



**HAL**  
open science

## Social origins, track choices and labour-market outcomes: evidence from the French case

Estelle Herbaut, Carlo Barone, Mathieu Ichou, Louis-André Vallet

### ► To cite this version:

Estelle Herbaut, Carlo Barone, Mathieu Ichou, Louis-André Vallet. Social origins, track choices and labour-market outcomes: evidence from the French case. *Longitudinal and Life Course Studies*, 2021, 12 (3), pp.345-388. 10.1332/175795921x16137571038264 . hal-03454965

**HAL Id: hal-03454965**

**<https://hal.science/hal-03454965>**

Submitted on 29 Nov 2021

**HAL** is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

## RESEARCH ARTICLE

### **Social origins, track choices and labour-market outcomes: evidence from the French case**

Estelle Herbaut, [estelle.herbaut@sciencespo.fr](mailto:estelle.herbaut@sciencespo.fr)

Carlo Barone, [carlo.barone@sciencespo.fr](mailto:carlo.barone@sciencespo.fr)

*Observatoire sociologique du changement (OSC), Sciences Po, France*

Mathieu Ichou, [mathieu.ichou@ined.fr](mailto:mathieu.ichou@ined.fr)

*Institut national d'études démographiques (Ined), France*

Louis-André Vallet, [louisandre.vallet@sciencespo.fr](mailto:louisandre.vallet@sciencespo.fr)

*CNRS-Observatoire Sociologique du Changement (OSC), Sciences Po, France*

This paper examines the labour-market returns to different high school tracks in the French context. We use rich nationally representative longitudinal data running from the beginning of secondary education until entrance into the labour market: the Panel d'élèves du second degré, recrutement 1995 combined with the Entrée dans la vie adulte-EVA follow-up survey. Analysing these data, we are able to identify the consequences of track placement in high school on various labour-market outcomes controlling for social and academic selection into tracking. Our results show that academic diplomas offer higher labour-market benefits than vocational diplomas, even when adjusting for selection into tracks based on prior school performance, family background and other socio-demographic characteristics. The advantage of the academic track stays large, both for the whole group of upper secondary graduates and for those who have not achieved a tertiary degree. Our results further indicate that academic qualifications are even more rewarding for service-class graduates. We discuss the theoretical and policy implications of our results for processes of intergenerational reproduction.

**Key words** educational tracking • labour-market outcomes • intergenerational reproduction • vocational education • France

#### **Key messages**

- Secondary academic diplomas offer higher labour market benefits than vocational ones, even when adjusting for selection into tracks.
- The academic path is the most rewarding option in France, even among students who do not complete tertiary education.
- Secondary academic qualifications are even more rewarding for service class graduates, in terms of boosting access to service class jobs.

To cite this article: Herbaut, E., Barone, C., Ichou, M. and Vallet, L. (2021) Social origins, track choices and labour-market outcomes: evidence from the French case, *Longitudinal and Life Course Studies*, vol xx, no xx, 1–44, DOI: 10.1332/175795921X16137571038264

---

## Introduction

In France, as in other European countries, upper secondary education is split into tracks that differ considerably in their academic orientation. Students must make their first track choice in grade 9 corresponding to the last year of lower secondary education, when they are aged 15. Hence, France may be characterised as a late-tracking system. This work analyses the occupational prospects of upper secondary graduates from different tracks in France, taking into account selection into these tracks by prior school performance. As argued later, this topic is remarkably under-researched in France. Sociological and economic studies have largely focused on differences in labour-market outcomes by final educational attainment (Dupray, 2000; Barret et al, 2014) or on the effect of secondary tracks on higher education participation (Duru-Bellat, 2006; Vallet, 2020). The labour-market consequences of the horizontal differentiation within an educational level have only been studied for higher education (Calmand and Epiphane, 2012). In this work, we study the consequences of track choices made at age 15 on early labour-market outcomes, thus taking a longer time perspective than existing research. In addition, we estimate to what extent the effect of secondary tracks on labour-market outcomes reflects differences in higher education attainment, thus taking into account path dependency in education trajectories. Finally, while previous studies failed to consider ability selection into secondary tracks, we incorporate detailed measures of academic achievement prior to track choice and show that they correct the estimated track effects.

Moreover, taking an intergenerational perspective, we consider the interplay between track choices and family background (Lucas, 2001). An extensive literature reports that working-class children are over-represented in vocational programmes, which afford much lower chances to access and complete higher education, thus constraining their opportunities to attain upper-class jobs (Ichou and Vallet, 2011; Blossfeld et al, 2016). Track choices thus drive intergenerational reproduction via their connections with higher education. Their relevance for social stratification processes needs not to be confined to these connections, however. We expand on the existing literature by investigating two additional processes of intergenerational reproduction.

First, we assess whether track choices also mediate family background effects among students who did not complete higher education. After all, only 41% of French youngsters attain a tertiary degree, while 42% leave education with an upper secondary qualification and 17% with a lower secondary certificate (OECD, 2018). If academic diplomas offer better labour-market prospects than vocational diplomas, upper-class children enjoy a twofold advantage: better chances to reach more rewarding occupations *with and without* a tertiary degree. In other words, if the academic path is a win-win option, the over-representation of upper-class children in this path entails even stronger consequences for intergenerational reproduction than has been documented so far.

Second, regardless of the profitability of different secondary diplomas, family background has a 'direct' influence on labour-market outcomes, owing to the higher economic, cultural and social resources of upper-class parents (Bernardi and Ballarino, 2016). We estimate this direct effect of family background on early occupational outcomes, accounting for social and ability selection into tracks. Then, we analyse whether this effect moderates the effects of different secondary diplomas. For instance, a higher family background may reduce the risks of demotion into manual occupations associated with a vocational diploma, or it may boost the chances of reaching skilled, white-collar occupations with an academic diploma.

The rest of this paper is organised as follows. Next, we develop our theoretical background and then illustrate the French educational system and review the previous literature on the occupational prospects of secondary diplomas in France. We go on to describe the data, variables and models used for the analyses before presenting the results and concluding.

## Theoretical background

Educational track decisions can influence the occupational prospects of students in two distinct ways. First, they affect the chances of enrolling in (and completing) higher education as well as of accessing more selective and rewarding programmes. Second, among students who do not continue to higher education, secondary diplomas may display different levels of employability. As mentioned in the Introduction, this second aspect is less investigated and represents the focus of the present work.

The labour-market outcomes of different secondary diplomas may reflect multiple micro-level mechanisms that need not work in the same direction, thus precluding straightforward predictions. From a human capital perspective (Becker, 1962), vocational diplomas offer more specific, ready-to-use skills that reduce training costs and enhance the productivity of prospective candidates (Rözer and Bol, 2019). However, academic diplomas may perform better when it comes to fostering general skills, such as reasoning, communication and language competencies, and mathematical and science skills. Moreover, attitudes and personality traits, such as teamwork orientation or conscientiousness, are increasingly recognised as relevant predictors of occupational success, but it is unclear whether some secondary tracks contribute more to their development than others (Farkas, 2003). It is possible that higher academic standards and a more disciplined school climate favour students from academic tracks.

From a signalling perspective (Spence, 1973), vocational tracks recruit students with weaker academic performance, as well as with lower educational and occupational aspirations (Ichou and Vallet, 2013). Students in the vocational track are also more likely to undergo behavioural problems and experiences of school failure. Moreover, they come more often from low-educated, working-class families and they more often have an immigrant background (Palheta, 2012; Oberti and Ichou, 2014; Ichou, 2018): these traits tend to be negatively labelled and discriminated against in the labour market. However, when considering the pool of upper secondary graduates who do not continue to (or at least do not complete) tertiary education, graduates from the academic track may also be negatively labelled. Indeed, since an overwhelming majority of students from this track continues to higher education, those who do not could therefore be perceived as 'deviant'. An alternative interpretation, however, may

suggest that these students do not continue to tertiary education precisely because they enjoy particularly favourable economic prospects with a secondary degree, for instance in relation to entrepreneurial activities and other forms of self-employment.

Finally, imbalances between supply and demand across occupational domains constitute a third set of potential mechanisms. Graduates from academic tracks may access white-collar occupations where general skills and cultural resources are important, but much depends on the potential competition and displacement coming from bachelor's degrees or tertiary vocational qualifications. At the same time, labour shortages in some manual occupations may significantly raise the employability and profitability of some vocational qualifications (Arrighi and Sulzer, 2012).

Overall, the main factor that could drive more favourable occupational prospects for vocational graduates relates to the importance of specific, ready-to-use skills that could be highly demanded in some occupational domains. The importance of this micro-level mechanism may vary across countries in relation to the macro-level characteristics of their educational systems (Müller and Gangl, 2003). Where vocational education is connected to a strong apprenticeship system involving firms and employers' organisations and enjoys a positive reputation, its labour-market returns are larger, more so if these secondary programmes open access to some form of tertiary, vocational education. Conversely, where the vocational path is a school-based programme that primarily represents a *reservoir* of low-performing students, its negative stigma may prevail, and its labour-market prospects may be poorer. The French educational system being highly generalist, vocational tracks enjoy limited connections with labour-market demands and their diplomas tend to be devalued.

Following the seminal work by Blau and Duncan (1967), social mobility research has extensively reported that social origins affect occupational attainment even after controlling for educational attainment (Bernardi and Ballarino, 2016; Breen and Müller, 2020). These 'direct' effects, which have been documented also for France and in recent cohorts (Goffette and Vallet, 2018; Vallet, 2020), may reflect the higher endowments of economic, social and cultural resources that upper-class families can mobilise to foster the occupational attainment of their children (Bourdieu, 1979; 1986). Upper-class students are better equipped in terms of cultural resources, such as familiarity with highbrow culture and with upper-class conventions and lifestyles (Jæger, 2009), which could give an edge to access middle- and upper-class occupations. These reproduction mechanisms can be particularly important when their children fail to attain a tertiary degree, and thus some compensatory strategy must intervene to avoid downward mobility. In this paper, we explore whether these family influences interact with track choices. In particular, we suggest that, when their children do not complete higher education, upper-class parents can facilitate access to skilled white-collar and managerial occupations by mobilising their social networks to provide information and social ties fostering labour-market prospects (Aina and Nicoletti, 2014; Kramarz and Skans, 2014). These occupations may not formally require a tertiary degree, but they demand significant endowments of communication and social skills, which are fostered more in academic tracks than in vocational education (Egerton, 1997). Hence, even if upper-class children do not complete tertiary education, the academic track may be particularly useful to access more rewarding jobs. Hence, we expect that the direct effects of social origins are stronger for graduates of the academic track.

## The French educational system

This section presents the most salient features of the French educational system, with a focus on upper secondary school tracking (Herbaut et al, 2019). It then reviews the few existing studies on the occupational prospects of graduates from different upper secondary tracks in France.

The vast majority of pupils start schooling at age 3: pre-primary education is almost universal, despite being optional (until 2019). Compulsory instruction begins at age 6 and ends at 16, covering five years of primary education, four years of lower secondary school (*collège*) and the first year of high school, in the absence of grade repetition. Primary and lower secondary education are comprehensive. Students are faced with a first track choice at the end of lower secondary school (grade 9). Based primarily on their past grades and their subject preferences, students and their parents formulate a preference (*vœu*) between an academic path, comprising the academic and technological tracks (*lycée général et technologique*) and a vocational path. This choice is most often rubber-stamped by the school principal and teachers by means of a teacher recommendation.<sup>1</sup> If they opt for the academic path, at the end of 10th grade, students must further choose between a general track and a technological track, and they must select a specific stream within each track. After three years of high school, these students must pass a national examination to obtain a full, upper secondary certificate (*baccalauréat général* or *baccalauréat technologique*) that entitles them to attend higher education.

If they opt for the vocational path, students have two options. Until 2009 – and this is relevant for students in our data (discussed later) – students choosing the vocational path could choose between the CAP (*certificat d’aptitude professionnelle*), which lasts two years and can also be obtained through apprenticeship, and a more advanced, vocational training programme called BEP (*brevet d’études professionnelles*), which lasts two years and allows them to continue for two extra years to attain a *baccalauréat professionnel*, which affords eligibility to higher education. Hence, CAP is the only terminal certificate in high school.

Even though all *baccalauréat* types formally grant access to higher education, there is a strong stratification in the higher education prospects of the different types of *baccalauréat* holders (Ichou and Vallet, 2011). Academic *baccalauréat* graduates are more likely to enter either university or the selective and prestigious preparatory classes that act as gateways to elite universities. Vocational *baccalauréat* holders usually do not attend higher education at all, and when they do, they face high risks of failure. Technological *baccalauréat* holders are in an intermediate position. In 2017, 79% of a birth cohort obtained a *baccalauréat*: 41% passed an academic *baccalauréat*, 16% a technological one and 22% a vocational one (Ministère de l’Enseignement supérieur, de la Recherche et de l’Innovation-SIES, 2018).

Analyses of labour-market returns to education in France have mostly focused on vertical differences, that is, in the different amount of education received (for example, Nauze-Fichet and Tomasini, 2002) and final educational attainment (Dupray, 2000; Barret et al, 2014). The few studies that analysed horizontal differences focused on higher education institutions (Calmand and Epiphane, 2012; Calmand et al, 2014a; 2014b; Merlin and Lemistre, 2018). The effect of the upper secondary school track attended on occupational prospects has seldom been studied in France. Two studies have focused on the labour-market prospects of vocational graduates, depending on

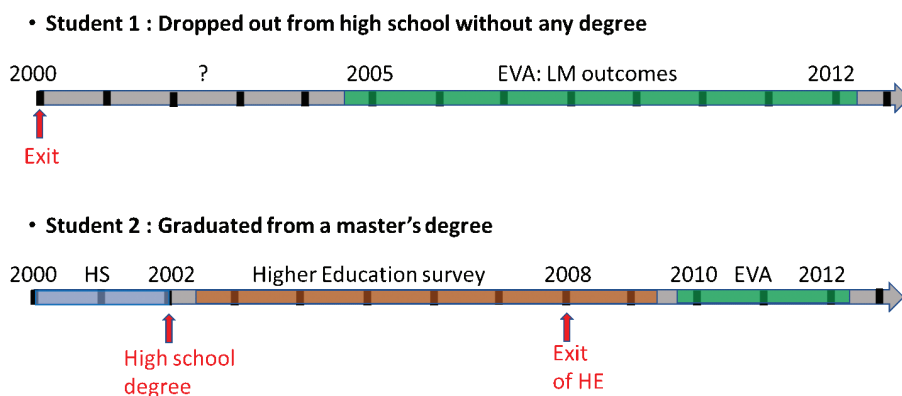
whether students attended a vocational upper secondary school or an apprenticeship programme (Simonnet and Ulrich, 2000; Le Rhun and Marchal, 2015). Both studies conclude that students who received their training through apprenticeship display a higher likelihood of being in employment afterwards. Overall, the literature on returns to upper secondary diplomas in France is meagre and fails to control for social and ability selection into tracks. As argued earlier, this is likely to give a misleading view of the effect of track placement on occupational outcomes.

## Data, variables and models

The analyses draw on the Panel d'élèves du second degré, recrutement 1995, a nationally representative, longitudinal survey which followed a cohort of students who entered lower secondary education (6th grade) in 1995 throughout secondary and tertiary education. This study combines administrative data on school careers with a parental questionnaire administered in 1998. After high school graduation, students were surveyed about their higher education studies yearly until they had left education for two consecutive years. Between 2005 and 2012, students who had reported having left the education system were further surveyed on a yearly basis on their labour-market situation through the follow-up survey *Entrée dans la vie adulte-EVA*, using mail questionnaires. In Appendix A, we provide additional information on sampling, data collection methods, response rates and other elements of the survey design of this study.

By design, the EVA survey includes respondents who have entered secondary education in the same year (1995) but left the education system in different years, depending on their educational attainment and trajectories. Since the EVA survey was implemented between 2005 and 2012 only, respondents were not necessarily surveyed at the same point of their career. As illustrated by Figure 1, respondents with a long university degree tend to report occupational outcomes shortly after the end of their studies while respondents who left the education system before graduating from high school were surveyed on their occupational outcomes several years after they left school. To avoid having an analytical sample with a strong over-representation of

**Figure 1:** Timing of EVA interrogations depending on theoretical educational trajectories.





low-educated respondents, or under-representation of highly educated respondents, we decided to use the first job reported in the EVA survey and control for the number of years since the exit of the education system. This approach gives an analytical sample that is more similar to the original representative 1995 sample, regarding the distribution of independent variables, than focusing on respondents with occupation reported three years (or any other fixed number of years) after exiting of the education system, as shown in Table A1 in the appendix.

For comparative purposes occupational destinations are classified using the EGP class schema<sup>2</sup> (Erikson and Goldthorpe, 1992). We differentiate four outcomes referring to access to:

- the higher service class (EGP I);
- the higher and lower service class (EGP I+II);
- the skilled and unskilled working class (EGP V+VI+VII);
- the unskilled working class (EGP VII).

We do not present results on access to the intermediate classes (EGP III and IV) because these empirical patterns are redundant, given the above models. However, in Appendix C, we present the results of multinomial logit models with estimated parameters for each destination class.

Moreover, we analyse also track differences in net monthly earnings for the first job declared in the EVA survey.

Our main independent variable refers to the track attended in high school. We first look at the track attended in grade 10 using a dichotomous variable, which differentiates the academic path (academic and technological tracks) from the vocational path (CAP and BEP, including those few students who had already left education by grade 10). Next, we consider the highest degree attained in secondary education (grade 12), classified into five categories: no degree or lower secondary degree, vocational training certificate (*CAP/BEP*), vocational diploma (*baccalauréat professionnel*), technological diploma (*baccalauréat technologique*) and general diploma (*baccalauréat général*).

We control for the following socio-demographic variables: gender, parents' highest level of education and social class (EGP schema), demographic size of the municipality of residence in 6th grade,<sup>3</sup> and parents' country of birth (both parents born abroad vs at least one parent born in France). Regarding performance before tracking, we use the average of teacher grades in maths and French at the end of lower secondary school (*contrôle continu*). In the main text, we will focus on secondary track effects, but the full results including estimates for the control variables are available in Appendix B.

Regarding higher education attainment, we use the highest degree reported by the respondents and differentiate between five levels: no higher education degree; two-year vocational degree; bachelor's degree (three years); master's degree (4 or 5 years) obtained in the university system; master's degree obtained in elite institutions (*Grande école*).<sup>4</sup>

When they reported a job for the first time in the EVA survey, participants were between 20 and 30 years old, with a mean of 24. They had left the school system for a duration ranging from less than a year to 13 years, but 95% of them had left the school system for five years or less (mean of almost three years). We thus further control for the age of respondents at the time of the first job reported and the number



**Table 1:** Descriptive statistics

<b>Dependent variables: early labour-market outcomes</b>	
Higher service class I	14.6%
Service class I+II	35.6%
Working class V+VI+VIIab	32.4%
Unskilled working class VIIab	11.4%
Net monthly earnings (€)	
Mean	1,341.4
SD	540.4
% missing	10.6%
<b>Independent variables</b>	
<b>Academic &amp; technological high school attended in grade 10</b>	
No	36.6%
Yes	62.0%
Missing	1.4%
<b>Highest degree obtained in secondary education</b>	
No degree	6.9%
Vocational CAP/BEP	20.1%
Vocational <i>baccalauréat</i>	13.1%
Technological <i>baccalauréat</i>	20.4%
Academic <i>baccalauréat</i>	38.1%
Missing	1.4%
<b>Sex</b>	
Men	49.7%
Women	50.3%
<b>Parental education</b>	
Less than upper secondary	52.0%
Upper secondary	15.9%
Tertiary	23.0%
Missing	9.1%
<b>Parental social class</b>	
I+II	35.0%
IIIab	36.5%
IVab	5.0%
IVc	2.9%
V+VI	15.0%
VIIab	4.9%
Unemployed/inactive	0.7%
<b>City size in 1995</b>	
Village or small town	40.2%
Medium-sized city	25.6%
Large city, other than Paris	20.8%
Paris area	13.4%

(Continued)

**Table 1:** (Continued)

<b>Parents' country of birth</b>	
At least one parent born in France	89.7%
Both parents born abroad	9.2%
Missing	1.2%
<b>GPA in French and math in grade 9 (out of 20)</b>	
Mean	11.2
SD	2.7
Missing	18.2%
<b>Higher education attainment</b>	
No degree	48.4%
Short degree +2	15.7%
Bachelor's degree +3	19.9%
Master's degree +4/5	8.8%
Long degree- <i>grandes écoles</i>	7.1%
Missing	0.1%
<b>Age at first job reported</b>	
Mean	24.2
SD	1.9
<b>Years in the labour market</b>	
Mean	2.8
SD	1.4
Missing	16.3%
<b>Number of observations</b>	10,816

Source: Panel 1995-EVA.

of years since they had left education. [Table 1](#) reports the descriptive statistics for the variables used for the analyses.

Around 10,800 individuals out of the 17,830 interviewees of the 1995 original sample have answered the EVA survey and reported at least one job. Among these, 29% have missing data on at least one independent variable. Listwise deletion (or complete case analysis) can lead to biased estimates when the mechanism producing missingness is not at random ([Rubin, 1987](#)). To address this issue, we opted for multiple imputation. Incomplete variables were imputed in 100 data sets using a fully conditional specification approach ([Van Buuren et al, 2006](#); [Van Buuren, 2007](#)), where imputations are done sequentially for each variable using the other variables in the study (including the outcome variable), along with auxiliary variables to reduce bias. Recent research has shown that any interaction term in the analytical model will be biased towards zero if it is not included in the imputation model ([Tilling et al, 2016](#)). Hence, in order to test for heterogeneity by social origin in the occupational outcomes of secondary school tracks, we split the sample into three groups, based on parental social class (service class, middle classes, working classes) and we made the imputations separately for each of these groups. Analyses were performed for each imputed data set separately, with estimates and standard errors combined using Rubin's rules ([Rubin, 1987](#)); the  $R^2$  were averaged across imputed datasets using [Harel's \(2009\)](#) method.

The association between high school tracks and early labour-market outcomes was estimated with linear regression or linear probability models with robust standard errors. In order to assess the heterogeneity by social origins in the ‘effect’ of tracking, we add to model 5 an interaction term between parental social class and the highest degree obtained in secondary education. Predicted probabilities from these models are reported to ease interpretation.

## Multivariate results

### *Track placement and occupational attainment*

In this first set of analyses, we assess the social class and earning returns to track placement. For social class, we differentiate between four destinations: access to the higher service class (EGP I); to the service class overall (EGP I–II); to the working class (EGP V–VII); and to the unskilled working classes (VII). For each outcome, we consider first the bivariate relationships with track assignment in grade 10 (model 1) or with the track of high school graduation in grade 12 (model 2). Based on model 2, we built a sequence of nested models. We control for socio-demographic confounders (model 3) and for academic performance in grade 9, that is, prior to track assignment (model 4). Finally, we further control for age and time since leaving education,<sup>5</sup> together with higher education attainment (model 5), which represents the main mediator of occupational returns to track placement.

The top panel in [Table 2](#) refers to the set of nested, linear probability models concerning the chances of access to the higher service class (high-level managers and professionals, large entrepreneurs). Model 1 indicates that students who chose the academic-oriented path in grade 10 enjoy a 21% higher probability of reaching top-level occupations than students who attended the vocational path. Model 2 considers instead track completed in high school (grade 12), showing that neither vocational training degrees (CAP and BEP) nor full vocational diplomas outperform lower secondary degrees in terms of chances of access to top-level jobs. On the contrary, technological diplomas enjoy a statistically significant advantage of moderate intensity (+7%) and general diplomas display a much stronger advantage (+32%). However, models 3 and 4 confirm that selection effects matter, particularly those relating to academic performance prior to track choice: the advantage of technological diplomas disappears entirely, and that of academic qualifications is almost halved from model 2 to model 4, shrinking from 32% to 18%. Indeed, once adjusting for social and ability selection into tracks, only the gap favouring general diplomas is significant. As can be inferred from model 5, this remaining gap is almost entirely explained out by the advantages that this track offers in terms of access to higher education. Hence, for access to the higher service class, what matters is completing the general track and achieving a tertiary degree.

The picture is partially different when considering access to the broader (higher and lower) service class (second panel on [Table 2](#)). The raw advantage of taking the academic path in grade 10 (+43%, model 1) is twice as large as for top-level jobs, and it translated into the strong advantages of both technological (+27%) and general diplomas (+59%) in model 2, which stay large even when accounting for selection effects in model 4 (+19% and +44%, respectively). Importantly, while higher

**Table 2:** Linear regressions of early occupational outcomes

	(1) Track assignment grade 10	(2) High school attainment	(3) + socio-demographics	(4) + Performance in grade 9	(5) + HE attainment & age & years in LM
<b>Outcome: Higher service class I</b>					
Academic & technological high school attended in grade 10					
No (ref.)					
Yes	0.21*** (0.01)				
Highest degree obtained in secondary education					
No degree (ref.)					
Vocational CAP/BEP		-0.00 (0.00)	0.01** (0.00)	0.00 (0.01)	-0.00 (0.00)
Vocational <i>baccalauréat</i>		0.01*** (0.00)	0.01*** (0.01)	-0.00 (0.01)	-0.02*** (0.01)
Technological <i>baccalauréat</i>		0.07*** (0.01)	0.06*** (0.01)	0.01 (0.01)	-0.03*** (0.01)
Academic <i>baccalauréat</i>		0.32*** (0.01)	0.27*** (0.01)	0.18*** (0.01)	0.02*** (0.01)
Constant	0.01*** (0.00)	0.01** (0.00)	0.16*** (0.01)	-0.04** (0.02)	-0.34*** (0.05)
Observations	10,816	10,816	10,816	10,816	10,816
R <sup>2</sup>	0.0862	0.169	0.215	0.232	0.413
<b>Outcome: service class I+II</b>					
Academic & technological high school attended in grade 10					
No (ref.)					
Yes	0.43*** (0.01)				
Highest degree obtained in secondary education					
No degree (ref.)					
Vocational CAP/BEP		-0.02* (0.01)	-0.01 (0.01)	-0.02* (0.01)	-0.04*** (0.01)
Vocational <i>baccalauréat</i>		0.05*** (0.01)	0.04*** (0.01)	0.03*** (0.01)	-0.06*** (0.01)
Technological <i>baccalauréat</i>		0.27*** (0.01)	0.23*** (0.01)	0.19*** (0.01)	0.02 (0.02)

(Continued)

Table 2: (Continued)

	(1) Track assignment grade 10	(2) High school attainment	(3) + socio-demographics		(4) + Performance in grade 9	(5) + HE attainment & age & years in LM
Academic <i>baccalauréat</i>		0.59*** (0.01)	0.51*** (0.01)	0.44*** (0.02)	0.12*** (0.02)	
Constant	0.09*** (0.00)	0.07*** (0.01)	0.19*** (0.02)	0.03 (0.02)	-0.69*** (0.07)	
Observations	10,816	10,816	10,816	10,816	10,816	
R <sup>2</sup>	0.191	0.293	0.313	0.319	0.406	
<b>Outcome: Working class V+VI+VIIab</b>						
Academic & technological high school attended in grade 10						
No (ref.)						
Yes	-0.32*** (0.01)					
Highest degree obtained in secondary education						
No degree (ref.)						
Vocational CAP/BEP		0.01 (0.02)	0.01 (0.02)	0.01 (0.02)	0.04** (0.02)	
Vocational <i>baccalauréat</i>		-0.05** (0.02)	-0.03 (0.02)	-0.03 (0.02)	0.06*** (0.02)	
Technological <i>baccalauréat</i>		-0.24*** (0.02)	-0.17*** (0.02)	-0.16*** (0.02)	-0.04** (0.02)	
Academic <i>baccalauréat</i>		-0.42*** (0.02)	-0.28*** (0.02)	-0.26*** (0.02)	-0.09*** (0.02)	
Constant	0.52*** (0.01)	0.54*** (0.02)	0.60*** (0.02)	0.64*** (0.03)	1.46*** (0.07)	
Observations	10,816	10,816	10,816	10,816	10,816	
R <sup>2</sup>	0.111	0.151	0.332	0.333	0.357	
<b>Outcome: Unskilled working class VIIab</b>						
Academic & technological high school attended in grade 10						
No (ref.)						
Yes	-0.17*** (0.01)					
Highest degree obtained in secondary education						
No degree (ref.)						

	(1) Track assignment grade 10	(2) High school attainment	(3) + socio-demographics	(4) + Performance in grade 9	(5) + HE attainment & age & years in LM
Vocational CAP/BEP		-0.10*** (0.02)	-0.10*** (0.02)	-0.10*** (0.02)	-0.09*** (0.02)
Vocational <i>baccalauréat</i>		-0.14*** (0.02)	-0.13*** (0.02)	-0.13*** (0.02)	-0.09*** (0.02)
Technological <i>baccalauréat</i>		-0.25*** (0.02)	-0.21*** (0.02)	-0.21*** (0.02)	-0.14*** (0.02)
Academic <i>baccalauréat</i>		-0.29*** (0.02)	-0.24*** (0.02)	-0.22*** (0.02)	-0.14*** (0.02)
Constant	0.22*** (0.01)	0.32*** (0.02)	0.31*** (0.02)	0.34*** (0.02)	0.55*** (0.06)
Observations	10,816	10,816	10,816	10,816	10,816
R <sup>2</sup>	0.0634	0.0904	0.134	0.134	0.143
<b>Outcome: log monthly net earnings</b>					
Academic & technological high school attended in grade 10					
No (ref.)					
Yes	0.25*** (0.01)				
Highest degree obtained in secondary education					
No degree (ref.)					
Vocational CAP/BEP		0.07*** (0.02)	0.08*** (0.02)	0.07*** (0.02)	0.07*** (0.02)
Vocational <i>baccalauréat</i>		0.19*** (0.02)	0.20*** (0.02)	0.19*** (0.02)	0.14*** (0.02)
Technological <i>baccalauréat</i>		0.28*** (0.02)	0.29*** (0.02)	0.24*** (0.02)	0.12*** (0.02)
Academic <i>baccalauréat</i>		0.44*** (0.02)	0.44*** (0.02)	0.35*** (0.02)	0.13*** (0.02)
Constant	6.96*** (0.01)	6.86*** (0.02)	7.00*** (0.02)	6.81*** (0.02)	6.56*** (0.07)
Observations	9,672	9,672	9,672	9,672	9,672
R <sup>2</sup>	0.0837	0.137	0.207	0.218	0.282

Notes:

Standard errors in parentheses.

 \*\*\*  $p < .01$ , \*\*  $p < .05$ , \*  $p < .1$ 

Source: Panel 1995-EVA.

education attainment largely accounts for these gaps (model 5), for this outcome, the general track maintains a statistically significant, substantial advantage (+12%). The third panel on [Table 2](#) refers to the risk of entering the working class (EGP V, VI and VII). Once more, short training degrees as well as full vocational diplomas offer no significant advantage over lower secondary degrees, particularly when accounting for selection effects in model 4. To the contrary, the protection effect of technological and general degrees looks strong in model 2 (−24% and −42%, respectively) and it is reduced but stays large in model 4 (−16% and −26% respectively). In this case too, higher education attainment accounts for large parts of the gaps between tracks, but technological and general diplomas still display significant, net advantages over lower secondary and vocational degrees.

The fourth panel on [Table 2](#) refers to demotion into unskilled manual employment. This is the only instance where vocational qualifications display significant rewards over lower secondary degrees, which stay unchanged when controlling for both selection effects and tertiary education attainment. We also observe that full vocational diplomas enjoy marginal, non-significant advantages over shorter, vocational degrees. Moreover, even allowing for selection effects (model 4), technological and general diplomas display better prospects than vocational qualifications and lower secondary degrees, which are only partly explained by higher education attainment.

Finally, the bottom panel on [Table 2](#) refers to a linear regression model of log-earnings, which identifies a clear hierarchy between secondary qualifications, even when allowing for selection effects (model 4): short vocational diplomas enjoy a significant edge over lower attainment (+7%), which increases for full vocational (+19%), technological (+24%) and general (+35%) diplomas. Hence, the financial rewards of secondary degrees increase monotonically with their academic orientation. While the positive prospects of short and full vocational diplomas over lower secondary degrees are not accounted for by tertiary attainment, this explains about half of the advantage of technological degrees and almost two thirds of the advantage of academic degrees. Once more, even allowing for tertiary education attainment, academic qualifications enjoy the most favourable occupational prospects.

### *Social origins, track placement and occupational attainment*

For each of the outcomes examined in the previous section, [Table 3](#) presents the parameters referring to social origins, measured by parental education and social class, extrapolated from model 5. Hence, we consider occupational returns to track placement controlling for social and ability selection into tracks. The first column refers to the whole sample of graduates and control for higher education attainment, while the second column refers to youngsters who have not completed any tertiary programme. When controlling for academic performance, educational paths followed in secondary and tertiary education and the socio-demographic profile of the students, social origins still display a significant association with occupational outcomes.

Children of tertiary graduates (reference category) display a systematic advantage over those from less educated families. When comparing columns 1 and 2, we observe that, for access to service-class jobs, this advantage is similar across the two analytical samples, amounting to 3% to 5%. As regards the effects of class of origin on access to service-class destinations, net of parental education, they are negligible and non-significant, with one exception: among secondary graduates who did not



**Table 3:** Linear regressions of early occupational outcomes, comparison of results from model 5 for the whole sample and only individuals without higher education

	Higher service class I		Service class I+II		Working class V+VI+VIIab		Unskilled working class VIlab		Log monthly net earnings	
	Model 5 – whole sample	Model 5 – only for those without HE	Model 5 – whole sample	Model 5 – only for those without HE	Model 5 – whole sample	Model 5 – only for those without HE	Model 5 – whole sample	Model 5 – only for those without HE	Model 5 – whole sample	Model 5 – only for those without HE
<b>Highest degree obtained in secondary education</b>										
No degree (ref.)										
CAP/BEP	-0.00 (0.00)	-0.00 (0.00)	-0.04*** (0.01)	-0.03*** (0.01)	0.04* (0.02)	0.04* (0.02)	-0.09*** (0.02)	-0.09*** (0.02)	0.07*** (0.02)	0.06*** (0.02)
Vocational bac.	-0.02*** (0.01)	-0.01** (0.01)	-0.06*** (0.01)	-0.05*** (0.01)	0.06*** (0.02)	0.06*** (0.02)	-0.09*** (0.02)	-0.08*** (0.02)	0.14*** (0.02)	0.15*** (0.02)
Technological bac.	-0.03*** (0.01)	-0.00 (0.01)	0.02 (0.02)	0.03* (0.02)	-0.04** (0.02)	-0.04 (0.03)	-0.14*** (0.02)	-0.10*** (0.02)	0.12*** (0.02)	0.12*** (0.03)
Academic bac.	0.02** (0.01)	0.04*** (0.01)	0.12*** (0.02)	0.12*** (0.02)	-0.09*** (0.02)	-0.04 (0.03)	-0.14*** (0.02)	-0.14*** (0.02)	0.13*** (0.02)	0.13*** (0.03)
<b>Parental education</b>										
Tertiary (ref.)										
Upper secondary	-0.05*** (0.01)	-0.03*** (0.01)	-0.03** (0.01)	-0.05** (0.02)	0.01 (0.01)	0.05** (0.03)	0.01 (0.01)	0.04** (0.02)	-0.03** (0.01)	-0.00 (0.02)
Less than US	-0.05*** (0.01)	-0.03*** (0.01)	-0.05*** (0.01)	-0.05*** (0.02)	0.03** (0.01)	0.09*** (0.02)	0.02*** (0.01)	0.07*** (0.02)	-0.02* (0.01)	-0.02 (0.02)
<b>Parental social class</b>										
I+II (ref.)										
IIIab	-0.01 (0.01)	-0.00 (0.01)	-0.01 (0.01)	-0.02 (0.01)	0.02* (0.01)	0.04* (0.02)	0.01 (0.01)	0.03** (0.02)	0.00 (0.01)	0.01 (0.02)
IVab	-0.01 (0.01)	-0.01* (0.01)	-0.01 (0.02)	-0.03 (0.02)	0.02 (0.02)	0.04 (0.03)	0.01 (0.01)	0.03 (0.03)	0.02 (0.02)	0.04 (0.03)

(Continued)

Table 3: (Continued)

	Higher service class I		Service class I+II		Working class V+VI+VIIab		Unskilled working class VIIab		Log monthly net earnings	
	Model 5 – whole sample	Model 5 – only for those without HE	Model 5 – whole sample	Model 5 – only for those without HE	Model 5 – whole sample	Model 5 – only for those without HE	Model 5 – whole sample	Model 5 – only for those without HE	Model 5 – whole sample	Model 5 – only for those without HE
IVc	-0.00 (0.01)	-0.01 (0.01)	-0.02 (0.02)	-0.05** (0.02)	0.01 (0.02)	0.00 (0.04)	0.05** (0.02)	0.06* (0.04)	-0.00 (0.02)	0.04 (0.03)
V+VI	-0.01 (0.01)	-0.01 (0.01)	-0.02 (0.01)	-0.04** (0.02)	0.06*** (0.01)	0.08*** (0.02)	0.03*** (0.01)	0.06*** (0.02)	0.00 (0.01)	0.01 (0.02)
VIIab	-0.01 (0.01)	-0.01 (0.01)	-0.05*** (0.02)	-0.05*** (0.02)	0.06*** (0.02)	0.08*** (0.03)	0.06*** (0.02)	0.08*** (0.03)	-0.01 (0.02)	-0.00 (0.03)
Inactive	-0.01 (0.01)	-0.01 (0.01)	-0.05 (0.03)	-0.05 (0.03)	-0.04 (0.05)	-0.04 (0.06)	0.01 (0.04)	0.04 (0.05)	-0.11** (0.04)	-0.05 (0.05)
Constant	-0.34*** (0.05)	-0.14*** (0.04)	-0.69*** (0.07)	-0.59*** (0.08)	1.46*** (0.07)	1.39*** (0.11)	0.55*** (0.06)	0.51*** (0.09)	6.56*** (0.07)	6.63*** (0.11)
N	10,816	5,250	10,816	5,250	10,816	5,250	10,816	5,250	9,672	4,621

Notes:

Standard errors in parentheses

\*\*\*  $p < .01$ , \*\*  $p < .05$ , \*  $p < .1$ 

Source: Panel 1995-EVA.

attain a tertiary degree, youngsters from lower social classes enjoy lower chances (−5%) of reaching the service class (I+II). Overall, while these results indicate that family background effects are largely mediated by educational paths, in line with previous research (Bernardi and Ballarino, 2016), the ‘direct effects’ of social origins are not negligible.

We reach similar conclusions when considering entry into the working classes. As regards protection from entry into manual occupations (working class altogether and unskilled working class), the parameters for parental education are again large and statistically significant, but only for graduates without a tertiary degree (4–9%). Moreover, for these outcomes, the parameters for social class are larger and more systematically significant than for access to service class occupations. Hence, the direct influences of a privileged social background are particularly marked when it comes to protecting youngsters without a tertiary degree from demotion into manual occupations:<sup>6</sup> a privileged parental class protects from downward mobility.

Finally, we investigated whether returns to high school diplomas vary according to social origins for the whole sample (Table 4) and for the subsample of youngsters without a higher education degree (Table 5). For these models, we rely on a more parsimonious specification of social origins, measured only by parental class in three categories, to gain statistical power. We present the predicted probabilities recovered from models incorporating an interaction term between the track of upper secondary graduation and parental social class.

Two main patterns emerge. First, for access to the higher service class and to the service class altogether, class of origin matters only for graduates of the academic track: youngsters from the service class enjoy significantly better prospects (+8 percentage points compared to those from the working class for access to the higher service class). Second, as regards the risks of entry into the working class or, more specifically, into unskilled working-class positions, we detect strong protection effects favouring the offspring of the service class, which are particularly marked for low-educated youngsters, that is, those with a lower secondary or a short vocational degree (CAP/BEP).

These results support the theoretical arguments developed in the section ‘Theoretical background’ regarding the boosting and compensatory strategies that socially advantaged families can mobilise to foster the occupational attainment of their children. Importantly, these patterns are similar for students without higher education, with an additional advantage in terms of earnings for students of the academic track who come from the service class (almost €140 more per month compared to those coming from the working class).

### *Robustness checks*

We have carried out some sensitivity analyses of the results presented in the previous sections. First, the pattern of track differences in occupational attainment is broadly the same in statistical models that do not use multiple imputation and that are restricted to students with a full upper secondary certificate. The main difference lies in the size of the effects measured for the outcome ‘access to the unskilled working class’ which are slightly under-estimated without multiple imputation because it is the outcome where we lose the most respondents when carrying a complete case analysis.

**Table 4:** Predicted probabilities from models with an interaction term between secondary attainment and parental social class, controlling for sex, city size, immigrant status, performance in grade 9, higher education attainment, age and years in the labour market

	Parental social class					
	Working class		Intermediate		Service class	
<b>Outcome: Higher service class I</b>						
Highest degree obtained in secondary education						
No degree	0.14	(0.01)	0.14	(0.01)	0.13	(0.01)
Vocational CAP/BEP	0.14	(0.01)	0.14	(0.01)	0.13	(0.01)
Vocational <i>baccalauréat</i>	0.12	(0.01)	0.12	(0.01)	0.10	(0.01)
Technological <i>baccalauréat</i>	0.11	(0.01)	0.11	(0.01)	0.12	(0.01)
Academic <i>baccalauréat</i>	0.13	(0.02)	0.14	(0.01)	0.21	(0.01)
<b>Outcome: Service class I+II</b>						
Highest degree obtained in secondary education						
No degree	0.30	(0.02)	0.33	(0.02)	0.31	(0.03)
Vocational CAP/BEP	0.26	(0.01)	0.28	(0.01)	0.27	(0.02)
Vocational <i>baccalauréat</i>	0.21	(0.01)	0.26	(0.01)	0.30	(0.02)
Technological <i>baccalauréat</i>	0.33	(0.02)	0.34	(0.01)	0.35	(0.02)
Academic <i>baccalauréat</i>	0.40	(0.02)	0.43	(0.01)	0.48	(0.01)
<b>Outcome: Working class V+VI+VIIab</b>						
Highest degree obtained in secondary education						
No degree	0.46	(0.03)	0.34	(0.03)	0.25	(0.04)
Vocational CAP/BEP	0.45	(0.02)	0.39	(0.01)	0.34	(0.02)
Vocational <i>baccalauréat</i>	0.42	(0.02)	0.42	(0.02)	0.40	(0.03)
Technological <i>baccalauréat</i>	0.31	(0.02)	0.31	(0.01)	0.31	(0.02)
Academic <i>baccalauréat</i>	0.30	(0.02)	0.27	(0.01)	0.23	(0.01)
<b>Outcome: Unskilled working class VIIab</b>						
Highest degree obtained in secondary education						
No degree	0.35	(0.03)	0.20	(0.02)	0.10	(0.03)
Vocational CAP/BEP	0.18	(0.02)	0.15	(0.01)	0.09	(0.02)
Vocational <i>baccalauréat</i>	0.14	(0.02)	0.17	(0.01)	0.09	(0.02)
Technological <i>baccalauréat</i>	0.12	(0.01)	0.08	(0.01)	0.08	(0.01)
Academic <i>baccalauréat</i>	0.08	(0.01)	0.08	(0.01)	0.07	(0.01)
<b>Outcome: monthly net earnings (€)</b>						
Highest degree obtained in secondary education						
No degree	1,239.1	(31.6)	1,225.1	(27.6)	1,203.3	(43.9)
Vocational CAP/BEP	1,289.6	(20.4)	1,289.7	(16.4)	1,286.8	(27.3)
Vocational <i>baccalauréat</i>	1,323.6	(24.9)	1,367.3	(18.2)	1,314.4	(27.2)
Technological <i>baccalauréat</i>	1,292.6	(23.1)	1,340.7	(14.4)	1,348.1	(17.8)
Academic <i>baccalauréat</i>	1,351.9	(23.5)	1,377.5	(14.0)	1,405.5	(12.7)

Notes:

Standard errors in parentheses.

Source: Panel 1995-EVA.

**Table 5:** Predicted probabilities from models with an interaction term between secondary attainment and parental social class, for individuals with no higher education degree, controlling for sex, city size, immigrant status, performance in grade 9, age and years in the labour market

	Parental social class					
	Working class		Intermediate		Service class	
<b>Outcome: Higher service class I</b>						
Highest degree obtained in secondary education						
No degree	0.01	(0.00)	0.02	(0.01)	0.02	(0.01)
Vocational CAP/BEP	0.01	(0.00)	0.01	(0.00)	0.01	(0.01)
Vocational <i>baccalauréat</i>	0.00	(0.00)	0.00	(0.00)	0.00	(0.01)
Technological <i>baccalauréat</i>	0.01	(0.01)	0.01	(0.01)	0.04	(0.02)
Academic <i>baccalauréat</i>	0.02	(0.02)	0.03	(0.01)	0.10	(0.02)
<b>Outcome: Service class I+II</b>						
Highest degree obtained in secondary education						
No degree	0.08	(0.01)	0.12	(0.02)	0.11	(0.03)
Vocational CAP/BEP	0.06	(0.01)	0.08	(0.01)	0.07	(0.01)
Vocational <i>baccalauréat</i>	0.03	(0.01)	0.06	(0.01)	0.11	(0.02)
Technological <i>baccalauréat</i>	0.09	(0.03)	0.15	(0.02)	0.19	(0.03)
Academic <i>baccalauréat</i>	0.24	(0.05)	0.17	(0.03)	0.32	(0.03)
<b>Outcome: Working class V+VI+VIIab</b>						
Highest degree obtained in secondary education						
No degree	0.56	(0.03)	0.45	(0.02)	0.35	(0.04)
Vocational CAP/BEP	0.56	(0.01)	0.50	(0.01)	0.46	(0.02)
Vocational <i>baccalauréat</i>	0.54	(0.02)	0.54	(0.02)	0.50	(0.03)
Technological <i>baccalauréat</i>	0.45	(0.03)	0.43	(0.02)	0.37	(0.03)
Academic <i>baccalauréat</i>	0.49	(0.05)	0.47	(0.03)	0.30	(0.03)
<b>Outcome: Unskilled working class VIIab</b>						
Highest degree obtained in secondary education						
No degree	0.39	(0.03)	0.25	(0.02)	0.14	(0.04)
Vocational CAP/BEP	0.23	(0.02)	0.21	(0.01)	0.15	(0.02)
Vocational <i>baccalauréat</i>	0.19	(0.02)	0.24	(0.02)	0.14	(0.02)
Technological <i>baccalauréat</i>	0.23	(0.03)	0.17	(0.02)	0.13	(0.02)
Academic <i>baccalauréat</i>	0.15	(0.03)	0.13	(0.02)	0.09	(0.02)
<b>Outcome: monthly net earnings (€)</b>						
Highest degree obtained in secondary education						
No degree	1,029.9	(26.1)	1,019.1	(22.4)	1,013.2	(38.4)
Vocational CAP/BEP	1,080.1	(15.9)	1,083.3	(12.4)	1,087.7	(23.5)
Vocational <i>baccalauréat</i>	1,140.2	(22.8)	1,174.8	(16.9)	1,136.8	(27.7)
Technological <i>baccalauréat</i>	1,093.3	(32.0)	1,149.9	(21.0)	1,167.2	(28.8)
Academic <i>baccalauréat</i>	1,060.6	(46.3)	1,202.3	(29.3)	1,198.0	(29.3)

Notes:

Standard errors in parentheses.

Source: Panel 1995-EVA.

Second, we used multinomial logistic regressions of the first job reported instead of a series of linear regression to model occupational attainment. The average marginal effects are displayed in Appendix C and show that this different modelling strategy does not change the conclusions regarding the hierarchy of tracks identified previously. In addition, we can see that holders of a technological diploma are more likely to get a job as a routine non-manual employee, higher grade (IIIa) than graduates from other secondary tracks.

Third, although the design of the EVA survey makes it difficult to find a reliable measure of employment status that would not be biased by educational experiences (see the section 'Data, variables and models'), we also looked at respondents' employment status two years after leaving education (Appendix D). We looked at the probability of being employed (versus unemployed or inactive), the probability of being unemployed (versus being employed or inactive) and the probability of being employed in a permanent job (versus being employed with a non-permanent contract). These analyses were done on a non-imputed sample (complete case analysis). Results suggest that all types of upper secondary diplomas bring benefits in terms of access to employment and to permanent jobs, compared to lower secondary degrees. As regards the three types of *baccalauréat*, they do not display any major difference and the confidence intervals for the corresponding estimates overlap. Hence, graduates from the vocational path do not enjoy any protection effect over those from the academic path in terms of employment status.

Fourth, we replicated the analyses using the occupation reported three years after leaving the education system instead of the first occupation reported. With this smaller sample, the association between high school tracks and occupational attainment remains unchanged (tables available on request).

Fifth, we used the last job reported in the EVA survey instead of the first one. When they reported this information, respondents were on average 27 years old and had left the educational system for five years. For more than two thirds of the respondents the last occupation reported was in the same social class as the first job reported, and the estimated effects of high school tracks are extremely similar (tables available on request).

Sixth, we suspect that selection into secondary tracks is not fully captured by controlling for the socio-demographic profile and prior academic performance. Hence, we ran models also controlling for the occupational aspirations of the parents in lower secondary education, which have been identified as a significant determinant of track choices in previous research (Ichou and Vallet, 2013). Since this variable draws on the parental questionnaire, with this specification we lose around 2,000 individuals due to missing information but, for this selected sample, the robust associations between high school tracks and early occupational outcomes remain largely unchanged (tables available on request).

Given the focus of this work on the horizontal differentiation of secondary education, we have not explored differences between tertiary fields of study, but one could suspect that the 'direct' effects of social origins persisting even when controlling for the length and selectivity of higher education programmes reflect differences between fields of study. However, introducing this variable never corrects the parameters for social origins (tables available on request).

Finally, the EVA survey only includes a broad measure of working time, hence we cannot convert the salary reported by our interviewees in full-time equivalents.

When we additionally control for the available information on working time (four categories: full-time, 80–100%, 50–80%, less than 50% of full-time), the coefficients for the secondary tracks are divided by around half, suggesting that their effect on earnings is, to some extent, mediated by working hours (tables available on request).

## Conclusions

In this work, we have explored the interplay between social origins and track choices in shaping early-career occupational attainment in France. The first conclusion of our study is that, in this country, academic diplomas offer higher labour-market pay-offs than vocational diplomas, even when adjusting for selection into tracks based on prior school performance, family background and other socio-demographic characteristics. Most previous studies failed to take this selection bias into account and our analyses suggest that this limitation affected their results. In particular, the sequence of nested models specified in the subsection ‘Track placement and occupational attainment’ indicates that, when allowing for selection into secondary tracks, the advantages of academic qualifications are significantly reduced.

At the same time, these advantages remain large, both for the whole group of upper secondary graduates and for those who have not achieved a tertiary degree. In other words, the academic path is the most rewarding option in France, even if students do not complete tertiary education. This conclusion applies to any of the occupational outcomes that we could examine, and not only to access to service-class jobs, but also to protection from working-class and from unskilled working-class jobs.

In turn, since service-class children are highly over-represented in this track, even allowing for prior academic performance, this result entails significant implications for processes of intergenerational reproduction. Even when they do not continue to higher education or fail to complete it, graduates of the general track enjoy better prospects than if they had chosen the vocational path. Moreover, our results indicate that secondary academic qualifications are even more rewarding for service-class graduates, in terms of boosting access to service-class jobs, in line with our arguments on the role of social and cultural resources of the family background. Furthermore, among students failing to obtain a full upper secondary diploma, social origins display particularly strong protection effects from demotion into the bottom of the occupational hierarchy.

These results have important theoretical and policy implications. Contrary to standard assumptions of relative risk-aversion models (Breen and Goldthorpe, 1997)<sup>7</sup> of educational choice, we conclude that in France opting for the general track is not an occupationally risky choice, that is, this option is rewarding regardless of tertiary education attainment. Indeed, this conclusion matches the perceptions of French families about the labour-market prospects of secondary diplomas: a recent study confirms that both students and their parents of all social classes believe that secondary academic diplomas outperform vocational diplomas even when students do not complete higher education (Barone et al, 2019). At the same time, our results suggest that the stronger preference for the academic tracks displayed by service-class families (even among students with comparable performance) may be grounded in two ‘objective’ circumstances: if their children fail in the academic track and leave education with a lower secondary degree, these families are particularly effective in sheltering them from manual occupations. Moreover, if their children attain an



academic diploma but fail to complete tertiary education, these families are particularly effective in boosting their chances of access to upper-class positions.

From a policy perspective, these results impose a serious reflection on the actual function of vocational education in France. As in other countries, the vocational path is usually presented to students as an option facilitating labour-market insertion for students who do not plan to pursue tertiary education, while still leaving the doors open to change their mind and continue to tertiary education. However, our results suggest that these supposed occupational benefits do not materialise, while it is well known that those very few vocational graduates enrolling in a tertiary programme face high dropout risks ([Ministère de l'Enseignement supérieur, de la Recherche et de l'Innovation, 2018](#)). Vocational education in France seems to effectively contribute to intergenerational social reproduction, while failing to represent a rewarding alternative to the academic path<sup>8</sup>.

## Notes

<sup>1</sup> In principle, families may initiate a procedure to contest this recommendation, but cases where teachers contradict the initial *vœu* and parents initiate this procedure are extremely rare (for more information on this process, see [Barg, 2015](#)).

<sup>2</sup> As our data set originally codes the occupations in the French *Catégories socioprofessionnelles* (PCS) scheme, the translation into EGP categories is done using the STATA do-file by Veljkovic based on the Formation-Qualification Professionnelle 2014–2015 survey ([Veljkovic, 2018](#)). Veljkovic followed similar work by Vallet on the previous FQP surveys ([Vallet, 2004: 143–5](#)).

<sup>3</sup> Unfortunately, detailed measures of the socio-economic profile of the area of residence are not available in the EVA data.

<sup>4</sup> As explained in the section on the French educational system, access to higher education usually demands a full, upper secondary certificate. This may create a problem of multicollinearity between the variable on higher education attendance and the categories 'lower secondary degree' or 'CAP/BEP' of the variable on track attainment. However, 1.4% of graduates with a lower secondary degree and 5.6% of those with a CAP/BEP report having a tertiary degree. Indeed, some indirect paths can lead a small minority of these students into higher education: it was possible until 2019 to enter some short vocational programmes in higher education (that is, BTS) for students who took the *baccalauréat* but failed the examination. In addition, we included in the CAP/BEP category the *brevet professionnel* (BP) and the *brevet de technicien* (BT), which are vocational degrees that sometimes give access to higher education. Indeed, almost 60% of the students in the category CAP/BEP who reported a higher education degree had graduated from a BP or BT. Finally, two adult education programmes exist to gain a degree (*capacité en droit* or DAEU) which is recognised as equivalent to the *baccalauréat* and thus gives access to higher education. Unfortunately, information on graduation from these degrees was not collected in the EVA survey. We carried some multicollinearity diagnostics by looking at the Variance Inflation Factor (VIF) after running the regressions on non-imputed data. The VIF value averages 2.3 and for each category is never higher than 8, suggesting that we do not face any serious multicollinearity issue, thanks to the large size of the sample.

<sup>5</sup> Age at the time of the interview and labour-market experience are included only in model 5, together with higher education attainment, because these two variables largely

depend on higher education attendance and would thus act as a proxy for it, if included in models 1 to 4.

<sup>6</sup> Social origins have only marginal influences on earnings at this early stage of careers. However, the models for class attainment suggest that these effects may materialise later in a career, given the much steeper earning progression of workers in service-class occupations.

<sup>7</sup> These models claim that educational decisions are primarily motivated by the desire to avoid downward social-class mobility, and that this desire drives upper-class families to take riskier but ultimately more rewarding educational options, such as following the academic path.

<sup>8</sup> Vocational education has been significantly reformed in 2009 by shortening the time necessary to get a *baccalauréat professionnel* and making the BEP an intermediate degree. The academic track was further reformed in 2019. It is too early to observe the effects of these reforms on labour-market outcomes with the available data. Hence, it will be interesting to update the conclusions of this work in the coming years.

### Conflict of interest

The authors declare that there is no conflict of interest.

### References

- Aina, C. and Nicoletti, C. (2014) *The Intergenerational Transmission of Liberal Professions: Nepotism Versus Abilities*, Discussion Papers in Economics, 14/14, York: Department of Economics, University of York.
- Arrighi, J.J. and Sulzer, E. (2012) S'insérer à la sortie de l'enseignement secondaire: de fortes inégalités entre filières, *Bref du Céreq*, 303, <https://www.cereq.fr/sinserer-la-sortie-de-lenseignement-secondaire-de-fortes-inegalites-entre-filieres>.
- Barg, K. (2015) Educational choice and cultural capital: examining social stratification within an institutionalized dialogue between family and school, *Sociology*, 49(6): 1113–32. doi: [10.1177/0038038514562854](https://doi.org/10.1177/0038038514562854)
- Barone, C., Barg, K. and Ichou, M. (2019) Relative risk aversion models: how plausible are their assumptions?, *OSC Papers*, 2019-3, <https://www.sciencespo.fr/osc/fr/node/2172.html>.
- Barret, C., Ryk, F. and Volle, N. (2014) Enquête 2013 auprès de la Génération 2010: Face à la crise, le fossé se creuse entre niveaux de diplôme, *Bref du Céreq*, 319(5, part 2): 1–8.
- Becker, G.S. (1962) Investment in human capital: a theoretical analysis, *The Journal of Political Economy*, 70(5, part 2): 9–49. doi: [10.1086/258724](https://doi.org/10.1086/258724)
- Bernardi, F. and Ballarino, G. (eds) (2016) *Education, Occupation and Social Origin: A Comparative Analysis of the Transmission of Socio-Economic Inequalities*, Cheltenham: Edward Elgar.
- Blau, P.M. and Duncan, O.D. (1967) *The American Occupational Structure*, New York: Free Press.
- Blossfeld, H.-P., Buchholz, S., Skopek, J. and Triventi, M. (eds) (2016) *Models of Secondary Education and Social Inequality: An International Comparison*, Cheltenham: Edward Elgar.
- Bourdieu, P. (1979) *La Distinction: Critique sociale du jugement*, Paris: Editions de Minuit.
- Bourdieu, P. (1986) The forms of capital, in J.G. Richardson (ed) *Handbook of Theory and Research for the Sociology of Education*, Westport, CT: Greenwood, pp 241–58.

- Breen, R. and Goldthorpe, J.H. (1997) Explaining educational differentials: towards a formal rational action theory, *Rationality and Society*, 9(3): 275–305. doi: [10.1177/104346397009003002](https://doi.org/10.1177/104346397009003002)
- Breen, R. and Müller, W. (eds) (2020) *Education and Intergenerational Social Mobility in Europe and the United States*, Stanford, CA: Stanford University Press.
- Calmand, J. and Epiphane, D. (2012) L'insertion professionnelle après des études supérieures: des diplômés plus égaux que d'autres..., *Formation Emploi*, 117(1): 11–28. doi: [10.4000/formationemploi.3509](https://doi.org/10.4000/formationemploi.3509)
- Calmand, J., Giret, J.F and Guégnard, C. (2014a) Les formations professionnelles de l'enseignement supérieur en France au prisme de l'insertion et de la mobilité sociales des diplômés, *L'orientation Scolaire et Professionnelle*, 43(1): 97–122.
- Calmand, J., Giret, J.F and Guégnard, C. (2014b) Vocational bachelor graduates in France: labour market integration and social mobility, *International Journal of Manpower*, 35(4): 536–52. doi: [10.1108/IJM-05-2013-0102](https://doi.org/10.1108/IJM-05-2013-0102)
- Dupray, A. (2000) Le rôle du diplôme sur le marché du travail: filtre d'aptitudes ou certification de compétences productives?, *L'orientation Scolaire et Professionnelle*, 29(2): 261–89.
- Duru-Bellat, M. (2006) *L'inflation Scolaire: Les Désillusions de la Méritocratie*, Paris: Éditions du Seuil.
- Egerton, M. (1997) Occupational inheritance: the role of cultural capital and gender, *Work, Employment and Society*, 11(2): 263–82. doi: [10.1177/0950017097112004](https://doi.org/10.1177/0950017097112004)
- Erikson, R. and Goldthorpe, J.H. (1992) *The Constant Flux: A Study of Class Mobility in Industrial Societies*, Oxford: Clarendon Press.
- Farkas, G. (2003) Cognitive skills and noncognitive traits and behaviors in stratification processes, *Annual Review of Sociology*, 29(1): 541–62. doi: [10.1146/annurev.soc.29.010202.100023](https://doi.org/10.1146/annurev.soc.29.010202.100023)
- Goffette, C. and Vallet, L.-A. (2018) Les trajectoires d'insertion professionnelle des jeunes portent-elles la marque de leurs origines socio-économique et culturelle?, in T. Couppié, A. Dupray, D. Epiphane and V. Mora (eds) *20 ans d'insertion Professionnelle des Jeunes: Entre Permanences et évolutions*, Marseille: Céreq Essentiels, 2018–1, pp 151–6.
- Harel, O. (2009) The estimation of  $R^2$  and adjusted  $R^2$  in incomplete data sets using multiple imputation, *Journal of Applied Statistics*, 36(10): 1109–18. doi: [10.1080/02664760802553000](https://doi.org/10.1080/02664760802553000)
- Herbaut, E., Barone, C., Ichou, M. and Vallet, L.A. (2019) Tracking and Sorting in the French Educational System, DIAL Working Papers 2019-13, <https://dynamicsofinequality.org/publication/tracking-and-sorting-in-the-french-educational-system/>.
- Ichou, M. (2018) *Les Enfants d'immigrés à l'école: Inégalités Scolaires, du Primaire à l'enseignement Supérieur*, Paris: Presses Universitaires de France.
- Ichou, M. and Vallet, L.-A. (2011) Do all roads lead to inequality? Trends in French upper secondary school analysed with four longitudinal surveys, *Oxford Review of Education*, 37(2): 167–94. doi: [10.1080/03054985.2011.559350](https://doi.org/10.1080/03054985.2011.559350)
- Ichou, M. and Vallet, L.A. (2013) Academic achievement, tracking decisions, and their relative contribution to educational inequalities: change over four decades in France, in M. Jackson (ed) *Determined to Succeed? Performance, Choice and Education*, Stanford, CA: Stanford University Press, pp 116–48.
- Jæger, M.M. (2009) Equal access but unequal outcomes: cultural capital and educational choice in a meritocratic society, *Social Forces*, 87(4): 1943–71.

- Kramarz, F and Skans, O.N. (2014) When strong ties are strong: networks and youth labour market entry, *Review of Economic Studies*, 81(3): 1164–200. doi: [10.1093/restud/rdt049](https://doi.org/10.1093/restud/rdt049)
- Le Rhun, B. and Marchal, N. (2015) Insertion professionnelle des jeunes en filière professionnelle: comparaison des voies scolaire et d'apprentissage, *CÉREQ Relief*, 50: 227–53, <https://www.cereq.fr/sites/default/files/2018-09/44bd2fd23d050c8b92c633cb87cab721.pdf>.
- Lucas, S.R. (2001) Effectively maintained inequality: education transitions, track mobility, and social background effects, *American Journal of Sociology*, 106(6): 1642–90. doi: [10.1086/321300](https://doi.org/10.1086/321300)
- Merlin, F and Lemistre, P. (2018) Influence du parcours d'études sur l'insertion des sortants de l'université, *CÉREQ Échanges*, 6: 11–25, <https://www.cereq.fr/sites/default/files/2019-12/CECH-11.pdf>.
- Ministère de l'Enseignement supérieur, de la Recherche et de l'Innovation-SIES (2018) l'État de l'Enseignement supérieur et de la Recherche et de l'Innovation en France, <https://publication.enseignementsup-recherche.gouv.fr/eesr/FR/>.
- Müller, W. and Gangl, M. (eds) (2003) *Transitions from Education to Work in Europe: The Integration of Youth into EU Labour Markets*, Oxford: Oxford University Press.
- Nauze-Fichet, E. and Tomasini, M. (2002) Diplôme et insertion sur le marché du travail: approches socioprofessionnelle et salariale du déclassement' (suivi d'un commentaire de Saïd Hanchane et Eric Verdier), *Économie et Statistique*, 354(1): 21–48.
- Oberti, M. and Ichou, M. (2014) Immigrant families' relationship with the school system: a survey of four working-class suburban high schools, *Population*, 69(4): 557–97.
- OECD (2018) *Education at a Glance 2018*, Paris: OECD Publishing.
- Palheta, U. (2012) *La Domination Scolaire: Sociologie de l'enseignement Professionnel et de Son Public*, Paris: Presses Universitaires de France.
- Rözer, J.J. and Bol, T. (2019) Labour market effects of general and vocational education over the life-cycle and across time: accounting for age, period, and cohort effects, *European Sociological Review*, 35(5): 701–17.
- Rubin, D.B. (1987) *Multiple Imputation for Nonresponse in Surveys*, Chichester: John Wiley.
- Simonnet, V. and Ulrich, V. (2000) La formation professionnelle et l'insertion sur le marché du travail: l'efficacité du contrat d'apprentissage, *Économie et Statistique*, 337(1): 81–95.
- Spence, M. (1973) Job market signaling, *The Quarterly Journal of Economics*, 87(3): 355–74. doi: [10.2307/1882010](https://doi.org/10.2307/1882010)
- Tilling, K., Williamson, E.J., Spratt, M., Sterne, J.A.C. and Carpenter, J.R. (2016) Appropriate inclusion of interactions was needed to avoid bias in multiple imputation, *Journal of Clinical Epidemiology*, 80(12): 107–15. doi: [10.1016/j.jclinepi.2016.07.004](https://doi.org/10.1016/j.jclinepi.2016.07.004)
- Vallet, L.A. (2004) Change in intergenerational class mobility in France from the 1970s to the 1990s and its explanation: an analysis following the CASMIN approach, in R. Breen (ed) *Social Mobility in Europe*, Oxford: Oxford University Press, pp 115–47.
- Vallet, L.-A. (2020) Intergenerational mobility and social fluidity in France over birth cohorts and across age: the role of education, in R. Breen and W. Müller (eds) *Education and Intergenerational Social Mobility in Europe and the United States*, Stanford, CA: Stanford University Press, pp 91–121.

- Van Buuren, S. (2007) Multiple imputation of discrete and continuous data by fully conditional specification, *Statistical Methods in Medical Research*, 16(3): 219–42. doi: [10.1177/0962280206074463](https://doi.org/10.1177/0962280206074463)
- Van Buuren, S., Brand, J.P.L., Groothuis-Oudshoorn, C.G.M. and Rubin, D.B. (2006) Fully conditional specification in multivariate imputation, *Journal of Statistical Computation and Simulation*, 76(12): 1049–64. doi: [10.1080/10629360600810434](https://doi.org/10.1080/10629360600810434)
- Veljkovic, M. (2018) Mobilité intragénérationnelle en France (1970–2015): Évolution, place de la mobilité sociale biographique et parcours socioprofessionnels, *Master's thesis*, Paris: Institut d'études politiques de Paris.

## Appendix

### *Appendix A: survey design*

The Panel d'élèves du second degré, recrutement 1995 is a nationally representative, longitudinal survey, was carried by the statistical office of the ministry of education (DEPP), which followed a cohort of students who entered lower secondary education (6th grade) in 1995 throughout secondary and tertiary education. During secondary education, administrative information on educational enrolment and attainment was obtained through school head interrogation or national administrative database. Parents answered a specific questionnaire in 1998 (response rate of 86.5%). In higher education, students were interrogated yearly until they reported that they had stopped studying for two consecutive years (response rate around 90% every year). Parents and student questionnaires were administered either via post mail or, in case of non-response to the mail questionnaire, via phone interviews. As of 2005, the contact details of respondents who had left the education system were transmitted to the National Institute of Statistics and Economic Studies (INSEE) which contacted them every year between 2005 and 2012 for the follow-up survey *Entrée dans la vie adulte-EVA*, using post mail questionnaires. Overall, 70% of the original 1995 sample answered at least once the EVA survey. Further information on the design of both surveys can be found in the documentation provided by the Quetelet PROGEDO Diffusion network (<http://quetelet.progedo.fr/>) which is responsible for the dissemination of these data.

Table A1 displays the distribution of the independent variables for the initial representative sample of the Panel d'élèves du second degré, recrutement 1995 (N = 17,830), for the sample of respondents with occupation reported three years after the exit of the education system (column 2) and for the sample with an occupation reported at any time (preferred option, N = 10,816). Results show that the sample of respondents with an occupation reported at any time is extremely similar to the initial 1995 representative sample in terms of sex, social and geographical origin, and performance in 9th grade. Differences mainly exist regarding the distribution of educational attainment where respondents without any degree are slightly under-represented and respondents with academic *baccalauréat* are slightly over-represented. The table also confirms that the preferred solution of using the first occupational outcome reported results in an analytical sample more similar to the original 1995 representative one than using respondents with occupation reported three years after the exit of the education system, which lead to a stronger under-representation of low-educated respondents.

**Table A1:** Sample comparisons

		Initial sample of students in 1995 (1)	With occupation 3 years after exit from the education system (2)	With occupation reported in EVA (any-time) (3)
Sex	Men	51.6%	48.9%	49.7%
	Women	48.4%	51.1%	50.3%
Parental education	Less than upper secondary	50.2%	51.9%	52.0%
	Upper secondary	13.9%	16.8%	15.9%
	Tertiary	20.8%	23.7%	23.0%
	Missing	15.1%	7.6%	9.1%
Parental social class	I+II	33.1%	36.0%	35.0%
	IIIab	35.6%	37.5%	36.5%
	IVab	5.3%	4.8%	5.0%
	IVc	2.2%	3.3%	2.9%
	V+VI	15.9%	13.7%	15.0%
	VIIab	5.9%	4.1%	4.9%
	Unemployed/inactive	1.6%	0.6%	0.7%
City size in 1995	Village or small town	36.6%	41.0%	40.2%
	Medium-sized city	26.2%	25.7%	25.6%
	Large city, other than Paris	21.5%	20.5%	20.8%
	Paris area	15.8%	12.8%	13.4%
Parents' country of birth	One parent born in France	85.9%	91.1%	89.7%
	Both parents born abroad	12.2%	7.8%	9.2%
	Missing	1.9%	1.1%	1.2%
GPA in French and math in grade 9 (out of 20)	Mean	10.9	11.4	11.2
	SD	2.8	2.6	2.7
	Missing	24.6%	14.8%	18.1%
Academic & technological high school attended in grade 10	No	40.3%	32.5%	36.6%
	Yes	54.6%	66.7%	62.0%
	Missing	5.0%	0.8%	1.4%
Highest degree obtained in secondary education	No degree	16.1%	3.6%	6.5%
	Vocational CAP/BEP	13.8%	17.4%	20.5%
	Vocational <i>baccalauréat</i>	8.8%	14.8%	13.1%
	Technological <i>baccalauréat</i>	16.8%	22.5%	20.5%
	Academic <i>baccalauréat</i>	31.7%	40.9%	38.1%
	Missing	12.8%	0.8%	1.4%
Higher education attainment	No degree	48.1%	42.6%	48.4%
	Short degree +2	11.4%	18.7%	15.7%
	Bachelor's degree +3	14.4%	21.2%	19.9%
	Master's degree +4/5	6.7%	9.2%	8.8%
	Long degree- <i>grandes écoles</i>	4.8%	8.2%	7.1%
	Missing	14.6%	0.1%	0.1%
Number of observations		17,830	6,786	10,816

Source: Panel 1995-EVA.



## Appendix B: full results on the imputed datasets

Table B1: Linear regression of early occupational outcome, with robust standard errors: higher service class I

	(1) Track assignment Grade 10	(2) High school attainment	(3) + socio-demographics	(4) + Performance in grade 9	(5) + HE attainment & Age & years in LM
Academic & technological high school attended in grade 10					
No (ref.)					
Yes	0.21*** (0.01)				
Highest degree obtained in secondary education					
No degree (ref.)					
Vocational CAP/BEP		-0.00 (0.00)	0.01** (0.00)	0.00 (0.01)	-0.00 (0.00)
Vocational <i>baccalauréat</i>		0.01*** (0.00)	0.01*** (0.01)	-0.00 (0.01)	-0.02*** (0.01)
Technological <i>baccalauréat</i>		0.07*** (0.01)	0.06*** (0.01)	0.01 (0.01)	-0.03*** (0.01)
Academic <i>baccalauréat</i>		0.32*** (0.01)	0.27*** (0.01)	0.18*** (0.01)	0.02** (0.01)
Gender					
Men (ref.)					
Women			-0.07*** (0.01)	-0.08*** (0.01)	-0.05*** (0.01)
Parental education					
Tertiary (ref.)					
Upper secondary			-0.10*** (0.01)	-0.10*** (0.01)	-0.05*** (0.01)
Less than upper secondary			-0.13*** (0.01)	-0.12*** (0.01)	-0.05*** (0.01)
Parental social class					
I+II (ref.)					
IIIab			-0.03*** (0.01)	-0.03*** (0.01)	-0.01 (0.01)
IVab			-0.02 (0.02)	-0.02 (0.01)	-0.01 (0.01)
IVc			0.01 (0.02)	-0.00 (0.02)	-0.00 (0.01)
V+VI			-0.03*** (0.01)	-0.03*** (0.01)	-0.01 (0.01)

(Continued)

	(1) Track assignment Grade 10	(2) High school attainment	(3) + socio-demographics	(4) +Performance in grade 9	(5) + HE attainment & Age & years in LM
Villab			-0.03** (0.01)	-0.02 (0.01)	-0.01 (0.01)
Unemployed/inactive			-0.03* (0.02)	-0.02 (0.02)	-0.01 (0.01)
City size in grade 6					
Village or small town			-0.01 (0.01)	-0.02** (0.01)	-0.01 (0.01)
Medium-sized city (ref.)					
Large city, other than Paris			0.01 (0.01)	0.01 (0.01)	0.01* (0.01)
Paris area			0.07*** (0.01)	0.08** (0.01)	0.05** (0.01)
Parents' country of birth					
At least one parent born in France (ref.)					
Both parents born abroad			0.01 (0.01)	0.02** (0.01)	0.01 (0.01)
GPA in French and math in 9th grade				0.02*** (0.00)	0.01*** (0.00)
Higher education attainment					
No degree (ref.)					
Short degree +2					0.00 (0.01)
Bachelor's degree +3					0.05*** (0.01)
Master's degree +4/5					0.34*** (0.02)
Long degree-grandes écoles					0.61*** (0.02)
Age at first job reported					0.02*** (0.00)
Years in the labour market					-0.00 (0.00)
Constant	0.01*** (0.00)	0.01** (0.00)	0.16*** (0.01)	-0.04** (0.02)	-0.34*** (0.05)
Observations	10,816	10,816	10,816	10,816	10,816
R <sup>2</sup>	0.0862	0.169	0.215	0.232	0.413

Notes: Standard errors in parentheses.

\*\*\*  $p < .01$ , \*\*  $p < .05$ , \*  $p < .1$ 

Source: Panel 1995-EVA.

**Table B2:** Linear regression of early occupational outcome, with robust standard errors: service class I+II

	(1) Track assignment Grade 10	(2) High school attainment	(3) + socio-demographics	(4) + Performance in grade 9	(5) + HE attainment & Age & years in LM
Academic & technological high school attended in grade 10					
No (ref.)					
Yes	0.43*** (0.01)				
Highest degree obtained in secondary education					
No degree (ref.)					
Vocational CAP/BEP		-0.02* (0.01)	-0.01 (0.01)	-0.02* (0.01)	-0.04*** (0.01)
Vocational <i>baccalauréat</i>		0.05*** (0.01)	0.04*** (0.01)	0.03** (0.01)	-0.06*** (0.01)
Technological <i>baccalauréat</i>		0.27*** (0.01)	0.23*** (0.01)	0.19*** (0.01)	0.02 (0.02)
Academic <i>baccalauréat</i>		0.59*** (0.01)	0.51*** (0.01)	0.44*** (0.02)	0.12*** (0.02)
Gender					
Men (ref.)					
Women			0.05*** (0.01)	0.04*** (0.01)	0.04*** (0.01)
Parental education					
Tertiary (ref.)					
Upper secondary			-0.07*** (0.01)	-0.07*** (0.01)	-0.03** (0.01)
Less than upper secondary			-0.12*** (0.01)	-0.11*** (0.01)	-0.05*** (0.01)
Parental social class					
I+II (ref.)					
IIIab			-0.03*** (0.01)	-0.03*** (0.01)	-0.01 (0.01)
IVab			-0.03 (0.02)	-0.03 (0.02)	-0.01 (0.02)
IVc			-0.03 (0.02)	-0.03 (0.02)	-0.02 (0.02)
V+VI			-0.05*** (0.01)	-0.05*** (0.01)	-0.02 (0.01)
VIIab			-0.08*** (0.02)	-0.07*** (0.02)	-0.05*** (0.02)
Unemployed/inactive			-0.09** (0.04)	-0.07** (0.04)	-0.05 (0.03)

(Continued)

	(1) Track assignment Grade 10	(2) High school attainment	(3) + socio-demographics	(4) + Performance in grade 9	(5) + HE attainment & Age & years in LM
City size in grade 6					
Village or small town			-0.02 (0.01)	-0.02** (0.01)	-0.01 (0.01)
Medium-sized city (ref.)					
Large city, other than Paris			-0.01 (0.01)	-0.00 (0.01)	-0.00 (0.01)
Paris area			0.06*** (0.01)	0.06*** (0.01)	0.04*** (0.01)
Parents' country of birth					
At least one parent born in France (ref.)					
Both parents born abroad			0.04*** (0.01)	0.05*** (0.01)	0.03** (0.01)
GPA in French and math in 9th grade				0.02*** (0.00)	0.01*** (0.00)
Higher education attainment					
No degree (ref.)					
Short degree +2					0.06*** (0.01)
Bachelor's degree +3					0.29*** (0.02)
Master's degree +4/5					0.35*** (0.02)
Long degree- <i>grandes écoles</i>					0.46*** (0.02)
Age at first job reported					0.04*** (0.00)
Years in the labour-market					-0.02*** (0.00)
Constant	0.09*** (0.00)	0.07*** (0.01)	0.19*** (0.02)	0.03 (0.02)	-0.69*** (0.07)
Observations	10,816	10,816	10,816	10,816	10,816
R <sup>2</sup>	0.191	0.293	0.313	0.319	0.406

Notes:

Standard errors in parentheses

\*\*\*,  $p < .01$ , \*\*  $p < .05$ , \*  $p < .1$ 

Source: Panel 1995-EVA.

**Table B3:** Linear regression of early occupational outcome, with robust standard errors: working class V+VI+VIIab

	(1) Track assignment Grade 10	(2) High school attainment	(3) + socio-demographics	(4) + Performance in grade 9	(5) + HE attainment & Age & years in LM
Academic & technological high school attended in grade 10					
No (ref.)					
Yes	-0.32*** (0.01)				
Highest degree obtained in secondary education					
No degree (ref.)					
Vocational CAP/BEP		0.01 (0.02)	0.01 (0.02)	0.01 (0.02)	0.04* (0.02)
Vocational <i>baccalauréat</i>		-0.05** (0.02)	-0.03 (0.02)	-0.03 (0.02)	0.06*** (0.02)
Technological <i>baccalauréat</i>		-0.24*** (0.02)	-0.17*** (0.02)	-0.16*** (0.02)	-0.04** (0.02)
Academic <i>baccalauréat</i>		-0.42*** (0.02)	-0.28*** (0.02)	-0.26*** (0.02)	-0.09*** (0.02)
Gender					
Men (ref.)					
Women			-0.39*** (0.01)	-0.39*** (0.01)	-0.39*** (0.01)
Parental education					
Tertiary (ref.)					
Upper secondary			0.04*** (0.01)	0.03*** (0.01)	0.01 (0.01)
Less than upper secondary			0.07*** (0.01)	0.06*** (0.01)	0.03** (0.01)
Parental social class					
I+II (ref.)					
IIIab			0.03*** (0.01)	0.03*** (0.01)	0.02* (0.01)
IVab			0.03 (0.02)	0.03 (0.02)	0.02 (0.02)
IVc			0.02 (0.03)	0.02 (0.03)	0.01 (0.02)
V+VI			0.07*** (0.01)	0.07*** (0.01)	0.06*** (0.01)
VIIab			0.08*** (0.02)	0.07*** (0.02)	0.06*** (0.02)

(Continued)

	(1) Track assign- ment Grade 10	(2) High school attainment	(3) + socio-demographics	(4) + Performance in grade 9	(5) + HE attainment & Age & years in LM
City size in grade 6					
	Unemployed/inactive		-0.03 (0.05)	-0.03 (0.05)	-0.04 (0.05)
	Village or small town		0.03*** (0.01)	0.03*** (0.01)	0.02** (0.01)
	Medium-sized city (ref.)				
	Large city, other than Paris		-0.01 (0.01)	-0.02 (0.01)	-0.02 (0.01)
	Paris area		-0.08*** (0.01)	-0.08*** (0.01)	-0.06*** (0.01)
Parents' country of birth					
	At least one parent born in France (ref.)				
	Both parents born abroad		-0.06*** (0.01)	-0.06*** (0.01)	-0.05*** (0.01)
GPA in French and math in 9th grade					
			-0.00**	-0.00	(0.00)
Higher education attain- ment					
	No degree (ref.)				
	Short degree +2				-0.02 (0.01)
	Bachelor's degree +3				-0.04** (0.01)
	Master's degree +4/5				-0.07*** (0.02)
	Long degree-grandes écoles				-0.17*** (0.02)
Age at first job reported					
					-0.04*** (0.00)
Years in the labour-market					
					0.02*** (0.00)
Constant	0.52*** (0.01)	0.60*** (0.02)	0.64*** (0.02)	0.03 (0.03)	1.46*** (0.07)
Observations	10,816	10,816	10,816	10,816	10,816
R2	0.111	0.332	0.333		0.357

Standard errors in parentheses

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1

Source: Panel 1995-EVA.

**Table B4:** Linear regression of early occupational outcome, with robust standard errors: unskilled working class VIIab

	(1) Track assignment Grade 10	(2) High school attainment	(3) + socio-demographics	(4) +Performance in grade 9	(5) + HE attainment & Age & years in LM
Academic & technological high school attended in grade 10					
No (ref.)					
Yes	-0.17*** (0.01)				
Highest degree obtained in secondary education					
No degree (ref.)					
Vocational CAP/BEP		-0.10*** (0.02)	-0.10*** (0.02)	-0.10*** (0.02)	-0.09*** (0.02)
Vocational <i>baccalauréat</i>		-0.14*** (0.02)	-0.13*** (0.02)	-0.13*** (0.02)	-0.09*** (0.02)
Technological <i>baccalauréat</i>		-0.25*** (0.02)	-0.21*** (0.02)	-0.21*** (0.02)	-0.14*** (0.02)
Academic <i>baccalauréat</i>		-0.29*** (0.02)	-0.24*** (0.02)	-0.22*** (0.02)	-0.14*** (0.02)
Gender					
Men (ref.)					
Women			-0.12*** (0.01)	-0.12*** (0.01)	-0.12*** (0.01)
Parental education					
Tertiary (ref.)					
Upper secondary			0.02** (0.01)	0.02** (0.01)	0.01 (0.01)
Less than upper secondary			0.03*** (0.01)	0.03*** (0.01)	0.02*** (0.01)
Parental social class					
I+II (ref.)					
IIIab			0.01* (0.01)	0.01* (0.01)	0.01 (0.01)
IVab			0.02 (0.01)	0.01 (0.01)	0.01 (0.01)
IVc			0.05** (0.02)	0.05** (0.02)	0.05** (0.02)
V+VI			0.04*** (0.01)	0.04*** (0.01)	0.03*** (0.01)
VIIab			0.07*** (0.02)	0.06*** (0.02)	0.06*** (0.02)

(Continued)

	(1) Track assignment Grade 10	(2) High school attainment	(3) + socio-demographics	(4) + Performance in grade 9	(5) + HE attainment & Age & years in LM
City size in grade 6					
Unemployed/inactive			0.02 (0.04)	0.02 (0.04)	0.01 (0.04)
Village or small town			0.02** (0.01)	0.02*** (0.01)	0.02** (0.01)
Medium-sized city (ref.)					
Large city, other than Paris			-0.00 (0.01)	-0.00 (0.01)	-0.00 (0.01)
Paris area			-0.04*** (0.01)	-0.05*** (0.01)	-0.04*** (0.01)
Parents' country of birth					
At least one parent born in France (ref.)					
Both parents born abroad			-0.00 (0.01)	-0.00 (0.01)	0.00 (0.01)
GPA in French and math in 9th grade	-0.00** (0.00)	-0.00 (0.00)			
Higher education attainment					
No degree (ref.)					
Short degree +2					-0.06*** (0.01)
Bachelor's degree +3					-0.04*** (0.01)
Master's degree +4/5					-0.04*** (0.01)
Long degree-grandes écoles					-0.06*** (0.01)
Age at first job reported			-0.01*** (0.00)		
Years in the labour-market					0.01*** (0.00)
Constant	0.22*** (0.01)	0.32*** (0.02)	0.31*** (0.02)	0.34*** (0.02)	0.55*** (0.06)
Observations	10,816	10,816	10,816	10,816	10,816
R <sup>2</sup>	0.0634	0.0904	0.134	0.134	0.143

Notes:

Standard errors in parentheses.

\*\*\*  $p < .01$ , \*\*  $p < .05$ , \*  $p < .1$ 

Source: Panel 1995-EVA.



**Table B5:** Linear regression of early occupational outcome, with robust standard errors: log monthly net earnings

	(1) Track assignment Grade 10	(2) High school attainment	(3) + socio-demographics	(4) + Performance in grade 9	(5) + HE attainment & Age & years in LM
Academic & technological high school attended in grade 10					
No (ref.)					
Yes	0.25*** (0.01)				
Highest degree obtained in secondary education					
No degree (ref.)					
Vocational CAP/BEP		0.07*** (0.02)	0.08*** (0.02)	0.07*** (0.02)	0.07*** (0.02)
Vocational <i>baccalauréat</i>		0.19*** (0.02)	0.20*** (0.02)	0.19*** (0.02)	0.14*** (0.02)
Technological <i>baccalauréat</i>		0.28*** (0.02)	0.29*** (0.02)	0.24*** (0.02)	0.12*** (0.02)
Academic <i>baccalauréat</i>		0.44*** (0.02)	0.44*** (0.02)	0.35*** (0.02)	0.13*** (0.02)
Gender					
Men (ref.)					
Women			-0.20*** (0.01)	-0.20*** (0.01)	-0.19*** (0.01)
Parental education					
Tertiary (ref.)					
Upper secondary			-0.06*** (0.01)	-0.06*** (0.01)	-0.03*** (0.01)
Less than upper secondary			-0.08*** (0.01)	-0.07*** (0.01)	-0.02* (0.01)
Parental social class					
I+II (ref.)					
IIIab			-0.01 (0.01)	-0.01 (0.01)	0.00 (0.01)
IVab			0.01 (0.02)	0.01 (0.02)	0.02 (0.02)
IVc			0.01 (0.03)	0.00 (0.03)	-0.00 (0.02)
V+VI			-0.02 (0.01)	-0.02 (0.01)	0.00 (0.01)
VIIab			-0.04* (0.02)	-0.03 (0.02)	-0.01 (0.02)
Unemployed/inactive			-0.13*** (0.05)	-0.11** (0.05)	-0.11** (0.04)

(Continued)

	(1) Track assignment Grade 10	(2) High school attainment	(3) + socio-demographics	(4) + Performance in grade 9	(5) + HE attainment & Age & years in LM
City size in grade 6					
Village or small town			-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)
Medium-sized city (ref.)					
Large city, other than Paris			-0.00 (0.01)	0.00 (0.01)	0.00 (0.01)
Paris area			0.08*** (0.01)	0.09*** (0.01)	0.07*** (0.01)
Parents' country of birth					
At least one parent born in France (ref.)					
Both parents born abroad			0.00 (0.01)	0.01 (0.01)	0.00 (0.01)
GPA in French and math in 9th grade	0.02*** (0.00)	0.01*** (0.00)			
Higher education attainment					
No degree (ref.)					
Short degree +2					0.14*** (0.01)
Bachelor's degree +3					0.22*** (0.01)
Master's degree +4/5					0.32*** (0.02)
Long degree- <i>grandes écoles</i>					0.47*** (0.02)
Age at first job reported				0.01*** (0.00)	
Years in the labour market				-0.00 (0.00)	
Constant	6.96*** (0.01)	7.00*** (0.02)	6.81*** (0.02)	6.56*** (0.03)	6.07 (0.07)
Observations	9,672	9,672	9,672	9,672	
R <sup>2</sup>	0.0837	0.207	0.218	0.282	

Notes:

Standard errors in parentheses.

\*\*\*  $p < .01$ , \*\*  $p < .05$ , \*  $p < .1$ 

Source: Panel 1995-EVA.

Appendix C: Multinomial logistic model of the first job reported (non-imputed data)

	(1) Track assignment Grade 10	(2) High school attainment	(3) + socio-demographics	(4) +Performance in grade 9	(5) + HE attain- ment & Age & years in LM
<b>Outcome 1: Higher service class I</b>					
Academic & technological high school attended in grade 10					
No (ref.)					
Yes	0.22*** (0.01)				
Highest degree obtained in secondary education					
No degree (ref.)					
Vocational CAP/BEP	-0.00 (0.01)	-0.00 (0.01)	-0.01 (0.01)	-0.05 (0.01)	(0.05)
Vocational <i>baccalauréat</i>	0.01** (0.01)	0.02** (0.01)	0.03** (0.01)	-0.00 (0.01)	(0.05)
Technological <i>baccalauréat</i>	0.07*** (0.01)	0.07*** (0.01)	0.08*** (0.01)	0.01 (0.01)	(0.04)
Academic <i>baccalauréat</i>	0.32*** (0.01)	0.28*** (0.01)	0.21*** (0.01)	0.04 (0.01)	(0.04)
<b>Outcome 2: service class II</b>					
Academic & technological high school attended in grade 10					
No (ref.)					
Yes	0.21*** (0.01)				
Highest degree obtained in secondary education					
No degree (ref.)					
Vocational CAP/BEP	-0.03* (0.02)	-0.03* (0.02)	-0.03* (0.02)	-0.07* (0.02)	(0.04)
Vocational <i>baccalauréat</i>	0.01 (0.02)	0.02 (0.02)	0.01 (0.02)	-0.07* (0.02)	(0.04)
Technological <i>baccalauréat</i>	0.17*** (0.02)	0.16*** (0.02)	0.15*** (0.02)	-0.00 (0.02)	(0.04)
Academic <i>baccalauréat</i>	0.25*** (0.02)	0.22*** (0.02)	0.22*** (0.02)	0.04 (0.02)	(0.04)

(Continued)

	(1) Track assignment Grade 10	(2) High school attainment	(3) + socio-demographics	(4) +Performance in grade 9	(5) + HE attain- ment & Age & years in LM
<b>Outcome 3: Routine non-manual employees, higher grade IIIa</b>					
Academic & technological high school attended in grade 10					
No (ref.)					
Yes	-0.01 (0.01)				
Highest degree obtained in secondary education					
No degree (ref.)					
Vocational CAP/BEP	0.03*	0.04*	0.04*	0.05**	0.02
Vocational <i>baccalauréat</i>	0.05***	0.06***	0.06***	0.04	0.02
Technological <i>baccalauréat</i>	0.10***	0.09***	0.08***	0.06***	0.02
Academic <i>baccalauréat</i>	0.02	0.01	0.02	0.04	0.02
<b>Outcome 4: Routine non-manual employees, lower grade IIIb</b>					
Academic & technological high school attended in grade 10					
No (ref.)					
Yes	-0.11*** (0.01)				
Highest degree obtained in secondary education					
No degree (ref.)					
Vocational CAP/BEP	-0.02	0.03	0.03	0.03	0.02
Vocational <i>baccalauréat</i>	-0.10***	0.03	0.03	0.03	0.02
Technological <i>baccalauréat</i>	-0.15***	0.02	0.03	0.03	0.02
Academic <i>baccalauréat</i>	-0.22***	0.02	0.02	0.03	0.02
<b>Outcome 5: Independent workers IV</b>					
Academic & technological high school attended in grade 10					

(Continued)

Appendix C: (Continued)

	(1) Track assignment Grade 10	(2) High school attainment	(3) + socio-demographics	(4) + Performance in grade 9	(5) + HE attain- ment & Age & years in LM
No (ref.)					
Yes	-0.00 (0.00)				
Highest degree obtained in secondary education					
No degree (ref.)					
Vocational CAP/BEP	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)
Vocational <i>baccalauréat</i>	0.02** (0.01)	0.01* (0.01)	0.01* (0.01)	0.01 (0.01)	0.01 (0.01)
Technological <i>baccalauréat</i>	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.00 (0.01)	0.01 (0.01)
Academic <i>baccalauréat</i>	0.00 (0.01)	0.00 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)
<b>Outcome 6: Supervisors of manual workers and skilled manual workers V &amp; VI</b>					
Academic & technological high school attended in grade 10					
No (ref.)					
Yes	-0.15*** (0.01)				
Highest degree obtained in secondary education					
No degree (ref.)					
Vocational CAP/BEP	0.11*** (0.02)	0.10*** (0.02)	0.10*** (0.02)	0.10*** (0.02)	0.10*** (0.02)
Vocational <i>baccalauréat</i>	0.12*** (0.03)	0.09*** (0.03)	0.08*** (0.02)	0.10*** (0.02)	0.10*** (0.02)
Technological <i>baccalauréat</i>	0.03 (0.02)	0.04* (0.02)	0.03 (0.02)	0.06*** (0.02)	0.06*** (0.02)
Academic <i>baccalauréat</i>	-0.10*** (0.02)	-0.06*** (0.02)	-0.04** (0.02)	0.04* (0.02)	0.04* (0.02)
<b>Outcome 7: Unskilled manual workers VII</b>					
Academic & technological high school attended in grade 10					

(Continued)

	(1) Track assignment Grade 10	(2) High school attainment	(3) + socio-demographics	(4) +Performance in grade 9	(5) + HE attain- ment & Age & years in LM
No (ref.)					
Yes	-0.15*** (0.01)				
Highest degree obtained in secondary education					
No degree (ref.)					
Vocational CAP/BEP	-0.09***	(0.03)	-0.09***	(0.02)	-0.04*** (0.02)
Vocational <i>baccalauréat</i>	-0.12***	(0.03)	-0.10***	(0.02)	-0.03** (0.02)
Technological <i>baccalauréat</i>	-0.23***	(0.02)	-0.18***	(0.02)	-0.07*** (0.02)
Academic <i>baccalauréat</i>	-0.27***	(0.02)	-0.21***	(0.02)	-0.08*** (0.02)
Observations	7,694	7,694	7,694	7,694	7,694
Log-likelihood	-13,122	-12,480	-11,236	-10,311	-10,311
R <sup>2</sup>	0.0606	0.196	0.203	0.262	0.262

Source: Panel 1995-EVA.

Appendix D: Linear regressions of the employment status two or three years after leaving the education system (non-imputed data)

	(1) Track assignment Grade 10	(2) High school attainment	(3) + socio-demographics	(4) + Performance in grade 9	(5) + HE attainment & age
<b>Outcome: Being employed (versus unemployed or inactive)</b>					
Academic & technological high school attended in grade 10					
No (ref.)					
Yes	0.07*** (0.01)				
Highest degree obtained in secondary education					
No degree (ref.)					
Vocational CAP/BEP		0.16*** (0.03)	0.15*** (0.03)	0.16*** (0.03)	0.15*** (0.03)
Vocational <i>baccalauréat</i>		0.22*** (0.03)	0.21*** (0.03)	0.21*** (0.03)	0.20*** (0.03)
Technological <i>baccalauréat</i>		0.25*** (0.03)	0.24*** (0.03)	0.23*** (0.03)	0.19*** (0.03)
Academic <i>baccalauréat</i>		0.26*** (0.03)	0.25*** (0.03)	0.21*** (0.03)	0.17*** (0.03)
Constant	0.82*** (0.01)	0.64*** (0.03)	0.66*** (0.03)	0.55*** (0.04)	0.57*** (0.07)
Observations	7,193	7,193	7,193	7,193	7,193
R <sup>2</sup>	0.010	0.030	0.040	0.044	0.050
<b>Outcome: Being unemployed (versus being employed or inactive)</b>					
Academic & technological high school attended in grade 10					
No (ref.)					
Yes	-0.06*** (0.01)				
Highest degree obtained in secondary education					
No degree (ref.)					
Vocational CAP/BEP		-0.13*** (0.03)	-0.12*** (0.03)	-0.12*** (0.03)	-0.12*** (0.03)
Vocational <i>baccalauréat</i>		-0.19*** (0.03)	-0.18*** (0.03)	-0.18*** (0.03)	-0.17*** (0.03)
Technological <i>baccalauréat</i>		-0.21*** (0.03)	-0.20*** (0.03)	-0.19*** (0.03)	-0.16*** (0.03)
Academic <i>baccalauréat</i>		-0.22*** (0.03)	-0.21*** (0.03)	-0.18*** (0.03)	-0.15*** (0.03)

(Continued)

	(1) Track assignment Grade 10	(2) High school attainment	(3) + socio-demographics	(4) +Performance in grade 9	(5) + HE attainment & age
Constant	0.16*** (0.01)	0.30*** (0.03)	0.29*** (0.03)	0.37*** (0.03)	0.37*** (0.06)
Observations	7,193	7,193	7,193	7,193	7,193
R <sup>2</sup>	0.007	0.025	0.035	0.038	0.041
<b>Outcome: Being in a permanent job among those in employment</b>					
Academic & technological high school attended in grade 10					
	No (ref.)				
	Yes				
Highest degree obtained in secondary education					
	No degree (ref.)				
	Vocational CAP/BEP	0.08** (0.04)	0.08** (0.04)	0.09** (0.04)	0.08** (0.04)
	Vocational <i>baccalauréat</i>	0.13*** (0.04)	0.13*** (0.04)	0.13*** (0.04)	0.10*** (0.04)
	Technological <i>baccalauréat</i>	0.14*** (0.04)	0.14*** (0.04)	0.13*** (0.04)	0.07* (0.04)
	Academic <i>baccalauréat</i>	0.17*** (0.03)	0.18*** (0.04)	0.15*** (0.04)	0.06 (0.04)
Constant	0.63*** (0.01)	0.53*** (0.03)	0.55*** (0.04)	0.46*** (0.05)	0.38*** (0.10)
Observations	6,616	6,616	6,616	6,616	6,616
R <sup>2</sup>	0.003	0.007	0.014	0.016	0.028

Source: Panel 1995-EVA.