How to Combat Low Educational Attainment in Belgium?

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Contents

FOREWORD

1. Good-quality initial education is crucial in facilitating the transition from school to work[1] and putting youth on a successful life and career track. The Belgian public authorities, as well as most stakeholders inside and outside the educational arena, recognise the importance of initial education and its relevance to modern economies and societies. Over the past decades several reforms were implemented to enhance both the effectiveness and the equity of the education system.

2. This text focuses on the needs of those who underperform in the education system and who eventually leave it without a proper qualification. This text is also mainly about Belgian and its constituencies. It presents different performance indicators of the country's educational systems, often in comparison with other EU or OECD countries.[2] Section 1 adopts a long-term perspective regarding educational performance. It essentially tries to trace the origins of the interegional educational attainment gap opposing the Flemish- and French-Speaking regions. Section 2 presents and analyses detailed statistics about the level and the distribution of school underachievment[3] in Belgium. Section 3 examines the likely determinants of underachievement, while Section 4 reviews promising (and rather innovative) strategies to improve performance.

1. The term "school to work" (STW) is a generic term frequently used by labour economists. It corresponds to the moment of life when youth complete initial education and enter the labour market.

2. The comparator countries used in this text vary across indicators. Sometimes they are the whole (or most) of the OECD while in other cases they are the EU countries or a selected group of countries. This reflects limitations in data availability and/or comparability.

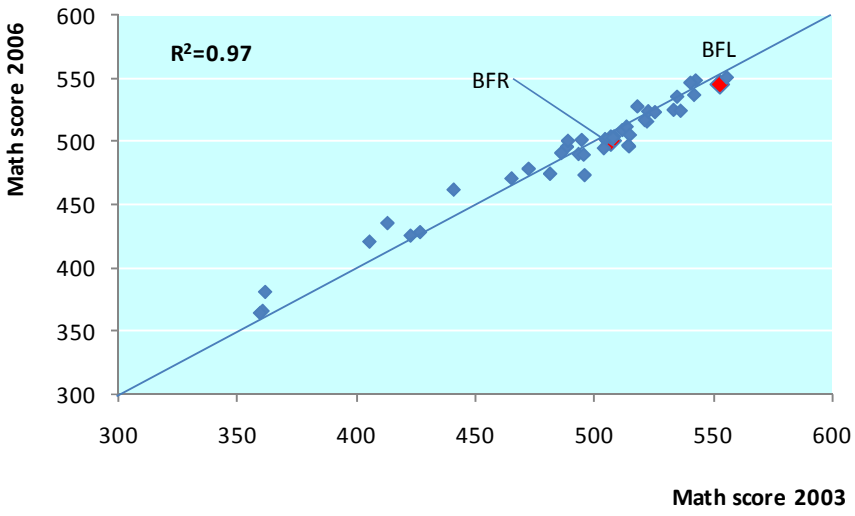
3 Also called school drop-out in many international publications.

1. THINK LONG TERM

3. At the aggregate level — that of a country or a sizeable community — educational outcomes evolve very slowly and gradually. The comparison of PISA[4] 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 years[5], 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**

Country mean scores in Mathematics



Source: PISA, OECD, 2003 and 2006

4. 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 (TIMSS[6], PIRLS[7], PISA), have been around for a long time; for much longer than most analysts usually assume. And

4 The OECD's Programme for International Student Assessment.

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

6 Trends in International Mathematics and Science Study.

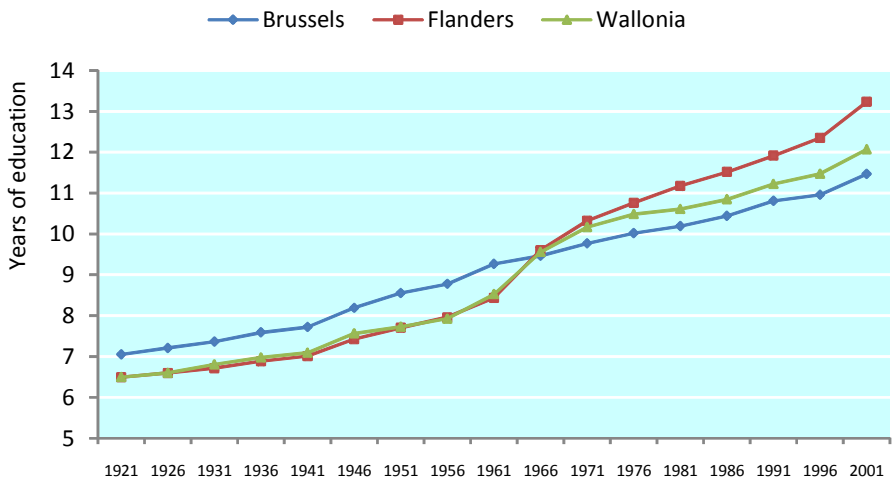
7 Progress in International Reading Literacy Study. Both TIMSS and PIRLS are developed and implemented under the auspices of the International Association for the Evaluation of Educational Achievement (IEA).

the 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 so-called "renové") or the1990s (with the complete devolution of educational policy to the Communities and the adoption of a block-grant[8] financing mechanism).

5. 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 materialised 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**

Average number of years of education. Adults aged 25-29



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

Source : Belgian census 1961,1991, 2001

[8] 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.

2. THE EVIDENCE ABOUT SCHOOL DROP-OUT IN BELGIUM AND ELSEWHERE

2.1. Intensity of school drop-out

6. We now turn to school drop-out and educational underachievement in general. We focus on its configuration in Belgium, with a particular focus on French-Speaking Community of Belgium (FSCB) where it is obviously more prevalent (Figure 1.2). How important is it compared with other countries/entities? And what are its main characteristics or components? A preliminary step is to clarify what is meant here by the term "school drop-out".

7. Educators tend to consider someone is a "drop-out" if he/she interrupts his/her upper-secondary education (or ISCED 3)[9] before passing the final exams and obtaining the diploma. The definition used here is slightly different. It basically refers to the highest qualification that young adults eventually obtain. If they do not possess an upper-secondary degree by the age of 20-24 we consider them as drop-outs. Why 20-24 ? Although the typical upper-secondary school student will finish his/her secondary education by the age of 18, some do not, for a variety of reasons. Estimations of drop-out rates based on the attainment of groups that are relatively younger might count as a "drop-out" someone repeating grades or taking a temporary break from his/her schooling. However, by the time a person is 20-24, much of the opportunity for completing upper-secondary qualifications has gone.

8. Table 2.1., as an illustration, reports 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 province. It comes as no surprise that the

[9] International Classification of Education.

Region of Brussels has the highest drop-out rate (28%) followed by Hainaut (25%) and Liège (23%).

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

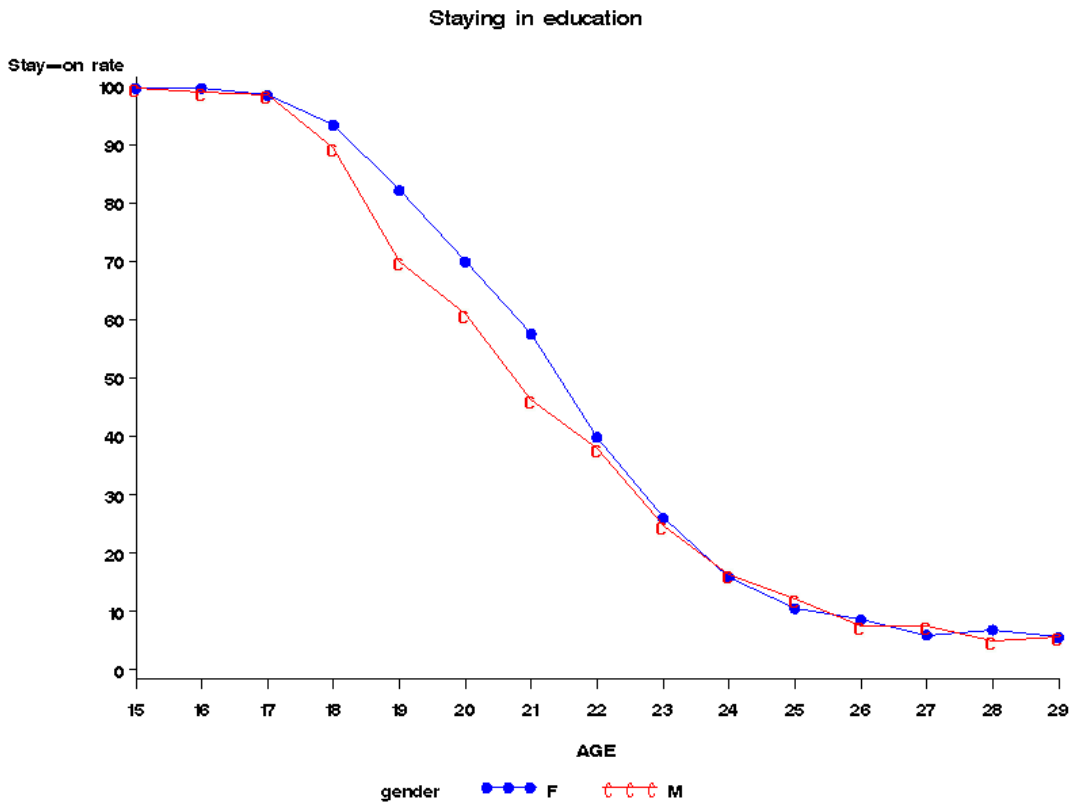
Provinces	Percentage of youth without ISCED 3
Antwerpen	13.6
Limburg	15.1
Vlaams Brabant	15.2
West-Vlaanderen	11.5
Oost-Vlaanderen	12.6
Rég. Bruxelles-Cap.- Brussel	28.4
Brabant Wallon	13.9
Hainaut	25.2
Liège	23.0
Luxembourg	14.4
Namur	19.6
Women average	14.6
Men average	21.0

Source: EU-LFS, 2007

2.2. Drop-out, educational attainment and gender

9. A relatively unknown development is the growing gender gap in terms of school drop-out and school underachievement. *Girls now largely outperform boys* when it comes to school perseverance. This is a phenomenon that is common to almost all advanced economies. Boys are more likely to interrupt education early than girls. The phenomenon is clearly visible in Belgium. The bottom of Table 2.1 shows that the drop-out rate among Belgian men is 21% in on average, while it is less than 15% among women. Figure 2.1 largely confirms these figures. It shows that the propensity of men to stay on in education is systematically lower than that of women over the age band 18-22.

Figure 2.1. **Stay-on rate by gender**



Source: EU-LFS, 2007

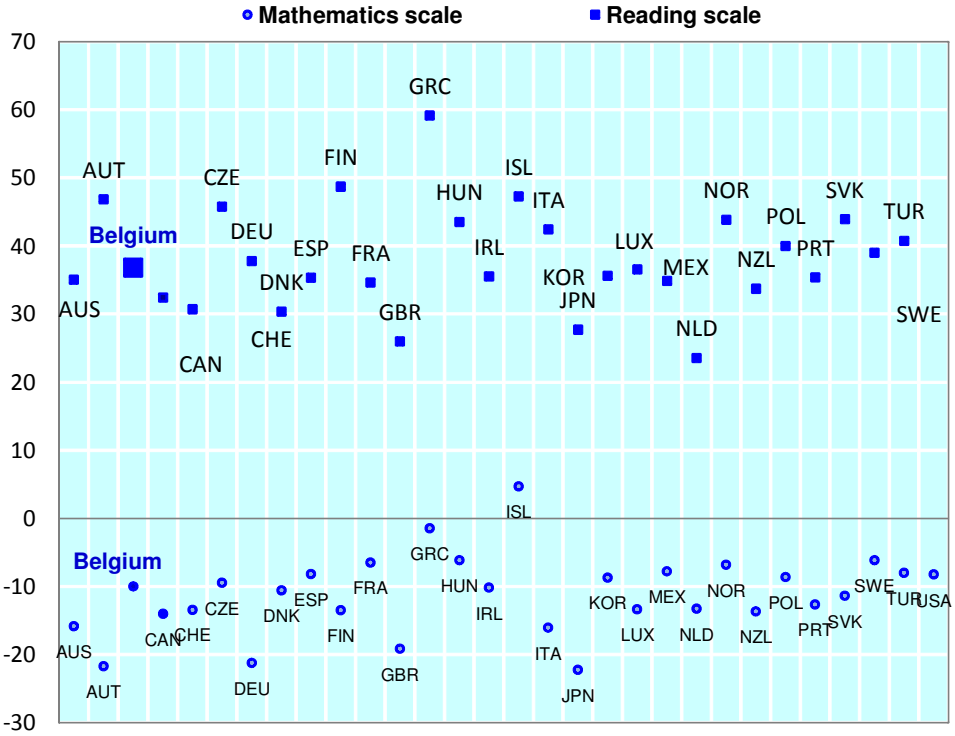
10. PISA 2006 tests scores also show that girls, across most OECD countries including Belgium, do much better than boys in terms of reading literacy scores (Figure 2.2). But this is still not true for mathematics and numeracy skills in general. In Belgium, 15-year-old boys still slightly outperformed girls in mathematics by 10 points, which is very close to the OECD average (11 points). This result is valid even after controlling for potential differences in the socio-economic background.[10]

11. An aside is that women do not seem to fully benefit from their overall educational advantage when they enter the labour market. Despite dramatic educational gains by women in terms of university participation and completion, advances in terms of labour market outcomes have been less important. Recent statistics show that typical female graduates still earn only 85% of average male graduates, five year after graduation. Part of the explanation is to be found in enrolment

[10] Among the sampled individuals.

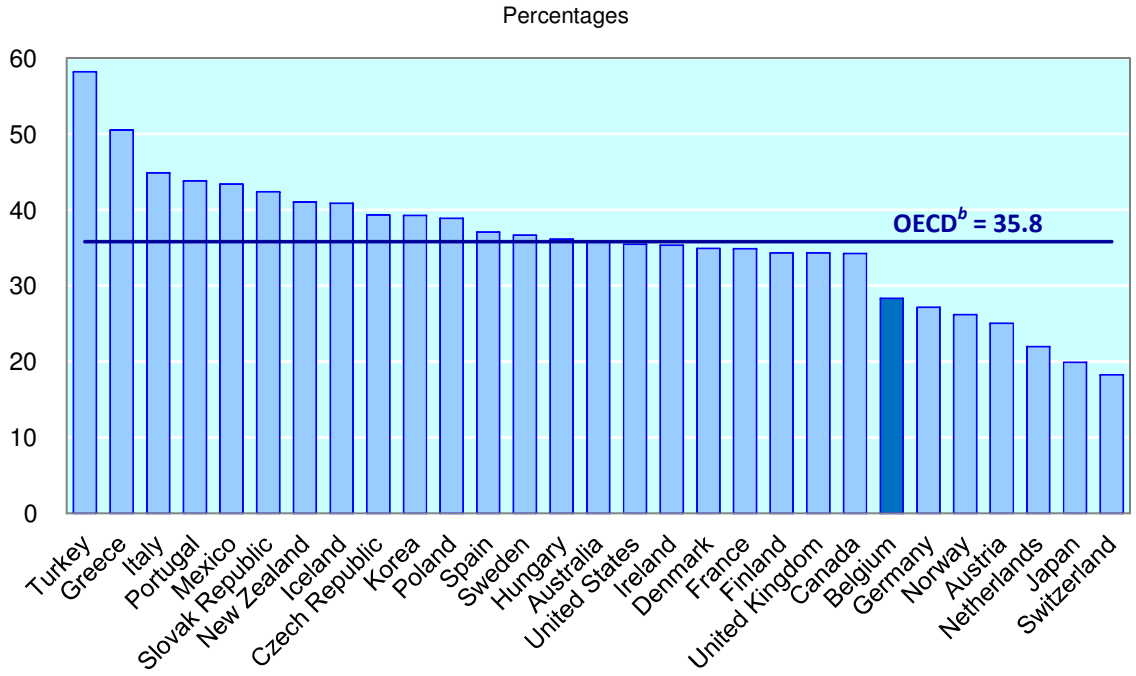
patterns that are still gender-biased. Historically, the type of tertiary education programmes (or fields of study) in which women and men enrolled and completed varied dramatically. To a large extent this is still the case today. OECD data show that in Belgium women aged 25-34 are underrepresented among science graduates (Figure 2.3), as they represent only 29% of the total. Other data confirm that women are under-represented among engineers or commerce/business graduates and they are strongly overrepresented in education-related programmes (OECD, 2008).

Figure 2.2. **Difference between girls and boys scores[a] in reading and mathematics,[b] OECD countries, 2006**



a) A positive value indicates that girls outperform boys; and a negative one that boys outperform girls.
b) Corrected for parental education background influence.
Source: OECD PISA 2006 database.

Figure 2.3. **Share of women aged 25-34 among science graduates,[a] OECD countries, 2004**



a) Science fields include life sciences; physical sciences, mathematics and statistics; computing; engineering and engineering trades, manufacturing and processing, architecture and building.

b) Unweighted average of countries shown. Luxembourg is missing.

Source: OECD, *Education at a Glance 2006*, Paris.

2.3. Immigrants versus natives score gap

12. Most OECD countries regularly argue about the labour market performance of their different waves of immigrants. The European evidence seems to be that this group is taking a long time to converge with the mainstream, both in terms of employment and pay.

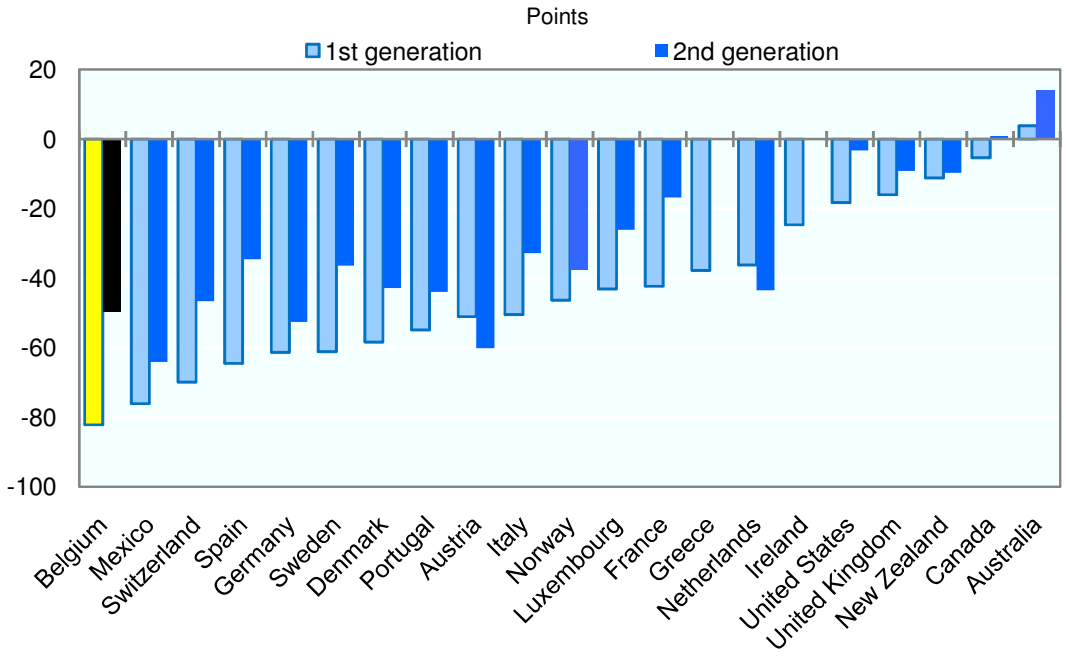
13. As to education, it is noticeable from PISA 2006 test scores (Figure 2.4) that children of immigrant origin[11] – who represent about 10-12% of a typical Belgian school cohort – are doing very poorly at school. Figure 2.4, displaying the relative performance of immigrants in

11. In PISA, native students are those born in the country of assessment or who had at least one parent born in the country; first-generation immigrants are those born outside the country of assessment and whose parents were also born in another country; second-generation immigrants are those born in the country of assessment but whose parents were both born in another country.

mathematics,[12] shows gaps ranging from 60 to 80 points (the equivalent of 1.5 year of progression). The gap is particularly strong amongst first-generation immigrants.

14. It is worth stressing that, because they are computed solely with the "within parental education categories" score variance, the estimates displayed in Figure 2.4 are "cleared" of the mechanical contribution of parental education. In other words, the reported results control for score gaps that may simply be caused by differences in the level of parental education distinguishing those from immigration background and the others.

Figure 2.4. **Score gap[a] in mathematics between natives and first- and second-generation immigrants[b] for youth aged 15, Belgium[cs] and other OECD countries, 2006**



a) Corrected for parental education background influence.

b) In PISA, native students are those immigrants born in the country of assessment or who had at least one parent born in the country; first-generation immigrants are those born outside the country

c) Diffrences between Flanders and the French-Speaking Community are negligible.

Source: PISA 2006

12. *A priori* less influenced by background variables than reading scores.

3. WHAT DRIVES DROP-OUT AND EDUCATIONAL UNDERACHIEVEMENT IN BELGIUM?

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

15. 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). 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…).

16. 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 regions forming the French-Speaking Community, where many youth tend to underachieve at school.

17. One simple and relatively straightforward way to assess the 'profitability' of schooling in Belgium and its Communities is to resort to Mincerian wage estimates. [13] 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.

18. Results in Table 3.1 below are based on EU-SILC[14] gross wage and income data. Using these, one can estimate a log-linear[15] wage equation known for delivering estimates of the rate of return

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13 The standard form of the Mincer wage regression is $log\ W = \beta_0 + \beta_1 S + \beta_2 exp + \beta_3 exp^2 + \varepsilon$, 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.

14 European Union Statistics on Income and Living Conditions survey.

15. 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 $logW(S) = \beta_0 + \beta_1 S + \varepsilon$. There is indeed that $\beta_1 = dlnW/dS = (dW/W)/dS \approx [W(S + 1) - W(S)]/W(S)$ *when* $dS=1$.

associated with one additional year of (succesfully 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.

19. Panel A of Table 3.1 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.

20. Panel B of Table 3.1 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.[16]

21. 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 2.1) are those granting the higher rate of return.

22. The last column of panel B, Table 3.1 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

[16] Similar results are to be found in de la Croix and Vandenberghe (2004)

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.[17]

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

Table 3.1. **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 region

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%

3.2. Lack of school resources?

The overall (and long-term) view

24. These 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

[17] 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 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.

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.

25. In truth, there are signs since the mid 1990s that teacher pay in Belgium has not risen as much as in other OECD countries (Table 3.1). Between 1996 and 2006 Belgian 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 also some evidence that the so-called "communautarisation" has translated into diverging patterns of teacher pay across the linguistic border (Table 3.1). In short, during that period wage increments in Flanders slightly exceeded those registered in the French-Speaking Community of Belgium.

26. 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 3.2. **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 avera	**118**	**116**	**117**	**119**	**116**	**117**	**114**	**113**	**114**

Source: OECD, Education at a Glance 2008

More resources for at risk pupils?

27. 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?

28. 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 score[18] at the age of 15 essentially reveals the following :

[18] Similar results as those reported hereafter emerge when analysing science and reading scores.

- Belgium (both Communities) is the only country[19] 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. And 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.

29. In a nutshell, these results seem to suggest that Belgian 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.[20] 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?

[19] The comparison includes Canada, Norway, Finland, Sweden and Denmark; countries that are known for their (relatively) smaller SES-related score gap (see Table 2, below).

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

3.3. Underperforming schools?

30. Another way of gaining further insight as to what drives poor educational attainment is to analyse *the distribution of attainment across Belgian schools*. Again, this can be done using 2006 PISA data on test scores of 15-year-olds. On Figure 3.1 below, each dot represents the average attainment 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 group of students.

31. What emerges is that there are 'excellent' schools in Belgium, both in the French-Speaking and the Flemish-Speaking Communities. Using Finland[21] as a benchmark, it turns out that the schools that concentrate the pupils with the highest socio-economic status (SES) (to the outer right on the horizontal axis of Figure 3.1) perform as well as Finish schools with similar students. In the case of the Flemish-Speaking Community the evidence is even that their perform better than their Finish counterparts.

32. However, what probably matters more in the context of this review is that Belgian schools concentrating low-SES pupils — singularly those of the French-Speaking Community — systematically perform much worse than in Finland. Although not all students with low scores at the age of 15 will become drop-outs, the odds are that many will, or at least that many will face difficulties in successfully undertaking advanced studies. The tentative conclusion is thus that, in Belgium, many among those at risk of dropping out are concentrated in schools that underperform relative to similar[22] foreign schools.

33. Belgium — alongside Germany and the Netherlands — is indeed 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. This is visible in Table 3.1. Reported values capture the *additional score gap* that can be ascribed to the considered country compared with what it is in Finland. As many would have expected, Sweden is the country that represents the closest match to

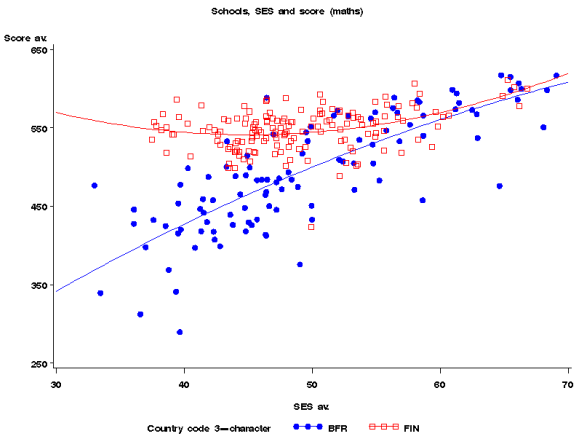
[21] Finland is known for being a top-performer to PISA tests.

[22] Concentrating the same type of pupils.

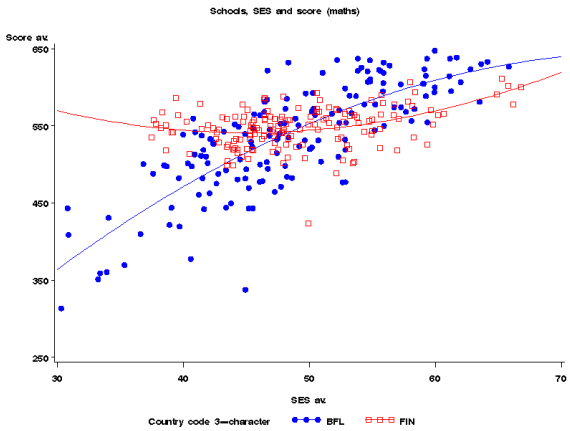
Finland in terms of its capacity to minimise the score gap between high- and low-SES schools. Then come Norway, Spain, Denmark, Canada, the United States, Great Britain, Italy, France. The worst-performers on this indicator are Belgium, Germany and the Netherlands.

Figure 3.1. **Distribution of educational attainment across schools. Belgium versus Finland**

French-Speaking Community



Flemish-Speaking Community



Source: PISA, OECD, 2006

Table 3.1. **Intensity of the score gap between low and high-SES school**

Finland=reference country

Country	Estimate	Probt
DEU	6.3	0.0000
NLD	6.2	0.0000
BFL	**5.8**	**0.0000**
BFR	**5.2**	**0.0000**
FRA	4.3	0.0000
ITA	4.2	0.0000
GBR	3.6	0.0000
USA	3.5	0.0000
CAN	2.4	0.0000
DNK	2.2	0.0018
ESP	1.4	0.0206
NOR	1.2	0.0904
SWE	1.0	0.1290
FIN	ref	

Reported coefficients correspond to the estimated π in the following model $maths=\alpha+\beta hisei+\lambda cnt+\pi\, cnt*hisei$ where *hisei* is the highest parental socio-economic index. Using Finland used as a the country of reference, the (positive) estimated π*'s* capture the country-specific additional sensitivity of math scores to increments of the socio-economic index.
Source: PISA, OECD, 2006

4. WHAT CAN BE DONE TO REDUCE SCHOOL DROP-OUT AND COMBAT UNDERACHIEVEMENT?

4.1. (Very) early exposure to education matters more than access to training and other remedial programmes targeting young adults.

34. Recent research by Cunha and Heckman (2007) shows that, in the U.S., about half of the inequality in lifetime earnings[23] is due to factors determined by age 18.

35. In evaluating a human capital investment strategy, it is thus crucial to consider the entire policy portfolio of interventions together — programmes, (pre-)school-based policies, school training reform, and early interventions — rather than focusing on one type of policy in isolation from the others.

36. Early investments in learning are more effective according to Heckman *et al.* (1999). The traditional emphasis on lower study costs (or more tutorial help) for university students is misplaced when the value of early preschool interventions is carefully examined.[24] A relatively unknown feature of the PISA 2003 survey is that participants were asked to report their pre-school experience before they started primary schooling. This information can be used to measure the correlation between early education and cognitive achievement at the age of 15 (that, in itself, is a good predictor of future academic and professional success). In Belgium, reported score differences (Figure 4.1) between those who spent two years or more in pre-school/kindergarten and those who spent no time range from 43 to 45 points on the PISA scale (or 0.43 to 0 45 of a standard deviation). The score gaps in Belgium, for both reading and mathematics, are above the equivalent OECD average.

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[23] Present value of lifetime earnings.

[24] For a more thorough discussion about the economics of tertiary education finance in a European context see (Vandenberghe and Debande, 2007, 2008).

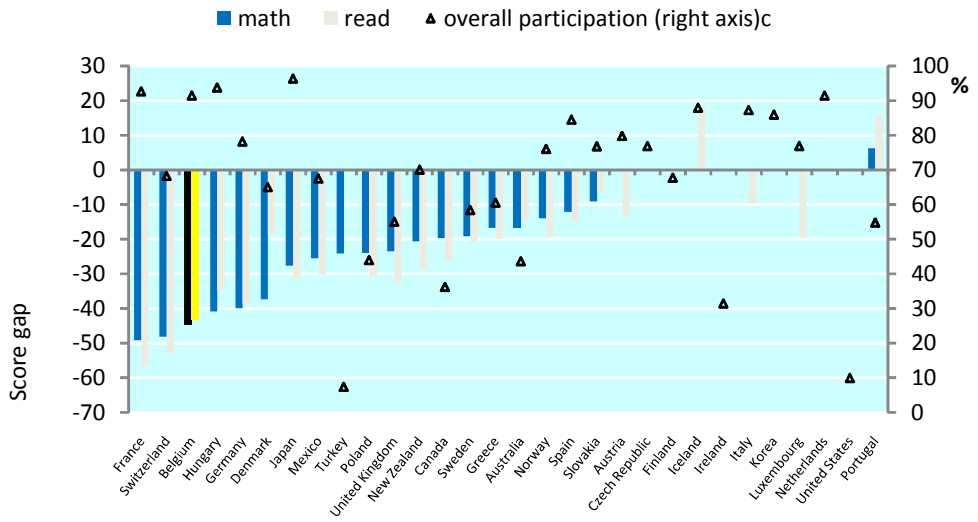
37. This said, Figure 4.1 (on its right-hand axis) also reveals that Belgium has one the highest pre-school attendance rate of the OECD, alongside France, Hungary and Japan. Hence, the policy issue in Belgium is probably more that of the *quality of pre-school* and/or the ability of the system to target the groups that are the most at risk.

38. Pre-school should not be amalgamated with childcare/kindergarten services. Childcare refers to arrangements made for the care of children when parents are not available. Traditionally, childcare has been viewed as a tool to foster (mainly female) employment and support families, rather than being part of the education system. Pre-schools, by contrast, are supposed to offer a range of educational and developmental programmes to children, delivered by staff with teaching qualifications. As mentioned earlier, there is abundant evidence from the evaluation literature concerning the long-term benefits of pre-school. The evaluation of the outcomes of childcare is much more contrasted and sometimes leads to the conclusion that attendance is counterproductive (Lefèbvre *et al.,* 2006).

39. And regarding Belgium, there is, as far as we know, no systematic evidence to qualify the nature of activities taking place in our "maternelles/kleuterscholen". Do all of them qualify as proper pre-schools or do a significant number of them, and perhaps mostly those attended by at risk children, predominantly operate as kindergarden?

Figure 4.1. **Pre-school non-attendance and score gap[a] at the age of 15, based on PISA 2003**

No pre-school attendance *versus* two or more years of attendance[b]



OLS (ordinary least square) coefficients not statistically significant at the 5% level are set to zero. The regression includes the following control variables: mother education, father education, immigration status, index of socio-economic and cultural status. The analysis attempted to find out whether the benefits of pre-school were *greater* for those from low SES backgrounds, but the results where most of the time inconclusive.

Reference group.

Unweighted average of OECD countries.

Source: OECD PISA 2003 database

40. Following Heckman, it does not make sense to postpone investing in children until they become adults, nor to wait until they reach secondary education age — a time when it may be too late, or not very cost-effective, to intervene. Learning is a dynamic process and is most effective when it begins at a young age and continues through teenagehood and adulthood.

41. The returns to human capital investments are greatest for the young for two reasons: *i)* younger persons have a longer horizon over which to recoup the fruits of their investments and *ii)* skill begets skill. Skill remediation programs for adults with severe educational disadvantages are much less efficient compared with early intervention programmes. So are training programs for more mature workers made redundant during economic downturns.

42. The evidence coming for the evaluation literature in the United States is that most up-skilling programmes for adults are not cost-effective at raising future earnings of participants (Heckman

et al., 1999). A closer look at the results of this literature reveals that estimated impacts of training programmes for disadvantaged workers on their later earnings vary according to demographic group, with *i)* more positive impacts generally observed for adult women than men, and *ii)* for adults than for out-of-school youth (Holzer, 2008).

43. The evaluation of the Danish experience delivers results that are similar in nature, although they primarily relate to the (un)employment prospects of programme participants and not so much their future earnings (*i.e.* the outcome generally looked at in the United States). Since 1996, with the enactment of the Youth Unemployment Programme (YOP), Danish drop-outs aged less than 25, and who have been unemployed for six months, have their level of unemployment benefits[25] cut by 50% and are obliged to enter a special education programme. What is more, they face a total loss of unemployment benefits if they refuse to participate in such a programme. This package has been considered the most effective in reducing youth unemployment in Denmark. But researchers provide evidence that is primarily the threat of participation and the associated financial loss that raise the transition rate from unemployment into employment, whereas the job-finding rate of individuals who complete the various skill-enhancing programmes is more or less unaffected (Svarer, 2007).

44. Why is it that many skill-enhancing programmes for teenagers or young adults apparently deliver little results? Skill-enhancing programmes logically try to reach out to the relatively unskilled and less able individuals. But initial skills and training are "complementary" inputs in the human capital production function. In non-technical terms this means that the benefits of training are intrinsically lower for (initially) low-educated individuals than highly educated ones. And if basic cognitive skills of disadvantaged adults are very weak, it is unlikely that (generally short) training programmes effectively raise their skills (Holzer, 2008). Moreover, the production of skills requires a minimal dose of two ingredients that are not particularly abundant among disengaged youth aged 15+; *i)* patience; and *ii)* a certain willingness to learn, as opposed to a willingness to earn (an ingredient most labour-market activation strategies mobilise).

45. The cost of a successful training strategy targeting disadvantaged youth aged 16-24 is another important issue. James Heckman also explains that, in the United States, only the *Job Corps*

25. The level of unemployment benefits is known for being very generous by international standards.

programme has a demonstrated positive impact on earnings. Such a programme is a notable example of a residential attempt to combat the multiple barriers to employment some youths suffer from. It consists of taking (very) disadvantaged youth aged 16-24 out of their regular locality (family, group of peers, neighbourhood, etc.) and putting them into a boarding-school type environment, giving them intense face-to-face adult mentoring, work experience, and remedial basic education. But this is an expensive programme, costing more than USD 20 000 per participant.

46. The overall available evidence clearly suggests that adults past a certain age and below a certain skill level obtain poor returns to skill investment. A reallocation of funds from investment in the old and unskilled to the young and more trainable for whom a human capital strategy is more effective is likely to produce more favourable outcomes in the long run.

4.2. Families and non-cognitive skills also matter

47. The role of the family is also crucial to the (early) formation of learning skills, and government interventions at an early age targeting dysfunctional families have proven to be highly effective, at least in the U.S. context reviewed by Heckman *et al.* (1999);

48. Similarly, non-cognitive abilities turn out to be important determinants of schooling and socio economic success. By non-cognitive abilities, we mean motivation, socio emotional regulation, time preference, personality factors and the ability to work with others. In the U.S. and many countries around the world, schooling gaps across ethnic and income groups have more to do with ability deficits than family finance in the school-going years (Heckman *et al.*, 1999 ; Vandenberghe, 2007). A substantial body of research shows that earnings, employment, labour force experience, tertiary education attendance, teenage pregnancy, participation in risky activities, compliance with health protocols and participation in crime are strongly affected by cognitive and non-cognitive abilities.

49. The importance of non-cognitive skills tends to be underrated in contemporary policy discussions.

50. Compelling evidence on the importance of non-cognitive skills comes from the GED[26] programme (Heckman, 2008). In the U.S. GEDs are dropouts who pass a test to certify that they are equivalent to high school (*i.e*. upper-secondary school) graduates.[27] Participation in the GED programme in the U.S. is growing. Currently 14 percent of U.S. secondary diploma (ISCED 3) issued are GEDs. The scheme is successful in terms of measuring performance on tests of scholastic ability. Those who hold GEDs are as smart as ordinary high school graduates, yet they lack key non-cognitive skills: they cannot finish anything for instance. They quit the study programmes, jobs and marriages they start at much greater rates than ordinary students. The point is that employers seem to care about their instability as they penalize them heavily by paying them lower wages *ceteris paribus*.

51. This and other evidence show that both cognitive and non-cognitive skills matter in a variety of aspects of life. Hence, programmes that build "character" and "motivation" that do not focus exclusively on cognition appear to be promising.

4 3. Reaching out to immigrants

52. Section 2 contains ample evidence that, in Belgium, youth of immigrant origin underperform their native peers. Similar problems — although less severe in magnitude — exist in other EU countries and have led to many innovative strategies. A particularly interesting example is provided by Norway with its 2007 *Strategic Plan of the Ministry of Education and Research*. The latter spells out several priorities for immigrants/linguistic minorities. One of the recently enacted initiatives simultaneously targets young children and their parents.

53. In the deprived Stovner district of Oslo, the year 2006 marked the beginning of a pilot that consists of offering free care time to all 4- and 5-year olds. Emphasis is placed on *i)* recruiting children who do not attend kindergarten, and on *ii)* systematic language stimulation in the kindergartens. There is also a targeted follow-up of parents and guardians with a minority background to ensure that they too develop better proficiency in Norwegian via the Norwegian

[26] General Educational Development.

[27] The equivalent of our "jury central/examen commissie".

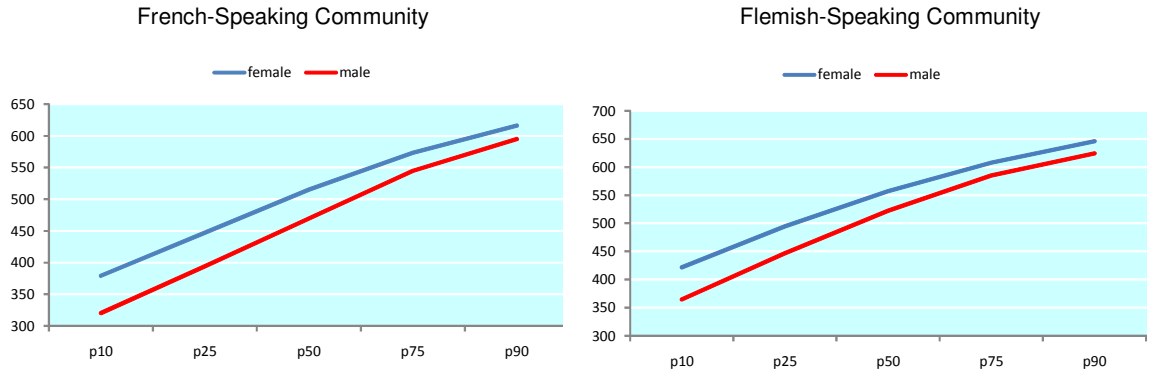
centre for adult education (VOX). Nationwide, it is in public health centers (where kids come to get their first vaccines), that screening is undertaken to identify those who need tailored education in Norwegian.

4.4. Teenage boys probably need more male teachers

54. International evidence suggests that in pre-school, boys and girls achieve equally on tests of reading, general knowledge, and mathematics. By third grade (mid of primary education), boys have slightly higher mathematics scores and slightly lower reading scores. As children grow older, the latter gap widens, particularly in reading. Between 9 and 13 years of age, the gender gaps approximately double in reading. Between 13 and 17, the gaps continue to expand (Dee, 2005).

55. These results are in line with coming from our PISA-based analysis (age 15) (Figure 4.2). The size of the highlighted gaps is not trivial. The underperformance of 15-year-old boys in reading is equivalent to 1.5 years of schooling; Although men continue to be over-represented in tertiary level science (Figure 2.2) or engineering programmes, girls are now more likely to go to tertiary education and persist in earning a degree.

Figure 4.2. **Pisa 2006 girls versus boys and reading scores. Breakdown by percentiles**



Source : PISA 2006

56. The source of these gender differences has long been a topic of heated debate. Though IQ test suggest no overall differences between men and women, there are large gender differences in

scores on specific cognitive tasks. Men perform better at certain spatial visual tasks; women excel verbally. While these differences may someday be traced back to known differences in male and female brain structures, it is also possible that differences in academic development arise from the fact that male and female teachers have a tendency to treat boys and girls differently in the classroom.

57. In a recent U.S. study Dee (2005) examines the consequences of teacher/pupil gender interactions within classrooms. The outcome measures include test scores, teacher perceptions of student performance, and measures of students' intellectual engagement.[28]

58. Dee (2005) finds in the United States that *gender interactions between teachers and students have significant effects on these important educational outcomes*. Assignment to a teacher of the opposite sex *lowers* student achievement by about 0.04 standard deviations. Other results imply that just "one year with a male English teacher would eliminate nearly a third of the gender gap in reading performance among 13 year olds and would do so by improving the performance of boys". Overall, the data suggest that, "a large fraction of boys' dramatic underperformance in reading reflects the classroom dynamics associated with the fact that their reading teachers are overwhelmingly female."

59. According to the U.S. Department of Education's 1999-2000 Schools and Staffing Survey, 91 percent of the nation's sixth grade (end of primary) reading teachers, and 83 percent of 8th grade (second year of secondary education) reading teachers are female. OECD figures (unfortunately without the breakdown by topic) largely accord with the U.S. evidence (Table 4.1). In Belgium, more than 98% of pre-school teachers are women. That share is 79% in primary schools and 60%, on average, in secondary schools. Similar patterns are visible in other OECD countries.

60. The tentative conclusion is that the (now) overwhelming domination of females among teaching staff probably depresses boys' achievement. The current gender imbalance in primary and secondary education staffing may be reducing the gender gap in science or maths by helping girls, but exacerbating the gender gap in reading by handicapping boys.

[28] For example, whether a student was afraid to ask questions in a particular class, looked forward to the class, and saw the class as useful for the future.

Table 4.1. **Gender distribution of teachers, 2006. Breakdown by educational level.**

	Pre-primary education	Primary education	Lower secondary education	Upper secondary education	Tertiary	All levels of education
Austria	98.7	89.2	68.8	51.1	34.6	63.1
Belgium	**98.2**	**79.3**	**60.2**	**58.4**	**41.4**	**67.3**
Czech Republic	99.5	94.7	73.6	57.0	37.6	71.2
Finland	96.9	77.0	72.9	57.8	47.7	69.5
France	81.5	81.7	63.9	53.5	37.1	64.8
Germany	97.9	84.0	60.6	47.1	34.8	63.0
Greece	99.3	64.2	65.5	47.8	34.8	57.4
Hungary	99.8	96.0	78.1	64.4	39.1	76.0
Iceland	96.7	m	79.7	52.7	44.3	71.6
Ireland	100.0	84.7	m	62.1	38.3	66.8
Italy	99.5	95.7	75.7	60.3	34.1	76.2
Japan	97.8	64.9	40.2	25.7	17.9	46.1
Korea	99.3	75.9	65.0	39.9	30.9	53.4
Luxembourg	98.3	71.6	m	46.5	m	m
Mexico	95.7	66.5	49.5	43.1	m	m
Netherlands	m	82.6	m	45.6	m	61.6
New Zealand	99.0	83.4	65.5	57.6	49.9	68.3
Norway	m	73.0	73.0	47.4	39.9	61.7
Poland	97.6	84.3	73.4	65.7	41.5	72.0
Portugal	98.1	80.6	66.6	64.6	43.0	69.2
Slovak Republic	100.0	89.4	75.9	69.2	42.0	74.0
Spain	89.4	70.5	62.5	50.2	38.9	61.8
Sweden	96.3	81.0	66.1	50.9	43.1	68.5
Switzerland	97.6	78.7	48.8	40.6	31.4	57.6
Turkey	94.4	46.8	m	41.6	38.8	45.9
United Kingdom	97.1	81.3	61.1	61.1	40.8	65.5
United States	91.4	88.6	68.1	55.7	44.6	69.4
OECD average	96.8	79.5	65.9	52.5	38.6	64.9

Source: OECD, Education at a Glance 2008

4.5. What policy vis-à-vis *underperforming schools*

61. Understanding why children's outcomes vary so dramatically in Belgium across schools and regions/communities is central to formulating effective education policy interventions. And although very early interventions should be given more attention and resources (see above), one of the cornerstones of policy-making in education will remain to decide on what is the most appropriate ways of helping (the rather numerous) schools where low achievers are concentrated (Figure 3.1) .

62. 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):

63. 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 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).

64. Second, schools matter but those serving at risk students need more resources (*e.g.,* textbooks, teachers, 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.[29] There is evidence that, to a certain extent, this is already done in Belgium. There are also plenty of indications that decision-makers are willing to further "differenciate" 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?

65. Third, schools concentrating low-achieving children lack the capacity to substantially improve student 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

[29] More on how this can be implemented in Waltenberg and Vandenberghe (2007).

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.

66. 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 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 flexibility.

67. Fifth, education/human capital production is a *joint product*. Hence, teachers, schools (and by extension the whole society) should also be in a position where they can elicit higher "effort" from pupils and students (more on this below).

68. For some reason current policy debates often seem to be argued as if the problems above are mutually exclusive. In contrast, we believe that there is some truth to each of these major explanations.

4.6. Some thoughts about better vocational education and training

69. OCDE data (Table 4.2) suggest that in Belgium quite many youth aged 15 attend vocational or prevocational programmes. Specialists still argue about the criteria used to classify programmes internationally. This said, there is enough solid evidence to claim that Belgium (and probably more the Flemish-Speaking Community) assigns of significant part of a youth cohort to vocational education and training (VET).

70. And again, although early interventions (see above) are central elements of any effective strategy for improving youth prospects, a comprehensive policy framework has to pay attention to

the existing VET arrangements and their impact on the performance for young people, especially at risk ones who tend to be overrepresented in VET.

71. Denmark, we believe, represents a interesting model for Belgium. Denmark has an educational system that is predominantly general until the end of compulsory education at the age of 16. Pupils follow the same, relatively undifferentiated, curriculum. At the age of 16, vocational options emerge. About 47% of young Danes who stay on beyond the age of 16 opt for Vocational Education Training (VET) programmes that aim at rapid labour market entrance.

72. In Denmark, VET is organized in a *sequential* way: students first spend some time (60 – 75 weeks) attending a class-based curriculum on a full-time basis, and then move on to (full-time) apprenticeships in firms for another two to three years. In traditional dual systems – such as in Austria, Germany or Switzerland – school-based and work-based training are provided *in parallel*. They involve an employment contract plus formal schooling – normally one and a half to two days per week.

73. Denmark's VET system is institutionally closer to the Belgian one. It is more school-based and relies less on the (operational and financial) involvement of the social partners than the German system. This said, it has a well-established and quite effective "dual" component, synonymous with *i)* significant and systematic exposure of the student to work experience and *ii)* (partially as a result of that) a high job-readiness for those who complete it which translates into low unemployment rates, good starting pay….

74. But it is important to stress that the system is reserved to those aged 16+. In contrast, in Belgium there is some kind of pre-orientation towards vocational tracks at the age of 12-13. The Danish this system is also relatively demanding in absolute terms. Before going into firms VET students need to attend traditional classes for up to 75 weeks. And, in Denmark, it takes on average 4 years to obtain a VET degree. It is also almost entirely up to the students to find a firm willing to take them as apprentices during the second part of their training programme. Incidentally, Danish research suggests that a good level of maths is the best passport to success in VET.

75. Danish policymakers — rightly concerned by the overall level of drop-out in the country — are tempted to reform VET in order to accommodate the needs of those forming the lower end of the skill distribution. They envisage shorter programmes (lasting less than the current four years, less school-based education before starting apprenticeship etc). The challenge, however, is to raise VET attendance and completion rates without compromising the *quality* of students, as the latter play a crucial role in preserving the willingness of (quite demanding) firms to recruit, train and pay VET apprentices.

76. We feel tempted to suggest than the sort of challenge Belgian authorities is confronted is rather the opposite of the Danish ones. It is primarily to raise the quality of VET students in order to make them more attractive to firms. A first step in that direction would consist of lifting the school grade beyond which VET becomes accessible.

Table 4.2. **Share of 15-years-olds attending vocation (or prevocational) programmes, 2006**

	Share of students attending vociational or prevocational programme
Australia	1.1
Austria	62.9
BFL	**53.7**
BFR	**36.5**
Canada	0.0
Czech Republic	32.1
Denmark	0.0
Finland	0.0
France	8.6
Germany	1.7
Greece	15.0
Hungary	18.7
Iceland	0.0
Ireland	0.0
Italy	59.5
Japan	24.3
Korea	23.7
Luxembourg	13.1
Netherlands	2.2
New Zealand	0.0
Norway	0.0
Poland	0.0
Romania	0.0
Slovak Republic	17.5
Spain	0.0
Sweden	0.6
Switzerland	2.8
United Kingdom	0.0
United States	0.0

Source: PISA 2006

4.7. More student jobs?

77. A relatively unknown, or at least rarely discussed, feature of Belgium is the very low propensity of its youth to hold student jobs (Figure 4.3). Whether student jobs are beneficial or not[30] for teenagers and older students has been extensively analysed in the United States, and to a

30. One can think of the following mechanisms through which working while in school might have an impact on educational attainment. On the one hand, early work experience while enrolled in high school may hinder school performance, so that the individual gets behind in his or her schoolwork to

lesser extent in Australia. While some of the studies tend to find negative impacts of combining study and works, most show that moderate involvement (*i.e.* less than 20 hours a week) in work activities actually leads to positive academic and labour market outcomes. If true, this means that Belgium under-exploits a relatively simple mechanism conducive to better academic and labour market prospects for youth.

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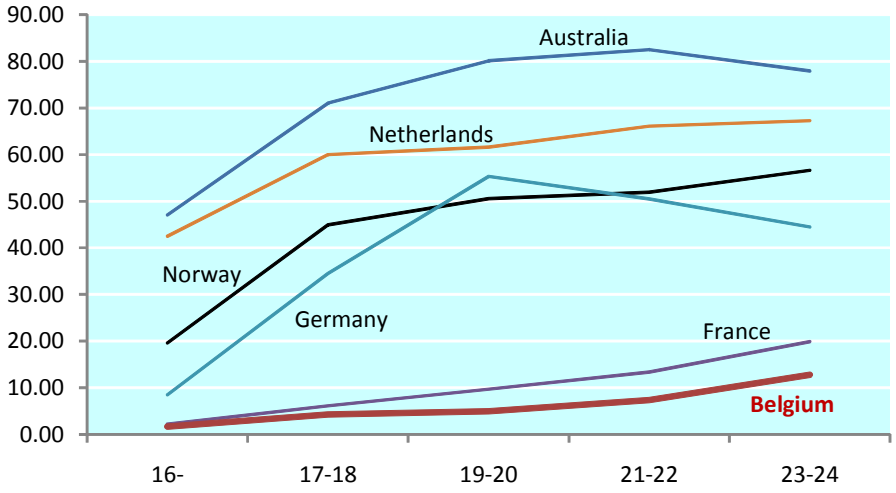
the point where dropping out and entering the labour market is the preferred option. The student may also simply lose interest in schoolwork and enter the labour force on a full-time basis. At the same time, working while in school need not be detrimental. It could be that some moderate exposure to the labour market while in school might actually lead young individuals to develop other qualities, such as a greater sense of responsibility, improved work ethics, and better discipline, in which case it could actually improve the prospects of graduating from high school. Similarly, in terms of its impact on future labour market outcomes, it is not clear that investments made early in work experiences may hurt individuals in the long run. For example, the inherent search process involved might help young people decide what they intend to do later. Moreover, some of the skills acquired on-the-job are likely to be transferable across employers and thus potentially help increase future wages.

Figure 4.3. **Combining study and work, youth aged 16-24, Belgium and selected other OECD countries, 2007**

Percentages of students by age group



Source: EU-LFS 2007

4.8. Academic incentives for pupils/students matter

78. According to Barbcock and Betts (2009), two distinct strands of thought exist about educational "production functions". In the first, the labour force consists exclusively of educators (teachers, heads of school…). Their purpose is to communicate to students the knowledge of how to perform specific tasks. Students, then, resemble material (docile) inputs. Teachers and administrators are the skilled workers whose labour, combined with books, school buildings, and other factors (qualification, experience proper incentives or controls…), add value to the material input. Students function as passive recipients of human capital. Call this the "students-as-material" model of education production.

79. In the second framework, the active labour force consists of *both educators and students*. Teachers resemble managers, and students, the workers they supervise on the factory floor. Here, teachers contribute to education production by eliciting high effort choices from their workers/students. And one of the managers' primary task is to prevent shirking. They accomplish this by instituting the optimal production technology, monitoring techniques, and student-centered

incentive structures. Call this the "students-as-labour" model of education production. Recent data analysis of the functioning of elementary (*i.e.* primary) schools and pupils in the U.S. by) is very supportive of this second strand (Barbcock and Betts, 2009).

80. These recent considerations about the key role of academic incentives for students echo a relatively old piece of theoretical work by Costrell (1994). He investigated the role of different kinds of exams [that he calls standards] and the incentives to study associated with them. Costrell concluded that *there are typically two types of questions that are entangled in practice: i) how much information (and what kind) should be generated by the standard-setting* [*i.e.* examination] *process ii) at what level of centralization should the standard be set? The answer to the first question is that binary standards* [pass or fail] *are generally inferior to fuller information in their effects on the incentive to acquire skills. And the answer to the second question is that centralisation* [*i.e.* centrally-defined exams] *is preferable to decentralization* [*i.e.* exams conceive by individual teachers and schools].

81. To conclude on this point, we would be tempted to say that education/human capital production is probably the quintessential *joint product*. Human capital accumulation requires an investment from both the demand side (pupils/students and their families) and the supply side (teachers, schools and the public authorities that finance education). The history of education policy is littered with examples of initiatives that failed to account for this basic principle.

4.9. Rewarding financially youth resuming school and completing upper-secondary education

82. If short-term incentives[31] — directly targeting youth — matter, then it is worth examining the *Education Maintenance Allowance* introduced in the UK to combat school drop-out beyond the age of 16.[32]

[31] Not to be confounded with the long-term financial incentives traditionally emphasized by the human capital theory and estimated empirically by Mincer (see section 3).

[32] Marking the end of compulsory attendance in the UK.

83. The Education Maintenance Allowance (EMA) is a *conditional cash transfer*[33], the aim of which is to decrease drop-out rates in the transition from compulsory to post-compulsory education in the UK. As such, it is targeted at individuals who have completed their general certificate of secondary education. If they choose to undertake any academic or vocational course that involves at least 12 hours of guided learning per week, and if their household income is below £30,000 per year, they are eligible for the programme. The payments consist of a weekly allowance (means-tested against parental income) during term time and termly retention bonuses, both obtainable for up to two years. It has been on offer nationwide since September 2004.

84. Prior to its national rolling out, the scheme was piloted in ten Local Education Authorities in England in September 1999. This provided the basis for a large-scale evaluation by the Institute for Fiscal Studies. The evaluation has pointed to the subsidy having increased participation in post-compulsory education, particularly amongst males. The increase in post-compulsory stay-on rates was in the region of 6 percentage points (Chowdry, Dearden and Emmerson, 2007).

85. To be implemented in Belgium, the scheme would need to be modified to account for our specificities. As all 16-17 years-olds in Belgium, in principle, attend school, the allowance should probably reward attainment rather than attendance. But for those aged 18+ the British version of the scheme would *a priori* make perfect sense. Resources needed to finance such a scheme should probably come from the existing "allocations familales/kinderbijlag" budget, and also by reorienting some of the family tax credits currently aimed at helping families with dependent students. The underlying logic would primarily consist of reorienting the existing financial assistance. Transfers currently made to families with students would be directly channelled to students. Moreover, instalments would be strictly conditional on active participation in education and achievement.

[33] Conditional Cash Transfer (CCT) programmes aim to help recipients by making welfare programs conditional upon the receivers' actions. The government only transfers the money to persons who meet certain criteria. These criteria may include enrolling children into public schools, getting regular check-ups at the doctor's office, receiving vaccinations, and the like.

4.10. From compulsory attendance until 18 to the obligation to acquire an upper-secondary qualification

86. If incentives directly targeting youth matter, then it is also worth considering a recent decision by the Dutch Parliament. In August 2007, it decided to increase the age of compulsory schooling from 16 to 18. As such, this decision mirrors those made elsewhere, sometimes a long time ago. In Belgium such a decision was made in 1983. But a closer look at the phrasing of the decision *i.e. leer/kwalifikatieplicht* (the obligation to learn/qualify) reveals the intention of the Dutch to go beyond the traditional obligation to "attend" school until 18. What is at stake is the obligation to *complete* at least what the Dutch call *starting qualification,* which in fact is equivalent to an upper-secondary degree (ISCED 3)

87. Moreover, the most recent government's agreement includes another project called the *leerwerkplicht* (obligation to study or work), targeting individuals aged 18 to 27 who did not reached the upper-secondary diploma. This obligation will be administratively enforced by the municipalities by means of compulsory supervision programmes aimed at school attendance on penalty of withholding any applicable social benefits as long as the starting qualification level has not been attained. The aim of the new government is to have implemented the study/work obligation by law by the end of 2009.

88. These two pieces of legislation go a step further than what is usually done elsewhere. In particular, the non-compliance with the *leerwerkplicht* can deprive individuals from (part of) their social benefits.

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