Microeconomic determinants of skilled migration: The case of Suriname

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Abstract

Suriname witnesses a brain drain, in particular to the Netherlands. We study the determinants of this brain drain for skilled individuals, where we rely on an adaptation of the survey proposed in Gibson and McKenzie (2011). We managed to interview a unique set of 286 former top students, who studied in Suriname and now work and live either in the Netherlands or Suriname. We find that important determinants for skilled migration are (1) the social economic status, (2) whether the student enjoyed education in the capital city of Suriname, (3) the pure science courses taken at high school, (4) the social attachment with the country, and (5) the difference in economic growth between the home and destination country. We discuss the implications for policy makers.

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1. Introduction

The South-American country Suriname ranks as the 20th country in the world (out of 195 countries) with the largest highly skilled emigration rate (Docquier & Rapoport, 2007). The number of Surinamese individuals living outside Suriname is around half the size of its population of approximately 540,000 inhabitants (Docquier & Marfouk, 2006 and IOM, 2010). 48% of the highly skilled people [1] of Suriname were living abroad in 2000 (Docquier & Marfouk, 2006) and 66% of the highly skilled people have migrated to the OECD countries (Docquier et al., 2009). With a net outflow of 5711 skilled labourers in 2000, Beine et al. (2008) categorize Suriname as a country experiencing a detrimental brain drain. While new literature on brain gain indicates that prospective migration opportunities stimulate education levels in sending countries, this does not seem to be the case for Suriname. In fact, Dulam and Franses (2011) found a strong long-run negative effect of emigration on the number of graduated students from the University of Suriname, which implied that Suriname is a case of brain drain rather than brain gain.

In order to develop policies to curb the brain drain and to attract the highly skilled back to Suriname it is essential to find out which factors determine skilled migration. In this study we use a microeconomic approach, where we rely on a detailed survey amongst the highly skilled Surinamese non-migrants and migrants, with the aim to find out the individual motivations and characteristics related to migration.

Most of the emigrants (around 176,000 which is 70% of the total emigrants stock[2]) live in the Netherlands. 90% of the highly skilled migrants went to the European Union (Docquier & Marfouk, 2006), and then mainly to the Netherlands considering the same official language of both countries and the colonial heritage. Using an online survey, with questions based on Gibson and McKenzie (2011), our paper identifies several microeconomic factors that explain the emigration of highly skilled Surinamese individuals to the Netherlands. As the majority of the highly skilled migrants went to the Netherlands, our research is limited to respondents living in the Netherlands or in Suriname. As far as we know, until now no microeconomic research has been carried out to find out what explains the brain drain of Suriname. Starting from the Roy model of self-selection, we put forward several explanatory factors as they are proposed in the literature.

The remainder of this paper is organized as follows. Section 2 presents the basic theoretical model to explain migration. Section 3 describes Suriname's migration history with the Netherlands.

[1] The highly skilled emigrants are defined as those with at least tertiary education (Docquier and Marfouk 2006).
[2] Total number of migrants from Suriname in 2000 was: 180156 (Docquier and Marfouk, 2006). In 2000 the number of immigrants from Suriname in the Netherlands was: 132850 (www.cbs.nl); thus 74% of the total migration stock from Suriname went to the Netherlands. 90% of the 33059 highly skilled migrants in the world went to the EU (Docquier and Marfouk, 2006).

Section 4 gives an overview of the data, sample selection and the methodology. Section 5 discusses the results of the survey. The last two sections draw conclusions and discuss policy implications.

2. Theoretical framework

Many studies have adapted the Roy model of self-selection (see for example, Sjaastad, 1962; Borjas, 1987; Clark et al., 2002, Dustman et al., 2011, and Grogger & Hanson, 2011) as a starting point for examining the factors affecting the decision to migrate. According to the Roy model (Borjas 1987) an individual will emigrate if

$$(\mu_1 - \mu_0 - \pi) + (\varepsilon_1 - \varepsilon_0) > 0$$

In words, this expression says that when the mean earnings of an emigrant in the destination country, μ_1, will be higher than the mean earnings in the source country, μ_0, minus the costs of migration (that is the time-equivalent costs denoted by π, with $\pi = C/w_0$, in which C is the costs of migration and w_0 is the wage one would earn in the home country) plus the differences between unobserved earnings in the destination country, ε_1, and that of the source country, ε_0, is positive, that then the individual will emigrate. The home country is the country from where the emigrant departs, and is also called the source country. The destination country is the country where the emigrant goes to.

As the potential migrant expects to receive a higher wage in a high income country, Eggert et al. (2009) and Beine et al. (2001) showed that higher wage differentials between the sending and destination country encourages people to migrate from low-income to high-income countries[3]. Thus, the probability that an individual will migrate according to Borjas (1987) is

$$P\ (v > -(\mu_1 - \mu_0 - \pi) = 1 - \Phi\ (z),$$

where $v = \varepsilon_1 - \varepsilon_0$; $z = \dfrac{-(\mu_1 - \mu_0 - \pi)}{\sigma_v}$ and Φ is the standard cumulative normal distribution function and σ_v is the standard deviation of $v = \varepsilon_1 - \varepsilon_0$. Hence, income maximization is supposedly the main reason for migration. According to Borjas (1987), positive selection of migrants (highly skilled) will occur when the income dispersion in the destination country is higher than in the home country and negative selection of migrants (lower skilled) will occur when the income dispersion in the destination country is lower than in the home country as in the latter case low-income workers are

[3] This is the case for migration between Suriname and Netherlands (Dulam & Franses 2011).

"subsidized" and high-income workers are "taxed" to obtain a more equal economy. In both[4] cases skills must be portable. The correlation between the unobservable characteristics of the natives (home country) and the migrants must be sufficiently positive.

Next to income dispersion, migration also depends on migration costs (Borjas, 1987). The migration cost (π), both monetary and mental, is determined by several factors. Being born in the destination country and mastering its official language lowers the adjustment costs of working or studying in that country (Gibson & McKenzie 2011). Furthermore, wealthier families can easily afford to pay for the costs of migration (Gibson & McKenzie, 2011). Also the size of the family and friends network abroad (Borjas, 1987; Clark et al., 2002) might affect the migration decision. Having family and acquaintances who have migrated to a foreign country might trigger to migrate as well, and having networks might help reduce the migration costs (for instance, when one already has a place to stay when migrating).

Individual characteristics and the socio-political situation might also affect the migration decision. Recently, Gibson and McKenzie (2011) carried out a survey research showing that risk aversion and patience, as well as the subjects chosen in secondary school, are strongly associated with skilled migration, even more so than the financial reasons as widely presumed[5]. They also found that family ties and lifestyle influence the decision to return home rather than income maximization.

According to Gökbayrak (2009) the main reason for skilled migration from Turkey is the lack of coordination between the education system and employment opportunities. Limited possibilities for gaining further experience in the chosen field of study and inadequate business start-up environment are the main pushing factors of migration (Tansel & Güngor, 2002). Beine et al. (2008) found that the socio-political environment (that is, ethnic diversity, government effectiveness and the violation of property rights in the origin countries) induce individuals to migrate as well.

Indubitably, the theory discusses a range of determinants of migration. In the next sections we classify several determinants of emigration and discuss their roles.

Socio-economic status

The income, education and occupation define the socio-economic status of an individual. As we are looking for determinants of the migration decision, and thus for pre-migration traits, we will look into the social-economic status of the parents of the migrants and non-migrants.

[4] A third case is "refugee sorting", where below-average immigrants are selected but outperform the natives of the destination country (Borjas, 1987).

[5] See also Lu, Zong & Schissel (2009) on the migration intentions of students from China in Canada. Factors affecting the migration decision include family structure, economic background, parents' education level, parents' expectation, and academic performances in China. These are the so-called pre-move traits. The post-move traits include: year of residence, academic performance in Canada, friendships and kinships in Canada, marital status and social activity participation. This study and De Jong (2000) also reflect on the influence of the parents on the migration decision.

Individuals who have parents with high income will be more likely to emigrate as they are more able to pay the costs of emigration (Findley, 1987; Gibson & McKenzie, 2011). On the other hand, low-income families with dire perspectives in the home country and thus better income and job expectations abroad might also exhibit high migration rates. Therefore, Findley (1987) expected a curvilinear relationship between migration and the economic class, whereby individuals from lower or higher class will be more likely to emigrate than the middle class.

Parents with high education will be more likely to have a white collar[6] job and thus higher income (Gibson & McKenzie, 2011) and will hence have children with higher migration prospects. Higher education opportunities are generally scarce in small developing countries and thus especially children of parents from high social-economic class will migrate to obtain foreign tertiary education. Tertiary education in medical, social, as well as technical science became available in Suriname[7] only since 1976, which is why most tertiary education (if any) of the respondents' parents was received abroad. So it is likely that those parents encouraged their children to pursue foreign tertiary education as well. The children might follow the footsteps of their parents even when the tertiary education opportunities in the home country no longer are scarce. Having a tertiary education abroad as a parent also indicates the higher financial status of the family and thus a higher ability to send the children abroad for their studies.

According to Gibson & McKenzie (2011), having been on holidays abroad as a child is an indicator of family wealth and thus of the social-economic status; the better-off parents are more likely to go on holidays abroad with their children. Having travelled before facilitates migration (as these children have less difficulties to adjust), which is analogous to Ajzen's (1998) argument of having bought a product in the past facilitates the experience of buying that product again.

Place of upbringing

An individual who has been brought up in the capital city or in the urban area of the home country (developing country) might find it easier to adjust in a foreign developed country than someone who was brought up in a rural area. The capital of Suriname is Paramaribo and it is the most developed city or district of Suriname. It is expected that those who have been brought up in Paramaribo will be more likely to emigrate than those from another district of Suriname.

[6] A white collar job refers to a professional or managerial or job, such as: doctor, engineer, economist, university lecturer, bank employee, lawyer, politician, managing director, etc.

[7] Suriname's first and only university was founded in 1968, but started only with a law school. The medical school was incorporated in 1969. The faculty of social science and the faculty of technical science were proclaimed in respectively 1975 and 1976.

Social attachments

One becomes socially attached with the place where one was born or with the place where the parents or most of the family lives. Having been born in the destination country facilitates the migration to that country at later age as it lowers the costs of migration (Gibson & McKenzie, 2011). For instance, there will be no visa or housing arrangements costs.

Having family in the destination country also facilitates the migration to that country, as this means that one has already contacts or a migration network abroad. Also for individuals who have family and friends abroad, migration might be less difficult than those who have no kinship abroad at all (Findley, 1987). In this regard one can also think of parents living in a specific country or parents owning a business in a specific country.

Language command

Another factor that reduces the costs of migration is the language command of the destination country. Having a good command of the official language of the destination country facilitates migration (Grogger & Hanson, 2011; Güngör & Tansel, 2006) and cultural integration into that country. The official language of Suriname is Dutch from the time when Suriname was a colony[8] of the Netherlands. Mastering the official language (which is the same in the Netherlands) implies lower adaptation costs and thus easier emigration. Although Dutch is the official language of Suriname, not everyone speaks it at home as the first language due to the different ethnic backgrounds of its people. We expect that those who spoke Dutch as the main language at home during the time when being in high school that they will be more likely to emigrate.

Pure science

Pure science refers to the courses psychics, chemistry and biology taken in high school. Individuals who studied these subjects in high school probably are more likely to migrate to a more developed country due to better scientific laboratories and facilities (Gibson & McKenzie, 2011). Güngör and Tansel (2006) and Van Bouwel et al. (2011) obtained evidence of a relationship between the academic discipline and the migration status.

Risk and patience

Individuals who are willing to take risks might migrate sooner (Gibson & McKenzie, 2011). Gibson and McKenzie (2011) measured risk preferences using a questionnaire from the German Socio-Economic panel on an 11 point scale (following Jaeger et al. 2010). Migration can be seen as an investment with short-term costs that is needed to achieve longer and higher gains and thus Gibson &

[8] Suriname was colony of the Netherlands since 1667 and gained independence in 1975.

McKenzie (2011, p. 25) expect more patient individuals to be more likely to emigrate. To measure the degree of patience we will ask the subjects whether they would choose between accepting a certain amount of money today or after a year. The choice concerned (hypothetically) accepting 1000 Euros today or 1500 Euros after a year, where, analogously to Gibson and McKenzie (2011), the second option indicates that the respondent is patient.

Macro economy

Below we will also consider that some macro-economic variables as economic and political instability might induce migration (Gibson & McKenzie, 2011; Güngör & Tansel, 2006). Analogous to Gibson and McKenzie we choose two macroeconomic variables. The first is the real exchange rate[9] at the time of finishing high school. An increasing real exchange rate implies an overvaluation of the local currency and thus a deteriorating economy. This was especially the case in the 1980's in Suriname. Secondly, we include the difference in real economic growth between the home country (Suriname) and the destination country (Netherlands) at the age at which one finished high school. We expect that the larger the difference in growth the more likely emigration will be (Gibson & McKenzie 2011) as is also suggested by the income maximization problem of Borjas (1987) among others.

3. Background on Suriname

Suriname is a small developing country in the north coast of South America with 541,638 inhabitants (ABS 2013). The Netherlands has around 16.8 million inhabitants and a GDP per capita (in PPP dollars) of almost 5 times to that of Suriname (World Bank, 2014). 21 percent of the population of the Netherlands is of foreign origin[10], of which 347,631 immigrants are of Surinamese origin (CBS, 2014). The largest group of non-Western immigrants in absolute terms in the Netherlands after Turkey and Morocco is from Suriname. Note that Turkey and Morocco are much larger countries in terms of population size (respectively 74 million and 32.5 million). Also the third largest group of immigrants (after China and Indonesia) that receive work permits in the Netherlands is from Suriname and the sixth largest group of foreign students is also from Suriname (Overmars & Hendriks-Cinque, 2012). Compared with the other non-Western immigrants in the Netherlands, the Surinamese are generally higher educated. 21 percent of the Surinamese immigrants (with some

[9] The real parallel exchange rate index is number of local currency needed to buy 1 $ in the market divided by the ratio of local consumer price index over the price index of the United States of America. Exchange rate data was obtained from the Central Bank of Suriname, consumer prices data from the World Bank. Data for the difference in real economic growth between Suriname and the Netherlands was obtained from the World Bank.

[10] These are first and second generation immigrants.

education) obtained university or higher vocational education (CBS, 2014), whereas only 9 percent of the schooling population in Suriname itself obtained tertiary education (ABS, 2013).

Figure 1 presents the reasons of emigration from Suriname. For Figure 1 recent census data (ABS, 2013) was used. The main reason to go abroad for Surinamese was to study, that is, 25% of 2241 emigrants went abroad between 2004 and 2012 for studying purposes.

History

For three centuries, Suriname has been a colony of the Netherlands and it obtained independency in 1975. In 1973 around 60 thousand (first and second generation) Surinamese lived in the Netherlands. Now 40 years later, anno 2013, this number is 6 times higher (CBS, 2014).

During the years preceding the independency many Surinamese started to migrate to the Netherlands. The year 1973 was characterized by labour unrest and strikes in Suriname (see http://www.vijfeeuwenmigratie.nl). In Figure 2 we see that the migration peaked in 1975; mainly due to little confidence in the new government after independence. In that year about 40,000 Surinamese migrated to the Netherlands. By means of the "Toescheidingsovereenkomst", a convention signed by both countries, Surinamese individuals were allowed to choose between the Dutch or Surinamese nationality in the period from 1975 to 1980 (Oudhof et al., 2011). At nearly the end of this five-year period many Surinamese individuals seized the opportunity to migrate to the Netherlands. After 1980 a visa would be required to enter the Netherlands. The political situations after the so-called December murders[11] and during the interior war between 1983 and 1987 also prompted migration. In the 1990's Suriname's economic situation deteriorated and this triggered another flow of emigration to the Netherlands (Vocking, 1994; Oudhof et al., 2011). In this period some 30,000 Surinamese migrated to the Netherlands. Since 2004 we see a downward trend of the migration rate which coincides with Suriname's positive economic growth. According to Chotkowski et al. (2014) the introduction of more stringent entry requirements for family formation in 2004 by the Netherlands might have depressed the immigration from Suriname in recent years. Today around 182,000 in Suriname born individuals and 165,000 Surinamese descendants live in the Netherlands.

4. Methodology

Based on Gibson and McKenzie's questionnaire (2011) we surveyed former high skilled students from the high schools[12] of Suriname, who currently live in Suriname or in the Netherlands. Our goal is to find out what determines brain drain or possibly brain gain. Brain drain is broadly defined as the

[11] On 7 and 8 December 1982 fifteen prominent Surinamese individuals were executed under the ruling military regime of Suriname.

[12] The high school is also called the senior secondary school in Suriname which is attended by students of generally 15 to 18 years of age.

departure of high skilled individuals to a foreign country (mainly to a more developed country) for at least one year. As top students at high school level have the potential to become high skilled (at least tertiary education) and there is no sample frame available of tertiary educated individuals with a Surinamese background, we surveyed the relatively easily identifiable former top students from the high schools. We choose the top students who graduated between 1976 and 2006. University education in medical, social and technical science in Suriname became available since 1976 which is why we choose 1976 as a starting point. This will make students who chose to continue their studies in Suriname comparable to those who opted for the Netherlands. We also ask job-related questions, which is why we choose individuals who finished their tertiary schooling by 2006 and who must have started working by 2013.

Due to historical ties with the Netherlands we surveyed emigrants (former top students) to the Netherlands, remigrants from the Netherlands and non-migrants of Suriname. We compare the characteristics of these three groups to identify the drivers behind emigration. Extending the sampling frame by including emigrants from Suriname to other countries would complicate the survey (in terms of the language and the diverse reasons of emigration) but yet at the same time, there is no other country in the world with which Surinamese individuals have such a long and strong bond.

Since 1985 the Rotary club yearly organises the Best Student Award in Suriname by inviting the top three high school graduate students to participate in a speech contest. Generally the names of the participants are publicized in the newspapers. Using this information we started gathering the names of the top students for our sampling frame. We also visited the high schools of Suriname and asked them to provide us the names of the top students. All the VWO and HAVO high schools (see Appendix 1) were thankfully willing to cooperate. Ex-students from the VWO schools who graduated with a score of at least 52 points for seven courses at the final examination were classified as top students. As the average scores of the HAVO students were in general lower than those of the students of the VWO, we used a minimum total score of 42 points (for 6 courses) to identify the top students of the HAVO. Using these criteria we constructed our sampling frame.

Next, using the internet and the phonebook we traced the identified top students and sent them a request to fill in the survey online (mostly via LinkedIn and Facebook). Using the phonebook and the last name of the respondent we tried to reach those we were not able to reach through the internet. In cases where we found any connection we asked them (or their family member) to provide us with an e-mail address through which we could ask the respondent whether we could send the questionnaire via e-mail and if the person would be willing to participate.

The population consists of former top students who graduated between 1976 and 2006 from a high school of Suriname and now live in the Netherlands or in Suriname. We compare three groups of former top students, that is, migrants, remigrants and non-migrants. 735 names of top students

were obtained. We were not able to trace back about 20% of the top students. We traced back 586 people of which only 9% lives or lived in a country other than the Netherlands or Suriname (most of these persons went to the USA and some went to the Dutch Antilles). The number of people that should have received the invitation to take part in the survey is 535 people (the "not applicable", "not found" and "deceased" ones were excluded by us). We sent the survey invitation to everyone we could find through the internet or phonebook, and to whom we believed to live in Suriname or in the Netherlands (mostly decipherable from Facebook of LinkedIn). In the invitation it was noted that the survey was meant for those living in Suriname or in the Netherlands. So, in case the invitation arrived at someone not living in these two countries, the receiver would know that the questionnaire was not meant for him or her. This might have increased the non-response rate.

We were able to invite 497 people to take part. The overall response rate was 58% with a higher response rate for the VWO schools than the HAVO schools (see Appendix 1). This is not unsatisfactory considering the response rate of similar studies and the current position of many of the former top students. Our population mainly consists of professionals and career oriented individuals.

The questionnaire consisted of many personal questions which might have discouraged the invitee to take part in the survey. But the relatively high non-response might also be due to the fact that the questionnaire was not applicable to everyone who received the invitation (like to those living in the USA for example).

The survey consisted of 99 mostly close-ended questions of which in particular the first 30 questions were analysed for this paper to find out what determines high skilled emigration from Suriname to the Netherlands. The questions were taken from the survey developed by Gibson and McKenzie (2011). Appendix 2 provides an overview of the variables used in our analysis below and some of the statistics of these variables.

In Figure 3 we present the relationships between the variables to be tested. The dependent variable is migration, which takes a 1 or a 0 indicating whether an individual has emigrated or not.

In addition to the variables discussed in the theoretical framework we use age and gender as control variables. Older individuals have had "*more time over which to emigrate*" (Gibson & McKenzie, 2011). So it is expected that the propensity of migration increases with increasing age. Women are less likely to migrate than men (De Jong, 2000; Güngör & Tansel, 2006) due to cultural norms. Women generally have less lifestyle freedom especially in developing countries and thus less freedom of movement from one country to another, and this also holds for Suriname.

5. Results

Demographics

Table 1 gives the descriptive statistics of the demographic variables. We observed slightly more current male emigrants than females, which is in accordance with the percentages we see in the remigrants and non-migrants group. This supports the theory that women are less likely to migrate (De Jong 2000; Güngör & Tansel 2006) because of cultural norms. This difference could however also be due to bias towards women. Next, there is little difference in the distribution of the ethnicity among the three groups. Suriname census data does not provide the distribution of the education level by ethnicity. Fortunately, data from the Netherlands (Oudhof & Harmsen, 2011) gives information of the education level of people of Surinamese origin and by ethnicity. The distribution of the ethnicity among the current migrants does not differ much from CBS data distribution[13].

The majority of the respondents enjoyed tertiary education in the Netherlands. The proportion of respondents with a Master's or PhD degree is significantly higher among migrants than non-migrants. Except for one case, all other cases attained PhD education abroad. Half of the respondents continued tertiary education. And also the proportion of respondents that took a second (or third) tertiary education is higher among migrants than non-migrants; the highest among the remigrants (62%).

The mean age of the respondents is 35 years, with current migrants being slightly older on average and non-migrants slightly younger. We see that the current migrants on average earn three times more than the non-migrants. The remigrants earn more than the non-migrants but less than the current migrants, although they work longer hours than the migrants. Using the multiple regression model we regressed the natural logarithm of income per month (in EURO) on the migration status in Table 2. When controlling for age, gender and education level we estimate that current migrants earn 115% more than non-migrants, while remigrants earn 33% more than non-migrants.

The incidence of migration

Table 3 presents the incidence of emigration of the former top students to the Netherlands. Emigration is defined as living (including working and/or studying) in the Netherlands and remigration is defined as living in Suriname after having lived (or worked and or studied) in the Netherlands. The percentage of highly educated Surinamese individuals who ever migrated is 63%, while the percentage of current high skilled migration (excluding the remigrants) is 42%. Our survey results are in accordance with the estimates of other studies. Nurse (2006) estimated the high skilled

[13] Of the Surinamese in the Netherlands who have at least tertiary education (total number is 11952) 2% is Maroon, 6.1% is Chinese, 38.4% is Creole or Mixed, 44.8% is Hindustani and 1.6% has another ethnicity. Of the rest (1.7%) the ethnicity not known (CBS, 2014).

migration rate to be 60%, Docquier et al. (2009) at 66%, and Docquier and Marfouk (2006) estimated it at 48%.

We calculated the migration status at each age for the respondents and the results are in Figure 4. At each age level we depict the proportion of ever migrants, the current migrants and the remigrants with 95% confidence bounds around the proportions for the ever migration and remigration lines. The confidence intervals get wider as the number of observations of older respondents decreases. Between 18 and 22 years old we see an increase in the emigration rate. At the age of finishing high school, namely 18 years, we see that 42% did migrate to the Netherlands, reflecting poor tertiary education or less hope in the tertiary education of Suriname. By the age of 22 the emigration rate is 50%. Between the age of 23 and 30 years the emigration rate is constant. After the age of 31 years we see a steady increase in the migration rate with a peak of 70% being emigrated by the age of 40. The current migration numbers curve closely follows the migration curve. As age increases, more people have been in the Netherlands. The return migration curve is almost constant. We see three peaks in the return migration curve, that is, 28% returns by the age of 34 to Suriname, 31% by the age of 44 years, and by the age of 49 years 34.8% has returned back to Suriname, although we then see a wide discrepancy between the confidence bounds at the age of 49 years.

Determinants of migration of high skilled persons with Surinamese origin

We now turn to analysing the drivers behind migration using the binary logit model. Table 4 presents seven regression outcomes. The first four regressions report the results of the determinants of ever-migration. Ever-migration refers to respondents who have once in their lives migrated to the Netherlands (including those who returned to the country of origin, namely the remigrants). The dependent variable is *migration_ever* which takes the value 1 if the respondent ever migrated to the Netherlands and 0 if the respondent never migrated to the Netherlands. In the next three regressions, column 5 to 7 in Table 4, we focus on the question: Which factors explain current migration? The indicator dependent variable here is *migration_curr* which takes the value 1 if the respondent is currently living, working or studying in the Netherlands and 0 if the respondent is a remigrant to Suriname or a non-migrant. The estimation results appear in columns 5 to 7 in Table 4.

We include all relevant variables in the models and we stepwise delete variables that have associated parameters that are not significant at the 10% level. The excluded variables are: having at least one parent in the business, being risk-aversive and the real parallel exchange rate of Suriname with

respect to the US dollar. The regressions met the model assumptions[14] for logit regression as proposed by Field (2009). We next turn to analysing the results of the regressions of Table 4.

Demographic variables

The coefficient for *Female* is negative and significant at the 5% significance level in column 1 and 5 and at the 10% level in column 2. The odds to migrate is around 50% lower for women when holding other factors constant. This supports the theory that women are less likely to migrate probably because of cultural norms (De Jong 2000; Güngör & Tansel 2006).

The effect of gender disappears when age is included in the model, but no interaction effect of age and gender was found on emigration. We leave out gender in the models where age is included in the models. Migration tends to increase significantly with age. For a one year increase in the age of the respondent we expect an increase of 8 to 11% in the odds of having ever migrated when holding all other predictors constant.

Socio-economic status

We see that, as expected, social economic class is positively and significantly related with migration at the 5% significance level. The odds to migrate are 2 to 3 times higher for students who were in a high income class at the time of being at the high school than students from middle or lower class.

Next, we look at the effects of the variables regarding parental education and job, these are *Parentsecondary*, *Parenttertiary* and *Parentcollar*. We used them separately in the regressions as the correlations between these variables are strong and significant at the 5% level. In column 4 we see that parental education (*Parentsecondary*) is significantly associated with ever-migration, but not with current migration (column 7). Former top students whose parents attained higher than secondary education are about 4.5 times more likely to emigrate than former top students whose parents did not. Note that variegated tertiary education became available in Suriname only since 1976, which is why most of the parents who continued their studies after secondary education had to go abroad. Instead of *Parentsecondary* we also used *Parenttertiary* in the regression of column 4. *Parenttertiary* is an indicator variable, which takes a 1 or a 0 indicating whether at least one parent attained tertiary education abroad or not. We obtained similar statistical significance and logit coefficients as with the *Parentsecondary* variable, however the results are not reported here as model did not fit well.

We also expected that former top students whose parents have/had a white collar job (*Parentcollar*) will be more likely to migrate, as we expect that those parents have higher income and a broader view of the world (which is supportive for international education) and thus are more

[14] The tests were: the Hosmer and Lemeshow test for model fit, less than 5% of residuals may be higher than |2|, DFBeta's and Cooks values should be less than 1, VIF test for multicollinearity (Field, 2009), de ROC curve test for model fit and the link test on the link between the squared predicted value and the dependent variable (see: http://www.ats.ucla.edu/stat/stata/webbooks/logistic/chapter3/statalog3.htm).

able or willing to finance foreign studies for their children. Hence we also used the indicator variable *Parentcollar* instead of *Parentsecondary* in the regression of column 4. The results are not reported here, but we found the coefficient to be 1.013 and significant at the 5% level. This implies that the odds to migrate for former top students with at least one parent with a white collar job are 2.7 times higher than for former top students whose parents do/did not have a white collar job.

Also the last indicator of social-economic status, that is *Trips*, is positively associated with migration. Having had at least two trips or vacations in the Netherlands at the time of being in high school increases the probability to migrate significantly. Those who had at least two trips to the Netherlands are 2 to 5 times more likely to migrate to the Netherlands than those who had lesser trips or no trips at all, other things remaining the same. The effect is slightly smaller for current migrants than ever migrants.

Place of upbringing

Paramaribo *(Parbo)* has a significant and positive association with migration. The odds to migrate for respondents who used to live in the capital city of Suriname are 2 to 3 times higher than the odds for respondents who lived in another district (before they migrated). This supports the theory that it is easier to adapt in a foreign developed country when having lived in the capital of the home country (which is generally more developed than the other districts).

Social attachments

Familyned is also significant and hence a positive predictor of migration. The odds to migrate for respondents with half or more of the family living in the Netherlands are around 2 times higher than the odds of respondents with less than half of the family living in Suriname.

Instead of *Familyned* we also used *Parentned*, an indicator variable, which takes a 1 or a 0 indicating whether at least one of the respondent's parents lives in the Netherlands or not, in the regression. Note that when these variables are both included the prior one obtains an insignificant parameter estimate. Former top students who have at least one parent living in the Netherlands are significantly more likely to emigrate. The odds to migrate for respondents with at least one parent living in the Netherlands are about 4 to 5 times higher than the odds for respondents who do not have parents living in the Netherlands.

In the regressions where *Parentned* was used, we substituted *Born_abroad* for *Parentned*. The effects of the substituted variable were lower, implying that the social attachment with the parents is greater than the attachment with the foreign country by being born there. The coefficient of *Born_abroad* was significant at the 10% level in the comparable models of column 3 and 5 of Table 4 but not significant in the comparable model of column 4. The odds to migrate for former top

students who were born abroad were found to be 2 to 3 times higher than those who were born in Suriname.

Language command

The coefficient of the variable *Dutch* is positive and significant (only at the 10% level) in column 1, implying that migration is 2 times more likely for those who spoke Dutch as the main language at home than those who mainly spoke another language. The variable was not significant in the other models and was thus excluded to obtain better model fit.

Pure science

Threescience also has a positive significant effect on migration. Former top students who studied biology, physics and chemistry in high school are around 2 times more likely to migrate than those who did not study these three courses. This can be explained by the fact that a developed country such as the Netherlands provides more opportunities to study and work in the pure science branch. This branch is still underdeveloped in Suriname; research facilities and laboratories are generally deficient.

In a close-ended question we asked the current migrants whether technology and the access to technology in Suriname would be a problem for them if they would return and work in Suriname. 67% of the 108 current migrants indicated that the technology or the access to the technology in Suriname is inadequate. Apart from this, we asked all the respondents (all three subgroups) which country they would prefer when taking the quality of technology into consideration. Only 7% of the 246 respondents prefers Suriname, while 74% prefers the Netherlands. 19% was neutral.

Patience

The coefficient for this variable (*Patience1500*) is positive and significant at the 5% level in column 2 and significant at 10% level column 4, implying that patient former top students are about 2 times more likely to emigrate than impatient former top students. This variable was not a significant predictor of current migration and was thus excluded from the last three regressions.

Macro economy

The influence of the background characteristics of the former top students in the previous subsections were analysed on both ever-migration (including the remigrants) and current migration. The factors affecting ever-migration gives us more an insight on the decision to move, while the factors affecting current migration gives us an insight on the factors why former top students leave their home country. The macroeconomic factors (real exchange rate and difference in economic growth) are considered factors that are more tenacious in the migration decision which is why we

analyse their effects on the current migration and not on ever-migration[15]. We used the parallel real exchange rate and the difference in economic growth between Suriname and the Netherlands as indicators for the macro-economic situation of Suriname. The real exchange rate was positively associated with migration, suggesting that exchange rate depreciation induces migration. However, the coefficient was very small (0.001) and was not significant in none of the models and was thus excluded.

The coefficient for the difference in economic growth turned out to be significant at the 1% level in column 5. Holding other factors constant, the odds to migrate to the Netherlands increases by 11% when the difference in economic growth between Suriname and the Netherlands grows by 1 percent. This result is consistent with the theory which predicts that migration is encouraged by higher wage differentials between the sending and destination countries (Eggert et al., 2009; Beine et al. 2001).

Determinants remigration of high skilled Surinamese

33% of the surveyed high skilled emigrants returned to Suriname. For exploratory and comparative purposes in this section we use the same variables as in the previous section to predict return migration (remigration). The dependent variable takes the value 1 if the individual remigrated from the Netherlands to Suriname and 0 if the individual is a current migrant. The non-migrants are excluded from this analyses as we compare the migration behaviour of the remigrants with the current migrants. Again we include all relevant variables in the models and we stepwise delete variables that have associated parameters that are not significant at the 10% level. The estimation results appear in Table 5.

Macro economy

The difference in economic growth between the two countries at the time of finishing high school seems to leave an impression on the emigrant. The probability to return to the home country (Suriname) is larger for those who finished high school at a time of better economic circumstances in the home country. Other things being equal, the odds to return to Suriname increases by 13% for former top students who finished high school in the year when the difference in economic growth between the two countries narrowed by 1%.

[15] Analyzing their impact on ever-migration would have given us mixed results. For instance, the coefficient of *GDPdifference* (on ever migration) turned out to be negative, which would imply that current migrants and remigrants are less likely to leave Suriname when the discrepancy between the two economies (Suriname and the Netherlands) grows. In the case of the remigrants this conclusion would be at odds with the theory, which is why we analyze the macroeconomic effects only on current migration and not on ever-migration.

Socio-economic status

The socio-economic status was comprised of the income class, the education and occupation level of the parents and trips abroad. Only the education level of the parents was significantly associated with return migration. The likelihood to return is higher for former top students who have at least one parent with tertiary education (higher than secondary education) than those whose parents are less educated. Holding other factors constant, the odds to return is 2.4 times higher for former top students whose parents attained higher than secondary education than those whose parents did not. Parents who went abroad for higher education might have encouraged their children to do so as well. Since most of the tertiary education was not available in Suriname in the past, parents had to go abroad to study (via scholarships) and return[16]. They might have encouraged their children to do so as well.

Social attachments

Having been born in Suriname is positively associated with return migration and is significant at the 10% level. The odds to return is 2.8 times (=1/0.368) higher for former top student who were born in Suriname than for those who were born in the Netherlands, when holding other factors constant. Social attachments with the source country increases the migration costs; in this case the mental costs of migration.

Place of upbringing

While it is easier to adapt abroad for emigrating former top students who used to live in the capital city of Suriname, this seems not the case for those who were brought up in the districts (rural area's). The odds to return to Suriname is 2.2 times (=1/0.453) higher for former top students who were brought up in the districts instead of the capital city when holding the other factors constant. The coefficient for this variable is significant at the 10% level.

Reasons to migrate

We also asked the current migrants an open ended question on what the main reason of their migration decision was. Figure 5 presents an overview of the current migrant's main reason to leave for the Netherlands and Figure 6 presents their advice to the government of Suriname. Figure 6 illustrates the remigrants' main reason to return to Suriname. 84% of the current migrants stated that to go abroad to study was the main reason to migrate. The other reasons, namely: to go abroad to work, to live together with the life companion and to leave because of Suriname's political situation in the 1980's, were small but equally important reasons. Patriotism or the urge to contribute to the

[16] The probability that parents who enjoyed tertiary education (or higher than secondary education) and now live in the Netherlands was not significantly different from parents who enjoyed tertiary education and now live in Suriname, indicating that parents who enjoyed their tertiary education in the Netherlands did not necessarily stay abroad.

development of the home country was the most cited reason to return for the remigrants (see Figure 7). The second most important reason was that many returned for their parents or family living in Suriname and for the lifestyle[17] of the country.

6. Conclusion

This paper analysed the microeconomic determinants of high skilled migration from Suriname to the Netherlands. Based on Gibson & McKenzie's (2011) questionnaire 286 former top students of Surinamese origin now living either in Suriname or in the Netherlands were surveyed. We tracked down more than half of the population of interest and we found the sample to be representative. 63% of the former top students of Suriname migrated to the Netherlands, of which 33% returned to Suriname.

Our overall conclusion is that the main predictors of skilled migration are: the socio-economic status of the parents, the social attachments with the country where one moves to, the place of upbringing, the language command, patience and the difference in economic growth between the countries. The parallel real exchange rate did not affect migration. But as theory (Eggert et al., 2009; Beine et al., 2001), predicts the discrepancy in economic growth did affect migration. The larger the discrepancy in economic growth between Suriname and the Netherlands, the larger the probability to leave Suriname. On the other hand the smaller the discrepancy in economic growth at the time of leaving the home country the larger is the probability to return to the home country. Other factors associated with return migration are: having parents with tertiary education, the place of upbringing and the place of birth.

Our survey results support Borjas's theory (1987) that when the income in the destination country is higher than in the home country, migration will take place. At the microeconomic level we found the average income of the current migrants to be higher than the non-migrants' income in Suriname. At the macroeconomic level it was shown in Dulam & Franses (2011) that higher wages abroad induces emigration in Suriname. In an open-ended question we asked the migrants what advice they would give to the government of Suriname to attract skilled workers back. Providing suitable jobs (in a professional environment) to return migrants and matching salaries were the most common advices given by these individuals.

Migration will take place when the costs of migration is lower than the earnings (Borjas 1987). As measuring the costs of migration was not feasible, we looked into factors associated with the costs. Families that are well off have less difficulty in paying the costs than families who are not. Obviously, higher educated parents will earn more and are more likely to take holidays abroad. Our

[17] As Suriname has a stable tropical climate it was not surprising to know that many people experienced the country to be more open and free (as in: the opportunity of being more outside) and more hospitable than the Netherlands.

survey results affirmed that being from a higher income class, having parents who took tertiary education (abroad), and having had trips abroad are significant predictors of migration. Migration is also more likely for those who have lower adaptation costs. Being born abroad or having parents or family living in the Netherlands and having enjoyed education in the capital city of Suriname reduce the adaptation costs. These factors are also significant predictors of migration. On the other hand return migration is more likely for former top students who were born in Suriname rather than abroad and for former top students who were brought up in the districts rather than in the capital of Suriname.

Most of the explanatory variables are associated with the position of the former top students' parents, which is in accordance with the result of several other empirical studies (for example Lu et al., 2009 and De Jong, 2000). These are: the education and occupation level, the social economic class and the place of residence of the parents. Also return migration is associated with the education level of the parents and with the social bonding (via parents and family) with the home country. Next to the income and costs elements in modelling migration the role of the parents and the quality of education should be taken into consideration.

7. Policy implications

Migration appears to be linked to the desire of pursuing tertiary education abroad. The majority of the respondents migrated to the Netherlands for studying purposes. We found that respondents whose parents took tertiary education abroad followed the footsteps of their parents. In particular, respondents who choose pure science courses in high school left the home country, reflecting poor confidence in the quality of higher education of the home country. Note that Suriname has only one university with very few faculty members with a doctorate and very few Master study programs, of which only one or two are accredited. The majority of the Bachelor programs are not accredited. Some respondents remarked that they would rather stay in the Netherlands because of better education opportunities for them and their (future) children. Improvement of the education system was one of the main suggestions given by migrants.

In this regard two main recommendations can be made. Firstly, to contribute to Suriname's human capital formation, Suriname should arrange scholarship programs (with the condition to return) with developed countries in a systematic way, especially with the Netherlands. Scholarships should in particular be granted to top students from low or middle income class, as they cannot afford to pay for the migration costs and thus miss the opportunity to further educate themselves at an international level. Furthermore we saw that the chances to attain higher education at an

international level are lower for women, which is why policies should focus on a fair distribution of scholarship grants.

Secondly, the University of Suriname should structurally increase its number of qualified faculty members. By sending students and faculty members (with the condition to return) abroad to attain MSc and PhD degrees or to specialize, these individuals could be deployed at the university in order to transfer the gained knowledge and skills in the home country. This will gradually improve the quality of higher education at home and will also contribute to the accreditation process of the university.

Restrictive migration policies in the era of globalization, innovation and international communication are not recommended, especially as migrants and remigrants are generally higher educated than non-migrants and which might result in brain gain. Remigrants bring back expertise to the home country and emigrants stay in touch with the home country and transfer knowledge and remittances. Economic growth will encourage return migration as implicated by our survey results. Furthermore, policies should focus on sending potential candidates intentionally abroad to study with the requisite to return and on improving professional environments and matching salaries for migrants to make it gainful for them to return. In an open ended question we asked the migrants what they would advise the government of Suriname to attract them back to Suriname. Professional environments and compatible salaries were the main recommendations. The second main advice centred on the eradication of corruption, nepotism and bureaucracy; notice that these are all factors undermining the professional environment and the economic growth of Suriname. Other policy recommendations were economic stability, and more importantly, political stability, safety, and accessible and credible land and house procurement. And finally, as we saw that while Surinamese are pursuing education abroad, the main reason to return is the social attachment they have with Suriname (patriotism and family), which is why it would be beneficial to facilitate the contact with migrants. Contact and keeping them informed is also one of the recommendations given by migrants.

Policy measures to contribute to Suriname’s human capital formation should be undertaken in cooperation between Suriname and the Netherlands. Policy actions regarding improvement of tertiary education, good governance and political and economic stability should be undertaken by the Surinamese government so that the country becomes attractive for top students to work and to live in.

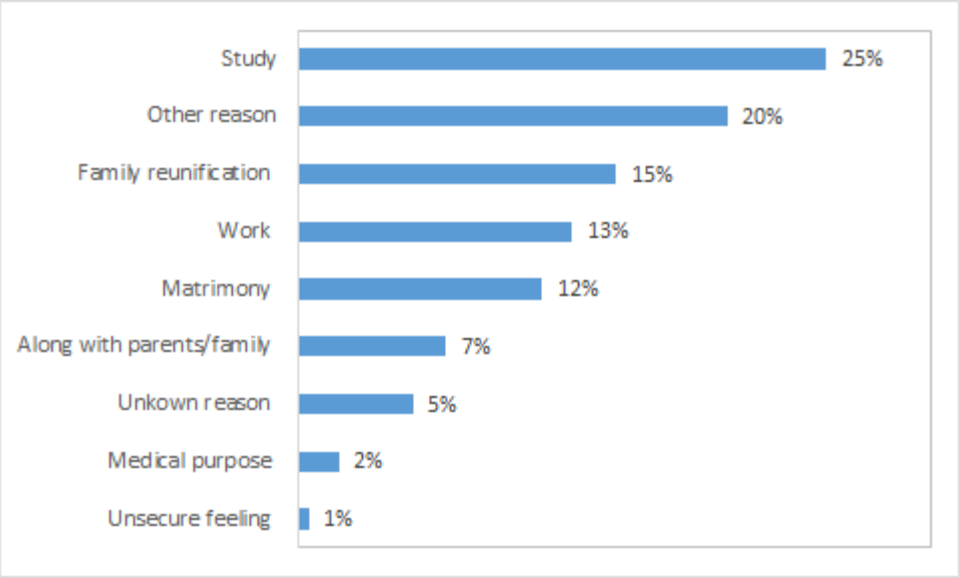

Figure 1: Reasons of emigration from Suriname between 2004 and 2012, N = 2241

Source: ABS, 2013

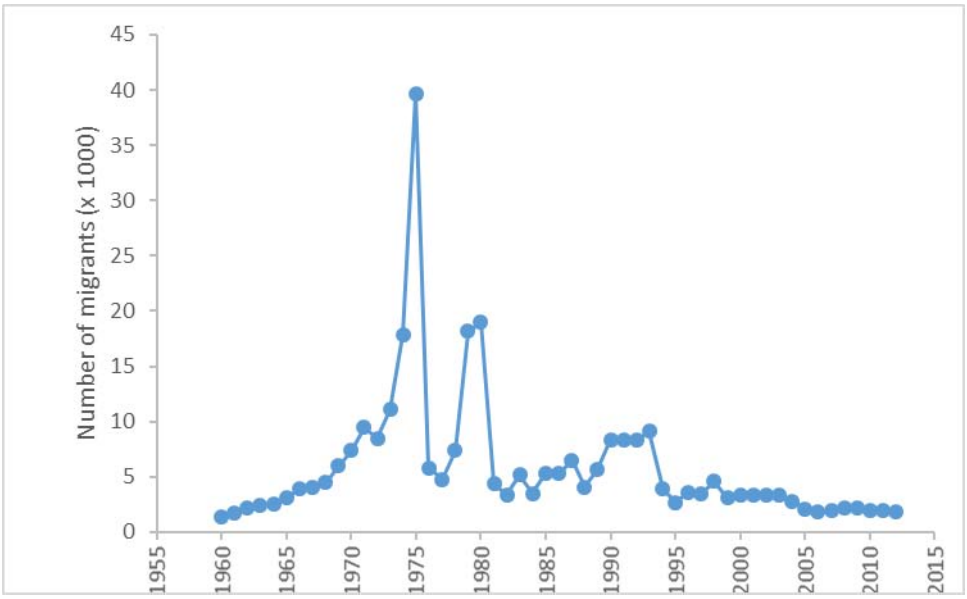

Figure 2: Surinamese immigrants in the Netherlands

Source: cbs.nl (2014)

Figure 3: Conceptual framework

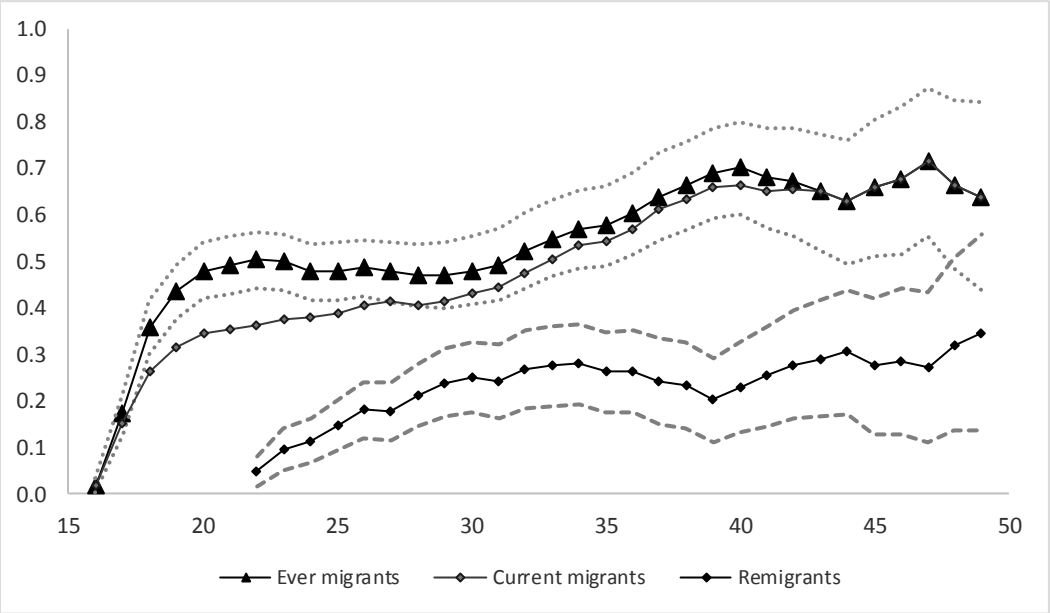

Figure 4: Migration and return migration by age

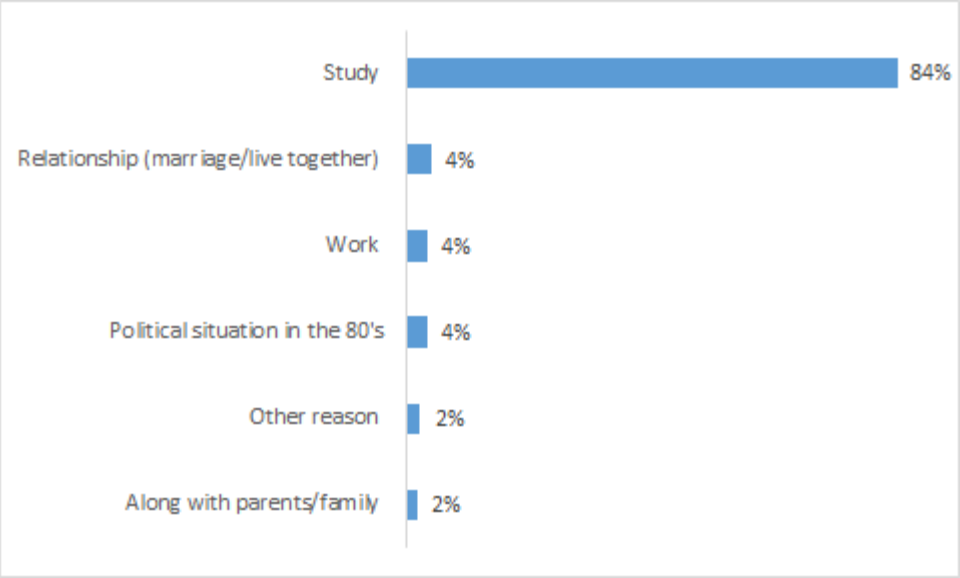

Figure 5: Reasons for emigration among former top students; N =166

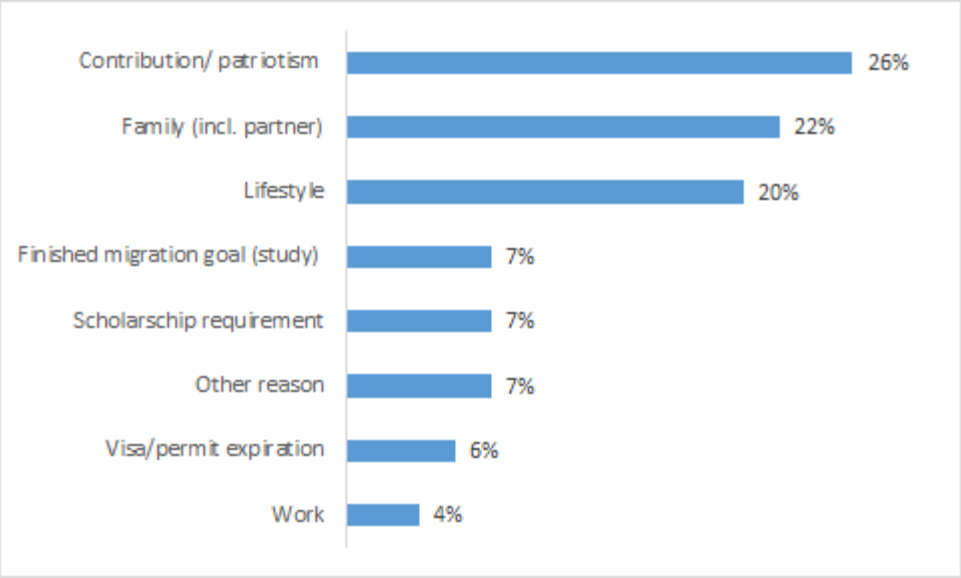

Figure 6: Reasons to return former top students; N = 54

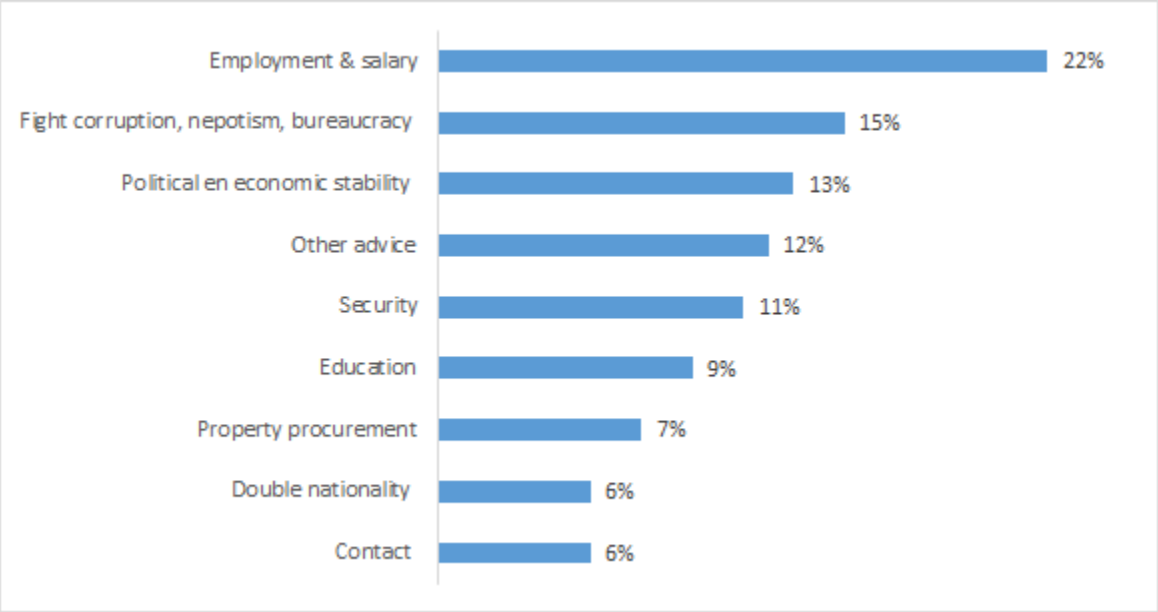

Figure 7: Advice to the government to attract skilled emigrants back to Suriname; N=90

Table 1: Demographics

Variable	Item	Overall	Current migrants	Remigrants	Non-migrants
Gender	Male	46.3%	56.0%	44.6%	36.0%
	Female	53.7%	44.0%	55.4%	64.0%
	N	272	116	56	100
Ethnicity	Maroon	0.7%	0.0%	0.0%	2.0%
	Chinese	9.9%	10.3%	12.3%	8.0%
	Creole	11.0%	12.1%	14.0%	8.0%
	Mixed	29.3%	35.3%	29.8%	22.0%
	Hindustani	41.4%	37.9%	40.4%	46.0%
	Javanese	5.9%	1.7%	1.8%	13.0%
	White	1.8%	2.6%	1.8%	1.0%
	N	273	116	57	100
Age	Mean	35.44	38.05	37.77	31.5
	St. dev.	8.193	8.803	7.906	5.947
	Minimum	24	24	26	24
	Maximum	59	59	53	56
	N	286	116	57	100
Nett income p/month in EURO	Mean	2637.81	3782.61	2628.92	1391.05
	St. dev.	2671.91	2927.58	2791.97	1596.78
	Minimum	163	200	200	163
	Maximum	22000	22000	12000	10000
	N	226	92	48	83
Number of working hours p/week	Mean	41.75	41.02	44.41	40.97
	St. dev.	12.56	9.98	13.75	14.44
	Minimum	8	16	20	8
	Maximum	100	75	100	90
	N	243	103	51	86
Highest degree	Bachelor	21.5%	9.6%	8.9%	44.0%
	Master	67.4%	78.9%	75.0%	48.4%
	PhD	6.9%	8.8%	12.5%	1.1%
	Other	4.2%	2.6%	3.6%	6.6%
	N	261	114	56	91
Place of 1st tertiary education	Suriname	45.3%	11.3%	29.1%	94.8%
	The Netherlands	51.7%	83.5%	70.9%	3.1%
	Other country	3%	5.2%	0.0%	2.1%
	N	267	115	55	97
2nd tertiary education attainment	No	49.1%	46.1%	38.2%	58.8%
	Yes	50.9%	53.9%	61.8%	41.2%
	N	267	115	55	97

Table 2: Determinants income

Dependent variable: the log of income (in EURO)		
	Model 1	Model 2
Predictor	Coefficient	Coefficient
Current migrant	0.768***	0.903***
	(0.126)	(0.118)
Remigrant	0.282**	0.411***
	(0.142)	(0.133)
Female	-0.242**	-0.254**
	(0.098)	(0.097)
Age	0.019***	0.026***
	(0.007)	(0.006)
PhD	0.431**	
	(0.215)	
Msc_social	0.068	
	(0.148)	
Msc_tech	0.185	
	(0.150)	
Msc_medic	0.480***	
	(0.155)	
Other	-0.441*	
	(0.245)	
Constant	6.428***	6.225***
	(0.234)	(0.233)
R-square	0.435	0.397
Adjusted R-square	0.410	0.386
F-statistic	17.516***	35.768***
# Observations	215	222

The study levels (PhD, MSc, Other) are with respect to a BSc or Higher Vocational degree. The migration status (current migrant and remigrant) are with respect to the non-migrant.
***,** and * refer to respectively 1%, 5% and 10% significance levels. Standard errors are in parenthesis.

Table 3: The incidence of migration

	Percentage	Confidence interval (95%)
Ever migrated	63.1%	[57.4%, 68.8%]
Remigrated	32.9%	[27.3%, 38.5%]
Current migrants	42.1%	[36.3%, 47.9%]
# Observations: 274		

Table 4: Determinants of high skilled migration

Dependent variable: migration ever									**Dependent variable: migration current**					
	(1)		**(2)**		**(3)**		**(4)**		**(5)**		**(6)**		**(7)**	
Variable	**Coeffi-cient**	**Odds ratio**	**Coeffi-cient**	**Odds ratio**	**Coeffi-cient**	**Odds ratio**	**Coeffi-cient**	**Odds ratio**	**Coeffi-cient**	**Odds ratio**	**Coeffi-cient**	**Odds ratio**	**C Coeffi-cient**	**Odds ratio**
Female	-0.785**	0.456	-0.591*	0.554							-0.437	0.646	-0.629**	0.533
	(0.305)		(0.306)								(0.327)		(0.285)	
Age					0.089***	1.093	0.108***	1.114	0.077***	1.080				
					(0.032)		(0.033)		(0.022)					
Agefemale					-0.005	0.995								
					(0.011)									
Socioclass	0.827**	2.287	0.941**	2.562	1.068**	2.910	0.596	1.814	0.442	1.556	0.731**	2.076	0.638*	1.894
	(0.374)		(0.375)		(0.439)		(0.467)		(0.325)		(0.367)		(0.329)	
Parbo	0.825**	2.281	1.028***	2.794	0.878**	2.406	0.787*	2.197	0.696**	2.006	1.033***	2.810	0.897***	2.452
	(0.333)		(0.335)		(0.389)		(0.402)		(0.343)		(0.380)		(0.337)	
Trips	1.380**	3.974	1.474**	4.368	1.510**	4.527	1.235*	3.437	0.978**	2.660	0.520	1.682	0.861**	2.365
	(0.573)		(0.589)		(0.621)		(0.656)		(0.415)		(0.444)		(0.417)	
Threescience	0.746**	2.109	0.616**	1.851	0.371	1.450			0.333	1.395	0.659**	1.933	0.497*	1.644
	(0.302)		(0.306)		(0.358)				(0.293)		(0.335)		(0.311)	
Familyned	0.859***	2.361	0.868***	2.381					0.695**	2.004			0.883***	2.419
	(0.303)		(0.309)						(0.310)				(0.311)	
Parentned					1.470***	4.351	1.635***	5.127			1.701***	5.479		
					(0.553)		(0.467)				(0.414)			
Parentsecondary							1.509***	4.522					-0.113	0.893
							(0.418)						(0.312)	
Dutch	0.661*	1.936												
	(0.376)													
Patience1500			0.789**	2.202	0.735	2.086	1.509*	2.383						
			(0.385)		(0.462)		(0.481)							
GDPdiff									0.101***	1.106	0.033	1.034	0.048	1.049
									(0.035)		(0.037)		(0.031)	
Constant	-1.437***	0.238	-1.806***	0.164	-4.483***	0.011	-5.465***	0.004	-4.426***	0.012	-1.860***	0.156	-1.806***	0.164
	(0.471)		(0.522)		(1.080)		(1.182)		(0.805)		(0.467)		(0.442)	
Nagelkerke R-square	0.283		0.291		0.378		0.447		0.233		0.275		0.208	
Model Chi-square	58.807***		59.005***		63.358***		76.994***		47.613***		45.630***		41.115***	
# observations	253		245		194		192		250		199		245	

***,** and * refer to respectively 1%, 5% and 10% significance levels. Standard errors are in parenthesis.

Table 5: Determinants remigration

Dependent variable: Remigration		
Predictor	Coefficient	Odds ratio
GDPdiff	-0.125***	0.882
	(0.039)	
Parentsecondary	0.862**	2.368
	(0.380)	
Born_abroad	-1.00*	0.368
	(0.515)	
Parbo	-0.791*	0.453
	(0.449)	
Constant	-0.472	0.624
	(0.410)	
Nagelkerke R-square	0.161	
Model Chi-square	19.272***	
# Observations	157	

***,** and * refer to respectively 1%, 5% and 10% significance levels. Standard errors are in parenthesis.

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Appendix 1: The response rates

School	Years covered	Population that should receive an invitation	Population that received the invitation	Number surveyed	Survey rate
AMS	1975 - 2006	105	94	65	69%
Lyceum 1	1976 - 2006	142	142	76	54%
Lyceum 2	1988 - 2005	103	93	59	63%
VWO-IV	1995 - 2006	17	17	11	65%
Vrije Atheneum	1975 - 1982, 1992 - 2005, except: 2000-2002	25	24	15	63%
SGN VWO	1988 - 2006	21	22	14	64%
SGL VWO	2001 - 2006	22	19	12	63%
Total VWO		*435*	*411*	*252*	*61%*
SGN HAVO	1988 - 2006	5	4	2	50%
SGL HAVO	2002 - 2006	6	6	3	50%
HAVO 1	1990 - 2005	22	23	10	43%
HAVO 2	1981 - 2006	58	44	14	32%
HAVO 3	2005 - 2006	9	9	5	56%
Total HAVO		*100*	*86*	*34*	*40%*
Total		535	497	286	58%

Appendix 2: Statistical information on the explanatory variables

Variable	Description	Measurement	Percentage/ Mean (S.D.)	Min	Max	N
Demographic variables						
Age	Age of the respondent	Years	35.44 (8.19)	24	59	286
Female	Gender	1 = Female 0 = Male	54.74% 45.26%	0	1	285
Socio-economic status						
Socioclass	Social economic class when the respondent was in high school	1 = High or high-mid income class 0 = Mid, low-mid or low income class	26.07% 73.93%	0	1	280
Parentsecondary	At least one of the parents have higher than secondary education	1 = Yes 0 = No	39.21% 60.79%	0	1	278
Parenttertiary	At least one of the parents had his/her had tertiary education abroad	1 = Yes 0 = No	31.50% 68.50%	0	1	273
Parentcollar	At least one of the parents has/ had a white collar job	1 = Yes 0 = No	31.00% 69.00%	0	1	273
Trips	Two or more trips abroad when in high school	1 = Yes 0 = No	14.89% 85.11%	0	1	282
Place of upbringing						
Parbo	Respondent lived in Paramaribo (capital of Suriname) when in high school	1 = Yes 0 = No	74.36% 25.64%	0	1	273
Social attachments						
Born_abroad	1 if respondent is born abroad and 0 if in Suriname	1 =Yes 0 = No	12.59% 87.41%	0	1	286
Parentned	Atleast one of the parents lives(d) in the NL	1 =Yes 0 = No	22.00% 78.00%	0	1	227
Familyned	At least half of the family lives in the Netherlands	1 = Yes 0 = No	64.00% 36.00%	0	1	283
Business	Parents have/had a business	1 = Yes 0 = No	38.43% 61.57%	0	1	281
Language command						
Dutch	Dutch was main language at home when in high school	1 = Yes 0 = No	81.27% 18.73%	0	1	283

Variable	Description	Measurement	Percentage/ Mean (S.D.)	Min	Max	N
Pure science						
Threescience	The respondent studied Biology, Physics and Chemistry in high school	1 = Yes 0 = No	52.45% 47.55%	0	1	286
Risk and patience						
Risk	An 11 point scale is used to measure whether the respondent is someone willing to take risks in live.	11 point scale, where 0 = no risk at all and 11 = always willing to take risks	7.02 (2.16)	0	11	282
Patience1500	If the respondent was given a certain amount of money would he prefer to receive €1000 today or €1500 after a year	1 = After a year 0 = Today	80.44% 19.56%	0	1	271
Macro economy						
Paraexch	The number of local currency needed to buy 1 $ in the market divided by the ratio of local consumer price index over the price index of the United States of America.	Index, where the higher values indicate overvaluation of the local currency	220.15 (123.19)	79.75	556.5	285
GDPdiff	Economic growth of Suriname minus economic growth of the Netherlands	Economic growth is the log difference of the real GDP per capita of year t with respect to year t-1	-0.36 (4.80)	-16.8	8.83	282