

# Elite Education Abroad and Social Reproduction

Martin D. Munk<sup>♣</sup>, Panu Poutvaara<sup>♠</sup> and Mette Foged<sup>♦</sup>

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We study how social origin affects the likelihood of obtaining university education, with focus on foreign elite and non-elite education. Having highly educated parents increases the likelihood of obtaining university education both at home and abroad. Our survey data on Danes who have emigrated for at least five years indicates that the parental background plays the biggest role in the choice to obtain elite education abroad. The distribution of parental education among those who obtain non-elite education abroad does not differ much from the distribution among those obtaining university education in Denmark. We suggest that the acquisition of distinctive educational capital abroad should be seen as a new investment and reproduction strategy, to be studied at the intersection of stratification and migration literature. Father's education plays a bigger role for men while mother's education plays a bigger role for women, especially among women going for elite education. When we asked respondents why they studied abroad, especially men highlighted academic level and prestige. For one third of women, partner was an important consideration. Together, the United Kingdom and the United States attract 60 to 70 percent of Danes studying in elite universities, and 50 to 60 percent of Danes studying at non-elite universities.

♣ Prof. Sociology, Centre for Mobility Research, Aalborg University – Copenhagen, Email: [mdm@dps.aau.dk](mailto:mdm@dps.aau.dk)

♠ Prof. Economics, University of Munich and Ifo Institute for Economic Research, Research Fellow at CESifo and IZA. Address: Ifo Institute for Economic Research, Poschingerstr. 5, 81679 Munich, Germany. Email: [poutvaara@ifo.de](mailto:poutvaara@ifo.de)

♦ PhD student, Department of Economics, University of Copenhagen, and Research Associate at Centre for Mobility Research, Email: [mette.foged@econ.ku.dk](mailto:mette.foged@econ.ku.dk)

## 1 INTRODUCTION

Transnational investment in elite education abroad has become increasingly attractive, thanks to globalization. Some may view their future labor market as global or hope to bring distinctive education home. Better language skills and multicultural skills mean that the costs of obtaining education abroad have decreased. High-skilled labor markets are increasingly international, making international elite education a natural choice for many talented young people, presumably both recruited from privileged and less privileged groups, but more so from the first group. Obtaining an education from a renowned university enhances the chances of an international academic career. Also intellectual challenges in elite universities attract many academically minded students. High-skilled and talented migrants are then via universities abroad attracted by companies and research institutions outside their country of origin to optimize innovation, knowledge creation, productivity, interests and aims of these institutions (Hunt and Gauthier-Loiselle 2010; Stuen et al. 2010; see also Reich, 1991). The idea is that these two systems are interconnected and therefore provides educational pathways for the formation of a new transnational elite rather than a traditional reproduction of class privilege. In that sense is nations like the United States, the United Kingdom, and France part of what Collins (2001) termed zones of prestige which in turn contributes to the creation of a transnational class (Sassen 2001; Sklair 2001; Weenink 2008; Brown and Lauder 2009). Cultural and social reproduction strategies are not any longer limited by national states but are both operating across the borders. Therefore, we assume that especially individuals from affluent and socially privileged families are attracted to the Zones of Prestige

In this paper, we investigate out-migration for higher education by a group of Danes who have lived abroad for at least five years and have earned a degree from a university during the period of 1987-2002, and also a job abroad, using both survey and register data. We ask: who leaves and stays abroad for university studies (and later jobs) and why are individuals mostly attracted to zones of prestige, which includes renowned US and UK universities. There is ample evidence of the effect of family background on the likelihood of obtaining higher education in domestic universities, but does social origin also increase the probability of attaining higher education abroad? To answer this question we examine how family background affects the likelihood of obtaining a degree from an elite or non-elite university in transnational environments, using university ranking lists, compared with the likelihood of obtaining university education at home. We also asked respondents about their motivations to study abroad and their university studies abroad. This allows exploring how important different potential explanations are for investment in degrees abroad, especially from renowned universities.

If this transnational tendency is true we assume that these groups will contribute to new forms of stratification implying other pathways of intergenerational transmissions of capital and social reproduction of higher education. When reviewing the literature on educational stratification and attainment, and literature about global higher education and migration, we find very few studies that link the two areas of research (e.g. Munk, 2009). This comes not as a surprise since the vast majority of

existing social stratification literature was developed at a time when few people left their nations for education, so our contribution is to broaden out the literature. The literature on migration with focus on higher education is characterized by an interest in what motivates students to spend time abroad to accomplish an education but this theme is often not addressed in relation to social origin or more broadly to stratification issues. Some other migration studies have focused on the importance of social network on out-migration.

Most studies in educational stratification related to higher education have been dealing with patterns and intergenerational correlations inside nation states since most students stayed at home but many of them have a strong tradition for comparative studies (Shavit et. al 2007; Espenhade 2010; Meyer; others). However, these studies of stratification, and also theories of social reproduction, are for the most part developed at a time when the key terms in theories of reproduction—education, social class, capitalism and nationalism—were all relatively stable (Brown and Lauder 2009). A central contribution in this area of research is the theory of social reproduction by Bourdieu who developed his theories in a national context focusing on distinct *Grandes Ecoles*, elite schools on the top of the French university hierarchy, with a very strong socially unequal access in spite of some changes for cohorts born between 1939-1958 (Alboury and Wanecq 2003, Table 2). However, Bourdieu did not list emigration strategies, or in particular acquisition of distinctive education abroad among various strategies of social reproduction (Bourdieu 1996: 272; 1998). We propose to list this type of strategy. Both economic and sociological approaches suggest that children from more advantaged origins would invest more in international education, especially distinctive elite education, due to their superior resources. As a consequence they would primarily go to the zones of prestige in order to distinguish themselves and maximize their opportunities, either globally or at home. Parents having studied or worked abroad can be expected to lower the investment costs in both approaches.

Migration to study abroad is not totally a new phenomenon, since in particular privileged actors from small nations of Europe, where people are polyglot, did that in the past too, but young people from a large number of countries directs their energy towards investments in educational capital, or more broadly cosmopolitan capital, outside their home country (Johnson, Teuscher, Sabean, and Trivellato, 2011). For (some) groups the local hierarchies of prestige matter less than whether your kids go to prestigious colleges like Chicago or Oxford implying that selected people are likely to make the same “distinctions” with similar tastes, and therefore attracted to same zones of prestige.

The migrants we are investigating are obviously oriented towards first gaining cultural capital at universities abroad contributing to cultural reproduction and possible social reproduction. Presumably personal strategies and reproduction strategies goes hand in hand and there need not be a conflict between a personal strategy and social reproduction strategies. Individuals may choose as they do because they have been influenced by parental lifestyle, attitudes, values and views through their childhood (Aschaffenburg & Maas (1997); Björklund et al. 2010; Heckman 2008; see also Smeeding et al. 2011). Social reproduction strategies may work directly or indirectly (Jonsson 1993; others). Some

individuals can be prone to study abroad because they have been exposed to international environments while growing up, have good language skills and an international circle of friends (Palloni et al 2001; more).

From an economic perspective, we follow Gary Becker's notion of human capital is used to refer to all those investments that are not separable from people in whom they are made, like education, training, health and values (Becker 1993). Early education and values that parents transmit affect both costs of and returns to subsequent investments in human capital. Having more financial resources available allows also bigger investments in human capital. Following Bourdieu, the term cultural capital is applied to refer to various forms of knowledge, dispositions, and advantages that give social recognition (Bourdieu 1984). Through a modification of the concept of cultural capital towards a concept of global cultural capital, or cosmopolitan capital, it is possible to underline that various dimensions of cultural capital is only valid and bounded to a specific context or field. From the perspective of cultural capital, gaining a university degree abroad comes to function as a social reproduction strategy. This is especially the case for those who have been abroad with their parents: one can say that they have accumulated cosmopolitan capital, by gaining experience from living abroad, and interacting with people of other nationalities, so the choice of a university program abroad becomes probably quite natural to them.

Cosmopolitan capital was recently introduced by Don Weenink to address that some parents are passing on an inclination or disposition to engage in globalizing social arenas and to struggle for privileged positions, and also comprises bodily and mental predispositions and competencies (*savoir faire*) helping to engage confidently in such arenas (Weenink 2008: 1092). Accordingly, cosmopolitan capital is an extension of cultural capital because of the global aspect of it, and includes also elements of social capital. Having predispositions involved in the definition imply that cosmopolitan capital both resembles cultural capital, and *habitus*, a durably installed generative principle of regulated improvisations, characterized by a set schemata, sensibilities, dispositions and taste. Therefore we suggest that the propensity or disposition towards transnational investments should be labeled as cosmopolitan *habitus*. The international mindset of some parents, understood as an international inclination or ambition, could in our view fruitfully be termed as the expression of a cosmopolitan *habitus*. We find the concept of the cosmopolitan *habitus* particularly well-suited to describe a distinctive globally-minded *habitus*<sup>1</sup> with a preference for gaining cosmopolitan capital. How does this show up? Brooks & Waters (2010) find little evidence of a direct strategic familial influence in relation to decisions to pursue an overseas higher education, but they suggest that the influence of parents is implicit still leading to a social reproduction of advantage because of an ongoing "development of a

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<sup>1</sup> As the term cosmopolitanism (as defined by Beck and some other reference) is precisely connected with a certain set of pro-global cultural value orientations.

habitus in which it is considered ‘normal’ to travel, and an associated degree of confidence in dealing with new cultures” (2010:148).

We set up five scenarios to interpret investments strategies in distinctive education abroad and to explain and understand people’s endeavor to obtain a degree abroad.

**SC 1** One scenario is constituted by a tradition in internationally-minded families, who take advantage of educational opportunities abroad. Children from the most privileged social classes have always approached foreign countries and regions to acquire the necessary formation, skills, qualifications and knowledge required to maintain the position of the family in the home country or maybe even transnational positions (Johnson, Teuscher, Sabean, and Trivellato, 2011). In that sense traditions are latently prescribing that the new generations of the privileged classes have to go abroad to uphold the social status. So the aim of studying abroad is not only to obtain valuable knowledge and attractive jobs but also to gain a symbolic value or status needed to maintain and carry out the family position. [Wiers-Jenssen (2003) showed that students’ motivations differ by subject field and they emphasize the social, personal, linguistic and cultural rewards they acquire in addition to professional skills and they expect that future employers will share their views on the advantages of study abroad]. At the same time, children in these families may be prone to migrate because their parents migrated as well and therefore have stronger dispositions for out-migration.

**SC2** The second scenario is that children from socioeconomically advantaged families obtain elite education abroad, because increased enrollment and wider participation in national universities have reduced the social advantage that national education provides (Thurow 1972). For some time it has been known that educational mobility is larger in Denmark compared to US (McIntosh and Munk, 2007; and Belzil and Hansen 2003; see also Breen et al. 2009). In fact the ratio of unequal odds in terms of access to high school and higher education has been decreasing over the period 1985-2005. This trend force privileged groups to focus on the acquisition of educational capital in both a national social space (Goldthorpe, 1996; Wagner, 2007) and abroad as a new means of obtaining distinctive capital. Such a strategy is especially likely to be pursued by children from socioeconomically advantaged families. Under these new conditions, with an increasingly competitive environment, it is argued that middle-class students and their families have to find new ways to reproduce their social advantage through investments in overseas education (Brooks and Waters 2009:1086-1087). In other words we expect to find a cohort effect.

**SC3** A third scenario is that globalization has made investment in elite education abroad increasingly attractive. We hypothesize a global system of prestige and elite universities, beyond the national, using information on a ranking list of universities. In the study of Song (2010) it is shown that a growing transnational migration trend among Korean families brings heterogeneity to the Korean-American communities in the US in terms of educational practices and identity, including different strategies for their children’s language education. In King et al. (2011) they asked school leavers about their thoughts

and plans to study at university abroad. Quality of university and desire for adventure are the most important motivations. Decisions to apply abroad are strongly correlated to the academic results of pupils, to prior connections abroad and to a range of indicators of parental education, wealth and social class. Some contributions have pointed out a global field of higher education implying that top university education increasingly is sought by elite students from different parts of the world especially from Asian countries (see e.g. Kim 2011). Marginson (2008) has suggested that this global field is structured by “an opposition between the elite sub-field of restricted production, and the sub-field of large scale mass production” (page 305), which implies eleven different categories of higher education institutions. According to Docquier and Rapoport (2011:40) there is actually a brain drain from Europe to US. They find that six percent of British PhDs and 29 percent of British scientists live in the US. This pattern is even more pronounced for Ireland with 16 and 33 percent. For Germany and Italy, the proportions are respectively three and 17/18 percent, for Denmark they turn out to be five and nine percent, and finally for France three and eight percent are showing up. It means that United States has a strong appeal to scientists

**SC4** A fourth scenario is about social mobility. A group of internationally oriented students apply for college abroad, in order to climb up the social jobs ladder at either home or abroad. It could be that a group of already internationally oriented students apply for college abroad in order to convert earned educational capital into cosmopolitan capital which makes it possible to climb up the ladder either abroad or at home. Researchers have asked why it is relevant to invest in cosmopolitan capital, e.g.: it seems that upward social mobility rather than social reproduction is the driving force behind parents’ propensity to provide their children with cosmopolitan capital (Weenink 2008:1103, see also 2007:497). According to this way of reasoning is the choice of international programs more related to social ambitions than with social reproduction, probably effected by an increasingly cosmopolitan way of living. Studies of Favell et al. (2006/2008) state that mobile Europeans take more risky career decisions compared to those who stay at home. They suggest that, because of this level of risk, mobility is more likely to be pursued by ‘social spiralists’ than their peers from more privileged backgrounds implying that ‘elites’, who have opted to move internationally under present conditions of globalization, are often not from elite backgrounds but provincial, career-frustrated who have gambled with dramatic spatial mobility in their education and careers abroad to improve social mobility opportunities that are otherwise blocked at home (Brooks and Waters 2011). But after all some migrants actually experience social mobility (see also Favell and Recchi 2011)

**SC5A and SC5B** Finally, we hypothesize that there are two different groups in terms of motivations. It may be that elite-institutions abroad attract people from families with high levels of academic capital, whereas non-elite institutions abroad recruit from classes with high levels of economic capital (ref, B & W 2011). The latter group may view international education as a means of improving social positions, whereas the first group may view education at renowned universities as a necessity in order to get an academic career. Both economic considerations (international occupations) and prestige could play an important role. Parental experience with studies or work abroad could affect both trajectories.

Additionally, it could be the case that they share beforehand investments in education at home (ref). Local labor markets are not always adaptable towards credentials earned abroad and employers may lack concrete knowledge of other higher education systems and have strong assumptions that a national degree is of greater value than other international degrees (Wiers-Jenssen 2008). However, in our case we focus on a more global group of migrants.

[The rest of the paper is organized as follows. Sections 2 and 3 describe the data and the empirical methodologies employed. Section 4 provides descriptive statistics on Danes who obtain university education abroad. The econometric analyses carried out in section 5 investigates what factors explain the decision to obtain university education in Denmark, at non-elite institutions abroad or elite institutions abroad. Section 6 discusses the findings and relates them to the possible scenarios laid out above. The final section concludes.]

## 2 DATA

We answer the question using information about permanent emigrants from Denmark who have lived abroad for more than five years and who all graduated from a foreign program during the period of 1987-2002. Other studies have studied the topic by using non-representative data and they were not able to compare attainment within the nation with attainment outside the country.

This section describes our data sources, sample restrictions and how we measure international elite education. We use new survey data on Danish emigrants and return migrants and combine it with Danish population register data. Survey data include information on whether the respondent has obtained a degree abroad and if so then where. Register data allow us to construct proper comparison groups of Danes who do not go to universities and Danes who enroll in Danish universities.

### 2.1 Data collection

Survey data were collected mid 2008 by Martin D. Munk and Panu Poutvaara in the project “*Danes Abroad: Economic and Social Motivations for Emigration and Return Emigration*” together with Statistics Denmark (see Poutvaara, Munk and Junge 2009). The survey data contain Danish citizens who emigrated from Denmark in 1987, 1988, 1992, 1993, 1997, 1998, 2001 or 2002 and were between 18 and 59 when emigrating.

A major challenge in reaching Danes living abroad is that there are no data on their addresses in Danish registers. To get around this problem Statistics Denmark first contacted parents or siblings who were residing in Denmark. In the eight years selected for the survey 17,309 persons had emigrated and were not returned to Denmark by 2007.<sup>2</sup> Statistics Denmark found contact information on a relative in Denmark for 54 percent; 9,415 emigrants. Seven percent did not provide contact information on their emigrated relative. The major reasons for that were that the relative was not in contact with the emigrated person anymore or the relative refused to participate. That left a group of 8,749 emigrated Danes with available contact information; 7,225 e-mail addresses and 1,524 with only address or telephone number. Those with only address and telephone number were contacted and asked to provide their e-mail address. A final validation of the collected emails showed that 6984 emails were valid, and it was decided to contact only people on whom we had email-addresses. The data collection was carried out using a WEB-based questionnaire. After several tests, information on the final questionnaire was sent out to the 6984 emigrants in mid June 2008 followed by three rounds of reminders to those who had not answered. When data collection was closed 4,260 had answered the questionnaire. The questionnaire was rather long, and some respondents spent up to an hour replying. Nevertheless, the overall response rate was 67 percent, which is high compared to other WEB-based surveys

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<sup>2</sup> 17.605 persons in total, but 296 were selected for a pilot and therefore removed before proceeding with survey.



For returned migrants the sampling process was simpler. Based on the migration register the population of people who emigrated in the eight selected years was found, and it was investigated whether they were currently residing in Denmark. The return migrants were stratified into six groups: Up to 6 months, 6 to 12 months, 1 to 3 years, 3 to 5 years, 5 to 10 years and 10 or more years abroad. Since shorter migration spells make up the majority of migrations from Denmark it was decided to undersample short durations abroad such that they would not make up most of the final survey data. The applied sampling weights were 2, 4, 4, 12, 20 and 60 percent going from the group with the shortest to the longest duration abroad. The resulting selected population contained 5,700 return migrants. Contact information was obtained on 4,600. Data collection for return migrants started towards the end of September 2008. The 4,600 received a letter with information on the survey, WEB-address and password. Those who did not fill in the WEB-questionnaire were later contacted by phone, if that was possible. The interviews lasted on average 45 minutes. 70 percent of the 3065 replies were received through the internet. Like for the stayers, the response rate for returners was very high compared to similar surveys, 67 percent.

## 2.2. Combining survey and register data

After excluding emigrants to Greenland and the Faroe Islands, we have 4,126 respondents who had not returned to Denmark by 2007 and 2,597 respondents who had returned to Denmark by 2007. In total, 983 respondents have obtained a university degree abroad. Requiring that there are register data for respondents in the emigration year as well as references to parental identification numbers reduces the number of respondents with a university degree from abroad to 931. We restrict the analysis to people aged 18 to 39 at the time of emigration as almost all respondents who obtained a degree abroad belonged to this age group, 16 older respondents were deleted. Table 2.1 reports the number of respondents and how many of these have obtained a degree from abroad, according to the duration of stay abroad. The stayers have stayed abroad at least five years since the latest emigration cohort is 2002. We have chosen to use only the respondents who have been abroad at least five years. By imposing this restriction we avoid having to give very large weights to respondents with short durations. Such large weights would arise due to the initial undersampling of short stays. We end up with 829 people who have obtained a university education abroad. Thereof 768 were still abroad in 2007 and 61 had returned.<sup>3</sup>

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<sup>3</sup> Among returners who satisfy the sampling restrictions, but stayed abroad for less than 5 years, 86 had obtained a degree abroad. Therefore, our analysis that is restricted to stays longer than 5 years captures more than 90 percent of those who had a degree from abroad.

Table 2.1: Survey observations

Duration	Returners		Stayers		Total	
	Degree abroad	All	Degree abroad	All	Degree abroad	All
0 up to 6 month	4	112			4	112
6 up to 12 month	22	433			22	433
1 up to 3 years	22	429			22	429
3 up to 5 years	38	349			38	349
5 years or longer	61	507	768	3857	829	4364
Number of observations	147	1830	768	3857	915	5687

Source: Survey data

The same restrictions as applied to survey respondents were applied to the rest of register data to form a comparison group of those who studied in Danish universities, or did not study at universities at all. We use the population in Danish register data in the survey years who are 18 to 39 years old, have references to parental identification numbers, and are Danish citizens in the survey year. Given these restrictions no respondents were born before 1951, so the rest of the sample is restricted to people born after 1950 as well. For respondents we have information on their educational achievement mid 2008 in survey, for non-migrants we need corresponding information from register data in 2007 (the latest year available).

### 2.3 Measuring elite-education:

For all migrants who have obtained a degree abroad we have detailed information on the specific country, year, degree and university.<sup>4</sup> We have divided universities into elite and non-elite institutions using this information and international ranking lists. Although ranking lists are not objective measures of the best and most prestigious universities, they are likely to be indicative of the perception of the foreign universities held by Danish migrants. Some authors have lately argued that these lists are now dominating global university systems (Kauppi and Erkkilä 2011). The employed ranking lists are QS-Times Higher Education's Annual World University Ranking 2004 and Financial Times' Ranking of the best MBA schools in the world 2004.<sup>5</sup> QS-Times' ranking is based on academic peer reviews,

<sup>4</sup> Return migrants could only report this information for one degree from abroad. 10 out of the 61 return migrants have two or three degrees from abroad. Thus we lack information on one or two of their degrees. Four of them reported an elite education and six did not. In case some of these six had an unreported degree from an elite university, there would be a classification error for those. Given that they represent less than one percent of those with an education abroad, this would not affect any results.

<sup>5</sup> See ranking lists in Appendix A and B. Ideally we would have used the rank of the university at the time where the person decided to emigrate or emigrated, but since the ranking lists were not available further back in time and the majority of migrants got their degree relatively close to 2004, this is the best we can do. The ranking lists are relative stable over time thus we do not think this is a problem. As a robustness check we have done the analysis also with the stronger elite criteria, that the university needs to be at the lists both in 2004 and 2005 to be defined as elite.

citations per faculty, faculty student ratio, global employer review, international study ratio, and international faculty ratio in that order. An alternative would have been the Shanghai Ranking List which relies on the number of Nobel Price recipients among employed/students and the number of publications in broad journals like Science and Nature. Marginson and Wender (2007) state that both sets of rankings confirm the reputations of the leading American and British universities such as Harvard, Stanford, Yale, Berkeley, MIT, Cambridge, and Oxford.

### 3 METHODOLOGY

In the econometric analysis we compare Danes who have obtained a degree abroad to Danes with no university education and Danes who went to universities in Denmark. Respondents are made representative of migrants in the survey years by inverse probability weights, and survey data provides information on whether they have obtained a university degree abroad at the time when answering the survey. Educational achievement for non-migrants in 2007 is taken from Danish register data. In this way we are able to divide our population into four groups: No university education, university in Denmark only, non-elite university abroad and elite university abroad. This section explains the weighting scheme and multinomial logistic model with weighted data used to analyze the four distinct educational choices.

#### 3.1 Weighting scheme

The applied weights are inverse probabilities of being in the survey. In inverse probability weighted data (IPW data) parameter estimates are calculated based on the idea that each observation represents a number of individuals in the underlying population. The uncertainty arising when extracting general estimates from a selected subsample is accounted for by using robust estimates of the variance matrix.

The probability of being in the survey is estimated separately for men and women and returners and stayers to account for differences in response behavior and differences with respect to how the data were collected. The probability models are kept simple not to make the results too sensitive when small subgroups are analyzed. All models control for emigration year, age at emigration and country groups.<sup>6</sup> As explained in section 2, those who were still abroad were contacted through parents. We found significant selection on parental education level for this group and therefore chose to include parental education levels in the probability models with this group. Parental education was not significant for returned migrants which makes sense given the differences in how data were gathered. On the other hand, given that the migrants' education level is not controlled for in the simple probability models we use and education level is known to often play a role in response propensities, it is perhaps surprising that parental education does not become significant for returners as a proxy for the migrants own

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<sup>6</sup> English speaking countries, other Nordic countries, rest of Europe and rest of the world.

education level. Most of those who emigrate to study abroad are young people who have not completed education yet. Therefore we chose not to control for educational level. To account for different sampling weights in the two duration groups (5 to 10 years and 10 years or more), a duration group dummy were included in the probability models for returned migrants. This weighting scheme resulted in average weights on returners of 9.3 and average weights on stayers of 4.0 in the regression analysis. In other words, one returned respondent represents on average 9.3 emigrants, and one stayer 4 emigrants who stayed abroad.

### 3.2 Model

We set up a standard multinomial model with IPW data and calculate robust standard errors to account for the uncertainty introduced because those with education from abroad are represented by survey data. Our multinomial model has four possible outcomes: No university education, university in Denmark only, non-elite university abroad and elite university abroad. In order to obtain disjunctive groups we excluded everyone who emigrated in the survey years from the two first outcomes. Before the exclusion, migrants in survey years make up less than one percent of the restricted sample. Those who migrate and obtain a university degree abroad, represented by the respondents, are divided into the last two outcomes groups. Finally, we reduced the two outcome groups: no university education and university education from Denmark to a 0.5 percent random sample because these groups were extremely large given the fact that they came from population registers. Reducing group sizes only affects the intercept in probability models. No university education is taken as the reference category.

The reported model estimates are relative risk ratios (RRR), which is a generalization of odds ratios to multinomial models. All covariates are included as dummy variables. Thus, RRR is the ratio of relative probability of the outcome in question (compared to the reference outcome) when the dummy variable changes from zero to one. An RRR of 2.5 means that if the dummy variable equals one the likelihood of the outcome in question compared to the reference outcome is 2.5 times more likely than if the dummy variable equals zero. More generally, having an  $RRR < 1$  implies that the dummy variable in question reduces the likelihood of the outcome while  $RRR > 1$  implies a higher likelihood of the outcome, relative to the reference outcome of no university education.

## 4 DESCRIPTIVE STATISTICS

In this section, we present stylized facts on where Danes who have degrees from abroad have studied, why they studied abroad, instead of Denmark, and whether they had lived abroad with their parents. Furthermore, we report how many had friends or relatives before emigrating, and how big a fraction of their parents had lived or studied abroad. We measure cosmopolitan capital by respondents having lived abroad with their parents, parents having lived or studied abroad, and by whether parents spoke English. These items are related to those used by Weenink (2008). He measured parents' international behavior by frequency of business trips abroad, speaking and writing English at work, hosting foreign

guests at home, visiting foreign friends, and reading foreign books and newspapers. All our results are reported separately for men and women and elite education and non-elite education.

Table 4.1 presents top-10 countries for earning a degree abroad. Those who have studied in more than one country (five percent of the respondents with a degree) are counted for each country. Those who earned more than one degree in one country are counted only once for that country. The United Kingdom and the United States stand out as main destinations for both elite education and non-elite education, accounting together for two thirds of elite education and also the majority of non-elite education. Top-10 countries are counted based on all degrees; if the analysis was restricted to people with elite education, Belgium would drop out and Canada would be included into the list. Together, English-speaking countries (the United Kingdom, the United States, Australia, Canada, New Zealand and Ireland) account for 73 percent of men's and 74 percent of women's elite degrees and 60 percent of men's and 64 percent of women's non-elite degrees. When looking at universities in which the respondents studied London stood out: 14 percent of all respondents with a degree from abroad studied in London. This is more than twice the number of students going to France, Germany, Norway or Sweden.

Table 4.1: Main countries where Danes have earned degrees

Top 10	Men		Women		Total
	Non-elite	Elite	Non-elite	Elite	
United Kingdom	30,9	35,4	40,0	39,1	36,9
United States	24,2	31,3	19,7	26,8	24,0
France	7,2	4,8	7,4	2,2	6,0
Norway	7,7	3,4	5,1	7,2	5,8
Sweden	5,2	9,5	4,0	7,2	5,8
Germany	4,6	2,0	6,9	6,5	5,4
Australia	4,1	4,1	2,6	8,0	4,1
Switzerland	2,6	5,4	2,9	2,2	3,1
Netherlands	2,6	2,0	0,9	3,6	1,9
Belgium	3,6	0,0	1,7	1,4	1,8
Number of observations	194	147	350	138	829

Source: Survey data.

Note: Column percentages

43 percent of men and 28 percent of women who had a degree from abroad had a degree from elite institutions. When respondents in 2008 were asked to state their currently highest level of education, 31 percent reported Bachelor's degree, 40 percent Master's degree, 20 percent PhD or equivalent and 9 percent MBA. 76 percent of respondents have only one degree from abroad, 20 percent have two degrees and the remaining have three degrees, except for four persons who have four degrees from abroad.

The respondents were asked why they chose to study at the university abroad instead of a university in Denmark. The results are shown in table 4.2.

Table 4.2: Motivations to study abroad

Motivations to study at the university abroad, instead of a university in Denmark	Men		Women		Total
	Non-elite	Elite	Non-elite	Elite	
Due to the geographical location	26,8	19,7	24,3	16,7	22,8
Requirements were too high in Denmark	5,2	4,1	5,7	6,5	5,4
The academic level was better at the university abroad	19,1	45,6	13,1	24,6	22,2
A degree from the university abroad gives more valuable skills	19,6	40,1	16,3	20,3	22,0
A degree from the university abroad is more prestigious	16,0	39,5	10,6	18,8	18,3
I expected it to be easier to study abroad	2,1	0,0	0,3	0,0	0,6
I expected it to be more fun to study abroad	14,4	14,3	11,4	7,2	11,9
I wanted to improve my language skills	19,1	21,1	18,9	11,6	18,1
I wanted to live abroad for a shorter period of time	27,8	25,9	24,0	19,6	24,5
I wanted to be together with my partner	9,8	12,2	34,6	37,0	25,2
I wanted to study in my country of origin	0,0	0,7	0,9	0,0	0,5
The education did not exist in Denmark	25,3	18,4	19,1	18,1	20,3
I wanted to improve my chances of getting a job abroad	27,3	34,0	23,7	23,2	26,3
Other reasons	27,3	21,1	22,0	26,1	23,8
Number of observations	194	147	350	138	829

Source: Survey data

Note: Column percentages. The percentages sum to more than 100, because respondents could state more than one reason behind choosing the university abroad.

Motivations to study abroad differ systematically between men and women, and between those who studied at elite universities and those who did not. Men and those who studied at elite universities were more often motivated by academic quality. Almost half of men and a quarter of women who obtained an elite-university education abroad chose it at least partly because they evaluated that the foreign university was academically better. For men and women who went to non-elite institutions the numbers are 19 and 13 percent, respectively. Also prestige mattered more for men and to those who went to elite universities. Those who studied in US or UK stated to a greater extent than others that the university they went to was more prestigious and offered a higher academic level, a pattern especially pronounced for women. This supports the Zones of Prestige thesis put forward by Randall Collins (2001) showing that students are attracted to “zones” in specific countries because of prestige. A study by Munk (2009) explains that the attraction is also driven by favorable academic capital.

Considerations related to partner are more pronounced for women. 37 percent of women and 12 percent of men in elite universities reported as one motivation to study abroad to be close to their partner. For

non-elite universities, the corresponding figures were 35 percent for women and 10 percent for men. For younger generations the numbers are even higher. This proves that the patterns are not driven by older generations rather tied movers seem to be a growing phenomenon with larger fractions reporting to study abroad due to their partner for both men and women over time. Poutvaara, Munk and Junge (2009) found that family-related considerations were generally the main reason to emigrate among Danish women, while work-related considerations dominate for men.

About 20 percent of respondents reported that they studied abroad, because the education did not exist in Denmark. Almost all of them studied for MBA.

Table 4.3 reports how much cosmopolitan capital parents of respondents who studied in elite and non-elite universities had. Majority of parents speaks English, the fraction being somewhat higher for those who studied in elite universities. Also, those who studied in elite universities were generally more likely to have parents who had worked or studied abroad. Interestingly, a slightly higher fraction of men who studied in non-elite universities had lived abroad with their parents than among men who had studied in elite universities, while the opposite held for women. Those who graduated from elite universities more often had friends or relatives in the country they emigrated to; almost four out of ten men and more than half of the women who studied at elite-institutions had friends or relatives in the country they moved to before emigrating, For those who went to non-elite institutions one third of the men and four out of ten women had friends or relatives in the country they emigrated to before emigrating. The relative high fractions having friends and relatives in the destination country before arriving shows that those who study abroad tend to have high levels of cosmopolitan capital and an international circle of friends.

Table 4.3: Indicators of cosmopolitan capital held by parents and graduates

	Men		Women	
	Non-elite	Elite	Non-elite	Elite
Has lived with parents abroad	9.3	8.2	7.7	10.9
Had friends or relatives in the destination country before emigrating	34.0	38.8	41.7	54.4
Had friends or relatives in the destination country before emigrating, first time emigrants	32.4	44.4	31.5	60.7
Mother Speaks English	63.4	64.6	65.1	71.7
Has studied abroad	13.9	18.4	10.6	13.0
Has worked abroad	25.8	27.2	29.1	37.7
Has worked or studied abroad	32.5	36.1	32.6	39.7
Father Speaks English	64.4	75.7	66.7	73.2
Has studied abroad	15.5	17.7	14.3	13.0
Has worked abroad	38.1	40.8	36.3	41.3
Has worked or studied abroad	42.8	48.3	40.3	43.5
Number of observations	194	147	350	138

Source: Survey data

Note: Column percentages

## 5 ECONOMETRIC ANALYSIS

In this section, we study intergenerational relations in education, combining our survey data with register data. We compare those who have obtained no university education, those who have obtained university education in Denmark, those who have obtained non-elite education abroad, and those who have obtained elite education abroad. The analysis is restricted to those for whom there is information on the education of both parents.<sup>7</sup> This restriction is natural, as our focus is on the intergenerational transmission of different types of human and cultural capital. If the educational level of at least one parent is missing there is a risk of misclassification of highest parental education. Own education is measured by survey data for migrants and register data for non-migrants. Table 5.1 reports the distribution of parental education for these four different educational groups.

<sup>7</sup> If parental education was not found in the sampling year, we used parental education from a previous year, going one year back at a time checking for the education information. If the information is not found before reaching 1980, the observation has to be dropped, because our register data on the population in Denmark start in 1980.



Table 5.1: Distribution of parental education for four different education groups

	Men				Women			
	No university degree	--- Denmark only	University degree Non-elite abroad	--- Elite abroad	No university degree	--- Denmark only	University degree Non-elite abroad	--- Elite abroad
Education of mother:								
Basic school	56,7	24,5	27,1	19,8	56,4	25,5	24,2	11,6
Upper secondary	0,9	3,4	1,1	5,6	0,9	3,0	4,9	6,2
Vocational education	30,0	31,9	28,2	20,6	30,5	31,3	27,8	25,6
Short higher	2,3	5,8	7,3	8,7	2,1	5,0	4,9	9,3
Medium higher	9,2	28,2	31,1	34,1	9,3	28,1	32,0	30,2
University degree	0,9	6,2	5,1	11,1	0,8	7,2	6,2	17,1
Number of observations	20446	2536	177	126	19299	2289	306	129
Education of father:								
Basic school	42,7	17,0	14,1	15,9	41,7	19,4	18,6	15,5
Upper secondary	1,2	2,8	2,3	3,2	1,2	3,2	4,9	5,4
Vocational education	42,2	31,3	35,6	20,6	43,0	32,4	30,1	23,3
Short higher	2,9	3,8	4,0	3,2	2,9	2,8	4,6	2,3
Medium higher	7,7	23,7	26,0	24,6	7,7	20,7	22,2	28,7
University degree	3,3	21,5	18,1	32,5	3,5	21,5	19,6	24,8
Number of observations	20446	2536	177	126	19299	2289	306	129

Source: "No university degree" and "University degree, Denmark only" are based on 0.5 percent population register data without migrants. "University degree, Non-elite abroad" and "University degree, Elite abroad" is based on survey data. Observations have been deleted if either education of father, education of mother or education of both parents are missing or unknown.

Comparing the first two columns shows that parental education is strongly correlated with the likelihood of obtaining university education in Denmark. The distribution of parental educational levels of Danes who have non-elite university education from abroad is quite similar to the distribution of parental educational levels of Danes with university education from Denmark. Danes who have elite university education from abroad have, on average, clearly more educated parents than Danes who have university education from Denmark or from non-elite university abroad. 17 percent of women who went to elite-institutions abroad have a mother with university education and 25 percent have a university educated father. For men with elite education it is 11 percent of mothers and 33 percent of fathers who have university education. This is in generations where only 5-6 percent of fathers and 1-2 percent of mothers have university education.

Concerning elite education abroad, fathers appear to be role models for men and mothers for women. The fraction of mothers with university education is 10 to 11 percentage points higher for women who obtain elite education abroad than for women who obtain university education in Denmark or non-elite university education abroad. The fraction of fathers with university education is more than 10

percentage points higher for men who obtain elite education abroad than for men who obtain university education in Denmark or non-elite university education abroad.

In Tables 5.2a and 5.2b, we present multinomial models of the effects of birth cohort, parental education and history of having lived abroad before the age of 18 on the likelihood of obtaining university education in Denmark or abroad.

Table 5.2.a: Multinomial model of the probability of different university education choices, men

Reference: No university degree	University in		Non-elite		Elite	
	Denmark only		university abroad		university abroad	
	RRR	z-value	RRR	z-value	RRR	z-value
Birth cohort 1951-59	2,114 ***	6,75	1,017	0,03	0,718	-0,62
Birth cohort 1960-65	1,590 ***	4,61	1,988	1,35	1,052	0,13
Birth cohort 1966-71	1,663 ***	5,20	3,013 **	2,25	1,254	0,62
Birth cohort 1972-77	1,954 ***	6,70	3,646 ***	2,59	2,929 ***	2,98
Mother Upper secondary	3,587 ***	8,06	0,728	-0,38	2,778 *	1,79
Vocational education	1,987 ***	11,25	1,214	0,83	1,001	0,00
Short higher education	3,258 ***	10,16	2,026 **	2,09	2,175	1,50
Medium higher education	3,524 ***	17,41	2,097 ***	3,09	2,083	1,61
University degree	4,718 ***	11,36	3,276 **	2,39	3,395 **	2,37
Father Upper secondary	2,355 ***	4,44	3,543	1,62	2,576	1,57
Vocational education	1,380 ***	5,06	1,458	1,48	1,067	0,19
Short higher education	2,191 ***	6,37	1,945	1,45	2,624 *	1,67
Medium higher education	3,998 ***	18,23	3,020 ***	4,13	3,998 ***	2,82
University degree	7,262 ***	22,33	4,998 ***	4,58	8,776 ***	5,74
Has lived abroad before turning 18	1,176	0,75	4,652 ***	3,58	3,019 **	2,15
Number of observations	23285					
Pseudo R <sup>2</sup>	0.121					

Source: Register data and IPW survey data.

Note 1: \*\*\*, \*\* and \* indicate significance at 1, 5, and 10 percent level, respectively.

Note 2: Reference: Born 1978-1983, has not lived abroad before the year when turning 18, and mother and father have basic schooling.

Table 5.2.b: Multinomial model of the probability of different university education choices, women

Reference: No university degree	University in		Non-elite		Elite	
	Denmark only		university abroad		university abroad	
	RRR	z-value	RRR	z-value	RRR	z-value
Birth cohort 1951-59	0,830	-1,63	0,204 ***	-3,96	0,574	-1,19
Birth cohort 1960-65	0,842 *	-1,81	0,490 ***	-3,14	0,659	-1,02
Birth cohort 1966-71	1,190 *	1,92	0,645 **	-2,03	1,087	0,23
Birth cohort 1972-77	1,180 *	1,77	0,923	-0,39	1,781 *	1,68
Mother Upper secondary	2,894 ***	6,06	4,204 ***	4,19	16,460 ***	4,36
Vocational education	1,838 ***	9,81	1,454 **	2,14	2,561 **	2,31
Short higher education	2,890 ***	8,51	2,472 ***	2,92	10,943 ***	4,86
Medium higher education	3,319 ***	15,70	2,740 ***	5,15	5,475 ***	3,95
University degree	6,291 ***	13,32	3,819 ***	4,33	28,898 ***	7,05
Father Upper secondary	2,483 ***	5,21	2,967 ***	3,48	1,376	0,58
Vocational education	1,211 ***	2,99	1,034	0,19	0,935	-0,20
Short higher education	1,363 **	2,16	2,211 ***	2,59	0,746	-0,46
Medium higher education	3,025 ***	13,63	2,449 ***	4,30	2,471 ***	2,73
University degree	5,252 ***	17,95	3,322 ***	5,51	2,391 **	2,52
Has lived abroad before turning 18	1,407 **	1,98	1,148	0,35	2,237 **	2,32
Number of observations	21023					
Pseudo R <sup>2</sup>	0.112					

Source: Register data and IPW survey data.

Note 1: \*\*\*, \*\* and \* indicate significance at 1, 5, and 10 percent level, respectively.

Note 2: Reference: Born 1978-1983, has not lived abroad before the year when turning 18, and mother and father have basic schooling.

The econometric analysis confirms the social and gender differences found in Table 5.1. Overall, we find that family background strongly affects the likelihood of graduating from an elite or non-elite university abroad, both for men and women. The level of parental education increases the likelihood of graduating abroad, especially from an elite university. Mothers seem to matter more for women and fathers seem to matter more for men in the decision on whether to obtain university education, which in some sense confirms some other studies (e.g. Hout 1989). The effect of whether the parent of the same gender has university education is most striking when predicting whether the child obtains elite education abroad. Both men and women who have lived abroad before the age of 18 are more than twice more likely to obtain elite education abroad than those who have not, other things equal. Men who have lived abroad before the age of 18 are three to five times more likely to obtain university education abroad relative to no education compared to men who have not lived abroad in their early lives. Among women, having lived abroad doubles the likelihood of obtaining elite education abroad, but no statistically significant effect on the likelihood of obtaining non-elite education is found.

Women who have lived abroad are also more likely to obtain university education in Denmark, while the corresponding effect on men is not statistically significant.

In Tables 5.3a and 5.3b, we add parental occupations in the year of emigration or an earlier year if it is not available in the year of emigration as additional controls. Father's education matters still most for men and mother's education for women. The effects of maternal occupation on the likelihood of studying abroad are small. Higher paternal occupational status, like top management and higher grade professional, increases the likelihood of studying abroad, especially for men graduating from an elite university. Results are qualitatively similar if we use a stricter definition of elite education, requiring that the university is at the ranking lists both in 2004 and in 2005 to be defined as elite. This social selection into elite education abroad is consistent with the idea that investment in internationally recognized higher education is predominantly a strategy by affluent families. Hence, intergenerational social reproduction, known from national studies, is indeed continuing in a transnational arena. It should be noted here that the evolution of transnational elite strategies of education does not imply that a strictly national elite reproduction process has ceased to exist; fractions of both the elite and the non-elite invest abroad – but the vast majority of university graduates never study outside national (or even local) institutions. Thus, the emergence of a global market for investments in higher education should be perceived, in our view, as an important supplement to, rather than a substitute for, nationally oriented strategies of reproduction.

The effect of having a father in top management seems to increase the likelihood of non-elite education abroad by a larger amount than the likelihood of other university education groups. This might be an indication that non-elite is primarily chosen by an economic elite whereas elite is most likely for the academic elite. This, however, should be interpreted with caution as the differences across university groups are not significant with respect to occupation.

Paternal occupations like self-employed and intermediate professionals increase men's choice of non-elite universities. The differences to other university education groups are not all significant, but it indicates that individuals from a middle class background might be more likely to attend non-elite universities than for example elite education where neither self-employed nor intermediate occupations of father seem to have a significant effect. Taken together with the descriptive evidence in Table 5.1, the route to elite universities is narrower whereas the route to non-elite universities is more open with respect to social origin. This finding is quite similar to what has been found in national studies of university attainment showing that university participation has widened through some universities, whereas access to distinctive universities are still quite unequal (Munk and Thomsen (2011); Thomsen (2011)).

The role of parental education stands out even clearer when the elite criteria is sharpened. We analyzed the sensitivity of the parameter estimates with respect to three alternative ways of tightening the elite definition: The University should stay at the ranking list for two consecutive years, top 100 instead of

top 200, and leaving out MBA schools. The first modification tests the sensitivity of the results to small changes in the list from year to year, since universities that drops in and out in the bottom of the list will be left out. The second modification tightens the elite definition by moving the cutting point up, while the last modification investigates the sensitivity with respect to categorizing the MBA schools. People recruited to top 100 and to traditional universities compared to MBA schools are more selected in terms of parental education. Hence, the selection in terms of parental background is stronger the narrower elite is defined, and top 200 was chosen as the preferred definition taking the number of observations into account.

Table 5.3.a: Multinomial model of the probability of different university education choices, men

Reference: No university degree	University in		Non-elite		Elite	
	Denmark only		university abroad		university abroad	
	RRR	z-value	RRR	z-value	RRR	z-value
Birth cohort 1951-59	2,235 ***	6,94	1,022	0,04	0,936	-0,12
Birth cohort 1960-65	1,699 ***	5,08	2,030	1,38	1,318	0,67
Birth cohort 1966-71	1,728 ***	5,41	3,039 **	2,26	1,411	0,93
Birth cohort 1972-77	2,005 ***	6,79	3,678 ***	2,63	3,065 ***	3,05
Mother Upper secondary	3,110 ***	6,96	0,686	-0,46	2,582 *	1,78
Vocational education	1,866 ***	9,91	1,133	0,52	0,915	-0,21
Short higher education	2,899 ***	8,89	1,798	1,63	1,861	1,19
Medium higher education	2,686 ***	11,91	1,751 **	2,01	1,741	1,36
University degree	3,195 ***	7,98	2,679 *	1,92	2,902 **	2,16
Self-employed	1,343 ***	2,69	1,006	0,02	1,152	0,29
Top management	2,282 ***	3,47	3,139 *	1,68	0,949	-0,05
High grade professional	2,156 ***	6,73	1,222	0,51	1,062	0,13
Intermediate professional	1,424 ***	4,07	1,149	0,43	1,206	0,44
Skilled worker	1,172	1,63	1,060	0,17	1,147	0,24
Others	1,191 **	2,17	1,228	0,72	0,689	-0,90
Father Upper secondary	2,173 ***	3,99	2,875	1,46	2,134	1,32
Vocational education	1,351 ***	4,61	1,344	1,11	0,937	-0,18
Short higher education	2,064 ***	5,82	1,678	1,13	2,206	1,35
Medium higher education	3,249 ***	14,24	2,124 ***	2,60	2,705 **	2,17
University degree	5,899 ***	18,66	3,515 ***	3,26	5,839 ***	4,81
Self-employed	1,365 ***	3,09	2,708 **	2,42	1,371	0,67
Top management	1,814 ***	4,56	4,334 ***	3,29	3,792 ***	2,66
High grade professional	1,643 ***	4,78	3,180 ***	2,75	2,701 **	2,02
Intermediate professional	1,256 **	2,23	2,550 **	2,04	1,331	0,52
Skilled worker	1,078	0,72	1,691	1,24	1,655	1,00
Others	1,177 *	1,75	1,464	0,94	1,135	0,28
Has lived abroad before turning 18	1,186	0,80	4,750 ***	3,64	2,985 **	2,05
Number of observations	23285					
Pseudo R <sup>2</sup>	0.131					

Source: Register data and IPW survey data.

Note 1: \*\*\*, \*\* and \* indicate significance at 1, 5, and 10 percent level, respectively.

Note 2: Reference: Born 1978-1983, has not lived abroad before the year when turning 18, and mother and father have basic schooling and are unskilled.

Note 3: Robust standard errors have been used.

Table 5.3.b: Multinomial model of the probability of different university education choices, women

Reference: No university degree	University in		Non-elite		Elite	
	Denmark only		university abroad		university abroad	
	RRR	z-value	RRR	z-value	RRR	z-value
Birth cohort 1951-59	0,849	-1,37	0,250 ***	-3,37	0,724	-0,69
Birth cohort 1960-65	0,863	-1,48	0,575 **	-2,32	0,790	-0,58
Birth cohort 1966-71	1,188 *	1,83	0,680 *	-1,73	1,141	0,37
Birth cohort 1972-77	1,165	1,60	0,930	-0,35	1,765 *	1,67
Mother Upper secondary	2,655 ***	5,43	3,941 ***	3,99	14,931 ***	4,24
Vocational education	1,720 ***	8,45	1,330	1,51	2,165 **	2,06
Short higher education	2,590 ***	7,43	2,210 **	2,54	8,243 ***	4,57
Medium higher education	2,742 ***	11,77	2,327 ***	3,87	3,716 ***	3,15
University degree	4,837 ***	10,49	3,015 ***	3,30	22,252 ***	6,47
Self-employed	1,281 **	2,18	1,458	1,31	0,563	-0,92
Top management	1,342	1,09	0,908	-0,16	1,056	0,06
High grade professional	1,727 ***	4,52	1,262	0,81	1,516	0,79
Intermediate professional	1,379 ***	3,59	1,146	0,59	1,676	1,06
Skilled worker	1,288 ***	2,62	1,042	0,15	1,074	0,13
Others	1,152 *	1,67	0,783	-1,03	0,776	-0,51
Father Upper secondary	2,273 ***	4,65	2,684 ***	3,08	1,248	0,40
Vocational education	1,202 ***	2,80	0,930	-0,40	0,816	-0,63
Short higher education	1,322 *	1,92	1,931 **	2,07	0,656	-0,67
Medium higher education	2,534 ***	10,50	1,860 ***	2,73	1,900 *	1,78
University degree	4,239 ***	14,52	2,525 ***	3,77	1,752	1,43
Self-employed	1,756 ***	5,45	1,166	0,56	2,235 *	1,75
Top management	1,762 ***	4,16	1,734	1,63	1,769	0,93
High grade professional	1,722 ***	5,01	1,879 **	2,29	2,356 *	1,93
Intermediate professional	1,284 **	2,34	1,362	1,13	1,415	0,76
Skilled worker	1,110	0,98	1,456	1,48	2,067	1,54
Others	1,263 **	2,39	0,730	-1,10	0,824	-0,42
Has lived abroad before turning 18	1,432 **	2,08	1,211	0,47	2,420 *	2,51
Number of observations	21023					
Pseudo R <sup>2</sup>	0.123					

Source: Register data and IPW survey data.

Note 1: \*\*\*, \*\* and \* indicate significance at 1, 5, and 10 percent level, respectively.

Note 2: Reference: Born 1978-1983, has not lived abroad before the year when turning 18, and mother and father have basic schooling and are unskilled.

Note 3: Robust standard errors have been used.



## 6. DISCUSSION AND CONCLUSION

[Overall, we find that children with highly educated and positioned parents are more likely to seek distinctive educational capital at colleges abroad and in Denmark. The difference is especially pronounced in elite education abroad. Also, around half of those pursuing (elite) education abroad have parents who have studied or worked abroad. Hence, people pursuing international elite education have considerable cosmopolitan capital and a mindset for operating abroad. Father's education plays a bigger role for men while mother's education plays a bigger role for women, especially among women going for elite education. When we asked respondents why they studied abroad, especially men highlighted academic level and prestige. For one third of women, partner was an important consideration]

The empirical analysis provides evidence of social reproduction as well as social mobility into university education. Our study shows a remarkably strong association between parental characteristics and the likelihood of obtaining a university degree abroad. We find that the likelihood of attending an elite university is much higher for individuals from families with parents who themselves are university graduates. This is in line with what other scholars have found looking at within-country dynamics. Recently, Alon (2009) showed that social origin has a clear, direct and persisting impact on enrollment in selective elite university education in the United States. One reason is that people from privileged social background easier adapt the necessary behavior and competencies: 'Being attuned to the changing circumstances, the privileged devote considerable effort to cultivating their own stock of currencies required for entry into lucrative positions' (Alon 2009 p.750).

An interesting finding is that sons for a large part follows fathers' educational track whereas daughters tend to follow their mothers' track. We find that having a mother with university degree increases the probability of obtaining an elite university education abroad much more than it increases the probability of university education in Denmark or non-elite university education abroad. The trend is also found for fathers with a university degree. In a paper by Schijf *et al.* (2004) it was found that especially the family of the mothers' was important for social reproduction of elite families. Our finding that mothers matters a lot in terms of getting a degree from an elite university seems to be in line with this.

Those who have lived abroad before the age of 18 are more likely to obtain university education than those who have not, even after controlling for parental education and occupation. Also, a considerable fraction of parents of those who study abroad either studied or worked abroad. These parents seem stimulate their children to adopt an international habitus in their early life which becomes evident through very good language skills, strong international networks, and motivation to get valuable skills and prestige. In fact, children from these families tend to pursue a track where the academic level is considered to be higher. However, on the basis of the empirical investigation it cannot be judged whether early life socialization stems from a conscious strategy in families with high levels of cosmopolitan capital or whether children of families that are more used to the global scene become prone to choosing foreign education because it is easy and natural to them compared to someone who do not have experience with international environments. The process of value transmission seems be

that parents pass on their international cultural capital to their children implying a willingness and ability to look beyond borders. So it is reasonable to suggest that cultural capital in these families is better described as cosmopolitan capital.

We document a relatively strong tendency towards social reproduction of educational privileges in a context of internationalization which does not support the idea that the globalization of positional competition merely implies a more open, equal process, as stated by Don Weenink. Weenink finds that the strategy of selecting an “internationalized stream” has to do more with upward social mobility than with social reproduction (Weenink 2008:1103, see also 2007:497). Even though, we find some evidence of social mobility, the overall pattern is that elite education is still very restricted in terms of parental background.

The analysis of why those who studied abroad chose the foreign instead of a Danish university shows a strong difference between males and females. Among women who studied in elite universities more than one third reported being able to live with her partner as one reason. Men, on the other hand, pursue elite university education because the academic level is higher and to get valuable skills.

A number of sociologists are now suggesting that a global system of higher education has emerged where the most prestigious universities recruit elite-students globally. Brown and Lauder (2009:136) state that educational credentials which were once mostly acquired nationally now have a significant global dimension. The division between elite and non-elite institutions is earlier found by Bourdieu (1989/1996) in a study of higher education in a national context. He distinguishes between a very selective entrance through elite schools (*grande porte*) and a less selective entrance through other universities (*petite porte*) and shows that there is a connection between graduation from elite universities and major posts within society and a connection between graduation from less selective universities and minor posts within society, but still in the higher end of the social ladder. This pattern is termed homology.

Our contribution to the literature is to show that educational reproduction and mobility can work through an international field of university institutions, and that especially young people from a privileged background are more likely to study at elite universities abroad, and in reality just see most of the world as their field of study and work. This phenomenon has perhaps nothing to do with an increased access to universities in Denmark, but rather with the fact that families with lots of educational capital are used to think in terms of getting the best academic qualifications. Primarily, the universities in US and UK are regarded as prestigious. Our findings support the Zones of Prestige hypothesis, which Randall Collins (2001) introduced as a way to understand the major attraction of students towards elite universities in US. So for migrants going to elite universities it is not just a matter of gaining cosmopolitan or transnational valuable capital abroad, it is a question of getting distinctive educational capital. Our data indicates that more migrants with an elite degree is hired as researchers abroad while migrants with a non-elite degree are employed within communications

technology. In the investigated group we find that 93 percent had occupations abroad in 2008. So both people with elite and non-elite diplomas are able to transform foreign university education to social positions in a global labor market. A pretty big fraction from both groups are engaged in top management indicating that both groups have powerful positions, elite more within academia and none-elite to a higher extend in business and as self-employed.

	Men		Women		All
	Non-elite	elite	Non-elite	elite	
Self-employed in a profession	5.15	2.72	6.00	2.17	4.58
Self-employed in trade	2.58	3.40	3.71	.	2.77
Another type of self-employed	4.64	4.76	9.71	9.42	7.60
Top management	25.26	25.85	10.00	7.97	16.04
High skilled worker	40.21	49.66	20.57	39.86	33.53
Medium skilled worker	13.40	6.80	26.29	20.29	18.82
Low skilled worker	3.61	2.04	6.00	4.35	4.46
Assisting spouse (paid)	.	.	0.29	0.72	0.24
Spouse taking care of the children	.	0.68	8.57	8.70	5.19
Apprentice	1.03	.	.	.	0.24
Student	1.03	.	4.29	.	2.05
PhD student	2.06	1.36	1.71	2.90	1.93
Temporarily unemployed	0.52	2.04	2.57	2.90	2.05
N	194	147	350	138	829

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# APPENDIX A: The world's top 200 universities – QS-Times Higher Education 2004.

Rank	Institution	Country	Rank	Institution	Country
1	Harvard University	US	51	Tokyo Institute of Technology	JP
2	California University Berkeley	US	52	Duke University	US
3	Massachusetts Institute of Technology	US	53	Catholic University Louvain	BE
4	California Institute of Technology	US	54	Brussels Free University	BE
5	Oxford University	UK	55	RMIT University	AU
6	Cambridge University	UK	56	Adelaide University	AU
7	Stanford University	US	57	Paris VI, Pierre et Marie Curie	FR
8	Yale University	US	58	Sussex University	UK
9	Princeton University	US	59	Purdue University	US
10	ETH Zurich	CH	60	Tech University Berlin	DE
11	London School of Economics	UK	61	Brown University	US
12	Tokyo University	JP	62	Tsing Hua University	CN
13	Chicago University	US	63	Copenhagen University	DK
14	Imperial College London	UK	64	Erasmus University Rotterdam	NL
15	University of Texas at Austin	US	65	Georgia Institute of Technology	US
16	Australian National University	AU	66	Wisconsin University	US
17	Beijing University	CN	67	Auckland University	NZ
18	National University Singapore	SG	68	Macquarie University	AU
19	Columbia University	US	69	Osaka University	JP
20	University of California, San Francisco	US	70	St Andrews University	UK
21	McGill University	CA	71	Sorbonne Paris	FR
22	Melbourne University	AU	72	University of California, Santa Barbara	US
23	Cornell University	US	73	Northwestern University	US
24	University of California, San Diego	US	74	Washington University	US
25	Johns Hopkins University	US	75	Boston University	US
26	University of California, Los Angeles	US	76	Curtin University of Technology	AU
27	Ecole Polytechnique	FR	77	Vienna Technical University	AT
28	Pennsylvania University	US	78	Delft University of Technology	NL
29	Kyoto University	JP	79	New York University	US
30	Ecole Normale Super Paris	FR	80	Warwick University	UK
31	Michigan University	US	81	Yeshiva University	US
32	Ecole Polytechnique Fédérale de Lausanne	CH	82	Minnesota University	US
33	Monash University	AU	83	Eindhoven University of Technology	NL
34	University College London	UK	84	Chinese University Hong Kong	HK
35	Illinois University	US	85	Göttingen University	DE
36	New South Wales University	AU	86	Rochester University	US
37	Toronto University	CA	87	Trinity College, Dublin	IE
38	Carnegie Mellon University	US	88	Case Western Reserve University	US
39	Hong Kong University	HK	89	Malaya University	MY
40	Sydney University	AU	90	Alabama University	US
41	Indian Institute of Technology	IN	91	Bristol University	UK
42	Hong Kong University of Sci & Tech	HK	92	Lomonosov Moscow State University	RU
43	Manchester University & UMIST	UK	93	Hebrew University Jerusalem	IL
44	School of Oriental and African Studies	UK	94	Vienna University	AT
45	Massachusetts University	US	95	Technical University Munich	DE
46	British Columbia University	CA	96	Western Australia University	AU
47	Heidelberg University	DE	97	King's College London	UK
48	Edinburgh University	UK	98	Amsterdam University	NL
49	Queensland University	AU	99	Munich University	DE
50	Nanyang University	SG	100	Queen Mary, University of London	UK

Rank	Institution	Country	Rank	Institution	Country
101	Oslo University	NO	151	Liverpool University	UK
102	National Taiwan University	TW	152	Karlsruhe University	DE
103	Bath University	UK	153	Tohoku University	JP
104	Tufts University	US	154	China University of Sci & Tech	CN
105	Texas A&M University	US	155	Montpellier 1 University	FR
106	Iowa University	US	156	Vanderbilt University	US
107	Colorado University	US	157	Frankfurt University	DE
108	Massey University	NZ	158	Technion - Israel Institute of Technology	IL
109	Washington University, St Louis	US	159	Madrid Autonomous University	ES
110	Chalmers University of Technology	SE	160	Korea Advanced Institute of Sci & Tech	KR
111	Sains Malaysia University	MY	161	Tasmania University	AU
112	Glasgow University	UK	162	La Sapienza University	IT
113	University of Technology, Sydney	AU	163	Pohang University of Sci & Tech	KR
114	Otago University	NZ	164	Innsbruck University	AT
115	Brandeis University	US	165	Georgetown University	US
116	Michigan State University	US	166	Alberta University	CA
117	North Carolina University	US	167	Nagoya University	JP
118	Virginia University	US	168	Dundee University	UK
119	Seoul National University	KR	169	Würzburg University	DE
120	Utrecht University	NL	170	Nottingham University	UK
121	Paris XI, Orsay	FR	171	Lund University	SE
122	Royal Institute of Technology	SE	172	Technische Hochschule Darmstadt	DE
123	Maastricht University	NL	173	Emory University	US
124	Stuttgart University	DE	174	Indiana University	US
125	Humboldt University Berlin	DE	175	University of California, Santa Cruz	US
126	Birmingham University	UK	176	Helsinki University of Technology	FI
127	Aarhus University	DK	177	Université de Montréal	CA
128	Durham University	UK	178	Freiburg University	DE
129	Helsinki University	FI	179	Newcastle Upon Tyne University	UK
130	Penn State University	US	180	University of Southern California	US
131	Leiden University	NL	181	Lancaster University	UK
132	Strasbourg University	FR	182	University of California, Davis	US
133	Leeds University	UK	183	Arizona University	US
134	Maryland University	US	184	RWTH Aachen	DE
135	Bonn University	DE	185	Queen's University Belfast	UK
136	Stony Brook, State of New York University	US	186	Bologna University	IT
137	York University	UK	187	Norwegian University of Sci & Tech	NO
138	Dartmouth College	US	188	Tulane University	US
139	Stockholm University	SE	189	Leicester University	UK
140	Uppsala University	SE	190	Rutgers State University	US
141	Utah University	US	191	Nijmegen University	NL
142	La Trobe University	AU	192	Nanjing University	CN
143	Waterloo University	CA	193	Southampton University	UK
144	Toulouse University	FR	194	Aberdeen University	UK
145	Technical University of Denmark	DK	195	National Autonomous University of Mexico	MX
146	Rice University	US	196	Fudan University	CN
147	Hamburg University	DE	197	Bremen University	DE
148	McMaster University	CA	198	City University of Hong Kong	HK
149	Kiel University	DE	199	Virginia Polytechnic Inst	US
150	Sheffield University	UK	200	Rensselaer Polytechnic Inst	US

(from: <http://www.timeshighereducation.co.uk/hybrid.asp?typeCode=153>, date 11.01.2011)



## APPENDIX B: Top 50 Schools of Business and Administration – Financial Times 2004

Rank	Institution	Country
1	University of Pennsylvania: Wharton	U.S.A.
2	Harvard Business School	U.S.A.
3	Columbia Business School	U.S.A.
4	University of Chicago: Booth	U.S.A.
4	Insead	France / Singapore
4	London Business School	U.K.
7	Stanford University GSB	U.S.A.
8	New York University: Stern	U.S.A.
9	MIT Sloan School of Management	U.S.A.
10	Dartmouth College: Tuck	U.S.A.
11	Northwestern University: Kellogg	U.S.A.
12	IMD	Switzerland
13	Yale School of Management	U.S.A.
13	Iese Business School	Spain
15	IE Business School	Spain
16	Cornell University: Johnson	U.S.A.
17	Georgetown University: McDonough	U.S.A.
17	University of North Carolina: Kenan-Flagler	U.S.A.
19	University of Virginia: Darden	U.S.A.
20	Duke University: Fuqua	U.S.A.
21	University of Toronto: Rotman	Canada
22	University of California at Berkeley: Haas	U.S.A.
22	Rotterdam School of Management, Erasmus U	Netherlands
22	York University: Schulich	Canada
22	Emory University: Goizueta	U.S.A.
26	University of Oxford: Saïd	U.K.
27	University of Maryland: Smith	U.S.A.
28	Carnegie Mellon: Tepper	U.S.A.
29	University of Western Ontario: Ivey	Canada
30	University of Michigan: Ross	U.S.A.
30	SDA Bocconi	Italy
32	UCLA: Anderson	U.S.A.
32	Warwick Business School	U.K.
34	University of Cambridge: Judge	U.K.
35	University of Rochester: Simon	U.S.A.
36	University of South Carolina: Moore	U.S.A.
37	Manchester Business School	U.K.
38	University of Southern California: Marshall	U.S.A.
39	McGill University: Desautels	Canada
40	Ohio State University: Fisher	U.S.A.
40	University of Illinois at Urbana-Champaign	U.S.A.
42	Washington University: Olin	U.S.A.
42	City University: Cass	U.K.
44	Vanderbilt University: Owen	U.S.A.
44	Pennsylvania State University: Smeal	U.S.A.
46	University of Texas at Austin: McCombs	U.S.A.
46	Purdue University: Krannert	U.S.A.
48	Rice University: Jones	U.S.A.
49	University of Iowa: Tippie	U.S.A.
49	College of William and Mary: Mason	U.S.A.

(from: <http://rankings.ft.com/businessschoolrankings/global-mba-rankings-2004>, date 11.01.2011)

# APPENDIX C: Regressions using the stronger elite criteria

Table C.1: Multinomial model of the probability of different university education choices, men

Reference: No university degree	University in		Non-elite		Elite	
	Denmark only		university abroad		university abroad	
	RRR	z-value	RRR	z-value	RRR	z-value
Birth cohort 1951-59	2,233 ***	6,93	1,099	0,16	0,821	-0,34
Birth cohort 1960-65	1,698 ***	5,07	2,112	1,54	1,139	0,31
Birth cohort 1966-71	1,730 ***	5,42	2,801 **	2,23	1,510	1,06
Birth cohort 1972-77	2,003 ***	6,77	3,874 ***	2,92	2,804 ***	2,64
Mother Upper secondary	3,120 ***	6,99	0,678	-0,48	2,546 *	1,68
Vocational education	1,864 ***	9,90	1,227	0,87	0,728	-0,69
Short higher education	2,902 ***	8,90	1,694	1,48	1,971	1,25
Medium higher education	2,683 ***	11,90	1,855 **	2,31	1,568	1,03
University degree	3,187 ***	7,96	3,134 **	2,45	2,337 __	1,60
Self-employed	1,346 ***	2,71	0,856	-0,42	1,691	0,99
Top management	2,291 ***	3,48	2,351 _	1,25	1,544	0,39
High grade professional	2,163 ***	6,76	0,974	-0,07	1,611	0,97
Intermediate professional	1,427 ***	4,09	1,002	0,01	1,686	1,20
Skilled worker	1,174 *	1,65	0,858	-0,46	1,779	0,93
Others	1,194 **	2,20	0,972	-0,10	1,075	0,17
Father Upper secondary	2,184 ***	4,03	2,441	1,25	2,569	1,61
Vocational education	1,353 ***	4,62	1,288	1,00	0,938	-0,17
Short higher education	2,066 ***	5,83	1,847	1,41	1,987	0,96
Medium higher education	3,254 ***	14,26	1,981 **	2,47	3,261 **	2,35
University degree	5,906 ***	18,67	3,369 ***	3,33	6,837 ***	4,87
Self-employed	1,362 ***	3,07	2,982 **	2,69	1,064	0,13
Top management	1,810 ***	4,54	5,206 ***	3,83	2,750 *__	1,90
High grade professional	1,640 ***	4,75	3,689 ***	3,12	2,061 __	1,45
Intermediate professional	1,251 **	2,20	3,091 **	2,50	0,719	-0,63
Skilled worker	1,077	0,72	1,806	1,41	1,532	0,82
Others	1,176 *	1,74	1,565	1,11	1,012	0,02
Has lived abroad before turning 18	1,184	0,78	4,791 ***	3,87	2,738 *_	1,65
Number of observations	23285					
Pseudo R <sup>2</sup>	0.132					

Source: Register data and IPW survey data.

Note 1: \*\*\*, \*\* and \* indicate significance at 1, 5, and 10 percent level, respectively.

Note 2: Reference: Born 1978-1983, has not lived abroad before the year when turning 18, and mother and father have basic schooling and are unskilled.

Note 3: Robust standard errors have been used.

Table C.2: Multinomial model of the probability of different university education choices, women

Reference: No university degree	University in		Non-elite		Elite	
	Denmark only		university abroad		university abroad	
	RRR	z-value	RRR	z-value	RRR	z-value
Birth cohort 1951-59	0,848	-1,38	0,255 ***	-3,45	0,787	-0,48
Birth cohort 1960-65	0,862	-1,50	0,572 **	-2,39	0,844	-0,39
Birth cohort 1966-71	1,185 *	1,81	0,690 *	-1,71	1,175	0,41
Birth cohort 1972-77	1,163	1,59	0,931	-0,35	1,908 *	1,76
Mother Upper secondary	2,650 ***	5,42	3,921 ***	4,01	16,135 ***	4,32
Vocational education	1,719 ***	8,45	1,415 *	1,87	1,799 —	1,50
Short higher education	2,586 ***	7,41	2,385 ***	2,91	7,785 ***	4,17
Medium higher education	2,744 ***	11,78	2,337 ***	3,99	3,640 ***	2,92
University degree	4,833 ***	10,46	3,265 ***	3,64	25,902 ***	6,62
Self-employed	1,280 **	2,18	1,494	1,43	0,379	-1,36
Top management	1,347	1,11	0,908	-0,16	1,003	0,00
High grade professional	1,721 ***	4,48	1,455	1,35	1,023	0,04
Intermediate professional	1,378 ***	3,58	1,201	0,80	1,514	0,84
Skilled worker	1,289 ***	2,63	1,034	0,12	1,098	0,17
Others	1,152 *	1,67	0,819	-0,86	0,649	-0,87
Father Upper secondary	2,279 ***	4,67	2,558 ***	2,95	1,338	0,51
Vocational education	1,202 ***	2,80	0,922	-0,46	0,835	-0,52
Short higher education	1,322 *	1,92	1,941 **	2,16	0,507	-0,87
Medium higher education	2,532 ***	10,49	1,901 ***	2,89	1,837 —	1,59
University degree	4,235 ***	14,51	2,586 ***	3,93	1,599	1,14
Self-employed	1,753 ***	5,43	1,241	0,81	2,054 —	1,42
Top management	1,764 ***	4,17	1,677	1,56	1,925	1,02
High grade professional	1,725 ***	5,02	1,806 **	2,18	2,632 **	2,08
Intermediate professional	1,285 **	2,34	1,355	1,14	1,414	0,70
Skilled worker	1,110	0,98	1,432	1,44	2,253	1,64
Others	1,263 **	2,39	0,734	-1,11	0,810	-0,42
Has lived abroad before turning 18	1,435 **	2,09	1,140	0,32	2,816 ***	2,88
Number of observations	22023					
Pseudo R <sup>2</sup>	0.123					

Source: Register data and IPW survey data.

Note 1: \*\*\*, \*\* and \* indicate significance at 1, 5, and 10 percent level, respectively.

Note 2: Reference: Born 1978-1983, has not lived abroad before the year when turning 18, and mother and father have basic schooling and are unskilled.

Note 3: Robust standard errors have been used.