

Measuring effectiveness of immigrant policy in the 1990's in the Netherlands.

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Abstract

Immigration can have implications for both the country of migration, in terms of welfare costs, and for immigrants, in terms of them lagging in different outcomes. In the Netherlands new immigrant policy was introduced that focused on helping new immigrants integrate better. This paper therefore researches whether differences in outcomes can be found between new and old immigrants in the Netherlands in the period after the new immigrant policy was implemented. In the paper new immigrants are matched to old immigrants after which different regressions are performed. The principle findings of the paper are that the policy has likely not helped new immigrants with most outcomes. Only labour market participation seems to be higher among new immigrants.

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* The views stated in this thesis are those of the author and not necessarily those of the supervisor, second assessor, Erasmus School of Economics or Erasmus University Rotterdam.

Section I Introduction

Immigration is a concept that is happening all over the world. Just like any other country, immigration has been a part of the Dutch history. Where immigrations means new opportunities, it also causes problems. For example, it is not uncommon for immigrants to be earning less and have worse economic mobility than natives (Borjas, 1994; Friedberg, 2000; Chetty, Hendren, Jones and Porter, 2020). It is also not easy for these immigrants to close the skill gap to natives (Abramitzky, Boustan and Eriksson, 2014). These problems give rise to the need for good immigrant policy. Countries have developed different immigrant policies over the years. So has the Netherlands. Especially at the end of the 1980's there was a need for new immigrant policy in the Netherlands. A new policy was necessary because it was observed that in the last decade unemployment of immigrants had increased. Because of this low unemployment, there was a very low future perspective for immigrants. Together with the other problems of immigrations, the rising unemployment could cause this low future perspective to last for multiple generations. This low future perspective meant higher cost for society in terms of welfare benefits that had to be paid to immigrants. The Dutch education system and also the limited participation of immigrants in the labour market were not able to break this process. New policy was necessary.

So in 1990 a new policy period started in the Netherlands. The main goal of this new period was to cope with the persistent education lag of immigrants and to tackle unemployment, especially for low educated immigrants. The new policy mainly focused on newcomers. Namely, assisting new immigrants received priority as the government wanted a quick integration of these immigrants. For every newcomer, an integration procedure was started, which would then help these immigrants find the governmental provisions they needed. Furthermore, courses were offered to newcomers. These courses were on Dutch language education and orientation of the Dutch society. Similar as in earlier policy, it was the case that extra attention was to be spent on first asylum of new immigrants that were in a disadvantaged situation. They were to be prioritised. The leading thought was, that investing in this group early on, increased the chance of them finding a 'right way' in society and the labour market. This prioritising of young immigrants persisted.

This difference between new and old immigrants relating to the policy, gives opportunity for comparison. This aspect of the policy raises the main question of this research paper. Namely whether differences in outcomes can be found between new and old immigrants in the Netherlands in the period after the new immigrant policy was implemented. This paper focuses on different outcomes relating to education, labour market participation and integration. This paper attempts to observe whether the policy was effective in aiding immigrants that migrated from 1990 onwards, in these particular outcomes. The research method compares old and new immigrants and looks for differences in their outcomes. This is done through matching, after which multiple regressions are performed. Separate regressions on language proficiency, educational attainment, social integration and labour market outcomes are performed. A dummy variable indicating whether someone moved before or after 1990 is used as treatment variable. The results therefore show whether there is a relation between migrating after 1990 and a certain outcome. Individuals are matched on several variables based on whether they migrated before or after the policy implementation. Old immigrants are matched to new immigrants, after which regressions are performed to determine differences in outcomes between new and old.

The results indicate whether the immigrant policy has been effective in helping new immigrants in improving their educational attainment, language skills, social integration or labour market outcomes. The main challenge in interpreting these results is that exposure effects need to be taken into account. The exposure effects entail that those immigrants that have lived for a longer period of time in the Netherlands, also have had more time to integrate and adjust to Dutch society. Following logic, these immigrants likely have improved social integration and also higher labour market participation. Because exposure effects can be a considerable concern, a separate section spends attention on this. The principle findings of the paper are that the policy has likely not helped new immigrants with their integration, finding no differences between new and old immigrants for language proficiency and social integration. Results for education and labour market outcomes show contradictory effects. This indicates that for most chosen outcomes, the policy was not effective.

The paper is structured as follows. Section II discusses the relevance of the subject with the help of existing literature. Section III presents the used data after which in section IV the

methodology is explained in detail. Section V presents the main results. In section VI the exposure effects are discussed and section VII contains other robustness checks. Section VII concludes.

Section II Literature review

In the WRR-report 'Allochtonenbeleid' it is mentioned that unemployment of minority groups had risen dramatically in the ten years since the last policy change (report nr. 36, 1989). This demonstrates the reason why new policy was necessary. Immigrants doing worse than natives is not specific to the Netherlands. In both the United States and Israel it was found that immigrants have an earnings disadvantage (Borjas, 1994; Friedberg, 2000). Moreover Chetty, Hendren, Jones and Porter (2020) find that minorities in general are more likely to be downward moving in economic mobility than the natives. This illustrates that immigrants, as minority groups, are likely receiving lower incomes not just in the Netherlands but in other countries as well. It was also found that in the U.S. lower skilled immigrants are not able to close the skill gap with native inhabitants (Abramitzky, Boustan and Eriksson, 2014). The existing literature thus illustrates the seriousness of this issue. The existing literature also consequently demonstrates that immigrants need assistance when migrating to a new country, in order to lower the lower the earning gap between native and immigrants. Therefore, the importance of effective policy is emphasized. Borjas (1994) also explains how immigrant policy can help a country attract immigrants that cost less for society, as these immigrants are less likely to participate in government assistance programs. Hence it is important that the effectiveness of immigrant policy is researched, which is why this paper researches the effectiveness of this policy.

The policy's main focus was improving labour market participation and outcomes. This was approached by improving integration of new immigrants. Existing literature has shown that improved integration positively impacts economic outcomes. Namely, segregation, keeping a strong ethnic identity and refusing to adopt to the dominant societal values can cause groups to have lower hiring rates, reduced labour market successes including lower earnings and overall higher probability of poverty traps (Jackson, Rogers and Zenou, 2017; Bisin, Pattachini, Verdier and Zenou, 2011; Duncan and Trejou, 2007; Battu, Mwale and Zenou,

2005; Cutler and Glaeser, 1997). These papers emphasize the importance of integration and assimilation for labour market participation and the benefits for society as a whole. Therefore, focusing policy on integration to improve labour market outcomes is a valid approach. Bisin et al (2011) also state that the effect between ethnic identity and labour market outcomes may depend on existing integration policy in the host country. Thereby further reinforcing the importance of effective immigration policy focusing on integration. Therefore illustrating that it is relevant that I research the integration of immigrants in this paper.

An aspect through which the policy aims to improve integration, is language proficiency. An important part of the new policy was offering Dutch courses to new immigrants to improve language proficiency. Poor English language skills in an English speaking country can affect income, employment probability and economic assimilation in general (McManus, Gould and Welch, 1983; Dustmann and Fabbri, 2003; Bleakley and Chin, 2004). Confirming these findings, Borjas (2015) found that recent cohorts of immigrants have lower rates of economic assimilation and that at least a part of the decline reflects a reduction in English language skills in an English speaking country. Moreover, when parents speak a foreign language at home, children are more likely to have an achievement gap with natives and lower language proficiency skills (Bleakley and Chin, 2008; Dustmann, Frattini and Lanzara, 2012). Meaning that not only immigrants themselves, but also their children benefit from improved language proficiency skills after migrating. In other research, Bleakley and Chin (2010) observe that higher English proficiency in U.S. increases the possibility of marrying a native. Meaning having a higher educated and higher-earning spouse. The existing literature therefore shows that English language proficiency in an English speaking country can improve economic outcomes and child achievements. It can be expected that Dutch language proficiency would have a similar effect in the Netherlands, meaning that it is desired that there is immigrant policy that also aims to improve language proficiency. Indicating that it is important for this paper to research the effect of the new policy on language proficiency.

In addition, the policy also wants to improve educational attainment. Following education in the country of migration plays an important role in determining earnings, reducing segregation and adding value to already followed education in the home country (Friedberg, 2000; Zeng and Xie, 2004; Constant and Zimmerman, 2008). It is even found by Zeng and Xie that education acquired in a different country is worth less than human capital

that has been acquired in the country of migration. Demonstrating that educational participation in the country of migration is important to improve earnings and integration. Therefore it is important to have effective policy aiming at improving educational attainment of immigrants. This is why this paper researches the effectiveness of the policy in improving educational attainment.

Furthermore, as the policy wants to improve labour market outcomes, it is important to discover whether the policy improves other factors that improve these outcomes. Social networks are important for labour market outcomes. For immigrants, social networks are valuable in the job market (Calvó-Armengol and Jackson, 2004). Connections can namely be used by immigrants to find jobs and those that are less assimilated are less likely to find a job and are more likely to have welfare participation (Bertrand, Luttmer and Mullainathan, 2000; Battu, Seaman and Zenou, 2011). An immigrant with a larger social network is also more likely to have a higher wage (Munshi, 2003). Moreover, Calvó-Armengol, Patacchini and Zenou (2009) observe that social networks can impact educational outcomes, and improve school performances. The existing literature therefore shows that social networks do not only improve labour market but also educational outcomes. So, the existing literature demonstrates the importance of effective policy that aims to improve immigrant's social networks as to improve labour market outcomes. This is why I look into the effect of the new policy on the social networks of immigrants.

Finally, the neighbourhood an immigrant lives in is also an important indicator of labour market outcomes and integration in general. The neighbourhood where a child grows up, shapes their earnings, college attendance and overall economic mobility, also over multiple generations (Chetty, Katz and Hendren, 2016; Chetty and Hendren, 2018). Furthermore, for immigrants and their children, living in ethnic enclaves can negatively impact economic and educational outcomes. (Cutler and Glaeser, 1997; Grönqvist, 2006; Card and Rothstein, 2007; Xie and Gough, 2011). These papers show that a policy that wants to improve labour market outcomes, might also want to focus on immigrants living more integrated. Thereby demonstrating the importance of researching whether a policy also is effective in integration in neighbourhoods.

Section III Data Description

To look at the effectiveness of the policy, data collected in the Netherlands is used. The data comes from the research 'Sociale positie en voorzieningengebruik allochtonen', in English: 'Social position and benefits usage immigrants', hereafter shortened to SPVA. The SPVA survey was set up to regularly follow the position of the four biggest minority groups within the Netherlands. These four groups are the Turks, Moroccans, Surinamese and the Antilleans. The SPVA research mainly focuses on the extent to which these minorities can participate in core institutions, education and the labour market in the same way that natives can. The data was first collected in the year 1988. After this year it was collected in 1991, 1994, 1998, 2002 and 2003. As the year 2002 and 2003 are not fully representative on some important characteristics, and are also relatively far from the policy change in 1990, these two datasets will not be considered in further analysis. In this paper the focus lays on immigrants migrated after 1990. As the SPVA dataset from 1991 is relatively close to the policy implementation, it is not meaningful to estimate policy effectiveness with this data. Also, to make sure that the control group is not much larger than the treatment group, only the datasets from 1994 and 1998, and therefore not 1988 and 1991, are used for further analysis.

The SPVA survey contains core numbers on a variety of topics of the four biggest minority groups in the Netherlands. The SPVA survey was set up as a consequence of the immigrant policy of 1983. This meant that the choice of the minority groups that were to be surveyed was also based on this policy. Someone is considered to actually be a part of a minority group when either they themselves were born in this country, or at least one of their parents were. One of the goals of the SPVA survey was to be able to compare data over time. To be able to do this, some specific procedures were used. For example, the same municipalities would be used in the different years the survey data was collected. Also, where possible, a number of participants from the previous waves were approached to take the survey again. Finally, the survey questions were changed as little as possible over the different waves. To obtain the sample of the SPVA survey, there first had to be decided which Dutch municipalities to include in the research. This decision was made based on the dispersion of the four minority groups over different regions in the Netherlands. For the 1994 and 1998 datasets, which are the two datasets that will be used for the main analysis, the exact same 15 municipalities were used. From the 15 selected municipalities a random sample selection

of heads of households was done for each ethnic group from the population registers. For every selected household all members living at the address were approached.

The SPVA data was collected through a survey. Once participants were approached, two different questionnaires were used. A main questionnaire focused on the heads of the households. A mini-questionnaire focused on all other family members from 12 years of age. The main questionnaire includes questions on education, housing, labour, income, social contacts, socio-economic position of parents and language proficiency. The mini-questionnaire focused on education, labour, income and social contacts. The questionnaires have changed somewhat over the years, however not in ways that is problematic for this paper. The SPVA surveys were conducted through in person interviews. To prevent underrepresentation of those that do not (fully) speak the Dutch language, the questionnaires were offered in both Dutch and in the native language of the respondents. Moreover, bilingual interviewers were employed. The main questionnaire was conducted in person with the head of the household. The mini-questionnaire was, where possible, answered by the person whom it concerned. However, when this person was absent, the questions were answered by another member of the household. From 1994 and 1998 both the answers to the main questionnaire and the mini-questionnaire are used for this research. These contain all respondents, so including both the head of the household as well as the other family members. For the head of the household all regressions can be performed. For the other members of the household only part of the regressions.

The SPVA survey contains multiple variables of interest for my research. Three variables on language proficiency are used for testing. Two variables determine whether someone speaks Dutch with their children and with their partner. These questions can both be answered with: “yes, often/always”, “yes, sometimes” and “no, never”. Further, the third variable asks whether the participant has a hard time with the Dutch language while having a conversation in Dutch. This question can be answered with: “does not speak Dutch”, “yes, often”, “yes, sometimes” and “never, speaks Dutch well”. Every questions is scored on a scale of 1-3 and are used to create a general measure of Dutch proficiency, namely the variable *Language proficiency*. This variable is calculated by taking the average of the three variables on language proficiency. Furthermore, for testing educational outcomes, a variable named *Education in NL* is of interest. This variable indicates whether someone has attended a Dutch

education. Also the variable *Maximum diploma in NL* is of interest. This variable measures the maximum diploma someone has obtained in the Netherlands. This variable contains nine categories (0 = no education, 1 = bas, 2 = lbo, 3 = mavo, 4 = mbo, 5 = havo, 6 = vwo, 7 = hbo and 8 = wo).

To test social integration, a few variables are of interest. The first variable, namely *Integration at sports club*, asks whether the sports club of which the participant is a member, has a lot or (almost) no members of their own ethnic group. Further, two more variables, *Native contact at work* and *Native contact in free time*, measure whether the participant has a lot of contact with natives either at work or in their free time. To add to this, *Relative contact with natives* measures whether the participant spends more time with people from their own ethnic group or with natives. A final variable measures whether the participant has a preference for living in an ethnic enclave, namely *Preference for ethnic enclave*. All of these variables are scored 1-3, except for the one on ethnic enclaves which scales from 1-5. The higher the score, the more likely a person is to have a lot of contact with natives and thus be socially more integrated. Finally to test labour income, four variables are of interest. First, there are variables that determine whether someone has a paid job at this moment (*Has a job now*) or ever had a paid job in the Netherlands (*Ever worked in NL*). Also a variable named *Unemployed in NL*, which measures how often a person has been unemployed in the Netherlands. Furthermore another variable named *Labour income in categories* is of interest. This variable measures the income of immigrants. The categorical variable instead of the normal labour income variable is used because the variable on categories contains a higher number of observations. This variable consists of nine categories where the labour income per month in euros is presented (1 = <1100, 2 = 1100 – 1500, 3 = 1500 – 1900, 4 = 1900 – 2300, 5 = 2300 – 2700, 6 = 2700 – 3100, 7 = 3100 – 3500, 8 = 3500 – 3900, 9 = >3900).

Some concerns that arise from the data is that it was collected through questionnaires. For example, a concern with surveys is that respondents might not answer honestly. This problem is partly solved by doing in-person interviews. Especially because some of the interviewers collecting the data, are from the same minority groups as the respondents. By doing this, the researchers hoped to get the least biased response. Another concern is that the mini-questionnaire is not always answered by the respondent themselves. However, from the research report it follows that 75% of respondents answered their own questionnaire.

Furthermore, for the other 25%, the questionnaires were answered by family members living in the same household. It is likely that these people know the respondents well and therefore also the answers they would give.

Table 1 shows summary statistics for the data. Second generation immigrants and immigrants that migrated before the age of 6 were dropped. This was done because these immigrants are expected to integrate in a different way than first generation immigrants and therefore to cause noisy results. Also those observations that have missing values for the year of migration, are dropped, as to determine the effect of the policy, it is necessary to know the year an immigrant migrated. This way I know whether they fall under the new policy or not.

Table 1 indicates that most responses are from the year 1998. Furthermore, there is a somewhat even split of amount of participants from each country of origin, with the exception of Antilleans. The percentage of males in the data is higher than females. Almost a quarter of the respondents migrated after 1990, meaning that the control group is larger than the treatment group. Furthermore, the main reason for migrating to the Netherlands is because of work in the Netherlands. The average year of migration is 1981 and less than half of the respondents have followed education in the Netherlands. The maximum diploma, which has a possible score between 0 and 8, is very low at 1.21. This means that the average respondent has a maximum diploma between bao and lbo level. For the social integration outcomes, scores are somewhat different. Native contact at work has a higher mean while integration in free time and at sport clubs has a lower mean. The respondents do on average not prefer to live in ethnic enclaves, however, they do not spend most of their time with natives. Finally, almost half of the respondents have a job right now and about 75% has ever had a job in the Netherlands. Labour income in categories is averaging relatively low at 3.86, with 1 being the lowest and 9 being the highest. Meaning that the average respondent has an average income between category 3 and 4, meaning between 1500 and 2300 euros.

Table 1 Summary Statistics

	Mean / Percentage	Standard Deviation	Number of observations
Female (%)	43.95	49.63	11,307
Age	38.26	13.01	11,306
Age at migration	22.95	10.07	11,297
Year of migration	1981	9.20	11,307
Migrated after 1990 (%)	22.05	41.46	11,307
Number of children living at home	1.51	1.58	7,854
Data is from 1998	76.27	42.54	11,307
Reason for migration			
Work in NL (%)	29.43	45.54	7,726
Family reunification (%)	15.91	36.58	7,726
Education in NL (%)	14.25	34.96	7,726
Marriage (%)	11.29	31.64	7,726
Going with parents (%)	11.21	31.55	7,726
Country of origin			
Turks	30.71	46.13	11,307
Moroccans	26.39	44.08	11,307
Surinamese	27.06	44.43	11,307
Antilleans	15.84	36.51	11,307
Language proficiency score	2.10	0.41	4,260
Followed education in NL (%)	40.47	49.08	11,303
Maximum diploma in NL	1.21	2.00	8,646
Social integration scores			
Integration at sports club	1.76	0.77	2,232
Native contact at work	2.47	0.68	3,756
Native contact in free time	1.86	0.75	11,174
Preference for ethnic enclave	3.39	0.81	7,651
Relative contact with natives	1.76	0.74	7,113
Labour market outcomes			
Has a job now (%)	45.13	49.76	11,307
Ever worked in NL (%)	75.39	43.08	11,307
Unemployed in NL	1.34	2.05	6,253
Labour income in categories	3.86	1.87	4,440

Notes: The table shows the summary statistics of the 1994 and 1998 datasets together. Variables indicated by a % are in percentages. Other variables are summarized by means. All scores of integration exist of 1-3, except for preference for ethnic enclave which is 1-5. Those that migrated below the age of 6 and second generation immigrants are not included in the data.

Section IV Empirical Specifications

As the policy mainly focuses on newcomers, and less on immigrants already living in the Netherlands, it can be expected that differences arise between these two groups. As a test to measure effectiveness of the policy, I compare labour market and educational outcomes between immigrants that arrived before and after the new policy. As the policy went into effect in 1990 I consider everyone who migrated before then, to be an old immigrant. Everyone who migrated from 1990 onwards is a newcomer. In order to minimize the bias coming from the facts that migrants arriving before and after are different in observable characteristics, I adopt a matching strategy. Someone that migrated before the policy implementation is matched based on their observable characteristics with someone who migrated after the policy implementation. By doing this, I create a control group that is as similar as possible to the group that benefited from the policy. Their observable characteristics are then more likely to only differ in whether they moved before or after the policy. Meaning that differences in outcomes can be correlated to the new policy.

Matching is completed through Coarsened Exact Matching (CEM). This method of matching is made to improve testing for causal effect and is also widely applicable. CEM has a variety of statistical properties which makes the method easy to use and understand. After using CEM, control and treatment group are more alike. CEM requires no assumption to be met by the data and works within the sample. Compared to other common matching methods, CEM is superior in its ability to reduce estimation error, imbalance, bias, mean square error, variance, model dependence and other criteria. When using CEM, one temporarily coarsens every variable into defined groups. Following this an exact match is made on this coarsened data within these groups. After this only the original uncoarsened values of the matched data are retained (Blackwell, Iacus, King & Porro, 2009; Iacus, King & Porro, 2012). CEM is done on a few variables. As it is desired that immigrants are as similar as possible, matching is performed on the variables municipality respondents live in, age, country they were born in, ethnic group/identity they belong to, number of children living at home, reason for migration, age at migration and position within the family. It is possible that individuals are similar in matched upon variables, yet different in whether they migrated before or after 1990. This means that there is common support in this sample. Whether someone has migrated after 1990 is used as treatment variable.

After matching has been completed, I implement multiple regressions. First, I test whether the new immigrants are better integrated than the old immigrants. To do so, I create a dummy variable named *new immigrants*. This variable takes a value of 1 when someone has migrated after 1990 and is therefore a new immigrant regarding the policy. The variable will take a value of 0 when someone migrated before 1990. I start by looking at Dutch language proficiency of immigrants as a way of measuring integration. It is tested whether new immigrants are better at speaking Dutch and whether they use it often. As has been discussed, a Dutch proficiency score is computed from three variables on language proficiency. A variable named *Language proficiency* is created which is the general measure of Dutch proficiency. The higher the score the better someone's Dutch is. The three variables were chosen as they show whether Dutch is an often used language, by looking at its use at home with family. Also because they show whether someone struggles with the language. This creates a somewhat general measure of Dutch proficiency. Equation (1) shows the empirical specification of the test. The scores are measured for immigrant *i* and several control variables are added. These control variables are: *gender, municipality, age, country of origin, children living at home, reason for migration and age at migration*.

$$Language\ proficiency_i = \beta_0 + \beta_1 * new\ immigrants_i + \beta_2 * control_i + \varepsilon_i \quad (1)$$

The second outcome I look at is education followed in the Netherlands as a measure of integration. It is tested whether the new immigrants were more likely to have followed education in the Netherlands than the old immigrants. I measure this by simply looking at a variable named *Education in NL*, that shows whether someone has attended a Dutch education. This variable is answered with either yes or no. A separate test is done on the maximum level of education acquired in the Netherlands with a variable named *Maximum diploma in NL*. Via this test, I determine whether the new immigrants have acquired higher education in the Netherlands as compared to old immigrants. Equation (2) shows the second test of this section where level of education is estimated for immigrant *i*. The control variables used are the same as for equation (1).

$$Maximum\ diploma\ in\ NL = \beta_0 + \beta_1 * new\ immigrants_i + \beta_2 * control_i + \varepsilon_i \quad (2)$$

Moreover, social networks and ethnic enclaves as a measure of integration are looked at. It is tested whether new immigrants are more likely to be integrated when looking at social network and the neighbourhoods they live in. These tests thus focus more on the social integration of immigrants. However as has been argued in the literature review, social integration can also impact labour market outcomes. To create a general view of social integration a few variables are tested with. Namely with *Integration at sports club*, *Native contact at work*, *Native contact in free*, *Relative contact with natives* with *Preference for ethnic enclave*. All of these variables are scored 1-3, except for the one on ethnic enclaves which scales from 1-5. The higher the score, the more likely a person is to have a lot of contact with natives and thus be socially more integrated. Looking at the averages of these scores, gives a general look of the social integration of immigrants. Equation (3) shows the first out of five tests. It gives the integration at the sports club of immigrant i . Control variables are the same as for equation (1).

$$\text{Integration at sports club} = \beta_0 + \beta_1 * \text{new immigrants}_i + \beta_2 * \text{control}_i + \varepsilon_i \quad (3)$$

Looking at the outcomes of these three different topics gives a general look as to whether the new immigrants have integrated better than the old immigrants. To finish the main analysis of this paper, a regression is done of labour market outcomes on migrating before or after the policy. This test is done to see if there are actual differences in labour market outcomes and not just in terms of integration. To test this, there will be looked at multiple outcomes measures of the labour market. First, there is tested on variables that determine whether someone has a paid job at this moment (*Has a job now*) or ever had a paid job in the Netherlands (*Ever worked in NL*). Another regression is done with the variable *Unemployed in NL*, on how often a person has been unemployed in the Netherlands. Furthermore, a variable named *Labour income in categories*, is used. The abovementioned variables were used as measures of labour market outcomes as they give a clear view the labour market position of an immigrant in the Netherlands. Equation (4) shows one of the labour market outcome regressions. In this test, labour income in categories for immigrant i is estimated. Control variables used are the same as in equation (1).

$$\text{Labour income in categories} = \beta_0 + \beta_1 * \text{new immigrants}_i + \beta_2 * \text{control}_i + \varepsilon_i \quad (4)$$

Some concerns arise from the methods described above. First of all, when using matching, one knows that it can only deal with the differences that are observable between those migrating before and after the policy. From matching it is assumed that the individuals that are matched are so similar in their observed characteristics that they are also likely to be similar in their unobserved characteristics. This however is not always plausible, especially in a non-experimental setting, which is the case here. This would mean that the conditional independence assumption does not hold. It is therefore possible that no causal relationships are found. Furthermore, the variable on year that someone migrates has the problem of potential endogeneity. The year when someone moves might not be random. Immigrants choose themselves when they migrate, meaning that they could change their decision if they heard about the new policy. Where they could decide to migrate just after the policy instead of just before. This would mean that immigrants from just before the policy would not be a good control group for those just after the policy. However, it is likely that this is not a problem. These immigrants are not likely to be fluent in the Dutch language or otherwise very aware of Dutch politics. The policy is written in Dutch and most likely only in the news in the Netherlands, meaning it would be somewhat difficult for immigrants to find this information. However, it could still be that there are differences apart from the policy between people that moved before and after 1990. Think of differences in overall immigrant mentality, for example it being more and more important to integrate and make an own earning.

Also, it is likely that age at migration might be of influence in how much someone integrates meaning that there is heterogenous treatment. It can be expected that younger people integrate more easily for multiple reasons. They are known to more easily learn a new language. They also still go to school, where they are more likely to get in touch with the Dutch culture. It can thus be that there are differences in policy effectiveness for older versus younger immigrants. Furthermore, as has been mentioned above, only regressions on education and labour market outcomes can be done for the whole family. The head of the household could have different outcomes for integration as opposed to the rest of the family. This could be because this person has the task of earning the family income. Meaning that they might have differences in their outcomes because of this role. This could mean that different levels of integration are found for educational attainment, where all members of the household are included, as opposed to other measures of integration, where just data on the

head of the household exists. Some of the abovementioned concerns are further addressed in the robustness checks. Here I try to test whether these concerns are relevant for this particular paper.

Finally, an important challenge with this research is to disentangle the exposure effect from the effect of the policy. Someone who has migrated a long time ago is most likely more integrated than someone who just migrated to the Netherlands. They have had more time to learn the language and to make social contacts with natives, they have been exposed longer to the Dutch culture and Dutch society. As integration is not a process that happens overnight, it is possible that the results will show that the immigrants from before 1990 are better integrated, even though they did not receive help from the policy. This result would show just because they have lived in the Netherlands for a larger amount of time. Meaning that the results that are found are likely to be lower bound because of the extra exposure to the Dutch culture that old immigrants have. This aspect will be extensively investigated in a separate section because of the importance of this problem.

Section V Main Results

Results of the first tests on language proficiency and educational outcomes can be found in Table 2. Column 1 of the table shows no significant effects for migrating after 1990 on the language proficiency score of migrants. Meaning that migrating after 1990, does not have an effect on language proficiency. This can be interpreted as if the policy does not seem effective in improving language skills as new immigrants do not have higher levels of language proficiency. Even though the new policy focuses on language courses, learning the Dutch language is difficult, which might be why new immigrants have not improved. Column 2 of Table 2 also states no significant effect. Meaning that old and new immigrants are equally likely to have followed education in the Netherlands. These results also indicate that the policy did not have an impact on education participation. Moreover, column 3 indicates that migrating after 1990 negatively affects the maximum diploma achieved in the Netherlands. So, new immigrants are likely to have achieved lower levels of education. For the level of education, the policy thus does not seem to be effective. A possible reason that this measure

Table 2 Language and education regressions

	(1) Language proficiency score	(2) Followed education in NL	(3) Maximum diploma in NL
Migrated after 1990	0.042 (0.039)	-0.028 (0.033)	-0.465** (0.212)
Female	0.062 (0.048)	-0.018 (0.033)	0.052 (0.264)
Age	0.002 (0.006)	0.000 (0.005)	0.055* (0.033)
Age at migration	-0.013** (0.007)	-0.017*** (0.005)	-0.092** (0.038)
Municipality	-0.001 (0.004)	0.001 (0.003)	0.009 (0.021)
Children living at home	0.056*** (0.021)	-0.032** (0.013)	-0.173** (0.079)
Reason for immigration			
Work in NL	-0.677*** (0.102)	-0.312 (0.358)	-0.139 (0.201)
Family reunification	-0.625*** (0.101)	-0.122 (0.359)	0.156 (0.285)
Education in NL	-0.864*** (0.095)	0.113 (0.360)	1.636*** (0.307)
Marriage	-0.709*** (0.103)	-0.332 (0.358)	-0.131 (0.216)
With parents	-0.908*** (0.128)	0.057 (0.364)	0.083 (0.252)
Country of origin			
Turkish	-0.065 (0.077)	-0.233*** (0.053)	-0.359 (0.299)
Moroccans	-0.014 (0.077)	-0.150*** (0.050)	-0.205 (0.299)
Surinamese	-0.296*** (0.070)	-0.057 (0.041)	0.694* (0.372)
Constant	3.015*** (0.162)	1.147*** (0.366)	1.754*** (0.563)
Observations	801	1,713	1,225

Notes: The table shows estimates of the regression of language and educational outcomes on migrating after 1990. Robust standard errors were used. Language proficiency has a scale of 1-3. Maximum diploma can take a value between 0 and 8. Significance levels are: ***: $p < 0.01$, **: $p < 0.05$, *: $p < 0.10$.

does not show that the policy is effective, is because it takes time to achieve a diploma. It might be that the new immigrants will end up with higher diploma's over time, yet are not finished with this education at the moment of the data collection. Overall, the policy does not seem to be effective in supporting new immigrants with education and language proficiency.

Table 3 indicates the regressions on social integration. As can be seen in the first column, no significant effect of integration at sports club is present for those that migrated after 1990. This demonstrates that immigrants that migrated after the policy was implemented, are in equally integrated sports clubs as those that migrated before the policy. Illustrating that the policy change did not have a big impact on native contact at sports clubs for new immigrants. Furthermore, column 2 and 3 indicate that native contact at work and native contact in their free time are not significantly different for immigrants from before and from after 1990. Showing that the new immigrants likely do not have a larger amount of contact with natives at their workplace and in their free time. A possible reason for these findings could be that to be able to socially integrate, an immigrant needs to be able to speak Dutch. As has been discussed, the policy does not seem to improve Dutch language proficiency, which might be why social integration is also not improved. Column 4 again displays no significant effects of migrating after 1990 on this social integration measures. The dependant variable in column 4 measures whether immigrants have a preference for living in an ethnic enclave. Meaning, a preference for living in a neighbourhood where mainly others of the same ethnicity live. Finding no significant effects means that new and old immigrants likely have no difference in preference. Column 5 states the results for the dependent variable on relative contact with natives. This variable measures whether a respondent spends relatively more time with natives or immigrants. No significant effect is found, meaning that those that migrated after 1990 do not have different contact with natives, compared to those who migrated before 1990. The policy therefore does not seem to have improved social integration outcomes for new immigrants.

Table 3 Social integration regressions

	(1) Integration at sports club	(2) Native contact at work	(3) Native contact in free time	(4) Preference for ethnic enclave	(5) Relative contact with natives
Migrated after 1990	-0.175 (0.030)	-0.020 (0.108)	-0.043 (0.062)	0.026 (0.058)	-0.106 (0.072)
Female	0.113 (0.139)	0.032 (0.074)	-0.054 (0.060)	0.036 (0.062)	0.004 (0.083)
Age	0.011 (0.019)	0.040** (0.018)	0.025*** (0.009)	-0.003 (0.009)	0.014 (0.011)
Age at migration	-0.029 (0.022)	-0.025* (0.015)	-0.022** (0.009)	0.001 (0.010)	-0.002 (0.012)
Municipality	0.001 (0.013)	0.019** (0.010)	0.019*** (0.006)	0.012 (0.007)	-0.004 (0.007)
Children living at home	-0.036 (0.068)	-0.037 (0.031)	-0.091*** (0.021)	0.066*** (0.026)	-0.072** (0.033)
Reason for immigration					
Work in NL	-0.272 (0.282)	1.106*** (0.150)	-0.296*** (0.066)	-0.583** (0.244)	-0.078 (0.403)
Family reunification	-0.400 (0.266)	1.226*** (0.160)	-0.225*** (0.074)	-0.576** (0.248)	-0.229 (0.403)
Education in NL	-0.098 (0.279)	1.372*** (0.151)	0.070 (0.080)	-0.486** (0.246)	-0.050 (0.404)
Marriage	-0.134 (0.280)	1.136*** (0.230)	-0.305*** (0.078)	-0.629*** (0.242)	-0.182 (0.402)
With parents	-	1.249*** (0.188)	-0.327** (0.130)	-0.533** (0.270)	0.004 (0.431)
Country of origin					
Turkish	-	-0.401*** (0.120)	-	-	-0.127 (0.119)
Moroccans	0.176 (0.132)	-0.453*** (0.113)	-0.105* (0.060)	-0.356*** (0.067)	0.159 (0.112)
Surinamese	0.012 (0.179)	-0.309*** (0.087)	0.043 (0.090)	-0.443*** (0.103)	-0.008 (0.130)
Constant	2.307*** (0.334)	0.853*** (0.223)	1.878*** (0.125)	4.059*** (0.272)	1.599*** (0.444)
Observations	369	960	1,703	1,537	1,110

Notes: The table shows estimates of the regression of social integration measures on migrating after 1990. Robust standard errors were used. Column (1) (2) (3) and (5) are scaled 1-3. Column (4) is scaled 1-5. Significance levels are: ***: $p < 0.01$, **: $p < 0.05$, *: $p < 0.10$.

Table 4 focuses on the regressions of the labour market outcomes. Column 1 shows that migrating after 1990 is significantly correlated with having a job at the time of data collection. Meaning that those that migrated after 1990 are more likely to have a job at the time of the survey than those that migrated before 1990. This indicates that the policy helped new immigrants with finding a job after they migrated here. This would mean that the policy was effective in supporting labour market participation. Which was an important goal of the policy. To continue, column 2 of Table 4 indicates no significant effect for the dependent variable *Ever worked in NL*. This suggests that migrating after 1990 does not impact having worked in the Netherlands. This would mean that the policy has not been particularly effective on getting new immigrants to work in the Netherlands. Looking at column 3, it can be seen that number of times unemployed is not significantly different for new immigrants as for old immigrants. Meaning that migrating after 1990 does not significantly affect the number of times one has been unemployed. It can be argued that this is both a good and bad sign. It is good that new immigrant are not likely to be more often time unemployed. However, as these new immigrants have been in the Netherlands for a shorter amount of time, it would be expected that they have been less often unemployed. It can therefore be argued that no negative effect actually shows that the policy was not effective in helping new immigrants against unemployment. Looking at column 4, a significant negative effect is found for labour income in categories. Meaning that migrating after 1990 can have a negative effect on the labour income category a respondent is in. The policy therefore does not seem to be successful in improving labour income of new immigrants.

From this section it follows that there mostly is no effect of the policy on the outcomes of immigrants that migrated after 1990. As has been discussed in previous sections, this might be due to the fact that these new immigrants have lived a shorter amount of time in the Netherlands. This could cause that the older immigrants, who have spent a longer period of time living in the Netherlands, are better integrated. If one believes that these exposure effects are present, than finding no difference between old and new immigrants can be seen as positive. Seeing as this means that new immigrants have improved their outcomes to the level of old immigrants in a shorter amount of time. This would suggest that the policy might have been effective in supporting those that migrated after 1990.

Table 4 Labour market outcome regressions

	(1) Has a job now	(2) Ever worked in NL	(3) Unemployed in NL	(4) Labour income in categories
Migrated after 1990	0.107** (0.043)	0.013 (0.033)	-0.161 (0.178)	-0.501*** (0.175)
Female	-0.226*** (0.007)	-0.265*** (0.038)	0.060 (0.162)	-0.407* (0.220)
Age	-0.030*** (0.007)	0.028*** (0.005)	-0.004 (0.030)	0.092*** (0.027)
Age at migration	-0.033*** (0.007)	-0.034*** (0.005)	-0.009 (0.026)	-0.058* (0.030)
Municipality	0.002 (0.004)	0.004 (0.003)	0.014 (0.019)	0.006 (0.017)
Children living at home	-0.038** (0.016)	-0.010 (0.012)	0.113* (0.060)	0.085 (0.065)
Reason for immigration				
Work in NL	-0.427*** (0.054)	-0.183*** (0.030)	0.564** (0.217)	0.272 (0.196)
Family reunification	-0.539*** (0.065)	-0.286*** (0.041)	0.559** (0.257)	0.212 (0.210)
Education in NL	-0.507*** (0.065)	-0.275*** (0.050)	0.070 (0.244)	0.350 (0.241)
Marriage	-0.448*** (0.067)	-0.261*** (0.038)	0.576* (0.316)	0.396** (0.188)
With parents	-0.543*** (0.097)	-0.288*** (0.083)	0.240 (0.359)	0.089 (0.207)
Country of origin				
Turkish	0.031 (0.062)	-0.007 (0.051)	-0.465** (0.207)	0.325** (0.131)
Moroccans	-0.013 (0.058)	-0.048 (0.050)	-	-
Surinamese	0.186*** (0.062)	0.179*** (0.045)	-0.325 (0.252)	0.376 (0.238)
Constant	0.955*** (0.115)	1.063*** (0.094)	1.276*** (0.444)	1.784*** (0.357)
Observations	1,713	1,713	1,319	890

Notes: The table shows estimates of the regression of social integration measures on migrating after 1990. Robust standard errors were used. Column (4) is scaled 1-9. Significance levels are: ***: $p < 0.01$, **: $p < 0.05$, *: $p < 0.10$.

To conclude this section, the results suggest that the policy was mainly not successful at improving outcomes for immigrants that migrated after 1990. However, for the variable that measures whether someone has a job at the time of data collection a significant and positive effect was found. This suggests that the policy was actually effective in improving labour market participation for new immigrants. As this was the main goal of the policy, this seems to be a positive finding.

Section VI Exposure effects check

As has been discussed in Section IV, the problem of exposure effects is relevant for this paper and needs to be addressed. To discover whether there are exposure effects among the immigrants a new variable will be created. This variable named *Years in NL* measures the number of years an immigrant has been in the Netherlands. With this variable, multiple regressions will be performed to find out whether integration and labour market outcomes change with the number of years someone has been in the Netherlands. Equation (5) shows the performed test when taking *Labour income in categories* as dependent variable. The test shows the score for labour income in categories when someone has spent a certain amount of years in the Netherlands and therefore the effect of the years of exposure on labour income. The control variables for this test are: *gender, municipality, age, country of origin, children living at home, reason for migration and age at migration*.

$$\text{Labour income} = \beta_0 + \beta_1 * \text{Years in NL}_i + \beta_2 * \text{control}_i + \varepsilon_i \quad (5)$$

Table 5 shows that only for four out of thirteen variables a significant effect of years in the Netherlands on the dependent variable is found. Meaning that most integration and other outcome measures likely do not worsen or improve as an immigrant has spent more years in the Netherlands. Having followed education in the Netherlands, the native contact in free time and whether a respondent has ever worked in the Netherlands is positively influenced by year of exposure. The more years someone has spent in the Netherlands, the more likely they are to have done better on these outcomes. Furthermore there is a negative significant effect of the years in the Netherlands and unemployment in the Netherlands. The more years someone

Table 5 Exposure effects

	(1) Language proficiency score	(2) Followed education in NL	(3) Maximum diploma in NL
Years in NL	0.006 (0.007)	0.017*** (0.004)	-0.021 (0.048)
Constant	1.732*** (0.040)	0.996*** (0.147)	4.083*** (0.400)
Observations	3,663	6,402	4,735

	(4) Integration at sports club	(5) Native contact at work	(6) Native contact in free time	(7) Preference for ethnic enclave	(8) Relative contact with natives
Years in NL	-0.015 (0.022)	0.014 (0.011)	0.017* (0.009)	0.005 (0.010)	-0.003 (0.010)
Constant	1.769*** (0.559)	2.182*** (0.424)	2.215*** (0.120)	3.560*** (0.168)	1.863*** (0.245)
Observations	1,285	3,039	6,360	5,718	4,289

	(9) Has a job now	(10) Ever worked in NL	(11) Unemployed in NL	(13) Labour income in categories
Years in NL	0.011 (0.007)	0.007* (0.004)	-0.044* (0.024)	-0.071 (0.046)
Constant	0.955*** (0.092)	1.068*** (0.072)	1.375*** (0.358)	3.747*** (0.703)
Observations	6,406	6,406	5,285	2,894

Notes: The table shows results for the regressions on exposure effects. The regressions only contain immigrants migrated before 1990. Robust standard errors were used. Control variables on gender, age, age at migration, municipality, children living at home, reasons for migration and country of origin were used. Significance levels are: ***: $p < 0.01$, **: $p < 0.05$, *: $p < 0.10$.

has spent in the Netherlands, the lower the amount of times they have been unemployed is. However for all of these variables the magnitude of the effect is relatively small. It can therefore be argued that the effect of exposure is not exceptionally outstanding. This means

that exposure effects should not be taken into account when interpreting the main results. However, the fact that no exposure effect were found in this statistical model, does not signify that there cannot be any exposure effects at all in real life.

Section VII Other robustness Checks

In section IV some concerns related to the method of testing have been discussed. To address these concerns some additional testing is done. To begin this section, a balance test is performed. A balance is performed to observe whether the immigrant cohorts from before 1990 differ to those from after 1990. An estimate is done of respondents characteristics based on the dummy indicating whether someone is in the treatment or control group.

From Table 6 in the appendix it follows that the two cohorts differ in some characteristics while not in others. The immigrants migrating before 1990 and migrating after 1990 do not significantly differ in the amount of females to males they have. They also do not significantly differ in the municipality they live in and the country they migrated from. Differences are found for age, age at migration and the number of children living at home. However, as Table 6 indicates, these coefficients do not have a large magnitude. Meaning that the differences between the treatment and control group on these characteristics is likely not very notable. For the variables on the reasons for immigration, there do seem to be some differences. For several of the reasons for migration that are included in the table a significant positive effect is found. Meaning that immigrants that migrated after 1990 are more likely to for example move because of marriage. So overall, the two groups mainly seem to differ in their reasons for migrations. It can be argued that this is a problem as different reasons for migration might also mean that these immigrants integrate in different way. An immigrant that just came here to join their spouse is less likely to work hard to integrate than someone who came here to work or study. The fact that the two cohorts differ in their reasons for migration could therefore bias the results.

To continue, I address the problem of the potential endogeneity for year of migration. As has been argued, it might not be random in which year someone migrates. There might be differences between immigrant cohorts. It might be that a certain event or situation in a particular year or time period that causes more immigrant to migrate in that time period. It

also might be that this certain event causes only immigrants with similar characteristics to migrate in this time period. Also overall immigrant mentality might have changed over the years. This could mean that year of migration influences immigrant outcomes. To test for this, the same data is used as in the main analysis. The same regression on integration and labour market outcomes is performed. The outcomes are now tested on *year of migration*. Equation (6) shows the performed test. By using year of migration, it can be investigated if the effects found, are due to the policy or if migrating later in another time period influence immigrant outcomes. This test will therefore strengthen the belief that differences found are due to the policy change.

$$Labour\ income = \beta_0 + \beta_1 * year\ of\ migration_i + \beta_2 * control_i + \varepsilon_i \quad (6)$$

From Table 7 in the appendix it can be observed that year of migrations impacts some of the outcome measures. Of those coefficients that are significant, most are negative, meaning that migrating later in the 1900s, negatively impacts these outcome measures. However, Table 7 shows that whether someone has a job now and language proficiency score are positively influenced by the year of migration. These results indicate that the year of migration influences the outcome measures via different channels. These test therefore suggest that adding year of migration as control variable in the main model was a good choice. It would be fruitful to do further research into the effect of the year of migration on different outcome measures.

To continue, the age of migration was argued to influence levels of integration and labour market outcomes. The younger one moves, the generally easier it is for them to integrate. To test whether age at migration influences the results, a linear regression is completed for age at migration. Equation (7) shows that labour income is estimated by the age at migration of immigrant *i*. By performing this test, it is found whether the age when someone migrates, influences their outcomes in general. The data contains a variable on age at migration which is used to look for these age differences. With the findings it can be determined whether labour outcomes are likely to be different for different ages at migration. The control variables used for this test are: *gender, municipality, age, country of origin, children living at home, reason for migration and age at migration*.

$$\text{Labour income} = \beta_0 + \beta_1 * \text{Age at migration}_i + \beta_3 * \text{control}_i + \varepsilon_i \quad (7)$$

Table 8 in the appendix shows the results of these tests. It shows that almost all outcome measures are influenced by the age at migration. Furthermore, it stands out that those coefficients that are significant, are also negative. Meaning that there is a negative correlation between age at migration and these different outcome measures. So, the older someone is when they migrate, the worse they do on integration and other outcome measures. Age at migration does not seem to impact the language proficiency score and how many times someone has been unemployed in the Netherlands. Yet all outcome measures for social integration and educational attainment are negatively affected by the age at migration. This shows that the decision to add age at migration to testing in the main analysis for policy effectiveness was a reasonable choice. However, further research into the influence of age at migration is necessary.

Finally, it was mentioned that not all test include all participants and some test just show estimations for the head of the household. This presents a problem when it can be expected that outcomes are different for the heads of household as opposed to the other members of the household. The reason this might be a problem is because the head of the household might have a different role to play in the family than other family members. Think of the head of the household having to provide for the family and therefore more often work and also being more likely to have followed education. If this were the case than the results could give a wrong understanding of the effectiveness of the policy on outcomes of all immigrants. To research this problem the regressions from the main analysis are re-estimated, now using just the head of the households in the sample. So for these tests equations (1),(2), (3) and (4) are used. The results are compared to those from the main findings. The findings will therefore display whether there are differences for education and labour market outcomes between head of household and other family members.

When observing the results of this test in Table 9 in the appendix, it stands out that these results are similar to those in the main results. Just as in the main results, the outcomes variables measuring maximum diploma achieved in the Netherlands, labour income in categories and whether an immigrants has a job now give significant results. These results

have the same sign as in the main analysis and their magnitude does not substantially seem to differ from the main results. All other outcome measures find no significant results. This indicates that outcomes are not different when just using head of households instead of all family members. Suggesting that using all family members does not bias results but strengthens them because of the larger number of observations.

Section VIII Conclusion and Recommendations

This paper researches the effectiveness of the new immigrant policy implemented in 1990. This policy change focused on improving the position of immigrants in Dutch society via improved integration, with its main points of focus being education and labour market outcomes for new immigrants. This paper has found that the policy was not likely effective in improving integration for new immigrants. The results show that new immigrants are likely at a similar level of integration as those already living in the Netherlands before 1990. The results on maximum diploma achieved and labour income indicate that new immigrants are doing worse than those that migrated before 1990. Only for the outcome that measures whether someone has a job now shows to be positively correlated with migrating after 1990. Indicating that the policy might have been effective in improving the labour market participation of new immigrants. From testing it seems that the effects of exposure are not outstandingly present. However, if one believes that exposure effects are present in real life, than these results can suggest that the policy has been effective.

Several other tests showed that more aspects influence the outcomes than just policy change. While using matching helps to get rid of some of the bias of these aspects, it cannot assure that the conditional independence mean assumption holds. Therefore, the results have to be carefully interpreted. These additional tests also suggest that further research needs to be done on specific aspects that influence the outcome measures, such as year of migration and age at migration. Overall, this paper shows that a new policy does not always assist new immigrants with integrating in a new society in the short term. This paper provides grounds for further research. Especially, into the mechanisms of age at migration and year of migration. Furthermore, research that looks into longer term results of the policy is beneficial. As it can be seen whether new immigrants do improve when more years have passed.

Appendix

Table 6 Balance test

	Migrated after 1990
Female	-0.002 (0.009)
Age	-0.025*** (0.001)
Age at migration	0.028*** (0.001)
Municipality	0.001 (0.001)
Children living at home	-0.014*** (0.002)
Reason for immigration	
Work in NL	0.166** (0.069)
Family reunification	0.101 (0.069)
Education in NL	0.196*** (0.069)
Marriage	0.226*** (0.070)
With parents	0.117* (0.069)
Country of origin	
Turkish	-0.015 (0.013)
Moroccans	0.010 (0.014)
Surinamese	0.016 (0.012)
Observations	7,171

Notes: Table shows estimates of regression of respondents characteristics on the dummy indicating the treatment and control group. Between the brackets are robust standard errors. All estimates are rounded. The dependent variable is the dummy variable indicating treatment, namely migrating after 1990. Significance levels are: ***: $p < 0.01$, **: $p < 0.05$, *: $p < 0.10$.

Table 7 Year of migration effects

	(1) Language proficiency score	(2) Followed education in NL	(3) Maximum diploma in NL
Year of migration	0.011*** (0.003)	-0.008*** (0.002)	-0.137*** (0.024)
Constant	-19.724*** (6.424)	16.803*** (4.959)	276.145*** (48.177)
Observations	4,202	7,713	5,712

	(4) Integration at sports club	(5) Native contact at work	(6) Native contact in free time	(7) Preference for ethnic enclave	(8) Relative contact with natives
Year of migration	-0.059*** (0.012)	0.002 (0.006)	-0.012** (0.005)	0.004 (0.006)	-0.022*** (0.006)
Constant	119.205*** (23.443)	-1.939 (12.496)	25.680*** (9.244)	-3.927 (11.044)	45.284*** (11.468)
Observations	1,559	3,694	7,665	6,864	5,098

	(9) Has a job now	(10) Ever worked in NL	(11) Unemployed in NL	(12) Labour income in categories
Year of migration	0.024*** (0.003)	-0.006*** (0.002)	-0.017 (0.017)	-0.090*** (0.019)
Constant	-46.367*** (6.804)	-11.116*** (4.251)	34.056 (33.119)	181.379*** (37.269)
Observations	7,717	7,717	6,147	3,491

Notes: The table shows results for the regressions on year of migration effects. Robust standard errors were used. Control variables on gender, age, age at migration, municipality, children living at home, reasons for migration and country of origin were used. Significance levels are: ***: $p < 0.01$, **: $p < 0.05$, *: $p < 0.10$.

Table 8 Age at migration effects

	(1) Language proficiency score	(2) Followed education in NL	(3) Maximum diploma in NL
Age at migration	0.000 (0.001)	-0.018*** (0.001)	-0.085*** (0.004)
Constant	2.389*** (0.163)	0.930*** (0.138)	2.223*** (0.445)
Observations	4,202	7,713	5,712

	(4) Integration at sports club	(5) Native contact at work	(6) Native contact in free time	(7) Preference for ethnic enclave	(8) Relative contact with natives
Age at migration	-0.010*** (0.003)	-0.009*** (0.002)	-0.018*** (0.001)	-0.004*** (0.001)	-0.015*** (0.002)
Constant	1.726*** (0.539)	2.075*** (0.219)	2.716*** (0.184)	3.908*** (0.146)	2.200*** (0.221)
Observations	1,559	3,694	7,665	6,864	5,098

	(9) Has a job now	(10) Ever worked in NL	(11) Unemployed in NL	(12) Labour income in categories
Age at migration	-0.005*** (0.001)	-0.015*** (0.008)	-0.003 (0.004)	-0.046*** (0.005)
Constant	0.986*** (0.132)	0.991*** (0.087)	0.941*** (0.203)	2.886*** (0.670)
Observations	7,717	7,717	6,147	3,491

Notes: The table shows results for the regressions on age at migration effects. Robust standard errors were used. Control variables on gender, age, age at migration, municipality, children living at home, reasons for migration and country of origin were used. Significance levels are: ***: p<0.01, **: p<0.05, *: p<0.10.

Table 9 Head of household effects

	(1) Language proficiency score	(2) Followed education in NL	(3) Maximum diploma in NL
Migrated after 1990	0.020 (0.043)	0.001 (0.034)	-0.576** (0.243)
Constant	1.630*** (0.327)	0.646*** (0.140)	2.669*** (0.666)
Observations	623	1,306	943

	(4) Integration at sports club	(5) Native contact at work	(6) Native contact in free time	(7) Preference for ethnic enclave	(8) Relative contact with natives
Migrated after 1990	-0.012 (0.152)	-0.096 (0.080)	-0.033 (0.068)	0.031 (0.075)	-0.085 (0.074)
Constant	1.777*** (0.423)	2.641*** (0.329)	1.469*** (0.370)	3.398*** (0.408)	0.819*** (0.310)
Observations	252	717	1,298	1,148	829

	(9) Has a job now	(10) Ever worked in NL	(11) Unemployed in NL	(12) Labour income in categories
Migrated after 1990	0.158*** (0.040)	0.009 (0.031)	0.158 (0.140)	-0.604*** (0.187)
Constant	0.052 (0.176)	0.521** (0.245)	1.488** (0.586)	2.679*** (0.493)
Observations	1,306	1,306	1,007	674

Notes: The table shows results for the regressions on head of household effects. Robust standard errors were used. Matching was used. Control variables on gender, age, age at migration, municipality, children living at home, reasons for migration and country of origin were used. Significance levels are: ***: $p < 0.01$, **: $p < 0.05$, *: $p < 0.10$.

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