at a low level compared to schools performing at an average level.

Case D: Comparing education markets in five European countries

Local hierarchies, contexts and strategic responses

Analysis of a series of case studies of fourteen schools in five European countries indicates that the position of schools in their local markets is related to ways schools respond to their environment.[3] Hierarchies in local markets are partly related to the student composition of schools.

Schools that rank high in their local hierarchy, *i.e.* usually those attended by relatively advantaged students, were found to change little if at all when the local market was stable and the school had control over its intake. In a sense, these schools maintained their monopoly position. Similar schools in the context of a less stable market and with somewhat less control over their intake were found to introduce specific programmes for high-ability students, such as accelerated, international and bilingual classes. The researchers call this an entrepreneurial response to market pressures.

Schools occupying intermediate positions in their local hierarchy and catering to a heterogeneous group of relatively less-advantaged students also responded in accordance with the amount of control they had – or thought they had – over their intakes. Deteriorating positions in the local hierarchy did spur schools to take action. In institutional contexts allowing schools to select their students, schools were more likely to select students. While schools at the top of the local hierarchy select students according to ability, schools in the middle focus more heavily on behavioural aspects and parental support. These schools try to avoid disruption and try to isolate problematic students. Schools that are not allowed to select their students tried to improve their reputation in other ways. By offering courses in sports, expressive arts or infographics and/or by tracking students in ability groups, these schools hope to attract more middle-class parents. The introduction of tracking is not only inspired by external considerations, but it is also a way to cope with student heterogeneity in the school. The researchers call these responses "tactical".

A last subgroup of schools responded in an adaptive way. These schools adopt no external strategies (or have found them ineffective), turn inward and try to do the best they can for the – often, disadvantaged – students who attend the school.

Case E: Los Angeles, California, United States

Inelasticity of supply

For all kinds of reasons the school district in the metropolitan region of Los Angeles, U.S., saw an overcrowding crisis in schools, which had its peak during in 2005.[4] Although the district had long worked without a comprehensive building programme, some new schools had been built in the suburbs but not in the city centre. As a result of immigration, school enrolment increased rapidly, particularly in the city centre. The district tried to overcome the crisis by measures such as adding portable capacity to school building; busing pupils to schools that were less crowded; and introducing so-called year-round multi-track calendars. The latter involves increased utilisation of school buildings. When one group of pupils and teachers uses the building during the morning, and another group of pupils and teachers uses the same building during the afternoon, the same building can be used by two different schools as it were. Increased utilisation of physical capacity can also be reached by extending the number of hours and days the building can be used, while shortening the number of hours pupils are educated at school.

At the peak of the crisis, over half of the pupils in the district were on an abbreviated 163 school day, multi-track, year-round calendar. In some schools these measures were insufficient to solve the overcrowding problems. In such cases schools were "capped", meaning that no additional students were enrolled. Students living in the neighbourhood of such schools became part of the Overcrowded Schools Placement Program. Since overcrowding is a severe issue not in just one school but in large neighbourhoods, attending another school close by was seldom an option. Pupils in some areas of the city had to travel up to two hours (one-way) to school. In 2005, the transport department set up by the school district bussed up to 75 000 students – about one in ten in the district – to school. Together, these buses drove 37 million miles a year.

As a result of federal legislation in California, Los Angeles has provided public school choice both within and across school districts since the early 1990s. Given the situation described above, many parents have no or very limited realistic options of school choice. Attending one's school of choice is possible only when that school has excess space.

The district started a building programme in 2001 and hopes to have solved overcrowding problems in schools by 2012.

Case F: Water Quarter, Stockholm, Sweden

Aiming for stability

In 1991, Sweden introduced market mechanisms in education systems with the aims of adding variety and improving quality (Björklund *et al*,. 2005). Since then, private for-profit companies can start "independent schools" while being funded on an equal footing with public schools. All schools are open for all pupils and provide education free of charge. Schools are funded on a per-pupil basis, counting the number of students on a set day in the fall, with additional funding for special needs students. Students exercising choice have a right to attend or return to their home school at any time during the school year.

The number of for-profit schools has tripled during the last twelve years, with an increase of over 70% since 2005. For-profit schools are started particularly for upper secondary level (*i.e.* middle schools). New companies continue to enter the education market, and existing companies continue to expand the

number of schools they operate. Two in three (64%) independent schools is run by a for-profit company. The majority (63%) of the newly introduced independent schools started in one of the three main urban regions (Stockholm, Göteborg and Malmö) while in some areas no independent school has started yet. Independent schools now have a market share of about 11% at the elementary and 22% of the upper secondary level. In the Stockholm region the market share is 21% and 50% respectively. For demographic reasons, the total number of pupils decreases. This implies, together with the growing share of independent schools, a fairly rapid decrease in the number of pupils attending public schools.

A case study of a local education market – Water Quarter – in Stockholm showed what happened after a for-profit school entered the scene (Pater *et al.*, 2009). For years, three public middle schools had their own well-defined catchment area and faced a stable and predictable intake. In 2001, a company owning several independent schools started a new school in Water Quarter. Because marketing was not restricted to new entrants and also targeted older children already attending a public middle school, public schools in the area faced direct competition and feared losing pupils. Their fears soon became reality, and the public schools also had to deal with too many teachers, too much space and falling budgets. When the school year was just under way, many pupils realised that the new independent school wasn't the right choice and the movement of students – in particular, those with special needs – reversed from the for-profit school to the public schools. However, by that time the date to establish the number of pupils for public funding had passed. As a consequence, the for-profit school received public funding for (special needs) students who were no longer there, while public schools had no choice other than to welcome students for whom they received no funding for the remainder of the school year.

After an initial stage of competition between the public schools, they came to realise that the lost predictability of student intakes and lack of organisational stability could be regained by mutual co-operation. The common interest these public schools share is a considerable degree of stability. In their view, stability is necessary to offer the required high quality of education. The public schools in Water Quarter came to an informal agreement not to enroll students from other catchment areas than their own. As the total number of students kept dropping for demographic reasons and new schools kept coming, the agreement proved vulnerable for public schools trying to survive.

NOTES

[1] AYP = Average Yearly Progress, targets are set for ten different subgroups of students; if yearly progress is not realised for any of these subgroups, the target as a whole is not satisfied; schools on the list are schools with unsatisfactory AYP's for two years in a row. Parents of children attending a school on the list, are not allowed to choose another school on the list.

[2] The Academic Excellence Indicator System, with ratings ranging from unacceptable through acceptable and recognized to exemplary. As pointed out above, these ratings correspond to some extent with school composition.

[3] Van Zanten, 2009; Ball and Maroy, 2009; the countries are Belgium, England, France, Hungary and Portugal.

[4] André-Bechely (2007). See also Los Angeles Unified School District (2006). New school construction documentary (*www.laschools.org/documentary/highband*; accessed 15 July 2010).

APPENDIX 2

TERMINOLOGY

In this review, terms are used in the following way.

Public and private schools

Rather than making a crude distinction between public and private schools, we consider *public* and *private* in relation to three different dimensions on which schools can take different positions. These dimensions are: 1) funding, 2) governance, and 3) operation.

We use the term ***private schools*** for schools that are privately funded, governed, and operated by a not-for-profit private organisation. When private schools are operated and/or governed by a for-profit company, we call these schools ***for-profit schools***. In cases where for-profit schools are publicly funded, this is stated explicitly.

The term ***public schools*** is used for schools that are publicly funded, governed by a democratic body (*e.g.* a local government) and operated by a public body (*e.g.* a school district).

Independent schools are publicly funded, governed and operated by a private non-profit organisation.

Educational management organisations (EMOs) are private organisations operating schools, but EMOs can be either non-profit or for-profit; they can be contracted by either public or private organisations governing schools; and they can do their job either with private or public money.

Table 1.1 gives an overview of the terminology used in this review. Only the most common combinations of positions on the three dimensions of funding, governance and operation are mentioned. Other combinations are possible, particularly in countries where EMOs operate. EMOs are not explicitly mentioned in the scheme because EMOs can take so many different positions.

Table 1.1. Public/private dimensions and terminology

Funding	Governance	Operation		
		Public	Private non-profit	Private for-profit
Public	Public	*Public schools*		*For-profit schools with explanation*
	Private non-profit		*Independent schools*	
	Private for-profit			*For-profit schools with explanation*
Private	Public			
	Private non-profit		*Private schools*	
	Private for-profit			*For-profit schools*

Choice policies

Choice policies and programmes differ considerably among countries. Many countries have a history of attendance zones, also known as catchment areas. In cases where parents have a right of access to the local school, often following former zoning policies, we refer to this local school as the ***home school***. The home school is, in a manner of speaking, the "default" choice option. Choice programmes are referred to as ***controlled choice*** when only subgroups of parents are eligible for choice (*e.g.* through specific voucher programmes) or when choice options are limited to subgroups of schools (*e.g.* located in a particular geographic area, only public schools). When parents can express their preferences without restrictions, we call these programmes examples of ***open enrolment***. Open enrolment programmes differ greatly in the way that the preferences of parents are matched with available spaces in schools.

Students and parents

The terms ***students, pupils*** and ***children*** are used interchangeably. By ***parents*** we also mean guardians and caregivers. We use the term ***school principal*** or simply ***principal*** to refer to the person leading a school. In some countries these people are referred to as school managers or head teachers.

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