

Unexpected colonial returns

Self-selection and economic integration of migrants over multiple generations

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Abstract

A ban on migration from Suriname, a former Dutch colony, to the Netherlands induced a mass migration and changed the selection of migrants. We exploit this historical episode to study the relationship between the self-selection of migrants and their long-term economic integration over three generations. ‘Beat-the-ban’ migrants, those arriving just before the ban, are negatively selected compared to economic migrants arriving earlier. This difference in selection is reflected in the outcomes of the first generation. However, the inequality in outcomes between differently selected migrants is not persistent. The offspring of negatively selected migrants has a faster catch-up to natives which can be explained by inequities in the country of origin.

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The data used in this paper come from Dutch administrative databases and are under contract and are not available for sharing with the public. An Online Appendix of Replication Materials includes Stata code for replication purposes.

1. Introduction

Immigration flows continue to spark fierce debates about the short-term and long-term consequences for host countries and migrants themselves. For instance, the recent migration flows from the Middle East, Northern Africa and Latin America towards Europe and the US raise questions about the accommodation and integration of large numbers of immigrants in Western society. Countries are concerned about accepting migrants who are ‘negatively selected’ in the sending country as their economic integration in the receiving country might be problematic and induce high social costs. Moreover, these problematic outcomes might spill over to the next generations and generate persistent differences between natives and migrants. Although several studies have investigated the self-selection and economic integration of migrants (e.g. Abramitzky and Boustan 2017, Abramitzky et al. 2020, Ward 2020, Bauer et al. 2013), little is known about the relationship between migrant selection in the sending country and economic integration in the receiving country over multiple generations.¹

This paper studies the self-selection of migrants in the country of origin and the intergenerational mobility in the receiving country by exploiting a unique migration episode linked to Dutch colonial history. Suriname, a former Dutch colony, obtained political independence in 1975. The announcement of this major political reform and the resulting restriction on migration to the Netherlands created uncertainty about the future and fears about ethnic dominance² which induced a mass migration (see Figure A.1). Many Surinamese families rushed to leave the country before losing their rights to Dutch citizenship, the so-called ‘beat-the-ban rush’ (Bovenkerk 1983). Within a short timespan approximately one third of the entire population of 400,000 migrated to the Netherlands. Contemporary observers noted that the composition of the mass migration was very different from the positively selected economic migration in previous years and included both individuals and entire families from all segments

¹ A related paper by Collins and Zimran (2019) studies migrant selection and assimilation among two generations of Irish migrants in the U.S. The study focuses on father-son links constructed from surnames matches. Our data provide actual family links for three generations enabling an analysis of entire families including mothers and (grand-) daughters (see also Section 3). A recent study compares the social mobility of refugee and non-refugee migrants in the US (Adnan et al., 2023).

² The population of Suriname was a direct legacy of Dutch colonial policies and primarily consisted of Creoles, former slaves from Western Africa, Hindustani, brought from British-India after the abolishment of slavery in 1863, and Javanese, brought from the Dutch East Indian colony since 1890. This had created a country of immigrants structured along ethnic lines (see also Section 2).

of society among which many were poorly skilled and ill prepared for the modern Dutch society (Koot et al. 1985).³

Our empirical analysis focuses on two related questions. First, we investigate whether the announcement of the migration ban changed the selection of migrants coming from Suriname to the Netherlands. We label those arriving before the announcement as ‘economic migrants’ and those arriving after the announcement as ‘beat-the-ban migrants’. Second, we study the socio-economic outcomes of these two types of migrants in the receiving country over three consecutive generations. In particular, we investigate whether the offspring of (more) negatively selected parents achieves a slower or faster catch-up to the economic outcomes of natives than the offspring of positively selected migrants. On the one hand, differences brought from the home country, for instance in terms of human capital or earnings potential, might be reinforced in the host country. The social mobility of children (and grandchildren) of negatively selected parents might be lower due to growing up in more segregated neighborhoods with lower quality of schools or by experiencing discrimination themselves. For the US it has been documented that differences between ethnic groups are quite persistent (Borjas 1995; Ward 2020, Chetty et al. 2020). On the other hand, differences brought from the home country might disappear in the new socioeconomic environment. For instance, children (and grandchildren) of negatively selected parents might have a stronger upward mobility if their parents faced unequal opportunities in the home country that prevented them from realizing their full economic potential (Abramitzky et al. 2021).

We adopt a multigenerational approach to investigate the long-term outcomes of migrants who arrived before and after the announcement of the migration ban, and the outcomes of their children and grandchildren. Unique administrative micro-level data of the entire population of Surinamese immigrants in the Netherlands allows us to investigate the economic integration of three generations of families in the Netherlands more than 40 years after the ‘beat-the-ban rush’ relative to the outcomes of native Dutch. The data include a range of socioeconomic outcomes such as schooling, wages, employment, and social security dependence. A special feature of our data is that it contains biological family links. Earlier studies have typically relied on linking generations based on ancestry information (e.g. Borjas

³ In this respect the Surinamese mass migration appears to be comparable with episodes of forced migration in which the decision to migrate is considered to be exogenous (Becker & Ferrara 2019; Hatton 2020).

2001; Alba et al. 2001), whereas more recent studies have linked generations based on their name, year of birth and place of birth, respectively (e.g. Abramitzky et. al 2021).⁴

In our first set of analyses, we find that beat-the-ban migrants are negatively selected on observable characteristics compared to economic migrants, and this negative selection intensifies closer to the migration ban. A typical economic migrant was young, high skilled, and arriving from Paramaribo, the capital of Suriname, in which mostly individuals of Creole ethnicity resided. The beat-the-ban migration brought large numbers of low skilled individuals and elderly, complete families, and those from rural areas and belonging to non-Creole groups to the Netherlands. We find even larger differences in the composition of the migration streams when we focus on beat-the-ban migrants arriving just before the ban.

In the second set of analyses, we find that the more negatively selected group of migrants has a faster catch-up to natives. Beat-the-ban migrants who arrived as adults have large outcome gaps with natives. Economic migrants arriving as adults have better outcomes than beat-the-ban migrants. For later generations we find that the pattern of outcomes changes. Children and grandchildren of beat-the-ban migrants reduce their schooling and income gaps with natives with approximately one third over one generation. For instance, the income gap reduces from 13.1 towards 8.8 rank points, and the schooling gap from 1.6 to 1.1 years in one generation. Children and grandchildren of economic migrants have much less convergence towards natives. This implies that the negative selection of the first generation of beat-the-ban migrants relative to economic migrants doesn't turn into persistent inequality among next generations.

Our estimates on intergenerational mobility reveal that the social mobility of the migrant groups is lower than the social mobility of natives. This finding holds over the whole parental income distribution and for both off-spring generations. The lower social mobility of migrants compared to natives, which differs from findings on migrants in the US (Abramitzky et al. 2021), indicates that the social catch-up of migrants is considerably slower than the catch-up predicted by a standard intergenerational model on parents and children.

The third set of our empirical analyses aims to understand why the off-spring of beat-the-ban migrants has a faster catch-up with natives than the off-spring of economic migrants. In line with recent studies on the US comparing natives and immigrants (Collins and Zimran 2019; Abramitzky et al. 2021), we find evidence that the first generation of beat-the-ban

⁴ Ward (2020) includes biological links between fathers and sons. Our study focuses on all family members in three generations of migrants, including mothers and daughters.

migrants has been ‘under-placed’ in the income distribution. Their schooling upon arrival and their income probably does not reflect the full earnings potential. Many beat-the-ban migrants originate from rural areas in Suriname and had the Hindustani ethnicity who, for historical reasons, had less economic opportunities and were also more restricted in their opportunities to invest in human capital. Time trends show that beat-the-ban migrants already experienced a catch-up in schooling in Suriname prior to the Independence. We also find that their income and returns to schooling in the Netherlands were hampered by their older age at arrival and by arriving together with large numbers of migrants within a short time span.

Our paper contributes to various branches of the economic literature on migration, in particular to the literature on self-selection and economic integration of migrants. First, it has long been recognized that migrants are self-selected (e.g. Abramitzky 2012; Borjas 1987, 1991; Sjaastad 1962)⁵ and this is likely to be important for their economic outcomes and integration (Abramitzky and Boustan 2017; Abramitzky et al. 2020; Borjas 1987, 1991). We contribute to this literature by comparing the persistence of migrant-native outcome gaps for differently selected migrants over multiple generations based on complete family links. As such, our study is, to our knowledge, the first to investigate the link between self-selection and economic integration over multiple generations. Our setting also enables us to study whether initial differences in outcomes between groups of migrants remain constant or change after arrival in the host country.

Second, we add to the literature that studies economic integration of immigrants in the destination country (e.g. Chiswick 1978; Borjas 1999; Bauer et al. 2005; Kerr and Kerr 2011; Clarke et al. 2019). This literature especially focuses on the evolution of the wage-gap between natives and migrants after arrival in the destination country. Many of these studies focus on the US and on first-generation migrants. More recent studies apply an intergenerational perspective and investigate the social mobility of migrants compared to natives. For example, Abramitzky et al. (2021) find that in the US migrants at the bottom of the parental income distribution experience higher social mobility than natives. Using a similar approach, Ward (2020) shows that the convergence of ethnic differentials over three generations is much lower than predicted by a standard intergenerational mobility estimate between parents and children. Our study adds

⁵ A recent study shows that an economic crisis can change migrant selection on height (Escamilla-Guerro and Lopez-Alonso, 2023).

to this literature by studying the universe of three generations of migrants based on biological family links within a European context.

Third, our study sheds light on the discussion about the pace of social mobility over multiple generations, both across and within the group of immigrants (Solon 2018). On the one hand, Becker and Tomes (1986) expect that ‘all the advantages or disadvantages of ancestors tend to disappear in only three generations’. On the other hand, Clark (2014) formulates a law of social mobility with a persistence rate of 0.7 to 0.8. ‘The status of the descendants will move toward the mean for the society generation by generation. When the persistence rate is as high as 0.8, this is a slow process, taking many hundreds of years for families who are initially far above or below the mean’ (Clark 2014, p.212). Our findings on the persistence of inequality between migrants and natives are consistent with Clark’s view. They are also consistent with earlier studies showing that immigrant-native gaps in economic outcomes slowly disappear for descendants of immigrants (e.g. Borjas 1992, 1994, 1995; Ward 2020). In addition, we find that the pace of convergence differs substantially between beat-the-ban migrants and economic migrants.

Finally, our study contributes to the recent literature on forced migration (Bauer et al. 2013; Becker and Ferrara 2019; Becker et al. 2020; Sarvimäki et al. 2022; Nakamura et al. 2020; Dustmann et al. 2017; Brell et al. 2020; Abramitzky et al. 2023). These studies focus on individuals who were forced to move because of wars, natural disasters, or political and ethnic conflicts. The beat-the-ban migration wave clearly was not forced migration, but the political background factors also made it very different from ‘regular’ economic migration in earlier years. Beat-the-ban migrants can probably be located somewhere on the scale between economic and forced migrants as the distinction between these types of migration is not a binary one (Becker & Ferrara 2019).

This paper is organized as follows. Section 2 describes the context of Suriname as a Dutch colony, the process of political independence and the background of the mass migration. In Section 3 we describe our data. The next sections present the empirical results. Section 4 presents the results on the decision to migrate prior to and after the announcement of the Surinamese independence. Section 5 analyzes the persistence of inequality between natives and migrants over multiple generations and shows the results on the intergenerational mobility of migrants and natives. Section 6 seeks to explain the difference in social mobility patterns between economic migrants and beat-the-ban migrants. Finally, Section 7 concludes.

2. Context of the Surinamese mass migration

The Dutch colonial legacy: a nation of immigrants

Suriname, a country in South America, neighboring Guyana, Brazil and French Guyana, has been a Dutch colony since 1667.⁶ As the Dutch needed workers for their plantations and the indigenous population was small, they started bringing slaves from Western Africa ('Creoles'). After the abolishment of slavery in 1863, the plantations suffered from labor shortages. This was solved by recruiting new workers from British India ('Hindustani') between 1873 and 1917, and Javanese migrant workers from the Dutch Indies between 1890 and 1940.⁷ As a result of these policies a country of immigrants had been created with a clear ethnic segmentation. Each ethnic group had its own race, language, religion and socioeconomic activity. This type of society, which is also found in the British West Indies or in India, has been labeled a plural society (Furnivall 1939; Van Lier 1950).

Surinamese immigration until 1974

Due to the colonial ties, there has always been migration from Suriname to the Netherlands. Migrants from Suriname could easily settle in the Netherlands without a visa requirement being in place. The Creole elite were the first to send their children to the Netherlands for completing their education (Tjon A Ten 1987).⁸ Many of these migrants did not return because of a lack of economic opportunities in Suriname. The Creole urban middle class also started to migrate after the Second World War due to a decrease in migration costs. The Hindustani and Javanese started to migrate around the early 1970s as it was perceived that the Netherlands offered better education and more opportunities for social mobility (Vezzoli 2015; p.128). The difference in the timing of migration between Creoles and the Asian groups has been linked to socioeconomic advantages and cultural differences (Lamur 1973, Oostindie 2008, Van Amersfoort 2011).

⁶ Only during the Napoleonic period Suriname was occupied by the British.

⁷ They also recruited some Chinese workers from Java and China, but these numbers were small.

⁸ The educational system in Suriname was a copy of the school system in the Netherlands, which facilitated the transition for Surinamese elite children to enrol in Dutch schools.

The Surinamese Independence

The Dutch government was concerned about the growing migration from Suriname in the late 1960s and early 1970s. In February 1974 Henck Arron, the leader of the main Creole political party NPS and the Prime Minister of Suriname, unexpectedly announced that Suriname would become independent before the end of 1975. The call for Independence by Henck Arron came only very shortly after his appointment as Prime Minister and came very much as a surprise to the entire Surinamese population⁹, and could not count on the support of Arron's own party members nor of his coalition partner (Buddingh 2012). For the Dutch government, the news came as a pleasant surprise, as Independence of Suriname would curb the migration to the Netherlands, and they agreed on paying a large sum of aid money to stimulate the economic development of the new Suriname. In addition, they also made two concessions regarding migration. First, all Surinamese who resided in the Netherlands on Independence Day were granted Dutch citizenship. Second, Surinamese could continue to travel freely to the Netherlands until 1980, after which a visa requirement was put in place for people migrating from Suriname.

Migration to the Netherlands after the announcement of the independence

In 1972 Suriname counted approximately 380,000 inhabitants. In the years following Arron's call for independence, roughly a third of the population migrated to the Netherlands fearing that the new Republic of Suriname would not be viable. The largest wave of migration, consisting of nearly 40,000 people, occurred in 1975 just prior to the independence (see Figure A.1). In that year all flights from Suriname were fully booked and additional flights were deployed. Many immigrants appeared to have moved in a hurry without much preparation, reacting upon a general feeling of 'it is now or never', rushing to secure Dutch citizenship before November 1975. The large numbers came as a surprise to the Dutch government who had expected that most Surinamese would have been happy with gaining independence. This caused housing problems and many Surinamese were given shelter in temporary places like military barracks. A large proportion of the new arrivals moved to Amsterdam, where a new neighborhood had

⁹ During the Surinamese election period this topic had always been discussed as something considered undesirable. As a result, the news in February 1974 was not expected by the Surinamese population.

just been developed (i.e the 'Bijlmermeer'). Other Surinamese migrants settled in other big cities such as The Hague, Rotterdam and Utrecht.¹⁰

The leading explanation for the 'beat-the-ban rush' points to a combination of political and economic motives (Peach 1968; Reubsat et al. 1982; Bovenkerk 1983). The political motives are directly related to the plural society of Suriname. 'Fear of political domination by the Creole urban population and of ethnic conflicts compelled people to flee to the Netherlands – people who under normal circumstances would not have taken part in this migration. These fears were reinforced by the experiences in the neighboring country of (British) Guyana. Many Surinamese were aware of the Guyana Independence which induced tensions between ethnic groups of which many fled towards Suriname. The economic motives consisted of a comparison between the poor and worsening economic conditions in Suriname versus the attractions of a high-income country with a large and generous welfare state. Dutch society offered an alternative with much higher levels of income and schooling, better health conditions, a better quality of public institutions and a large welfare state.

Changes in the composition of the migrant flows

Various contemporary observers have noted dramatic changes in the composition of migration from Suriname during the Independence years. Before the Independence years especially the young urban privileged individuals with a Creole background migrated to the Netherlands. During the Independence years there was a strong increase in the number of Hindustani and Javanese migrants (Chin and Buddingh 1987; Dew 1978). Moreover, migrants now also came from rural areas all over Suriname. Migration no longer primarily originated from the elite and middle classes but it became very much a 'lower class phenomenon' (Van Niekerk 2005) and now included people from all ethnic groups (Vezzoli 2015). In addition, Koot et al (1985) note that during the mass migration many migrants were not well prepared for migration, both financially as culturally: 'The affinity of migrants with Dutch language and culture decreased with every next arriving flight'. During the Independence process it was also more likely that entire families moved. The composition of the migrant flow now consisted much more of a representation of the entire Surinamese population (Tjon A Ten 1987).

¹⁰ By 1981, Amsterdam counted approximately 35,000 Surinamese inhabitants. Although the numbers for The Hague (approx. 25,000), Rotterdam (approx. 21,000) and Utrecht (approx. 5,000) are somewhat lower, the Surinamese population in these cities was still relatively large (Tjon-A-Ten 1987, p. 31).

Post-independence

After 1975 the number of Surinamese immigrants dropped significantly. But the arrangement that there could be free movement of people between Suriname and the Netherlands up till 1980 induced a new migration wave with a peak around 1980, as many felt that this was the last opportunity to settle in the Netherlands. Over 37,000 Surinamese migrated to the Netherlands in the years 1979-1980 (see Figure A.1).

The initial policy response to the mass migration focused on practical issues with respect to finding asylum for the large number of immigrants. After 1975 the Dutch government implemented further policies with respect to housing, labor market integration and education. These policies were targeted at all immigrants and not specifically at beat-the-ban migrants. Housing policies aimed at avoiding large concentrations of migrants in specific geographic areas and included efforts to spread migrants over the whole country. Labor market participation of immigrants was stimulated by various measures such as schooling, wage subsidies and mediation between migrants and employers. Moreover, educational participation was promoted in primary and secondary education but also for individuals above the compulsory schooling age and for adults. For instance, funds were made available for additional teachers, specific projects, and additional hours in school (Penninx 1979).

In addition to this initial policy aiming to integrate the large number of immigrants in Dutch society, as of 1 June 1980, the Dutch government also tried to induce Surinamese migrants to return to Suriname by providing a financial stimulus, including reimbursement of travel costs for the re-migration and a stipend to cover for subsistence costs during the first three months. However, this initiative has not led to a large number of return migration among the Surinamese (Bovenkerk 1983).¹¹

In our empirical analysis below we focus on the first and largest migration wave by comparing migrants arriving in the years before and just after the announcement of the Surinamese independence. We don't include migrants arriving after the Independence in our analysis as their migration decision is likely to be influenced by the Independence announcement as well as by the political and economic changes after the Independence. It is therefore not clear whether they should be considered as beat-the-ban migrants or economic migrants.

¹¹ More information on remigration is provided in section 3.

3. Data on Surinamese immigrants and Dutch natives

3.1. Data description

For this project we compile data from several large administrative datasets from Statistics Netherlands.¹² Information on Surinamese migrants is obtained from the Migration records (GBAmigratiebus), which include all registered migrants still residing in the Netherlands as of 1995 and all migrants who arrived since 1995. Note that our administrative data start in 1995 and therefore we don't observe individuals who died before 1995 or individuals who remigrated to Suriname (or migrated elsewhere) prior to 1995 and never returned to the Netherlands. However, only few Surinamese actually returned to Suriname; most of them remained in the Netherlands (Bovenkerk 1983). Potential consequences of any selective return migration will be further discussed in Section 3.2. Our baseline sample consists of individuals arriving from Suriname between 1965 and 1975 for whom we also observe the date of migration. We label those arriving before the announcement of the independence in February 1974 as 'economic migrants', and those arriving after the announcement and before the Independence in November 1975 as 'beat-the-ban' migrants. Figure 1 shows the number of Surinamese immigrants by year of arrival in our administrative data. The main patterns in our data, with large peaks in 1974/75 and 1979/80, are very similar to those reported in Figure A.1 based on population counts at the time of arrival.¹³

In a next step we link our sample to other administrative datasets using someone's Random Identification Number (RIN), which is the coded Dutch equivalent of the U.S. Social Security number. This allows us to identify all children and grandchildren of migrants using the Parent-Child Dataset (Kindoudertab) that links individuals to any living parent in one of the municipal records in the Netherlands (in the same household as the child or in a different household) since 1995.

Based on these data we define three generations of migrants, and we construct a dataset for each generation. The first generation consists of Surinamese individuals who arrived in the Netherlands at the age of 18 or above. We call this group the 'adult population', or *Generation 1* (G1). The second group consists of the children of these adults (the child population, or

¹² The data are accessible via a remote-access facility after a confidentiality statement has been signed.

¹³ The number of observations in Figure 1 is somewhat smaller as some migrants are no longer residing in the Netherlands in 1995 when the administrative records start (e.g. due to mortality or (return) migration).

Generation 2 (G2)). The third group is made up by the children of the child population (the grandchild population, or *Generation 3 (G3)*). This way of constructing generations is typical for the literature on intergenerational mobility. However, it differs from the migration literature in which each generation refers to the country of birth, where the arriving generation is born abroad and the next generations are born in the host country. In our approach, the adult generation is born abroad, but the child generation can be born either in Suriname (and migrated as a child to the Netherlands) or in the Netherlands.

To be able to compare Surinamese migrants' outcomes to those of native Dutch, we construct similar samples of native Dutch for each of the three generations of Surinamese. We start by constructing a 'child population' of Native Dutch, who are born in the Netherlands and whose parents are also born in the Netherlands. This Native Dutch 'child population' is born in the same years as those in the Surinamese 'child population (born abroad)', i.e. born between 1948-1975 and hence aged between 0 and 17 in the years 1965-1975.¹⁴ For these individuals, we define their parents and their children, which make up the Native 'adult population' and the Native 'grandchild population', respectively. In our baseline analysis we only include migrant children born abroad as this creates the same age range as in the sample of the native child population (see below).¹⁵

For each of the three generations we define a range of socio-economic outcomes. The administrative data allow us to study a variety of measures on the labor market position (labor income, employment status), dependence on social security (unemployment insurance, disability insurance, other benefits) and schooling outcomes (educational attainment measured in years of completed schooling¹⁶, high stakes test scores in 6th-grade, age at test in grade 6). For the adult (G1) outcomes we focus on the first years for which outcomes are available (1999-2005). This provides us with the largest sample as in later years many individuals turn older than sixty years and leave the labor market.

Our set of demographic characteristics come from the Municipal Population datasets (GBAPersoontab and GBAHuishoudentab) and include date of birth, marital status, gender, and the identification numbers of other household members. For Surinamese migrants we also have

¹⁴ Note that we select a random 10% sample of the entire Dutch population for ease of computation.

¹⁵ The baseline estimates in Table 4 don't change if we include migrant children born in the Netherlands in the estimation sample.

¹⁶ Note that the education system in Suriname was similar to the Dutch education system. The education data is complete for younger cohorts but comprises only a sample for older cohorts. As a result, we have fewer observations on educational attainment than we have on income related measures (which are available for everyone).

information available about their ethnicity (i.e. Creole, Hindustani, Javanese, Chinese, Marron¹⁷), their place of birth, their age at migration (which is based on the month and year of arrival in the Netherlands), and their family size at the time of migration.

3.2 The coding of economic and beat-the-ban migrants

In our analysis we use the announcement of the Independence in February 1974 to distinguish between beat-the-ban migrants and economic migrants. Individuals migrating after the announcement were informed about the restriction on the period in which migration was still possible, and this might have changed the size and composition of the migration. For the analysis we distinguish three groups of individuals in our data¹⁸:

- Economic migrants (Sur_{Ec})
 - Arrival since 1965 and before February 1974 (Announcement of independence);
- Beat-the-ban migrants (Sur_{Ban})
 - Arrival between February 1974 and November 1975 (Independence Suriname);
- Natives
 - 10 % sample of Native Dutch population of the same gender and age.

Although the announcement of the independence was unexpected (see section 2) it seems unlikely that it would induce a clear distinction, e.g. a discontinuity in characteristics, between individuals migrating shortly before or after the announcement. In general, migration takes time to prepare and the decision to move to a country on the other side of the world is probably quite complicated. As such, it can be expected that economic migrants and beat-the-ban migrants who arrived in the Netherlands in the first months after the announcement will be quite similar. After this initial period the distinction between the two groups might become more important, especially when the time to the ban runs out and ‘the now or never’ feeling becomes more real. Data on the number of monthly migrants also don’t show a strong increase just after the announcement of the ban, but these data show a large peak in migration in the months just before the Independence date (see Appendix Figure A.2). Hence, it might be argued that the ‘true’ Beat-the-ban migrants arrived in the last few months before the independence. In our

¹⁷ Statistics Netherlands has generated this main ethnic group coding based on information about surnames (CBS 2011).

¹⁸ If the parental coding of a child is different, for instance one parent is Surinamese and one parent is native Dutch, or one parent is beat-the-ban migrant and one parent is economic migrant, the child is included twice in the estimation sample and the standard errors are adjusted at the individual level. In our sample we find that 0.6% of the Surinamese children has one Surinamese and one native Dutch parent.

analysis we will take this issue into account by not only comparing the total groups of migrants, but by also looking at the importance of the time to the ban and by zooming in on migrants who arrived in the final months before the ban.

Table 1 provides summary statistics for our main estimation samples of adults, children and grandchildren, respectively. For the adult population we observe that beat-the-ban migrants are older at the time of their arrival than economic migrants. Moreover, they are less likely to be born in Paramaribo and more often have the Hindustani ethnicity. Beat-the-ban migrants lag behind natives in terms of schooling. Economic migrants have higher educational attainment than natives (and beat-the-ban migrants). The middle columns of Table 1 show the statistics for the children's generation. The schooling gap between beat-the-ban migrants and natives has reduced from 1.5 to 0.9 years of schooling for this generation. The columns to the right in Table 1 shows summary statistics for grandchildren. For this third generation, we find that Surinamese grandchildren still lag behind natives in educational outcomes. They score 3 to 4 points lower on the nationwide Cito-test in 6th grade, which is approximately 0.3 to 0.4 standard deviations.

Return migration

In our data we cannot directly observe return migration as the administrative data are only available from 1995 onwards (see Section 3.1). This implies that we don't observe individuals who migrated during the mass migration and returned to Suriname prior to 1995 and did not move back to the Netherlands afterwards. If the probability to return to Suriname depends on the economic success and social integration of migrants and their descendants in the Netherlands, return migration might be different for economic migrants relative to beat-the-ban migrants, which could bias our estimates. Fortunately, the available evidence, discussed in Appendix B, suggests that overall return migration was limited. Moreover, compositional differences in the return migration of economic and beat-the-ban migration reflect compositional differences in either group, which reduces concerns about potential bias from selective return migration.

4. The decision to migrate before and after the announcement of the Independence

In the economic literature migration decisions are typically modeled as a type of human capital investment (Sjaastad 1962, Borjas 2000), where individuals who consider migrating to a new location compare their earnings stream in the current location with the earnings stream in the destination. They are expected to migrate if the discounted stream of earnings in the destination country exceeds that of the origin country by more than the cost of migration, which include the actual transportation costs of the individual and his/her family, as well as the ‘psychic costs’ – the emotional costs of moving away from family, friends and neighbors. Migrant selection can arise when the costs and benefits of migration differ across potential migrants because the relative return to skill in the sending and destination countries differs. Positive selection refers to incoming migrants with above-average skills, whereas negatively selected migrants are drawn disproportionately from the lower tail of the source country’s skill distribution (Borjas 1987).

The empirical evidence on the Borjas model of migrant selection is mixed (Abramitzky et al. 2012). In particular, migrants appear to be selected positively on educational attainment from almost every sending country in the world, even those with very high levels of income inequality (Feliciano 2005; Grogger & Hanson 2011). This might be explained by the costs of migration (Borger 2010) or by borrowing constraints. The selection might be different for migrants who move because of conflict or political reasons. For instance, refugees often do not choose their country of destination or the time they move; economic pull factors in destination countries are weaker and push factors from origin countries are stronger for these migrants (Hatton, 2020). However, a recent study finds that refugees arriving in Europe in 2015 and 2016 were positively selected with respect to human capital (Aksoy and Poutvaara 2021). The case of negative selection has been documented for migrants who moved from urban areas in Norway to the US during the age of mass migration (Abramitzky et al. 2012).

Changes in the composition of the migrant streams

The unexpected announcement of the Surinamese Independence imposed a time restriction on migration to the Netherlands. Surinamese individuals could only be granted Dutch citizenship if they resided in the Netherlands before the official Independence. In addition, the political and socioeconomic situation in Suriname could change after Independence. These factors are likely to be important for the expected costs and benefits of migration. We investigate whether the

announcement of the migration ban changed characteristics of migrants coming from Suriname to the Netherlands.

We start our empirical analysis by comparing migrants who came to the Netherlands with individuals who stayed in Suriname (non-migrants). We use Dutch administrative data on migrants and Surinamese census data on individuals who stayed in Suriname. The Surinamese Census of 2004 and 2012 provides micro data on schooling and ethnicity.¹⁹ We have calculated the means and standard deviations for the population aged 18 or older. Information on place of origin is obtained from the Surinamese Census of 1971-72. Table 2 shows means (and standard deviations) for non-migrants and for the two types of migrants. A comparison of economic migrants and non-migrants reveals a clear pattern of self-selection. Economic migrants are positively selected as they are much better schooled than individuals who stayed in Suriname; the difference is more than 3.5 years of schooling. Economic migrants are also much more likely to have the Creole ethnicity and to originate from Paramaribo. The bottom rows show a very different pattern for the beat-the-ban migration. These migrants are much more similar to the individuals who stayed in Suriname. Remarkably, the statistics for beat-the-ban migrants who moved in the last three months before the ban are very close to those of non-migrants. These patterns are consistent with contemporary observations (see Section 2). First, especially high-skilled Creoles from Paramaribo were involved in economic migration. Second, the composition of the beat-the-ban migration resembles the population in the country of origin more closely than the composition of the economic migration does, and this similarity increases for the migration stream closer to the ban.

Beat-the-ban migrants versus economic migrants

Next, we investigate whether the migration ban induced different types of migrants to move to the Netherlands using administrative data on economic migrants and beat-the-ban migrants. To this aim, we regress characteristics of migrants on a dummy for being labeled as a beat-the-ban migrant or as an economic migrant using the following regression:

$$X_{it}^{G_1} = \alpha_0 + \alpha_1 Sur_{Ban,i} + \alpha_2 Time_{toBan}_i + \alpha_3 Sur_{Ban,i} * Time_{toBan}_i + \varepsilon_{it} \quad (1)$$

¹⁹ The data were obtained from IPUMS International through: <https://international.ipums.org/international>.

where X_{it}^{G1} represents characteristics upon arrival of adult migrants (G1) like schooling, age or family size, and $Time_{toBan}$ is the timing of arrival before the ban in November 1975 (months before Independence, ranging from -131 to 0). We start by estimating a basic specification of Equation (1) that only includes a dummy for being a beat-the-ban migrant. This specification yields estimates of the difference in means between the two types of migrants which are shown in Panel A of Table 3. Next, we estimate the full model as specified in Equation (1). The estimate of the parameter α_3 learns whether the time trend for a specific characteristic changes after the announcement of the ban. The estimation results are shown in Panel B of Table 3.

We find large differences between the two types of migrants. Beat-the-ban migrants have on average over two years less schooling than economic migrants and this difference increases to 3.4 years for those arriving in the final three months before the ban. The widening of the schooling gap for individuals arriving closer to the migration ban is also shown by the estimate for the interaction effect in Panel B of Table 3. The negative time trend in schooling is much larger after the announcement of the independence. The sample for this analysis is smaller as schooling of migrants is not always measured, in particular for migrants arriving in the 1960s. Column (7) replicates this analysis on a larger sample by using the predicted schooling based on birth district as outcome. This analysis confirms the main pattern that beat-the-ban migrants have less schooling, and that this is especially the case for those migrants arriving just before the ban. We also find that beat-the-ban migrants are older upon arrival. In particular, a substantial proportion of beat-the-ban migrants is older than 40 years upon arrival. Beat-the-ban migrants also bring larger families and are less often born in Paramaribo. The time trend for these characteristics is stronger after the announcement of the independence. Furthermore, we find a major difference in ethnicity; 54 % of economic migrants has the Creole ethnicity, this reduces to 25 % for beat-the-ban migrants. Again, we observe a stronger time trend after the announcement of the independence.

These findings show that the beat-the-ban migration was different from the economic migration. Before the announcement of the independence migrants were positively selected. The announcement of the Independence (and the migration ban) has triggered a broader stream of migrants originating from more regions and with more ethnicities other than the Creole ethnicity. Importantly, this stream of migrants appears to be less well adapted to the modern Dutch society considering their lower schooling, older ages, larger families, and non-urban

background. Consistent with the reports by contemporary observers (see Section 2) we conclude that beat-the-ban migrants are negatively selected relative to economic migrants and this negative selection intensifies when time to the ban runs out. Based on this relative comparison we label the two types of migrants as positively versus negatively selected migrants.

5. Long-term assimilation of economic migrants and ‘beat-the-ban’ migrants

5.1. Outcome gaps between migrant and natives over three generations

In the second part of our empirical analysis, we are interested in the economic integration of successive generations of migrants in the new country and the persistence of inequality between natives and immigrants. The analysis focuses on two questions. First, how large are the outcome gaps between migrants and natives and how much do they change over generations. Second, what is the relationship between the self-selection of migrants and their economic integration in the long term. We estimate outcome gaps between migrants and natives of the same age and gender using regressions like in Bauer et al. (2013) and distinguish between beat-the-ban migrants and economic migrants:

$$Y_{it}^G = \beta_0 + \beta_1 Sur_{Ec,i} + \beta_2 Sur_{Ban,i} + f(X_{it}) + \theta_t + \varepsilon_{it} \quad (2)$$

where Y_{it}^G is the outcome of interest for individual i of generation G (e.g. adult, child or grandchild) at time t , Sur_{Ec} and Sur_{Ban} denote dummy variables for being an economic or beat-the-ban Surinamese migrant or descendant, X_{it} denotes a vector of demographic control variables (age and gender) and θ_t are dummies for the measurement year. The main parameters to be estimated are β_1 and β_2 which can be interpreted as the outcome gaps with natives for economic migrants and for beat-the-ban migrants, respectively. We estimate these parameters for each subsequent generation. Most outcomes (e.g. wage, employment and social security dependence) are available for multiple years since 1999. We estimate models using as dependent variable the average of the individual outcomes available for each year. Models using yearly individual outcomes which take account of clustering of the error terms at the individual level yield very similar estimation results. Estimates of the migrant-native outcome gaps as

specified in Equation (2) are shown in Table 4. These estimates compare the outcomes of migrants with the outcomes of natives of the same age and gender.

Panel A of Table 4 shows that beat-the-ban migrants arriving as adults have relatively poor long-term socioeconomic outcomes, even 40 years after their arrival. They have on average 1.6 years of schooling less than natives and their income rank is 13.1 percentage points lower than natives. Moreover, beat-the-ban migrants are 26 percentage points more likely to rely on social benefits than natives, which is more than double the dependency rate of natives. For individuals arriving in the final three months before the deadline the outcomes are even worse. Their schooling gap with natives is nearly three years and their income rank is 13.6 percentage points lower than natives. Their reliance on social benefits is also slightly higher than for the total group of beat-the-ban migrants. Economic migrants have better outcomes than beat-the-ban migrants.²⁰ These migrants are on average even higher educated than natives and also have a higher employment rate. However, and remarkably considering their schooling level, their income rank is 8.8 percentage points lower than the income rank of natives and, like beat-the-ban migrants, they have a much larger dependence on social security.

The large gaps in long-term socioeconomic outcomes for beat-the-ban migrants are consistent with reports on the economic integration in the first years after the arrival of the migrants (e.g. Koot et al 1985; Tjon A Ten 1987). These reports conclude that many migrants arriving just before the ban were not well prepared for Dutch modern society (see Section 2). Our findings indicate that the major difficulties that migrants encountered in their first years in the Netherlands, with very high unemployment and dependence on social benefits, didn't fade away in the next decades.

Panel B of Table 4 shows estimates of the immigrant-native gap for the next generation, i.e. for the children of the adult migrants. We find that children of beat-the-ban migrants are doing better than their parents on all socioeconomic outcomes and are closing the gaps with natives. The gap in educational attainment has reduced to 1.1 years of education. This reduction is substantial as the Dutch native children from the same age also attained much more education than their parents; they attained 2.8 years of schooling more than their parents. The strong educational performance of the second generation of Surinamese migrants was also noted in Van Heelsum (1997). In addition, children of beat-the-ban migrants reduced the gaps in income

²⁰ A similar result has been found in Cortes (2004) who shows that in the U.S. (the first generation of) refugees earn less than economic migrants.

rank and dependence on social security benefits respectively to 8.7 and 15 percentage points: a reduction of 33 percent of the parental gaps in these outcomes. For children of beat-the-ban migrants who arrived in the final three months before the ban we find very similar outcomes. These socioeconomic indicators show that children of beat-the-ban migrants still have a substantial disadvantage compared to natives, but relative to their parents their socioeconomic position is clearly closer to the position of natives. As such, children of beat-the-ban migrants experience a pattern of upward social mobility. This pattern is less clear for children of economic migrants. They no longer have, like their parents had, an advantage in schooling and employment compared to natives. They attained on average 0.5 years less schooling than natives and have the same employment rate as natives. Their income rank slightly improved and their dependence on social security strongly reduced. The latter indicators suggest some upward mobility but the change on all four indicators is smaller and less clear than for children of beat-the-ban migrants. For the income analysis we have also calculated standardized earnings as in Borjas et al (2019). The analysis using this measure as dependent variable reveals the same convergence patterns as the analysis using income ranks. We find that both types of migrants converge towards natives and the convergence is largest for beat-the-ban migrants (see Table A.1 in appendix A).

In Panel C of Table 4 we show the estimates of the outcome gap for the grandchildren of the migrants. For this relatively young generation we use administrative data on outcomes in primary education. At the end of primary education (grade 6) students take a test which, together with the advice of the teacher, determines the assignment to the track level in secondary education²¹. We observe that the outcome gaps with natives are still present for both types of migrants. At the end of primary education their score on a nationwide high stakes standardized test is 0.3 to 0.4 standard deviations lower than the score of natives. We cannot directly compare the differences in human capital between the generations as not all grandchildren have completed their schooling yet. However, estimates based on historical cohorts and on recent cohorts show that an increase in test scores of one standard deviation is associated with an increase in schooling of 1.3 to 1.4 years.²² These estimates imply that the difference in test

²¹ Hanushek et al. (2021) using Dutch cohorts taking the test in the 1970's and 80's show that scores on this test are strongly associated with enrolment in higher education and in STEM education, and with income and wealth thirty years after the test.

²² Based on a linear regression of years of schooling on test scores. For the historical cohorts taking the test in the 1970's and 1980's the association with years of schooling is 1.29 (0.01) (N=62809) (Hanushek et al. 2021). For the first cohorts of students for which test scores are available in the administrative data we find associations with years of schooling of respectively 1.36 (0.01), 1.33 (0.01) and 1.34 (0.00). The sample size is respectively 126,876; 123,726 and 118,747. For these students, who took the test in 2006, 2007 or 2008, we observe

scores between migrants and natives is expected to translate into a difference of 0.4 to 0.5 years of schooling in adulthood. Furthermore, migrants are slightly older when taking the test, which is a proxy for the rate of retention. Further evidence on the schooling gap can be derived from the change in migrant-native test score over the time period of our tests scores 2006-2016. We find that the test score gap with natives reduced in this period for economic migrants from 0.38 in 2006 to 0.09 standard deviations in 2016, and for beat-the-ban migrants from 0.53 to 0.19 standard deviations.

These findings on the third generation of migrants show that beat-the-ban migrants have nearly closed the gap with economic migrants. The schooling gap has reduced from 2.4 years in the first generation, to 0.6 years of schooling in the second generation to approximately 0.1 years for the youngest generation. The educational outcomes of beat-the-ban migrants still lag behind those of natives, but the gap is smaller than the migrant-native outcomes gaps of their grandparents and parents. This indicates that the third generation of beat-the-ban migrants is likely to continue the upward social mobility of their parents. The outcome gaps for the third generation of economic migrants are quite similar to the outcome gaps of their parents which implies little upward social mobility for these migrants.

Gender and convergence

The findings in Table 4 might hide differences in the gender composition between migrants and their children, which can bias the pooled results if men and women have different assimilation rates. We have therefore re-estimated the main models separately for females and males (see Table A.2 in appendix A). We find the same convergence patterns for females and males. The first generation of beat-the-ban migrants has worse outcomes than the first generation of economic migrants. The convergence of the next two generations of beat-the-ban migrants towards natives is found for both females and males. The convergence in schooling, income ranks, standardized income (see Table A.2) and dependence on social benefits is stronger for females²³, whereas males' convergence is stronger in employment. For economic migrants the

completed schooling in 2021. This means that for the cohort taking the test in 2006 we observe schooling at age 27. At that age nearly all students have completed their schooling in the Dutch context.

²³ The stronger convergence in schooling and income for females is consistent with results from a recent study by Boustan et al. (2025) who study the social mobility of the children of immigrants across 15 different countries.

intergenerational convergence is less clear but males catch-up to natives in terms of employment.

Robustness analysis

The analysis in Table 4 compares the integration trajectories of the two differently selected migrant groups arriving before and after the announcement of the ban. These trajectories are likely to depend on the selection of migrants but may also depend on the conditions at the time of arrival, such as economic conditions, labor force participation patterns, or the size of the arrival cohorts. A recent study finds that these starting conditions may also affect long-term outcomes (Barsbai et al., forthcoming). It appears that beat-the-ban migrants experienced more difficult conditions than economic migrants as unemployment was higher during their arrival and the mass migration probably also complicated their housing situation. To explore the importance of these factors we have performed two types of robustness analysis.

In the first analysis we only include economic migrants arriving from 1971 onwards from our baseline sample of individuals (arriving since 1965) and re-estimated the main models from Table 4. We expect that the differences in economic conditions will be less important in this comparison, as both economic migrants and beat-the-ban migrants now arrived within a more limited time frame in which economic conditions are more comparable. The estimates for this subsample, shown in Table A.3, are similar to the results for the baseline sample.

Our second analysis focuses on migrants who arrived after the announcement of the ban. In our baseline analysis we have labeled these migrants as beat-the-ban migrants. However, it could be argued that some of these migrants would also have arrived in the absence of the ban and should be considered as economic migrants. Moreover, some migrants who would also have arrived in the absence of the ban may have expedited their migration. In this additional analysis we have split the initial sample of beat-the-ban migrants into two groups based on their observable characteristics: those who look more like economic migrants and those who look more like beat-the-ban migrants. Those who look more like economic migrants in terms of their observables are likely the ones who would have migrated anyway even in the absence of the ban. Differences in conditions at the time of arrival, such as the economic conditions and the cohort size are unlikely to be important in the comparison of the outcomes of these groups as they arrived at the same time.

For this analysis we estimate a linear probability model for being an economic migrant (relative to being a beat-the-ban migrant) using the covariates observed at the time of arrival,

and listed in Table 3.²⁴ Next, we predict the probability of being an economic or beat-the-ban migrant for those arriving after the announcement of the ban, and we create two new groups: Those with a predicted probability of 50% or more are labeled as ‘predicted beat-the-ban migrants’ and those with a prediction of less than 50% are labeled as ‘predicted economic migrants’. We then re-estimate the models from equation (2) using these two predicted types of migrants. The results are shown in Tables A.4 and A.5 in the appendix and can be compared with our baseline results in Table 4.

The estimates for the predicted types of migrants reveal a similar pattern as in Table 4. The first generation of ‘predicted beat-the-ban migrants’ has worse outcomes than the first generation of ‘predicted economic migrants’. The differences between the two groups of migrants in Table A.4 are even larger than those in Table 4. For the next generation the differences between the two groups of migrants are much smaller. ‘Predicted beat-the-migrants’ have slightly better outcomes than ‘predicted economic migrants’. For the third generation we find that the outcomes are quite similar.

This robustness analysis confirms that the negatively selected beat-the-ban migrants catch-up faster than economic migrants. The estimates suggest that the difference in economic integration between the two groups of migrants might even be larger than indicated by our baseline results in Table 4, which is consistent with the more unfavorable starting conditions for beat-the-ban migrants.

5.2 The social mobility of migrants and natives

To gain further insight in the persistence of inequality between migrants and natives we estimate intergenerational mobility models. These models show the social mobility of immigrants and natives conditional on their parental income rank by directly linking outcomes of parents and children. This analysis enables a comparison of the social mobility for different parts of the income distribution whereas the analysis in the previous section focused on a comparison of the means of the different groups. Following Abramitzky et al. (2021) we regress outcomes of children and grandchildren on the outcomes of previous generations, a dummy for being a specific type of Surinamese migrant or descendant (economic migrant or beat-the-ban migrant, respectively), and the interaction of these two variables:

²⁴ Using a non-linear model yields similar results.

$$Y_i^g = \gamma_0 + \gamma_1 Sur_{type} + \gamma_2 Y_i^{g-1} + \gamma_3 Sur_{type} * Y_i^{g-1} + \varepsilon_i \quad (3)$$

The slope estimates for natives (γ_2) and migrants (γ_3) measure the association between child outcomes and parental income rank, which is often labeled as the relative mobility. The estimates of the intercepts (γ_0 and γ_1), labeled as absolute mobility, reveal the difference in expected outcomes for natives and migrants whose parents are located at the very bottom of the income distribution. We focus our analysis on intergenerational mobility in income and in education. For estimating the intergenerational mobility in income between parents (G1) and children (G2) we use the first available parental income measure (averaged over the years 2003-2005) and the last available income measure for children (2016)²⁵. For the next generation, we estimate the association between test scores (G3) and the income rank of their parents (G2) and their grandparents (G1). The rank-rank specifications are done separately for economic and for beat-the-ban migrants.

We compare the social mobility of migrants and natives in Figure 2. The figure shows the regression lines from equation (3) and a binned scatterplot showing the mean child outcome by parental income ventile rank. The top figure shows intergenerational income mobility results which are based on a regression of the income rank of children (G2) on the income rank of their parents (G1). The bottom figure shows the results of a regression of child test scores (G3) on parental income rank (G2). Both figures show that children of both groups of migrants have a lower social mobility than the children of natives. Table 5 shows the corresponding regression estimates. The first rows show that at the very bottom of the income distribution children of immigrants have a lower expected income rank than children of natives. This difference is considerably larger for children of economic migrants (6.9 percentage points) than for children of beat-the-ban migrants (2.7 to 3.9 percentage points depending on their time of arrival). The next rows show that the income gap between immigrants and natives widens over the income distribution, in particular for beat-the-ban migrants. At the top of the income distribution the expected income rank of children of beat-the-ban migrants is 13.7 percentage points below the expected income rank of children of natives. Hence, these estimates show that the social

²⁵ We have also estimated models using the average income rank for children over the years 2014-2016. The results are very similar.

mobility of children of immigrants is largest at the bottom of the income distribution.²⁶ This pattern is consistent with the findings for the US (Abramitzky et al. 2021).

Panel B of Table 5 focuses on the next generation. We regress test scores of the youngest generation (G3) on the income rank of their parents (G2). At the bottom of the income distribution the grandchildren of immigrants lag the grandchildren of natives with 0.3 to 0.4 standard deviations of test scores. This difference in test scores reduces over the income distribution towards 0.2 standard deviations at the top of the income distribution. The social mobility pattern of beat-the-ban migrants is very similar to the pattern for economic migrants. Hence, we find that children of the most successful Surinamese parents have the smallest test score gap with native children. This means that for the second generation mobility is highest at the top of the income distribution and not at the bottom of the income distribution.

These estimates for intergenerational mobility models confirm that the economic outcomes of migrants lag behind those of natives, even after controlling for parental income rank. Interestingly, for the first generation we find that especially at the bottom of the income distribution children of beat-the-ban migrants have a higher social mobility than children of economic migrants. For the second generation we no longer find this difference.

The persistence of inequality in income

The lower social mobility of migrants compared to natives can also be observed in the estimates of the intergenerational models as specified in Borjas (1995) and Ward (2020). These models regress child outcomes on a parental component (parental income) and a group component (the average income of the group) (see Appendix C). The intuition of these models is that migrant child outcomes might not only be determined by parental characteristics but also by the characteristics of their migrant group. For instance, Borjas (1995) suggests that ethnic capital, defined as the quality of ethnic environment in which children are raised, might be important. The estimates in Table C.1 show that for both groups of migrants the group component is important for child outcomes. This means that the persistence of inequality for migrants is considerable stronger than predicted by a standard intergenerational model including a parental component only. The estimates also reveal that the group component is less important for beat-the-ban migrants than for economic migrants. The sum of the parameters on the parental

²⁶ These results are in line with intergenerational mobility results of post-WWII Surinamese immigrants as shown in a recent study by Zorlu and van Gent (2020).

outcome and the parameter on the group mean captures the persistence of group differences over generations. The estimates from these models, shown in Table C.1, provide a similar pattern of the persistence of inequality as discussed in Section 5.1. The estimated persistence rate for beat-the-ban migrants varies between 0.5 and 0.7, whereas the persistence rate for economic migrants varies between 0.9 and 1.1. Hence, these analyses confirm that more negatively selected beat-the-ban migrants have a stronger catch-up in social mobility than economic migrants.

Finally, we have also investigated the convergence over the whole income distribution using the standardized income measure as in Borjas et al. (2019). Over the entire income distribution, we find that beat-the-ban migrants fully catch-up to economic migrants and partly to natives in one generation (see Figure A.3 in Appendix A). This holds both for females as for males.

In sum, we find that the negative selection of beat-the-ban migrants relative to economic migrants is reflected in the outcomes of the first generation. Beat-the-ban migrants arriving as adults have relatively poor outcomes. However, this negative impact of the self-selection of beat-the-ban migrants is not persistent. Children and grandchildren of beat-the-ban migrants experience upward social mobility and are catching up with natives. We don't find such a pattern for the positively selected group of economic migrants. The outcomes of children and grandchildren converge at a slower pace towards the outcomes of natives.

6. Why do beat-the-ban migrants have a higher social mobility than economic migrants?

Although beat-the-ban migrants are more negatively selected we find that their social mobility is higher than for economic migrants. This finding is consistent with the hypothesis that outcomes of negatively selected migrants might not reflect their full economic potential. Abramitzky et al. (2021) document that in the US migrants have higher social mobility than natives. Moreover, they provide suggestive evidence that the income of migrant fathers did not fully reflect their abilities thereby giving their children more room to improve. In the third part of our empirical analysis, we investigate whether this hypothesis can also explain the difference in social mobility between the two types of migrants in our context.

Differences in migrant characteristics at the time of arrival

The special circumstances of the beat-the-ban migration might have lowered the parental incomes in the same way as for refugees. Typically, refugee migrants are less well prepared for the local labor market in terms of human capital, language, and job skills than economic migrants (Brell, Dustmann and Preston 2020). We start our analysis by investigating to which extent the observed differences at the time of arrival between beat-the-ban migrants and economic migrants can explain the difference in parental income between the two types of migrants forty years later. To this aim we regress the parental income rank on a dummy for the type of migrant while controlling for the observed covariates of migrants upon arrival. The estimation results are shown in Table 6.

The baseline difference in income rank between beat-the-ban migrants and economic migrants controlling for age and gender is 5.2 percentage points, as shown in column (1). The next columns investigate to which extent specific covariates can explain this difference in income rank. We find that age at migration is the most important factor in explaining the income difference between the two groups of migrants. Taking account of the older age at arrival of beat-the-ban migrants reduces the difference in income rank to 1.6 percentage points. The difference in schooling seems less important, but it should be noted that schooling has not been measured for all migrants²⁷. A potentially important difference is that beat-the-ban migrants arrived during a mass migration and economic migrants arrived in much smaller groups. As a result, it can be expected that beat-the-ban migrants encounter more problems with entering the Dutch labor market. Column (6) aims to investigate the importance of the number of migrants arriving together by controlling for a quadratic in the monthly number of migrants. The estimate suggests that this reduces the income difference; including other polynomials of the monthly number of migrants yields similar results. Taking all observed differences into account reduces the difference in income rank to 2.0 percentage points (column (7)). Hence, the observed differences in characteristics of migrants upon their arrival can explain the income difference between the two groups of migrants to a large extent. The parental income of beat-the-ban migrants appears to be hampered most by the fact that they arrived at an older age, and because they arrived with many other migrants at the same time.

Differences in educational opportunities

²⁷ The model of column (2) includes a dummy for having a missing value on schooling and the mean value of schooling has been imputed for those with a missing value in schooling (see also the note below Table 6).

Beat-the-ban migrants who arrived at an older age probably also experienced more restricted educational opportunities than economic migrants as they mainly originate from rural areas and not from the capital city of Paramaribo. Differences in regional background are associated with differences in opportunities to invest in human capital as ‘children born in remote and rural communities face disadvantages in achieving comparable levels of human capital as their peers born in urban areas’ (World Bank 2018). These inter-regional disparities in opportunities are linked to past policies and historical inequities (Bobba et al. 2021). The supply of (high quality) schools in remote areas in Suriname is more limited than in the capital city, and the distance to the capital city imposes higher costs of schooling. After World-War II the schooling opportunities expanded and many individuals moved from rural areas towards Paramaribo, where more (high quality) schools were available. A comparison of the trend in schooling of the two migrant streams may provide insight in the importance of a lack of opportunities for the difference in schooling upon arrival in the Netherlands.

The data of migrants arriving as adults enable us to observe trends in schooling in Suriname as most of these migrants have completed their schooling in Suriname. Figure 3 shows the level of schooling by year of birth for economic migrants and beat-the-ban migrants. We observe a very different trend in schooling for the two migrant streams. Beat-the-ban migrant start from much lower levels of schooling but the most recent cohorts attain nearly the same levels of schooling as economic migrants. In particular, cohorts of beat-the-ban migrants born after 1945 achieve a strong catch-up in schooling. This strong catch-up is also reflected in regression estimates of schooling on birth cohort in column (1) of Table 7. The increase in years of schooling by birth cohort is nearly three times larger for beat-the-ban migrants than for economic migrants.

Column (2) in Table 7 investigates to which extent the income ranks of the two migrant streams are associated with their birth cohorts. We observe that income ranks increase with birth cohort and the increase for beat-the-ban migrants is twice as large as the increase of economic migrants. This suggests that the growth and catch-up in schooling of migrants is reflected in their earnings but not fully. The next column estimates the returns to schooling in terms of income ranks for the two migrant streams. The estimates show that the returns to schooling of beat-the-ban migrants are much lower than the returns to schooling for economic migrants. Hence, migrants who decided to leave their country voluntarily in a period without migration ban obtain higher returns to schooling than migrants who decided to leave against the background of major political changes and fears about ethnic conflicts. This is consistent

with findings for refugee migrants (Brell, Dustmann and Preston 2020). Earlier studies about the first years after the mass migration also pointed out various difficulties for beat-the-ban migrants resulting from their rushed migration (Koot et al. 1985; Thon A Ten 1987). Consistent with these time trends we find a stronger convergence of income towards natives for Beat-the-ban migrants with parents born before World War II compared to beat-the-ban migrants born after the WWII (a persistence rate of respectively 0.60 and 0.88)²⁸.

We now turn to the children of economic and beat-the-ban migrants. Columns (4)-(6) in Table 7 show estimates for this generation of migrants. Again, we observe an increase in schooling by cohort and a stronger increase for children of beat-the-ban migrants. Column (5) shows that younger cohorts of beat-the-ban migrants have higher earnings ranks whereas the earnings ranks of economic migrants don't increase with birth cohort. The final column shows that children of beat-the-ban migrants obtain the same or even higher returns to schooling than the children of economic migrants. These findings show that children of beat-the-ban migrants children keep on climbing the social ladder like their parents already did in Suriname.

In sum, the fast catch-up in schooling and the lower returns to schooling both indicate that the schooling and income of the first generation of beat-the-ban migrants probably does not reflect their full earnings potential. Their schooling level is probably hampered by less opportunities to invest in human capital due to regional factors. Their returns to schooling might be hampered by moving to a new country without sufficient time to prepare well for the new labor market environment and by arriving at an older age. The finding that immigrants whose opportunities in the home country were more restricted than those of other migrants have better intergenerational outcomes in the host country is consistent with findings in other settings (e.g. Cortes 2004; Collins and Zimran 2019).

7. Conclusions and discussion

The economic integration and assimilation of immigrants has always been a highly debated issue, both in the scientific literature as well as in the political arena. Despite the large literature on integration and assimilation of migrants, very little is known as to how economic inequality of migrants persists over time and over multiple generations. Moreover, little is known on the impact of migrant selection on the persistence of migrant-native outcome gaps. This paper

²⁸ The respective persistence rates for economic migrants are 1.07 for those born before World War II and 1.17 for those born after WWII.

exploits a unique historic episode in Dutch migration history combined with unique data containing multigenerational family links to study economic integration of migrants over multiple generations.

Our study first establishes a negative selection of beat-the-ban migrants relative to economic migrants. Beat-the-ban migrants arrive at an older age, have less schooling, and more often originate from remote areas in Suriname with less affinity to the modern Dutch society. We study to which extent this negative selection leads to a persistence in inequality over multiple generations.

For the first generation of migrants, we find clear differences in economic outcomes. Beat-the-ban migrants arriving as adults have relatively poor outcomes. Economic migrants have better socioeconomic outcomes but also lag behind natives. Hence, the negative selection of beat-the-ban migrants is reflected in the outcomes of the first generation. It should be noted that the outcomes are measured in the administrative data of 1999-2005. The literature finds that outcome gaps between natives and migrants in the US and UK decrease with time spent in the new country (Borjas 1985, 2015; Dickens 2008) but in Germany income gaps appear to widen with time (Berbéé & Stuhler 2023). An analysis of Dutch survey data collected during the nineties shows that gaps in socio-economic outcomes appear to decrease over time, and that these gaps were larger for beat-the-ban migrants than for economic migrants (see Table A.6). This suggests that our findings probably are close to the upper limit of assimilation of these two groups of migrants.

The negative impact of the self-selection of beat-the-ban migrants is not persistent. We find that the off-spring of the negatively selected beat-the-ban migrants has a faster catch-up to natives than the off-spring of the economic migrants. Beat-the-ban migrants experienced more difficult economic conditions upon arrival and also arrived with large numbers of migrants. This probably worsened the outcomes of the first generation like in Barsbai et al. (forthcoming). Robustness analysis aimed at taking account of the difference at the time of arrival suggest that the difference in social mobility between the two types of migrants might be even larger than indicated by our main estimates.

The estimated persistence rate of inequality for beat-the-ban migrants versus natives is 0.6 to 0.7. This implies that each generation reduces the outcome gap with natives with approximately one third. For the economic migrants we find a stronger persistence rate of inequality. These estimates suggest that economic integration is a gradual process which takes

multiple generations which is consistent with the recent findings by Ward (2020). It is also consistent with ‘Clark’s law of social mobility suggesting that integration is a slow process, taking many hundreds of years for families who are initially far above or below the mean’ (Clark 2014, p.212). Our findings in the European context differ from the recent results in Abramitzky et al. (2021) showing that children of immigrants in the U.S. have higher rates of upward mobility than children of the native US-born. Instead, in our context we find that children of natives have a higher social mobility than children of immigrants. This difference probably cannot be attributed to a difference in the composition of the migration flows as we find a lower social mobility for both migrant groups in the Dutch context.

The stronger convergence of the negatively selected beat-the-ban migrants relative to economic migrants can be explained by the fact that the schooling and income of the first generation of beat-the-ban migrants probably does not reflect their full earnings potential. We find differences in trends in schooling and in returns to schooling which are consistent with this explanation. The schooling level of beat-the-ban migrants might have been hampered by less opportunities to invest in human capital due to regional factors. Their returns to schooling might have been hampered by moving to a new country without sufficient time to prepare well for the new labor market environment and by arriving at an older age.

In sum, our results show that outcomes of migrants converge towards outcomes of natives. However, this convergence is quite slow and takes multiple generations. Differences between groups of migrants – that is, outcomes of beat-the-ban migrants relative to those of economic migrants – disappear relatively quickly. This has implication for migrant selection. Many countries use various programs to select specific types of migrants for Green cards or permanent residency. These migrant selection schemes based on characteristics upon arrival and aimed at improving migrant economic outcomes work well for the first generation of migrants, but they might miss the full potential of migrants who, due to historical circumstances and past policies, experienced a lack of opportunities to invest in human capital.

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Table 1. Summary statistics of three generations of immigrants arriving in the period 1965-1975 and natives (10 % of population)

	Adults (G1)			Children (G2)			Grandchildren (G3)		
	Economic	Beat-the-ban	Natives	Economic	Beat-the-ban	Natives	Economic	Beat-the-ban	Natives
Observations	5,281	6,671	390,377	16,065	20,196	525,803	27,656	35,438	903,840
Female	64.9 (47.7)	63.9 (48.0)	57.0 (49.5)	52.0 (50.0)	51.1 (50.0)	49.0 (50.0)	49.1 (50.0)	48.7 (50.0)	48.9 (50.0)
Age in 1999	55.1 (5.0)	53.0 (5.7)	56.6 (4.8)	37.3 (5.7)	33.3 (5.2)	36.9 (7.7)			
Age at arrival/ at test	27.0 (4.8)	28.8 (5.8)		9.1 (5.2)	9.2 (5.1)		12.00 (0.48)	12.01 (0.48)	11.95 (0.46)
Family size at arrival	2.3 (1.5)	3.3 (1.9)		3.3 (1.9)	4.2 (2.1)				
Born in Paramaribo (% dummy 1 if yes)	50.5 (50.0)	33.0 (47.0)		73.2 (44.2)	66.7 (47.1)				
Creole (% dummy 1 if yes)	52.4 (50.0)	24.7 (43.1)		55.8 (49.7)	24.5 (43.0)				
Hindustani (% dummy 1 if yes)	33.0 (47.0)	62.0 (48.5)		30.5 (46.1)	62.5 (48.4)				
Schooling (years of education)	10.3 (3.7)	8.2 (4.5)	9.7 (3.2)	10.9 (3.5)	10.6 (3.4)	11.5 (3.5)			
Income rank 2003 (scale 0-100)	46.2 (26.3)	39.8 (25.7)	53.1 (28.5)	47.5 (28.0)	43.8 (26.3)	53.5 (28.2)			
Test score (500-550)							534.0 (9.8)	533.1 (9.5)	537.0 (8.7)
Social Benefit 1999 (% dummy 1 if yes)	51.9 (50.0)	52.8 (49.9)	27.6 (44.7)	33.2 (47.1)	34.0 (47.4)	14.7 (35.4)			
Employment 1999 (% dummy 1 if yes)	48.0 (50.0)	48.6 (50.0)	40.1 (49.0)	75.8 (42.8)	77.5 (41.8)	79.6 (40.3)			

Note: G1-Sample includes all adults up to age 65 in 1999. Standard deviations in brackets. The number of observations reflect the total number of individuals observed in the administrative data. For specific variables, such as schooling, the number of observations is smaller due to missing values.

Table 2 Schooling, ethnicity and place of origin of adult Surinamese non-migrants and migrants to the Netherlands 1965-1975

	Years of Schooling	Creole Ethnicity (%)	From Paramaribo (%)
	(1)	(2)	(3)
Non-migrants in Surinam	6.5 (2.4)	20.9 (0.41)	27.1 NA
Economic migrants (Arrived since 1965 and before Feb. 1974)	10.0 (3.9)	54.1 (49.8)	48.6 (50.0)
Beat-the-ban migrants (Arrived between Feb 1974 and Nov 1975)	7.9 (4.7)	25.2 (43.4)	31.6 (46.5)
Beat-the-ban migrants (Final three months)	6.6 (4.8)	21.9 (41.4)	26.4 (44.1)

Note: Each column shows the means and standard deviations of the column variable by group of (non-)migrants. The data on non-migrants are obtained from the Surinamese Census. Years of schooling and ethnicity data of non-migrants come from IPUMs microdata based on the Census of 2004 and 2012. The means and standard deviations are calculated for individuals who were 18 years or older in 1974. The data on the place of origin is obtained from the report of the Surinamese Census of 1972. For the migrants from Surinam we use administrative data about individuals who arrived in the Netherlands at age 18 or older. Column (3) is based on data about their place of birth. Statistics on migrants slightly differ from Table 1 due to the age restriction used in Table 1.

Table 3. Regression estimates of differences between economic and beat-the-ban adult migrants 1965-1975

	Years of Schooling	Age at migration	Family size (mother)	Born in Paramaribo	Creole ethnicity	Age having first child	Schooling birth district
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
A. Difference in means							
Beat-the-ban migrants (all)	-2.172 (0.267)***	1.445 (0.138)***	0.680 (0.031)***	-0.172 (0.007)***	-0.290 (0.009)***	-0.815 (0.080)***	-0.986 (0.027)***
Beat-the-ban migrants (final three months)	-3.410 (0.361)***	2.023 (0.182)***	0.897 (0.041)***	-0.222 (0.010)***	-0.322 (0.116)***	-0.675 (0.107)***	-1.109 (0.036)***
Constant (= Economic migrants)	10.012 (0.190)***	31.645 (0.101)***	2.242 (0.023)***	0.486 (0.005)***	0.541 (0.007)***	21.521 (0.059)***	8.650 (0.020)***
B. Difference in time trend							
Beat-the-ban	-1.537 (0.532)***	2.161 (0.277)***	0.722 (0.062)***	-0.172 (0.014)***	-0.157 (0.018)***	0.45 (2.83)***	-0.508 (0.055)***
Time to ban	-0.030 (0.007)***	0.002 (0.004)	0.003 (0.001)***	-0.001 (0.000)***	-0.003 (0.000)***	-0.02 (9.29)***	-0.010 (0.001)***
Beat-the-ban * Time to ban	-0.109 (0.030)***	0.108 (0.016)***	0.027 (0.004)***	-0.007 (0.001)***	-0.003 (0.001)***	0.04 (4.13)***	-0.010 (0.003)***
N	1,029	17,951	11,023	17,909	11,136	11,044	17,951

Note: Each column regresses a migrant characteristic on a dummy for migrating between the announcement date and the Independence date. Column (7) uses the predicted schooling level based on an individual's birth district as dependent variable. The models in the bottom panel also control for time to ban and the interaction of time to ban with the Beat-the-ban dummy as specified in Equation (1). The sample consists of all Surinamese migrants arriving at age 18 or older during 1965-1975. Standard errors in brackets.

***p<.01 **p<.05, *p<.10

Table 4. Immigrant-native outcome gap over three generations

	Years of schooling	Income rank	Social benefit	Employment
A. Adult outcomes (G1)				
Economic migrants	0.783 (0.148)***	-0.088 (0.004)***	0.259 (0.006)***	0.052 (0.006)***
Beat-the-ban-migrants	-1.607 (0.148)***	-0.131 (0.003)***	0.258 (0.005)***	0.007 (0.005)
Observations	50,727	297,836	297,836	297,836
B. Child outcomes (G2)				
Economic migrants	-0.505 (0.043)***	-0.070 (0.004)***	0.141 (0.004)***	0.003 (0.007)
Beat-the-ban migrants	-1.096 (0.035)***	-0.087 (0.002)***	0.150 (0.003)***	0.001 (0.005)
Observations	226,457	195,764	199,721	199,721
C. Grandchildren (G3)				
	Test score	Age at test		
Economic migrants	-0.281 (0.015)***	0.017 (0.003)***		
Beat-the-ban migrants	-0.368 (0.011)***	0.016 (0.003)***		
Observations	221,441	221,441		

Notes: Each panel shows regression estimates of outcomes on a dummy for being a economic or beat-the-ban adult, child or grandchild migrant controlling for (a cubic in) age, gender. Test scores measured in standard deviations. Standard errors in parenthesis. The income rank in panel A is based on income in 2003-2005, like in the intergenerational models. The income rank in panel B is based on all available years. ***p<.01 **p<.05, *p<.10

Table 5. Intergenerational mobility estimates for natives, economic migrants and beat-the-ban migrants

A: G1-G2 mobility	Dependent variable: Income rank of child (G2) in 2016			
	Natives (1)	Difference with natives		Beat-the-ban migrants (4)
		Economic migrants (2)	All (3)	1-3 months
Parental income rank (G1) Intercept (absolute mobility)	0.44 (0.00)***	-0.07 (0.01)***	-0.04 (0.01)***	-0.03 (0.01)***
Slope (relative mobility)	0.23 (0.00)***	-0.01 (0.02)	-0.09 (0.02)***	-0.12 (0.02)***
Observations		176,822	181,524	176,615
B: G2-G3 mobility	Dependent variable: Test score of grandchild (G3) at age 12			
	Natives	Economic migrants	Beat-the-ban migrants	
Child income rank (G2) Intercept (absolute mobility)	532.5 (0.1)***	-3.3 (0.3)***	All -3.8 (0.2)***	1-3 months -3.8 (0.4)***
Slope (relative mobility)	7.7 (0.1)***	1.4 (0.5)***	1.4 (0.4)***	1.4 (0.7)*
Observations		208,632	211,443	206,430

Note: This tables shows estimates of the slope and intercept from regressions of child outcomes (G2) on parents outcomes (G1) (top panel) or grandchild outcomes (G3) on child outcomes (G2) (bottom panel). Child income rank in 2016 of individuals age 20-50 is regressed on parental income rank 2003-2005. Grandchild test score measured in points (500-550) are regressed on child income rank (G2). The observations are the total of natives and type of migrants. ***p<.01 **p<.05, *p<.10

Table 6. Regressions of income rank on being a beat-the-ban migrant with additional controls

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Beat-the-ban migrants	-0.052 (0.005)***	-0.048 (0.005)***	-0.016 (0.007)***	-0.051 (0.005)***	-0.044 (0.005)***	-0.044 (0.009)***	-0.020 (0.009)***
Observations	10,643	10,643	10,643	10,642	10,643	10,643	10,642
Controls							
No	X						
Schooling		X					X
Age at migration			X				X
Born in Paramaribo				X			X
Ethnicity					X		X
Number of migrants in month of arrival						X	X

Note: The sample consists of adult migrants only (G1). Each column regresses income rank on a dummy for being a beat-the-ban migrant controlling for (a cubic in) age, gender. Columns (2) to (7) include additional controls as indicated in the bottom panel. Column (2) also include a dummy for having a missing value in schooling and the mean value of schooling has been imputed for those with a missing value in schooling. Column (6) controls for a quadratic of the number of migrants arriving in the same month. The covariates 'age having first child' and 'family size' from Table 3 are not included as the analysis focuses on the total sample of males and females, and not on females only. Standard errors in brackets. *** $p < .01$ ** $p < .05$, * $p < .10$

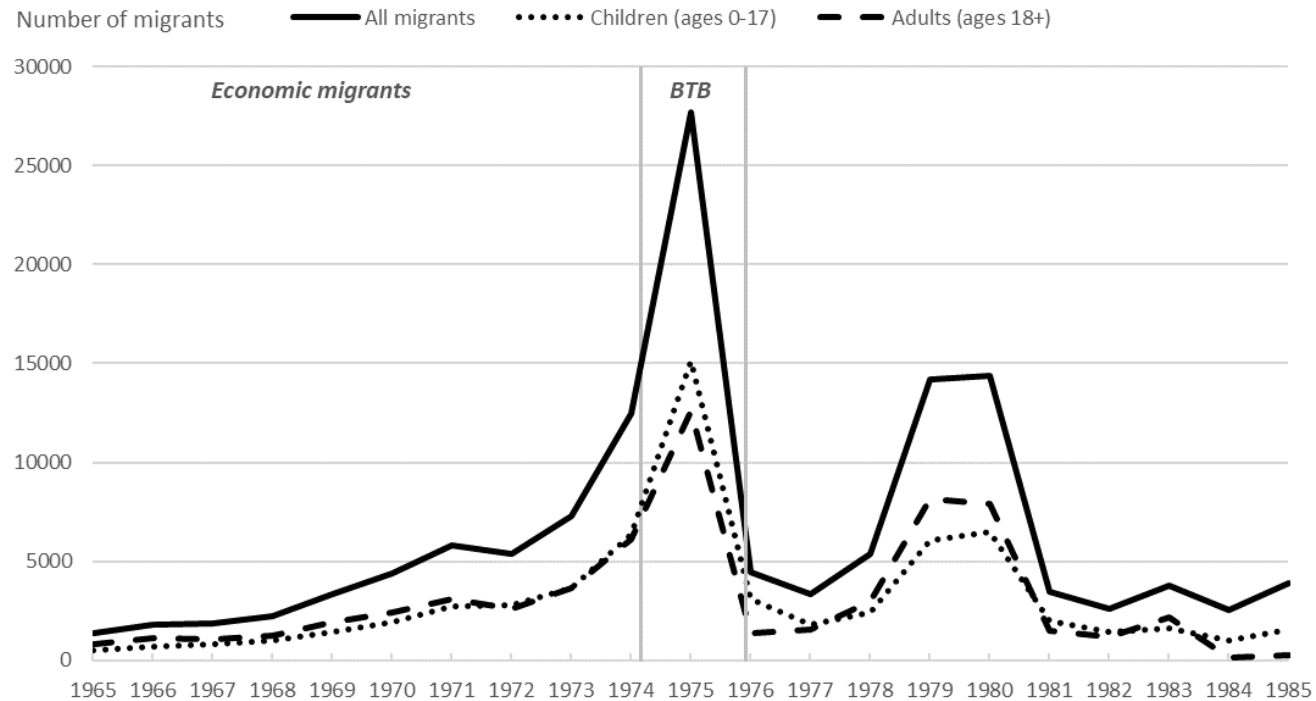
Table 7. Trends in schooling, income rank and returns to schooling for parents and children

	Parents (G1)			Children (G2)		
	Schooling (1)	Income Rank (2)	Income Rank (3)	Schooling (4)	Income Rank (5)	Income Rank (6)
Year of birth (YoB)	0.097 (0.032)***	0.002 (0.000)***	0.004 (0.000)***	0.080 (0.009)***	0.000 (0.001)	-0.002 (0.000)***
Beat-the-ban * YoB	0.166 (0.044)***	0.002 (0.001)***		0.048 (0.011)***	0.003 (0.001)***	
Schooling (S)			0.026 (0.003)***			0.029 (0.001)***
Beat-the-ban * S			-0.010 (0.004)**			0.004 (0.001)***
Observations	734	11,110	11,110	14,418	14,196	14,196

Note: Columns (1), (2), (4) and (5) regress schooling or income rank on year of birth, a dummy for beat-the-ban migrant and the interaction of these two variables. Columns (3) and (5) regress income rank on schooling, a dummy for beat-the-ban migrant and the interaction. Column (3) also includes a dummy for missing values on schooling and missing values in schooling have been imputed with the mean value. ***p<.01 **p<.05, *p<.10

Figures

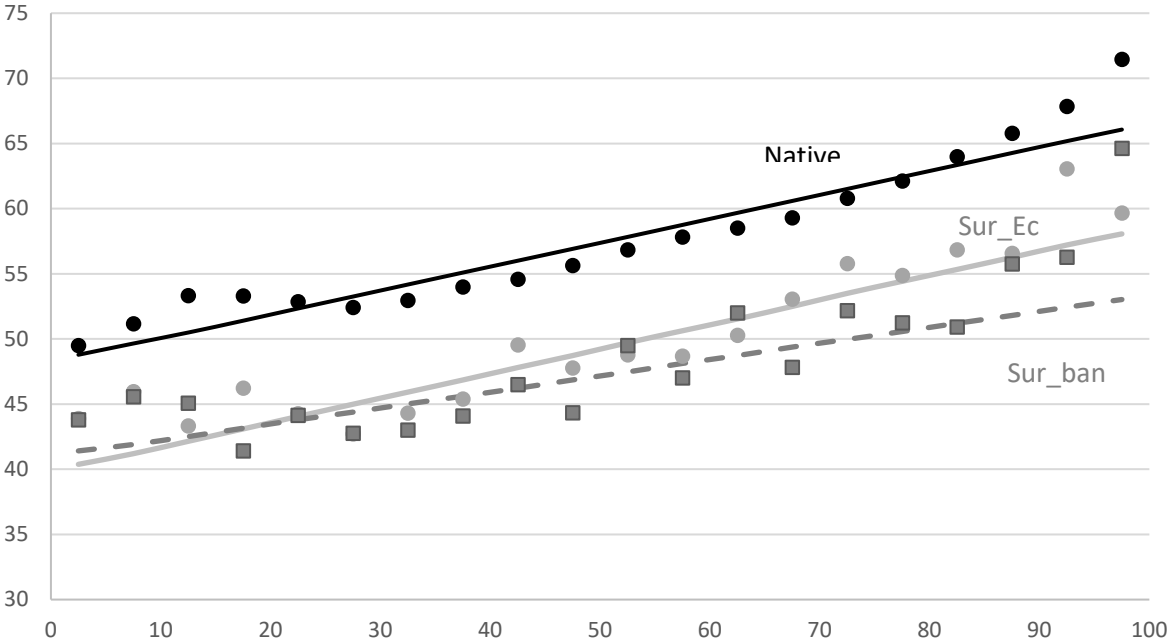
Figure 1. Migration from Suriname to the Netherlands by year of arrival 1965-1985



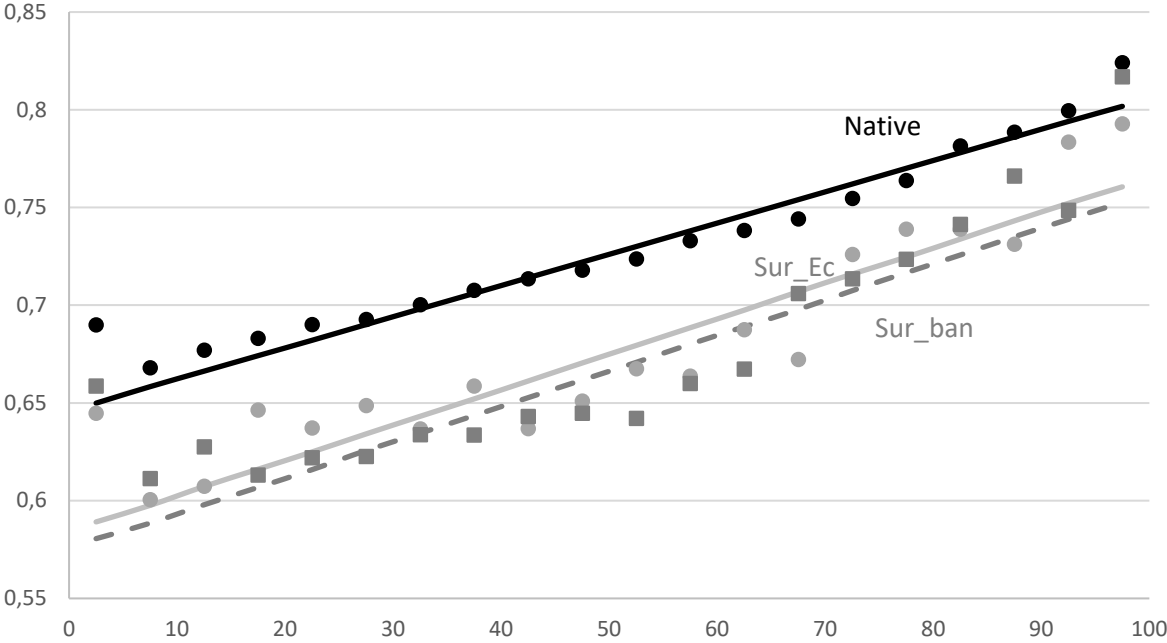
Notes: Based on administrative data from Statistics Netherlands (authors calculations). The independence of Suriname was announced in February 1974 and Suriname became independent in November 1975. Migrants arriving from Suriname to the Netherlands between February 1974 and November 1975 (see vertical lines) are coded as ‘beat-the-ban’ migrants (BTB). Migrants arriving since 1965 and before February 1974 are coded as economic migrants.

Figure 2. Intergenerational mobility of Surinamese migrants and Dutch natives, rank-rank correlations

A. Income rank (G2) – income rank (G1)

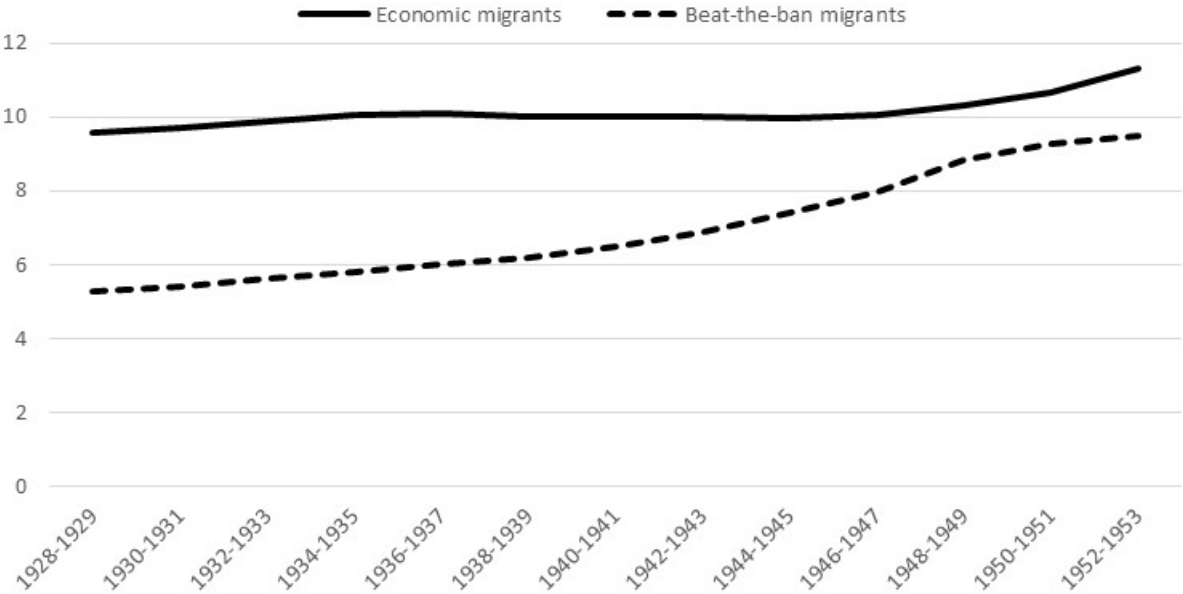


B. Test score (standardized) (G3) - Income rank (G2)



Notes: Income rank (A) and standardized test score (B) (y-axis) by income rank (x-axis). The figures plot the mean income rank or test scores rank of children by parental income (ventile) rank, for natives, economic migrants (Sur_Ec) and beat-the-ban migrants (Sur_ban). The regression lines are based on equation (3). The corresponding estimates are shown in Table 5.

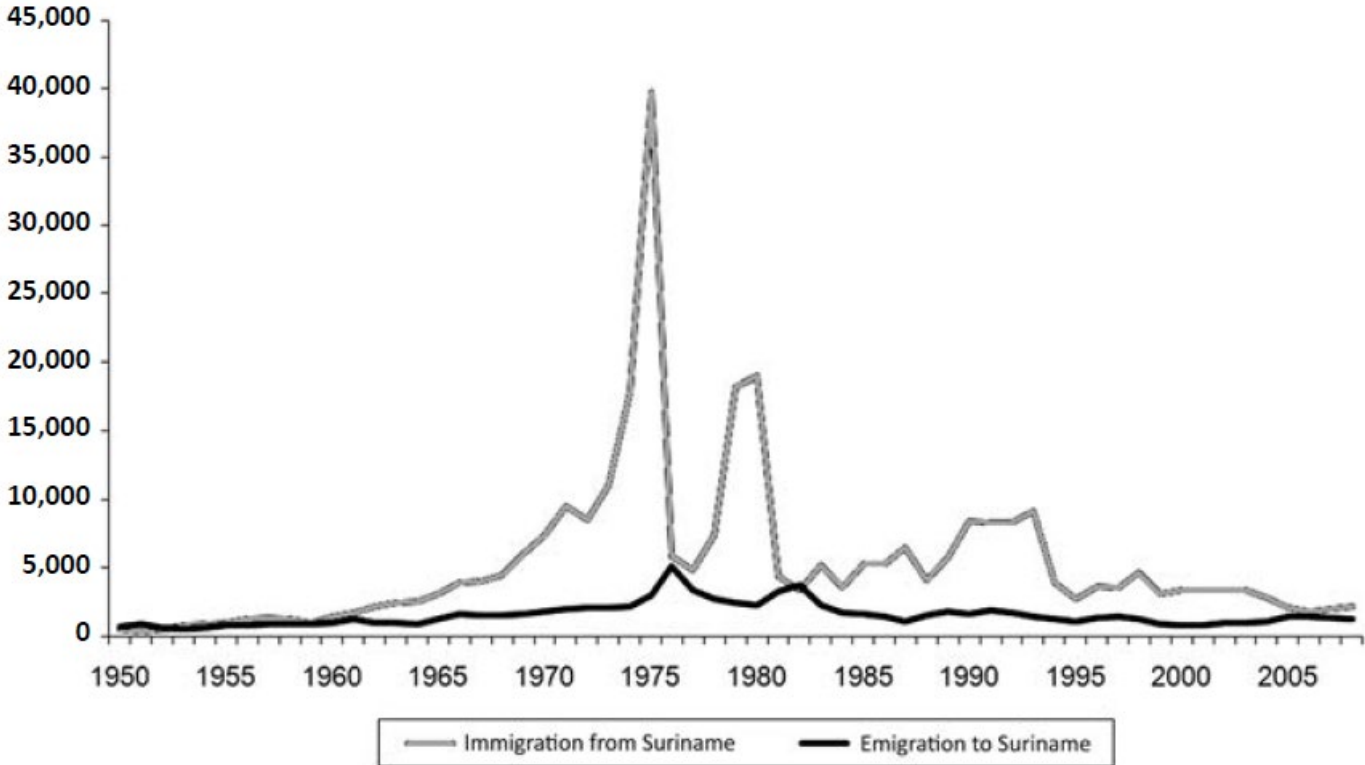
Figure 3. Trends in years of schooling of adult migrants in Suriname



Notes: Average years of schooling (y-axis) by birth cohort (x-axis).

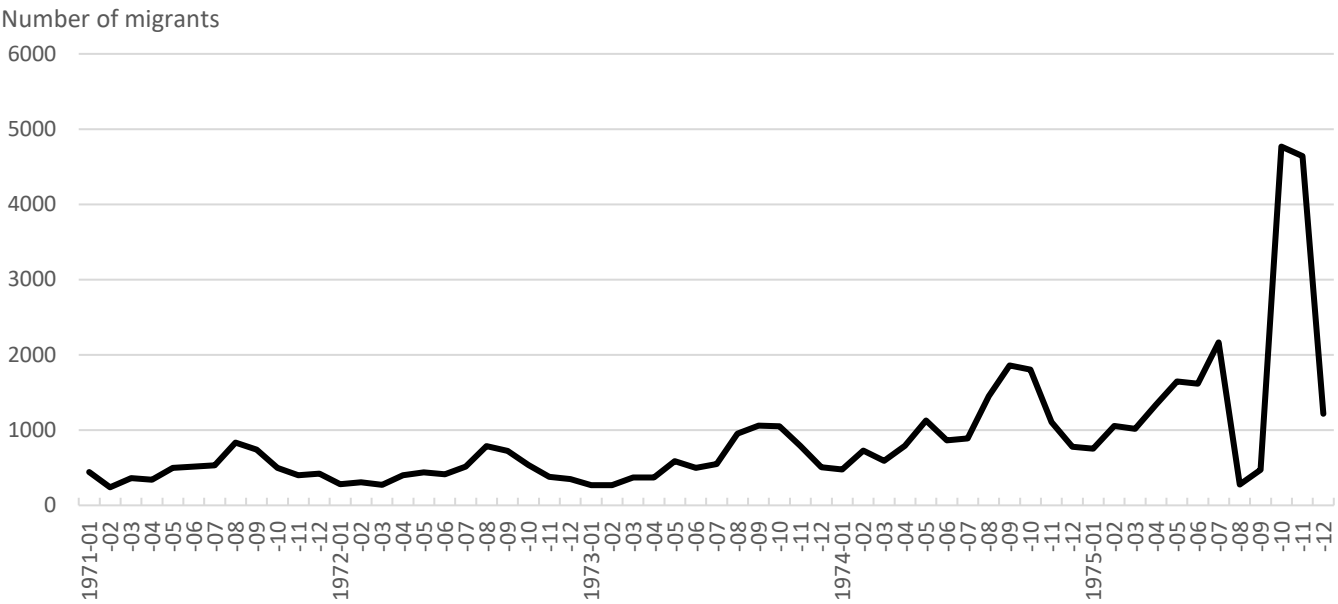
Appendix A: Supplementary Tables and Figures

Figure A.1 Migration from Suriname to the Netherlands since 1950



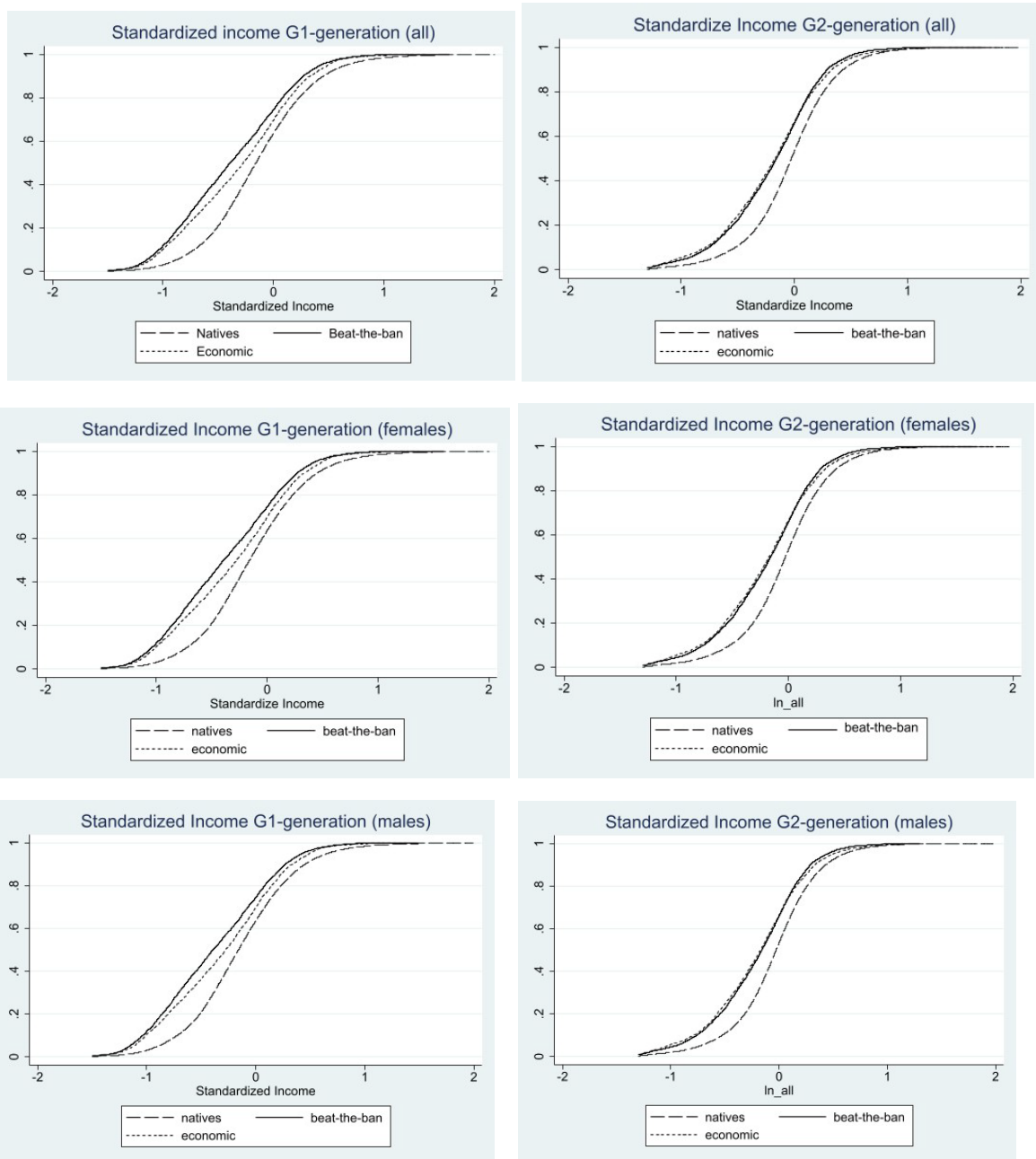
Notes: Figure obtained from Lucassen & Lucassen (2011).

Figure A.2 Migration from Suriname to the Netherlands in 1971-1975 by month



Notes: Data from Statistics Netherlands

Figure A.3 Cumulative density of standardize income for natives and migrants by generation and gender



Note: The figures show the cumulative density of the ln (standardized income) constructed as in Borjas et al. (2019) for natives, economic and beat-the-ban migrants. See also note below Table A.1.

Table A.1 Immigrant-native gap in (ln) standardized income

	All	Female	Male
A. Adult outcomes (G1)			
Economic migrants	-0.172 (0.007)***	-0.180 (0.008)***	-0.153 (0.011)***
Beat-the-ban-migrants	-0.228 (0.006)***	-0.238 (0.007)***	-0.209 (0.009)***
Observations	297,836	173,189	124,647
B. Child outcomes (G2)			
Economic migrants	-0.118 (0.007)***	-0.118 (0.010)***	-0.118 (0.011)***
Beat-the-ban migrants	-0.132 (0.005)***	-0.131 (0.006)***	-0.132 (0.007)***
Observations	171,687	86,285	85,402

Notes: Each panel shows regression estimates of (ln) standardized income on a dummy for being an economic or beat-the-ban adult or child. Standardized income is constructed as a worker's annual labor income divided by the mean labor income of workers of the same age and gender during the same calendar year as in Borjas et al. (2019). Standard errors in parenthesis; *** $p < .01$ ** $p < .05$, * $p < .10$

Table A.2 Immigrant-native outcome gap over three generations by gender: Females

	Schooling	Income rank	Social benefit	Employment
A. Adult outcomes (G1)				
Economic migrants	0.743 (0.166)***	-0.092 (0.005)***	0.314 (0.007)***	0.112 (0.007)***
Beat-the-ban-migrants	-1.371 (0.170)***	-0.136 (0.004)***	0.314 (0.006)***	0.053 (0.007)***
Observations	28,636	173,189	173,189	173,189
B. Child outcomes (G2)				
Economic migrants	-0.241 (0.059)***	-0.056 (0.005)***	0.141 (0.006)***	0.026 (0.010)**
Beat-the-ban migrants	-0.986 (0.049)***	-0.078 (0.004)***	0.159 (0.004)***	0.011 (0.007)
Observations	112,404	96,266	97,902	97,902
	Test score	Age at test		
C. Grandchildren (G3)				
Economic migrants	-0.255 (0.019)***	0.016 (0.005)***		
Beat-the-ban migrants	-0.363 (0.015)***	0.014 (0.004)***		
Observations	110,820	110,820		

Notes: Each panel shows regression estimates of outcomes on a dummy for being a economic or beat-the-ban adult, child or grandchild migrant controlling for (a cubic in) age, gender. Test scores measured in standard deviations. Standard errors in parenthesis. The income rank in panel A is based on income in 2003-2005, like in the intergenerational models. The income rank in panel B is based on all available years. ***p<.01 **p<.05, *p<.10

Table A.2 – continued. Immigrant-native outcome gap over three generations by gender:
Males

	Schooling	Income rank	Social benefit	Employment
A. Adult outcomes (G1)				
Economic migrants	0.809 (0.285)***	-0.080 (0.007)***	0.149 (0.011)***	-0.060 (0.010)***
Beat-the-ban-migrants	-2.036 (0.270)***	-0.120 (0.006)***	0.162 (0.010)***	-0.073 (0.008)***
Observations	22,091	124,647	124,647	124,647
B. Child outcomes (G2)				
Economic migrants	-0.786 (0.062)***	-0.085 (0.005)***	0.142 (0.006)***	-0.020 (0.010)**
Beat-the-ban migrants	-1.204 (0.050)***	-0.097 (0.003)***	0.142 (0.004)***	-0.007 (0.007)
Observations	114,053	99,498	101,819	101,819
	Test score	Age at test		
C. Grandchildren (G3)				
Economic migrants	-0.306 (0.020)***	0.018 (0.005)***		
Beat-the-ban migrants	-0.374 (0.015)***	0.019 (0.004)***		
Observations	110,621	110,621		

Notes: Each panel shows regression estimates of outcomes on a dummy for being a economic or beat-the-ban adult, child or grandchild migrant controlling for (a cubic in) age, gender. Test scores measured in standard deviations. Standard errors in parenthesis. The income rank in panel A is based on income in 2003-2005, like in the intergenerational models. The income rank in panel B is based on all available years. ***p<.01 **p<.05, *p<.10

Table A.3 Immigrant-native outcome gap over three generations using a restricted sample of economic migrants arriving since 1971

	Years of schooling	Income rank	Social benefit	Employment
A. Adult outcomes (G1)				
Economic migrants	0.245 (0.192)	-0.095 (0.005)***	0.249 (0.008)***	0.031 (0.007)***
Beat-the-ban-migrants	-1.611 (0.148)***	-0.131 (0.003)***	0.258 (0.005)***	-0.004 (0.005)
Observations	50,532	296,230	296,230	296,230
B. Child outcomes (G2)				
Economic migrants	-0.808 (0.053)***	-0.077 (0.004)***	0.149 (0.005)***	-0.001 (0.008)
Beat-the-ban migrants	-1.096 (0.035)***	-0.087 (0.002)***	0.150 (0.003)***	0.001 (0.005)
Observations	224,316	195,047	198,988	198,988
	Test score	Age at test		
C. Grandchildren (G3)				
Economic migrants	-0.326 (0.018)***	0.019 (0.004)***		
Beat-the-ban migrants	-0.368 (0.011)***	0.016 (0.003)***		
Observations	219,444	219,444		

Notes: This table uses the same specifications as in Table 4. The sample of economic migrants is restricted to those arriving since 1971.

Table A.4 Immigrant-native outcome gap over three generations with **predicted types of migrants**

	Years of schooling	Income rank	Social benefit	Employment
A. Adult outcomes (G1)				
Economic migrants (predicted)	0.986 (0.244)***	-0.107 (0.006)***	0.221 (0.009)***	0.057 (0.008)***
Beat-the-ban-migrants (predicted)	-3.048 (0.183)***	-0.145 (0.004)***	0.279 (0.007)***	-0.022 (0.007)***
Observations	50,251	293,472	293,472	293,472
B. Child outcomes (G2)				
Economic migrants (predicted)	-1.077 (0.072)***	-0.095 (0.005)***	0.175 (0.005)***	-0.018 (0.009)**
Beat-the-ban migrants (predicted)	-1.102 (0.040)***	-0.085 (0.003)***	0.142 (0.003)***	0.008 (0.005)
Observations	220,304	192,070	195,958	195,958
	Test score	Age at test		
C. Grandchildren (G3)				
Economic migrants (predicted)	-0.407 (0.027)***	0.003 (0.007)		
Beat-the-ban migrants (predicted)	-0.364 (0.013)***	0.019 (0.003)***		
Observations	215,052	215,052		

Notes: This table uses the same specifications as in Table 4. The type of migrant is predicted based on a linear probability model with the timing of arrival (before or after the announcement of the independence) as dependent variable and the characteristics observed at the time of arrival as explanatory variables. The estimates of this model (see Table C.4) are used to predict the probability of being a beat-the-ban migrant. Those with a prediction of 50% or more are labeled as 'predicted beat-the-ban migrant'. Those with a prediction of less than 50% are labeled as 'predicted economic migrant'.

Table A.5 Estimates of a linear probability model with the type of migrant as dependent variable

	Coef. (Std. Err.)
Years of schooling	-0.009 (0.002)***
Missing Years of schooling	0.003 (0.011)
Age at migration	0.060 (0.000)***
Family size (mother)	0.038 (0.003)***
Missing family size	-0.045 (0.008)***
Born in Paramaribo	-0.073 (0.006)***
Age having first child	-0.004 (0.001)***
Ethnicity	
- Creole	0.000 (0.000)
- Chinese	0.067 (0.016)***
- Hindustani	0.246 (0.007)***
- Javanese	0.239 (0.014)***
- Marron	0.040 (0.021)*
- Other	0.060 (0.023)**
Female	-0.045 (0.007)
Observations	30,046

Notes: This linear probability model is used for distinguishing between economic and beat-the-ban migrants. The dependent variable is the type of migrant (economic versus beat-the-ban).

Table A.6 Estimates of outcome gaps 1991-1998 using Dutch survey data

Employment	Employment			Social benefit		
	(1) 1991	(2) 1994	(3) 1998	(4) 1991	(5) 1994	(6) 1998
Beat_the_ban	-0.231*** (0.0475)	-0.118** (0.0526)	-0.185*** (0.0441)	0.258*** (0.0473)	0.169*** (0.0513)	0.238*** (0.0420)
economic	-0.123*** (0.0419)	-0.105** (0.0454)	-0.0603* (0.0361)	0.123*** (0.0417)	0.140*** (0.0450)	0.111*** (0.0343)
Observations	637	559	830	636	546	783

	Wage (ln monthly wage)			Income group		
	(1) 1991	(2) 1994	(3) 1998	(4) 1991	(5) 1994	(6) 1998
Beat_the_ban	-0.325*** (0.0583)	-0.291*** (0.0785)	-0.225*** (0.0563)	-1.634*** (0.246)	-1.632*** (0.335)	-1.311*** (0.236)
Economic	-0.240*** (0.0561)	-0.310*** (0.0726)	-0.0789 (0.0485)	-1.226*** (0.224)	-1.356*** (0.317)	-0.462** (0.194)
Observations	459	365	550	573	386	705

Note: Data are obtained from the SPVA-studies of 1991, 1994 and 1998 (Martens, et al. 1992; Martens 1995, 1998). In the cross-sectional samples we identified beat-the-ban migrants and economic migrants using the definition from our paper. The estimates are based on regression models as specified in Equation (2). The variables ‘employment’ and ‘social benefit’ are dummy variables. The variable ‘income group’ consists of 9 groups.

Appendix B: Return migration

In the period prior to the independence (i.e. 1967-1971) the annual remigration of all Surinamese in the Netherlands was 4 to 5 percent (Bovenkerk 1973, 1976). The rate of remigration did not increase in the years around independence, and is only 1.2 percent in 1980 (Bovenkerk 1983). Moreover, almost half of the return migrants returned back to the Netherlands.

I. The size of return migration flows

Various surveys that were held since the independence indicate that about 40-50 percent of all Surinamese in the Netherlands would like to go back to their country of origin (Bovenkerk, 1976; SER, 1991). However, despite this 'remigration ideology' (Bovenkerk, 1976), only few Surinamese returned to Suriname; most of them remain in the Netherlands (Bovenkerk, 1983).²⁹ In the period 1967-1971 only 1 in every 5 Surinamese immigrants remigrated, which amounts to an annual remigration of 4-5 percent of all Surinamese in the Netherlands (Bovenkerk, 1973, 1976). Although many Surinamese faced problems with finding employment and housing, and experienced discrimination while in the Netherlands, the high level of welfare and social security, as well as the possibilities for further training, are important factors that kept Surinamese migrants in the Netherlands (Bovenkerk, 1976). This pattern of limited return migration remained until the Independence, after which remigration increased. In particular, the years immediately after the peak years display elevated levels of return migration. However, it is only the absolute number of remigrating Surinamese that peaks shortly after independence. As the group of Surinamese in the Netherlands has increased substantially in the period 1975-1980, the remigration *rate* is fairly constant over this period (Bovenkerk, 1983).

The increase in the absolute amount of return migration around 1975-1980 is probably related to the financial arrangements that were in place in the Netherlands in the first years after the independence. These programs aimed to stimulate return migration by providing financial support for those who would go back to Suriname, provided that they could show to be

²⁹ Bovenkerk (1983) argues that the high willingness to remigrate (as expressed in various surveys) should not be interpreted as a predictor for actual remigration. Rather, it should be seen as a way to express the solidarity people still have with Suriname and Surinamese matters. In addition, by expressing the willingness to return, Surinamese stress the 'temporary' aspect of their migration, which makes it easier to cope with disappointments on various aspects (e.g. difficulties finding work, experiencing discrimination, etc.) following the move.

economically independent when back in Suriname. The program would cover the costs of a return flight, as well as for a certain amount of freight to be shipped to Suriname (e.g. furniture). In addition, everyone would receive 1,000 Dutch guilders upon arrival in Suriname. These arrangements were terminated in 1994 as it turned out that about half of the people who benefited from these arrangements returned back to the Netherlands after some years (Bovenkerk 1983). Return migrants temporarily rented out their houses and made arrangements with their employer about possibilities to resume their job in due course (Bröer, 1997). Hence, remigrants had the opportunity to change their mind and come back to the Netherlands, and many of them did.

Return migration often turned out to be temporary because the position of return migrants in post-Independence Suriname was not very favorable. In the 1960s return migrants would automatically be able to obtain a top position in either a government organization or a business firm (Bovenkerk, 1983), but this changed after the independence. The number of jobs decreased, first in business firms and after 1987 also in government organizations (Ministerie van Arbeid, 1993). At the same time, the labor force grew and unemployment increased, up to 40 percent in the 1980s and 1990s. As a result, return migrants no longer ended up in top positions. Only for those re-migrants in possession of specific training that was not available in Suriname (e.g. economists, specialized nurses), the labor market was still open and offered good employment prospects.

Furthermore, Surinamese who spent time in the Netherlands were stigmatized and considered as being alienated from the Surinamese labor conditions (Bovenkerk, 1973). The Surinamese labor market is relatively small, and not very specialized nor differentiated compared to the Dutch labor market. As the job tasks (and hence requirements) in Suriname were broader, someone with a Dutch education degree was often considered not suitable for the job as his/her training and skills were too specific. Furthermore, return migrants held different attitudes towards the (hierarchical) employer-employee relationship. Where Surinamese would obey their superior, those returning from the Netherlands would not hesitate to openly question their superior leading to conflictuous situations. All of these issues made it difficult for remigrants to feel 'at home' once back in Suriname (Bovenkerk, 1983).

Overall, the low proportions of return migrants, combined with the fact that almost half of them returned back to the Netherlands in due course, indicate that our data consisting of Surinamese

migrants who were still in the Netherlands as of 1995 comprises the vast majority of Surinamese migrants.

II. The composition of return migration flows

Another relevant aspect of return migration is whether certain individuals were more likely to remigrate than others, and whether patterns in return migration change around the independence.

Gender. Remigration flows consist of slightly more males than females (Bovenkerk, 1983; CBS, 1984), but these gender patterns have been fairly stable over time (CBS, 1984).

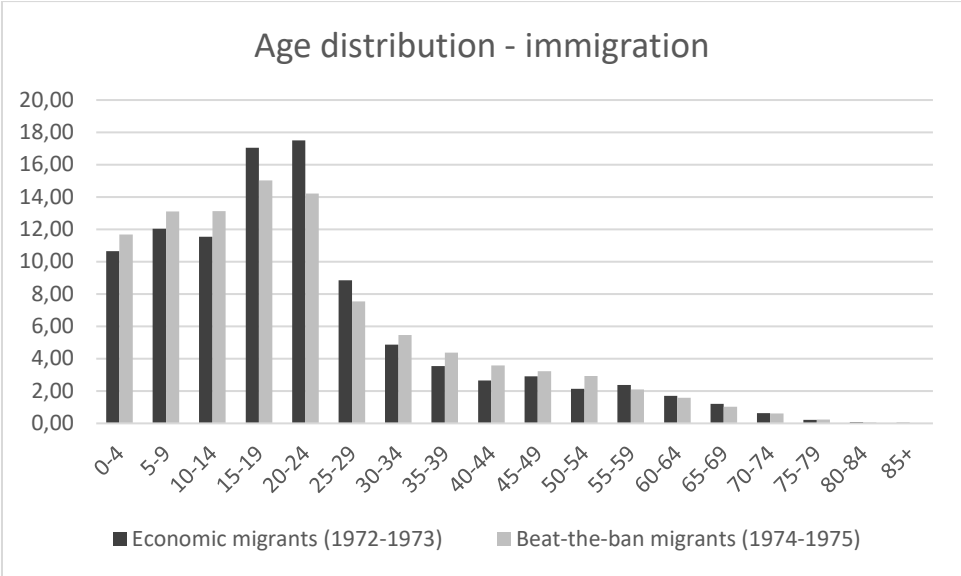
Ethnicity. With regard to ethnicity, the composition of return migrants had an overrepresentation of Creoles. About 61 percent of all return migrants had a Creole background, whereas the population of Surinamese in the Netherlands consisted only out of 39 percent Creoles (Bovenkerk, 1983). This may be related with the Creole dominated political arena after the independence. Hindustani made up 30 percent of all return migrants, 3.4 percent had a Javanese background, and the final 6 percent consisted out of people with another ethnic background.

Age. Figure B.1. below describes the age distribution in the immigration flows in the years prior to the announcement of Independence (1972-1973), and in the years around Independence (1974-1975). On average, young individuals are more likely to migrate, but the patterns differ across the various periods. Where economic migration (1972-1973) is characterized by a large share of 15-24 year olds who come to the Netherlands to complete their education, we observe that after the call for Independence migration flows consisted out of relatively more young children (aged 0-14) and more adults over age 30.

When considering the age profile of return migrants (Figure B.2.), we observe similar age patterns. In pre-announcement years, return migrants were mostly 20-29 year olds who completed their education in the Netherlands. Immediately after the announcement, we find that return migration consists out of relatively more young children and of more adults. Hence, although the age composition of return migrants was different in the years before and after the announcement, these differences merely reflect age differences in the inflow of migrants. This

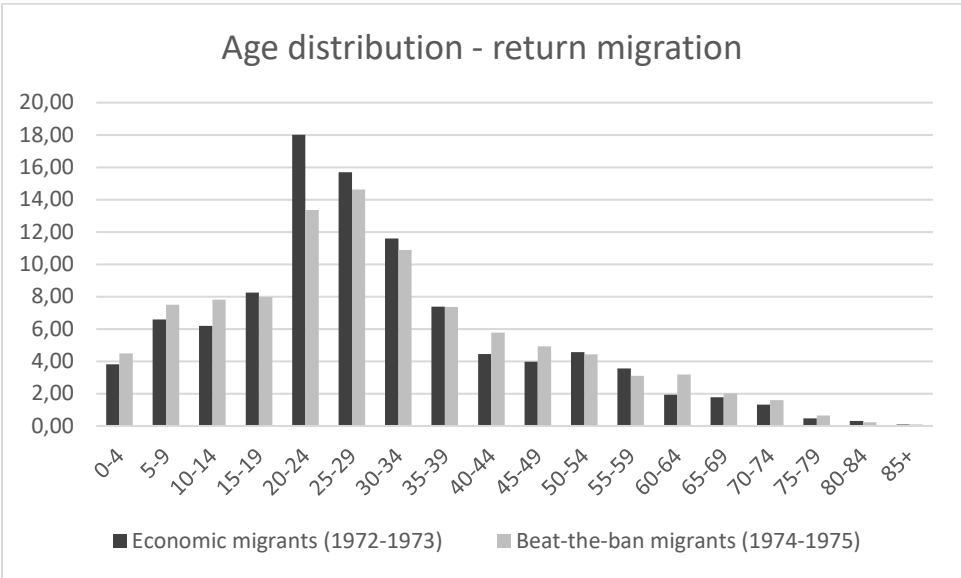
suggests that for a given stock of immigrants, there is no selection in the return probability with regard to age.

Figure B.1.: Age distribution in Surinamese immigration



Source: CBS (1984), Maandstatistiek van de bevolking 1984, editie December.

Figure B.2.: Age distribution in Surinamese return migration



Source: CBS (1984), Maandstatistiek van de bevolking 1984, editie December.

Socio-economic status. Return migrants were relatively low educated. About 36 percent of those who had remigrated by 1981 had completed only primary education; another 32 percent

had completed a lower or intermediate vocational degree (Bovenkerk, 1983). Relatedly, over 60 percent of all return migrants was working in a low educated occupation. In addition, being unable to find a job (i.e. unemployed) in the Netherlands seems to be an important driver for returning to Suriname.

In sum, it appears that the demographic composition of return migrants reflects the composition of the stock of Surinamese in the Netherlands. This suggest that our sample of Surinamese migrants who were still in the Netherlands as of 1995 is quite representative to the complete group of Surinamese migrants who arrived in the Netherlands around Independence. In terms of the ‘quality’ of migrants, return migration is somewhat negatively selected as high educated working immigrants are more likely to remain in the Netherlands. However, many low educated return migrants eventually return back to the Netherlands eventually (Bovenkerk, 1983).

Appendix C: Estimates of the persistence rate of inequality

To obtain further insight in the persistence of inequality between natives and immigrant groups we estimate an additional specification which includes the average income ranks by group as in Borjas (1995) and Ward (2020):

$$Y_i^G = \delta_0 + \delta_1 Y_i^{G-1} + \delta_2 \bar{Y}_i^{G-1} + \varepsilon_i \quad (4)$$

with \bar{Y}_i^{G-1} is the average parental income rank of natives or migrant groups (beat-the-ban migrants or economic migrants). We label this variable as the group mean which seems in our application more suitable than the label ‘ethnic mean’ used in Ward (2020). This specification shows to which extent the social mobility of natives differs from the standard intergenerational models which regress child outcomes on parental outcomes. The estimate of the parameter (δ_2) can be interpreted as the impact of the group mean on the expected income rank. If the group mean, conditional on the parental income rank, has a positive association with the expected income rank then the persistence of group differentials is stronger than the persistence between parents and children from a standard intergenerational model. In addition, it enables us to capture the social mobility of immigrants compared to natives in one measure. The sum of the two parameters ($\delta_1 + \delta_2$) measures the persistence of group differences (Borjas 1995; Ward 2020). Group differences persist or increase if this sum equals one or is larger than one. Group differences reduce over generations if this sum is smaller than one. We label this sum as the persistence rate of inequality, as in Clark (2014)³⁰. In our application we do not compare differences between immigrant groups only, but we focus on the difference between natives and the two groups of immigrants. Table C.1 shows the estimated effects for natives and economic migrants (columns (1) and (2)), and for natives and beat-the-ban migrants (columns (3) and (4)).

We find a striking difference in the persistence rate on income inequality between economic and beat-the-ban migrants. The group component is much more important for economic migrants than for beat-the-ban migrants. This yields a large difference in the

³⁰ Borjas (1995) and Ward (2020) use the term mean convergence for the sum of the two parameters. The term persistence rate seems more convenient as an increase in the persistence rate means that inequality is more persistent.

persistence rate of inequality between generations. For economic migrants we find a persistence rate in inequality between the first and second generation larger than one. If we focus on economic migrants who arrived in 1972-1973, hence migrants who arrived in the two years before the announcement of the ban, we find a persistence rate of 0.922 (0.060). A persistence rate of one or more means that the difference between natives and immigrants persists or increases in the next generation. A persistence rate smaller than one means that difference between natives and immigrants declines which implies that incomes of natives and immigrants converge over generations. Hence, our estimates suggest that the inequality between economic migrants and natives is fairly constant from the first to the second generation. However, we find a very different pattern for beat-the-ban migrants. For these migrants the estimated persistence rate is approximately 0.6 to 0.7. This implies that each generation of beat-the-ban migrants reduces inequality with natives at a rate of 0.6 to 0.7. The smaller persistence rate for beat-the-ban migrants cannot be explained by their age at arrival. If children of beat-the-ban migrants arrive at a younger age they might have better outcomes because of more years of exposure to the new country. However, children of economic migrants arrived younger (see Table 1).

Table C.1 Persistence of inequality over multiple generations

	Economic migrants		Beat-the-ban migrants	
	(1)	(2)	(3)	(4)
Child income rank (G2)				
Income rank (G1)	0.229 (0.003)***	0.227 (0.003)***	0.231 (0.002)***	0.224 (0.003)***
Group mean (G1)		0.885 (0.058)***		0.497 (0.022)***
Persistence rate (G1)		1.12		0.721
Observations	176,822	176,822	181,524	181,524
Grandchild test score (G3)				
Income rank (G2)	0.156 (0.001)***	0.156 (0.001)***	0.159 (0.001)***	0.155 (0.001)***
Group mean (G2)		0.712 (0.032)***		0.545 (0.017)***
Persistence rate (G2)		0.868		0.700
Observations	208,632	208,632	211,443	211,443
Grandparents (G1) and grandchildren (G3)				
Income rank (G1)	0.085 (0.002)***	0.085 (0.002)***	0.088 (0.002)***	0.083 (0.002)***
Group mean (G1)		1.026 (0.049)***		0.549 (0.018)***
Persistence rate (G1)		1.111		0.632
Observations	189,169	189,169	191,639	191,639

Note: Estimates are shown of regressions of child outcomes (income rank for G2 aged 20-50, or test score for G3) on parental income rank (G1) and the average income rank of natives or migrants, as specified in Equation (3). The same outcomes are used as in Table 5. ***p<.01 **p<.05, *p<.10