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Educational routes and family aspirations in France, a panel data approach

The decade from 1985 to 1995 saw a very significant increase in the numbers of those staying on at school beyond the age of 16 in France, a process largely underpinned by the development of vocational and technological training. This article examines one of the crucial aspects of this 'democratisation': the creation of educational routes within secondary education. It shows that, all things being equal, early educational failure makes families attach greater importance to success in higher education for gaining access to employment. Educational routes must therefore be seen as the result of the interactions between institutional frameworks and the judgements made by individuals. Nevertheless, the educational investment made by families only very partially offsets the social selectivity of the different streams of initial training.

The French education system went through a process of major change during the decade from 1985 to 1995. The number of school students awarded the baccalaureate, the certificate marking the end of upper secondary education, doubled from 29.4 % to 61.5 % within a cohort of young people. Similarly, the rate of access to higher education surged from 25 % to 51 % of a generation. Previously rare assets reserved for the more privileged social classes, in particular compared to a country such as Germany (Maurice et al.), diplomas and access to the highest levels of the education system have now become very common in French society.

This educational growth was largely underpinned by the development of vocational and technological training. In secondary education, the introduction of the vocational baccalaureate in 1985 marked a particularly significant change. Until then, more than 55 % of young people left the general and technological education stream at the end of collège - the first four years of secondary education which in principle is common to everyone - because they were not considered capable of higher studies. The majority of those leaving initial education completely went on to vocational lycées or (to a lesser degree) apprenticeship training centres leading to the certificat d'aptitude professionnelle (CAP - vocational aptitude certificate) for a specific trade, or the more broadly-based brevet d'études professionnelles (BEP - vocational studies diploma), following which they tried to find a job as skilled workers or qualified employees.

These young people coming out of short-term vocational education (essentially BEP holders) were gradually offered the opportunity of two further years of study leading to a vocational baccalaureate (38 specialised fields at the end of the 1990s, prin-

cipally electricity/electronics, general mechanics, secretarial/office automation, commerce and sales) which, at least theoretically, provided the possibility of continuing on to higher education. Although the principal aim of the baccalaureate remained direct labour market integration (80 % of flows), access to the qualification was intended to reflect the equal status of the different streams of secondary education: vocational, technological and general (d'Iribarne A. and d'Iribarne P., 1999).

This enhanced status for vocational education met two concerns: the first was economic efficiency in that the workforce needed to be equipped with the qualification that would foster competitiveness; the second concern was social justice in so far as access to the baccalaureate, the first stage of higher education, needed to be made more democratic (Verdier, 1994). With those aims in mind, the 1989 Framework Law on the Education System had confirmed the motivational political objective of bringing 80 % of an age group to baccalaureate level by 2000 (the level actually attained was 69 %).

This article seeks to throw light on one of the crucial aspects of this purportedly democratic educational expansion: the creation of educational routes within secondary education. Our initial hypothesis is that the baccalaureate has become a predominant social norm in education for all players in the education system - young people, teachers, employers and policymakers - even more so than compulsory schooling up to the age of 16, introduced in the 1960s. Thus, in a 1992 survey by the Ministry of Education, more than two thirds of families whose children had entered secondary education in 1989 replied that the qualification they aspired to for their child was a higher education qualification.



From this point of view, it is essential to examine how the secondary education system is structured to allow access to this norm. In the following, we therefore first of all look at the different routes leading to the baccalaureate. The question is whether the opening up of different routes has deprived the norm of its sense of uniqueness, this diversification being both the reflection and the source of marked social inequalities transmitted by the conditions under which family socialisation operates. To take our analysis a stage deeper, we will re-examine how students enter the various educational routes leading to the different types of baccalaureate (general, technological and vocational), conditioned by families' value judgements about how effective the qualifications are in providing access to employment. Thus, the last section of the article will simultaneously examine students' educational routes and their parents' aspirations and perceptions of their educational future.

Access to the baccalaureate: the state of diversification of educational routes

This initial section serves to typify the three institutional streams (general, technological and vocational) leading to the baccalaureate, as well as the different routes involved. As well as the impact of diversified educational provision, streams and routes can be differentiated according to the length of study, baccalaureate passes and the number of repeats.

Baccalaureate streams and conditions of access to the final class of the lycée

The routes leading to the various types of baccalaureate can be differentiated first of all by the minimum length of time at school required to prepare for the baccalaureate. Therefore, bearing in mind that the minimum length of time (i.e. with no repeats) required to take the general or technological baccalaureate is seven years and the vocational baccalaureate eight years, we can calculate statistics differentiating between those students who have reached terminale 'on time' and those having had to repeat at least one class in the course of their secondary school careers. This exercise shows that more than 70 % of students in the general stream reach the final class 'on time', just over a quarter get there after eight years, with only a minute proportion taking longer. Students in the general stream showed marked

Insert 1

The data: student panel and family survey

Our main data source is the panel of students entering the first year of secondary education (6th class) in 1989, followed throughout their school careers at lower secondary (collège) school and subsequently at the (general, technological or vocational) lycée. These data, compiled by the Directorate for Planning and Development (DPD) of the Ministry of Education, have recently been analysed in a study by Caille and Lemaire (2003). The data comprise socio-demographic information (nationality, parents' qualifications, etc.) on 24 710 persons over a period of ten years. In the following, we are only concerned with those students who reached the final year of the lycée leading to the baccalaureate (terminale), i.e. 60.4 % of the cohort. The highest number of students is to be found in the general baccalaureate stream (34 % of the total cohort entering secondary school and 56.3 % of those who reach baccalaureate level, whether or not they actually pass), followed by the technological baccalaureate stream (17.6 % and 29.2 % respectively), and finally the vocational baccalaureate stream (8.7 % and 14.4 %). The vocational baccalaureate, the most recently introduced stream, is less important, especially for this generation, because these youngsters had the opportunity of transferring to the technological stream via 'bridging classes' (almost 15 % of those taking the technological baccalaureate took this route). These panel data were matched with data from the complementary family survey conducted by the Ministry of Education in 1991. This survey, which has an 80 % response rate, has the advantage of supplementing the panel data with information on family background (parents and school careers of siblings), primary education routes, parents' aspirations for the education of their children, reasons for the choice of school, etc. Matching the data from this survey with the sub-population of successful baccalaureate candidates results in a sample of 9 114 students.

differences from the two other streams. Thirty-one percent of students in the vocational stream reach the final class 'on time' (eight years), whereas approximately 50 % take nine years and 18 % ten years. In the technological stream, just over one quarter of students reach the final class on time, some 70 % take eight years, the rest ten years. Although those taking the technological baccalaureate reach the final class on time less frequently than those taking the vocational baccalaureate, very few of them arrive very late (5 % take ten years, compared to 18 % for the vocational baccalaureate).

A second differentiating factor is the pass rate. Pass rates (defined here as the ratio of students actually awarded the baccalaureate to the number of students reaching the final class) differ very considerably from one stream to another, ranging from 65.7 % for the vocational baccalaureate to 75.9 % in the technological stream and 92.7 % in the general stream. Therefore, regardless of the time taken by students to reach the baccalaureate, the relative proportions of the three types of stream within the total number of baccalaureate holders is even more unbalanced than it is when compared with the proportion of students reaching the final class: the proportion of those taking the general baccalaureate then stands at 62.4 %, while the proportion of the technological/vocational baccalaureate candidates falls to 26.3 % and 11.3 % respectively. These gaps are the re-



sult of a social construction. In effect, the assessment criteria applied in the examination are structurally more in tune with those originally characteristic of the general stream, which are also applied - admittedly with certain adaptations - in the technological and vocational streams to ascertain a student's aptitude to meet the academic requirements of the baccalaureate. One of the major differences between the French vocational education system and the dual system in Germany is precisely the fact that examination failure rates are higher in France, in particular due to the greater importance accorded to general subjects, systematically valued as such (Möbus and Verdier, 1997).

The spread between the three streams is even more marked when we look at the proportion of students having repeated a year in lower secondary school: 8.1 % in the case of the general baccalaureate, 38.9 % for the technological baccalaureate group and 51.9 % for the vocational baccalaureate. This means that lower secondary school repeaters represent 85.4 % of vocational baccalaureate holders who did not reach terminale 'on time', compared to 54.9 % for the technological baccalaureate and 23.4 % among those taking the general baccalaureate. The 'latecomers' in the general stream have therefore essentially repeated a year at the lycée. In fact this holds true for more than three-quarters of this group. Almost 30 % repeated the seconde (first year of upper secondary, age 15-16) - mainly voluntary repeats to enable the students to transfer to the stream of their choice, generally towards the more prestigious scientific streams (Coeffic, 1998). This implies that the extension of the marginal length of schooling may reflect both a requirement of the education system and a deliberate choice: the stigmatisation of school failure on the one hand, or the desire to optimise one's educational capital on the other. This dichotomy, which fuels doubts as to the effectiveness of repeats (Paul, 1994), seems very far removed from the Scandinavian model of the educational route which limits repeats to an extreme minimum.

Routes and differentiation of educational streams

The different routes of each of the streams can be typified on the basis of these various characteristics. In the general stream, the main distinction is evidently between those reaching the baccalaureate 'on time' and the

remainder of the group. Secondly, among the 'latecomers' we can distinguish repeaters in the first year of upper secondary level, only 30.6 % of whom repeated in the second or final years of upper secondary, whereas 42.6 % of lower secondary repeaters spend an additional year in upper secondary level, which tends to confirm that some of these repeats are voluntary.

As in the case of the general baccalaureate, the main distinction within the technological baccalaureate group is whether or not students reach the final class on time. It must be added that almost one half of lower secondary repeaters spend an extra year in the second cycle. It is particularly interesting to note that only 4 % of technological baccalaureate candidates having transferred from the vocational stream via bridging classes, i.e. 15.4 % of the flow, repeat the final year, compared to 9.3 % among their peers as a whole. This suggests that this access route is probably more selective than the technological stream in general. This is the reverse of the phenomenon highlighted by many authors. Duru-Bellat (2002) in particular points out that as a result of guidance given at the end of lower secondary school vocational lycées received students whose educational performance could very well have won them a place at a general or technological lycée if their parents, generally from working class backgrounds, had so wished. Finally, in the case of vocational baccalaureate, the distinctions evidently stem partly from the choice of vocational specialisation (electrical engineering/secretarial/accounting, etc.), which is not taken into account in this article in considering educational routes based on length. However, it is in comparison with the other two more prestigious streams that the characteristics of the routes of vocational baccalaureate holders become apparent.

More specifically, on the basis of the identification of 48 possible pathways, 14 different routes leading to the baccalaureate can be identified as the most representative in terms of their numbers, (i.e. 10 450 students; this flow is matched against the data from the family survey, giving a final total of 9 114 subjects).

The structure of a route and the fact that a student opts for one route as opposed to another is evidentially not a coincidence. In the following, we try to shed some light on the social significance of length of study and



The main routes leading to the various baccalaureates							Table 1
Educational routes (duration and pathway)	No	Percentage of those reaching the relevant baccalaureate	Percentage of the cohort	Higher education	Exits from the education system	Other	
GENERAL BACCALAUREATE							
7 years, general low. sec. stream, 2 nd year of general upper sec.	5 020	59.7	20.3	98.8	1	0.2	
8 years, general low. sec. stream, repeats in 2 nd year of upper sec.	408	4.8	1.6	97.8	2	0.2	
8 years, general low. sec. stream, repeats in 1 st year of upper sec.	534	6.3	2.2	96.6	3.4		
8 years, general low. sec. stream, repeats at lower secondary level	333	3.9	1.3	97.6	2.1	0.3	
8 years, general low. sec. stream, 2 nd year of general upper sec., baccalaureate repeats	682	8.1	2.8	95.2	4.2	0.6	
VOCATIONAL BACCALAUREATE							
8 years, general low. sec. stream, 1 st year of upper sec. and final year of upper sec. /brevet d'études professionnelles (BEP - vocational studies diploma), 2 nd year of upper sec. vocational baccalaureate	429	19.9	1.7	31.5	63.6	4.9	
9 years, general lower sec. stream with repeats, 1 st year of upper sec. and final year of upper sec. /brevet d'études professionnelles (BEP - vocational studies diploma), 2 nd year of upper sec., vocational baccalaureate	466	21.6	1.9	37.1	62.2	0.6	
TECHNOLOGICAL BACCALAUREATE							
7 years, general low. sec. stream, 2 nd year of upper sec., technological baccalaureate	901	20.7	3.6	96.7	2.4	0.9	
8 years, general low. sec. stream, repeats in 1 st year of upper sec.	509	11.7	2.1	93.1	5.3	1.6	
8 years, general low. sec. stream, repeats in lower secondary	520	11.9	2.1	92.1	7.3	0.6	
8 years, general low. sec. stream, 1 st year of upper sec. and final year of upper sec., brevet d'études professionnelles (BEP - vocational studies diploma), 2 nd year of upper sec., technological baccalaureate	196	4.5	0.8	86.7	11.2	2	
9 years, general low. sec. stream with repeats, 1 st year of upper sec. and final year of upper sec., brevet d'études professionnelles (BEP - vocational studies diploma), 2 nd year of upper sec., technological baccalaureate	197	4.5	0.8	83.8	16.2		
9 years, general low. sec. stream with repeats, repeats in 1 st year of upper sec.	149	3.4	0.6	90.6	9.4		
8 years, general low. sec. stream, 1 st year of general or technological upper sec., 2 nd year of technological upper sec., baccalaureate repeats	106	2.4	0.4	86	12.2	1.9	

Source: DPD Panel 1989, processed by LEST

routes which are the farthest removed from the ideal norm: award of a general baccalaureate within a period of seven years.

Equality of opportunities at school and social inequalities: factors of exclusion from the educational norm

In France, the massive expansion of the education system, in particular as regards access to the baccalaureate and higher education, is inseparable from the internal diversification of the education system itself.

This raises the question of the actual scope of this 'democratisation'. In the following, this scope is examined in the field of secondary education with reference to an implicit norm for the assessment of students' educational success.

The growing diversity of educational routes and the norm of success

As reflected in the principal objectives assigned to schools, namely 'to impart knowledge and culture, prepare students for oc-



The determinants of the general baccalaureate route compared to all the other routes. A simple probit model **Table 2**

	Coeff.	t-ratio	Marginal effect
Constant	-0.389902	-2.71535	-0.155
Male	-0.258584	-8.33352	-0.102
Nationality	-0.198982	-2.65645	-0.079
Who is responsible for the child?			
Both parents	0.248897	4.76509	0.099
Others	Ref.		
Father's highest formal qualification			
No formal qualification	-0.187527	-2.22128	-0.074
Certificate of primary education	-0.38228	-5.13804	-0.152
Certificate of lower secondary education	-0.303204	-3.81058	-0.120
<i>Certificat d'aptitude professionnelle</i> (CAP - vocational aptitude certificate)/ <i>brevet d'études professionnelles</i> (BEP - vocational studies diploma)	-0.256226	-4.03521	-0.102
Baccalaureate/upper secondary technical certificate (BT)	-0.120269	-1.89999	-0.047
1 st cycle	-0.163849	-2.36074	-0.065
Unknown	-0.187186	-2.55474	-0.074
2 nd and 3 rd cycles	Re.		
Mother's highest formal qualification			
No formal qualification	-0.691037	-8.15868	-0.275
Certificate of primary education	-0.619258	-8.27866	-0.246
Certificate of lower secondary education	-0.444773	-5.98584	-0.177
<i>Certificat d'aptitude professionnelle</i> (CAP - vocational aptitude certificate)/ <i>brevet d'études professionnelles</i> (BEP - vocational studies diploma)	-0.515311	-7.55312	-0.205
Baccalaureate/upper secondary technical certificate (BT)	-0.29305	-4.35304	-0.116
1 st cycle	-0.18338	-2.63334	-0.073
Unknown	-0.561111	-6.56021	-0.223
2 nd and 3 rd cycles	Ref.		
Socio-occupational category			
Farmers	0.178236	1.96727	0.070
Crafts and trade	0.0816805	1.41555	0.032
Teachers	0.151191	2.10701	0.060
Middle-level occupations	0.0222823	0.409733	0.008
Employees	-0.00572202	-0.0878131	-0.002
Skilled workers	-0.11809	-1.90386	-0.047
Unskilled workers	-0.142763	-1.69332	-0.056
Unknown	0.0284167	0.208038	0.011
Management	Ref.		
Standard of written French when entering secondary school			
Good	0.788371	13.6276	0.313
Average	0.334818	5.9275	0.133
Below average, unsatisfactory	Ref.		
Level of maths when entering secondary school			
Good	0.56336	8.06221	0.224
Average	0.114624	1.62581	0.045
Below average, unsatisfactory	Ref.		
Does the child have his/her own room?			
No	-0.0806567	-2.01792	-0.032
Yes	Re.		

Cont. page 59

cupational life, educate the citizen to contribute to the construction of the identity of their country' (Thélot, 1994), equality of opportunity is a leading concern of the French education system.

There has indeed been a marked reduction in inequalities over the last two decades in terms of rates of access to education of the various social categories (an annual average of 3 %, according to Joutard and Thélot, 1999, p. 73). The significant expansion of educational provision during the decade from 1985 to 1995 triggered a marked reduction in social inequalities in terms of gross access rates. For example, since 1984, the likelihood of working-class children going on to higher education increased by a factor of 3.5 compared to an overall average of 2.2 (Ministry of Education, 2000). The nature of this 'democratisation' process has nevertheless been called into question by many authors. It has been described as both 'segregative', (Merle, 2000), 'uniform' (Goux and Maurin, 1997) or even 'demographisation' (Prost, 1992) in so far as the increase in the rates of schooling per age accentuate the gaps between the different streams in terms of their social recruitment (!).

Without going into the details of this debate (see in particular Duru-Bellat and Kieffer, 2000), one aspect of this particularly high growth of educational provision in France should nevertheless be underlined: the high degree of complexity which characterises the initial education system. This complexity gives rise to the following question: what is the point of offering increasingly diversified provision and possible routes (see above) to young people and their families, if the same vocational integration opportunities and career prospects are not opened up downstream for students with formally equal levels of education? A number of authors, notably Joutard and Thélot (1999), have even gone as far as to qualify this diversification as 'opaque' and as 'potentially a factor increasing social inequalities at school' (ibid.), as not all families have the same insight into the intricacies of the system.

One of the methods which can be used to isolate the effect of this institutional aspect is to model the distribution of individuals according to the possible routes leading to the baccalaureate and to examine the probability of individuals being assigned to these routes as a function of individual and fam-



ily indicators alone. With educational routes being increasingly diverse, it is increasingly problematic to measure social gaps on the basis of a homogeneous indicator, e.g. educational level or the highest qualification attained (Duru-Bellat, 2002). The criterion 'a pass in the baccalaureate' must therefore be treated with caution if the route used by the individuals to get there is not taken into account. Therefore, in order to identify the processes contributing to educational inequalities - and conscious of the risk of normativity - the award of the general baccalaureate within a period of seven years is set as the reference route. Indeed, in a context of broad access to education, this factor proves to be highly discriminatory for all the players within the education system.

Family structure, student performance and the chances of reaching the general baccalaureate 'on time'

The following results stem from a simple probit model which compares the award of a general baccalaureate to all the other routes. In the following, we focus on the impact of individual and family indicators and how they explain why a student is or is not in the 'norm' (award of the general baccalaureate in seven years). Examination of the marginal effects of the model (shown in Table 2 below) clearly reveals the extent to which the underlying process of social selection operates to assign a student to the norm or not.

Irrespective of gender and nationality, the probability of a student reaching the general baccalaureate within a period of seven years is highest when both parents are responsible for their child's schooling, have a high level of educational attainment (2nd or 3rd cycle), are from academic socio-occupational categories (teachers, management) or are in principle highly motivated to ensure that their children end up working under better conditions than their own (farmers). Students' chances of reaching the general baccalaureate 'on time' improve if their parents choose their school on the basis of its reputation, offer them good living conditions (a room of their own), have other children showing no educational failure (i.e. children are not at a vocational lycée and have not dropped out of or interrupted their education) or have children in higher education. It is also important to stress that the parents' value judgement concern-

The determinants of the general baccalaureate route compared to all the other routes. A simple probit model

	Coeff.	t-ratio	Marginal effect
Repeats at primary school?			
Yes	-0.522249	-7.92021	-0.207
No	Ref.		
Reason for the choice of school			
Good reputation	0.0815123	2.41123	0.032
Practical, etc.	Ref.		
Parental support with schoolwork?			
Yes, because of difficulties	-0.625603	-14.3972	-0.249
No, no need	0.273852	7.40647	0.109
No support	-0.216013	-4.35604	-0.086
Yes, even if no assistance is required	Ref.		
Meeting with teachers upon the initiative of the parents?			
No	0.21755	6.38774	0.086
Yes	Ref.		
Number of siblings at a vocational lycée			
At least one	-0.194581	-2.85865	-0.077
None	Ref.		
Number of siblings in higher education			
None	-0.0946997	-1.72764	-0.037
At least one	Ref.		
Number of siblings having completed or interrupted their education			
At least one	-0.133352	-1.19409	-0.053
None	Ref.		
Final qualification regarded as an advantage for access to employment			
Diploma of higher education	0.207527	5.56564	0.082
Lower-level qualifications	Ref.		
Number of persons 9 114; - logV = 4 711.1 DPD panel cohort (1989 lower secondary school entrants), matched against family survey data.			

ing the most useful qualification to find a job helps to explain why a student obtains a general baccalaureate in seven years or not: this probability rises when a diploma of higher education is named.

These results offer fairly convincing evidence that the route designated as the reference route is related to the most advantaged social and family backgrounds. Access to this norm of educational success is largely subject to social selection. Over and above this very general conclusion, examination of a number of specific variables also merits our attention.

As far as gender is concerned, the spectacular rise in educational levels among girls means that they are more likely to be in the reference route than boys. In fact, girls seem to take the strategic component of educational investment much more seriously than their male peers. This form of rationality is probably due to the higher value they attribute to educational performance under conditions in which the increase in female

(¹) Whereas almost 70 % of young people reach level IV (baccalaureate) and more than 50 % go on to higher education, they do so via different streams: 42 % of students in the two-year STS technical programmes come from working class/employee backgrounds, whereas 14 % are children of upper-level management and liberal professions; in courses preparing students for the prestigious Grandes Écoles, the corresponding percentages are 15 % and 51 % respectively (Ministry of Education. L'État de l'École, 2000, p. 57).



education was coincidental with an increasing number of their mothers going out to work. For girls, being within the reference route therefore seems to imply entry into higher education, opening up a career which makes it easier for them to balance work and family life (Duru-Bellat, 2002).

With regard to educational criteria, students' educational performance can be identified in various ways: by their marks as they enter secondary school, repeats at primary level or difficulties with school work indicated by parents when asked what support they give their children. This appreciation of a student's aptitude constitutes a relatively discriminating factor for their inclusion in the reference route. This means that good marks in written French and maths at the point of entry into secondary school will clearly increase the probability of the student following the 'ideal' route.

Family plans against the educational norm: a bivariate probit model analysis

In terms of education, family plans are based on aspirations which are in themselves set within a framework in which social and institutional logics operate. Their effects on educational tracks can be analysed using a bivariate probit model. The results show such a high level of tension between the aspirations of parents and the opportunities offered to their children that the structuring of the individual tracks has led to the use of the term 'social cynicism'.

Social reproduction, family aspirations and educational demand: some aspects of this issue

With the persistent predominance of the theories of social reproduction by schools, educational sociology in France has long tended to impose an 'implacable vision' of the social inequalities of school careers' (Duru-Bellat, 2002). Under this assumption, the apparent choice of families and students is no more than a form of internalisation of the reproductory logics transmitted by the functioning of schools (Bourdieu and Passeron, 1970). Without intending to call into question these assumptions as a whole - which would in fact be in contradiction to the considerations on inequalities above and, in particular, the fact that inequalities in educational success are derived at a very early

stage from the support of the family, which is very unequal in social terms - it is nevertheless necessary to take into account the logic of increasingly diversified players, measured against the growing complexity of the education system.

New forms of social differentiation are constructed at each key stage in an educational career on the basis of the ability to anticipate the continuation of the educational path and, ultimately, labour market integration. It is a well-known fact that the choice among options (e.g. modern or ancient languages) reflects increasingly sophisticated strategies of distinction, both at compulsory and post-compulsory levels. These play an even more crucial role for some families as it makes it easier for them to circumvent the rules stipulating that parents have to enrol their children in schools in their own neighbourhood so that they can send their offspring to schools with a supposedly better reputation and level of social recruitment (Van Zanten, 2001). It should be emphasised that this practice is not only to be found in the case of the most prestigious lycées in the general educational stream; it also plays a role in the choice between schools in the vocational stream, which has a low social standing (Bell, 1996).

It is therefore indispensable to examine how students and their families take advantage of the educational opportunities offered by the State over and above compulsory schooling. It is also necessary to identify the variable which purportedly translates educational demand. This in itself poses complex problems in so far as inequalities in this field relate to both educational quality and length of schooling (Lemelin, 1998, p. 489). Although certain studies reduce educational demand to a single indicator, such as the intention to continue in education (Houle and Ouellet, 1982) or the last year of a course (Baril et al., 1987), others simultaneously consider the demand for access to a stream, admission, enrolment and finally the award of the final certificate (Myearski and Wise, 1983). Choice of stream and educational routes can easily be added to these factors.

It was the latter viewpoint which we examined more closely in this context, although the panel data do not strictly speaking allow the construction of a variable representative of individual educational demand.



In order to do so, we adopted an approach accounting for family aspirations and educational routes simultaneously.

Norm of educational excellence: family aspirations and ‘social cynicism’

The overall effect of a variable can be broken down on the basis of the marginal effects calculated in our example to differentiate between its direct effect on the probability of a subject being in the norm, as a function of whether their parents regard a diploma of higher education as an advantage, and the indirect effect of this variable when it is present in the equation explaining this judgement. In other words, in Table 3 the overall marginal effect of a variable is by definition the sum of its two values shown in the first (direct effect) and second columns (indirect effect).

More specifically, it is a question of examining the values and signs of the direct and indirect marginal effects. The most striking aspect from this angle is the opposite effect of the attributes of the variable ‘father’s qualification’ (or socio-occupational category) on the probability of the subject gaining the general baccalaureate ‘on time’ (direct effect) and the variable which considers higher education as the best strategy for finding employment (indirect effect). In most cases, the direct and indirect marginal effects of these variables have opposite signs. To be more precise, a father who has no formal qualification, certificate of primary education or is an unskilled worker, who aspires towards the ‘ideal’ route for his child more so than fathers in the other categories (the marginal effects being positive and showing the highest values), cannot halt the ‘social determinism’ mechanism (the marginal effects of the attributes of the father’s qualification and social background are negative and sometimes among the highest in absolute terms within the equation relating to a general baccalaureate pass in a period of seven years).

If the aspirations of working class parents or those with a low level of formal education reduce the possible impact of their social category on their child’s failure, the fact nevertheless remains that a less advantaged social background over-determines students’ educational fate; the overall marginal effects remain negative and are the highest for these categories. In view of the

Insert 2

Bivariate Probit: methodological elements with a view to identifying the direct and indirect marginal effects of family aspirations

Following on from the discussion above, our assumption is that family aspirations (identified here as the qualification regarded as an advantage for access to employment) and the type of route leading to the baccalaureate are partly correlated. In order to correctly identify the parameters of their respective explanatory variables, a statistical framework is defined which includes a joint model taking account of the correlation between their terms of error rates. In so far as the route and aspirations are qualitative variables, this model may take the form of a bivariate probit model, under the hypothesis that the non-observable factors follow a normal law. Assuming that the first equation explains the probability of students obtaining the baccalaureate ‘on time’ and that the second equation explains the probability of parents regarding a diploma of higher education as an advantage, we can plot the following equation:

$$y^*_1 = \beta'_1 x_1 + \varepsilon_1, y_1 = 1 \text{ if } y^*_1 > 0, 0 \text{ or}$$

$$y^*_2 = \beta'_2 x_2 + \varepsilon_2, y_2 = 1 \text{ if } y^*_2 > 0, 0 \text{ or,}$$

whereby x_1, x_2 are the two sub-sets of the explanatory variables which may have elements in common.

Assuming that the residuals follow a normal bivariate law $(0,0,1,1,\rho)$, this model is a bivariate probit model with $\Phi=(x_1, x_2, \rho)$ as its distribution function and $\varphi(x_1, x_2, \rho)$ as its density function. To formulate the distribution function, we use the following equations:

$$Q_{i1} = 2y_{i1} - 1 \text{ and } Q_{i2} = 2y_{i2} - 1, z_{ij} = \beta'_j x_{ij},$$

$$w_{ij} = Q_{ij} z_{ij}, j=1,2 \text{ and } \rho^*_i = Q_{i1} * Q_{i2} * \rho.$$

The probability factors which serve to calculate probability therefore take the following form:

$$\text{Prob}(Y_1=y_{11}, Y_2=y_{12}) = \Phi(w_{i1}, w_{i2}, \rho^*_i). \tag{1}$$

The log-probability may therefore be expressed as follows:

$$\text{Log } L = \sum_{i=1}^n \Phi(w_{i1}, w_{i2}, \rho^*_i). \tag{2}$$

A whole series of marginal effects may be drawn from this specification (Greene, 2000, 1998) which may be of direct interest to us here. We now plot $x = x_1 \cup x_2$ and $\beta'_1 x_1 = \gamma'_1 x$, underlining that γ_1 contains all the non-nil parameters of $\beta_1; \gamma_2$ is defined in the same way. These conditions show a bivariate probability of:

$$\text{Prob } [y_1=1, y_2=1] = \Phi[\gamma'_1 x, \gamma'_2 x, \rho] \tag{3}$$

These same probabilities may evidently be calculated for the other combinations of the attributes of y . In the following, these marginal effects are calculated on the basis of the conditional hope: ‘a pass in the general baccalaureate in seven years/diploma regarded by the parents as an advantage for access to employment’, whereby the attribute selected is a diploma of higher education.

This conditional hope can in fact be expressed as follows:

$$E(y_1/y_2=1, x) = \text{Prob}(y_1=1/y_2=1, x) = \text{Prob}(y_1=1, y_2=1/x) = \frac{\Phi[\gamma'_1 x, \gamma'_2 x, \rho]}{\Phi(\gamma'_2 x)} \tag{4}$$

The marginal effects of both a discrete and a continuous variable can be identified on this basis. And in both cases this marginal effect can be broken down to differentiate between a ‘direct effect’, linked to the variability of the probability due to the presence of the variable in the first equation, and an ‘indirect effect’, via the presence of this variable among the explanatory variables of the second equation. The marginal effects are calculated on the basis of the estimation of this model (cf. Table 3).

positively correlated factors of non-observed heterogeneity and the low impact of the aspirations of the least advantaged families, it can be postulated that the diversification of streams and broad access to education do not translate into qualitative democratisation; on the contrary, the aspirations of less advantaged families are confronted with a degree of ‘cynicism’ of social selection.



Marginal effects on the basis of the variation of conditional hope		Table 3
	Effect on the access to the general baccalaureate in 7 years: direct effect	Effect of the diploma regarded as an advantage: indirect effect
Constant	-0.776	-0.314
Male	-0.1032	-
French	-0.0791	-
Who is responsible for the child?		
Both parents	0.0988	-
Others	Ref.	
Father's highest formal qualification		
No formal qualification	-0.0886	0.0132
Certificate of primary education	-0.1663	0.0137
Certificate of lower secondary education	-0.1270	0.0077
<i>Certificat d'aptitude professionnelle</i> (CAP - vocational aptitude certificate)/ <i>brevet d'études professionnelles</i> (BEP - vocational studies diploma)	-0.1102	0.0093
Baccalaureate/upper secondary technical certificate (BT)	-0.0508	0.0043
1 st cycle	-0.0650	0
Unknown	-0.0880	0.0132
2 nd and 3 rd cycles	Ref.	
Socio-occupational category of the responsible adult		
Farmers	0.0631	0.0073
Crafts and trades	0.0279	0.0035
Teachers	0.0599	0.0006
Middle-level occupations	0.0083	0.0012
Employees	-0.0092	0.0065
Skilled workers	-0.0560	0.0078
Unskilled workers	-0.0699	0.0104
Unknown	-0.0033	0.0116
Management	Ref.	
Standard of written French when entering secondary school		
Good	0.3168	-0.0023
Average	0.1328	0.0005
Below average, unsatisfactory	Ref.	
Level in maths when entering secondary school		
Good	0.2316	-0.0053
Average	0.0507	-0.0035
Below average, unsatisfactory		
Does the child have his/her own room?		
No	-0.0346	0.0019
Yes	Ref.	
Repeats at primary school?		
Yes	-0.2159	0.0057
No	Ref.	
Reasons for the choice of school		
Good reputation	0.0374	-0.0044
Practical	Ref.	
Support with schoolwork?		
Yes, because of difficulties	-0.2531	0.0033
No, no need	0.1078	0.0013
No support	-0.0924	0.0051
Yes, even if no assistance is required		
Meeting with teachers on the initiatives of the parents?		
No	0.0855	0.0011
Yes	Ref.	

Cont. page 63

Low internalisation of educational difficulties?

In actual fact, even if primary-level repeats seem to be a factor distancing students from the norm (negative marginal effect), families do not regard this as an insurmountable handicap in the longer term. This initial failure does not prevent families from regarding higher education as an advantage for their child (positive marginal effect, Table 3). Given the opposite signs of their marginal effects in the two equations, the same can be said for the effect of the scores in maths and French as students enter secondary school. Poor or mediocre results seem to play in favour of greater value being attached to a higher-level diploma as a means of gaining access to employment, as if the internalisation of the child's difficulties resulted in an over-estimation of the importance of the educational level in the probable vocational pathway of the latter. The same logic seems to be at work as far as parental support with schoolwork is concerned.

Learning effects among siblings

The family seeks to avoid a repetition of the poor choice of educational orientation made for siblings. Having already had children at a vocational lycée acts as an incentive for parents to revise their aspirations (the marginal effect of this attribute on the probability of regarding higher education as an advantage is positive). The experience of having other children at a vocational lycée makes parents revise their evaluation of the school's role; they see higher education as the best means of successful social and occupational integration.

With this perception of the role of higher education, which is no doubt transmitted to their offspring, these parents help the child approach the 'ideal' norm, i.e. a 'flawless' route up to the general baccalaureate (whereas the direct marginal effect of the attribute 'at least one child at vocational lycée' on the general baccalaureate is '- 0.0812', the overall effect is only '- 0.078' as a result of the positive indirect marginal effect of the attribute '0.0025' on the probability of regarding a diploma of higher education as an advantage). In contrast, the presence in the family of siblings who have left the education system seems to suggest that parents underestimate the role that long education-



al streams may play in working life. Inter-mingling with siblings who are no longer at school and the lack of importance attributed to school by the responsible members of the family are factors significantly contributing to the distancing of these students from the norm (both marginal effects are negative).

Conclusion

Among the results presented in this article, the most striking are undoubtedly those related to the power of family social aspirations with respect to higher education:

- all other things being equal, early educational failure makes families attach greater importance to success in higher education as a means of access to employment;
- a sibling having gone through the vocational education stream triggers the same type of effect on family aspirations.

These results, which may at first sight seem surprising, illustrate that difficulties in terms of school results or earlier orientation do not play a demotivating role, but rather tend to lead to an even stronger internalisation of the 'norms of excellence' of the education system. The results are clear evidence that while the baccalaureate has effectively become an inescapable social norm, it is to a certain extent secondary to a collective internal norm within the French education system, i.e. a pass in the general baccalaureate 'on time' (within a period of seven years).

This complex interplay between a general norm and a logic of internal functioning (see Méhaut, 1997) poses obvious problems of social justice. In accordance with contractualist theories of justice (Trannoy, 1999), if holding the baccalaureate and the related knowledge become the shared social objective, a principle of compensation of differences (the search for homogeneity) should come into play, as opposed to a principle of natural reward for personal talent (the logic of differentiation). The effectiveness of the former principle calls for stronger collective investment in the 'less talented' with equal effort (beyond the threshold, the responsibility of each individual and, therefore, the principle of natural reward prevails). To a certain extent - and this is the entire paradox of the French situation - there is a general consent to such collective investment, since the length of schooling is

Marginal effects on the basis of the variation of conditional hope			Table 3
	Effect on the access to the general baccalaureate in 7 years: direct effect	Effect of the diploma regarded as an advantage: indirect effect	
Number of siblings at a vocational lycée			
At least one	-0.0812	0.0025	
None	Ref.		
Number of siblings in higher education			
None	-0.0455	0.0078	
At least one	Ref.		
Number of siblings who have completed or interrupted their education			
At least one	-0.0486	-0.0032	
None	Ref.		
Number of individuals: 9 114 ; -logV=9212.34. DPD panel cohort (1989 lower secondary school entrants), matched against family survey data.			

the longest among students with educational difficulties who have had to repeat one or more years and therefore reach the baccalaureate at a very late age. However, in view of the social selectivity of the different routes, these investments tend to be stigmatising factors rather than positive signals. This is a clear illustration of the individual and collective risks of segmentation into diversified routes matched against a collective internal benchmark within the education system (passing the general baccalaureate on time), which is substantially more powerful than the formally homogenising social norm, i.e. a pass in the baccalaureate. These conclusions are in line with the already familiar results in terms of segregative democratisation.

Nevertheless, given the diversification of institutional provision and despite factors of social inertia which are certain to play a considerable role, individuals (students and families) tend to make choices driven by their aspirations and their future expectations (Boudon, 1979). The routes examined here must therefore be seen as the result of these interactions between social and institutional structures and the judgements made by individuals. Without going as far as to take account of a logic of subjectivation as a component of educational experience (Dubet, 1994), it must be recognised that this approach, for the time being, is subject to the limit that we have as yet no recourse to the aspirations expressed by students and their families as they come out of the final year of lower secondary or on routes within higher education.