

Center of Equitable Growth Fellowship Application

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This application outlines two projects, the first one is *Should I Stay or Should I Go? The Migration Patterns of High Skilled Workers*. and the second one is *Meritocratic Dynasties: Evidence From Exam Results of Descendants of the French Nobility*.

1. Should I Stay or Should I Go? The Migration Patterns of High Skilled Workers.

Summary: This paper provides new series on the international migration of high skilled workers educated in France from 1944 to 2012 using alumni databases of graduates from leading French post-secondary institutions. The proportion of high skilled individuals working in France has been steadily decreasing from 1944 to 2004. Recent years have seen an increase in the percentage of graduates remaining in France.

Policy Relevance: The migration patterns of highly educated and highly skilled workers can have large effects on the economy. Modern theories of endogenous growth emphasize the importance of highly skilled workers and the consequences of their migration patterns on growth.¹ In addition, highly skilled individuals can be costly to educate, implying that migration can lead to high burdens for the origin country with no substantial benefits. This is particularly true for most of the European countries where education is provided for free both in high school and in college. Migration is also of policy importance: if workers are relatively mobile, they are likely to leave for countries that offer them the best economic environment.

There is however little empirical evidence on the migration patterns of highly skilled workers originating from developed countries. This lack of evidence is especially surprising given the interest of policy makers and the general public in this issue. Indeed, one of the main arguments against raising taxes is based on the idea that it will lead high skilled individuals to flee to other states or countries with lower tax rates. Newspaper articles tend to adopt polarized views on the topic, some claiming that this is a well known and prevalent phenomenon² and

¹See for example Lucas (1998), Bhagwati and Hamada (1974), Piketty (1997) or Haque and Kim (1995).

²See *Sorry New York Times, Tax Flight of the Rich Is Not a Myth* in Forbes.

some arguing the opposite.³ This issue has also been the subject of tumultuous public debates and has led to a plethora of newspaper articles documenting instances in which high skilled individuals leave their countries of origin because of heavy bureaucracy,⁴ lack of funding due to budget cuts,⁵ low salaries,⁶ etc.

Except for anecdotal evidence, little is known about the emigration patterns of high skilled individuals from their countries of origin. This is mostly due to the lack of data that can be used to track the locations of individuals over time. Past research has relied on survey evidence⁷ or focused exclusively on immigration for which it is easier to obtain data using work visa or permanent residence applications.. In this paper, I use a novel and unique dataset to study the migration of high skilled individuals: alumni databases of graduates from leading post-secondary institutions in France. This dataset has the advantage of being updated yearly and is used by the vast majority of alumni implying very low attrition rates and high precision.

The series show a steady decline in the proportion of individuals living in France from a high of 95% in 1944 to a low of 66% in 2004. The trend has been increasing ever since 2004, reaching 75% in the most recent year. This recent increase is to be contrasted with the national debate in France arguing that high skilled individuals are fleeing the country because of high taxes and bleak economic prospects. The Great Recession had no significant effect on this steady increase of individuals deciding to remain in France possibly because graduates of these schools can easily find jobs even in times of recession.⁸

2. Meritocratic Dynasties: Evidence From Exam Results of Descendants of the French Nobility

Summary: Using a novel dataset, this paper shows that descendants of former French nobility are significantly more likely to score higher on entrance exams to top French universities. Because nobility has been abolished in France in 1870, this result is not due to these individuals benefiting from a higher status. Moreover, entrance exams are anonymous ruling out any effects due to graders being more lenient towards former nobility. Top French universities are highly selective (less than 3% acceptance rate). The majority of French presidents, top French researchers and CEOs are alumni of these universities. The average wage of graduates of top universities are significantly higher than the average wages of graduates of other universities. This result implies that one reason for the prevalence of inequality is the transmission of human capital. Because most of nobility titles were established in the

³See *The Myth of the Rich Who Flee From Taxes* in the New York Times.

⁴See *Au Revoir, Entrepreneurs* in the New York Times.

⁵*America's Top Young Scientists Warn of Systemic Brain Drain: Colleagues 'Sort of Disappear'* in the Huffington Post.

⁶See *French Professor Finds Life In U.S. Hard to Resist* in the New York Times.

⁷Which suffers from large attrition rates likely to bias the results.

⁸Statistics issued by these schools claim that 98% of graduates find a job within 3 months of graduation.

16th century, human capital transmission is highly persistent.

Policy Relevance: Individuals who have access to better education face less unemployment, tend to get better jobs and earn higher wages. Equal access to education can enhance social mobility by increasing the chances of poorer individuals to fare better. This is why governments aim at reducing the barriers to access to better education. This is done by subsidizing education for poorer individuals or implementing affirmative action. The rationale is that if poorer individuals can gain access to better education, they should be able to have the same opportunities as richer individuals.

The French education system is built upon this same idea. Education is considered as a basic good that every individual should be endowed with. The government provides free primary and secondary education, that is considered to be high quality⁹. Higher education is also free and of very high quality: leading French institutions are all public.

The French higher education system is two-tiered. There is a distinction between the so called *Universités* and *Grandes Ecoles*. Access to *Universités* is universal, anyone is able to attend a *Université* conditional on graduating from High School. Access to *Grandes Ecoles* however is regulated solely by an entrance exam. Graduates of *Grandes Ecoles* are considered by most as being the elites of the nation with most French Presidents, Politicians, CEOs and top researchers¹⁰ graduating from *Grandes Ecoles*. Because the entrance exam is open to everyone and is not based on ones high school grades, letter of recommendations or origins it is thought as being an example of meritocracy. All candidates in France take an anonymous standardized exam that is graded by an anonymous jury. Candidates are then ranked and only the highest ones are offered admission to the *Grandes Ecoles*.

Because the entrance exam is anonymous, one's last names should not any effect on whether one is ranked higher on this exam. Unless one's last names is correlated with better test taking abilities because of human capital transmission. The goal of this paper is to precisely test this assumption.

Prior to 1789, the French society was two-tiered with some individuals having a special status called *Noble*. *Nobles* were more likely to be land owner, would receive taxes from individuals living on their land, were exempted from some other taxes and had easier access to education. *Nobility* can be identified by comparing one's last name against a registry.¹¹ Nobility was also hereditary. By 1789 *Nobles* lost most of their advantages and in 1870, they lost their status. However, noble last names were still transmitted through generations. There are records identifying noble names. The proportion of such names in the French population is

⁹On average, there is one teacher for every 16 students. Among the best 20 high schools in Paris in 2014, 6 are public (see <http://www.lexpress.fr/palmares/lycees/75.html>)

¹⁰For example, all French born recipients of the John Bates Clark Medal graduated from a *Grande Ecole*

¹¹Louis XIV asked Colbert to start recording noble names in the 17th century.

estimated to be 0.2%.¹².

Grandes Ecoles keep a database of their alumni since the 1930's. This database includes the universe of alumni for each one of these schools and provides their names, work and professional address as well as their year of graduation. Using such database I can assess the proportion of Noble names in the population of *Grande Ecole* alumni and compare it to the proportion of Noble names in the French population. If this percentage is higher in the population of alumni, this would imply that having a noble name gives an advantage in gaining entrance to a *Grande Ecole* even though entrance exams are anonymous.

The proportion of Noble names within alumni of *Grandes Ecoles* is substantially higher than in the overall French population and it does not decline over time. Within the leading engineering *Grande Ecole* - Ecole Polytechnique - the proportion of noble names is ten times higher than in the French population.

There is a growing literature¹³ that explores the over representation of individuals with names that can be traced to higher social classes. Gregory Clarke - in a series of papers¹⁴ and in a book¹⁵ - shows in different settings and different countries that individuals who have an ancestor who belonged to a higher status are more likely to have higher earnings, be doctors or lawyers or gain access to Oxford or Cambridge. As Clarke points out, entrance exams to Law or Medical School or to Oxford and Cambridge are not anonymized and it is conceivable that admission could be biased towards individuals who are descendants of lawyers or doctors. The contribution of my paper to this literature is to show that this effect is strong and persistent even when names are anonymous and no information about one's social status is accessible. Moreover, because the entrance exam to *Grandes Ecoles* does not require any particular knowledge of engineering or business and is solely based on one's ability to perform in classical disciplines - such as Mathematics, Physics, Literature etc. - this effect is not due either to some transmission of insider information. By showing that applicants of noble descent score higher in standardized and anonymized entrance exams, the results of this paper imply that there is a strong and persistent transmission of human capital from individuals of higher status and wealth to their descendants even after centuries. This result is especially striking given that France provides high quality public education, which implies that the over representation of noble descendants in *Grandes Ecoles* is not due to their higher levels of wealth and is consistent with the idea that they are more likely to succeed academically than individuals who are not descendants of the French nobility.

The results of this paper imply that human capital transmission is very persistent and calls

¹²See Valette (2007)

¹³See for example Güell et al. (2007), Collado et al. (2012), Pellizzari et al. (2011), Olivetti and Paserman (2013), Paik (2014), Peña (2013) and Collado et al. (2008)

¹⁴See Clark and Cummins (2014a), Clark and Cummins (2014b), Clark and Landes (2012), Clark and Ishii (2012) and Hao and Clark (2012)

¹⁵Clark (2014)

for government intervention to correct unequal access to education often decided before one's birth. The persistence of human capital transmission is likely to widen unequal access to education and inequalities in general. Government intervention could involve college subsidies and affirmative action targeted to individuals whose social classes are under-represented in higher education. In France, these individuals would be second, third or even fourth generation immigrants. In the US, subsidies would be targeted to minorities.

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