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Alternative pathways and social disparities in access to elite higher education institutions

à paraître dans HIGHER EDUCATION

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Abstract

Inequalities in access to elite higher education institutions are central in the horizontal dimension of social stratification in higher education. Previous studies have consistently shown large social inequalities in access from French “grandes écoles” (GE) but there is limited empirical evidence on the effect of alternative admission policies which have been largely implemented by these institutions. This article focuses on the effect of alternative pathways to GE which allow to transfer after a short vocational degree in higher education or a bachelor’s degree. It relies on longitudinal data on high school graduates and their trajectories in higher education to estimate whether students entering elite institutions through alternative pathways differ in terms of social and academic characteristics from those entering through the traditional pathway. This analysis is complemented by estimating the propensity to transfer to a GE among eligible students. Results show that, among eligible students, those with tertiary-educated parents are more likely to transfer. However, alternative pathways appear to diversify the social and academic profile of students in elite institutions because socially advantaged students remain a minority among those eligible to transfer.

Keywords

Elite higher education; Social inequalities; Alternative pathways; Transfer behaviours

Introduction

In virtually all countries, socially disadvantaged students remain under-represented in elite higher education institutions (Marginson, 2016; Triventi, 2013). In France, elite higher education programmes are mainly offered in “grandes écoles” (GE), which are characterized by stringent selection processes and act as gatekeepers to the highest political and economic positions (Davoine & Ravasi, 2013). In a recent cohort, it was estimated that people from the upper class are still five times more likely to graduate from a GE than people from the working class (Falcon & Bataille, 2018).

Over the past few decades, many interventions or reforms have been discussed or experimented with in an attempt to democratize access to GE. Institution-specific interventions often take the form of outreach actions to familiarize high-performing high school students in disadvantaged neighbourhoods with prestigious institutions and to provide tutoring to prepare them for competitive entrance examinations (Van Zanten & Maxwell, 2015). So far, research on diversity policies in GE has overwhelmingly focused on these small-scale interventions, mainly to highlight the strategic function of these symbolic interventions for institutions who need to preserve their reputation and their legitimacy in a competitive higher education system (Allouch & Buisson-Fenet, 2009; Buisson-Fenet & Draelants, 2010). However, a major change in the recruitment of GE has largely been overlooked in the literature: GE have been offering an increasing number of places to students who want to transfer after a short vocational degree or a bachelor’s degree at another higher education institution. Although the number of transfer opportunities varies largely across GE, these alternative pathways now account for around 40% of all GE new entrants (CGE, 2014). Because these alternative pathways do not set eligibility criteria based on social origin or residency in disadvantaged neighbourhoods, but rather are based on the previous degree obtained, they are rarely labelled as “social openness” interventions. But these alternative pathways are quantitatively much larger than outreach programmes and can thus be expected to be much more relevant to the composition of the student body of elite institutions. However, to my knowledge, there has not been any empirical estimation of the effect of these alternative pathways on the profile of GE students and on inequalities in elite institutions. The development of these alternative pathways is also particularly interesting because it constitutes new transfer routes within higher education and thus participates in the diversification of educational careers in higher education. The increased flexibility of students’ trajectories and its relevance for social stratification have been highlighted in the

U.S. (Goldrick-Rab, 2006; Milesi, 2010) but rarely studied in the European context (Haas & Hadjar, 2020). The French case of alternative pathways to GE is especially interesting because it combines two of the main features of the alternative admission policies described in the international literature: it both opens an official transfer route within higher education (similar to the community college to university transfer in the U.S.), but also relies on different selection criteria than the traditional pathway, which selects solely based on academic excellence.

The present article thus aims to assess the effect of alternative admission policies on the diversity of the student body of elite institutions by estimating empirically whether students entering these institutions through alternative pathways differ in terms of social and academic characteristics from those entering through the traditional pathway. However, because this approach does not take into account the initial pool of students who are theoretically eligible to enter through alternative pathways, I further investigate the propensity to transfer to a GE among students graduating from short tertiary vocational degrees. These distinct, but complementary, approaches allow a fine-grained analysis of the social disparities in access to elite higher education associated with transfer opportunities, while most of the literature on alternative pathways relies on one of these approaches only.

The results of the study confirm that alternative pathways bring in GE students who are, on average, from lower social origins than those from the traditional entrance pathway and may thus contribute to diversifying the profile of students in GE. This is the case even though, among eligible students, socially advantaged students are more likely to transfer. However, this can be explained by the small proportion of advantaged students who become eligible to transfer after graduating from a short vocational degree, thus ensuring that alternative pathways still bring about social diversity benefits.

Admission policies to promote social diversity in higher education

Affirmative action is the most famous type of admission policy designed to promote racial, gender or social diversity. It goes beyond the scope of this paper to discuss the large literature which assesses its effects because affirmative action policies use ascribed characteristics as selection criteria and thus differ fundamentally from the type of alternative pathway policies discussed here. Instead, the present article focuses on admission policies which are *not* based on ascribed characteristics, and which include two broad types of policies: alternative selective criteria and transfer routes within higher education.

The literature suggests that socially advantaged students are more likely to use alternative selection criteria to enter higher education. For example, in Sweden, where the main entrance route to higher education is based on high school GPA, Berggren (2007) finds that upper class male applicants are more likely to use an alternative entrance route that relies on the results of a specific scholastic test – the SweSAT. Similarly, in Denmark, an alternative entrance route based more on qualitative and extra-curricular activities than the high school GPA was found to have little impact on the social gradient of students accepted and to be most often used as an entrance route for low-performing upper class students (Thomsen, 2016). Likewise, in the U.S., the test-optional movement, allowing students not to submit their standardised test score such as SAT or ACT for their selective college application, has not increased the share of low-income or minority students in the universities that implemented it (Belasco et al., 2015).

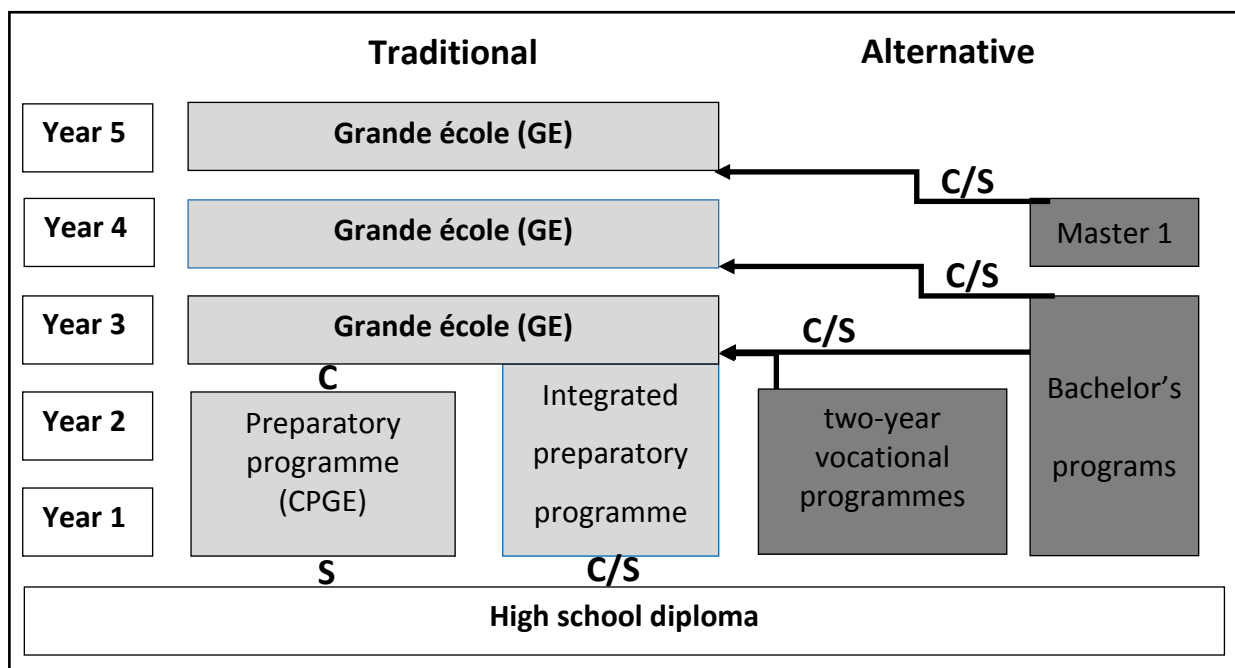
Regarding transfer behaviours, the American case of transitions between 2-year and 4-year institutions has been the most studied. Following Brint & Karabel's work (1989), which claimed that U.S. community colleges contribute to diverting disadvantaged students from further educational opportunities, there has been a rich literature attempting to identify whether U.S. community colleges favour a democratization of bachelor's attainment or widen social inequalities. Results consistently showed that socially advantaged students are more likely to transfer from a community college to a university (see for example, Dougherty & Kienzl, 2006; Lee & Frank, 1990). In the Russian context, the possibility to transfer to higher education after vocational education appears to have a complex effect on social inequalities in higher education: it both reduces inequality related to social origin by making higher education more accessible to students from disadvantaged backgrounds, but also serves as a "compensatory" route for low-performing upper class students (Yastrebov et al., 2018). In France, despite the increasing proportion of students entering a *grande école* after another degree, there has not been any empirical estimation of the factors associated with these transfer behaviours.

Alternative pathways to French elite institutions

Historically, "grandes écoles" are the result of the French revolution, which led to the selection of the national elite based on meritocracy through a competitive process, rather than birth. Further developed during the 19th century, the general organisation of these small prestigious institutions has been maintained over time. Traditionally, they offer a three-year programme and select students based on high-level written and oral examinations: students

are accepted based on their rankings in these “concours”. In order to give students the necessary preparation, public preparatory programmes (CPGE) were created in high schools. Lasting two years after the high school diploma, these preparatory programmes are also selective and only take students with the best high school academic records. This pathway of two years of CPGE and three years of GE, with two stringent selections, still remains the principal, and most prestigious, way to enter GE. However, during the 20th century, as GE institutions diversified, new pathways have been created. Figure 1 summarizes the current main entrance routes to these institutions. Institutions were created offering integrated five-year programmes that include two years of preparatory programmes. These five-year GE programmes thus remove the second selection gate and select students directly after high school based on competitive examinations or on high school academic records and interviews. More recently, various alternative routes were implemented to allow students with another higher education degree to transfer to a GE. These alternative pathways (“*admissions parallèles*”) are set at the institutional level, usually with a maximum quota of students who can be admitted through them.

Figure 1: Pathways to Grandes écoles



Selection criteria

C: Based on ranking in competitive written and oral examinations

S: Based on academic record, tests, interviews

Since these alternative pathways have always been individual institutional policies and not a nation-wide reform, it is difficult to trace back when they were first implemented and how quickly they developed. According to Blanchard (2014), in the case of business schools, these alternative admissions appeared as early as the end of the 1960s, but remained marginal until the 1990s and only fully developed after 2000. Nowadays, these alternative pathways are undoubtedly widely implemented, as even the most traditional and prestigious GE reserve some positions for them. Depending on the GE, these pathways are open to students who hold a two-year short vocational degree, have completed two years in a university programme, or are graduates of a bachelor's degree (three years in higher education), or students who have completed the first year of a master's degree (four years in higher education). Applicants who wish to transfer to a GE always go through a selection process, but it can take different forms: some institutions use rankings in a competitive examination, which is specific to short vocational degree graduates, for example. Other GE use a mix of academic records, students' described motivations, test scores and interviews. It is estimated that around 40% of all new entrants in GE now come from one of these alternative pathways (CGE, 2014), but little is known about how this has changed the profile of GE students.

These alternative pathways are likely to modify the social and academic profile of the student body in these institutions. One can expect that alternative pathways to GE favour social diversity in elite institutions by providing new opportunities for disadvantaged students for three reasons. First, the under-representation of disadvantaged students in elite education in France is partly explained by lower academic preparation in high school. For example, regarding access to CPGE, it has been estimated that half of the total class inequality is explained by differences in high school academic performance in recent cohorts (Ichou & Vallet, 2013). Thus, an alternative pathway that selects students via criteria other than an excellent GPA and demanding academic competitions should benefit disadvantaged students. Second, according to relative risk aversion theory (Breen & Goldthorpe, 1997), students aim to secure a level of education that allows them to avoid downward mobility. Most of the alternative pathways allow students to go to a prestigious institution after gaining vocational/professional degrees, which also offer an immediate transition to the labour market. In contrast, the traditional route requires two years of study in higher education in specific programmes that only prepare students to enter GE and do not grant any degrees. For working and intermediate class students, the alternative pathways should thus appear as an option with an attractive "safety net" before making more ambitious and risky educational

choices. Finally, preparatory programmes for the traditional pathway are unevenly distributed geographically, and are mainly offered in large cities and high schools in wealthy neighbourhoods that become the typical feeder schools of elite institutions (Buisson-Fenet & Draelants, 2013; Lemaire, 2008). Since there are many more institutions offering short vocational programmes across the country, even in middle-sized towns, the cost of following an alternative pathway is typically lower than attending a CPGE, which often requires moving to a different city. Distance to higher education institutions has been shown to have a stronger negative effect on enrolment for socially disadvantaged students (Gibbons & Vignoles, 2012; Pignini & Staffolani, 2016), so alternative pathways should be a more attractive option for disadvantaged students. However, it is also possible that alternative pathways mainly benefit socially advantaged students. The compensatory advantage mechanism (Bernardi, 2014) would lead one to posit that socially advantaged students with insufficient academic performance could strategically use such alternative pathways to access elite institutions despite their low performance. Indeed, consistent with the compensatory hypothesis, most of the international literature summarized earlier found that socially advantaged students are the main beneficiaries of these types of policies.

Data

The analysis draws upon the survey “Enquête sur le devenir des bacheliers - 2008-2012” (SIES, 2012) to identify students’ entrance to GE. This survey collected detailed information on a representative sample of students who graduated from high school in 2008 and were followed for up to 5 years. Students were interrogated via postal mail or through a web platform (and phone interviews in the case of non-response). Data on their high school performance and social class come from administrative sources.

GE include engineering schools, business schools as well as various prestigious social science institutions (ENS, Sciences Po and other IEP, etc.). Since students can enter GE through alternative pathways in the third, fourth or fifth year, the analyses are based on the sample of students enrolled in a GE in the fifth year. Students with missing information in the fifth year but who were enrolled in the fourth year in an elite programme are also included in the analysis as dropout from these programmes is rare (Herbaut, 2020). Only 62 students, accounting for 6% of the analytical sample, had missing enrolment data in the fifth year. The analytical sample on the GE student body amounts to 964 students.

Social background is measured using parental education and parental class. I use information on both parents in order to distinguish the most advantaged households where both parents are highly educated or in the upper-middle class (i.e. large employers or higher grade professionals and managers). Because the proportion of students who are enrolled in a *grande école* and whose parents are in the working class is marginal (less than 6%), this category is merged with the intermediate class. I further distinguish between students with one parent in the upper-middle class and those with two parents in this category. Similarly, parental education differentiates first-generation students, whose parents do not hold any higher education degree, students with one tertiary-educated parent, and students whose parents are both higher education graduates. Student academic profiles are measured using detailed information on the track followed in high school (academic, technological or vocational), which further distinguishes the specific stream attended within the academic track (scientific, humanities or economics). It also includes a variable indicating the age at graduation from high school (on time or in advance versus one year or more late) and the distinction obtained (without distinction, quite good, good or very good).

Finally, the relatively small number of CPGE and GE institutions across the country has led to important geographical inequalities, which often overlap with social inequalities. 30% of students in a GE come from the Paris area, while this is the case for only 19% of all higher education students, and half of students in the GE come from only 17% of all academic high schools (Bonneau et al., 2021). Only a minority of high schools (16%, often located in wealthy neighbourhoods) offer preparatory programmes and students from these high schools are also much more likely to apply to these programmes (Nakhili, 2005). I thus additionally control for the context of the high school attended with the size of the city (village or small town, medium-sized city, large city other than Paris and Paris area), the public or private status of the high school and the presence of a CPGE in the high school attended.

Methods

Students' trajectories are coded based on enrolment information for each semester in higher education (10 in total). Students entering directly to a GE or after a preparatory programme (CPGE) are classified as having entered through the traditional pathway. Students who were enrolled in other programmes (short vocational degree, bachelor's, master's, etc.) before a GE are classified as having enter through an alternative pathway. In order to assess the diversity effect of alternative pathways on the GE student body, I compare social origins, academic and high school characteristics of students attaining the GE through traditional pathways to those

who use alternative pathways. To do so, I use the index of dissimilarity, D , which can measure the (un)evenness of the distribution of students across institutions (Croxford & Raffe, 2013) or entrance pathways (Alon, 2011). Since I am primarily interested in the extent of the diversification of the student body in the GE associated with alternative pathways, I compute the dissimilarity index to assess the proportion of alternative pathways entrants who would need to be from a different gender, social origin, track, etc. to make to make these two groups of GE students even. It is calculated as:

$$D = 0.5 * \sum_{i=1}^n \left| \frac{A_i}{AT} - \frac{R_i}{RT} \right|$$

Where n is the number of origin characteristic categories. A_i is the number of alternative entrants from origin i ; AT is the total number of alternative entrant students in GE; R_i is the number of traditional pathway entrants from origin i and RT their total number in GE. D is independent of the prevalence of the two entrance pathways in the composition of the GE population and ranges from 0 to 1. In this case, 0 indicates that alternative pathway entrants do not differ from traditional pathway entrants and there are no diversity benefits associated with this policy. It is maximised and reaches 1 if all alternative pathways entrants differ entirely from traditional pathway ones on a given characteristic, meaning that the diversity observed in the student bodies of the GE can be wholly attributed to alternative pathways.

In a second step, I estimate the probability of transferring¹ to a GE, using the same database, among the 2,252 students who reported graduating from short vocational programmes which award the “*Brevet de Technicien Supérieur*” (BTS) or the “*Diplôme Universitaire de Technologie*” (DUT) as a first degree in higher education. Alternative pathways to GE were first developed for these types of graduates, who still account for the largest group of students who gain access to elite institutions through alternative pathways. Indeed, among the students who have entered a GE, around 30% had first graduated from a short vocational degree, which accounts for almost 70% of students who have entered through an alternative pathway.

Table 1 shows the characteristics of graduates from these programmes (column 1) and the proportion of vocational graduates who have transferred, for each category of the independent variables (column 2). Slightly fewer than two out of three BTS or DUT holders are first-generation college students, and almost three out of four come from the working or intermediate class. Only one out of five graduated from the most prestigious scientific

¹ The analysis is not limited to students who transferred immediately after their short vocational degree, as a large share first obtained another degree (for example a professional bachelor’s degree) before to enter a GE.

academic track, while 41.7% hold a technological high school diploma. More than half obtained their high school diploma without any distinction.

Table 1: Characteristics of students holding a short vocational degree (first HE degree)

		Distribution in analytical sample (%)	Proportion who transfer (%)
Transfer to a grande école	No	87.5	
	Yes	12.5	
Applied to transfer to a grande école	No	78.0	
	Yes	22.0	
<i>Gender and social characteristics</i>			
Gender	Male	51.1	16.8
	Female	48.9	8.0
Parental education	Below higher education	62.7	8.3
	One parent with higher education	21.8	17.9
	Both parents with higher education	15.4	21.9
Parental social class	Working class or intermediate	72.1	10.0
	One upper-middle class parent	22.6	18.0
	Two upper-middle class parents	5.3	21.8
<i>Academic performance characteristics</i>			
Track of high school degree	Academic Scientific	21.1	25.8
	Academic humanities	4.3	4.2
	Academic economics	15.9	13.2
	Technological	41.7	9.9
	Vocational	17.0	3.7
Age at high school degree	On time or in advance	56.5	15.0
	One year or more late	43.5	9.2
High school degree distinction	Without distinction	53.0	9.5
	Quite good	34.5	14.0
	Good	11.1	21.6
	Very good	1.4	15.6
<i>High school characteristics</i>			
Size of the city in high school	Village or small town	25.3	11.1
	Medium-sized city	35.8	9.9
	Large city, other than Paris	26.2	12.9
	Paris area	12.6	21.8
Type of high school	Public	81.0	12.4
	Private	19.0	12.6
Offered preparatory programme to GE (CPGE)	No	94.6	12.1
	Yes	5.4	19.8
<i>HE vocational degree characteristics</i>			
Type of vocational degree	BTS	68.4	6.7

	DUT	31.6	24.9
On-time graduation; 2 years after high school	No	27.8	12.0
	Yes	72.2	12.7
Number of observations		2 252	

Source: « Enquête sur le devenir des bacheliers - 2008-2012. ».

The majority of short vocational degree graduates came from a small or medium-sized city (61.1%) and studied in a public high school (81%) that did not offer a preparatory programme to GE (CPGE-94.6%).

Finally, more students graduate from the somewhat less prestigious BTS degree (often offered in high school) than from the DUT which are awarded in universities (68.4% versus 31.6%). Fewer than three-quarters of these students graduated two years after entering higher education. Overall, 281 individuals accounting for 12.5% of these students have transferred to a GE by the fifth year.

I estimate the independent effects of the independent variables on the probability of transferring to a GE with nested logit models. In a first model, the total association between socio-demographic characteristics and transfer behaviours is estimated. Indicators of academic performance in high school (model 2), characteristics of the high school attended (model 3) and variables about the pathway followed in vocational higher education (model 4) are then sequentially added to identify whether these factors mediate the total association between social background and transfer through alternative pathways. Diagnostics for multicollinearity and influential outliers has been carried out and show that there is no issue with the modelling strategy. Average marginal effects (AME) are reported to ease interpretation.

Results

Alternative pathways and diversity in the student body

Among the 964 students who are enrolled in a grande école in the fifth year of higher education, around 42% entered the GE via an alternative pathway, which is an estimation very similar to the one done by the grandes écoles association with a different dataset (40%; CGE, 2014). Table 2 summarises the characteristics of the student body of the GE, as well as the groups of students who followed each type of entrance pathway. Following Alon's study (2011), I interpret the diversity in the group of students who followed the traditional entrance pathway as a proxy of the counterfactual diversity level in GE if alternative pathways did not exist. The dissimilarity index D provides an estimate of the (un)evenness of the distribution in

the two groups and can be interpreted as the percentage of students in the alternative pathway group who would need to have a different origin, academic performance, etc. to make the two groups of students identical. Thus, the higher the dissimilarity index, the larger the diversity in student characteristics due to alternative pathways.

The effect of alternative entrance pathways on the composition of the student body in elite institutions appears to be largest in terms of the diversity of high school academic profiles. Students obtaining entrance to a GE through the traditional pathway show extremely homogenous profiles of high school academic performance: almost 75% of them graduated from the scientific track, 90% graduated on time and two-thirds have a “good” or “very good” distinction. In comparison, only 30% of all high school graduates graduate from the scientific track, less than 60% graduate on time and 16% attain a “good” or “very good” distinction (own calculation). Thus, while the traditional pathway to GE undoubtedly only selects the highest-achieving students from high school, this translates into a strong homogeneity in students’ academic profiles.

Table 2: Characteristics of students who attend an elite institution in fifth year, by entrance pathway.

		Traditional pathway	Alternative pathways	Dissimilarity index D	All
<i>Gender and social characteristics</i>					
Gender	Male	60.2	62.3	0.02	61.1
	Female	39.8	37.7		38.9
Parental education	Below higher education	24.1	38.2	0.19	30.0
	One parent with higher education	22.6	27.8		24.8
	Both parents with higher education	53.3	34.0		45.2
Parental social class	Working class or intermediate	31.0	52.6	0.22	40.0
	One upper-middle class parent	39.8	34.0		37.3
	Two upper-middle class parents	29.2	13.4		22.6
<i>Academic performance characteristics</i>					
Track of high school degree	Academic Scientific	74.7	45.4	0.29	62.4
	Academic Humanities	2.0	2.2		2.1
	Academic Economics	15.7	22.1		18.4
	Technological	7.7	26.6		15.6
	Vocational	0.0	3.7		1.6
Age at high school degree	On time or in advance	91.1	71.2	0.20	82.8
	One year or more late	8.9	28.8		17.2
High school degree distinction	Without distinction	9.4	38.7	0.44	21.7
	Quite good	24.1	39.2		30.4
	Good	37.6	17.6		29.3
	Very good	28.9	4.5		18.7

High school characteristics

Size of the city in high school	Village or small town	16.6	19.1	0.03	17.6
	Medium-sized city	29.2	28.0		28.7
	Large city, other than Paris	29.9	28.0		29.1
	Paris area	24.2	24.8		24.5
Type of high school	Public	73.3	77.9	0.05	75.2
	Private	26.7	22.1		24.8
High schools Offered preparatory programme to GE (CPGE)	No	77.2	87.3	0.10	81.4
	Yes	22.8	12.7		18.6
Number of observations		561	403		964

Source : « Enquête sur le devenir des bacheliers - 2008-2012. ».

In contrast, alternative pathways appear to bring about more diverse academic profiles. I find the largest index of dissimilarity (0.44) for the high school diploma distinction obtained, with approximately 78% of the students having the “quite good” distinction at most. In addition, alternative pathways appear to allow more students from the technological track to attain elite education (26.6% of alternative entrants come from this track compared to only 7.7% of entrants from the traditional pathway) and the proportion of students graduating from high school one year late rises to almost 29% for those who entered via alternative pathways compared to only 9% for those from the traditional pathway.

The diversification in the academic profile of GE students from alternative pathways is associated with a greater heterogeneity in terms of social origin. The dissimilarity index for parental social class amounts to 0.22 and is mainly driven by the larger share of students without any upper-middle class parent in the alternative pathway (38.2% versus 24.1% in the group from the traditional pathway). Similarly, alternative pathway entrants are more often first-generation college students (38.2%) as compared to traditional pathway entrants (24.1% only). However, the dissimilarity indexes suggest that the diversity effect is somewhat smaller for social origin than it is for academic profile.

Interestingly, I find that alternative pathways have only a small impact on the diversity of students in terms of the high school attended, as the dissimilarity index for graduating from a high school offering a prestigious preparatory programme is 0.10 and amounts to only 0.05 for the type of high school (public or private). Furthermore, alternative pathways seem to have no effect on the geographical profile of students (as measured by the size of the city in high school) or on gender diversity in GE. If anything, men are slightly overrepresented in the

group of students entering through alternative pathways as compared to those entering through the traditional pathway.

These results thus confirm that alternative pathways to GE seem to be associated with a change in the composition of the student body in elite institutions. These pathways provide entrance to a non-negligible number of students who differ from traditional pathway students on various characteristics. Alternative pathways allow students with less than excellent academic preparation and those from lower social backgrounds to attend GE, although they do not have any positive impact on the gender or geographical diversity of these institutions. However, the diversity benefits of alternative entrance pathways depend on both the characteristics of eligible students and the differential propensity of these students to use them. Looking only at the students who have entered GE does not provide information about the use of these pathways in the pool of eligible students, so I now turn to the analysis of GE transfer behaviours among theoretically eligible students.

Transfer to grandes écoles after a short vocational degree

Table 3 displays the results of the logit models on the transfer behaviours of short vocational degree holders. Model 1 shows that there are large differences in the probability of transferring to elite institutions among students graduating from a vocational degree in terms of their socio-demographic characteristics: women are 8 p.p. less likely to transfer than men and first-generation college students are 10 p.p. less likely to transfer than students with two tertiary-educated parents. In contrast, controlling for parental education, there is only a small non-significant difference between students from working or intermediate social class backgrounds and those with two upper-middle class parents. Adding the variables pertaining to high school academic performance shows that students with a stronger academic background in high school are more likely to transfer after their vocational degree, especially those from the scientific academic track and those who graduated with at least a “good” distinction. Importantly, academic preparation does not mediate the lower propensity of women to transfer, but it does explain part of the effect of parental education (Model 2). Although high school characteristics do not further mediate gender or parental education inequalities, it is striking to see that students who attended high school in the Paris area are much more likely to transfer to a grande école (+13.4 p.p.; Model 3). Finally, it could be that women and first-generation college students make the less ambitious choice of vocational programmes in higher education, which then hinders their opportunities to transfer. Model 4 shows some support for this hypothesis but in the case of gender only. The type of vocational

degree does have a large independent effect on transfer behaviours (an increase of almost 10 p.p. for DUT graduates). However, its inclusion in the model slightly reduces the coefficient for women and only marginally for first-generation students.

Overall, advantaged students, whether it is in terms of parental education, academic background or geographical origin, are more likely to transfer to a GE. The only exception to this pattern is social class, which does not have an independent effect on transfer behaviours. These results complement the conclusions drawn previously regarding the diversity benefits of alternative pathways to GE and allows us to discuss the conditions under which alternative entrance pathways can contribute to reducing social inequalities in higher education.

Table 3: Probability to transfer to an elite institution among graduates of short vocational degrees; average marginal effects from logit models.

		Model 1	Model 2	Model 3	Model 4
Gender	Male (reference)				
	Female	-0.081*** (0.01)	-0.082*** (0.01)	-0.084*** (0.01)	-0.068*** (0.01)
Parental education	Below higher education	-0.104*** (0.03)	-0.059*** (0.02)	-0.052** (0.02)	-0.050** (0.02)
	One parent with HE	-0.018 (0.03)	0.002 (0.02)	0.006 (0.02)	0.007 (0.02)
	Both parents with HE (ref.)				
Parental social class	Working or Intermediate	-0.027 (0.03)	-0.009 (0.03)	0.008 (0.03)	0.011 (0.03)
	One upper-middle class parent	-0.003 (0.03)	0.008 (0.03)	0.017 (0.03)	0.022 (0.02)
	Two upper-middle class parents (ref.)				
Track of high school degree	Academic Scientific (ref.)				
	Academic Humanities		-0.170*** (0.03)	-0.179*** (0.03)	-0.138*** (0.03)
	Academic Economics		-0.081*** (0.03)	-0.090*** (0.03)	-0.074*** (0.02)
	Technological		-0.120*** (0.02)	-0.131*** (0.02)	-0.079*** (0.02)
	Vocational		-0.194*** (0.02)	-0.206*** (0.02)	-0.152*** (0.02)
Age at high school degree	On time or in advance (ref.)				
	One year or more late		-0.018 (0.01)	-0.022 (0.01)	-0.023 (0.01)
High school degree distinction	No distinction (ref.)				
	Quite good		0.053*** (0.01)	0.063*** (0.01)	0.047*** (0.01)
	Good or very good		0.125*** (0.03)	0.131*** (0.03)	0.100*** (0.02)
Size of the city in high school	Village or small town (ref.)				
	Medium-sized city			-0.008 (0.02)	-0.006 (0.02)
	Large city, other than Paris			0.019 (0.02)	0.017 (0.02)
	Paris area			0.134*** (0.03)	0.139*** (0.03)
Type of high school	Public (ref.)				
	Private			0.017 (0.02)	0.025 (0.02)
High school offered CPGE	No (ref.)				
	Yes			0.001 (0.03)	-0.003 (0.02)
Type of HE vocational degree	BTS (ref.)				
	DUT				0.096*** (0.02)
On-time graduation	No (ref.)				
	Yes				0.023* (0.01)
Log-likelihood		-798.2	-736.5	-717.9	-698
Pseudo R2		0.0582	0.131	0.153	0.176
Number of individuals		2,252	2,252	2,252	2,252

Source: Enquête sur le devenir des bacheliers - 2008-2012.

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Discussion

This article has combined a retrospective approach that investigates which students in GE followed an alternative entrance pathway, and a prospective one that identifies the probability of using this route among eligible students. This has rarely been done in other studies on alternative pathways. On the one hand, I find evidence that less advantaged and lower performing students are over-represented among alternative pathway entrants, suggesting that these pathways allow a diversification of the student body of elite institutions. On the other hand, among students eligible to transfer to a GE after graduation from a short vocational tertiary degree, students with better academic backgrounds and from highly educated families are more likely to make use of these alternative pathways. These results provide an opportunity to discuss the conditions under which alternative pathways can increase the opportunities of disadvantaged students in elite institutions.

First, the fact that alternative pathways appear to serve disadvantaged students in reaching elite institutions but do not address the under-representation of women allows us to discuss the hypotheses formulated earlier on the mechanisms which drive the effects of such policy on student body diversity. My analysis of the composition of the student body in GE shows that the largest difference between traditional and alternative entrants lies in their academic performance in high school, as the traditional pathway limits entrance to only the highest-achieving high school students. It has been shown that half of social inequalities in GE attainment are driven by the lower academic preparation of disadvantaged students in high school (Ichou & Vallet, 2013), while gender inequalities exist despite the fact that women do as well or better than men in high school (Blanchard et al., 2016). It is thus not surprising that the increasing opportunities for students with an average or good, but not excellent, academic profile should lead to increasing opportunities for students from lower social backgrounds, while this policy has no effect on the lack of gender diversity. Alternative pathways seem to be able to increase social diversity because they rely on alternative selection criteria which are less narrowly related to academic preparation than competitive examinations and, *de facto*, are more favourable to disadvantaged students.

The analysis of the propensity to transfer from short vocational programmes to elite institutions hints at the fact that alternative pathways to enter GE can be used differently by different social groups. A closer look at the trajectories of students attaining elite institutions through alternative pathways indeed shows that among those with at least one tertiary-educated parent, around one out of five was first enrolled in a prestigious preparatory

programme (CPGE) for one or more years before going to a short vocational or bachelor's programme and then transferring back to a GE. In contrast, the proportion of these "compensating" trajectories among first-generation college students attaining entry to a GE through alternative pathways is much smaller (around 7%). These results would need to be confirmed with a larger database, but suggest that alternative pathways can serve as compensatory strategies for socially advantaged students who want to reach a GE but face difficulties in the very demanding CPGE and thus fail to enter through the traditional pathway.

Alternative pathways allow advantaged students to follow compensatory trajectories and, among vocational graduates, analyses on the propensity to transfer show that students with better academic backgrounds and with higher parental education backgrounds are more likely to seize the opportunity to transfer to a prestigious institution. However, results on the composition of the student body in GE still suggest that alternative pathways participate in diversifying the profile of students in GE. This is possible because socially advantaged students and high-performing students account for only a minority of those in the programmes that are targeted by alternative pathway opportunities. Given the social segregation seen in access patterns in French higher education, students who first obtain a short vocational degree, or to a lesser extent a university degree, and thus become eligible for alternative pathways to GE, are more likely to be from lower social backgrounds with a lower academic preparation than students in prestigious CPGE programmes (Duru-Bellat & Kieffer, 2008).

The results of the present study suggest that even if advantaged students are more likely to transfer in relative terms, alternative pathways allow quantitatively more students from disadvantaged backgrounds and with lower academic preparation to enter GE and maintain the diversity benefits of this policy. This finding echoes the findings regarding alternative pathways to higher education in Russia (Yastrebov et al., 2018), but contrasts with other studies that have found that advantaged students maintain or increase their entrance advantage through alternative pathways (Belasco et al., 2015; Berggren, 2007; Thomsen, 2016). Although these studies evaluated policies that differ in which criteria were used for the traditional pathway and the alternative ones, they shared the characteristic that any high school student could decide to apply through the alternative selection process. In the case of alternative pathways to French elite institutions, only graduates of specific tertiary programmes get this opportunity. Because these tertiary programmes are characteristic of disadvantaged students in higher education, this selection criteria may be a crucial element to

guarantee that alternative pathways contribute to reducing social inequalities. Choosing to apply with the GPA score instead of a standardised test score (or vice-versa) is relatively easy and this type of alternative lets the door open to compensatory strategies from better-informed, socially advantaged students. In contrast, it is more demanding to graduate from a programme that last at least two years and, although some strategic behaviours from upper class students are still found, disadvantaged students still constitute the bulk of beneficiaries from these alternative pathways.

From this perspective, the case of alternative pathways to elite institutions, especially the ones for short vocational degree holders, may be interpreted as need-blind colour-blind affirmative action policies, following Alon's terminology (2011). Such policy gives an advantage in the selection process based on an eligibility criterion that is not a personal characteristic of social disadvantage (such as ethnic origin or familial financial need) but a criterion that is associated with structural disadvantages. In the case of some selective Israeli universities, students coming from disadvantaged neighbourhoods have an edge in the selection process that was found to diversify the student body of these top institutions (Alon, 2011). The case of French elite institutions is thus interesting because it suggests that offering opportunities to students who have earned a degree which is largely characteristic of disadvantaged students can work in a similar way. As social stratification across different higher education institutions is becoming an increasing concern (Gerber & Cheung, 2008; Shavit et al., 2007), these types of alternative pathways can participate in increasing opportunities for disadvantaged students along their educational careers in higher education. But it also implies that these diversity benefits will only continue to exist if disadvantaged students remain over-represented in short vocational programmes. As upper class families increasingly avoid general university programmes (Ichou & Vallet, 2013) and may increasingly turn to short vocational programmes, it is important to further examine whether the shifting patterns of social stratification in higher education may thwart the diversity benefits of alternative pathways in the near future. Along with this, it would also be necessary to analyse in more detail the incentives and motivations for GE to develop alternative entrance pathways. It remains unclear whether alternative pathways mainly allow institutions to widen participation and increase students' enrolments or whether alternative pathways are developed to specifically diversify student profiles.

Two important limits of this article should be highlighted. First, it does not take into account the variation in the share of alternative pathway entrants across elite institutions by institution.

Data on engineering GE show that the share of alternative entrants is much smaller in the most prestigious institutions than in the second-tier ones: for example, in the most prestigious public engineering school “École polytechnique”, the proportion of alternative pathways entrants is only 7% (L’Etudiant, 2021). There is little doubt that graduating from a GE, even a second-tier one, should bring about benefits on the job market compared to holding a short vocational degree or a general bachelor’s degree. But this observation also implies that alternative pathways do not address the problem of the renewal of the economic and political elite in France, who overwhelmingly come from a handful of top institutions which offer few seats to alternative entrants.

Second, I interpreted the diversity in the group of students from the traditional entrance pathway as a proxy for the counterfactual diversity level in GE if alternative pathways did not exist. Because the analysis is based on only one cohort of students, it does not allow estimation of the causal effect of this policy. Therefore, the same result could be interpreted either as a social opening of elite institutions or as the “diversion” of disadvantaged students. It is possible that disadvantaged students who entered through alternative pathways would have reached prestigious institutions in any case and were just “diverted” from the most prestigious route by alternative pathways. However, I found that alternative pathway entrants differ fundamentally from their traditional entry counterparts in terms of academic background, with much lower performance in high school. I would thus argue that it is less likely that these students would have reached prestigious institutions via the traditional route and favour an interpretation based on the social opening of elite institutions, rather than diversion. However, a quasi-experimental design based on trends data, such as difference-in-differences, would be necessary to be able to conclude that the implementation of alternative pathways increases the proportion of disadvantaged students in elite institutions.

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