

Inter-regional educational discrepancies in Belgium. How to combat them?

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Rethinking Belgium's institutions within the European Context

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- the report can be downloaded at <http://perso.uclouvain.be/vincent.vandenberghe/Papers/DegroofVF.pdf>

- while the article (in French) is accessible at

http://perso.uclouvain.be/vincent.vandenberghe/Papers/Decrochage_Capital_Humain_Gouvernancef.pdf

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FOREWORD

1. Good-quality education is crucial for individuals. The international evidence suggests that equipping youth with formal skills is key in putting them on a successful life and career track. But human capital and education are also important for nations and communities. Education is the single most critical investment to raise the long-run growth potential. In the global economy, the performance of education systems is the yardstick for success, particularly in light of the fundamental technological and demographic challenges that are re-shaping our economies. Moreover, in a federal context like the Belgian one, characterised by: *i*) uniform wage/price formation mechanisms, *ii*) a strong aversion to income inequality and, *iii*) generous welfare transfers, combatting educational discrepancies across regions should also be viewed as a way to secure the federation's long-term stability.
2. The evidence abounds to suggest that there is now a sizeable interregional educational attainment gap opposing the Flemish- and French-Speaking regions. International surveys, measuring educational attainment in a comparable way, have emphasised the relatively poor results of the French-Speaking Community of Belgium. The latter can also be spotted when analysing Belgian census data. The dominant view is that poor economic performances in several French-Speaking areas contribute to a great extent to this poor educational performance. The Region of Brussels has the highest school drop-out rate (28%) of the country, followed by Hainaut (25%) and Liège (23%). Along this line of reasoning, reducing the inter-regional educational gaps should primarily involve fixing the social ills associated with poverty that impair mostly French-Speaking children's learning outcomes. This probably means improving (*inter alia*) the labour market outcomes of the adults in the families in which at-risk children develop, particularly in areas **eras** that have been severely hit by deindustrialisation (Hainaut, Liège) or have experienced massive influxes of (low-skilled) immigrants, like Brussels.
3. But this socio-economic "deterministic" approach of educational regional divergences calls for some nuances. First, the calendar of the emergence of the gap does not coincide perfectly with the development of inter-regional or sub-regional socio-economic discrepancies. For instance, the poor results of the French-Speaking Community of Belgium, highly publicised since the late 1990s, have been around for a long time; for much longer than most analysts usually assume. The deterioration of the French-Speaking education system's effectiveness relative to that of Flanders, or neighbouring countries, has its roots in a quite distant past; well before the 1980s (with the introduction of the "renové") or the 1990s (with the complete devolution of educational policy to the Communities). Inter-regional educational discrepancies probably started in the early 50s, and preceded the socio-economic ones, known to have emerged in the 1970s and early 1980s. If one can reasonably argue that two-digit unemployment rates and a string of associated social ills in Brussels, Liège or Hainaut now hamper educational performances, there are reservations as to the role these factors played in the past. Second, one should also avoid overemphasizing the

role of socio-economic discrepancies because – conditional on a certain socio-economic profile of pupils – French-Speaking schools systematically perform less well than the Flemish-Speaking ones. In other words, when controlling for the (potentially important) cross-Community differences in terms of pupils’ socio-economic background, immigration status, attendance of a vocational track, or the pupil/teacher ratio, the resulting *net* gap across the two main linguistic Communities remains important; i.e. equivalent of more than a school year.

4. What then could explain the propensity of French-Speaking and Flemish-Speaking schools to diverge so much in terms of performance? There is a growing consensus among economists that educational attainment is the quintessential *joint product*. It requires a strong commitment from both the demand side (pupils/students and their families) and the supply side (teachers, schools and public authorities). Could it be that Flemish-Speaking individuals/families “make more efforts” and prioritize education to a greater extent than their French-Speaking equivalent? The issue remains open for discussion and calls for more research. From an historical point of view, there is no doubt that one needs to better understand the role that *education as a vector of emancipation* may have played in explaining the surge of educational attainment in Flanders.

5. This said, more on the supply side, there is the issue of governance. Could it be that a school-governance quality gap developed over the past decades across the linguistic border? The issue also remains largely unsettled. This said, there are many signs suggesting that the French-Speaking schools suffer from a very hybrid governance regime. Hybridation exists to a certain extent in Flanders and in many other places in the world. But, in comparison, it has loomed larger in the French-Speaking Community, whose decision-makers have been unable to agree on the amount of power to be granted to the central Ministry, the local professionals (heads of schools), and parents or pupils. Sempiternal divergences of view have ultimately led to a situation where the top-down/bureaucratic control (the obligation to implement instructions coming from Brussels) systematically cohabits with school-based autonomy and market-driven school management (the necessity to attract pupils to secure resources and jobs). Our thesis is that this hybrid governance regime largely echoes the “school war” and the diverging preferences of the three main “réseaux”. Contrary to most observers, we do not believe that the existence of “réseaux” translates into widespread cost-inefficiency. The true cost of the “réseaux” rather stems from their role in the emergence of a very hybrid governance for schools and teachers. Sceptics would rightly argue that “réseaux”, and the underlying antagonist conceptions as to what “good” school governance means, also exist in Flanders. True. But in Flanders, the “réseau” syndicating free catholic-affiliated schools is (and has always been) very dominant; with a market share exceeding 70%. This has perhaps contributed to limit the ravages of the hybrid governance disease French-Speaking pupils may suffer from.

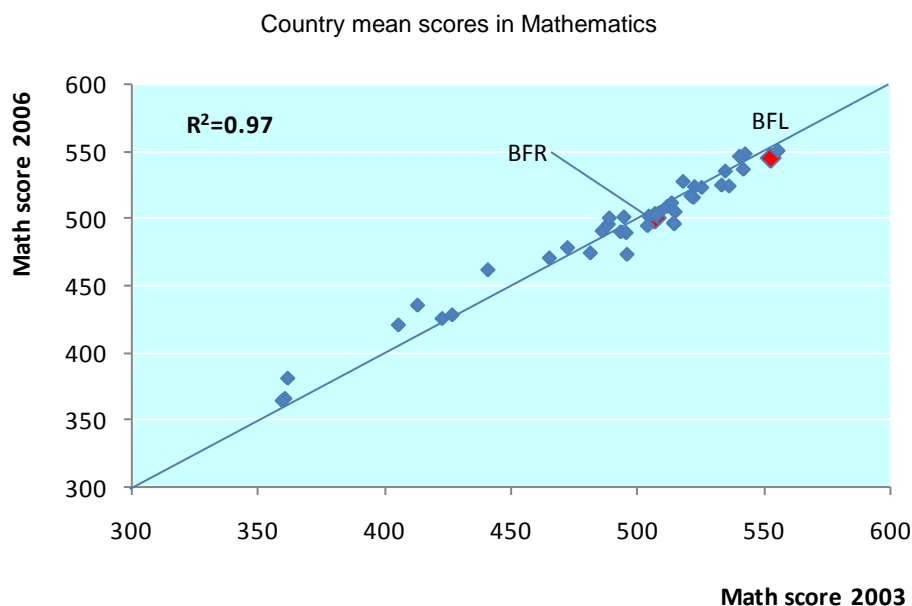
6. The rest of the text comprises three main sections. Section 1 adopts a long-term perspective regarding educational performance. It tries to trace the origins of the interregional educational attainment gap opposing the Flemish- and French-Speaking regions. Section 2 assesses the various (historical and contemporary) factors that could explain the inter-regional performance gap, whereas Section 3 discusses at greater length the likely role of school governance.

1. THE LONG-TERM EMPIRICAL EVIDENCE ABOUT INTER-REGIONAL DISCREPANCIES

1.1. PISA 2003 vs. 2006

7. At the aggregate level — that of a country or a sizeable community — educational outcomes evolve very slowly and gradually. The comparison of PISA¹ 2003 and 2006 country-mean scores in maths (Figure 1.1) provides a quick illustration of this simple idea. These aggregates barely changed in three years², both in absolute and relative terms, despite many policy initiatives by decision-makers dissatisfied with their position in the PISA 2003 league table.

Figure 1.1. PISA 2003 and 2006 results



Source: PISA, OECD, 2003 and 2006

8. For instance, the poor results of the French-Speaking Community of Belgium highly publicised since the late 1990s due to the availability and also the growing popularity of international surveys measuring educational attainment in a comparable way (TIMSS³, PIRLS⁴, PISA), have been around for a long time; for much longer than most analysts usually assume. And the deterioration of the French-Speaking education system's effectiveness relative to that of Flanders or neighbouring countries has its roots in a quite distant past; well before the 1980s (with

¹ The OECD's Programme for International Student Assessment.

² The same could be said of standard errors measuring the inequality of attainment between pupils within each country.

³ Trends in International Mathematics and Science Study.

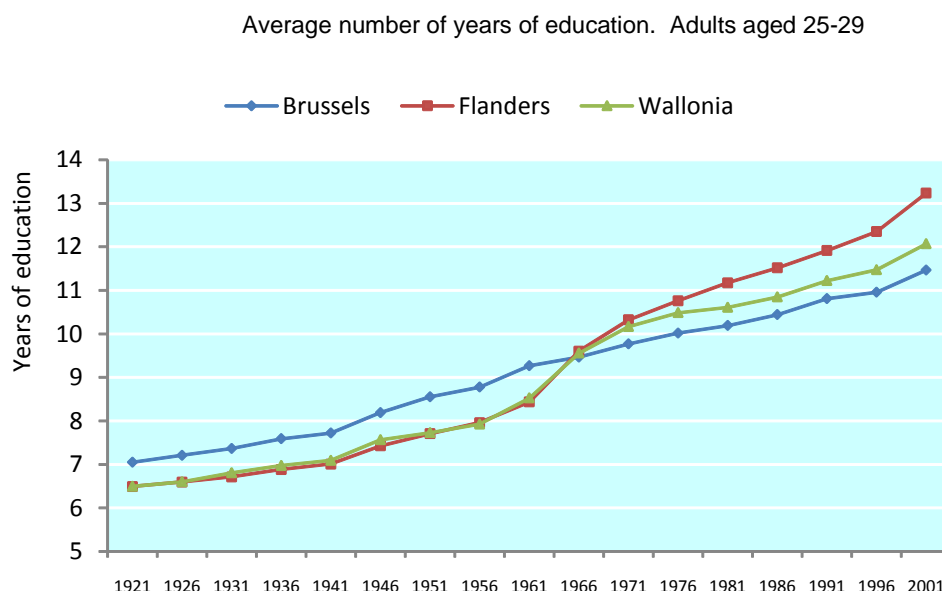
⁴ Progress in International Reading Literacy Study. Both TIMSS and PIRLS are developed and implemented under the auspices of the International Association for the Evaluation of Educational Achievement (IEA).

the introduction of the so-called “renové”) or the 1990s (with the complete devolution of educational policy to the Communities and the adoption of a block-grant⁵ financing mechanism).

1.2. Average number of years of schooling as captured by the Belgian census

9. Figure 1.2, computed with Belgian census data, suggests that the gap between Flanders and the two other regions in terms of the educational attainment of young adults (25-29) became significant in the early 1970s. However, an educational attainment gap characterising those aged 25 or more reflects differences in the quality of education that probably opened up 15 to 20 years before, when these individuals had their first experience with formal education. The tentative conclusion is that the performance gap between the Belgian regions started to materialise and become statistically significant probably as early as in the mid-1950s.

Figure 1.2. **The long-run dynamics of human capital accumulation in Belgium and its regions**



Reported values are based on the self-reported highest education attainment of individuals concerted in a number of successfully completed years of education. Past attainment of young adults are proxied by attainment of their contemporary seniors.

Source : Belgian census 1961, 1991, 2001

1.3. Relative score in maths of teenagers: the international comparison

10. Critics would argue that the above census-based data are too quantitative. They define performance with the number of years of education. It could be more relevant (and convincing) to consider how (cognitive) skills have evolved over time. Reliable evidence is limited in this respect — Belgium, unlike France or the US has never seriously invested in a proper set of attainment/score indicators that statisticians could use to build time series. The few data available come for international surveys organised by the IEA (or more recently by the OECD). They cover

⁵ In a federal system of government, a *block grant* is a large sum of money granted by the national government to a regional/local government with only general provisions as to the way it is spent.

the score of secondary school pupils. Similar surveys were never developed for tertiary education and Belgium and its Communities have rarely participated to those covering primary education.

11. Table 1.1. shows the evolution of the (relative) average math score for the two linguistic groups between 1965 and 2000. Reported values are standardized data points (also called Z scores). They correspond to the difference between the Community' average score and the international mean, then divided by the international standard deviation. The results just depict how many standard deviations the Community's score is away from the international mean. A positive value of 1.463 for the French-Speaking Community in 1965 suggests that its pupils largely outperformed (by more than 1.4 standard deviation) those of the other participating countries. The Flemish-Speaking Community did not participate to the survey in 1965, — but it did participate, alongside the French-Speaking Community to the subsequent ones. And the resulting trend largely accords with the “quantitative” census-based evidence reported on Figure 1.2. Whereas the (relative) performance of the French-Speaking Community has steadily deteriorated since the mid-1960s, that of the Flemish-Speaking Community has regularly improved.

Tableau 1.1. Long-term evolution of the relative score in maths of pupils in the Belgian Communities vis-à-vis other EU and OECD countries. Standardized data points in maths ^a

Community	Year of international survey			
	1965	1980	1995	2000
	FIMS	SIMS	TIMSS	PISA
Flemish-Speaking	-	0,388	0.899	1.140
French-Speaking	1.463	0.157	-0.029	-0.258

FIMS: First International Mathematics Study
SIMS: Second International Mathematics Study
TIMSS: Third International Mathematics and Sciences Study
PISA: Programme for International Student Assessment

a) Reported values are standardized data points (also called Z scores). They correspond to the difference between the Community' average score and the international mean, then divided by the international standard deviation. The results just tell how many standard deviations the Community's score is away from the international mean.

Source: IAE, OCDE

2. WHAT DRIVES EDUCATIONAL UNDERACHIEVEMENT IN FRENCH-SPEAKING BELGIUM

2.1. *The socio-economic crisis hitting Brussels, Liège and the Hainaut?*

12. A popular view is that the real problem rests with the social context in which schools pupils operate – namely, the family, neighbourhood, and peer environments that low-income children experience, or excessive school segregation. Adopting education reforms without changing social policy more broadly will simply punish educators for factors beyond their control, and potentially drive the most able teachers toward schools serving less disadvantaged students.

13. Table 2.1. reports on a crucial indicator of educational attainment: the share of 20-24-year-olds who are no longer attending school and who have not obtained an ISCED 3 qualification, who can thus be considered as “drop-outs”. Table 2.1 shows the breakdown by Belgian provinces. It gives some credit to the idea that poor economic performance contributes to lower educational attainment. It is the Region of Brussels has the highest drop-out rate (28%) followed by Hainaut (25%) and Liège (23%).

14. Seriously improving at risk children’s schooling outcomes would involve fixing the other social ills associated with poverty that impair children’s learning outcomes. In the Belgian context, this means improving (*inter alia*) the labour market outcomes of the adults in the families in which at risk children develop, particularly in regions/provinces that have been severely hit by deindustrialisation (Hainaut, Liège) or have experienced massive influxes of (low-skilled) immigrants (Brussels, see Table 2.1).

15. But this socio-economic deterministic explanation of educational underachievement calls for some nuances. The calendar of the emergence of an interregional attainment gap in Belgium (Figure 1.2) does not coincide perfectly with the development of inter-regional or sub-regional economic discrepancies. It rather seems that educational discrepancies (that probably started in the early 50s) preceded the socio-economic ones (known to have emerged in the 1970s and early 1980s). If one can reasonably argue that two-digit unemployment rates (and a string of associated social ills) in Brussels, Liège or Hainaut now hamper educational performances of youth, there is some reservation as to the role these factors played in the past.

Table 2.1. Aged 20-24 without an upper-secondary degree (ISCED3)

Provinces	Percentage of youth without ISCED 3
Antwerpen	13.6
Limburg	15.1
Vlaams Brabant	15.2
West-Vlaanderen	11.5
Oost-Vlaanderen	12.6
Rég. Bruxelles-Cap.- Brussel	28.4
Brabant Wallon	13.9
Hainaut	25.2
Liège	23.0
Luxembourg	14.4
Namur	19.6
Women average	14.6
Men average	21.0

Source: EU-LFS, 2007

2.2. Lack of long-term financial incentives to stay on in education and succeed at school?

16. Education can be considered as a form of profitable investment. Since Adam Smith, economists tend to consider that education is similar to a physical means of production *e.g.* factories and machines (Debande and Vandenberghe, 2008; de la Croix and Vandenberghe, 2004). One can invest in human capital via education training (but also medical treatment). In that sense, education is similar to fixed capital although it is not transferable. The propensity of individuals to invest in human capital is also presumably driven by similar motives as their propensity to invest in, say, shares or bonds. The higher the return on their investment, the higher should be their willingness to spend time and other resources accumulating human capital (*i.e.* reading books, attending classes...).

17. Within that framework, an almost natural question is whether we have reasons to believe that “education does not pay” or at least that it does not pay so much, particularly in the areas forming the French-Speaking Community, where many youth tend to underachieve at school.

18. One simple and relatively straightforward way to assess the ‘profitability’ of schooling in Belgium and its Communities is to resort to Mincerian wage estimates.⁶ These basically help understand how earnings are related to the educational attainment. And they have proved to be very consistent in virtually every country in every time period where they were estimated.

⁶ The standard form of the Mincer wage regression is $\log W = \beta_0 + \beta_1 S + \beta_2 \text{exp} + \beta_3 \text{exp}^2 + \varepsilon$, where W is the gross wage earned by an individual, S is the number of years of formal education he/she attended, and exp and exp^2 a 2nd order function of the labour market experience (often proxied by age) that captures the propensity of individuals to *i)* acquire skills “on the job”, and *ii)* undergo skill depreciation over time.

19. Results in Table 2.2. are based on EU-SILC⁷ gross wage and income data. Using these, one can estimate a log-linear⁸ wage equation known for delivering estimates of the rate of return associated with one additional year of (successfully completed) schooling. These rates of return are primarily driven by the slope of the wage/education curve or the ratio of low-educated individuals' earnings to better-educated individuals' earnings.

20. Panel A of Table 2.2 reports these Mincerian coefficients — computed solely with employed individuals earning some wage (*i.e.* workers) — for Belgium and a selection of EU countries. These suggest the financial incentive associated with schooling are average in Belgium compared with other EU countries. At 6.7%, the rate of return is higher than in Norway or Denmark — two countries known for their 'compressed' wage structure — but lower than in France for instance.

21. Panel B of Table 2.2 contains, in its first column, similar estimates for each of the Belgian regions. The figures suggest that it is in Brussels that education offers the best return (8.7%), followed by Wallonia (6.7%) and Flanders (6.4%). Note already that the two regions with the highest drop-out rate (Table 2.1) are those offering the *higher* rate of return.⁹

22. The second column of the same table reports similar coefficients. But these are computed using data that also comprise unemployed and inactive people. By definition, these categories generally report very low (or no) wage/salary income. This means that the estimated coefficients aggregate two types of benefits associated with education: *i)* higher wages when in employment, *ii)* and a higher probability of being in employment and earning these higher wages. As the risk of zero (or very low) wage (*i.e.* being out of employment) is much higher among low-educated groups, the estimated returns (first column, panel B) are significantly higher than when restricting the analysis to the sole workers. Note that it is now in Wallonia that the rate of return is the highest (32.6%), followed by Brussels (28.8%) and Flanders (22.1%). Again, the two regions characterised by a higher drop-out rate (Table 2.2) are those granting the higher rate of return.

23. The last column of panel B, Table 2.2 contains the coefficients that are obtained with the full sample of individuals (employed, unemployed and inactive individuals) when state transfers are added to wages (*i.e.* unemployment and other social benefits). As transfers predominantly benefit low-educated people — that are more affected by the risk of unemployment and/or are more often inactive —, their inclusion predominantly lift their income. This translates into a flatter income/education curve. Logically, this leads to lower rates of return. The result also supports the idea that state transfers dampen the return on human capital investment. Note, however, that this does not affect our interregional comparisons. The two regions characterised by a higher drop-out rate remain those where the incentive to invest in education is *a priori* the highest.¹⁰

⁷ European Union Statistics on Income and Living Conditions survey.

⁸ The advantage of the log-linear specification of the wage W is that it generates estimates for the S explanatory variable coefficient that are easy to interpret as they correspond to points of percentage of change of the wage level. For a model $\log W(S) = \beta_0 + \beta_1 S + \varepsilon$. There is indeed that $\beta_1 = d \ln W / dS = (dW/W) / dS \approx [W(S+1) - W(S)] / W(S)$ when $dS=1$.

⁹ Similar results are to be found in de la Croix and Vandenberghe (2004)

¹⁰ We abstain here from considering the so-called "general equilibrium" effects of higher educational attainment. Many economists would argue that if many individuals (say a whole cohort) increases its

24. Due to data constraints we are not able to explore the effect of income taxation. But one can reasonably speculate that, due to its progressivity, income taxation reduces rates of return. Nonetheless, we do not expect it to alter the regional ranking highlighted here.

Table 2.2. Return on Human Capital Investment computed using gross annual earnings.

A. Belgium and other EU countries

Country	Workers (wages)	Probt
Austria	7.79%	0.0000
Belgium	6.77%	0.0000
Denmark	4.88%	0.0000
France	9.26%	0.0000
Germany	8.15%	0.0000
Netherlands	8.39%	0.0000
Norway	6.24%	0.0000
Sweden	4.91%	0.0000
United Kingdom	8.10%	0.0000

B. Belgium and its regions

Region	Workers (wages)	All individuals (wages)	All individuals (wages and transferts)
BXL	8.7%	28.8%	14.4%
VLA	6.4%	22.1%	13.8%
WAL	6.7%	32.6%	16.2%

2.3. Lack of school resources?

i) The overall (and long-term) view

25. There is simply no correlation, or coincidence, between the emergence of an interregional attainment gap in Belgium (Figure 1.2) and the level of public spending on education in Belgium. Many observers in the French-Speaking Community wrongly believe that the devolution of education to the Communities — and the ensuing budgetary crisis with its string of austerity plans and strikes — played a crucial role in the emergence of this gap.

26. In truth, there are signs since the mid 1990s that teacher pay in the French-Speaking community has not risen as much as in other OECD countries (Table 2.3). Between 1996 and 2006 French-speaking teachers got (cumulated) pay increments equal or slightly superior to GDP growth. Whereas across the OECD on average cumulated teacher pay rises exceeded that of GDP by 10 to 19%. There is some evidence that the so-called “communautarisation” has translated into

educational attainment, part of the benefits embedded in the current wage structure will vanish. More people holding a certain degree or diploma could translate into a (relative) depreciation of its value on the labour market.

diverging patterns of teacher pay across the linguistic border (Table 2.3). In short, during that period wage increments in Flanders slightly exceeded those registered in the French-Speaking Community of Belgium. Note however that the inter-community cumulated differences over the period 1996-2006 remain small by international standards

27. And our main point, however, is that these are very recent developments. And they cannot help us understand attainment gaps that emerged in a very distant past, probably somewhere during the late 1950s and early 1960s (see Section 1, Figure 1.2).

Table 2.3. **Change in teachers' salaries (1996 and 2006)**

Index of change between 1996 and 2006 in teachers' salaries at i) starting salary, ii) after 15 years of experience and iii) at the top of the salary scale, by level of education, converted to 2006 price levels using GDP deflators (1996=100).

	Primary education			Lower secondary education			Upper secondary education, general programmes		
	Starting salary/minimum training	Salary after 15 years of experience/minimum training	Salary at top of scale/minimum training	Starting salary/minimum training	Salary after 15 years of experience/minimum training	Salary at top of scale/minimum training	Starting salary/minimum training	Salary after 15 years of experience/minimum training	Salary at top of scale/minimum training
Australia	128	97	97	129	98	98	129	98	98
Belgium (Fl.)	107	111	114	104	104	104	104	104	104
Belgium (Fr.)	101	106	109	99	100	100	99	100	100
Denmark	122	113	110	122	113	110	112	110	105
England	124	107	107	124	107	107	124	107	107
Finland	132	129	158	130	116	140	127	123	148
Greece	116	118	121	112	115	118	112	115	118
Hungary	209	196	201	209	196	201	182	189	204
Ireland	111	118	113	105	112	112	105	112	112
Italy	111	111	111	110	110	110	110	110	110
Japan	107	117	104	107	117	104	107	117	104
Mexico	134	133	134	135	138	142	m	m	m
Netherlands	103	110	100	102	111	100	102	107	99
New Zealand	101	115	115	101	115	115	101	115	115
Norway	104	96	105	104	96	105	103	100	101
Portugal	103	112	102	103	112	102	103	112	102
Scotland	120	115	115	120	115	115	120	115	115
Spain	95	95	92	m	m	m	94	94	91
Unweighted average	118	116	117	119	116	117	114	113	114

Source: OECD, Education at a Glance 2008

ii) Enough resources for at risk pupils?

28. A related discussion is the one about the propensity of the education system in Belgium to adequately concentrate resources on those who need them most. Do at-risk pupils receive adequate support in Belgian schools?

29. Providing a thorough and well-documented answer to this question is clearly beyond the scope of this review. However PISA 2006 contains some items that can help us shed some light

on the issue. A simple econometric exercise focusing on math score¹¹ at the age of 15 essentially reveals the following:

- Belgium (both Communities) is the only country¹² where the number of students per teacher is significantly smaller in schools concentrating aged 15 pupils with lower math scores. There is also, in the French-Speaking Community, that the number of computers for instruction (per student) is higher in these schools;
- But, Belgium (both Communities) is the only country with Canada where the proportion of teachers with a university qualification (ISCED 5A) is significantly *lower* in those schools.
- The French-Speaking Community of Belgium is the only entity where recruiting and stabilising teachers is reportedly more difficult in schools concentrating pupils with lower math scores.

30. In a nutshell, these results seem to suggest that French-Speaking schools serving the lower segments of the public have more resources (more teachers or computer per pupil). But they may simultaneously suffer for a lower-than-average quality of teaching staff.¹³ Low-achieving pupils are taught in smaller classes but by less qualified and less experienced teachers. This raises the question of whether additional money spent on those schools is adequately allocated. What do poor and underachieving students need in priority: smaller classes equipped with computers or better and more experienced teachers?

2.4. Underperforming schools?

31. A more promising way of gaining further insight as to what drives poor educational attainment is to compare the attainment of Flemish vs. French-Speaking schools *conditional on the socio-economic status of their pupils*. The exercise is somehow similar to the one we did when we discussed long-term/historical trends. It is to split the overall variance of results into two parts. One that points at socio-economic (deterministic) factors, beyond the immediate control of policy-makers, which can be unevenly distributed across the two communities (i.e. more children with an immigration background in the French-Speaking system) . And the other part¹⁴ supportive of other explanatory factors like cultural specificities¹⁵ or diverging degree of school effectiveness — something a priori more in line with what an economist would hypothesise.

32. The exercise can be carried out using 2006 PISA data on test scores of 15-year-olds. On Figure 2. 1 below, each dot represents the average attainment within of one of the schools sampled by PISA. The horizontal axis shows the average socio-economic mix of the pupils sampled in the school (20 to 40 per school). The vertical axis measures the average score in math of the same students within the school. Figure 2.2 contains the results of a very similar exercise,

¹¹ Similar results as those reported hereafter emerge when analysing science and reading scores.

¹² The comparison includes Canada, Norway, Finland, Sweden and Denmark; countries that are known for their (relatively) smaller SES-related score gap.

¹³ That can be interpreted in terms of vertical differentiation (Debande and Vandenberghe, 2008).

¹⁴ In fact a residual.

¹⁵ A relatively greater willingness to learn/educate in one Community.

but where the horizontal axis displays the share of pupils attending a vocational track within the schools. It thus controls for the difference in terms of the curricula pupils are actually exposed to.¹⁶

33. What emerges is that — whatever the socio-economic profile¹⁷ or the importance of vocational education — pupils in Flemish-Speaking schools tend to outperform those enrolled in French-Speaking ones (refer to appendixes 1 & 2 for similar results in science and reading literacy). The results on display in Figure 2.1 and 2.2 are largely confirmed by a more thorough and elaborated econometric analysis. The *gross* score gap in math between the French and the Flemish-speaking pupils is estimated to be of 9.1% (i.e. using the French-Speaking community as a benchmark, the math score are 9.1% higher in Flanders). When we condition on (potentially important) cross-Community differences in terms of : *i*) socio-economic profile (both parental profession and material wealth¹⁸), *ii*) immigration background¹⁹, *iii*) attendance of a vocational track²⁰, or *iv*) pupil/teacher ratio... the resulting *net* gap appears even slightly higher²¹ at 10.8%.²²

¹⁶ Although this should be questioned in theory, in Belgium it is often taken for granted that pupils who attend a vocational track are less exposed to the “core” topics (math, sciences and reading) evaluated by PISA.

¹⁷ That, in both linguistic groups, is a strong predictor of performance. Belgium (alongside Germany and the Netherlands) is characterised by a big score gap between i) schools concentrating low-SES aged 15 pupils, and ii) those serving the more privileged segments of the population. The best performer on this indicator is Finland. Sweden is the country that represents the closest match to Finland in terms of its capacity to minimise the score gap between high- and low-SES schools. Then come Norway, Spain, Denmark, Canada, the United States, Great Britain, Italy, France. The worst-performers in this respect are Belgium (both communities), Germany and the Netherlands (Vandenberghé, 2009).

¹⁸ The average material wealth index reported in PISA is higher for Flanders than the French-Speaking Community (see Appendix 2 for more details).

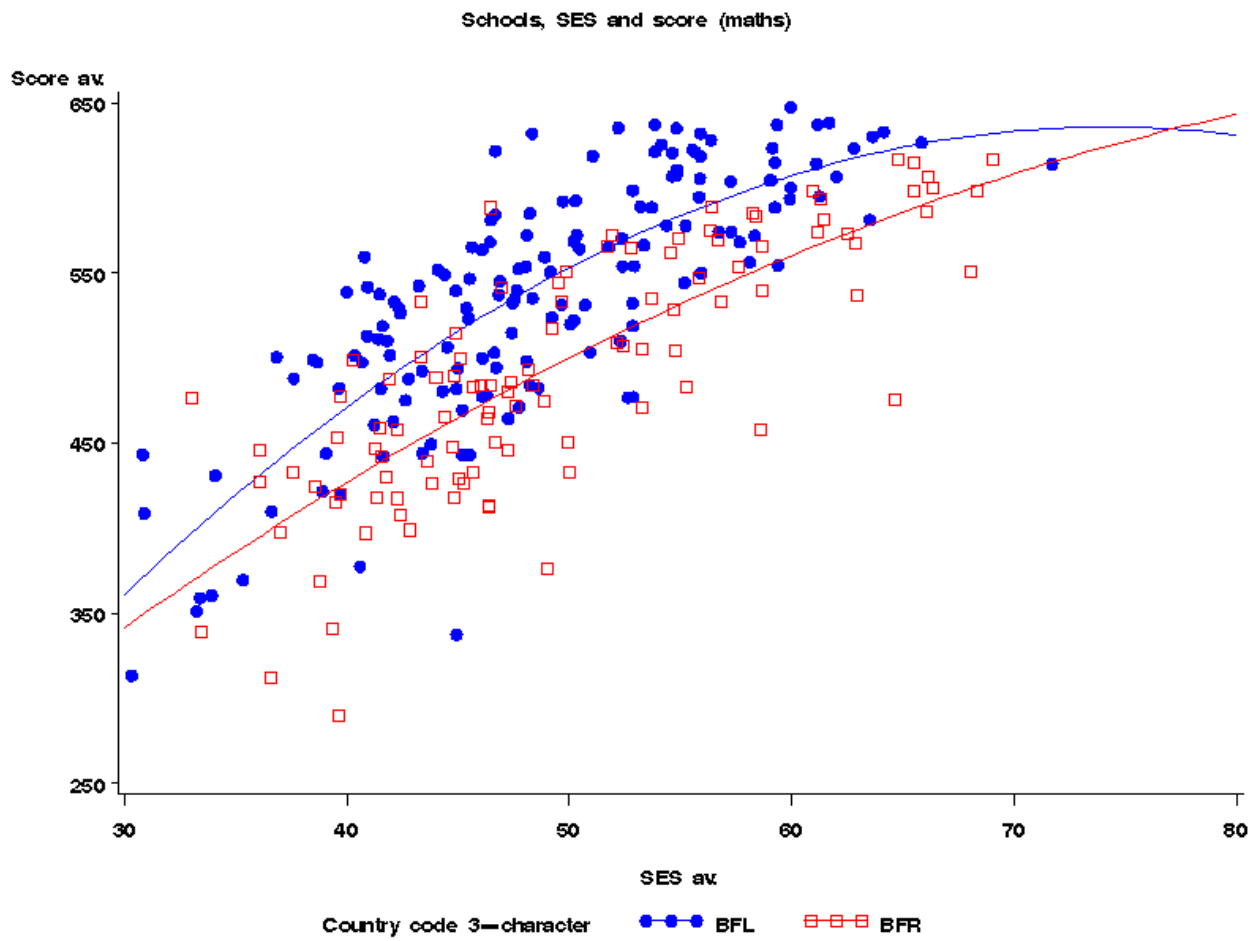
¹⁹ There are more children reportedly with an immigration background in the French-Speaking Community than in Flanders (see Appendix 2 for more details).

²⁰ But there are significantly more children attending a vocational programme in the Flemish-Speaking Community (see Appendix 2 for more details)..

²¹ A possible interpretation of this increment is that the *net* gap « corrects » for the (clearly higher) incidence of vocational education in Flanders (see appendix 3).

²² For an analysis of this gap based on frontier-estimation methods see Perelman, Pestieau & Santin (2010).

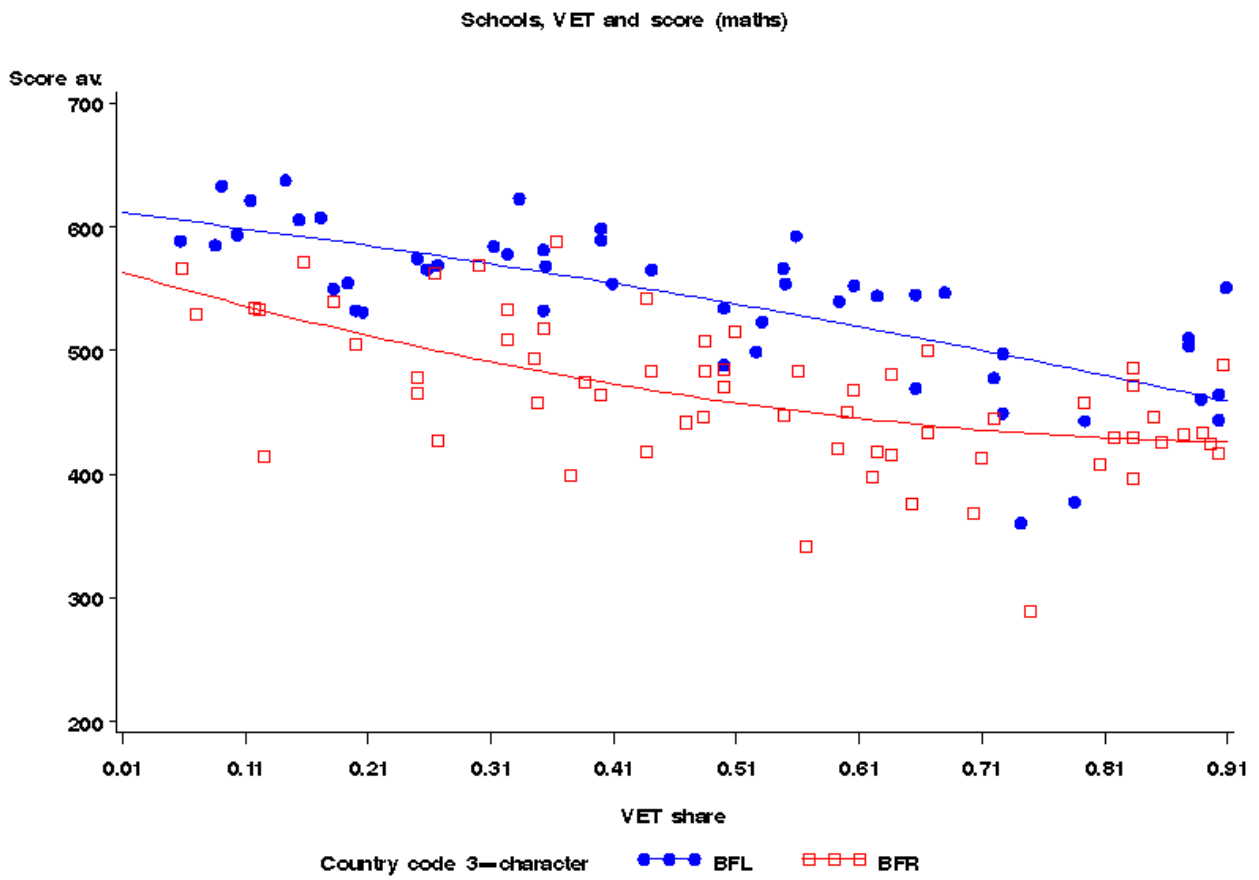
Figure 2.1 .Distribution of educational attainment in Math²³ across schools (conditional on the socio-economic profile of pupils). Flemish vs. French-Speaking Belgium.



Source: PISA, OECD, 2006

²³ Appendixes 1 and 2 display the results for science and reading.

Figure 2.2. Distribution of educational attainment in Math²⁴ across schools (conditional on the importance of vocational education (VET)²⁵). Flemish vs. French-Speaking Belgium.



Source: PISA 2006

Source: PISA, OECD, 2006

²⁴ Appendix I displays the results for science and reading.

²⁵ The share of pupils attending a vocational programme/track.

3 WHAT POLICY VIS-À-VIS UNDERPERFORMING SCHOOLS

3.1. *Rapid overview of what is said in the international literature*

34. Disagreements about how to improve these schools' outcomes loom large. They stem in part from different beliefs about what problems underlie their unsatisfactory outcomes. Broadly speaking, critics tend to invoke, at least implicitly, one of the following reasons (Jacob and Ludwig, 2008):

35. First, schools matter only so much. The real problem rests with the social context in which schools operate – namely, the family, neighbourhood, and peer environments that low-income children experience, or excessive school segregation. Adopting accountability education reforms without changing social policy more broadly will simply punish educators for factors beyond their control, and potentially drive the most able teachers toward schools serving less disadvantaged students. In this case, a necessary condition for making serious improvements in at risk children's schooling outcomes would involve fixing the other social ills associated with poverty that impair children's learning outcomes. In the Belgian context, this means improving (*inter alia*) the labour market outcomes of the adults in the families in which at-risk children live, particularly in regions/provinces that have been severely hit by deindustrialisation (ie. Hainaut, Liège) or have experienced massive influxes of (low-skilled) immigrants (ie. Brussels) (see Table 2.1).

36. Second, schools matter but those serving at-risk students need more resources (*e.g.*, teachers, textbooks, support services) than the other schools to educate the disadvantaged students. In this case, a potential solution would be to provide more money to disadvantaged schools.²⁶ There is evidence that, to a certain extent, this is already done in the French-Speaking Community. There are also plenty of indications that its decision-makers are willing to further "differentiate" school funding according to the socio-economic profile of students. But more research is needed to identify how these resources should be spent. Should, as seems to be the case now, these extra resources predominantly finance smaller class sizes? Or should they be used to attract (or simply retain) better and more experienced teachers? (see Section 2.3)

37. Third, schools concentrating low-achieving children lack the capacity to improve students' learning, independent of financial resources. Under this perspective, the teachers and the heads of school serving highly disadvantaged pupils are thought to lack the (managerial) skills or *knowledge* necessary to improve the quality of instruction on their own. Potential solutions to this problem would involve helping schools improve the quality of their standard operating practices, for example by helping implement specific new instructional or organizational practices (*i.e.* curriculum, instruction, school organization) and/or increasing the instructional capacity of staff in these schools through professional development, and perhaps also more selective hiring.

38. Fourth, these schools do not have sufficient *incentives and/or flexibility* to make the best possible use of their resources. They are under-performing because teachers and heads of school are not working hard enough, they are not working toward the right goal. Or they have good local

²⁶ More on how this can be implemented in Waltenberg and Vandenberghe (2007).

knowledge about what would work best but they are not able to implement these ideas because of centralized authority (bureaucratic rigidities, red-tape...). Proponents of this perspective often claim that without clarifying the key objectives of school, holding key actors accountable while granting them more autonomy, additional spending will simply be squandered. Under this view, the solution would be to enhance incentives through policies such as school choice or accountability and provide professionals more autonomy.

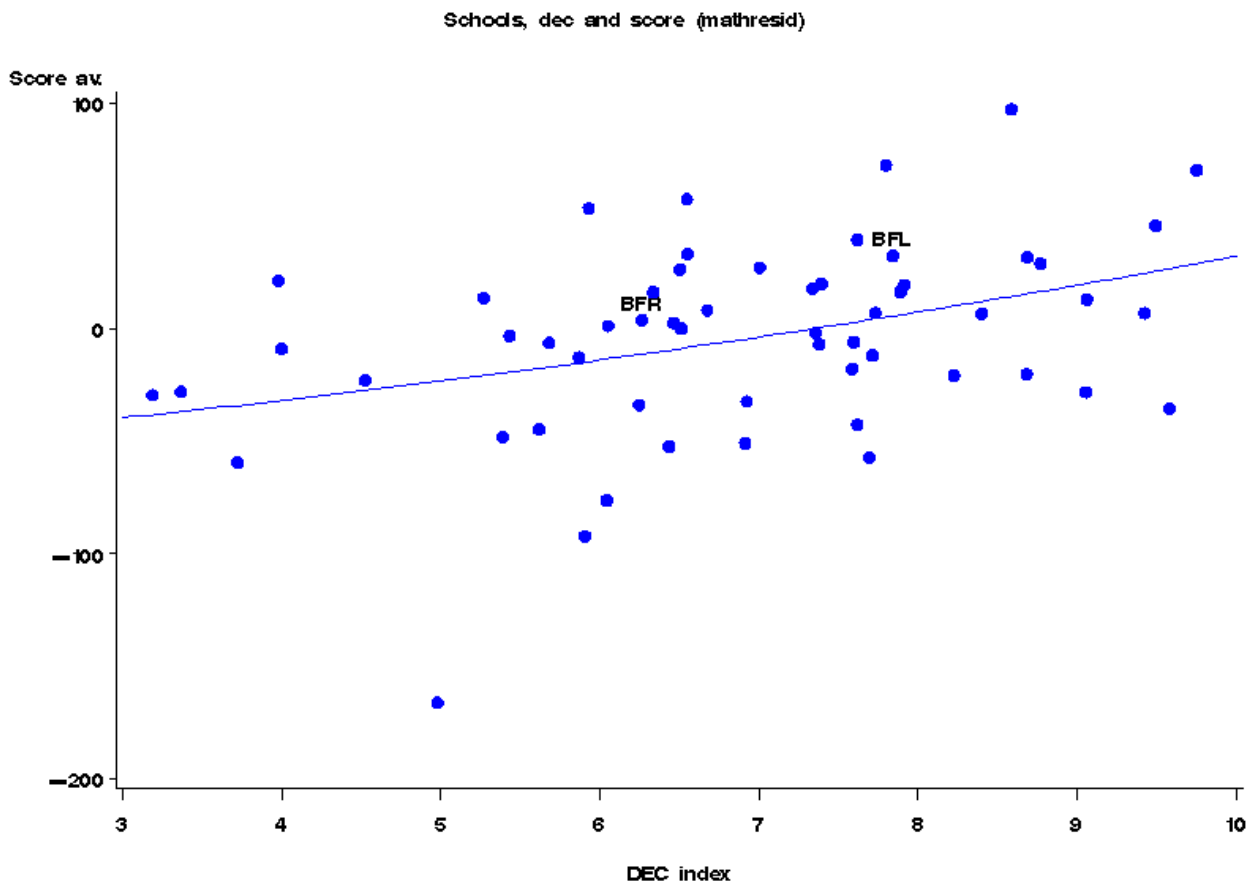
3.2. PISA score and school autonomy/flexibility

39. It is possible to find some empirical support regarding the benefits of school autonomy/flexibility in PISA 2006. Figure 3.1. displays the positive relationship²⁷ between net average score and the school autonomy index. It is important to stress that the scores (on the vertical axis) are “net” of the mechanical contribution of a range of socio-economic (parental socio-professional status, household material wealth, immigration background), curricular (vocational track attendance) or spending factors (number of pupils per teacher in the sampled schools). The index displayed on the horizontal axis proxies the degree of autonomy characterizing key aspects of the functioning of schools. It is equal to (country/community-averaged) number of dimensions of school management that the head of school declares being his/her direct responsibility vs. that of and intermediate (i.e. municipalities or provinces in the case of Belgium) or central school authority (the Ministry of Education). Dimensions examined by the PISA survey comprise (1) teacher hire, (2) teacher fire, (3) establishing starting salaries (4) determining salary increase (5) establishing the school’s overall budget; (6) allocating this budget; (7) student discipline rules; (8) student assessment (exams and grades); (9) student admission; (10) choice of textbooks.

40. One point worth stressing is that, like Hindriks & Verschelde (2010), we find that there is more school autonomy on average in the Flemish-Community than in the French-Speaking Community (see Appendix 4 and Vandenberghe and Robin (2004) for a discussion of how decentralisation/autonomy is related to the private vs. public provision of schooling).

²⁷ In true, a simple positive correlation

Figure 3.1. School autonomy^a and math score^b across countries that participated to PISA 2006



Source: PISA 2006

a) The decentralisation/autonomy index is simply the (country/community-averaged) number of dimensions of school management that the head of school declares being his/her direct responsibility vs. that of an intermediate or central school authority. Dimensions examined comprise (1) teacher hire, (2) teacher fire, (3) starting salary (4) determining salary increase (5) writing the school's overall budget; (6) allocating the budget (7) writing the student discipline rules (8) student assessment (9) student admission (10) choice of textbooks.

b) The raw scores are first regressed on several variables that are likely to capture socio-economic, ability or spending differences across countries. They include the highest parental socio-professional index, the family material wealth index, the immigration background, the average pupil-to-teacher ratio. The residuals (i.e. the part of the raw scores that cannot be ascribed to these factors) are then used to compute the values plotted on this figure.

3.3. Some thoughts about the state of school governance in the French-Speaking Community

41. The above evidence suggest that school autonomy/flexibility is important. It is plausible, however, that is matters only as part of a broader set of key ingredients that need to be properly aligned in order to maximize school performance. We will argue hereafter that one of the French-Speaking Community of Belgium's hurdles is to overcome it recurrent inability to align meaningfully key policy ingredients forming a proper school governance regime.

42. There is a growing consensus among education economists (Levin, 1997; Woessmann & Fuchs, 2007; Hindriks & Verschelde, 2010) that educational output, apart from each individual's

propensity to invest in himself²⁸, is conditioned by the educational system's governance (i.e. large-scale mechanisms or general rules on which teachers and schools have no direct control, because they are the result of political aggregation or historical trends, but nonetheless significantly influence their daily practice). The so-called 'supply side' of the educational process can no longer be represented as a simple black box (Vandenberghe, 1999a).

i). Benchmarks : bureaucracies, incentive contracts or quasi-markets

43. Belfied (2000) reviews the range of governance mechanisms that are to be found in education. He first explains that very few educational systems²⁹ operate like proper markets, where 'providers' (schools, teachers...) are financed directly by their 'clients' through (variable) fees, and where the 'clients' enjoy extended freedom of choice as to the provider they pick.³⁰

44. In the educational sector, the most common and prevalent regulation *modus operandi* is still the hierarchical or *bureaucratic model*. The latter generally grants no freedom of choice to pupils and their families. Zoning regulations, as in the US, France, Norway or Sweden (until the early 1990s), force pupils to attend the nearest local school. Public administrators supervise local decision-makers (teachers, school heads). Administrators evaluate the educational needs of the population, plan the construction of schools and other facilities, appoint teachers, fix wages and pension schemes for educational staff, determine both the curricula or the certification criteria. In brief, the (central) Minister of education personifies the external co-ordination principle, the governance structure of the system.³¹

45. But the bureaucratic model is no longer the only possible governance regime. During the 1970's and 1980's one first witnessed a renewed interest in the regulation of public monopolies and oligopolies through *incentive contracts*. This led to greater decentralisation of decision-making (i.e. more autonomy/flexibility for schools and teachers) and, simultaneously, a greater use of contractual arrangements to ensure compliance with public priorities. Schools would still act as (local) monopolists but the amount of financial resources they received from the government would depend on their ability to meet centrally-defined (and assessed) objectives. This new approach led to the development of output- based (public) financing schemes, a greater use of standardized test to gauge pupils' results.

46. The other source of innovation was the introduction of market-like mechanisms. The main idea was that it must be possible to preserve free (i.e. publicly funded) education and to mobilise the expertise of final users in order to (advantageously) replace the central authority as a

²⁸ Extensively analysed by the human capital model (Schultz, 1961; Becker, 1964) and possibly driven by wage premia documented in Section 2.2

²⁹ Delivering elementary/basic (primary or secondary) education.

³⁰ Exceptions exist, particularly in Third-World countries like Kenya, Sri Lanka or India where private education is still the rule for thousands of pupils at elementary and secondary level. But many 'private' schools are non-profit organisations, ruled by religious communities that manage to limit costs (and fees) essentially by relying on volunteers.

³¹ This does not mean that the educational system is necessarily always totally centralised. Like all complex institutions, hierarchic educational systems are characterised by a certain balance between decentralisation and centralisation. Invariably, educational systems throughout the world delegate some responsibilities to schools and – inside those organisations – to the individual teacher

source of control. This led to the introduction of so-called *quasi-markets*. It was argued that by allowing – properly informed – parents (or youth) to choose their school, governments would force schools to be more accountable to their clients and make a better use of their resources. In quasi-markets, successful decision-making at the school level is rewarded financially by an automatic mechanism, a school's budget is directly indexed on the number of pupils attracted via a voucher system.³² Be it in Chile, New Zealand or Sweden, quasi-market reforms were aimed at solving 'bureaucratic failure' problems: lack of efficiency, low accountability of teachers, excessive red tape (Vandenbergh, 1999b).

ii) The situation in French-Speaking Belgium

47. In the literature, researchers debate on the relative merits of hierarchies, incentive contracts and education quasi-markets. We argue that such a discussion is not (yet) the most relevant one for the French-Speaking Community of Belgium. What pundits should rather consider (and combat) is the excessively hybrid nature of its school governance regime (Vandenbergh, 2007).

48. Hybrid governance exists to a certain extent in Flanders and in many other places in the world. But, in comparison, it has probably loomed larger in the French-Speaking Community. The current governance regime consists of a relatively unarticulated and chaotic addition of the three models exposed above. Over the past decades, French-Speaking decision-makers have been unable to agree on the amount of power to be granted to (1) the central Ministry, (2) the local professionals (heads of schools) and (3) parents or pupils. Sempiternal divergences of view, echoing deeply rooted philosophical and political schisms, have ultimately led to a situation where the top-down/bureaucratic control (the obligation to implement instructions coming from Brussels) systematically cohabits with school-based autonomy and market-driven school management (the necessity to attract pupils to secure resources and jobs).

School choice and quasi-markets

49. For several decades the system — including primary, secondary and tertiary education — has espoused the quasi-market principle as it has combined extended freedom of school choice and public (per-pupil) financing. Schools with dwindling enrollment are fully aware that they are bound to lose resources (i.e. teaching jobs). It is also common practice to spend some of the school resources to put ads in the local papers in order to inform/lure prospective pupils. Anecdotal evidence suggests that some schools require their teachers to hit the street at the end of August to reach out to their potential clientele.

Subsidised schools and the contractual approach to education provision

50. School choice is accompanied by an old tradition of entrepreneurial freedom as to schooling delivery (on the supply-side thus). Belgium indeed comprises a larger number of so-called subsidised « *pouvoir organisateurs/ inrichtende machten* » syndicated in three networks (« *les réseaux/ netwerkers* ») delivering schooling services alongside the central authority. Incidentally, it is worth stressing that a very significant part of educational services in Belgium are delivered by

³² An explicit (where each child receives a voucher) or an implicit one (whereby school are predominantly funded on a per-pupil basis).

schools that are (legally) independent (or ‘free’) from the central ministerial authority. Quite logically, in such a context, the contractual approach to education provision has gained importance. Although central authority funds schools, the advocates of such a model claim that those who run schools on a daily base are best placed to decide on how to spend these funds, starting with the recruitment of teachers. And the external control by the central authority should primarily focus on the schools’ contribution to pupils’ attainment (i.e. final outcomes). However, one must immediately stress that output-based control of autonomous school has been long absent from the landscape.

Superimposed hierarchical and bureaucratic control

51. There is also a (now deeply entrenched) tradition of bureaucratic control of schools, that encompasses ‘free’ subsidised ones. It is based on the precepts of central planning and orchestrated by the Minister of Education and its administration in Brussels. The range of regulatory requirements applicable to (all) schools have loomed larger over the past decades, particularly in the French-Speaking Community. They primarily consist of controlling the way schools use their inputs.³³ Many of the rules applicable to ‘free’ schools aim at aligning the employment status of their teachers on that of civil servants. Schools do not control salary levels. Teachers are not paid at school level, but directly by the Ministry of education. Heads of schools cannot decide upon the relative importance of compensation and benefits (by opting for more/less capital-intensive technologies for example). But, at the same time, heads of school are strongly enticed to respond to market pressures stemming from the school choice + per capita funding ingredient.

52. The Ministry of Education defines teaching credentials which schools must respect when hiring or awarding tenure. Relatively stringent seniority rules limit the capacity of school heads to decide on the teachers they keep on board when enrollment plunges. Weekly schedules and other conditions of work are centrally determined too. Over the past two decades, the central authority in French-Speaking Belgium has also been very active in prescribing the pedagogy to be used by teachers, but without properly considering the other constraints schools have to cope with. Consider, for instance, the uncomfortable situation of a primary school teacher who has been firmly instructed to organise the learning cycle over periods of 2 to 3 years³⁴ but — due to extensive freedom of choice — experiences a 50 to 60% turnover in her class every year.

Hybrid governance and poor performance

53. Our main concern is that hybrid governance contributes to the poor performance of the most deprived segments of the population (see Figure 2.1). These are a priori more ‘dependent’ on the quality of education to succeed academically and professionally. Ideally, education should be *jointly produced* with a contribution from both the demand side (pupils/students and their families) and the supply side (teachers, schools and the public authorities that finance education). But at-risk pupils, coming from broken/ dysfunctional families, are obviously more affected by the way the supply side is structured and operates. They are much less able to compensate or

³³ As stated earlier there is no tradition of output-based control of schools in the French-Speaking Community of Belgium.

³⁴ The so-called « apprentissage par cycles ».

protect themselves from the consequences of ill-conceived or poorly implemented educational policy (Levin, 1997).

iii) Why so much hybridisation ?

54. Our thesis is that the hybrid governance regime that characterises French-Speaking schools largely echoes the diverging political and philosophical “preferences” of the three main “réseaux/netwerken”. The educational landscape is split in two big groups (those who defend the public provision of schooling and those who prefer the provision by ‘free’ subsidised schools), each representing about 50% of the total number of pupils. In addition, the advocates of public provision are split between those who defend local provision (by municipalities or provinces) and those who favour a centralised model where public schools are under the sole jurisdiction of the central ministry.

55. Contrary to most observers, we do not believe that the main problem associated with the presence of “réseaux/netwerken” is cost-inefficiency. The total cost of the system is primarily the result of a product : the number of enrolled pupils X what is spent per pupil on average. The presence of “réseaux/netwerken” [or hundreds of pouvoirs organisateurs/ inrichtende machten] has clearly no impact on the total number of pupils. Some would argue that multiple “réseaux/netwerken” has led to a higher incidence of small schools (known for their higher cost per pupil *ceteris paribus*). But successive reforms since the early 1980s have resulted in the introduction of mandatory enrollment thresholds limiting the magnitude of this problem. A secondary school for example cannot exist (receive public funding) if it enrolls less than 430 pupils. Similar (but logically lower) thresholds exist for primary schools. Exploiting economies of scale has proved feasible within a system where individual schools are syndicated into so-called networks.

56. The true “cost” of the “réseaux/netwerken” rather corresponds to their contribution to the emergence of a very hybrid governance regime. The systematic involvement of their representatives in the policy-making process has prevented (and keeps preventing) the emergence of a coherent governance framework. This is because the models of governance they explicitly or implicitly refer to when they bargain *are a priori* contradictory and difficult to reconcile. What is more, the Minister of education in the French-Speaking Community is suffering from a lack of pre-eminence and independence vis-à-vis the « réseaux », as one of its mandates it to run and defend the interests of its own « réseau » of schools.

57. Sceptics would rightly argue that networks (and the underlying antagonist conceptions as to what “good” school governance means) also exist in Flanders. True. But in Flanders, the network syndicating ‘free’ catholic-affiliated schools is (and has always been) very dominant; with a market share exceeding 70% of the total. This has perhaps contributed to limit the ravages of the hybrid governance disease French-Speaking pupils suffer from.

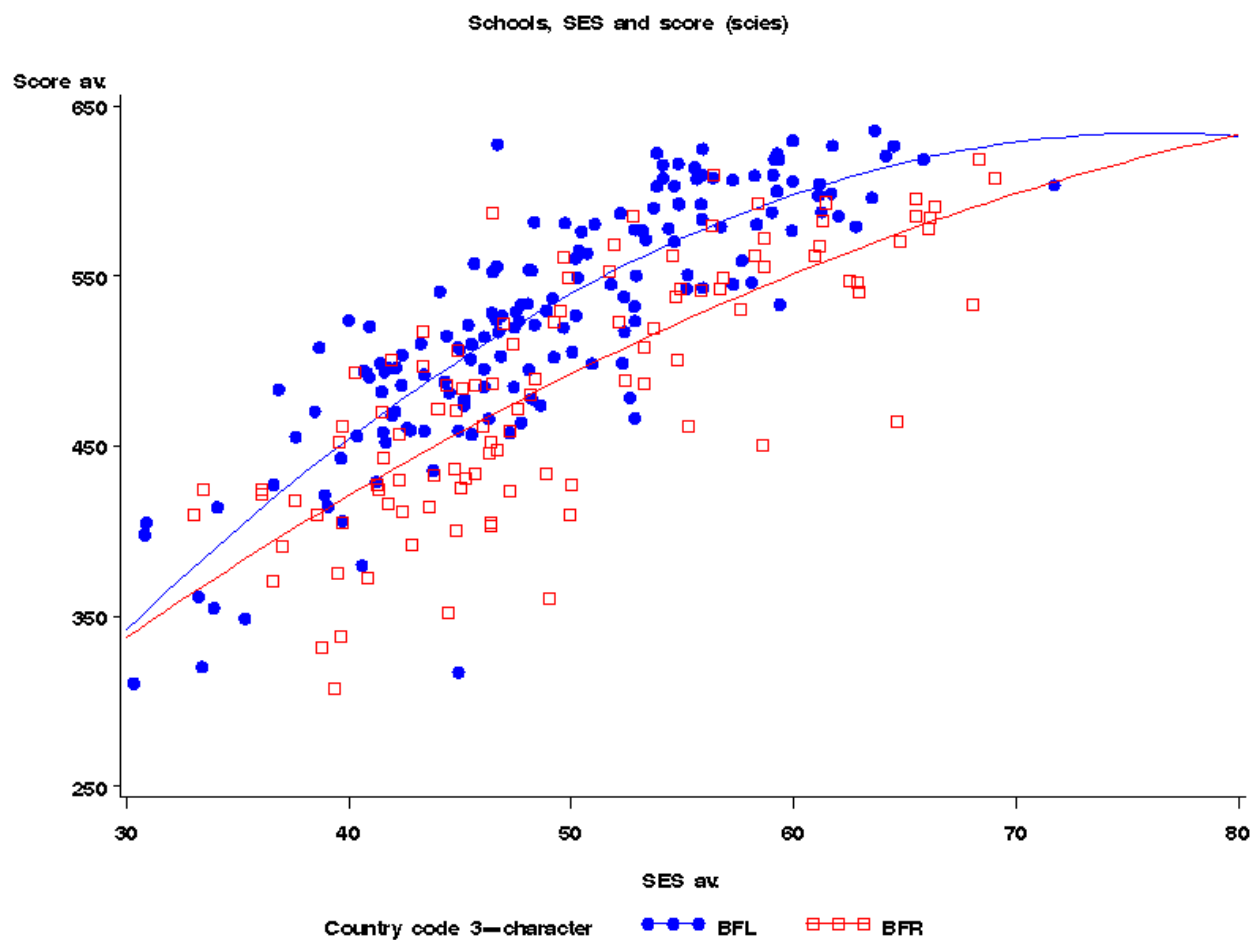
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APPENDIX

Appendix 1

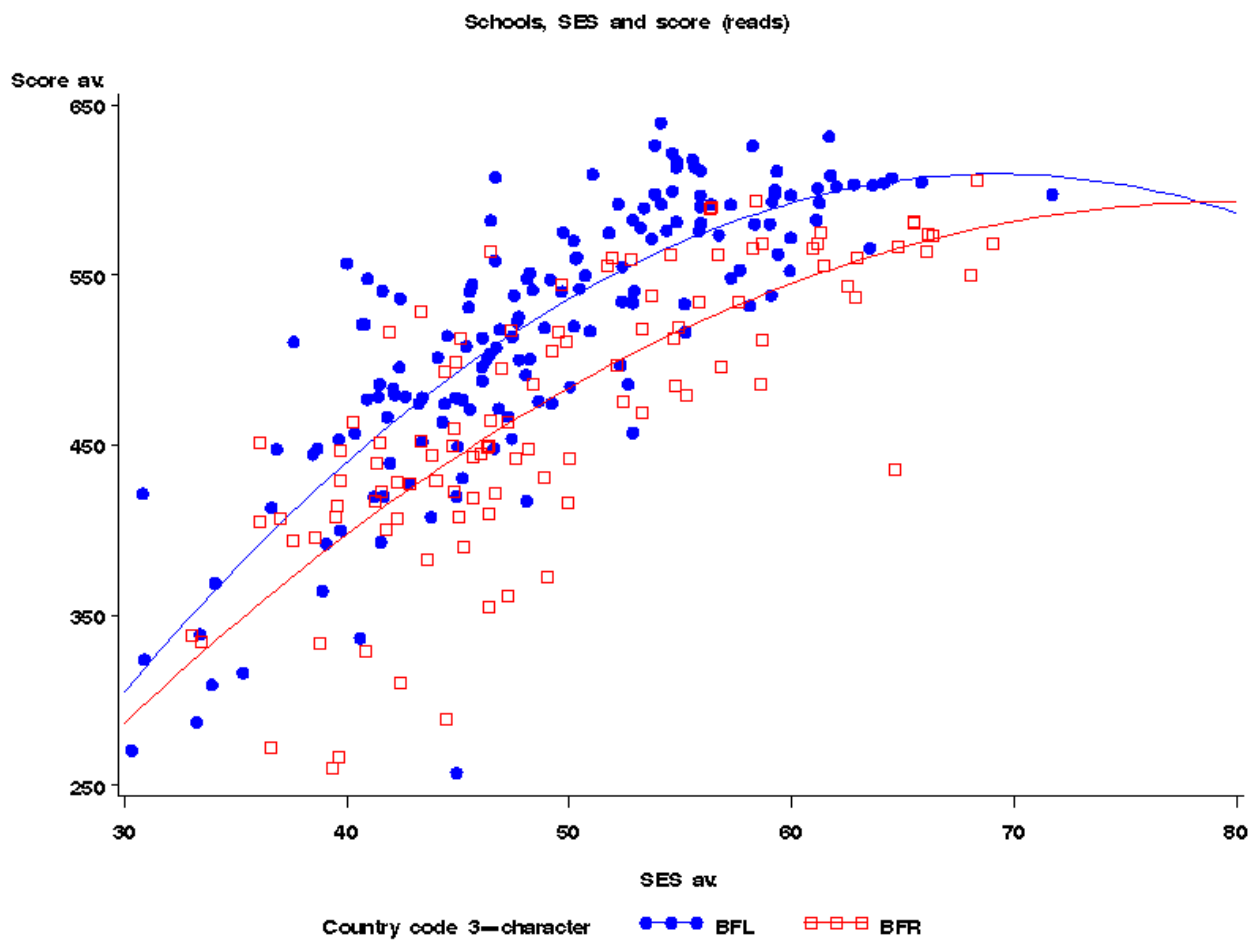
Distribution of educational attainment in Science across schools (conditional on the socio-economic profile of pupils). Flemish vs. French-Speaking Belgium.



Source: PISA, OECD, 2006

c) Plotted trends correspond to OLS-estimated quadratic relationship between scores and SES

Distribution of educational attainment in Reading across schools (conditional on the socio-economic profile of pupils). Flemish vs. French-Speaking Belgium.



Source: PISA, OECD, 2006

Appendix 3: Pisa 2006 – Descriptive statistics

Variable	Community	
	BFL	BFR
Math score	545.82	500.99
Science score	531.35	495.68
Reading score	524.34	483.55
Higher parental socio-professional index	49.80	50.62
Family material wealth index	0.38	-0.07
Number of students per teacher (reported average at the school level)	8.70	9.90
Vocational track attendance	0.54	0.36
Pupils with immigration background	0.07	0.20
Private government-dependent school attendance	0.73	0.56
Nobs	5124	3733

Source: OECD, PISA 2006

Appendix 4: Pisa 2006 – School autonomy index in Belgium. Breakdown by linguistic community and school ownership/legal regime.

Community	Public School	Private Government-Dependent ^b School
Flemish-Speaking	7.85	7.86
French-Speaking	4.94	7.07

- a) The decentralisation/autonomy index is simply the (country/community-averaged) number of dimensions of school management that the head of school declares being his/her direct responsibility vs that of and intermediate or central school authority. Dimensions examined comprise (1) teacher hire, (2) teacher fire, (3) establishing starting sal (4) determining sal. Increase (5) writing the school's overall budg; (6) allocating the budget (7) writing the student discipline rules (8) student assessment (9) student admission (10) choice of textbooks.
- b) Government-dependent schools are those that receive the greatest part of their financial resources from the public authorities (typically the "écoles libres catholiques/ **vrije katholieke scholen**" in Belgium)