HAL
archives-ouvertes.fr

Why Grandes Écoles are so valued?

Julien Calmand, Jean-François Giret, Christine Guégnard, Jean-Jacques Paul

▶ **To cite this version:**

Julien Calmand, Jean-François Giret, Christine Guégnard, Jean-Jacques Paul. Why Grandes Écoles are so valued?. 17th annual workshop of the European Research Network on Transitions in Youth IREDU, Burgundy University "Youth transitions at risk? Insecurity, precarity and educational mismatch in the youth labour market", Sep 2009, Dijon, France. <halshs-00419388>

HAL Id: halshs-00419388
https://halshs.archives-ouvertes.fr/halshs-00419388

Submitted on 23 Sep 2009

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.

Why *Grandes Écoles* are so valued?

Calmand Julien, Giret Jean-François, Guégnard Christine, Paul Jean-Jacques
IREDU - CNRS, Université de Bourgogne and Cereq

Introduction

French Higher Education is an original system characterized by a dual and hierarchical opposition between the *Grandes Écoles*[1] and the Universities. During the nineties, the expansion of higher education was accompanied by a growing problem of graduates' unemployment. Several longitudinal surveys have shown that the transition process from higher education to employment has generally become more difficult and longer (Paul, Murdoch, 2000; Giret, Molinari, Moullet, 2006). If *Grandes Écoles* graduates remain in a rather privileged position, the university graduates' employment conditions become more difficult with a strong increase of occupational downgrading and flexible jobs. Two main explanations are usually given in order to explain the better position of elite high school graduates on the labour market.

First, from a quantitative point of view, *Grandes Écoles* are characterized by larger per-student expenditures and a smaller student/teacher ratio, which may be considered as a signal of quality. In addition, it is widely accepted (although rarely demonstrated) that *Grandes Écoles* provide better general knowledge, transferable competences, attitudes and personal skills more valued by employers for the highly skilled professions. On the contrary, French Universities have been strongly criticized for the weakness of their links with employers while elite high schools have always privileged close relationships. As a result of the tradition of independence of French academics, Universities were not generally aware that university-employer linkage may convey labour market information to students and influence job placement, although one of the objectives of the recent development of vocational courses at the university level was to implement these relationships in different ways, imitating elite high school system.

Second, *Grandes Écoles* training provide a strong signal to their graduates because of the level entrance selectivity. The mass education developed in the French higher education system has led to low selectivity for general courses at universities (Magnac and Thesmar, 2002) while *Grandes Écoles* have systematically developed and pursued a policy of selectivity for access to their courses. Although the mass education at the university level did not necessarily lead to a drop in quality of graduates, the lowered entrance standards and the more problematical training conditions in general courses generate a strong student attrition which is higher than in the non university sector. In this case, *Grandes Écoles* act as a *filter* (Arrow, 1973) helping employers in the selection process to access to the better qualified position on the labour market.

In this paper, we will mainly test the first explanation. We use data on transition from higher education to work collected by the REFLEX project. The REFLEX project (acronym for 'Research into Employment and Professional Flexibility') is a large scale international project that has been carried simultaneously in 16 different countries.[2] The survey was conducted in 2005 on a sample of about 40,000 persons who had graduated 5 years before. We focus on the French sample, using a subsample

[1] According to the Ministry of Education, a *Grande École* is a '*higher educational institution that recruits its students by competition and ensures high-level formation*'. In France, the number of students enrolled in higher education in 2008 amounted to 2,228,000 of which half of them were at the University; there were 223 engineer schools (108,700 students), and 207 business schools (90,800 students).

[2] It has been funded by the EU 6th Framework Program (Contract No: CIT2-CT-2004-506-352) and several national funds. It is coordinated by ROA, the Research Centre for Education and the Labour Market from Maastricht University. It involves partners from sixteen countries (Austria, Belgium/Flanders, Czech Republic, Estonia, Finland, France, Germany, Italy, Japan, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the UK). For more information, see: http://www.reflexproject.org.

of Universities and *Grandes Écoles* graduates from the same educational fields. Following the method of self-assessment (Allen and van der Velden, 2005), the measurement of competencies in the REFLEX project is built upon a list of competence items, formulated in a way that they can be applied to graduates of different educational domains. The competencies were assessed using a Likert scale and through two criteria: the use of competence items and the level of acquired skill. The acquired skill refers to the level at the moment of the survey. That makes possible to study the balance between possessed and required competences for both Grandes *Écoles* and Universities graduates. This document will be divided in two parts. The first part will explain the main characteristics of the *Grandes Écoles* model and their recent evolutions. The second part will analyse the competencies acquired by *Grandes Écoles* graduates compared to universities graduates.

1. Grandes Écoles: a fragmented model but common trends

The advantage of *Grandes Écoles* was regularly studied by researchers and in particular by French sociologists. The analyses in terms of cultural and important social capital play a major role in explaining the role of these higher schools in the process of reproduction of the elites in France. However, this *Grandes Écoles* model is relatively fragmented even if it is often referred to as a type model. This type model, often referred to as "the schools of power", includes *École Polytechnique* (set up in 1794) that represents the highest level of the Republican elitism where young people were in principle trained for the State apparatus (Bourdieu, 1989).

From the second half of the 19th century, some higher schools gradually appear in order to train technical and managerial elite for engineering and business (Godelier, 2005). Bouffartigue and Gadea (1997) qualified these two models as respectively 'reference model' and 'professional success model' and opposed them to a third, qualified as 'counter-model' composed of small technical engineering and academic vocational higher schools, where emphasis is put no more on theoretical knowledge but on technical skills. Therefore, how to explain, despite this division, the recurrent advantage of the *Grandes Écoles* graduates, small or large higher schools, in accessing to more skilled jobs. Could this benefit come from common trends in their training?

A first argument can be linked to the quality of education: *Grandes Écoles* training is more expensive, even if their costs vary significantly from one school to another. The cost per year for a student in an engineering higher school can reach €25,000 while a university student rarely exceeds €10,000 (Paul, 2007). Cost differences are explained by differences in students/teacher ratio, lower in high schools, but also by differences in hourly volumes of teaching. Engineering schools must offer between 1,800 and 2,000 hours of education during their three years of training while a graduate from University will have had only 1,000 to 1,500 hours during the same period.

These various quantitative elements do not however guarantee the quality of education and the match with the labour market expectations. Another argument is then raised: *Grandes Écoles* educational model is based on selection of students and on the development of students' capacity of analysis and reflection, as well as on a thorough knowledge of the operation of firms. This French *Grandes Écoles* model, particularly in management, was torn between MBA-type courses with a strong focus on management techniques and Master-type courses developed in Universities that was becoming the standard at international level, and had to change during these recent years (Abdessemed 1998, 2007). The educational model accompanied this development without changing its bases. Training was characterized until the 1990s by emphasis on contents, focus on scientific knowledge and disciplinary logic, while allowing much space to knowledge of the company. This resulted in a strong vocational orientation of training that was recognized at the national level but insufficiently at the international level. To meet the challenges created by the internationalization of training, *Grandes Écoles* begun at the pedagogical level, by a strong investment in foreign language competencies: bilingualism and sometimes trilingualism, long stays and internships abroad, education to international issues (Lazuech, 1998). Furthermore, the adaptation to in European standards led to emphasizing academic skills and setting up a pedagogy centered on the dual system alternating between methodological reflection and training for action (Abdessemed, 2007).

These developments were also accompanied by a strong mutation of the faculty. In the past, *Grandes Écoles* were making extensive use of professionals, often at the expense of permanent teachers. Such a practice allowed not only to perpetuate the links between high schools and firms, but also to make education more responsive to the employers' needs and their evolution. Here again, the international opening of higher schools had the consequence to accelerate the recruitment of permanent teachers, already initiated in the 1970s. In 36 business schools, the number of permanent professors increased from 13 to 40 during the 1980s (Abdessemed, 1998). More recently, this need for permanent teachers is doubled by the necessity to recruit research oriented faculty, in order to provide schools with a scientific visibility, which is essential to maintain their position in international or national rankings (Hawawini, 2005). The importance given to internships is also one of the major features in *Grandes Écoles*. The engineering schools accreditation Commission requires a minimum of 28 weeks of internship in firm while a graduate choosing a professional route at University exceed rarely 20 to 25 weeks.

The French *Grandes Écoles* model is still based largely on a very strong selection at entrance: the majority of students attend specific preparatory classes (*classes préparatoires, CPGE*) and after two (or three) years of intense preliminary training, they sit for the *Grandes Écoles* entrance competitive exams. These students have been previously selected on their high school results in recent secondary education years. One can nevertheless question one aspect of this selection process: Is it promoting the acquisition of competences needed in the labour market? Two opposed effects may play *a priori*. On one hand, the *CPGE* are often criticized for providing education based on the accumulation of theoretical knowledge and a pedagogy almost exclusively geared to the entrance exams of the *Grandes Écoles* (Romainville, 2000). This *CPGE* mode of learning may be contrary to the expectations of future employers. Abdessemed (2007) calls for a clear break with the master-student relationship inherited from secondary education and maintained in *CPGE*, « *the issue is no longer to inherit knowledge but to build it and rebuild it in a life-long perspective* ». On the other hand, one can not underestimate the learning capacity of students, their aptitude to organize their study time under pressure, their intellectual agility in dealing with theoretical concept. Such skills can be useful, first in the higher school formation, and then on the labour market (Adangnikou, 2006).

This academic selection doubles with a strong social selection. *Grandes Écoles,* widely involved in the elite production process, are often criticized for their role in maintaining and sometimes even worsening social inequalities produced by high school. Albouy and Wanecq (2003) show that if the *Grandes Écoles* and second degree university programmes have largely democratized between 1940 and 1970, their development differs in the 1980s: whereas the Universities continue to open socially, the movement is reversed for *Grandes Écoles* with a strengthening of social inequalities. Possible explanations are multiple and non-exclusive: strengthening of selectivity to reinforce specificity, wider opening of University programmes, especially vocationally oriented second degrees programmes and in the context of economic crisis affecting graduates, the withdrawal of children of the social groups better informed on the value of formal education to *Grandes Écoles*. It is not impossible that this strengthening of social inequalities produces an accentuation of the division of competencies between managers and engineers from the *Grandes Écoles* and those coming from University professional masters. If one refers to the radical American authors Bowles and Gintis (1976), one can make the assumption that the type of pedagogy and acquired skills may differ between *Grandes Écoles* training managers for high-level functions, often transversal functions and University masters training much more specialized managers and professionals. The study of Lazuech (2000) based on a survey conducted with recruiters, shows that for graduates of intermediate higher schools, the social original is a determinant factor for a rapid career start. Specifically, his investigation illustrates that criteria most used by HRD managers are generally criteria of differentiation between social classes in access to high schools: 90% of the children of executives have made an internship in a large enterprise, compared with 63% of children of workers or clerks, 25% were an association presidents or club in school against 3%, and 60% chose their last year specialisation in relation with their career plan against 37%.

2. French Graduates competencies: a comparison between Grandes Écoles and Universities

The objective of this second part is to question from an empirical point of view the pedagogical model of *Grandes Écoles.* Today, could we attest that the benefit of *Grandes Écoles* is based on better training than at the University? Have graduates of these higher schools acquired more competencies in accordance with the needs of the labour market? Are these skills linked to education in schools or linked to the whole social or school trajectory of graduates having studied in *Grandes Écoles*? It is then the matter to specifically examine determinants of competencies in the academic path of the individuals. To answer these various questions, we will focus on the concept of competencies. Early research on human capital economics usually overlooked this notion of skills, many economists have subsequently tried to reintroduce this concept (Hartog, 2001; Allen and van der Velden, 2001; Heijke, Meng and Ramaekers, 2003; Paul and Suleman, 2004…), joining work of sociologists, psychologists or educators. However, there is no consensus in the literature neither on the definition of competencies, nor on their measurement (Loo and Semeijn, 2004; Suleman, 2005). The approach privileged here is essentially empirical, based on the French sample of the European survey REFLEX that allows to compare the skills acquired by young people and required in their employment on a declarative basis (Allen and van der Velden, 2005a; Allen and van der Velden, 2008). This research is an extension of the CHEERS survey where the issue of the match between competencies acquired during training and competencies required in employment had already been investigated (Schomburg and Teichler, 2006). In the REFLEX survey, the definitions of these competencies involve the use of some other fairly synonymous terms such as 'ability', 'skill', 'knowledge', 'capacity', etc.

One of the limits of this self-assessment method is to leave space to individual subjectivity: it is not impossible that some individual skills measured are linked to social or cultural judgments or values promoted in *Grandes Écoles* in our case (Allen and van der Velden, 2005b). The interest of this type of method however is the possibility to compare competencies on large samples, which other methods based on job-analysis or on the « supervisor rating methods » can hardly do.

The French sample of the REFLEX survey deals with 1,659 higher education graduates. Approximately 30% of graduates surveyed have a bachelor degree (*licence*), 24% a intermediate degree (*maîtrise*), 17% a third university diploma master (*DEA* and *DESS*), 7% a diploma in engineering schools, 4% a diploma in business school, 7% have certificates of other specialized schools, the rest is distributed among programmes of lesser importance. We have selected a narrower subsample that will allow to compare in a relatively homogeneous field *Grandes Écoles* (business and engineer schools) graduates and University graduates at the same level and in the same field of education (*DEA, DESS*). In total, this subsample contains 335 graduates, including 178 business or engineers graduates (*Grandes Écoles)* of which 46% are women.[3]

2.1. A first outlook on the higher education to work transition

First, we can check if the professional success of *Grandes Écoles* graduates, observed in national surveys, are confirmed in the REFLEX survey. Different indicators of employability show their advantage over University graduates. Accessing faster to employment, graduates of *Grandes Écoles* are also access more often to permanent employment as first jobs (74% compared to 36% for *DEA* and *DESS* graduates). In 2005, 97% of business schools graduates and 92% of engineering schools graduates are employed on permanent contracts, while it is only the case for a little less than two out of three University graduates

The differences are also very marked in terms of compensation, for the first job as well as at the date of the survey, where University graduates have only partially made up the initial gap with *Grandes Écoles* graduates. Five years after obtaining a diploma, engineering graduates receive €500 and

[3] Some selective *Grandes Écoles* were only opened to women in 1970s.

business graduates €1,000, more than University graduates (*cf.* table 1). Nearly 84% of *Grandes Écoles* graduates are working as managers and professionals for 64% of University graduates.

Table 1. The Median Wages for Graduates (in euros)

Median wages	1st job	Job in 2005
Master *DEA*	1,383	2,040
Master *DESS*	1,814	2,537
Engineers schools	2,182	3,000
Business schools	2,300	3,400
Total	1,906	2,736

Source: REFLEX, IREDU.

Finally it is interesting to compare the matching of their training with their jobs. The REFLEX survey allows to assess it in a subjective way by asking former students on the most appropriate diploma for their current jobs. Overall, almost 90% of *Grandes Écoles* graduates indicate that their diploma is appropriate for their work, compared with 78% of University graduates.

2.2 Acquired and required competencies: the advantage to Grandes Écoles

The advantage of *Grandes Écoles,* observed in virtually all indicators of good professional insertion, could be linked to a better match between competencies held by individuals and skills required for their jobs. The REFLEX survey allows to examine the level of competencies and to compare it with skills required by the job, based on self-assessment by the graduate surveyed. The comparison between acquired and required levels then indicates the deficit or surplus of skills as perceived by the former students. For 19 competencies, the graduates were asked their intensity of acquisition and then the level required in the current job using a Likert scale (from 1 -very low level- to 7 -very high level). These skills were the following: Mastery of their own field or discipline, Knowledge of other fields or disciplines, Analytical thinking, Ability to rapidly acquire new knowledge, Ability to negotiate effectively, Ability to perform well under pressure, Alertness to new opportunities, Ability to coordinate activities, Ability to use time efficiently, Ability to work productively with others, Ability to mobilize the capacities of others, Ability to make their meaning clear to others, Ability to assert your authority, Ability to use computers and the internet, Ability to come up with new ideas and solutions, Willingness to question your own and others' ideas, Ability to present products, ideas or reports to an audience, Ability to write reports, memos or documents, Ability to write and speak in a foreign language.

First, the levels of the different competencies (*cf.* table 2) are higher for *Grandes Écoles* graduates (for 17 skills out of 19). Only, the computer and negotiation abilities intensities are slightly higher for University graduates. However, differences remain minimal for these two skills for which acquisition seems rather to follow two different logics. It is among the highest for 'computing', indicating a high overall level of attainment, largely above the level requested in employment for *Grandes Écoles* as well as for University graduates. It is however one of the lowest for 'negotiation', ability that seems too difficult to teach in a school context. Among the 17 other competencies, higher schools graduates declare a much higher attainment, particularly in 'ability to write and speak in a foreign language', or 'analytical thinking'. A Man-Whitney test rejects the assumption of equality of level for six of these skills acquisition: 'analytical thinking', 'ability to perform well under pressure', 'capacity to coordinate

activities', 'facility to work productively with others', 'aptitude to present products, ideas or reports to an audience' and ‘capability to write and speak in a foreign language'.

It is also interesting to compare respective skills deficits and surpluses of graduates for university and higher schools graduates to find out if their competencies are sufficient compared with what is required on the labour market. Table 2 shows 5 skill deficits for the latter whereas University graduates show deficits in 10 skills out of 19. In addition, 5 skills are in deficit for higher schools graduates and for university graduates but in greater proportions. It is generally difficult to acquire these competencies directly from studies: 'ability to negotiate effectively', 'aptitude to use time efficiently', 'capacity to assert your authority'. They are both relational and organizational. Among the surplus competencies for higher schools graduates, which are in deficit for University graduates, the most important are the 'ability to write reports, memos or documents', the 'analytical thinking', and the 'capacity to present ideas or reports to an audience'... It is also interesting that a competency which one would have thought to be the strong point of University graduates, the ability to master their discipline, shows a deficit for them. While employers require a higher level of acquisition for this skill from University graduates than for *Grandes Écoles*, its level of attainment appears higher among the latter.

2.3. Skills acquisition process

Our goal now is to focus on the acquisition of skills: how have the different graduates acquired competencies? Could one really observe a positive effect of the teaching of a *Grande École* in this process? Indeed, the acquisition of different abilities can be done in the school but also out of school. It can be linked directly to education within the framework of training, to work experience during internships for example or to jobs held during studies, whether connected or not to the field of study. It can also be related to the acquisition of other diploma in the course of training or stays abroad. They can finally be associated to experiences in the community environment and in responsibilities held in student organizations or other clubs. The REFLEX survey asks young graduates on these various experiences and allows to identifying their individual effect on the skills acquisition process. However, unlike the CHEERS survey, young people in REFLEX must assess their level of competencies at the moment of the investigation and not that of skills acquired in the education system. Their professional path since they left the education system and more recently, their current employment, enables them to acquire or develop these skills. That should be taken into account. To untangle the effects of these various factors, we estimated the level of each skill acquisition through probit models. The interest is to obtain the effect of these different elements 'all other things being equal' and assess whether the impact related to schooling in a higher school remains significant.

First, we estimated models without taking account of professional individual path variables and then including them. Other variables have also been integrated in the analysis as gender, to take into account possible underestimation of competencies acquired by women, underestimation that was observed for items in questions on their career. We also included the class of degrees to try to see if the level of excellence could influence the level of acquisition, which has been the case for only one competence (the 'ability to write documents'). We finally introduced the diploma of the father to try to take into account of socio-cultural bias in the self-assessment. The latter variable, always not significant, has been taken off in estimates presented in table 3.

We only present in the following tables the results where the *Grandes Écoles* effect on the level of skills acquisition remains statistically significant. These competencies are: 'ability in a foreign language', 'analytical thinking', 'mastery of their own field', 'aptitude to make their meaning clear to others', 'capacity to perform well under pressure', the latter being significant at the threshold of 10%. This seems consistent with the pedagogical model of *Grandes Écoles*: these skills may easily be acquired within a school context, with in addition, for the last competence, an effect related to time in preparatory class *(CPGE)* where students are often subjected to strong pressure. For these competencies, extra-school experiences appear to have had a relatively small impact. This nevertheless

varies depending on the type of skills. It seems relatively logical that the more academic skills, such as mastery of the discipline or analytical thinking, are related to education in school. One can also think that working under pressure is a real professional competence for a young manager or professional that can hardly be acquired in internships or extra-schools experiences. By contrast, language learning is a very different process. As might be expected, stays abroad during and after studies is always beneficial for the knowledge of foreign languages. But it is also the case for young people who were involved in clubs or student organizations. Similarly, young people who continued studies, in particular for a PhD, are also more likely to declare a high level of foreign languages skills.

Other estimates not presented in this contribution show also the effects of extra-school experiences on other skills acquisition process. In the case of 'ability to negotiate', for which graduates from *Grandes Écoles* as well as Universities indicate a lack of competence, having had, during studies, a professional activity disconnected from the field of studies, improves acquisition. This is also the case for 'alertness to new opportunities' for which the level of acquisition is higher among young people working during their studies but also for youth continuing in PhD. Furthermore, making a stay abroad during studies appears also as a very positive factor in the attainment of many skills, particularly relational competencies. These young people report a higher abilities 'to mobilize the capacities of others', 'to make their meaning clear to others', 'to coordinate activities', 'to assert their authority.' The effect of responsibility in associative or student organizations seems more ambiguous, sometimes negative, and sometimes positive. For example this is the case for the 'ability to affirm their authority'. This slightly significant result can be linked to the strong heterogeneity of the possible responsibilities in associative, cultural, sporting or political circles. As virtually all youth in our sample had internships, we introduced the number of months in internships. It is little significant except for the 'ability to coordinate activities' where it is attached to a strongly positive effect.

We finally reproduced the estimates (table 2) including variables related to the professional history of young people: number of jobs, total number of months in employment since the end of their studies and continuing training declared (adaptation training to the first job or training during the last 12 months of employment) and the elements related to their current jobs (profession and activity sector). Overall, the effect of the *Grandes Écoles* variable remains always significant at the threshold of 5% for three skills: 'analytical thinking', 'ability in a foreign language', 'capacity to perform well under pressure'. As could be expected, the characteristics of employment at the moment of the survey and the sector of activity have an effect on the level of some skills. The higher the employment position, the most the acquisition of some competencies is favoured. However it is not the case for all skills: attainment in 'analytical thinking' seems to come only from variables related to schooling. Finally, professional path variables have virtually no impact on the process of acquisition of competencies, which can be explained by the very aggregated character of these variables.

Conclusion

This contribution was aimed at examining if the privileged position of *Grandes Écoles* on the French labour market could be linked to training and, in particular, knowledge acquired in these courses. The REFLEX survey data allows to test this hypothesis for a sample of French graduates from *Grandes Écoles* and University master programmes. Our results show that actually some useful skills on the labour market are more easily acquired in *Grandes Écoles*. This is the case in particular of 'analytical thinking' or 'ability to command a foreign language', domains on which *Grandes Écoles* have heavily focused their curriculum in the 1990s. We show however that the competencies acquisition process is not unique and that professional or extra-school experiences during studies can have positive effects on the attainment of skills.

Table 2. Acquired and required competencies

	Acquired competencies				Required competencies				*Grandes Ecoles*	Universities	
Competencies	Mean *Grandes Ecoles*	*Standard deviance*	Mean University	*Standard deviance*	Mean *Grandes Ecoles*	*Standard deviance*	Mean University	*Standard deviance*	Difference (acquired-required)	Difference (acquired-required)	Gap school/ university
Ability to write and speak in a foreign language	5,07	*1,609*	4,16	*1,551*	4,1	*2,206*	3,89	*2,288*	0,97	0,27	0,7
Ability to use computers and the internet	6,09	*1,074*	6,15	*0,84*	5,28	*1,41*	5,67	*1,222*	0,81	0,48	0,33
ability to rapidly acquire new knowledge	5,72	*0,983*	5,61	*0,971*	5,04	*1,343*	5,4	*1,325*	0,68	0,21	0,47
alertness to new opportunities	4,5	*1,324*	4,31	*1,44*	3,89	*1,573*	4,25	*1,925*	0,61	0,06	0,55
knowledge of other fields or disciplines	4,57	*1,099*	4,38	*1,135*	4,01	*1,351*	4,22	*1,458*	0,56	0,16	0,4
willingness to question their own and others' ideas	5,16	*1,013*	5,01	*1,08*	4,67	*1,377*	4,9	*1,455*	0,49	0,11	0,38
ability to write reports, memos or documents	5,41	*1,124*	5,23	*1,141*	4,98	*1,373*	5,53	*1,388*	**0,43**	**-0,3**	0,73
analytical thinking	5,7	*0,928*	5,44	*0,905*	5,31	*1,242*	5,52	*1,175*	**0,39**	**-0,08**	0,47
ability to present products, reports to an audience	5,06	*1,267*	4,67	*1,377*	4,76	*1,528*	4,9	*1,718*	**0,3**	**-0,23**	0,53
ability to come up with new ideas and solutions	5,24	*1,122*	5,16	*1,017*	5	*1,274*	5,12	*1,413*	0,24	0,04	0,2
ability to work with others	5,5	*0,964*	5,27	*1,073*	5,33	*1,399*	5,25	*1,535*	0,17	0,02	0,15
ability to perform well under pressure	5,55	*1,091*	5,26	*1,245*	5,4	*1,364*	5,51	*1,511*	0,15	-0,25	0,4
ability to coordinate activities	5,24	*1,111*	4,98	*1,224*	5,17	*1,342*	5,03	*1,626*	**0,07**	**-0,05**	0,12
mastery of their own field or discipline	5,22	*0,929*	5,06	*0,98*	5,17	*1,083*	5,32	*1,413*	**0,05**	**-0,26**	0,31
ability to mobilize the capacities of others	4,94	*1,191*	4,64	*1,253*	5,02	*1,473*	4,84	*1,812*	-0,08	-0,2	0,12

	Acquired competencies				Required competencies				*Grandes Ecoles*	Universities	
Competencies	Mean *Grandes Ecoles*	*Standard deviance*	Mean University	*Standard deviance*	Mean *Grandes Ecoles*	*Standard deviance*	Mean University	*Standard deviance*	Difference (acquired-required)	Difference (acquired-required)	Gap school/ university
ability to make their meaning clear to others	5,32	*1,075*	5,23	*1,119*	5,44	*1,001*	5,56	*1,257*	-0,12	-0,33	0,21
ability to use time efficiently	5,33	*1,098*	5,11	*1,27*	5,51	*1,071*	5,61	*1,242*	-0,18	-0,5	0,32
ability to assert their authority	4,35	*1,169*	4,26	*1,519*	4,54	*1,471*	4,66	*1,85*	-0,19	-0,4	0,21
ability to negotiate effectively	4,09	*1,37*	4,21	*1,443*	4,31	*1,762*	4,52	*1,88*	-0,22	-0,31	0,09

Source: REFLEX, IREDU.

Table 3. The effects of Grandes Ecoles

	Ability to write and speak in a foreign language			Analytical thinking			Ability to perform well under pressure			Mastery of their own field or discipline			Ability to make their meaning clear to others		
	Coef,	Std, Err,	z	Coef,	Std, Err,	z	Coef,	Std, Err,	z	Coef,	Std, Err,	z	Coef,	Std, Err,	z
Grandes Ecoles	0,55	0,16	3,38	0,42	0,17	2,52	0,29	0,16	1,77	0,40	0,17	2,39	0,34	0,16	2,09
Sex Man	0,13	0,12	1,04	0,04	0,13	0,33	-0,08	0,12	-0,63	0,14	0,13	1,15	-0,25	0,12	2,07
Field of Study (ref. science) Business	0,22	0,15	1,46	0,31	0,15	2,02	0,28	0,15	1,86	0,10	0,15	0,68	0,13	0,15	0,90
Engineering	0,35	0,18	1,95	0,22	0,18	1,22	-0,09	0,18	-0,52	0,17	0,18	0,92	0,19	0,18	1,05
Final Average grade	0,12	0,14	0,87	0,03	0,15	0,17	0,07	0,15	0,45	0,12	0,15	0,81	0,22	0,14	1,49
Internship (number of months)	0,01	0,01	1,07	0,00	0,01	-0,21	0,00	0,01	-0,16	0,00	0,01	0,27	-0,01	0,01	1,14
Spending time abroad during higher education	0,24	0,13	1,80	0,01	0,13	0,08	-0,06	0,13	-0,46	-0,23	0,13	-1,69	-0,04	0,13	-0,3
Spending time abroad since graduation	0,38	0,17	2,23	0,06	0,17	0,33	0,25	0,17	1,46	0,07	0,17	0,42	0,37	0,17	2,13
study-related work experience during studies	-0,20	0,15	-1,32	-0,03	0,16	-0,16	-0,09	0,15	-0,58	0,03	0,15	0,20	0,01	0,15	0,11
non study-related work experience	-0,12	0,12	-0,97	-0,02	0,12	-0,18	0,12	0,12	1,02	-0,19	0,12	-1,56	0,07	0,12	0,62
Other degree PhD	0,52	0,30	1,74	0,30	0,31	0,99	0,28	0,30	0,93	0,49	0,31	1,59	0,18	0,30	0,61
Other Master Degree	0,33	0,20	1,68	0,05	0,20	0,23	0,14	0,20	0,73	-0,05	0,20	-0,24	-0,30	0,19	1,53
Position in student or other voluntary organizations	0,28	0,13	2,15	-0,19	0,13	-1,46	-0,22	0,13	-1,70	-0,19	0,13	-1,45	-0,15	0,12	1,18
/cut1	-1,21	0,25		-2,04	0,30		-2,49	0,33		-2,33	0,33		-2,36	0,25	
/cut2	-0,45	0,23		-0,80	0,23		-1,99	0,27		-1,57	0,25		-1,42	0,23	
/cut3	-0,04	0,22		0,09	0,23		-1,50	0,24		-0,57	0,23		-0,86	0,22	
/cut4	0,63	0,22		1,37	0,24		-0,76	0,23		0,57	0,23		0,17	0,22	
/cut5	1,23	0,23					0,11	0,22		1,79	0,24		1,23	0,23	
/cut6	2,01	0,24					0,98	0,23							
Log likelihood	-544.85 ***			-408.04			-476.60			-421.8			-455.2		

References

Abdessemed T. (1998), Cas Écoles de Management. Cas et note pédagogique, Conférence Internationale de Management Stratégique, Louvain-la-Neuve.

Abdessemed T. (2007), Le modèle « grande école » dans la compétition mondiale, *Revue française de gestion,* 2007/9, n°178-179, 157-172.

Adangnikou N. (2007), Une évaluation de l'efficacité de l'enseignement supérieur français : le cas des classes préparatoires scientifiques, Thèse, Université de Bourgogne.

Albouy V., Wanecq T. (2003), Les inégalités sociales d'accès aux grandes écoles, *Économie et Statistique*, n° 361, 2003, 27-520.

Allen J., van der Velden R. (2005), The Flexible Professional in the Knowledge Society: Conceptual Framework of the REFLEX Project, REFLEX Working paper 1, Maastricht: ROA.

Allen J., van der Velden R. (2005), The Role of Self-Assessment in Measuring Skills, REFLEX Working paper 2, Maastricht: ROA.

Allen J., van der Velden R. (eds.) (forthcoming), *The Flexible Professional in the Knowledge Society: General Results of the* REFLEX *Project*, Maastricht: ROA.

Arrow, K. J. (1973), Higher Education as Filter, *Journal of Public Economics*, Vol 2, 193-216.

Bouffartigue P., Gadea C. (1997), Les ingénieurs français. Dynamiques récentes et spécificité française d'un groupe professionnel, *Revue française de sociologie*, Vol. 38, No. 2, 301-326.

Bourdieu P. (1989), *La noblesse d'État. Grandes écoles et esprit de corps*, Paris, Éditions de Minuit.

Bowles, S. and Gintis, H. (1976), *Schooling in Capitalist America*, New York: Basic Books.

Giret J.-F., Molinari-Périer M, Moullet S. (2006), 2001-2004 : Les sortants de l'enseignement supérieur face au marché du travail, *Note Emploi Formation* n°21, Céreq.

Giret J-F., Guégnard C., Paul J.J. (2008), Gender and skill promotion on European labour Markets, International Comparisons, *Education & Formations*, n°78, November.

Godelier N. (2005), Les élites managériales entre logiques nationales endogènes et globalisation exogène, *Entreprises et histoire*, n° 41, 6-14.

Guégnard C., Calmand J., Giret J-F., Paul J-J. (2008), Recognition of Higher Education Graduates' Competences on European Labour Markets, *Training and Employment*, n° 83, Céreq, November-December.

Hartog J. (2000), Overeducation and earnings, where are we, where should we go?, *Economics of Education* review, 19, 131-147.

Hawawini G. (2005), The Future of Business Schools, *Journal of Management Development*, vol. 24, n° 9, 770-782.

Heijke H., Meng C., Ramaekers G. (2003), An investigation into the role of human capital competences and their pay-off, *Research Memoranda 001.*

Lazuech, G. (1998), *Le processus d'internationalisation des grandes écoles françaises*, Actes de la recherche en sciences sociales, n° 121-122.

Lazuech G., (2000), Recruter, être recrutable. L'insertion professionnelle des jeunes diplômés d'écoles de commerce et d'ingénieurs, *Formation Emploi*, n°69.

Loo J. & Semeijn (2004), *Defining and Measuring Competences : an application to Graduate surveys*, Quality and Quantity, vol 38, Humanities, Social Sciences and Law, Springer Netherlands.

Magnac T., Thesmar D. (2002) Analyse économique des politiques éducatives: l'augmentation de la scolarisation en France de 1982 à 1993, n°65, *Annales d'Economie et Statistiques*, 1-34.

Paul J-J. (2007), *Économie de l'Éducation*, Armand Collin.

Paul J-J., Murdoch J. (2000). Higher Education and Graduate Employment in France, *European Journal of Education*, 35, 2, 179-187.

Paul J-J., Suleman F. (2004), Rewarding human capital and competencies: an analysis of the banking sector in Portugal, SPIE (Sociedade Portuguesa de Investigaçao em Economia), Lisbonne, 15p.

Romainville M. (2000), *Echec dans l'université de masse*, collection Éditions et formation, Éditions l'Harmattan, Paris.

Schomburg H. & Teichler, U. (2006), *Higher Education and Graduate employment in Europe*. Springer.

Suleman F., Paul J-J. (2005), La production des compétences et les règles salariales : contribution à la compréhension des transformations de la relation salariale, *Économies et Sociétés*, n°9, tome XXXIX.