

# Return Migration of Aruban Students

Jonathan Upegui



## **Return Migration of Aruban Students**

**Abstract:** This paper analyses the return migration intentions of Aruban Students by way of a logit analysis. Aruban students do not have much choice to further their education in Aruba and hence must move abroad. The question asked is whether these students return when they have completed their studies. The Aruban government has even announced a policy to attract Aruban students. Will this policy be successful? And if these students are not returning to Aruba, where are they migrating to? Or are they staying in the Netherlands?

**Keywords:** Migration, Return migration, Students, Aruba, Policy

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## 1. Introduction

Every year, hundreds of Aruban students go abroad to further their education. Whether they return to Aruba once they have completed their study is less clear. In October 2009, the current government of Aruba proposed a policy that will give a 30 percent debt discount on the Arubalening to every Aruban student who returns to Aruba within 3 years of completing their study. This policy has not yet been passed, rather it is in its initial stages and no final date has been set on when it will actually be implemented. However, students can already apply for this discount. One of the reasons behind this policy is that there is an apparent “brain drain” movement with regards to Aruban students. Meaning that, for some reason or other, Aruban students, who have completed their higher education abroad, are not returning to Aruba.

In this paper I intend to study the determinants that affect the decision of Aruban students to return to Aruba once they have completed their studies. My research question is three fold: Firstly, are Aruban students returning to Aruba once they have completed their studies? Secondly, what are the determinants that affect Aruban students’ decision to migrate from the Netherlands back to Aruba? And thirdly, has the policy announcement affected students’ decision to return? To my knowledge, this is the first study of migration of Aruban students.

Regarding the third research question, it is the anticipation of the policy change that interests me. As I have mentioned, students can already apply for this discount. In an interview<sup>1</sup>, the first student who applied for this discount was asked whether she intended to return, even before this policy announcement. Her answer was yes, but she was glad that now she would have to pay less money, which would not have occurred, had she stayed in the Netherlands. Thus, it is possible that this policy does not alter the decision of students, but only benefits those were already planning to return to the island. This brings a discussion forward, whether this policy is beneficial (the first research question will assess the amount that could possibly be influenced to return) and if not, what other policies could be implemented (the second research question could possible shed light to this) that does show some benefits. Next to these three questions, it is also of some interest where Aruban students

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<sup>1</sup> This interview was conducted by the RNW and can be found on their website. The link is found in the references page.

are migrating to if not to Aruba. This is why I will also examine how many students will emigrate from the Netherlands and to which countries are they most willing to migrate to.

The structure of this paper is as follows. First, I will present some background information with regards to Aruba. This is to give the reader an impression of the situation on the island. I will elaborate on the labor market of Aruba, trends in migration and the education system of Aruba. Secondly, I will present a literature review on several theories of migration and a possible method of analyzing migration. Thirdly, I will present the models which I will use to analyze the research questions. These models will be created by using the theories which were presented in the literature review. Following that, I will give the results of the analysis. Finally, I will give my conclusion and some discussion.

## **2. Background**

In this chapter I will present several aspects that give insight on the situation in Aruba. I will provide some details on the Aruban labor market, present recent migration data and also data on the number of students that go abroad to further their studies and also the reasons as to why they go abroad in the first place. This information is important for the analysis of the research questions.

### **2.1 The Aruban labor market**

The main source of economic activity in Aruba for years now has been the tourism industry. In fact, it is estimated that approximately 27.900 jobs created during the 1960-2000 period are attributable to the expansion in the tourism industry. The increase of the labor force after 1960 has been much larger than the growth of the working age population which implies a significant increase in labor force participation (CBS, 2003: 21-22). According to the Chamber of Commerce and Industry of Aruba (2007), growth in jobs in recent years can be attributed to the change in scale of the economy and society which created demand in services both in the private sector and the public sector instead of the tourism industry. There was a job growth of 10.000 in the private sector in 2005 compared with 1996. In this same period hotel rooms, which is the main indicator of growth in tourism, did not change by a substantial amount (6.944 in 2005 compared with 6.641 in 1996).

Table 1 presents some data on Aruba's labor market. In Aruba, labor data are not gathered yearly but instead are gathered in different periods by way of a census or a Labor Force Study (LFS). It can be seen that employment rate in the last 17 years has been in the 60 to 70 percent ratio while unemployment has been floating around 5 and 8 percent. In 2007, of the 73.000 in the working age population, 51.000 were employed while only 3.000 were unemployed. The rest (19.000) were economically inactive. So before the financial crisis (this crisis started around 2007-2008), the situation in the labor market was stable and growing. The question is: what does the future hold in store?



**Table 1: Labor market statistics of Aruba for the period 1991-2007 (absolute numbers)**

	Census 1991	LFS 1994	LFS 1997	Census 2000	LFS 2007
Total population	66,687	78,450	87,720	90,506	104,006
Working age (15-64yrs) population	45,563	55,236	61,366	62,637	73,287
Total employment	28,740	35,743	38,736	41,286	50,967
Total unemployment	1,866	2,492	3,144	3,098	3,089
Employment rate in percentage	63.3	64.8	63.1	66.4	69.5
Unemployment rate in percentage	6.1	6.5	7.5	7.0	5.7
Participation rate in percentage	67.4	69.3	68.2	71.3	73.8

Source: CBS (2010a), Statistical yearbook 2009

The Central Bank of Aruba (2010) conducts its own analysis on the developments in the labor market and their conclusion is that in the short run future developments in the labor market will remain sluggish. Unemployment will continue to rise (table 2, 2010#) and this will most likely be in the construction section. This is under the assumption that the oil refinery on Aruba stays idle. On the other hand, A new hotel, the Ritz Carlton, will be under construction which will attract new jobs and if the oil refinery is restarted again, unemployment for 2010 (table 2, 2010\*) and for the future could fall<sup>2</sup>.

**Table 2: Unemployment rate in Aruba (2006-2010) in percentage estimated by the Central Bank of Aruba**

Year	Unemployment rate
2006	9.3
2007	7.1
2008	6.9
2009	11.3
2010#	12.4
2010*	9.0

Source: Central Bank of Aruba (CBA) (2010), Report 2009: Economic and Financial developments

#: Under the assumption that the oil refinery stays idle

\*: Under the assumption that the oil refinery restarts

<sup>2</sup> Update: the oil refinery has indeed restarted and in the Central Bank's recent Economic Forecast Monitor (2011) the unemployment rate for 2010 was estimated at 9.0 percent and the 2011 unemployment rate is forecasted at 7.9 percent.

If we look at Aruba's economy, it can be separated in four pillars: the construction industry, the oil refinery, tourism and the public sector. The growth in tourism brought also a growth in the construction industry (more hotels were built). These two sectors are mostly categorized as unskilled or less skilled labor sectors. This is important for my research questions, since the growth mostly applies to unskilled workers, it may not be attractive for Arubans studying abroad to return because they belong to the category of the skilled workers. Aruba also suffers from an aging population and a diminishing group of youngsters which enter the market to replace the seniors leaving the labor force (due to a lower birthrate) and this problem is increasing rapidly (Chamber of Commerce and Industry of Aruba, 2007: 9-10). It is essential then for Aruba that the students abroad return, since seniors who work as professionals are also leaving the market and Aruba will be in need of new professionals.

## **2.2 Migration in Aruba**

Aruba is one of the few countries in the Caribbean that has a net immigration and in 2000, the small island represented no fewer than 79 different nationalities and no fewer than 124 different countries of birth (Eelens *et al.*, 2005: 4-5). Ridderstaat (2002), who analyzed the causes of immigration in Aruba, drew several conclusions as to the causes of immigration in Aruba. He listed the following causes: the imbalance between demand and supply of labor which caused mass immigration in the 1990's; policy leniency hindered the adequate management of immigration; there were obstructions in migration flows; and the low skilled nature of the work performed by the immigrants makes one doubt that in the long run their jobs could be substituted by local Arubans. This is not to say that all Arubans are high-skilled. But it could be that employers decide to hire immigrants since they may be cheaper. Data on this however is very scarce. Figures from CBS (2000 and 2007) show that in the year 2000, 2,045 male foreigners worked in construction, while that number was 1,542 for locals. In 2007 however, it was 2,406 foreigners and 3,259 locals. Looking at the total number of workers in hotels and restaurants, in 2000 there were 4,429 foreigners and 3,213 locals. In 2007 there were 4,990 foreigners and 3,721 locals. The numbers that are the most striking are the ones that give the number of persons employed in the private household (maids for example). In 2000, 1,749 female foreigners were employed compared to 37 locals. In 2007, it was 1,020 foreigners and 71 locals. There are skilled foreigners who come to Aruba to work, namely, people from the Netherlands who come to work as judges, teachers, doctors and nurses etc. There is also an inflow of Latin American physicians. Even though we don't have enough data to create a trend and investigate it, we can say that in all probability, even in the

future there will still be an inflow of immigrants and when these leave they will be substituted by other immigrants.

**Table 3: Migration to and from Aruba for the period 2006-2009 (absolute numbers)**

	2006	2007	2008	2009
<b>Immigration</b>				
Dutch born in Aruba / Dutch Antilles	847	638	643	652
Dutch born in the Netherlands	623	465	510	566
Dutch born elsewhere	192	143	151	147
Foreign born	600	839	1,509	1,408
Total	2,341	2,157	2,885	2,833
<b>Emigration</b>				
Dutch born in Aruba / Dutch Antilles	813	921	1,059	1,180
Dutch born in the Netherlands	513	455	451	543
Dutch born elsewhere	159	202	251	247
Foreign born	237	260	291	363
Total	1,722	1,839	2,053	2,333

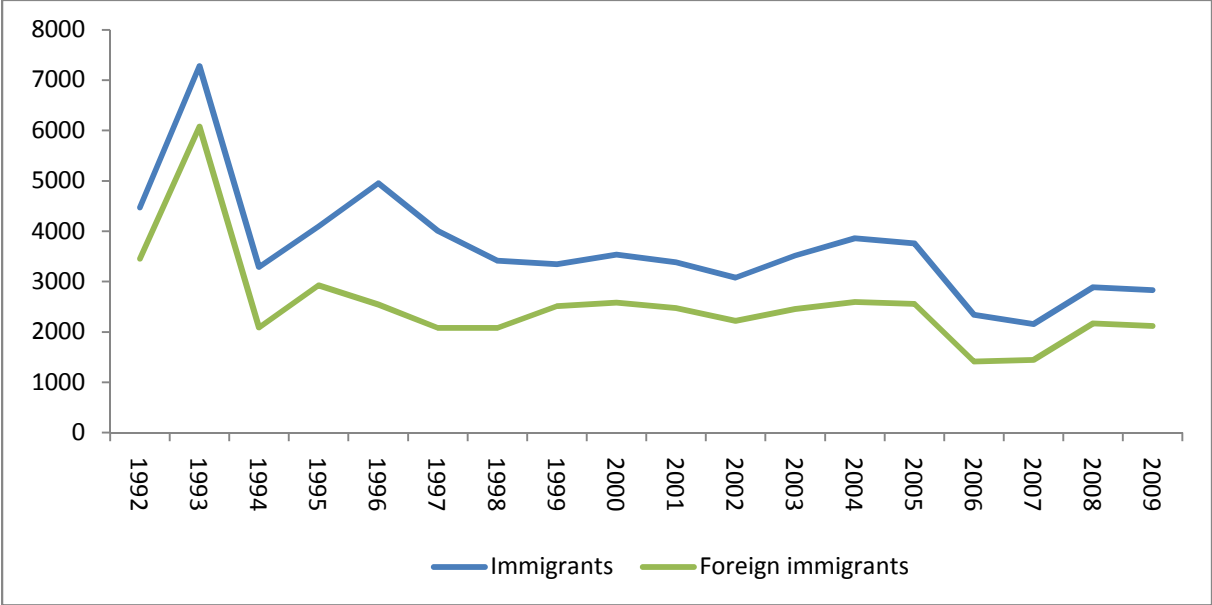
Source: CBS (2010b), Quarterly Demographic Bulletin, 4<sup>th</sup> Quarter,

Recent data on migration (table 3) show that fewer Arubans return to Aruba each year since the level of Dutch born in Aruba in 2006 has been higher than the recent 3 years. These can be labeled as return migrants and are the essential group for this study. Furthermore, in 2009 around 50 percent of immigrants were foreign born while only 23 percent were Arubans. This is important for the research questions since it is not known whether these Arubans are former students who went to receive an education abroad or not. There is no data however, that can label what type of Arubans return. The term “Dutch born elsewhere” defines the number of persons who have a Dutch passport but were not born in Aruba or the Netherlands. This could be, for example, someone who became Dutch through marriage, or by naturalization. Setting focus on emigration, 2,333 persons left the island in 2009. Of these persons more than 50 percent were Arubans. Since 2007, more Arubans leave the island compared to the numbers that return to the island and has been showing a sign of a rising trend. In the last 4 years, immigration has been higher than emigration and the conclusion that I can make from table 3 is that foreigners are replacing locals in Aruba.

Figure 1 shows a trend of the number of immigrants and the amount that are foreign immigrants. In this case Dutch born elsewhere and Dutch born in the Netherlands belong to the foreign immigrants group. It can be seen through the years, that the gap between total

immigrants and foreign immigrants has been closing. This means that fewer Arubans are returning (as was mentioned above). Immigrants are usually from Latin America, namely; Colombia, Venezuela and the Dominican Republic. Arubans who leave the country usually go to the Netherlands, the United States, the Netherlands Antilles and Canada. Regrettably, there is no available data on the percentage of people who migrate that are unskilled and skilled.

**Figure 1: Immigration to Aruba (total immigrants versus foreign immigrants) 1992-2009<sup>3</sup>**



**2.3 Education in Aruba**

The education system of Aruba is modeled after that of the Netherlands which has an elementary level education for all Aruban students from 6-12 years. Following that there is high school (secondary school) which is divided in four categories: EPB (preparatory low-level education, MAVO (preparatory mid-level education, HAVO (higher continued level education) and VWO (preparatory scientific education). The category in which each student is placed depends on their grades and a psychological test. There are three higher educational schools in Aruba, namely the EPI (professional education program) which has different programs ( from technical to social programs), the IPA which is a teachers college<sup>4</sup> and the

<sup>3</sup> Data for foreign immigrants in 1998 is missing, so the same data was used from 1997 to keep it at a level base, instead of leaving it open.

<sup>4</sup> IPA also provides a Bachelor of Papiamento Program

UA ( University of Aruba) which provides a Law faculty, a Finance and Economics faculty, a Hospitality and Tourism Management faculty and a faculty of Science and Art.<sup>5</sup>

The government finances the education system, except for private schools, which is a substantial part of government expenditures. Furthermore, these expenditures are higher than the average of the Caribbean region and the Latin American region. Table 4 presents data on government expenditures for the period 2000-2008. On average, from 2000 to 2008 the government spent Afls. 8.000 per student.<sup>6</sup> Over this period, the government has spent on average 12 percent of its total government expenditures on education which has been on average 4.4 percent of GDP. In 2008 total expenditures on education was Afls. 1.763.3 millions (CBS, 2010a : 40). If Aruban students go abroad and do not return, some part of this investment in education is lost since the Aruban economy and community will never get the returns from this investment.

**Table 4: Government expenditures on education in Aruba for the period 2000-2008**

Year	% of GDP	% of total government expenditures	Expenditures per student in Afls.
2000	4.7	13.4	7,701
2001	4.6	12.3	7,531
2002	4.6	12.1	7,414
2003	4.8	12.4	7,981
2004	4.6	12.1	8,333
2005	4.4	11.2	7,936
2006	4.3	11.7	8,173
2007	4.0	11.4	8,441
2008	3.9	10.9	8,554

Source: CBS (2010a), Statistical yearbook 2009

Aruban students do not have much choice to further their education on the island once they have finished secondary school. If you finish the HAVO or VWO, you only have options to attend the University of Aruba (UA) or the IPA, and if you finish the EPB or MAVO your only option is the EPI (when you complete the EPI you may have an option to attend the UA or IPA). Since this choice of higher education is limited, many students choose to follow their

<sup>5</sup> There are two medical universities, however these are private universities that rarely have Aruban student but rather foreign students.

<sup>6</sup> Afls. = Aruban Florin which is pegged to the Dollar at a rate of Afls. 1.78 per US. dollar

higher education abroad. Most of these students travel to the Netherlands, and a small amount travel to the United States, Canada, Costa Rica or other Latin American countries. Table 5 presents data on the number of students immigrating to the Netherlands for education purposes. For the period 2000-2010, more than 200 students travel to the Netherlands each year and on average it is 300 per year.

**Table 5: Number of students immigrating to the Netherlands for education purposes**

Year	Students
2000	228
2001	391
2002	338
2003	361
2004	281
2005	203
2006	229
2007	250
2008	339
2009	319
2010	317

Source: Education Office Aruba, 2010

**2.4 Debt discount policy**

In October 2009, the newly formed government announced a new policy where Aruban students, would receive a 30 percent debt discount if they return to Aruba within 3 years of completing their studies abroad. The motivation behind this policy is that Arubans studying abroad, principally in the Netherlands, do not return once they have completed their studies. Financial reasons are stated as the main motive of not returning. According to the government, students have to pay back their debt in Euros while the Aruban currency is the Florin, this together with a floating exchange rate makes it complicated to repay the debt if they decide to return and work in Aruba. This leads to the point where many students do not return to Aruba and create a so-called brain drain. This is an investment that the Aruban government does not want to lose since the government starts investing in students when they are toddlers. The debt discount would be then implemented to stimulate Aruban students to return. Much of this policy and the conditions were not clear, even the amount of the discount was not concrete. In November 2009, the Prime Minister of Aruba had a gathering with Aruban students in Rotterdam where the discount was presented as “approximately 30 to 40

percent” on their Arubalening.<sup>7</sup> Yet the expectation of one receiving this discount is of importance on migration decisions.

In a press release of March 31<sup>st</sup> 2011, more information was given on this policy. This is one of the few instances when actual concrete information on the debt discount has been specified. This discount will in fact be 30 percent of the loan that students have with the government (the so-called Arubalening) and will not only be valid for students abroad but also students in Aruba. The Arubalening is not compulsory and the student may decide to discontinue it if they desire. Students receive the Arubalening for a maximum of 7 years. The total amount of debt from the Arubalening for a student living in the Netherlands may amount to approximately €40.000. The government does not want to bring distinction and potentially influence the choice of a student’s future education. Furthermore, the conditions were presented in the press release and are the following; all students who have completed their studies on the 30<sup>th</sup> of October 2009 and beyond are eligible for the discount, this is the date when the new government officially took control of Aruba; students must complete their study in the nominal study period, this condition is still not clear, only that the government mentions that every study must be looked at individually since there may be variations among studies; students must also return to Aruba within 3 years of completing their education abroad, this gives some leeway for students to earn some work experience abroad; students must work for 5 years in succession in Aruba once they have completed their studies and entered the Aruban labor market; finally, the remaining 70 percent of the debt must be paid according to the signed Arubalening contract. One must comply with all of these intentions in order to receive the discount.

These conditions were not stipulated in October 2009 and may yet have other effects on a student’s decision who may view this as jumping through many hoops in order to receive a discount. In addition, this policy is still in its introduction phase and no date has yet been set on when it’s going to be treated in the parliament, which could take some time and it is also possible that these conditions may be changed or modified. The Prime Minister of Aruba stated in an interview in April 2011 that next to this debt discount, Aruba needs the space to accommodate these new job seekers that the policy is likely to create. A better coordination between students on the verge of graduation and job vacancies is needed in order to find an adequate profession for these students.

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<sup>7</sup> This is taken from a news item on the website of one of Aruba’s newspapers namely, *Diario*.

## **2.5 Taking stock**

In this chapter, we learned that the growth in the tourism sector of Aruba created more unskilled jobs, meaning that the growth in the labor market of Aruba is one of mostly unskilled labor which is mostly performed by immigrants. This brings up the possibility of limited job options for returning students. For the last few of years, more Arubans have left the island compared to returning Arubans. Is this an indication for the future? Every year more than 300 hundred students go abroad to study, and when they conclude their studies they will belong to the pool of high skilled workers. The government has introduced a policy that aims to attract these high skilled workers. Will this policy succeed in attracting these high skilled workers? And if it does succeed, are their actually open jobs for them to fill?



### **3. Literature review**

This chapter presents a review with regards to migration and determinants of migration. Firstly, I will go over the different forms of migration. Following that, I will look in general at the determinants of migration. Following that I will present, by way of empirical papers, the economic, social and psychological determinants of migration.

#### **3.1 Forms of migration**

There is a distinction between types of migration, that is migration driven by economic motives and migration driven by natural disasters or persecution (Dustmann and Weiss, 2007: 237). Countries have different arrangements for the latter types of migrants, such as a place for asylum seekers. Migration driven by natural disasters or persecution is not of significance to my study, thus it will not be discussed further.

Migration due to economic motives can be distinguished between permanent migration and temporary migration. Permanent migration is considered when an individual leaves his home country forever but may remain in any other host country. The individual may even migrate between host countries and still be considered a permanent migrant as long as he or she does not return to the home country. Temporary migration is defined when an individual stays in a particular country for a limited period of time. This is from the viewpoint of the receiving country implying that an individual may be a temporary migrant and a permanent migrant simultaneously. These types of migration also hold within a country, but that is outside of the scope of my study.

Temporary migration can yet again be classified in four categories namely: circulatory migration, transient migration, contract migration and return migration. Circulatory migration is when the migrant workers move frequently between the host and source country, staying only for a short period in the receiving country, for example, for the harvest season. “Circulatory migration is often induced by a seasonal excess demand for labor in the immigration country that cannot be supplied by the native workforce at adequate prices” (Dustmann and Weiss, 2007: 238).

Transient migration is when an individual moves across different host countries before finally reaching a final destination. A good example of this, is the recent trend with illegal immigrants from Africa who enter Europe through Spain or Portugal and then make

their way across Europe before settling in Northern Europe (Germany or Sweden for example).

Contract migration is a temporary migration where an individual works and lives in the host country for a specific amount of time that is determined by a contract. An example of one these contracts is a work visa which in most cases has an expiration date.

Return migration is when a migrant worker returns to the home country, by his own choice, after a (significant) period abroad. This is the type one has in mind when one refers to temporary migration. It is possible that there are additional forms of migration or a combination of types such as the fact that circulatory migration is at often times also a contract migration. However, the above mentioned types serve as a convenient framework for the many types of migration that are observed (Dustmann and Weiss, 2007: 239).

Return migration is the type that is of most importance for this study, since almost all Aruban students studying in the Netherland are migrants. If and when they return to Aruba, they will be classified as return migrants. The distinction in this scenario is that the migrants are student and the theories of migration may have to be modified in order for them to apply to this group. The following section will give more insight into this.

### **3.2 Determinants of migration**

Neo-classical economic theory assumes that individuals maximize their utility. If this is applied to migration, it can be interpreted that an individual will migrate if it improves his or her overall welfare. This is revealed in Borjas (1989) where he states that there exists an “immigration market” in which migrants are sorted in potential host countries. An individual in a country considers the possibilities of remaining in the home country or to move to any other host country. Individuals make their decision by considering what is best for them given certain constraints. These constraints are not only financial ones but also legal ones such as migration policies that may prevent someone from relocating to a certain country. Countries “compete” with each other by way of these policies. For example, one country can have lenient policies which make it easier for individuals to migrate to that country. In addition, some countries may prevent departures of their residents making it very difficult if not impossible to migrate from the country. The main lesson from Borjas (1989) is that an individual will migrate to a country where his earnings (relative to his education and or skills) are higher.

The situation for Aruban students is distinctive to conventional migration, since they are relatively young individuals (with little or no work experience) who have already migrated

to the Netherlands. However, they did not migrate because of earnings but rather to invest in education, and if we assume that a higher education gives higher earnings, after they have completed their study they will migrate to a country that grants the most earnings with respect to their skill level. Earnings however should not be the sole point of concentration. Sjaastad (1962) in his analysis of migration treats migration as an investment which has costs attached to it but also gives out returns.

The costs of migration can be separated into two types of costs: the monetary costs and the non-monetary costs. The monetary costs consist of all increases in expenditures required for migration. For Aruban students, this includes all the costs of finding a new place to live in the Netherlands, but also the future debt that has to be repaid once a student has completed his or her study. This is important because in theory, if a student earns more he can finish paying off his debts sooner. These costs have an effect not only when the student initially decided to move to the Netherlands but also when they consider their decisions to return to Aruba.

There are different forms of non-monetary costs that can be identified. Firstly, the opportunity costs of migration. These are potential earnings which one does not earn because of the process of migration (whether this is the amount of time it takes to find a new job or the time it takes to learn a new job). These types of opportunity costs may have only a mild effect on the Aruban students since it can be expected that they do not have a full-time job when they are currently studying, and a part-time job may not be as important to them to have a significant effect on their migration decision. A second form of non-money costs are the psychological costs. These consist of the feelings a person has with regards to leaving his current surroundings or his family and friends. "The non-money considerations involved in migration are surely significant, probably far more so than the money costs" (Sjaastad, 1962: 84). Setting focus on return migration, these psychological costs may give a twofold outcome. Firstly, as a cost when the student leaves Aruba, he will have to leave his family and friends (though the chance is high that his friends are also migrating to the Netherlands). Then again, these costs can also be observed as pull factor for a student when he has to make a decision to return to Aruba. Meaning that, the student may have a higher longing to return to his or her family.

The returns of migration can also be separated between non-money returns and money returns. The non-money returns of migration are returns that arise from an individual's preferences or tastes for a certain location. An easy example of this is the climate. People who prefer the sun would earn a high non-money return if they migrate to somewhere in the

tropics as opposed to somewhere where it is cold and rainy. Compared to Aruba, the Netherlands is colder and rainier implying that the climate in the Netherlands can be interpreted as a push factor encouraging Arubans to return home. The money returns of migration are the increases in revenue that migration brings. A student can simply ask himself whether he can earn more money in Aruba compared to the Netherlands and if he believes that this is true, he will return. This is important since in chapter 2 it was indicated that most of the growth in the Aruban labor market belonged to the unskilled sector, which these students do not fall into.

Summing up, the theory states that Aruban students will return to Aruba if the benefits for returning to Aruba are higher than the costs. And as was distinguished above, there are more than just the financial economic motives (earnings) that influence the decision to migrate. Family is also important. Personal characteristics may also influence the decision to migrate. So Aruban students theoretically must take into account all these motives and calculate their net differential for returning to Aruba. These forces will be further explained and applied to the scenario of Aruban students in section 3.4.

### **3.3 Student migration**

It is of some interest to take note of the determinants of international student migration, since it is possible that these factors, that have had influence on the student's intention to move abroad to study in the first place, might also influence their decision to return (or to not return). This section serves as a brief intermezzo in discussing international student migration

I will divide the determinants of international student migration in four categories<sup>8</sup>: The educational benefits, the costs of studying in a foreign destination, the non educational benefits and the possible negative factors in the home country. Firstly, the educational benefits arise in a variety of aspects. According to Agarwal and Winkler (1985) in their study of migration of foreign students to the US, it's the educational opportunities in the home country that affect the flow of foreign students. The fewer opportunities in the country of origin, the higher the likelihood that the student goes abroad for further education. That coupled with the quality of higher education are of importance. As was mentioned in chapter 2, there are only limited opportunities to further education beyond the secondary level in Aruba, which makes it appealing to study abroad. Furthermore, the quality of the higher education may not only come in the instruction but also in the sense that the higher quality

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<sup>8</sup> These are taken from Agarwal and Winkler (1985)

universities have access to a wide database which could facilitate research and quality of research. This is something that the University of Aruba is unable to facilitate due to its scale.

The costs that present themselves come in the form of living expenses, travel expenses, tuition fees, and possibly the opportunities to find a part-time job in the host country (for the foreign student) as opposed to the home country. These costs may hinder students' migration if they do not have the ability to pay. These costs however are mitigated for Arubans since they receive financial aid also called the Arubalening, which provides a loan covering the tuition and initial travel expenses to the Netherlands and they also apply for Dutch financial aid which also finances public transportation in the form of the public transportation card. Furthermore, students first receive Dutch as a language course in primary schools so the costs related to language barrier are also mitigated.

The non-educational benefits that present themselves when a student goes abroad to study are the following: the prestige that one receives when studying in a foreign (highly regarded) university, the international contacts that one establishes, the possible higher income expectancies and the benefits of living in a different culture. These are all benefits that Arubans receive while studying in the Netherlands and thus may have an influence on their decision to return since you may ask yourself why would a student return to a small island where he cannot exploit his international contacts that he has acquired, or to return to work for less pay.

The final determinant of student migration does not really apply to my study but it is worth mentioning. It is the situation that pushes students to study abroad because of political instability in their home country, or the fact that they may be racially or religiously persecuted.

King and Ruiz-Gelices (2003), investigate international student migration by looking at students and graduates of the University of Sussex who have spent some time abroad studying by way of the "year abroad experience"(YA). This is a program where students spent up to one year of their education studying abroad<sup>9</sup>. The results of the paper show that the career prospect of these YA students has been improved. More importantly, the YA graduates are more inclined to move to their YA country to work. When this is compared to the control variable (the non YA graduates), the YA graduates are twice as likely in migrating abroad after graduation and three times as likely to reside abroad. This study and sample is quite different from what I am focusing on but the lesson learned is that students who study abroad

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<sup>9</sup> The Erasmus program and Socrates program are examples of this "year abroad experience"

are inclined to live a more “global life”. And this would correlate with not returning to Aruba for the case of Aruban students.

### **3.4 Analysis of migration**

This section will focus on three papers that analyze migration. First of all, these papers all use survey data, which already gives the idea that I too will have to use a survey to gather data on Aruban students. Secondly, I will give more attention to one paper since I will apply its methods for my own analysis.

Zaiceva and Zimmerman (2008) analyze migration intentions EU10 and EU15 before and after the enlargements of 2001 and 2005. They focus mostly on the economic forces of migration. The determinants of migration that they investigate include, gender, age, marital status, years of schooling, satisfaction with salary, area where one lives and whether one is self employed and whether one belongs to the blue-collar or white collar sector. They focus on migration intentions in the next five years. According to their results, potential migrants are the ones that are young and better educated, since they have more time to reap the expected returns from migration. The higher educated probably face lower costs of migration and job search. Furthermore, if an individual is satisfied with the salary he is earning, he or she will be less willing to emigrate.

Young and better educated is the population that I intend on analyzing. What I can extract from Zaiceva and Zimmerman (2008), are the usual variables that are used as control variables. I would have to look at the potential future salary expectations for these students since they have no current salary (unless they have a part-time job next to studying). On the other hand, their analysis hardly deals with possible social factors, since they only focus on household size and the presence of children. Though, their results do show that married individuals and individuals with children have a lower willingness to migrate. It is certain that I would need to add more determinants to achieve a better comprehension on the student’s decision to return to Aruba.

According to De Jong (2000), expectations of attaining valued goals in an alternative location to the home community along with perceived family norms about migration behavior are the major determinants of migration intentions. This statement gives a better idea on analysis of migration, since it does not only take into account the economic forces, but also social ones. In fact De Jong’s (2000) methodology for analyzing migration in Thailand consider not only economic determinants, such as Zaiceva and Zimmerman (2008), but also looks at the attitude of family member’s with regards to migration and the presence of

relatives in the city of migration ( in this scenario it is Bangkok). In my scenario, the presence of family members in the Netherlands may influence the student to stay. The sample population in this analysis is understandably not compatible with my sample population, as the differences between Thailand and Aruba are immense. Furthermore, the paper mostly deals with migration within country and among the poorer population (mostly rice field workers). It is therefore, that the results are not of much consequence to the student's case. What is important, however, is that the results show that migration intentions can be used as a predictor of migration behavior.

Van Dalen and Henkens (2007) analyze emigration from a high-income country (the Netherlands) and take a broader view compared to Zaiceva and Zimmerman (2008) and De Jong (2000). They not only take into account individual characteristics that affect migration but they also consider the perceived quality of the public domain.

The individual characteristics can be distinguished under three forces: the economic forces, the social forces and the psychological forces. The economic forces have been presented in section 3.2 and the theory says that an individual will migrate where he can earn the most money. However, it is difficult to analyze wage differentials between countries thus another method must be conceived to analyze the economic forces. Van Dalen and Henkens (2007), use human capital to analyze these economic forces. Education, health and age may all play a role in the decision to migrate. It is expected that the higher educated may be more efficient in earning back the costs of migration, and may also adapt easier to conditions in the destination country. There are also more opportunities to work in the international labor market for the higher educated and they may have the ability to find a job easier than the lower educated. Following this, it can be interpreted that Aruban students, who are higher educated, may be more inclined to migrate since they have more opportunities. This does not necessarily mean that they will return to Aruba but at least they must be willing to migrate to improve their living conditions.

Next to the economic forces, social forces may influence decision to migrate. Social networks abroad (these include family and friends) may facilitate migration since they may give information about potential earnings in the country of destination, they may also help lower the costs of migration by helping you integrate and gather your bearings while you are in a new country. It can be assumed that the larger the number of emigrants in someone's social network, the stronger the intention it is that the individual will emigrate. For my study, this relationship may have the opposite effect, meaning that the presence of a large social network in the Netherlands will prevent the individual to return to Aruba. Furthermore, the

attitude of the partner of an individual may stimulate or hamper the individual's choice to migrate. If an individual's partner supports the idea of emigration, then the higher the likelihood that the individual will emigrate. In another study, Van Dalen and Henkens (2010), also focus on the attitude of the partner of an individual may stimulate or hamper the individual's choice to migrate. If an individual's partner supports the idea of emigration, then the higher the likelihood that the individual will emigrate. This is also important since an Aruban student may have a partner that is also Aruban, but he or she may also have a partner that is not, who might not be willing to move to Aruba at all.

Adding to the first two forces, there is the third one, psychological forces. These forces relate to the individual's personal traits and feelings. Van Dalen and Henkens (2007), focus on two main personality traits that might contribute towards migration intentions: sensation seeking and the level of self-efficacy. Sensation seekers are risk lovers and they may have a tendency to take more risks and they perceive the world as less threatening. Emigration may be seen as something very risky, hence the more risk loving the individual, the stronger the intentions to emigrate. Self-efficacy predicts the confidence in the ability to deal with change and unfamiliarity. Emigration can be a new and unfamiliar experience, so the higher an individual scores on self-efficacy, the stronger the intentions to emigrate.

What is recognized under public domain are variables that are not directly controlled by individuals and may relate to the government or to society itself. Focus must be set on public goods, such as safety and the quality of the environment. Following the theory, it can be expressed that individuals will migrate to destinations that fit their public good preferences. Similarly, negative externalities, such as noise pollution, may cause the individual to migrate from his current residence. It may be somewhat difficult to analyze this for my scenario. But the safety in Aruba can be considered. The level of safety is the results of the quality of law and order in a country; a public good which can be affected by the government by combating crime. It is hypothesized that safety in Aruba may have an effect on the intentions to migrate. Furthermore, focus must also be set on conditions in the Netherlands since there may be possible negative externalities that may cause an Aruban student to emigrate from the Netherlands.

Van Dalen and Henkens (2007) collected the data by way of two surveys. Emigration intentions were measured by asking whether the respondents intended to migrate in the near future. They also examined preparatory behavior by constructing a scale based on a set of three questions related to preparations to migrate to a certain country. They used an ordered probit model for their analysis.



Some of their results show that of the individual characteristics, all three (economic forces, social forces and psychological forces) have some influence on the intentions to migrate. Again it is the single, young and better educated group who are more likely to migrate. The larger the social network abroad increases the intentions to migrate. Furthermore, both sensation seeking and self efficacy play a role in migration intentions. Regarding public domain, the quality of public domain is also significant in explaining the intentions to migrate. More specifically, opinions regarding environmental pressure (lack of space, noisiness) were associated with intentions to migrate.

The three papers presented in this section each adds to the analysis of migration. Ultimately, to analyze the return migration intentions, I must set a focal point on the economic, social and psychological determinants of migration. Furthermore, I must also focus on the positive (and negative) effects of public living conditions in Aruba since they may also be determinants of migration.

### **3.5 Taking stock**

This chapter presented several forms of migration. The most important form for my study is return migration. Following that, determinants of migration were presented and can be distinguished between the economic forces that affect migration, and also the social and psychological forces. To analyze return migration to Aruba, I will apply the methods presented in section 3.4. This will be described in the following chapter.

## **4. Data and Methodology**

In this chapter I will present the model that I will use for my analysis. I will present step by step all aspects of the model. Furthermore, I will give information on the data. Finally, I will present all my hypotheses.

### **4.1 Data**

The data for my analysis will be gathered by way of a survey. The Arubahuis has a database with all the e-mail addresses of the current Aruban students. They have agreed to assist me in my study by forwarding the internet survey to the students. The Arubahuis is somewhat of an Aruban consulate or embassy in the Netherlands. It deals with matters that affect Arubans living in the Netherlands. This is the most effective method of spreading the survey. Another method would have been to receive the database and personally send e-mails but this may breach some privacy of the students. Before constructing the survey I interviewed several Aruban students regarding to pros and cons of living in the Netherlands and in Aruba. This was to get a grasp of the possible questions that I would have to include in my survey. After controlling for invalid responses, the survey gathered a total of 177 responses. The total amount of Aruban students according to the Arubahuis is approximately 1500, which gives my survey a response rate of 12 percent. In my meeting with the Arubahuis, I was informed that they usually achieve a 10 percent response rate with regards to surveys related to students. The survey was published and distributed in the last week of February 2011. A reminder was sent in the second week of March. There were some issues with some students from several cities mainly that they did not receive the survey. I sent another reminder to the Arubahuis in the last week of March regarding the issues that I have not received many responses from students in Amsterdam and Groningen. The reasons given for not receiving responses from these two cities were that the mentor in Groningen was ill and that students in Amsterdam are worn out by surveyors and might not be inclined to cooperate. Finally I sent the survey via a social network site in the last week of March in order to gather some observations from the aforementioned cities.

The variable of importance for this analysis is the return migration intention after one has completed their study. This is represented by the following question: How likely is it that you will return to Aruba within 3 years after you have finished your studies? Answers will be categorized in a five-category rating. Namely, (1) highly unlikely, (2) unlikely (3), neither likely, nor unlikely, (4) likely and (5) highly likely. I also look at likeliness that a student will

return within 5 years of finishing their studies. This is done because of the aforementioned (in chapter 1 and 2) debt discount that students receive if they elect to return within 3 years of completing their study. Students who decide to return to Aruba after 3 years cannot be influenced by the policy since they would be ineligible. It is also possible that students have a desire to return to Aruba but have a desire to gain a more substantial amount of experience as well. 5 years is an ideal interval since future plans may get more inaccurate the farther up ahead that you look (for example an interval of 10 years). More insight to the policy experiment is presented in section 4.5. It was crucial to use a five category rating since a yes-no type of rating would not have given the optimal answer, since I believe that Aruban students at some point will want return to Aruba. A yes-no type of questions might have influenced the students to answer a “yes”. Since they may feel that saying “no” would mean that they are never to return to Aruba.

In order to further the scope of the analyses, I have included other variables that look at migration excluding migration to Aruba. These are the following: how likely is it that you will emigrate from the Netherlands within 3 years of completing your studies and how willing are you to move in order to improve your living conditions. These will also be categorized in a five category rating.

Other general variables that have been gathered are the usual, age, gender, educational level, and marital status (also number of children). Marital status is a variable that one might think is odd to add to this analysis since it is students that we are dealing with. However, it must be recognized that there are cases in which students get married. To calculate the number of years that a student has spent and will spend in the Netherlands. I ask for the year in which they started their studies, and the year they expect to complete their study. The difference of these two variables will be used as an indication of time spent living in the Netherlands. Communication skills are important, for that reason I have included a set of variables that ask the students to assess their speaking and writing skills in several languages (Dutch, English, French and Spanish)

A key variable that is clearly visible is the previous job experience / internship experience in Aruba (or the Netherlands). Since my focus is on students, I can assume that the greater part of these students has not had much work experience. Hence, the little experience that they have may be of great influence to their choice of returning to Aruba. With regards, to network effects, I have included questions, which measure the number of family members that a student has in the Netherlands and also the attitude of the partner with regards to migrating to Aruba. Other social variables, relate to safety and security and the ability to share different

cultures. Regarding the expectations of return migrations, I have formed several questions, all in a five-category scale, relating to job opportunities, earnings, and career opportunities.

Concerning psychological forces, I have used the same criteria and same questions as Van Dalen and Henkens (2010), with regards to sensation seeking and self-efficacy. For both these two variables there are a set of 3 questions, with a five-point Likert scale answers attached to them. I will perform a reliability analysis to assess the consistency between these set of questions. A higher level of sensation seeking will lower the intentions to return to Aruba. This is equally said for self-efficacy. A complete version of the survey can be found in the appendix (A1).

#### **4.2 A model for return migration of Aruban students**

The model that I will use to analyze return migration of Aruban students is one that is similar to that of Van Dalen and Henkens (2010). I will study not only the economic forces that influence the return migration of students, but also the social and psychological forces. Furthermore, I will look at the possible forces that have an influence on living conditions. These are related to the public goods and externalities in Aruba (or the Netherlands)

The models that I present will contain some variables relating only to Aruba. These variables may have the effect to pull students back to Aruba. Similarly, I will also present some variables relating only to the Netherlands. These may have the effect of pushing the students from the Netherlands to Aruba. The effects of these variables should be opposite with regards to migration intention. A variable related to Aruba, that increases the intention to migrate, should have the opposite effect if that variable is related to the Netherlands. This will be explained more clearly in section 4.3. Furthermore, I will examine whether the students are expected to move out of the Netherlands but not return to Aruba. Also I will check if they generally are willing to migrate in order to improve their living conditions.

#### **4.3 Model 1: Return migration to Aruba**

This first model takes into account the characteristics that affect the expectation of student's decision to return to Aruba once they have completed their education in the Netherlands. These characteristics are divided into four categories mainly economic forces, the social forces the psychological forces and the forces that may affect living conditions. The model is presented more formally as follows,

$$\begin{aligned} \text{Likelihood that a student will to return to Aruba within 3 year of completing his or her} \\ \text{study} = \beta_0 + \beta_1 \text{ Control variables} + \beta_2 \text{ Economic forces} + \beta_3 \text{ Social forces} + \beta_4 \\ \text{Psychological forces} + \varepsilon \end{aligned} \quad (4.1)$$

The dependant variable represents the intentions to return to Aruba within 3 years of completing the study. A higher value of this variable equates to a higher intention to return. The control variables are the following: gender, and age (I expect a negative relationship between age and intentions to return, just because the younger students, perhaps with only 1 year in the Netherlands, have a tendency to still miss Aruba since everything is still new to them).

#### *Economic forces*

Three important variables are included that directly measure the individual's expectations about their future career, their potential earnings and their job options in the Netherlands as opposed to Aruba. Following the theory, if an individual expects that he will have a better career, will earn more and will have more job options in the Netherlands than in Aruba, he will have a lower intention to return. I combine the career, earnings and job options variable and calculate an average to create the labor market prospects variable (Cronbach's Alpha: 71%). From this I arrive at my first hypothesis:

*H1: Positive labor market prospects of the Netherlands vis-à-vis Aruba will lower the probability of return migration intentions of Aruban students.*

Another variable relating to the economic forces is the expectations on how difficult it is to find an adequate job in Aruba. The assumption here is: the more difficulty the student expects to find while searching for an adequate job in Aruba, the lower the return intentions will be.

I have also included two language skills (Dutch and English) variables. These can be interpreted as part of the human capital stock of a student and he or she will most likely work where he can make the best use of that specific human capital. Meaning that if a student has high Dutch skills he would much rather stay in the Netherlands than go to Aruba where his Dutch skills will be less useful. This is the same case with the English language skills. The student would much rather migrate where he can exploit his English skills. The last two variables that have some connection with economic forces relate to previous jobs or

internships in Aruba and the Netherlands. I will assume that having done an internship in Aruba is correlated with wanting to return to Aruba. I assume this is the same case for having previously worked in Aruba. This is because a student who has some experience may have expectations on how “the business in Aruba works” I also assume the opposite for the Netherlands. Having done an internship in the Netherlands has a negative effect on the intentions to return to Aruba. These two variables are important since students in general have limited work experience. The internship and work experience that they have so far acquired may give them an indication on future labor expectations.

Next, I focus on the variables that affect living conditions in Aruba and the Netherlands these variables can possibly be influenced by the economy (or the government). The first of these variables measures the friendliness of the Aruban people in the daily life as opposed to the Dutch. If Arubans are perceived to be friendlier than the Dutch, a positive relationship is expected between friendliness and the intentions to return to Aruba. I also created a safety and comfortableness variable by taking the average of a variable that measures whether the students perceive Aruba as a safe country, if they feel at home in Aruba and if Arubans are discriminated in Aruba (Cronbach’s Alpha: 55%)<sup>10</sup>. My second formal hypothesis is the following:

*H2: Safety and comfortableness in Aruba has a positive effect on the return migration intentions of Aruban students.*

I take the same approach to create a safety and comfortableness variable for the Netherlands. This is the average of three variables that measures whether the students perceive the Netherlands as a safe country, if they feel at home in the Netherlands and if Arubans are discriminated in the Netherlands (Cronbach’s Alpha: 59%). The variable will be plugged in the place of the “safety and comfortableness in Aruba” variable and give an extension to *the return migration to Aruba* model<sup>11</sup>. How this variable is interpreted is different. If the Aruban student feels that the Netherlands is safe, he or she will not want to return to Aruba (if he feels that the Netherlands is unsafe, he will want to return) so I expect the following:

*H3: Safety and comfortableness in the Netherlands has a negative effect on the return migration intentions of Aruban students.*

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<sup>10</sup> The Discrimination variable was excluded

<sup>11</sup> This will be called model 1b: Return migration to Aruba with Safety and comfortableness in the Netherlands

### *Social forces*

Regarding social forces, I included a variable that takes the value 1 if the individual has a partner and 0 if not. It is possible that this variable affects return migration intention both positively or negatively. If a partner is willing to move, it could make migration intentions higher. If a partner is not willing to move, the intentions will be lower. I will also perform an alternative analysis where I focus on a partner's willingness to move. The new variable introduced in this alternative model is a five-category scale variable that measures whether your partner, if present, is willing to migrate. A rise in this value would attribute to higher intentions to return to Aruba.<sup>12</sup> Other variables relating to social forces are the so called family variables: whether an individual has immediate (parents and siblings) families and of non-immediate (uncles, cousins, etc.) family members in the Netherlands. The more family members an individual has in the Netherlands, the lower the expected intentions to migrate taking into account that immediate family is more important than non-immediate family.

### *Psychological forces*

The next variables are all related to the psychological forces that affect migration. Firstly, one that measures how important an individual feels that it is to contribute to the society of Aruba. I expect that the importance of contributing to the society of Aruba has a positive effect on the intentions to return to Aruba. Secondly, a variable that is created by taking the average of two measurements: the importance to move freely around the world, and the importance of being in touch with different cultures. I assume that one is not freely able to move around the world when one lives in Aruba as opposed to the Netherlands. I also assume that one can be in touch with more and different cultures if one lives elsewhere other than Aruba. So, the ability to move freely around the world and be in touch with different cultures is negatively related to the intentions to return to Aruba.

The next variable measures how much an individual enjoys living in a climate that has seasons. The motive behind this is that the weather in Aruban and the Netherlands is very distinctive. I assume that Arubans are more likely to enjoy living in the climate of Aruba as opposed to climate where the seasons change and winter is present. For this reason, I present the following hypothesis:

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<sup>12</sup> This will be called model 1c: Return migration to Aruba with partner's willingness to return.

*H4: Enjoyment of living in a climate that has seasons has a negative effect on return migration intentions.*

The two most important variables with regards to the psychological forces are sensation seeking and self efficacy. Sensation seeking (Cronbach's Alpha: 63%) deals with risk that an individual takes. The variable is constructed by taking the average of the score of three questions that relate to an individual's tendencies. Self efficacy (Cronbach's alpha: 73%) deals with the confidence that an individual has in the ability to deal with new and uncertain experiences. The variable is constructed in the same manner as the sensation seeking variable<sup>13</sup>. I assume that the riskier the individual, the higher the chance of migration, since migration may be seen as something risky and adventurous. Also, the more confident an individual feels, the higher the tendencies to migrate. To apply these assumptions to my analysis I have to look at them from the opposite direction. Aruba can now be seen as a relatively less adventurous option as opposed to the Netherlands where you have options to further travel around or experience many more things. The size of the Netherlands alone is a big factor. Aruba can also be seen as a safe haven for Arubans. If they are not very confident in new and uncertain things, it might be more beneficial for them to go back to Aruba since it is relatively, familiar and certain. From this follows:

*H5: A high level of sensation seeking reduces the return migration intentions.*

*H6: A high level of self efficacy reduces the return migration intentions*

The model of return migration to Aruba will also be analyzed for the case of the likelihood that the student will return to Aruba within 5 years of completing their studies. The hypotheses that I have presented will also hold for the case of 5 years. This will examine the forces that affect students' intentions to return once they have had acquired some substantial work experience in the Netherlands.

#### **4.4 Model 2: Emigration from the Netherlands**

So far, I have only focused on return migration to Aruba. That however explains only part of the story. What are the other possibilities for these students if they decide not to return to Aruba? The answer is, they either stay in the Netherlands or move to some other country.

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<sup>13</sup> The set of questions can be found in the appendix (A1) ( questions 41-43 relate to sensation seeking and questions 44-46 to self efficacy)



This section will present a model that pays attention to Migration from the Netherlands to other countries (excluding Aruba). I will analyze the likelihood which an individual will emigrate out of the Netherlands within 3 years of completing their studies. Presented more formally,

$$\text{Likelihood to emigrate out of the Netherlands within 3 years} = \beta_0 + \beta_1 \text{ Control variables} + \beta_2 \text{ Economic forces} + \beta_3 \text{ Social forces} + \beta_4 \text{ Psychological forces} + \varepsilon \quad (4.2)$$

The control variables included here are, age, gender, education level expected number of years that the student will be studying. The labor market prospects variable is lost since it is related to Aruba. The human capital (language skills) variables however are included. What is used as a somewhat substitute to labor market prospects is the variable that measures how difficult it is to find an adequate job in the Netherlands. I also include the variable that measures safety and comfortableness in the Netherlands. Variables related to social forces include, whether the individual has a partner, immediate and non immediate family in the Netherlands. The psychological variables included are, closeness to the world, the climate variable, sensation seeking and self efficacy.

An alternative to model 2 will analyze whether an individual is willing to move outside of the Netherlands in order to improve his living condition. More formally,

$$\text{Willingness to move outside of the Netherlands to improve living conditions} = \beta_0 + \beta_1 \text{ Control variables} + \beta_2 \text{ Economic forces} + \beta_3 \text{ Social forces} + \beta_4 \text{ Psychological forces} + \varepsilon \quad (4.34)$$

The same variables used in the emigration from the Netherlands model will be used for willingness to move model. The hypotheses presented in section 4.3 are not compatible with model 2 and model 3 but similar hypothesis can be presented. This model tests whether the students make rational decision with regards to their future.

#### **4.5 Policy experiment**

As was mentioned in chapter 2, the government of Aruba announced a policy that will give a 30 percent debt discount to Aruban students who return within 3 years of completing their studies. At the time of the creation of the survey, information on the debt discount was scarce and the total amount of the discount was set between 30-40 percent. I chose the upper limit of

40 percent to be included in the survey. I have created a variable which takes the value of 1 if the individual agrees that the announcement of this policy has changed his mind on his decision to return to Aruba. If this is the case, a positive relationship is expected between intentions to return and the debt discount. Thus, this variable actually measures whether or not this policy, which still has not been implemented, gives positive results. Notice should be taken of the possibility that an individual may have already decided to return to Aruba, meaning that this policy has no effect on their decision but they receive the discount nonetheless.

Furthermore, I also asked each individual if a 100 percent discount will change their mind if the 40 percent discount did not. This is to test whether the policy is may have the ability to influence their decision, but the amount of the discount is not high enough. This analysis would only include the sample of observations that answered no to the 40 percent debt discount question.

#### **4.6 Taking stock**

This chapter presented the data that I will use for my analysis. Furthermore, I presented 3 models. The first model took into account the likeliness that the students will return to Aruba within 3 years of completing their studies. An alternative to this is a model with the interval of 5 years. The second model focused on how likely it was that the student will emigrate from the Netherlands within 3 years of completing their studies. The motive behind this is to observe whether these students are staying in the Netherlands or migrating to another country. The third model focused on the willingness to move in order to improve living conditions. This is to observe whether the students act rationally with regards to their future. Furthermore, I presented an extension that deals with the policy announcement by the government. The goal here is to make out if the debt discount has an effect on the students' intentions to return. These models and extension will be analyzed in chapter 5.

## 5. Analysis and Results

In this chapter I will give the analysis and the results of the models that I presented in chapter 4. First, I will take a look at the descriptive of the data and perform some cross table analyses. Following that, I will present the results of the 3 models. Finally I will take focus on the policy experiment.

### 5.1 Descriptive statistics<sup>14</sup>

Table 6 presents the descriptive statistics of the survey. The mean age of the sample is 23. According the Arubahuis, the average age of Aruban students is between 21 and 22 years old which means that my sample is above the average age. Furthermore, 70 percent of the sample is female. The reason as to why more females filled in the survey is unknown. Regarding education, 32 percent of the sample is studying at the university. 32 percent of the sample is following a study in Business and Economics while 13 percent follows a study in Science. 25 percent follow some other study that was not specified in the survey question. 41 percent of the data assess their Dutch speaking and writing skills to be above average or well above average. This is 77 percent with respects to English speaking and writing skills.

Concentrating on the migrations questions in the survey, I can observe that 39 percent are expected not to return to Aruba within 3 years of completing their studies as opposed to 31 percent who expect to return. There is a huge difference when this is compared with the expectation to return to Aruba within 5 years. In this case, 24 percent expect not to return once they have completed their studies while 52 percent are expected to return. The conclusion and the answer of my first research question is that the majority of students are not returning when they have completed their studies (at least not directly).

30 percent of the sample expects emigrate out of the Netherlands but not to Aruba, within 3 years of completing their studies, while 36 percent are not expected to. Finally, 66 percent of the respondents are willing to move outside of the Netherlands and Aruba in order to improve their living conditions. What is interesting here is that the students were also asked to which country they are willing to move to and 28 percent of the sample answered that they would move to the United States. It is possible that this is more a dream scenario than a realistic option. Furthermore, 30 percent selected a country which one is not expected to migrate to in order to improve living conditions (specifically, Spain, Italy and some less developed nations).

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<sup>14</sup> The percentages presented in the section can be found in Appendix A1

**Table 6: Descriptive statistics**

	<b>Mean</b>	<b>SD</b>	<b>min</b>	<b>max</b>	<b>N</b>
<b>Migration variables</b>					
Decision to return to Aruba within 3 years	2.90	1.355	1	5	177
Decision to return to Aruba within 5 years	3.38	1.305	1	5	177
Expectations to emigrate from the Netherlands within 3 years	2.90	1.246	1	5	177
Partner's willingness to migrate to Aruba	3.62	1.345	1	5	108
Willingness to move to improve living conditions	3.73	1.109	1	5	177
<b>Control variables</b>					
Age	22.80	2.996	17	33	177
Gender ( Female = 1)	0.70	0.459	0	1	177
Expected number of years for study completion	4.99	1.777	1	14	177
University student ( WO=1)	0.32	0.469	0	1	177
<b>Social variables</b>					
Partner ( yes = 1)	0.56	0.497	0	1	177
Immediate family members in the Netherlands (yes =1)	0.42	0.495	0	1	177
Number of non-immediate family members	2.65	1.659	0	4	177
<b>Variables affecting living conditions</b>					
Safety and comfortableness in Aruba	4.16	0.727	2	5	177
Safety and comfortableness in the Netherlands	3.11	0.667	1	5	177
Friendliness in Aruba as opposed to the Netherlands	4.12	0.978	1	5	177
Enjoyment of living where climate changes	2.85	1.130	1	5	177
<b>Economic variables</b>					
Work / internship experience in Aruba	0.70	0.459	0	1	177
Work / internship experience in the Netherlands	0.53	0.501	0	1	177
Dutch skills	3.43	0.857	1	5	177
English skills	4.07	0.816	2	5	177
Adequate job expectations in Aruba	3.71	1.103	1	5	177
Adequate job expectations in the Netherlands	2.23	0.909	1	5	177
Career opportunities in the Netherlands as opposed to Aruba	3.67	1.126	1	5	177
Earnings in the Netherlands as opposed to Aruba	4.18	0.676	2	5	177
Job options in the Netherlands as opposed to Aruba	4.34	0.769	1	5	177
<b>Psychological variables</b>					
Importance to contribute to society of Aruba	3.83	0.901	1	5	177
Closeness to the world	4.12	0.665	1	5	177
Sensation seeking	3.48	0.666	1	5	177
Self Efficacy	3.90	0.756	1	5	177
<b>Policy variables</b>					
Effect of discount on decision	0.27	0.446	0	1	177
Effect of 100 percent discount on decision	0.61	0.490	0	1	135

## 5.2 Results: Labor market effects.

When a student has completed his education, the next step he makes is to enter the labor market which may not go smoothly. By way of cross tabulation, I will analyze the expectations of the students related to the economic forces, with the intentions to return to Aruba within three years of completing their education. First of all I will direct my attention to the student's past labor experience in Aruba. Table 6 cross tabulates the expectations to return within 3 years with work or internship experience in Aruba. It would seem that previous labor experience has no effect on intentions to return to Aruba within 3 years of completing ones education. 27 percent of the sample who has worked does not expect to return to Aruba within 3 years, while 21 percent are expected to return. I performed a Chi<sup>2</sup> test to find out if these two variables dependent on each other. The results from the Chi<sup>2</sup> test show that these variables indeed are not dependent on each other, meaning that previous job experience does not influence return migration intensions. It is possible that students who have worked in Aruba may have an indication that the on the job professionalism is not of the level that they would like it to be and hence has no effect on their return intensions. On the other hand, the variable in question does not differentiate between work and internship so it is a possibility that this 21 percent are mostly students who have done an internship in Aruba.

**Table 7: 3 year return to Aruba expectations and previous work or internship experience in Aruba**

Previous work or internship	Expectation to return to Aruba within 3 years		
	Unlikely	Neither likely, nor unlikely	Likely
No	12%	7%	10%
Yes	27%	23%	21%

The next variable in question is the students' expectation of finding an adequate job in Aruba. This is a key point, since if they believe that it is difficult to find an adequate job, they will most surely decide to not return. Table 7 presents the cross tabulation between the intentions to return within 3 years and the expectations on the difficulty of finding an adequate job in Aruba. 63 percent of the complete sample thinks that it is difficult to find an adequate job in Aruba. 27 percent find it difficult and are not planning to return to Aruba within 3 years. This goes in accordance with the assumptions made in chapter 4. There is a small group (14 percent) who think that it is difficult to find a job but nevertheless are

intending to return within 3 years. For these students, there might be other factors that are pulling them to Aruba which have nothing to do with the labor market of Aruba. A Chi<sup>2</sup> test gives the conclusion that the difficulty to find an adequate job in Aruba does not have an effect on return migration intentions. A surprising result from the survey is that 69 percent of the sample judges that it is not difficult to find an adequate job in the Netherlands, this is a substantial different<sup>15</sup>. The reason for this is not that jobs are given easily in the Netherlands, but I believe that students in the Netherlands simply do not have sufficient information on the job vacancies in Aruba, while in the Netherlands there are several means on finding information on job openings.

**Table 8: 3 year return to Aruba expectations and adequate job expectations**

Difficulty finding adequate job in Aruba	Expectation to return to Aruba within 3 years		
	Unlikely	Neither likely, nor unlikely	Likely
Disagree	5%	1%	7%
Neutral	7%	7%	10%
Agree	27%	22%	14%

The variable “labor market prospects” is the average variable of three variables related to career, earnings and job options expectations. In this section however, I will analyze these three variables separately. The variables are presented in table 8. Firstly, all 3 variables give the indication that the Netherlands is economically more attractive to Aruba. 13 percent of the sample who consider that it is better for their career to work in the Netherlands have intention to return to Aruba. For this part of the sample, career aspirations are not that important. On the other hand, 25 percent expect that earnings are higher in the Netherlands and that there are more job options but still intend to return to Aruba within 3 years. What I can conclude from this is that earnings and job options are not as important as a career. This may occur since there is a certain prestige in building a career. Of these 3 variables only 2 are significant in a Chi<sup>2</sup> test. The career variable is significant at the 1 percent level while the earnings variable is significant at the 5 percent level. This means economic forces have an influence on the return migration intentions.

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<sup>15</sup> This is not presented in table 7, but rather is part of complete detailed survey results.

**Table 9: 3 year return to Aruba expectations and labor market prospects**

Better for career to work in the Netherlands as opposed to Aruba	Expectation to return to Aruba within 3 years		
	Unlikely	Neither likely, nor unlikely	Likely
Disagree	1%	5%	10%
Neutral	6%	10%	8%
Agree	32%	15%	13%
Expectation of higher earnings in the Netherlands as opposed to Aruba			
Disagree	1%	1%	2%
Neutral	3%	6%	5%
Agree	36%	24%	25%
There are more job options in the Netherlands as opposed to Aruba			
Disagree	1%	1%	2%
Neutral	1%	3%	5%
Agree	38%	27%	25%

**5.3 Results: Model 1: Return migration to Aruba**

This section will present the results of the return migration to Aruba model that was discussed in section 4.3. Table 10 presents the estimates of a logit analysis of an Aruban student’s likelihood to return to Aruba within 3 years of completing his or her studies. I converted the variable that estimates the likeliness that a student returns to Aruba within 3 years of completing their study from a 5 point scale to a binary variable. Responses that were categorized as “likely” and “very likely” to return received the value 1, the other responses received the value 0. The motive behind this is to comprehend how the determinants affect the probability that a student returns to Aruba after completing their study. None of the control variables are significant. The understanding behind this is that we are dealing with a sample of relatively young people, so variables such as age and gender would have no effect.

In chapter 4 I proposed the hypothesis (*H1*) that the variable “future labor market prospects” should have a negative effect on the intentions to return to Aruba, the results support this hypothesis. This means that Students do take into account the economic forces when they decide to migrate. The variable is significant at the 5 percent level and is interpreted in the following manner: holding all other variables constant, a one unit increase in a student’s perception that labor markets prospects are more favorable in the Netherlands than in Aruba will decrease the odds (the odds ratio equals 0.480) of returning to Aruba. This is in accordance with the theory that it is rational not to return when the net benefits are negative. Several comments from the survey and from interviews conducted with random students

illustrate that students consider that there are few opportunities for personal growth with regards to career in Aruba and also that the job market is very limited which is not the case in the Netherlands, according to these students. Language skills (human capital) are also significant and both Dutch skills and English skills are negatively related to return intentions. This result can be interpreted in the following manner, the higher someone assesses their language skill the less they are expected to return to Aruba. For Dutch is obvious since they are currently residing in the Netherlands and the better they can communicate the “easier” life is. English on the other hand is a world language, which gives the opening to migrate to other countries that speak the language

Setting focus on forces related to the public domain, I can make out that Safety and comfortableness is positively related to return migration intentions (significant at the 5 percent level). This is interpreted as an increase of 98 percent in the odds of returning to Aruba within 3 years for a one unit increase in Safety and comfortableness in Aruba. An Aruban student will return to Aruba once he or she has completed their studies if the safety in Aruba is in line with their preferences. This brings forward the conclusion that my second hypothesis (H2) is indeed correct. Regarding the psychological forces, if a student holds contributing to the Aruban society in high regards, he is more intended in returning to Aruba (this variable is significant at the 5 percent level). There were several positive comments in the survey with regards to Aruba. Remarks such as: there is no place like Aruba, it is very comfortable to live in Aruba and that Arubans should try to make Aruba better and stronger. These are the feelings that possibly explain why the above mentioned variables are significant. Sensation seeking (*H4*) is also significant and in accordance with the theory. This can be easily explained, since if a person is more adventurous he would much rather live in the Netherlands where he can get on a train without difficulty and travel to many parts of Europe which was noted in several comments in the survey and interviews.



**Table 10: Logit analysis, likelihood to return to Aruba within 3 years of completing study**

	<b>Coefficient</b>	<b>Odds Ratio</b>	<b>Significance level</b>
Constant	3.913	-----	0.243
<b>Control variables</b>			
Age	0.052	1.053	0.512
Gender ( Female = 1)	0.251	1.286	0.601
<b>Social forces</b>			
Partner ( yes = 1)	-0.159	0.853	0.721
Immediate family	0.176	1.192	0.674
non-immediate family	-0.003	0.997	0.981
<b>Public goods / externalities</b>			
Safety and comfortableness in Aruba	0.977**	2.657	0.011
Friendliness	0.056	1.058	0.828
<b>Labor market variables</b>			
Labor market prospects	-0.734**	0.480	0.015
Work / internship experience in Aruba	-0.282	0.755	0.536
Work / internship experience in the Netherlands	-0.242	0.785	0.625
<b>Human capital</b>			
Dutch skills	-0.567**	0.567	0.045
English skills	-0.802*	0.449	0.006
<b>Psychological forces</b>			
Climate	-0.291	0.747	0.143
Society contribution	0.550**	1.734	0.033
Closeness to the world	-0.151	0.860	0.653
Sensation seeking	-0.771**	0.462	0.027
Self Efficacy	-0.048	0.953	0.862
Percentage correctly predicted	79%		
Nagelkerke R square	39.8%		
Number of observations	177		

\*p<0.01, \*\*p<0.05, \*\*\*p<0.1

To conclude, the return migration to Aruba model illustrates that future labor market prospects, forces related to the public domain and psychological forces all have influence on students' intentions to return to Aruba. So to answer my second research question: The students who tend to return are those who put importance on being able to contribute to the Aruban society and those who get pulled by the safe and comfortable life in Aruba. On the other hand, the students who tend to not return are those who are adventurous, who also set importance to their accumulation human capital (in the form of language skills) and those who set importance to future labor market prospects.

When I consider the model of return migration to Aruba which takes into account variable for safety and comfortableness in the Netherlands (model 1b), I obtain the same significant relationships compared to the return migration to Aruba model with the exception of variable for safety and comfortableness in the Netherlands and Dutch language skills (see appendix table A1 for results). This means that my hypothesis (*H3*) from chapter 4 is not satisfied. To compare the difference in safety between Aruba in the Netherlands I created a so called safety and comfortableness difference by taking the difference of these variables for the Netherlands and Aruba. The results from this comparison show that only 12 percent believe that the Netherlands is safer than Aruba. The variable for climate on the other hand now becomes negatively significant at the 10 percent level. This can be interpreted that a unit increase in the enjoyment of living in a climate that changes will decrease the odds of returning to Aruba once a student has completed their studies. This means that my hypothesis (*H4*) is supported. Alternatively, the results can be interpreted that if a student enjoys living in a climate that does not change, he is more likely to return to Aruba. The sunny weather and dry climate was one of the reasons given as a positive to live in Aruba in the interviews.

So far, I have not had any significant variables relating to social forces so I take the return migration to Aruba model further by focusing on partner's willingness to migrate to Aruba (model 1c). The results show that the variable willingness of the partner captures most of the effect of return decision (see appendix table A2 for results). If the partner is willing to migrate, then the student in question will most likely be expected to return to Aruba. Variables with regards to future labor market prospects and safety and comfortableness in Aruba are no longer significant. The human capital variables are still significant, this is the same case with regards to society contribution. What is peculiar is that non-immediate family members now becomes significant and in accordance with the theory, meaning that if an individual has social networks abroad (the Netherlands), he or she is less likely to return to Aruba.

Summarizing, it is mainly labor market prospects, variables related to the public domain and psychological forces that affect an Aruban student's intention to return to Aruba once completing his or her study. Social networks effects can be viewed if we take into account a partner's willingness to return. Finally, running the return migration to Aruba model logit regressions with regards to an interval of 5 does not add anything new to the determinants that influence a student's intentions to return to Aruba.<sup>16</sup>

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<sup>16</sup> The results are presented in table A3 in the appendix

#### **5.4 Results: Model 2: Emigration from the Netherlands**

Now that the determinants of return migration for Aruban students have been analyzed, I will now focus on emigration from the Netherlands. The difficulty with this analysis is that most questions in the survey relate in some form to Aruba, which now are useless for this model. Table 11 presents the estimates of the logit analysis with the dependent variable being the expectation of emigrating from the Netherlands within 3 years of completing your study. The results show that the students who are more likely to emigrate are the ones who expect that finding an adequate job is difficult in the Netherlands. Furthermore, closeness to the world is also significant. It is straightforward that those who feel that it is important to move around the world and be in touch with different cultures are more likely to migrate. In addition, those who enjoy living with a Dutch climate are not likely to emigrate. An unexpected result is that the variable age is negatively significant at the 10 percent level. It is unexpected since I did not assume any relationship between age and migration since the population in question is relatively young. However, these results do follow the theory that the older you are the less likely you are to migrate, since in theory you would have less time to earn money to offset the costs of migration.

Analyzing an individual's willingness to migrate in order to improve living conditions gives a different outlook.<sup>17</sup> Only closeness to the world remains significant. English language skills is now positively significant. I can conclude from these two models of emigration from the Netherlands that mainly the labor market prospects (the difficulty of finding an adequate job in the Netherlands) are determinants to whether an Aruban student emigrates from the Netherlands (this excludes migration to Aruba. Furthermore, being able to experience different cultures and the ability to move around the world also affect an Aruban student's intentions to emigrate. It is odd that the psychological force, sensation seeking is not significant since one would assume that those who are adventurous are more likely to migrate.

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<sup>17</sup> The results are presented in table A4 in the appendix

**Table 11: Logit analysis, likelihood emigration from the Netherlands**

	Coefficient	Odds Ratio	Significance level
Constant	-5.324	-----	0.047
<b>Control variables</b>			
Age	-0.144***	0.866	0.076
Gender ( Female = 1)	-0.410	0.663	0.352
Univeristy student ( WO = 1)	-0.447	0.639	0.305
Expected number of years for study completion	0.195	1.215	0.131
<b>Social forces</b>			
Partner ( yes = 1)	0.008	1.008	0.983
Immediate family	-0.327	0.721	0.401
non-immediate family	-0.210***	0.811	0.080
<b>Public goods / externalities</b>			
Safety and comfortableness in the Netherlands	-0.132	0.877	0.686
<b>Labor market prospects</b>			
Adequate job expectations in the Netherlands	0.677*	1.969	0.003
<b>Human capital</b>			
Dutch skills	0.244	1.276	0.326
English skills	0.246	1.279	0.338
<b>Psychological forces</b>			
Climate	-0.317***	0.728	0.090
Closeness to the world	0.830**	2.293	0.018
Sensation seeking	0.352	1.422	0.260
Self Efficacy	0.271	1.311	0.312
Percentage correctly predicted	76%		
Nagelkerke R square	26.8%		
Number of observations	177		

\*p<0.01, \*\*p<0.05, \*\*\*p<0.1

I also wanted to analyze the types of countries where Aruban students are most willing to move to. The aim of this analysis is to assess whether these students make rational decisions when they consider their migration options. I created a variable that took the value 1 if the country is not a typical country that you migrate to in order to improve economically. Less developed nations fall into this category but also nations that recently have problems with regards to labor and unemployment (Italy, Portugal and Spain for example). These nations are often viewed as destinations where and individual would depart to in order to enjoy a pleasant life. Table 12 presents the regression estimations. Of the variables included, only two are significant. The odds for moving to one of these countries for an individual in a relationship is 2.563 larger than for single individuals. Having a partner will increase the

probability that a student will migrate to one of these countries. Furthermore, an increase in the difficulty to find an adequate job in the Netherlands will increase the odds that a student will migrate to one of these countries. What is surprising to me is the positive coefficient with regards to being a university student. I expected that having a higher education would not have a positive relationship with these “pleasant life” countries, since it is most likely that you cannot find the best job possible as opposed to a country that currently is well off economically. However this coefficient is not significant. I also performed a regression using countries that have some form of labor restrictions and countries that usually have warm weather. The results from these two regressions do not paint a better picture. University students are less likely to go to a country with labor restrictions and more likely to migrate to a warm country. From this I can partially conclude that Aruban students do not take the most rational choices when it comes to their migration decisions.<sup>18</sup>

**Table 12: Logit analysis, intended destination choice**

	Coefficient	Odds Ratio	Significance level
Constant	-1.816	-----	0.444
Age	-0.085	0.918	0.210
Gender ( Female = 1)	-0.372	0.690	0.404
Univeristy student ( WO = 1)	0.514	1.672	0.197
Partner ( yes = 1)	0.941**	2.563	0.021
Safety and comfortableness in the Netherlands	0.279	1.322	0.374
English skills	0.198	1.219	0.404
Adequate job expectations in the Netherlands	0.428**	1.535	0.063
Sensation seeking	-0.410	0.663	0.167
Self Efficacy	0.392	1.480	0.157
Percentage correctly predicted	68%		
Nagelkerke R square	13.7%		
Number of observations	142		

\*p<0.01, \*\*p<0.05, \*\*\*p<0.1

## 5.5 Policy experiment

This section will analyze the policy experiment that was presented in section 4.5. Firstly I will look at a cross tabulation of the students’ expectation to return to Aruba within 3 years of finishing their study and whether the announcement of the 40 percent debt discount has changed their decision to return to Aruba. This is presented in table 13. The policy

<sup>18</sup> These results are not presented in this paper since they add very little.

announcement changed the minds of 27 percent of the sample, which is not substantial. Would the government consider this a success? 5 percent admit that the discount changed their mind on their decision to return but also expect that they are not likely to return to Aruba. It is possible that this group includes individual that had no previous knowledge on the policy announcement, but were informed by the survey (this came to my attention in some of the comments in the survey). And now that they are aware of the policy, they admit that it would change their decision to return to Aruba. This would then be acceptable as a policy success, but a very small success nonetheless. The policy would also be accepted as a success for the group that is neither likely, nor unlikely to return, but now have changed their minds about returning. More importantly, is the group (20 percent) who is expected to return but was not influenced by the debt discount (this was also expressed in the comments of the survey). All students who return to Aruba within 3 years are eligible for the discount. This group in reality should not receive this discount because it has not affected their choices meaning that for this group government money is misused. Furthermore, when you compare the total amount of the sample who were influenced by the policy announcement with the group who is returning but where not influenced, you notice that the difference is small (27 percent opposed to 20 percent). The government will misuse almost as much money as they will invest in acquiring more high skilled Aruban workers. Nevertheless, a Chi-square analysis shows that the debt discount and the expectations to return to Aruba are dependent indicating that the discount policy indeed has an effect on Aruban students’ intentions to return to Aruba once they have completed their study.

**Table 13: 3 year return to Aruba expectations and 40 percent debt discount**

40 percent discount	Expectation to return to Aruba within 3 years			Total
	Unlikely	Neither likely, nor unlikely	Likely	
No	34%	19%	20%	73%
Yes	5%	11%	11%	27%

A logit analysis was performed on the “return migration of Aruban students” model with an inclusion of the variable regarding the policy announcement. The analysis is presented in table 14. The variables that were significant in the model in section 5.3 are also significant in this policy experiment model. Focusing solely on the variable that measures whether the announcement of this discount policy, I can conclude that the announcement of the policy that will give students a debt discount has not affected the students’ intention to return to Aruba once they have completed their study. There is a positive relationship but this

is not significant. I have also performed the analysis with the sample who answered that the policy had not changed their decision. The new variable included measured whether a 100 percent debt discount would change their decision to migrate.<sup>19</sup> This variable is also significant and positively related to the dependent variable. Notice however, that labor market prospects are also significant meaning that even in this scenario, individuals will still consider their future career options and earning. I can conclude and simultaneously answer my third research question that, the policy announcement has not affected students' decision to return to Aruba. Focusing only on the effect this policy announcement, a positive relationship can be viewed, but this affect is not that large when you take into account the percentages in the cross tabulation presented in table 13. When other determinants of migration are considered, the effect seen in the cross tabulation analysis is mitigated. Finally, complete elimination of the debt will have an effect on the students' return intentions.

Possible reasons as to why this policy announcement will not have its desired effects are multiple. Firstly, this discount is only on the debt from the Arubalening and not the accumulated debt from the Dutch study finance (IBG) which is much larger. Furthermore, there are high transports costs to migrate to Aruba. Finally, the possible strings attached to this policy may require students to stay in Aruba for a period that they might not wish to stay. This is in relation, for example, to having to work in Aruba for 10 years because you have accepted this policy. Also, there may develop a situation where an individual may not find a job in Aruba. This individual will not be able to search for a job abroad, unless he gives back the discount.<sup>20</sup>

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<sup>19</sup> The results are presented in table A5 in the appendix.

<sup>20</sup> These possible reasons are simply the expression of the individual who took the survey. These reasons were stated in the comment section of the survey.

**Table 14: Logit analysis, 40 percent discount on returning within 3 years to Aruba**

	<b>Coefficient</b>	<b>Odds Ratio</b>	<b>Significance level</b>
Constant	3.907	-----	0.245
<b>Control variables</b>			
Age	0.058	1.059	0.465
Gender ( Female = 1)	0.355	1.426	0.470
<b>Social forces</b>			
Partner ( yes = 1)	-0.218	0.804	0.629
Immediate family	0.184	1.201	0.662
non-immediate family	-0.012	0.988	0.925
<b>Public goods / externalities</b>			
Safety and comfortableness in Aruba	0.965**	2.624	0.013
Friendliness	0.090	1.094	0.730
<b>Labor market variables</b>			
Labor market prospects	-0.707**	0.493	0.019
Work / internship experience in Aruba	-0.373	0.688	0.421
Work / internship experience in the Netherlands	-0.166	0.847	0.739
<b>Human capital</b>			
Dutch skills	-0.647**	0.524	0.027
English skills	-0.774**	0.461	0.010
<b>Psychological forces</b>			
Climate	-0.292	0.747	0.142
Society contribution	0.498***	1.645	0.058
Closeness to the world	-0.208	0.812	0.537
Sensation seeking	-0.742**	0.476	0.033
Self Efficacy	-0.046	0.955	0.870
<b>40 percent discount</b>	0.525	1.690	0.267
Percentage correctly predicted	79%		
Nagelkerke R square	40.5%		
Number of observations	177		

\*p<0.01, \*\*p<0.05, \*\*\*p<0.10

Let us assume that the policy is passed and that every student who returns to Aruba receives a 40 percent discount on their Arubalening. Consider that the government will spend €16.000 per student that returns to Aruba (this is a 40 percent debt discount of €40.000)<sup>21</sup>. The amount of money that will be spent on this policy will total €11.200.000. This is calculated by taking 47 percent (from table 13, 20 percent: students who are likely to return but were not

<sup>21</sup> This total amount was chosen with regards to the RNW interview where the first student who applied for the discount indicated a total Arubalening of roughly €40.000



influenced by the policy announcement and 27 percent: students who were affected by the policy announcement) of the total population (1500) and multiplying by how much the government spends per student. Of this €11.200.000, there is a part (20 percent) that will be spend on students who had already decided to return to Aruba, which amounts to €4.800.000. There is a floating exchange rate with the Euro, but if we take the exchange rate of €1= Afl. 2.50 we can calculate these amounts in the Aruban currency. This amount to a total of Afl.28.000.000 total spending on the policy and Afl.12.000.000 that will be misallocated.

The total amount is 34 percent of the total investments of the government in 2009 (Afl. 82.3 millions).<sup>22</sup> Furthermore this is 15 percent of total investments that would be misallocated. Furthermore, if table 4 is recalled, government expenditures on education per student for the 2000-2008 are on average Afl.8.000. The total amount of the discount per student is Afl.40.000 which is 5 larger than the average expenditures on education per student<sup>23</sup>. These comparisons are just to give an idea on the magnitude of this policy discount.

The ineffective use of this amount of money forces me to contemplate alternative possible policy solutions. As it was stated by the Prime Minister of Aruba in an interview in April 2011 that next to this debt discount, Aruba needs the space to accommodate these new job seekers that the policy is likely to create. So it is crucial that this alternative policy solution take into account the job vacancies in Aruba since there is a possibility that current debt discount policy might bring students back but will not be able to provide a job for them. 63 percent of the sample feels that it is difficult to find an adequate job in Aruba, while this is only 11 percent when one considers the difficulty of finding an adequate job in the Netherlands. This is not to say that there are more jobs in the Netherlands but that students have some knowledge on the Dutch labor market that they do not have when it comes to the Aruban labor market<sup>24</sup>.

My alternative policy would be to create an online database with all job vacancies that open in Aruba with regards to high skilled labor. This would have the possibility to inform each student on the adequate job possibilities in Aruba. It could possibly influence students' decision to return to Aruba. This may also eliminate some opportunity costs that arise if a student returns to Aruba unemployed. He or she would have to spend months searching for a job, which would be eliminated if he or she can search for this job online while completing his or her study. This sentiment is also expressed in the comments of the survey and in the

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<sup>22</sup> From the Central Bank's 2009 annual report (CBA, 2010)

<sup>23</sup> These numbers are somewhat inflated because I used a 40 percent discount. Calculations using a 30 percent discount are available in appendix A2

<sup>24</sup> Percentages are presented in appendix A1

interviews, where several noted that they need to be better informed about the job options in Aruba.

## **5.6 Taking stock**

This chapter analyzed the data that was gathered and the main results are the following: Most Aruban students do not intend to return to Aruba within 3 years of completing their studies. However, a higher percentage of students are intended to return when the interval of 5 years is compared with 3 years. The return migration to Aruba model captures several determinants that have an influence on students' intentions to return to Aruba. These are: the future labor market prospects, safety and comfortableness of Aruba and several psychological forces all. Finally, the policy announcement does not have an effect on the intentions to return to Aruba. A possible complete debt elimination however, will have a positive effect on the intentions to return.

## Chapter 6: Conclusion

This thesis analyzed the determinants of return migration of Aruban students. The research questions proposed in this paper were the following: Firstly, are Aruban students returning to Aruba once they have completed their studies? Secondly, what are the determinants that affect Aruban students' decision to migrate from the Netherlands back to Aruba? And thirdly, has the governments' policy announcement of a debt discount affected students' decision to return?

I followed the standard theory of migration which stated that an individual would consider his net wage differentials when he intends to migrate. However, I focused not only the monetary returns and costs of migration, since students are more likely to not have a job, but also on the non-monetary returns and costs of migration. I identified four forces that have an influence on migration. These are the economic forces (which I correlated to future labor market prospects), the social forces, the psychological forces and the forces that affect the quality of the public domain.

Data for my analysis was gathered by way of a survey and applied a logit analysis to the data next to analyzing by way of cross tabulation. The results, and answers to my research questions, are the following: Most Aruban students do not intend to return to Aruba once they have completed their studies. The determinants that affect Aruban students' decision to return to Aruba are the safety and comfortableness in Aruba and the importance to contribute to the society of Aruba. The determinants that negatively affect the students' decision to return are the future labor market prospects, human capital (in the form of Dutch and English language skills) and the feeling of being adventurous (sensation seeking). The social forces did not seem to have an affect initially, but a partner's willingness to migrate to Aruba did have a substantial (and positive) effect on the intentions to return to Aruba.

The results of my policy experiment give evidence that a debt discount will not have a clear effect on the Aruban students' intentions to return to Aruba within 3 years of completing their studies. Furthermore, of the number of students who were not affected by this policy but intend to return amounts to 20 percent. The total number of students, who were affected by the policy (regardless of their intentions to return), amounts to 27 percent. This indicates a substantial misuse of money if the policy is implemented, because it would not discriminate between the types of students who return.

I also analyzed Aruban student's emigration from the Netherlands. The determinant that affected their intentions to emigrate was the difficulty of finding an adequate job in the Netherlands. The students' feeling of importance to move around the world and to be in touch with different cultures also affected their intentions to emigrate. On the other hand, the countries where these students preferred to migrate to could not always be considered countries that would have improved their living conditions. These included several less developed nations and nations that currently have labor and unemployment issues. Furthermore, the United States was a popular option which could mean that it was simply the students' dreams and desires that made the decision to select these countries and no real future labor market prospects was taken into account.

## Appendix

### A1: The complete survey N=177

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#### Personal information

1. Age. Under 20 years 12%, Between 20 and 25 years 70%, 26 and over 18%
2. Gender 1= female. Females 70%
3. When did you first start your studies in the Netherlands? (What year) Before 2006 17%, between 2006-2009 56%, 2010-2011 27%
4. To which of the following education faculties do you belong? Business and economics 32%, Law 6%, Psychology 5%, Social studies 3%, Science 13%, Medicine 8%, History and arts 3%, Languages 5%, Other 25%.
5. Which level of education are you following? College 68%, University 32%
6. At which phase of your studies are you currently in? Bachelor 86%, Masters 14%
7. When are you expected to complete your studies? (Date, e.g.: 2011) Before 2013 68%, 2014 and beyond 32%
8. Marital status. Single 44%, married 2%, relationship 26%, relationship (living together) 28%
9. Number of children. 1 child 3%, 2 children 1%
10. In which city are you currently living in? Amsterdam 3%, Arnhem 7%, Breda 4%, Eindhoven 6%, Enschede 8%, Groningen 6%, Leeuwarden 5%, Nijmegen 8%, Rotterdam 6%, The Hague 13%, Tilburg 10%, Utrecht 5%, Others 19%
11. Have you ever worked (in general) or ever done an internship in Aruba? Yes 56%
12. Have you ever worked (in general) or ever done an internship in the Netherlands? Yes 53%
13. How would you assess your Dutch speaking and writing skills? Well below average 1%, below average 10%, average 47%, above average 29%, well above average 12%
14. How would you assess your English speaking and writing skills? Below average 3%, average 20%, above average 44%, well above average 33%
15. How would you assess your French speaking and writing skills? Well below average 72%, below average 18%, average 8%, above average 1%, well above average 1%

16. How would you assess your Spanish speaking and writing skills? Well below average 2%, below average 22%, average 30%, above average 25%, well above average 20 %

### **Questions relating to future migration decision**

17. If you could improve your living condition, how willing or unwilling would you be to move outside the Netherlands and Aruba? Very unwilling 4%, unwilling 12%, neither willing, nor unwilling 19%, willing 38%, very willing 28%

18. To which country are you most willing to move to? (Excluding Aruba). Australia 5%, Bonaire 2%, Brazil 2%, Canada 2%, China 1%, Curacao 6%, United Kingdom 8%, Germany 2%, Italy 3%, Spain 15%, USA 28%

19. How likely is it that you will return to Aruba within 3 years after you have completed your studies? Very unlikely 20%, unlikely 19%, neither likely, nor unlikely 30%, likely 13%, very likely 18%

20. How likely is it that you will return to Aruba within 5 years after you have completed your studies? Very unlikely 12%, unlikely 12%, neither likely, nor unlikely 24%, likely 28%, very likely 24%

21. How likely is it that you will emigrate out of the Netherlands within 3 years after you have completed your studies? (This excludes migration to Aruba) Very unlikely 18%, unlikely 18%, neither likely, nor unlikely 34%, likely 18%, very likely 12%

22. In case you have a partner: To what extent is your partner willing to return to Aruba with you after you have completed your studies? (N=108) Very unwilling 10%, unwilling 13%, neither willing, nor unwilling 16%, willing 27%, very willing 34%

23. Do you have any immediate family members (parents and siblings) living in the Netherlands? Yes 42%

24. How many non-immediate family members (grandparents, aunts, uncles, nephews, nieces) do you have in the Netherlands? One 8%, two 10%, three 7%, four or more 54%

### **Statements related to the Netherlands and Aruba.**

25. Aruba is a safe country. Disagree 7%, neutral 23%, agree 42%, totally agree 28%

26. I feel quite at home in Aruba. Totally disagree 1%, disagree 4%, neutral 7%, agree 30%, totally agree 58%

27. Discrimination based on ethnicity, gender and or religion towards Aruban is high in Aruba. Totally disagree 23%, disagree 35%, neutral 29%, agree 11%, totally agree 2%

28. It is difficult to find and adequate job (that is appropriate for your education or skill level) in Aruba. Totally disagree 5%, disagree 8%, neutral 23%, agree 37%, totally agree 27%
29. It is important to me, to contribute to the society of Aruba. Totally disagree 1%, disagree 5%, neutral 33%, agree 34%, totally agree 27%
30. In the daily life, people in Aruba are friendlier than people in the Netherlands. Totally disagree 1%, disagree 6%, neutral 22%, agree 25%, totally agree 47%
31. The Netherlands is a safe country. Disagree 13%, neutral 36%, agree 46%, totally agree 6%
32. I feel quite at home in the Netherlands. Totally disagree 5%, disagree 16%, neutral 33%, agree 40%, totally agree 6%
33. Arubans are discriminated on ethnicity, gender and or religion in the Netherlands. Totally disagree 2%, disagree 17%, neutral 30%, agree 42%, totally agree 8%
34. It is difficult to find and adequate job (that is appropriate for your education or skill level) in the Netherlands. Totally disagree 20%, disagree 49%, neutral 20%, agree 11%, totally agree 1%
35. It is enjoyable to live in a climate that changes with the season. Totally disagree 15%, disagree 21%, neutral 33%, agree 25%, totally agree 6%
36. It is important to me to be able to move freely around the world. Disagree 2%, neutral 8%, agree 44%, totally agree 45%
37. It is important to me to be able to be in touch with different cultures. Totally disagree 1%, disagree 4%, neutral 23%, agree 46%, totally agree 26%
38. It is better for my career to work in the Netherlands than in Aruba. Totally disagree 4%, disagree 12%, neutral 24%, agree 32%, totally agree 28%
39. I expect that I can earn more money by working in the Netherlands than in Aruba. Disagree 3%, neutral 13%, agree 47%, totally agree 37%
40. There are more job options in the Netherlands than in Aruba. Totally disagree 1%, disagree 2%, neutral 8%, agree 41%, totally agree 49%

**Statements related to personal characteristics.**

41. New and unexpected things give me excitement I need in life. Totally disagree 1%, disagree 6%, neutral 22%, agree 52%, totally agree 20%
42. When I have to work according to fixed rules, I get easily fed up with them. Totally disagree 2%, disagree 25%, neutral 40%, agree 30%, totally agree 4%

43. People or things that always stay the same bore me. Totally disagree 1%, disagree 14%, neutral 32%, agree 39%, totally agree 14%

44. When I make plans, I am convinced that I will succeed in carrying out these plans. Totally disagree 1%, disagree 6%, neutral 20%, agree 47%, totally agree 26%

45. When I decide to do something, I firmly cling to that decision. Disagree 6%, neutral 21%, agree 51%, totally agree 22%

46. When unexpected problems occur, I do not handle them well. Totally disagree 15%, disagree 54%, neutral 22%, agree 8%, totally agree 1%

### **Discount policy**

In October of 2009, the new government announced a policy where students who return within 3 years after completing their studies receive a 40 percent debt discount. The following questions are related to this policy announcement.

47. Has this policy announcement changed your mind on the decision to return to Aruba once you have finished studying? Yes 27 %

48. If this is not the case, would the complete elimination of the debt (100 percent) change your mind on the decision to return to Aruba once you have finished studying? (N=135) Yes 61%

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### **A2: Calculations using a 30 percent discount.**

Calculations in section 5.5 estimated by utilizing a 40 percent debt discount which relates to the survey question. However, after the survey was sent, the official debt discount was set to 30 percent. The government would then spend €12.000 per student. This will amount to a total of €8.460.000. The fraction that will be spent on the students who had already decided to return to Aruba will amount €3.600.000. Total spending on the policy will equal Afl.21.150.000 when converted to Aruban currency and the misallocated amount of money will equal Afl.9.000.000. Total spending on the policy will amount to 26 percent of the total investments of the government in 2009 (Afl. 82.3 millions). Furthermore this is 11 percent of total investments that would be used ineffectively. The total amount of the discount per student is now Afl.30.000 which is 3.75 larger than the average expenditures on education per student.



**Table A1: Logit analysis, Likelihood to return to Aruba within 3 years of completing study and safety and comfortableness in the Netherlands**

	Coefficient	Odds Ratio	Significance level
Constant	6.965	-----	0.027
<b>Control variables</b>			
Age	0.016	1.016	0.835
Gender ( Female = 1)	0.133	1.142	0.774
<b>Social forces</b>			
Partner ( yes = 1)	-0.253	0.776	0.558
Immediate family	0.177	1.193	0.667
non-immediate family	-0.040	0.960	0.736
<b>Public goods / externalities</b>			
Safety and comfortableness in the Netherlands	0.196	1.216	0.593
Friendliness	0.208	1.232	0.415
<b>Labor market variables</b>			
Labor market prospects	-0.716**	0.489	0.016
Work / internship experience in Aruba	-0.250	0.779	0.572
Work / internship experience in the Netherlands	-0.402	0.669	0.403
<b>Human capital</b>			
Dutch skills	-0.443	0.642	0.102
English skills	-0.715**	0.489	0.010
<b>Psychological forces</b>			
Climate	-0.374***	0.688	0.060
Society contribution	0.667*	1.948	0.006
Closeness to the world	-0.244	0.784	0.463
Sensation seeking	-0.671***	0.511	0.052
Self Efficacy	-0.064	0.938	0.818
Percentage correctly predicted	79%		
Nagelkerke R square	35.6%		
Number of observations	177		

\*p<0.01, \*\*p<0.05, \*\*\*p<0.10

**Table A2: Logit analysis, likelihood to return to Aruba within 3 years of completing study and partner's willingness to migrate**

	<b>Coefficient</b>	<b>Odds Ratio</b>	<b>Significance level</b>
Constant	2.739	-----	0.641
<b>Control variables</b>			
Age	-0.027	0.973	0.851
Gender ( Female = 1)	-0.207	0.813	0.827
<b>Social forces</b>			
Partner's willingness to migrate to Aruba	1.787*	5.972	0.000
Immediate family	0.205	1.228	0.778
non-immediate family	-0.418***	0.658	0.062
<b>Public goods / externalities</b>			
Safety and comfortableness in Aruba	0.803	2.233	0.194
Friendliness	0.613	1.847	0.316
<b>Labor market variables</b>			
Labor market prospects	-0.356	0.700	0.424
Work / internship experience in Aruba	-0.494	0.610	0.543
Work / internship experience in the Netherlands	0.567	1.763	0.504
<b>Human capital</b>			
Dutch skills	-1.125**	0.325	0.044
English skills	-1.452**	0.234	0.015
<b>Psychological forces</b>			
Climate	-0.082	0.921	0.800
Society contribution	0.743***	2.102	0.091
Closeness to the world	-0.613	0.542	0.318
Sensation seeking	-0.749	0.473	0.261
Self Efficacy	-0.499	0.607	0.394
Percentage correctly predicted	87%		
Nagelkerke R square	64.8%		
Number of observations	108		

\*p<0.01, \*\*p<0.05, \*\*\*p<0.10

**Table A3: Logit analysis, likelihood to return to Aruba within 5 years of completing study**

	Coefficient	Odds Ratio	Significance level
Constant	1.194	-----	0.712
<b>Control variables</b>			
Age	0.012	1.012	0.869
Gender ( Female = 1)	0.525	1.691	0.245
<b>Social forces</b>			
Partner ( yes = 1)	-0.686	0.504	0.105
Immediate family	0.108	1.114	0.786
non-immediate family	-0.099	0.906	0.417
<b>Public goods / externalities</b>			
Safety and comfortableness in Aruba	0.692**	1.997	0.037
Friendliness	0.266	1.304	0.287
<b>Labor market variables</b>			
Labor market prospects	-0.670**	0.512	0.028
Work / internship experience in Aruba	0.196	1.216	0.657
Work / internship experience in the Netherlands	-0.109	0.896	0.810
<b>Human capital</b>			
Dutch skills	-0.086	0.918	0.727
English skills	-0.723*	0.485	0.008
<b>Psychological forces</b>			
Climate	-0.215	0.807	0.252
Society contribution	1.142*	3.134	0.000
Closeness to the world	-0.247	0.781	0.475
Sensation seeking	-0.174	0.841	0.593
Self Efficacy	-0.368	0.692	0.177
Percentage correctly predicted	79%		
Nagelkerke R square	44.9%		
Number of observations	177		

\*p<0.01, \*\*p<0.05, \*\*\*p<0.10

**Table A4: Logit analysis, willingness to move outside of the Netherlands in order to improve living conditions**

	<b>Coefficient</b>	<b>Odds Ratio</b>	<b>Significance level</b>
Constant	-8.087	-----	0.002
<b>Control variables</b>			
Age	0.085	1.089	0.274
Gender ( Female = 1)	-0.566	0.568	0.198
Univeristy student ( WO = 1)	-0.131	0.877	0.746
Expected number of years for study completion	-0.052	0.949	0.662
<b>Social forces</b>			
Partner ( yes = 1)	0.371	1.449	0.346
Immediate family	0.058	1.060	0.877
non-immediate family	-0.186	0.830	0.114
<b>Public goods / externalities</b>			
Safety and comfortableness in the Netherlands	0.224	1.251	0.493
<b>Labor market prospects</b>			
Adequate job expectations in the Netherlands	-0.161	0.852	0.438
<b>Human capital</b>			
Dutch skills	0.047	1.048	0.844
English skills	0.721*	2.056	0.003
<b>Psychological forces</b>			
Climate	0.037	1.038	0.832
Closeness to the world	0.982*	2.671	0.002
Sensation seeking	0.143	1.153	0.644
Self Efficacy	-0.049	0.953	0.847
Percentage correctly predicted	73%		
Nagelkerke R square	25.6%		
Number of observations	177		

\*p<0.01, \*\*p<0.05, \*\*\*p<0.10

**Table A5: Logit analysis 100 percent debt discount**

	Coefficient	Odds Ratio	Significance level
Constant	3.079	-----	0.448
<b>Control variables</b>			
Age	0.044	1.044	0.661
Gender ( Female = 1)	-0.129	0.879	0.816
<b>Social forces</b>			
Partner ( yes = 1)	0.297	1.346	0.589
Immediate family	0.466	1.593	0.346
non-immediate family	-0.032	0.968	0.833
<b>Public goods / externalities</b>			
Safety and comfortableness in Aruba	0.791***	2.205	0.084
Friendliness	0.073	1.076	0.808
<b>Labor market variables</b>			
Labor market prospects	-0.945**	0.389	0.014
Work / internship experience in Aruba	-0.497	0.608	0.370
Work / internship experience in the Netherlands	-0.208	0.812	0.719
<b>Human capital</b>			
Dutch skills	-0.202	0.817	0.530
English skills	-1.018*	0.361	0.008
<b>Psychological forces</b>			
Climate	-0.150	0.860	0.521
Society contribution	0.638**	1.892	0.038
Closeness to the world	-0.334	0.716	0.392
Sensation seeking	-0.491	0.612	0.243
Self Efficacy	0.035	1.036	0.926
<b>100 percent discount</b>	1.432**	4.185	0.014
Percentage correctly predicted	82%		
Nagelkerke R square	39.7%		
Number of observations	135		

\*p<0.01, \*\*p<0.05, \*\*\*p<0.10

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