

Belgian ‘cream-skimming’ More choice of school has led to problems

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Abstract

In this paper, we shortly comment on empirical results suggesting that quasi-markets – as they operate in French-Speaking Community of Belgium – are synonymous with ability segregation partly imputable to cream-skimming. We then explain why ability segregation should be seen as a source of inefficiency. Our central argument is that segregation can be synonymous with misallocation of local and social spillover: peer effects. Next comes, a discussion of the regulatory strategies that could be implemented to prevent cream-skimming and improve the efficiency of educational quasi-markets.

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Educational quasi-markets correspond to a particular institutional arrangement, a certain way to organise funding and provision of education. Quasi-markets basically combine two ideas: public funding on a per pupil basis and free school choice. In other words, quasi-markets form a subtle combination of public funding and market-oriented or competition-driven approach of production.

For several decades the Belgian education system – including primary, secondary and tertiary education in both the French-Speaking and the Flemish Communities – has been based on a quasi-market principle (Le Grand & Bartlett, 1993 ; Glennerster, 1991). Quasi-markets – which can also be found in the Netherlands (James, 1987) – are actually a response to a philosophical and institutional conflict between the Roman Catholic Church and the secular State.

Yet, educational quasi-markets are no longer a Belgian or Dutch curiosity. Free choice and market oriented schools are issues of great discussion in many countries, particularly in the United States (Friedman, 1962 ; Clune & Witte, 1990 ; Chubb & Moe, 1990 ; Bowles & Gintis, 1993). New-Zealand and Australia have abandoned the 'zoning' principle during the 80's (CERI, 1994). Several European countries – where public education traditionally offers little or no parental school choice – are heading towards increased school choice. Radical reforms towards quasi-markets were introduced in the United Kingdom during the late 80's and in Sweden in the early 90's (Miron, 1993).

1. QUASI-MARKETS, ABILITY SEGREGATION AND CREAM-SKIMMING IN THE FRENCH-SPEAKING COMMUNITY OF BELGIUM

We have recently carried out an empirical research (Vandenbergh, 1996) on the quasi-market of the French-Speaking Community of Belgium. Reflecting a common concern about school choice, our priority was to evaluate this quasi-market's propensity to generate 'ability'¹ segregation. Our main result is that school choice – measured by low Herfindahl concentration indexes or other proxies of school choice – apparently exacerbates ability segregation: the less concentrated the local quasi-market, the more dramatic inter-school segregation.

¹ We used the number of grades repeated as a proxy for academic ability. Grade-repetition sanctions are very common in the French Speaking Community of Belgium. Repeaters are by definition pupils who failed at least one end-of-term examination.

When controlling for the importance of socio-economic and ability discrepancy among children (and inhabitants) of a district and the distance between schools, we get the same results. The structure of the local quasi-market (i.e. the importance of school choice) exacerbates segregation all other things being constant.

The same line of research highlights that inter-school segregation is significant and rises along the grade line: it is more important at grades 3, 4, 5 than at grade 1. This is a first evidence that polarisation among schools is positively correlated with the (cumulative) evaluation process totally controlled by the suppliers in the French-Speaking Community of Belgium². The analysis of movements of pupils between schools corroborates this first indication of 'cream-skimming'.

Redistribution of pupils between schools on a quasi-market is quite normal. We argue that is ability-biased however. The evidence is that schools scoring best at grade 1 – in the sense that their intake is principally composed of pupils with no grade-repetition record – manage to keep this position at grade 3 or grade 5, partly because some redistribution of pupils systematically occurs. Top-of-the ladder schools undergo a 10 to 25 percent reduction of their intake between grade 1 and grade 3 while, at the bottom-end of the spectrum, some schools dramatically increase their enrolment size.

Simultaneously, we must concede that the proportion of pupils with a grade-repetition record at grade 1 is still the best predictor of the equivalent proportions at grades 3, 4, 5 or 6. Interpretation of this evidence is not univocal. One could argue for example that this is a clear indication that the main part of inter-school segregation amounts to a self-selection process. Parents and pupils with a grade-repetition record at the end of elementary school spontaneously gather in some secondary schools while the others decide to attend different ones. This initial voluntary sorting would then persist along the grades with only a marginal alteration due to selection orchestrated by teachers and heads of school (*ex post* cream-skimming).

² Contrary to UK, evaluation in the French-Speaking Community of Belgium – including the possibility to impose grade repetition – as well as certification are decided upon at school level.

2. SHOULD WE BE WORRIED ABOUT ABILITY SEGREGATION AND CREAM-SKIMMING?

Allocation of individuals with different characteristics between schools is usually presented as a social choice problem reflecting individual or collective (sometimes subjective) preferences. We think some economic argument must be introduced into this delicate debate, and this argument relates to efficiency more than equity. Our central idea is that peer effects are central to human capital production.

2.1. Peer effects: the idea

By peer effect, we refer to the idea that the knowledge a child assimilates during a school year depends directly on the characteristics or actions of his comrades. Education is one of those numerous human activities characterised by social and local spillovers. The incorporation of social interaction as a determinant of the production process, while not new from the perspective of sociology, is relatively recent in the context of economic theory (Brock & Durlauf, 1995 ; Bénabou, 1996). In the educational context, Willms & Echols (1992), using Scottish data, estimate that the peer effect ranges from 0.15 to 0.35 of a standard deviation. A child with national average ability moved from a school where the mean ability is one-half of a standard deviation below the national average to a school where the mean ability is one-half of a standard deviation above the national average, has an expected attainment about one-quarter of a standard deviation higher.

2.2. Peer effects: the stakes

If peer effects matter, allocation of heterogeneous individuals (i.e. pupils with different ability, learning capabilities) between strictly delimited entities becomes a critical issue as regards to efficiency. The production of human capital is directly affected by the way heterogeneous individuals are allocated. An objective consisting of maximising the total stock of human capital can be compromised if individuals are inappropriately allocated among schools³.

³ But the same is true with a more egalitarian objective aiming at equalising educational achievement. The cost of this policy is potentially influenced by the way peer effects are allocated among schools.

a) Non internalised externality

It can be shown analytically (Vandenberghe, 1996) that desegregation (i.e. mixing of abilities) will be preferable to segregation essentially when simultaneously: [I] the presence of an additional high-ability pupil in school 1 generates peer-effect (teaching climate) improvement that do not offset the negative consequences of the presence of an additional low-ability pupil in school 2; [II] low-ability pupils are more sensitive to peer-effects (teaching climate) than their more able comrades.

Empirical work suggest that the two conditions are verified at the primary and secondary level at least. Henderson, Mieskowski & Sauvageau (1978) were the first to clearly conclude that condition [I] is verified. A more recent study, conducted by French researchers (Leroy-Audouin, 1995) focusing on primary education in France, concludes that condition [II] is also verified: low-ability children are more sensitive to peer effects than their more able comrades. A more recent study, carried out by Gamoran & Nystrand (1994) on US secondary education data, corroborates this conclusion.

Consequently, quasi-markets where ability segregation is important – like in the French-Speaking Community of Belgium for example – do not properly internalise externalities i.e. achieve an egalitarian allocation of peer effects across schools which is a necessary condition to achieve efficiency.

b) Teacher effort

On a quasi-market, the level of peer effect a school benefits from is possibly the main source of 'benefit' for the teachers. A teacher is sensitive to the aggregated characteristics of his pupils. In other words, the level of peer effects enters into his utility function. He wants to maximise the level of this local social spillover in his school or classroom simply because this is synonymous with greater comfort. We think this assumption is legitimated and reinforced by the very nature of the teacher-pupil relation. Contrary to other services, education necessitates a very long interaction between demand and supply. Production of knowledge usually takes several months or years. It requires a minimal co-operation from the pupil.

The presence of peer effects that can be redistributed between schools is a way to stimulate competition and ensure accountability. But once segregated, a quasi-market can also be synonymous with 'poor' accountability (effort

incentives), especially in schools with a 'bad' reputation (i.e. schools where low-ability pupils are over-represented). On a quasi-market with reputation-sensitive clients where two schools are in competition, the 'good' school – where high-ability pupils are numerous – is likely to produce the level of effort necessary to maintain its better reputation and preserve its cream-skimming privilege. By contrast, the 'bad' school – with a lower peer effect endowment is low which must consequently produce a greater effort than its competitor to attain a certain *gross* human capital outcome – might simply prefer to produce no effort and to recruit low-ability pupils that are rejected by the most reputed school.

3. HOW TO REGULATE QUASI-MARKETS?

What kind of regulatory framework a social planner (financing the educational quasi-market) can (should) adopt to enhance efficiency i.e. maximise human capital coming out of schools? Correspondence between social priorities and each school's interest cannot be taken for granted. In other words, inefficiency cannot be eliminated simply by 'informing' the decentralised decision makers (schools) on recruitment choice (perfect desegregation according to the results presented in section 2) or effort levels that are socially desirable.

a) Incentives for schools

a.1. Cream-skimming deterrence scheme

If school zoning is discarded, the policy that comes to mind consists of using the financing formula to incite schools to revise their recruitment strategies. The regulator can steer recruitment practices simply by making the per-pupil amount allocated to schools conditional on the socio-economic composition of the school (the human capital endowment of the recruited pupils). This variable is probably publicly known or, at least, observable at a limited cost. Conditional allocation could (for example) correspond to the suppression of financial subsidy to schools insufficiently 'mixed'. In that extreme situation, school heads would obviously modify their recruitment policy.

a.2. Output-based formula

Once schools are totally dissuaded from 'skimming off the cream', the regulator has solved only one part of his problem. Indeed, the new equilibrium is probably synonymous with poor accountability. On a quasi-market, the level of

peer effect a school benefits from is possibly the main source of 'benefit' for the teachers. If the allocation of peer effects is totally prescribed by the regulator, schools might lack the minimal incentive to deliver effort. Several studies have suggested that a lack of effort or accountability could considerably alter the performance of educational systems (Chubb & Moe, 1990; Bowlse & Gintis, 1993). In the United Kingdom for example, the conservative party presented quasi-markets as a necessity to boost efficiency and accountability. Hence, if the accountability problem is serious, the regulator must presumably complement his cream-skimming deterrence mechanism by some output-based financing formula.

a.3. Refined output-based formula: yardstick competition

Residual inefficiency potentially persists however. If the parameters of schools' cost function, the level per-pupil is a private information, the regulator cannot adequately fix the level of the per-pupil expenditure. These limitations can be circumvented by a yardstick competition mechanism (Shleifer, 1985). The latter means that schools decide upon their effort level **and** their per-pupil cost (expenditure)⁴. Most importantly, – in a district with two school for example – school 1's revenue is based on its relative performance in terms of output and per-pupil cost. The higher its effort, the higher its per-pupil income. The lower its cost, the higher its income. But simultaneously, the higher school 2's effort, the lower school 1's per-pupil income and the lower school 2's cost, the lower school 1's income.

A combination of cream-skimming deterrence and yardstick competition embedded in the financing scheme, can generate a first best outcome (Vandenberghe, 1996) in the sense that ability segregation potentially disappears and providers' accountability (effort) is maximal.

b) High-ability families

Yet, one could reasonably argue that the regulator's problem is more complex than imposing his social priorities on schools and teachers: he probably has also to impose them on (strategic) parents⁵. A 'public choice' perspective would indeed indicate that parents are political clients, that they can dismiss

⁴ On existing quasi-markets, per pupil expenditure is *a priori* fixed by the regulator.

⁵ In Belgium, parents can group, establish a new school and get public money, provided they respect some basic conditions : enrolment size must be significant, teachers hired must have the appropriate diplomas, and the school must accept the annual visit of a government officer. The constitution imposes to the State to finance private educational initiatives.

politicians (regulators) or boycott their fiscal duties when displeased with an educational policy. For a high-ability pupil, attending a desegregated school comes at a certain cost. Peer effects are indeed lower than in a all-high-ability-pupils school. Even if this 'private' cost is extremely limited, bypass – if feasible – is likely to occur. Private parties most likely ignore the social benefits or costs of their individual decision: they ignore the effect of their school choice on the quality of peer effects in the rest of the educational system.

b.1. Bribes for high-ability individuals?

To persuade these high-ability families to – voluntarily – attend desegregated schools, their contribution to cost should be inferior to that of low-ability families. Examples of mechanisms implicitly or explicitly based on a bribery idea can be found in the US. Magnet schools implicitly offer 'bribes' to middle class and upper class families which are extremely mobile and easily shift from one district to another. Instead of busing black children to predominantly white schools, the 'magnet' school philosophy is to incite 'bright' (mostly white or Asian) children to attend urban schools where black pupils are over-represented. The bribe, in this case, takes the form of unique programs benefiting from a higher per-pupil funding level. By attending those schools, pupils benefit from programmes and teacher-pupil ratios that are unavailable in the rest of the public school system. Higher education suppliers (colleges) do the same much more explicitly. The practice of awarding college scholarships – 'merit' grants to be distinguished from more classical 'social' grants – to high-ability students is indeed relatively frequent in the US.

It is easy to show that bribery can be Pareto-improving in the sense that low-ability families are better off in the long run even when their contribution to cost is raised. The human capital surplus their children obtain by attending the same schools as their more able peers more than offsets the extra financial cost they bear.

b.2. The commensurability problem

It is worth mentioning major restrictions however. The bribery option supposes perfect commensurability between money and disutility entailed by desegregation. But can money really 'buy' disutility attached to the presence of 'different' pupils? We have assumed that the 'difference' among pupils was synonymous with ability differentials. Yet, people do not only differ in terms of ability but also in their beliefs, cultural sensitivity, ethnicity or political

conviction. People can indeed be of equal ability but dramatically diverge when it comes to moral and religious values.

4.CONCLUSION

Generally speaking, our analysis indicates that a quasi-market is not mechanically synonymous with efficiency. Some regulatory intervention might be necessary, most likely the case when ability segregation is long-lasting. This situation is probably synonymous with both mis-allocation of peer effects and lack of effort, especially in less reputed schools. The regulator's major challenge might be find 'reasonable' and 'politically correct' ways to persuade high-ability parents to accept the private cost of desegregation.

Further reading

Le Grand J. & Bartlett W. (eds), (1993), *Quasi-markets and Social Policy*, MacMillan, London.

(Jencks & Meyer, 1987; Corcoran, Gordon, Laren & Solon, 1990 ;
Dynarski, Schwab & Zampelli, 1989; Evans, Oates & Schwab, 1992)