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Intra-EU Migration, Public Transfers, and Assimilation: Evidence for the Netherlands

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Abstract

In this study we investigate public transfer receipt and assimilation of EU migrants in the Netherlands. To do so, we use high quality administrative panel data containing comprehensive information on all public transfers individuals can receive. Results show that, after controlling for composition effects, EU migrants are less likely to receive public transfers compared to Dutch natives and they receive significantly lower amounts conditional on transfer receipt. These differences are particularly large during the first years after arrival in the Netherlands. Three to five years after arrival, the differences become indistinguishable from zero, indicating that EU migrants gradually assimilate into public transfer receipt. The size and the sign of the differences depend on whether we consider contributory or non-contributory transfers. Further exploration by means of an Oaxaca-Blinder decomposition shows that the composition effects are mostly due to differences in age and variables related to family structure.

JEL Classification: D1, D14, D15.
Keywords: Migration, Mobility, European Union, Public Transfers, Migrant Assimilation.

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1 Introduction

Within the European Union (EU), free movement of individuals has been the general rule since the establishment of the Schengen Area in 1995. The Schengen Area currently comprises 26 countries with a total population of about 420 million inhabitants and it is a clear contributor to the deepening of economic and political relations among its members (Davis and Gift, 2014). Nevertheless, events such as the expansion of the EU towards Central and Eastern Europe in 2004, the large arrival of refugees in 2015, and the Brexit referendum of 2016, have contributed to a return of the discussion on migration and mobility to the EU political debate. In recent years, this has been reinforced by the increasing importance of political agendas that favour domestic interests and oppose immigration (Algan *et al.*, 2017).

Some of the most contentious issues in the debate about migration relate to the labour market position of migrants, their receipt of public transfers, and their fiscal contribution.[1] These issues resonate strongly in the political debate for two main reasons. First, participation of migrants in the economy and their contribution to the public finances are usually regarded as indicators of the efficacy of assimilation policies. Second, given the ageing of population and the strain it poses on public resources, migration can be seen as a source of younger labour that can contribute to the balancing of public revenues and expenditures. It is common among European countries to introduce policies promoting the increase of domestic birth rates instead of turning to migration (May, 2015). Nevertheless, stubborn declines in birth rates combined with increasing longevity mean that migration remains an important factor to be considered.

Although it is necessary to have a debate about migration and mobility, an important problem is that this debate is usually dominated by misinformation and political interests. Therefore, the goal of this study is to provide empirical facts that can help improve the discussion by focusing on the investigation of the Dutch case. The Netherlands is a country that has historically been open to migration, it has been part of the EU and the Schengen Area since its inception, and in the last decades it has become a popular destination for migrants from other EU countries. However, it is not exempt from the rise of the anti-immigration populist discourse (Vossen, 2016). Therefore, it represents a very interesting case in point to establish facts about the assimilation of migrants within the EU context.

In this study, we pay particular attention to the effect that EU migrants have on the Dutch public finances[2]. We do so by measuring their receipt of public transfers and comparing it to that of Dutch natives. The focus on EU migration is due to two reasons. First, we want to frame this study in the context of the aforementioned mobility debate within the EU, and second, EU migrants have become a very important group in the Netherlands in recent years. As Figure 1 shows, the share of EU migrants out of the total Dutch population has doubled between 2004 and 2019, going from about 2% to nearly 4%. In 2019 this share has for the first time

[1] For an overview of the economic effects of migration and their impact on policy, see OECD (2019) and Dorn and Zweimüller (2021).

[2] EU citizens that move within the EU are not officially considered to be migrants but EU mobile citizens. In the present paper, we use the term EU migrants as a shorthand for EU mobile citizens.

become larger than the combined share of individuals from the four most important non-western migrant groups in the Netherlands.[3] Figure 1 shows as well that this increase has mainly been due to the arrival of individuals from Central and Eastern European (CEE) countries within the EU.[4] Regarding this inflow from CEE countries, Van Vliet *et al.* (2021) show that most of the individuals who arrived during these years can be classified as labour migrants.

Previous literature investigates the public transfer receipt of migrants (*e.g.* Barrett *et al.*, 2013; Huber and Oberdabernig, 2016; and Roman, 2019) as well as their net fiscal position (*e.g.* Gustafsson and Österberg, 2001; Boeri, 2010; Dustmann and Frattini, 2014; and Chojnicki and Ragot, 2016).[5] A general problem of this literature is that it quickly runs into data limitations. Most contributions employ survey data, which is rather inaccurate when it comes to the measurement of transfer amounts received. Furthermore, it is often cross-sectional and not fully comprehensive regarding the transfers covered. A common implication is that studies typically have to rely on strong assumptions in relation to transfer receipts and/or fiscal contributions. In one of the few studies focused on the Netherlands, Zorlu (2013) provides an insightful investigation of the public transfer receipt of migrants in the Netherlands. However, this study uses data only for the year 2005 and focuses on the receipt by non-western migrants of only three different public transfers, *i.e.* unemployment, disability, and social assistance.

In the present study, we contribute to this literature in three ways. First, we conduct a detailed analysis of transfers received by employing very accurate and comprehensive administrative data from the *Inkomenspanelonderzoek* (IPO) for a long period of time, *i.e.* from 2004 to 2014. The IPO is a longitudinal dataset, provided by Statistics Netherlands, containing information from the tax authorities on all sources of income for a very large representative sample of the Dutch population. The richness of the data allows us to distinguish between all public transfers that individuals may be entitled to receive. Second, we exploit the longitudinal dimension of the data by investigating how the probability of receipt and the amount received change with the number of years a migrant has spent in the Netherlands. For that purpose we merge the IPO data with data on year of arrival provided by the Dutch Immigration and Naturalisation Service. Third, we couple the exceptionally detailed data on transfers with a rich set of background information at the individual and household level. By applying an Oaxaca-Blinder decomposition, we use this information to push the frontier in the exploration of the relevant composition effects that may explain differences in public transfer receipt.

The results of the baseline analysis show that, when all transfers are considered together, EU migrants are less likely to receive public transfers compared to Dutch natives. In addition, they receive on average significantly lower amounts conditional on transfer receipt. Therefore, we can

[3]These are individuals from Morocco, Turkey, Surinam, and the group of countries formerly known as the Netherlands Antilles (*i.e.*, Aruba, Bonaire, Curaçao, Sint Maarten, Sint Eustatius, and Saba).

[4]These countries are Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, and Slovenia. All countries joined the EU in 2004, with the exception of Bulgaria and Romania which entered the EU in 2007 instead of 2004.

[5]For a review of the literature on the public transfer receipt of migrants, see Giulietti (2014). For a review of the literature on the net fiscal position of migrants, see Hennessey and Hagen-Zanker (2020).

conclude that, for the period between 2004 and 2014, the open border policies within the EU did not increase average use of public transfers in the Netherlands. That is the case even when the Netherlands is a common destination country within the EU and has seen a considerable inflow of EU migrants during the period under consideration. The exact size, and sometimes also the sign, of the differences between EU migrants and Dutch natives in terms of receipt of public transfers depend on whether we consider contributory or non-contributory transfers. They often depend as well on the more specific transfer categories we consider within these two broader categories.

Interestingly, using data for year of arrival, we show that the gap between EU migrants and natives is especially large during the very first years after arrival in the Netherlands. This gap in receipt of public transfers appears to close gradually over time lasting no longer than seven to eight years, which indicates that EU migrants assimilate into receipt of public transfers. By assimilation we do not refer here to cultural assimilation in a broad sense but just to a process whereby migrants become similar to natives in a particular dimension, *i.e.* the receipt of public transfers. This may or may not be accompanied by other dimensions of assimilation in a broader sense. In this way, our use of the concept of assimilation is similar to that in Baker and Benjamin (1995), Hansen and Lofstrom (2003), and Sarvimäki (2011) among others, who investigate whether migrants assimilate into our out of welfare participation. Bansak *et al.* (2020) provide a thorough discussion of the concept of assimilation and its use within the economics of migration, a description of its different dimensions, and a summary of the literature on each of these dimensions.

The evidence of assimilation that we find can be due to several reasons. First, regarding contributory transfers, it is clear that it may take some time for migrants to start receiving them since they require work experience to become eligible. Second, there are legal barriers that prevent use of social assistance by EU migrants. The EU's principle of equal treatment establishes that EU citizens residing in another Member State must be treated equally with nationals (Fernandes, 2016). However, the EU also recognizes the right of Member States to prevent so-called welfare tourism.[6] In this context, the Dutch government reserves the right to end the legal residence of EU citizens who receive social assistance and have resided in the Netherlands for less than five years (Pennings, 2020).[7] Third, the evidence is consistent with Borjas and Hilton (1996) who argue that migrants take time to start receiving public transfers because often they lack knowledge about eligibility rules. According to this argument it is through local networks, and potentially through acquisition of the local language, that they start learning about eligibility rules and eventually making use of public transfers at a level

[6]Welfare tourism has been the subject of heated political debate within the EU. However, Fernandes (2016) shows that economically inactive EU citizens living in another Member State only represent between 0.7% and 1% of the EU's total population.

[7]As thoroughly explained by Pennings (2020), EU migrants legally residing in the Netherlands have exactly the same rights of access to public benefits as Dutch natives. As mentioned in the main text, the only difference is that EU migrants who receive social assistance may lose their residence permit. That can only happen during their first five years of legal residence and it only concerns social assistance benefits, thus not other non-contributory benefits (*i.e.*, child, health, housing, and study benefits).

similar to natives.

Both the baseline analysis and the analysis by years since arrival show important composition effects in terms of the background variables that we include as control variables. The latter can be grouped in individual level variables (age, gender, and household position), household variables (household structure, marital status of the household head, and presence and number of children), and time and region variables (level of urbanization, province of residence, and year of observation). An in depth investigation by means of an Oaxaca-Blinder decomposition, shows that the most important of these composition effects are attributable to differences in age and variables related to family composition between migrants and natives. Age appears to be particularly important for differences in the receipt of contributory transfers, while both age and family composition appear as most important for the differences in terms of non-contributory transfers.

The rest of the paper is structured as follows. Section 2 describes the data and provides summary statistics; Section 3 explains the empirical strategy; Section 4 provides the results; Section 5 rounds up the study with a conclusion.

2 Data and Summary Statistics

The *Inkomenspanelonderzoek* (IPO) is a longitudinal dataset that is put together and made available by Statistics Netherlands. It gathers yearly information from the tax authorities on all sources of income for a very large sample of the Dutch population. The level of detail in the data allows distinguishing between all public transfers that individuals legally residing in the Netherlands are potentially entitled to receive. The sample is representative of all individuals with a social security number, which excludes temporary migrants without an established residency as well as illegal migrants.[8] Since the data are from an administrative source, the only reason why an individual can leave the IPO sample is either death or emigration, which reduces the chances of selective attrition. The sample is refreshed every year to compensate for attrition and keep it representative of the population.[9]

We use data for the period going from 2004 to 2014 for two reasons. First, the IPO ends in 2014 and, second, 2004 is the year in which the EU expanded by means of the inclusion of several countries from Central and Eastern Europe (CEE). The latter is one of the most important events in recent history sparking debate on migration and mobility at the EU level. As Figure 1 shows, inflow of individuals from other EU countries to the Netherlands has increased considerably since then. From the sample provided by the IPO for the years between 2004 and 2014, we select individuals who are 18 years of age or older and who are either native Dutch or

[8]EU citizens from other Member States who stay in the Netherlands for less than four months are not required to have a social security number and are considered to be temporary migrants. As shown by Heyma *et al.* (2018), the number of temporary migrants from EU-CEE countries is relatively large: out of a total of 371,000 labour EU-CEE migrants active as employees in the Netherlands in 2016, 183,000 were temporary workers (49%). Since these migrants stay in the Netherlands only for short periods of time and they lack a social security number, they are rarely entitled to any benefits. Therefore, they are beyond the scope of the present study.

[9]For a further explanation of the IPO data and how it compares with survey data, see De Nardi *et al.* (2021).

born in another EU country. We define as native Dutch those individuals who are born in the Netherlands with both parents also born in the Netherlands. We identify individuals born in other EU countries as EU migrants.

After this selection process, the sample we employ for our analysis contains 192,509 individuals that belong to 96,000 randomly selected households. Each individual is observed for 8.54 periods on average. Out of all individuals in the sample, 182,829 (94.97%) are native Dutch, while 9,680 (5.02%) are EU migrants. Furthermore, 3,693 (1.92%) are part of the subgroup of individuals from CEE countries within the EU. Given their importance in the recent increase in the share of EU migrants living in the Netherlands, as well as their relevance in the EU migration debate, we consider individuals from CEE countries as a separate subgroup throughout the whole empirical analysis.

2.1 Background Characteristics

The IPO provides several background characteristics both at the individual and at the household level. The variables provided at the individual level are: age, gender, position in the household, and labour market status. The variables provided at the household level are: household structure, marital status of the household head, presence of children, number of children, and household size.[10] In addition, it provides as well the degree of urbanization and the province of residence. We use these variables to explore relevant composition effects that can explain differences in transfer receipt. Tables 1 and 2 report summary statistics for all variables that we observe at the individual and at the household level respectively. They do so for natives and migrants separately.

Table 1 shows that EU migrants are on average younger than Dutch natives as well as more likely to be female. The difference is especially large when only migrants from CEE countries are considered. Regarding the position within the household, Table 1 shows that EU migrants are more likely to be single, less likely to be married when living with a partner, less likely to be an adult child within the household, and more likely to have a position in the household that is not household head, partner or child. Again, these differences are larger when only migrants from CEE countries are considered. Table 1 also shows that, compared to Dutch natives, EU migrants are less likely to be employed, less likely to be retired, but more likely to be unemployed. Furthermore, they appear to be considerably more likely to be not active in the labour market. For all cases of job market status, except for the share of individuals employed, the differences are larger for CEE migrants. That is especially the case for the share of individuals retired and not active in the labour market. Especially striking is the large share of EU migrants who are registered as not active in the labour market, *i.e.* 18.94% for EU migrants and 24.91% for CEE migrants in particular.

Table 2 takes the origin of the household head to classify all households in the sample in

[10]The IPO identifies the household head as the highest earning person in the household. *i.e.* the main bread winner.

the same groups as in Table 1. It shows that households with a household head who is an EU migrant are less likely to consist of a couple, less likely to include children, more likely to consist of only one individual, and more likely to include household members other than household head, partner, and children. In addition, it shows that on average these households are smaller in size and have a smaller number of children. It shows as well that migrant households are slightly more likely to live in an urban area. For all cases, these differences are larger only when households headed by migrants from CEE countries are considered.

2.2 Public Transfers

The IPO provides detailed information on all sources of income perceived by individuals. This includes both private income as well as income from public transfers. The large level of detail of the data allows us to single out each one of the transfers that individuals can potentially receive. To structure our analysis, we consider first all public transfers together and then classify them as contributory and non-contributory. Contributory transfers require the payment of a premium to become eligible to receive them. For non-contributory transfers only having a legal residence in the Netherlands is required for eligibility.[11] Furthermore, we consider several subcategories within these two main groups of transfers. Within contributory transfers we consider the state pension, unemployment benefits, sickness and disability benefits, and other contributory transfers;[12] while within non-contributory transfers we consider social assistance, child benefits, health benefits, housing benefits, and study benefits.[13] For a detailed account of all specific transfers within each subcategory, see Table A.1 in the Appendix.

Table 3 provides the share of individuals receiving public transfers as well as the average amounts conditional on receipt. It shows that, compared with natives, EU migrants are less like to be a recipient of any transfer by about six percentage points. In case of receipt, they receive slightly less on average. These differences are larger when only migrants from CEE countries are considered, especially when considering the amount received. Regarding the probability of receiving contributory transfers, Table 3 shows that EU migrants are not very different from Dutch natives. However, the picture is quite different if we look only at CEE migrants. The latter are much less likely to receive a state pension, much more likely to receive unemployment benefit, and considerably less likely to receive contributory transfers when these are all considered together. Both migrant groups receive a lower average amount in contributory transfers conditional on receipt, which is most likely because these transfers increase with years of contribution via premiums.

[11] In accordance with the EU rules explained in detail by Fernandes (2016), The Dutch Immigration and Naturalisation Service reserves the right to end legal residence of EU citizens who receive public benefits while not being economically active.

[12] For all contributory transfers we consider, contributions via the payment of a premium are required to become eligible. The only exception is the state pension, which is financed via premiums paid by workers but the amount an individual is entitled to receive only depends on years of legal residence in the Netherlands.

[13] All transfers that we consider are received at the individual level except for child and housing benefits, which are received at the household level. For the latter, we divide the amount received between the household and the partner (in case there is a partner) such that they can also be considered at the individual level.

Regarding non-contributory transfers, Table 3 shows that overall receipt. *i.e.* considering all transfers together, is similar in all three columns. However, EU migrants are more likely to receive social assistance and housing benefits, but less likely to receive health benefits and study benefits. In this case we do not see remarkable differences in amounts received even though, for some of the categories, migrants receive somewhat larger amounts compared to natives. Interestingly, Table 3 does not show important differences neither in the probability of receiving child benefits nor in the amounts received under that category, which is the most popular among non-contributory transfers.[14] In addition, Table 3 shows as well that total transfers represent between 24% and 27% of total personal gross income for all three groups considered. For EU migrants non-contributory transfers represent a larger share of income compared to Dutch natives, while it is the other way around if we consider contributory transfers. These differences are considerably larger if we consider only CEE migrants.

2.3 Years Since Arrival

As mentioned in the introduction, the receipt of public transfers by migrants plays an important role in the political debate because it is often seen as an indicator of the efficacy of assimilation policies. More specifically, the literature points at the possibility that migrants integrate out of or into receipt of public transfers (Baker and Benjamin, 1995; Crossley *et al.*, 2001; Hansen and Lofstrom, 2003; Sarvimäki, 2011). Under the first scenario, public assistance can be seen as a mechanism that facilitates assimilation of migrants until the moment their receipt of transfers becomes comparable to that of natives. Under the second scenario, migrants have initially no access to public assistance programmes, either because they are not eligible or because they lack knowledge about eligibility rules, but their participation in them gradually increases as they assimilate into the host society.

In the present study, we empirically address the question of assimilation through participation in public assistance programmes. We do so by merging the IPO data with data on date of arrival in the Netherlands from the Dutch Immigration and Naturalisation Service. It is important to remind here that we observe migrants only for the period between 2004 until 2014 but that they may have arrived already before that period. The date of arrival is only available as long as a migrant arrived in the Netherlands in 1995 or later. Out of the 9,680 EU (3,693 CEE) migrants we observe, 6,124 (3,193) have a date of arrival registered in 1995 or later.[15] Migrants who arrived before 1995 are excluded from this part of the analysis.

As Figure 1 shows, the stock of EU migrants in the Netherlands has been increasing considerably since 2004, a phenomenon that we also observe in our sample. Panel (a) in Figure 2 shows

[14]Note that that these are raw differences. Table 1 shows that EU migrants are less likely to have children. Taking this into account, the small raw difference in receipt of child benefits shown in Table 3 would imply that EU migrants are actually more likely to receive child benefits.

[15]The date of arrival provided by the Immigration and Naturalisation Service is the date in which a migrant registered on his/her municipality of residence to obtain a social security number. It is a legal requirement to have a social security number after four month of residence. This number is required for basic transactions such as renting a property, becoming employed, or acquiring a health insurance.

the distribution of the year of arrival for all EU migrants in our sample. We see a clear increase in the yearly inflow since 1995 that plateaus in 2008 and then slowly decreases. This plateau is probably related to the prolonged economic crisis that started in 2008. In addition we observe clear increases in the inflow in 2004 and 2007, the two years in which the CEE countries entered the EU. Panel (b) in Figure 2 shows how that translates into a variable indicating the years since arrival. For this variable, we assign a value of one to the year in which a migrant arrived in the Netherlands, a value of two to the second year, and so forth until a maximum of 20, *i.e.* the number of years between 1995 and 2014. In Panel (b) all individual-year observations in the sample corresponding to migrants are pooled together, showing that the most popular value is one year since arrival. This is followed by progressively lower frequencies up to the maximum value of 20 years since arrival.

3 Empirical Strategy

To further investigate the differences between Dutch natives and EU migrants in terms of their receipt of public transfers, we estimate the equations

$$receipt_{it} = \beta_1 origin_i + \mathbf{X}'_{it}\boldsymbol{\beta}_2 + \epsilon_{it} \tag{1}$$

and

$$amount_{it} = \gamma_1 origin_i + \mathbf{X}'_{it}\boldsymbol{\gamma}_2 + \upsilon_{it} \quad \text{if} \quad receipt_{it} = 1, \tag{2}$$

where $receipt_{it}$ is a dummy variable that takes value one if individual i receives a particular transfer at year t; $amount_{it}$ measures the amount received in that particular transfer; $origin_{it}$ is a dummy variable that takes value one if an individual is an EU migrant; $\mathbf{X}_{it}$ is a vector of controls that includes all of the variables listed in Tables 1 and 2 (except for labour market status) plus a constant, a set of regional dummies, and a set of year dummies; and ϵ_{it} and υ_{it} are the corresponding error terms. Equation (1) is a linear probability model that we employ to estimate the probability of receiving public transfers, while Equation (2) models the amount received conditional on receipt. It is important to estimate the receipt of public transfers and the amount received because even if EU migrants and Dutch natives have the same share of receipt of a particular transfer, the amounts received can still differ significantly.

In our baseline analysis we estimate Equations (1) and (2) for total transfers as well for contributory and non-contributory transfers. We do so by using OLS with standard errors clustered at the household level.[16] As a first extension of the baseline analysis, we re-estimate Equations (1) and (2) for all of the disaggregated transfer categories provided in Table 3. As a second extension, we substitute the $origin_{it}$ variable by $\mathbf{YSA}_{it}$, *i.e.* a vector containing a

[16]For the probability of receipt we also estimate probit and logit models. The results are not significantly different from those of a linear probability model. For concision, we report only the results of the linear probability model. In addition, when we estimate Equation (2) without the $receipt_{it} = 1$ condition, results do not significantly differ between linear and tobit estimation. Simultaneous estimation via SUR (seemingly unrelated regressions) reveals a significant correlation between the error terms of the two equations but does not significantly alter the standard errors.

set of dummy variables indicating the number of years since arrival in the Netherlands. Dutch natives are used as the reference category in this set of dummies. Therefore, this method allows estimating the difference between migrants and natives for each year since arrival. In this way, we test whether migrants assimilate out of or into receipt of public transfers. Even though there is longitudinal variation in $\mathbf{YSA}_{it}$, it is not possible to apply fixed effect estimation due to the reference category being a fixed condition over time. However, by including a set of year dummies in the specification we control for calendar year effects as well as for effects specific to each of arrival. That is because migrants that have been a determined number of years in the Netherlands at a particular calendar year belong to the same cohort of arrival. Therefore we are exploiting variation in receipt of public transfers between natives and migrants belonging to particular cohorts of arrival.

As a third extension of our baseline results, we use an Oaxaca-Blinder decomposition to measure the composition effects in terms of all observables included in $\mathbf{X}_{it}$. This method, originally proposed by Blinder (1973) and Oaxaca (1973), allows decomposing the differences between natives and migrants in a part explained by differences in observables and an unexplained part. Furthermore, it allows to measure the contribution of each covariate to each of these two parts. In doing so, we follow Huber and Oberdabernig (2016) and Jakubiak (2020). Both of these two studies apply an Oaxaca-Blinder decomposition to explain differences between natives and migrants in the use of social assistance employing survey data at the European level.

The Oaxaca-Blinder decomposition consists of two steps. First, the estimation of the baseline equation separately for migrants and natives and, second, the subtraction in expected value of the equation for the latter from the equation for the former. In their simplest version, these two steps can be expressed as

$$Y_{sit} = \begin{cases} \mathbf{X}'_{mit}\boldsymbol{\beta}_m + \mu_{mit}, & \text{if } s = m \\ \mathbf{X}'_{nit}\boldsymbol{\beta}_n + \mu_{nit}, & \text{if } s = n \end{cases} \tag{3}$$

and

$$E(Y_{mit}) - E(Y_{nit}) = E(\mathbf{X}_{mit})'\boldsymbol{\beta}_m - E(\mathbf{X}_{nit})'\boldsymbol{\beta}_n, \tag{4}$$

where Y_{sit} ($s \in \{m, n\}$) is the outcome variable, *i.e.* either $receipt_{sit}$ or $amount_{sit}$, for either migrants (m) or natives (n), $\mathbf{X}_{sit}$ is the vector observables for each of the two groups, and $\boldsymbol{\beta}_s$ is a vector containing all parameter estimates for each of the two regression equations. Adding and subtracting $E(\mathbf{X}_{mit})'\boldsymbol{\beta}_n$, Equation (4) can be rewritten as

$$E(Y_{mit}) - E(Y_{nit}) = \left[E(\mathbf{X}_{mit}) - E(\mathbf{X}_{nit})\right]'\boldsymbol{\beta}_n + E(\mathbf{X}_{mit})'\left(\boldsymbol{\beta}_m - \boldsymbol{\beta}_n\right). \tag{5}$$

The first summand on the right hand side of (5) captures the part of the difference in the expected outcome corresponding to the differences in observables weighted by the coefficients of the equation for natives. The second summand captures the part of the difference in the expected outcome that corresponds to the differences in coefficients weighted by the expected

value of the observables for migrants. The first summand is usually referred to as the explained part of the difference, since it captures the part that is explained by the observables. The second summand is usually referred to as the unexplained part of the difference, since it captures the part that is explained by differences in unobservables.[17]

A problem with the expression in Equation (5) is that, by using the vector of coefficients for natives as a weight for the effect of the differences in observables, it essentially assumes that the coefficients are the same for both groups. For this reason, we deviate from Huber and Oberdabernig (2016) and Jakubiak (2020) and apply a variation of the decomposition proposed by Oaxaca and Ransom (1994) and applied by Fortin (2006). This variation consists of adding and subtracting $[E(\mathbf{X}_{mit}) - E(\mathbf{X}_{nit})]' \boldsymbol{\beta}_p$, instead of just $E(\mathbf{X}_{mit})'\boldsymbol{\beta}_n$, in Equation (4) to get

$$\begin{aligned} E(Y_{mit}) - E(Y_{nit}) = {} & [E(\mathbf{X}_{mit}) - E(\mathbf{X}_{nit})]' \boldsymbol{\beta}_p \\ & + E(\mathbf{X}_{mit})' \left(\boldsymbol{\beta}_m - \boldsymbol{\beta}_p\right) - E(\mathbf{X}_{nit})' \left(\boldsymbol{\beta}_n - \boldsymbol{\beta}_p\right), \end{aligned} \tag{6}$$

where $\boldsymbol{\beta}_p$ is the vector of coefficients of a pooled model that includes both migrants and natives and that features in the specification a dummy indicating whether an individual is a migrant. Since Equations (1) and (2) provide the pooled models, in Equation (6) we can set $\boldsymbol{\beta}_p = \boldsymbol{\beta}_2$ for the probability of receiving transfers and $\boldsymbol{\beta}_p = \boldsymbol{\gamma}_2$ for the amount received. This has the advantage of creating a direct connection between the baseline Equations (1) and (2) and the decomposition in Equation (6). As shown in the second line of Equation (6), a side effect of that is that the unexplained part of the differences in the outcome is split into two components. However, we are only interested in separating the explained part from the unexplained part and investigating the composition effects in terms of each one of the observables. Therefore, in the results section we decompose the explained and unexplained parts and focus on the contribution of each variable in the model only to the explained part.

4 Results

4.1 Baseline

The results of the baseline analysis are provided in Table 4, which shows results for total transfers received, Panel (a), as well as for the subtotals of both contributory, Panel (b), and non-contributory transfers, Panel (c). As indicated by Equations (1) and (2) in each case we use two dependent variables: a dummy variable indicating transfer receipt and a continuous variable measuring the amount transferred conditional on receipt. For each category, we regress the dependent variable on a dummy indicating whether an individual is an EU migrant, Columns (1) and (2), and, separately, on a dummy indicating whether an individual is an EU migrant from a CEE country, Columns (3) and (4). In addition, we always perform regressions with and without

[17] It is common in the literature to refer to the second summand in Equation (4) as capturing the effect of discrimination. However, besides potential discrimination it also subsumes the effects of all group differences in unobserved factors.

control variables to investigate the presence of composition effects. Naturally, the coefficients of the regressions without control variables coincide with the differences in the corresponding columns in Table 3.

Panel (a) in Table 4 shows that, for both groups considered, the difference in the probability of receiving public transfers *vis-à-vis* Dutch natives decreases considerable when we control for observables. That is especially the case when only CEE migrants are considered: for EU migrants the difference changes from -6.6 to -3.4 percentage points once we control for observables, while for EU-CEE migrants it goes from -7.2 to -2.4 percentage points. This means that, even after controlling for the characteristics described in Tables 1 and 2 plus time and province effects, both groups are still less likely to receive transfers. In addition, Columns (2) and (4) show that both groups receive around 200 to 300 Euros less conditional on receipt after controlling for observables, *i.e.* about 5% of the average transfer received in the sample. In this case, adding controls increases the difference for EU migrants, while it diminishes it considerably in the case of EU-CEE migrants.

Panel (b) shows that, when considering only contributory transfers, migrants are actually more likely to receive them after controlling for observables. For EU migrants the difference remains very close to zero and only statistically significant at the 5% level. However, the change in the difference is substantial for EU-CEE migrants, going from -8.6 to 2.5. This higher probability of receiving contributory transfers contrasts with the fact that, even after adding control variables to the analysis, both groups receive considerably lower amounts compared to natives. As indicated in Section 2.2, this is likely due to the fact that the amount individuals are entitled to receive in this transfers increases with the years of contributions via premiums paid.

Regarding non-contributory transfers, Panel (c) shows that, after controlling for observables, migrants are less likely to receive them. In the case of EU-CEE migrants, adding observables makes the difference larger. The raw differences in amounts received in non-contributory transfers indicate that EU migrants receive more than Dutch natives. This is especially the case when we consider only EU-CEE migrants. However, for both groups the difference becomes not significantly different from zero after observables are accounted for.

4.2 Disaggregated Transfers

Tables 5 and 6 provide the results for the disaggregated categories within contributory and non-contributory transfers respectively. Table 5 shows that the higher probability for migrants to receive contributory transfers clearly comes from their higher probability of receiving unemployment benefits. Panel (c) in Table 5 shows that both EU and EU-CEE migrants are significantly more likely to receive unemployment benefit, even after controlling for observables.[18] Interestingly, Panel (a) in Table 5 shows that, both for EU and EU-CEE migrants, the raw difference in

[18]This is likely due to the fact that, as shown by Boffi (2020), migrants are more likely to have temporary contracts in the Netherlands.

receipt of state pension, which is especially large for EU-CEE migrants, is almost fully explained by the observables. This is very likely the case due to the inclusion of age among the observables. Furthermore, Panel (b) of Table 6 shows only very small and non-significant differences in receipt of disability and sickness benefits. Regarding the amounts received, we observe large negative differences for all categories considered in Table 6. Relative to the average transfer in the sample, these differences are especially large in the case of unemployment benefits.

Table 6 shows that migrants are not more likely to receive social assistance once controlling for observables, *i.e.* for both groups the difference *vis-à-vis* natives becomes not significantly different from zero in Columns (2) and (4) of Panel (b). This result is especially interesting since the receipt of social assistance benefits by migrants is often the most politically sensitive. In addition, Panel (b) shows lower probability for migrants to receive child benefits, even though the discrepancy with natives remains very small compared to the average share of receipt in the sample. Panel (c) shows that EU migrants are less likely to receive health benefits, but the sign is reversed if consider only those from CEE countries; while Panels (d) and (e) show considerably large differences in the receipt of study benefits (negative difference) and housing benefits (positive difference). Regarding the amounts received, immigrants receive considerably less in social assistance benefits even after controlling for observables. For all other transfers, immigrants receive higher or similar amounts compared to natives, even though the differences are often relatively small.

4.3 Effects by Year Since Arrival

Figures 3 and 4 expand the baseline results by providing the same results as in Table 4 but differentiated by the years since arrival in the Netherlands.[19] Figure 3 provides the effects for the probability of receiving and the amount received in total, contributory, and non-contributory transfers for EU migrants, while Figure 4 provides the same results but only for migrants from CEE countries. In all cases, the black series provide the results without including control variables in the specification, while the red series provide the results obtained when including them. As in the baseline analysis, the reference category are always Dutch natives. All point estimates are provided with 95% confidence intervals.

Panel (a) in Figure 3 shows that, when not controlling for observables, we find a steady increase from a much lower probability for EU migrants to receive public transfers compared to natives (about 42 percentage points lower) to a probability that is about five percentage points larger. However, when we do control for observables the curve flattens towards zero: the initial difference is still negative but considerably smaller in absolute terms, and from the seventh year onward it becomes indistinguishable from zero. For the amount received, Panel (b) shows also a negative difference that becomes closer to zero the longer migrants are in the Netherlands.

[19] Panel (b) in 2 shows that we have values of up to 20 years for year since arrival. However, the number of observations at the tail end of the distribution becomes very small, which causes the estimates for the highest values of this variable in Figures 3 and 4 to become very imprecise. For that reason, in Figures 3 and 4 we only provide the estimates for up to 15 years since arrival.

In that case, the black series shows a difference that shrinks over time but remains negative through all years considered, while the red series shows an effect that, as in Panel (a), becomes indistinguishable from zero after seven years. Panels (a) and (b) in Figure 4 show a similar picture for EU-CEE migrants. However, in that case, the difference converge faster to zero and there are somewhat smaller differences between the black and the red series.

Panels (c) to (f) in Figure 3 show how the trends in Panels (a) and (b) look like when decomposed into contributory and non-contributory transfers. In both cases we still see an increasing trend that eventually encompasses the zero (or gets close to it) once observables are included in the specification. When considering non-contributory transfers and not controlling for observables, differences in receipt and amounts received become positive after the fifth year. However, controlling for observables closes that positive gap bringing the effect eventually to values not significantly different from zero. Again, we observe a similar picture with somewhat less clear differences between the red and the black series when focusing only on EU-CEE migrants in Figure 4. Interestingly, the assimilation trajectory in receipt of non-contributory transfers takes around five years to consolidate. As explained in the introduction, EU migrants may lose their residence permit if they receive social assistance within their first five years in the Netherlands. However, results in Panels (e) and (f) of Figures 3 and 4 remain very similar if we exclude social assistance from the total of non-contributory transfers.

Overall, both Figures 3 and 4 show an upward tendency over time spent in the Netherlands country in public transfer receipt and amounts received by migrants compared to natives. This tendency is somewhat less clear when looking at contributory transfers. However, in all cases this trend converges towards zero once composition effects are taken into account by including control variables in the specification. This indicates that, initially, migrants make lower use of public transfers and then assimilate into transfer receipt by reaching levels that are undistinguishable compared to those of natives.[20] Note that the results in Figures 3 and 4 use both longitudinal as well as cross sectional variation. As explained in Section 3, it is not possible to obtain results exploiting only longitudinal variation since the reference category for estimating the effect of years since arrival is fixed over time. However, the results we present do control by effects specific to each cohort of arrival by means of the inclusion of a set of year dummies in the specification.

These results contrast with those by Hansen and Lofstrom (2003) and Sarvimäki (2011), who find the opposite tendency.[21] Compared to Sweden and Finland, the Netherlands has a similarly generous welfare state. Therefore, the difference in results is most likely due to the fact that we consider EU migrants, while these two studies consider non-western migrants and only look at social assistance. The stark difference in results underscores the importance of considering these groups of migrants separately, as well as the need to consider public transfers other than

[20] This effect could be driven by migrants who do not receive benefits leaving the country after a few years. Out of the 9,680 migrants in the sample, 2,727 leave at some point according the data from the Immigration and Naturalisation Service. When rerunning our analysis excluding migrants that leave, the difference between the results we obtain and those in Figures 3 and 4 is negligible.

[21] Both studies find that initially migrants show higher use of social assistance and then gradually assimilate out of welfare. In both cases, they show that this process takes rather long, *i.e.* 15 to 20 years.

social assistance.

4.4 Oaxaca-Blinder Decomposition

Results in Tables 4 to 6 and Figures 3 and 4 show relevant composition effects in terms of the background characteristics described in Section 2.1. In most occasions, these composition effects go in the direction of making differences between migrants and natives closer to zero. In addition, Figures 3 and 4 show that the inclusion of control variables eventually makes the differences indistinguishable from zero once migrants have spent no more than six years in the Netherlands. In this section we provide further insight into these composition effects by reporting the results of the Oaxaca-Blinder decomposition as outlined in Equation (6). As explained in Section 3, this method allows us to investigate the contribution of each background characteristic to the explained part of the differences between migrants and natives.

Since the Oaxaca-Blinder decomposition allows measuring the contribution of groups of variables, we group several of the background characteristics together for this part of the analysis and classify them in three groups. The first group includes individual level variables (*i.e.* age, gender, and household position), the second includes household level variables (*i.e.* household structure, marital status of the household head, and children),[22] and the third includes the regional and time variables (*i.e.*, level of urbanization, province, and year effects). The contribution of all these variables is captured by the first summand on the right hand side of Equation (6). The other two summands in Equation (6) capture the unexplained part of the difference in the outcome. We do not report the contribution of each background characteristics to the unexplained part of the difference since that is beyond the scope of our analysis.

Table 7 provides the decomposition for the regressions in Panel (a) of Table 4, while Tables 8 and 9 respectively provide the decompositions for the regressions in Panels (b) and (c) of that same table. The first two rows in Tables 7 to 9 show the raw differences between migrants and natives and the part that is explained by the background characteristics. Since we use the estimates of the pooled models in Equation (6), the raw differences correspond with the estimates without control variables in Table 4, while subtracting the second raw from the first in Tables 7 to 9 yields the coefficient estimates when accounting for observables. The first two rows are followed underneath by the contribution of each group of variables to the explained part of the difference. The addition of the contributions of each (group of) variable(s) equals the total of the part of the difference that is explained.

The first column of Table 7 shows that the largest contributors to the explained portion of the difference between EU migrants and Dutch natives in terms of receipt of total transfers are household structure, and, especially, the presence and the number of children in the household. The position in the household also contributes substantially, but this contribution has the opposite sign compared to the raw difference in the first raw. That means that this particular

[22] *Household structure* designates here a group of variables combining the effects of both the variable called household structure in Table 2 and the household size variable, while *children* combines here the effects of both the presence and the number of children.

variable contributes towards migrants being more likely to receive transfers compared to natives. This effect is outweighed by the variables displaying a negative contribution to the difference. Regarding the amount received in total transfers, the second row of Column (2) of Table 7 shows that, overall, the control variables positively contribute towards the raw difference.[23] In this case, we see that the variables with an important contribution with respect to the size of the explained part of the difference are the household position and the marital status of the household head.

The first two rows in Columns (3) and (4) in Table 7 show that, for EU-CEE migrants, the control variables have a substantial negative contribution to the raw differences in total transfers *vis-à-vis* natives. That is the case for both the probability of receipt and the amount received. In the former case, age and children are the largest contributors to the explained part of the difference, while in the latter case, household structure and especially age are most important relative to the size of the explained part of the difference. All columns of Table 7 show that gender as well as the region and time variables do not substantially contribute explaining the size of the observed differences.

Table 8 shows that when focusing on contributory transfers and the total of EU migrants, the background variables that we consider do not play a very important role in explaining the observed raw differences. However, they do play a much more substantial role when we focus on EU migrants from CEE countries only. In that case we see again age appearing as the most important factor. That is likely the case because, as shown in Table 1, individuals from EU-CEE are much younger on average and thus less likely to receive a state pension. In contrast, Table 9 shows that, in the case of non-contributory transfers, household position and marital status are more important compared to the results in Table 8. In addition, we observe in this case an important contribution of differences in the presence and number of children, which make migrants less likely to receive transfers and receiving lower transfer amounts. Once again, Table 9 shows age playing an important role. However, in this case differences in age make migrants more likely to receive transfers and to receive larger amounts. That is very likely the case because younger adults are more likely to be eligible for non-contributory benefits since they are more likely to have small children, they probably have built less eligibility for contributory benefits, and are not eligible for the state pension.

5 Conclusions

In this study we contribute to the literature on public transfers receipt by migrants and assimilation by focusing on EU migrants in the Netherlands. We do so by employing high quality administrative panel data containing very accurate and comprehensive information on all public transfers available for a long period of time. The longitudinal dimension of the data allows studying how receipt of public transfers by EU migrants changes over time spent in the Nether-

[23] As shown in Table 4, this means that the difference between migrants and natives is in this case even larger once we include the background characteristics as control variables.

lands. Furthermore, the availability of a rich set of background characteristics allows us to conduct a detailed study of composition effects using an Oaxaca-Blinder decomposition. Based on the baseline empirical results, we can conclude that, between 2004 and 2014, free entry from other EU countries does not increase the share of individuals that receive public transfers in the Netherlands. In addition, it does not increase the average transfer received conditional on receipt. These main results also hold when we focus only on EU migrants from Central and Eastern European (CEE) countries within the EU.

The results we obtain show important differences in the size and sign of the estimated effects depending on whether contributory or non-contributory transfers are considered. For instance, we find that, once controlling for observables, EU migrants are more likely to receive contributory transfers than Dutch natives, which is mostly due to their larger probability of receiving unemployment benefits. This is likely related to the fact that, as shown by Boffi (2020), in the Netherlands migrants are more likely to be in temporary employment than natives. However, conditional on receipt, EU migrants receive comparatively less in contributory transfers, which is likely due to lower incomes and less years of employment in the Netherlands. Furthermore, EU migrants appear to be less likely to receive non-contributory transfers, but they receive larger amounts conditional on receipt. Our baseline results contrast with those by Zorlu (2013), who, also using administrative data for the Netherlands for the year 2005, finds that migrants receive public transfers more often than natives. However, Zorlu (2013) focuses only on receipt by non-EU migrants of unemployment benefit, disability benefits, and social assistance.

As an addition to the baseline results we find that during the first spent years in the Netherlands EU migrants are especially less likely to receive public transfers compared to natives. However, their receipt of transfers and the amount received gradually increase relative to natives over time. When controlling for observables, we find that EU migrants eventually catch up with natives in a process that in most cases does not take longer than seven to eight years. These results indicate that EU migrants assimilate into receipt of public transfers over time, which contrasts with the results by Hansen and Lofstrom (2003) and Sarvimäki (2011). Both these studies find that, for Sweden and Finland respectively, migrants are more likely than natives to receive transfers upon arrival and then undergo a long process of assimilation out of welfare. This difference is very likely due to the fact that these two studies focus on social assistance receipt by non-western migrants, while we look at a much more comprehensive set of transfers and focus on EU migrants. This stark difference in results indicates how important it is to consider these groups of migrants separately.

Both the baseline analysis and the study of the effects by year of arrival indicate the presence of important composition effects in terms of the background characteristics that we include as control variables. An analysis of these composition effects by means of an Oaxaca-Blinder decomposition shows that it is mostly differences in age and variables related to family composition that explain the discrepancies we observe between EU migrants and Dutch natives. In case of contributory transfers, age plays an important role in explaining why EU migrants

are less likely to receive them and why they receive lower amounts when we do not include control variables in the analysis. That is most probably the case because these migrants are on average younger which makes them less likely to receive a state pension. That is especially the case for EU migrants from CEE countries. Furthermore, family composition variables, specially household position and marital status, play a relevant role in determining differences in the receipt of non-contributory transfers. Having less children importantly contributes to EU migrants being less likely to receive non-contributory transfers. In this case age has the opposite effect compared to the case of contributory transfers indicating that younger adults are more likely to receive non-contributory transfers. That is probably because they have built less rights to receive contributory transfers and they have not yet reached the state pension age.

The pattern of assimilation into receipt of pubic transfers that we find is likely due to several reasons. Regarding contributory transfers, it takes time to build eligibility for them and the amount received usually depends on years of work, which can partially explain the results we find. Regarding non-contributory transfers, which is where the assimilation pattern is most clear, there are two potential explanations. First, as explained by Fernandes (2016) the EU legal framework ensures that nationals from other EU Member States are treated equally with nationals, while also giving States the right to protect themselves from welfare tourism. In this context, the Dutch government reserves the right to end the legal residence of EU migrants who receive social assistance benefits while not being economically active during the first five years of legal residence. Therefore, the fear of losing legal residence could mean that they do not apply for social assistance during their first years in the country. Second, it may be that EU migrants do not immediately have the resources necessary to learn about eligibility rules for public benefits. As argued by Borjas and Hilton (1996), welfare state programmes can have complicated eligibility rules and migrants may lack sufficient knowledge about them upon arrival. Over time, access to local and immigrant networks may provide access to this information, making migrants gradually more likely to receive public transfers eventually reaching levels similar to natives.

Overall, the results that we provide indicate that the policies of free movement of individuals within the EU do not rise average expenditure in public transfers in the Netherlands. This is the case even when the Netherlands is a common destination country within the EU that has seen a considerable increase in the inflow of EU migrants since the very early years of the 21st century. An interesting aspect of the baseline results is that EU migrants are less likely to receive non-contributory transfers even though they are much more likely, as shown in Table 1, to be not active in the labour market. That is especially the case for EU-CEE migrants. This suggests that, at least during their first years in the country, they are at a high risk of poverty and exclusion and/or that they are more likely to be involved in the shadow economy. Further work is needed to clarify this matter as well as to bring further understanding on the assimilation mechanism behind the results that we find.

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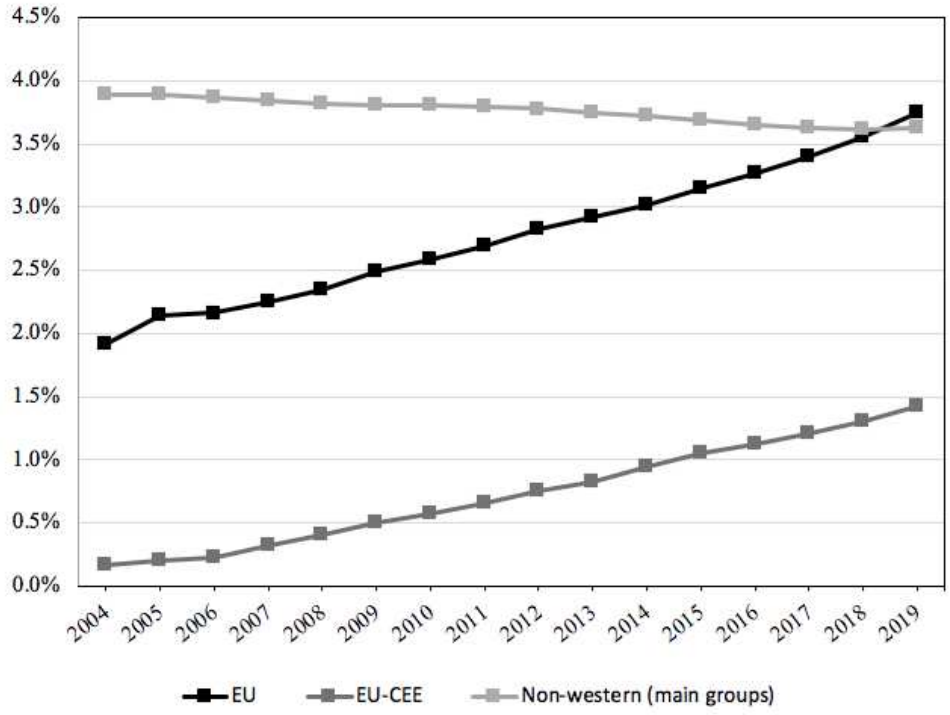
Tables and Figures

Figure 1: Share of EU Migrants out of the Total Dutch Population



Source: Statistics Netherlands. *Notes:* The statistics in this figure are based on the total Dutch population. CEE stands for Central and Eastern Europe. Non-western migrants include individuals from the four historically most important migrant groups in the Netherlands. These are individuals from Morocco, Turkey, Surinam, and the group of countries formerly known as the Netherlands Antilles (*i.e.*, Aruba, Bonaire, Curaçao, Sint Maarten, Sint Eustatius, and Saba). Individuals from countries outside the EU that do not belong to these four groups represent a stable share 2% to 3% throughout the time period considered. Given that we do not have information on nationality, we define EU and Non-Western migrants by their country of birth. For more details on how we identify the origin of individuals, see main text.

Table 1: Summary Statistics - Individual Level

	NL	EU	EU-CEE
Age	46.68	44.48	36.98
Female	50.02%	56.22%	63.63%
Position in the household			
Household head (single)	12.41%	19.38%	22.62%
Household head (with partner)	38.61%	31.24%	24.63%
Partner (married)	30.82%	29.75%	28.19%
Partner (not married)	6.86%	11.44%	14.46%
Adult child	9.42%	3.71%	3.47%
Other	1.89%	4.48%	6.62%
Labour market status			
Employed	64.92%	58.96%	64.32%
Unemployed	1.17%	1.50%	1.60%
Disabled	2.96%	3.28%	2.04%
Retired	17.72%	14.79%	4.53%
Student	5.48%	2.54%	2.60%
Not active	7.75%	18.94%	24.91%

Notes: All percentages provide shares out of the total in each demographic group. All non-percentage statistics are group averages. The IPO identifies the household head as the highest earning person in the household, *i.e.* the main bread winner. Partner stands for partner of the household head.

Table 2: Summary Statistics - Household Level

	NL	EU	EU-CEE
Household structure			
Couple	29.24%	27.40%	24.97%
Couple with child(ren)	44.10%	33.74%	29.16%
Couple with other member(s)	1.21%	1.71%	1.61%
Couple with child(ren) and other member(s)	1.36%	2.30%	3.36%
One person household	16.06%	22.82%	24.75%
Single parent with child(ren)	5.50%	7.24%	8.42%
Single parent with child(ren) and other member(s)	0.15%	0.44%	0.96%
Other multiperson household	1.06%	2.97%	5.63%
Institutionalized household	1.32%	1.38%	1.13%
Marital status household head			
Married	62.62%	49.21%	42.16%
Registered partnership	13.97%	17.29%	17.56%
Single (never married)	10.50%	17.34%	27.45%
Single (divorced)	6.64%	9.55%	10.36%
Single (widowed)	6.27%	6.62%	2.47%
Presence of children	49.34%	39.86%	34.75%
Number of children	0.97	0.71	0.55
Household size	2.84	2.58	2.51
Urban area	86.86%	91.50%	92.74%

Notes: All percentages provide shares out of the total in each demographic group. All non-percentage statistics are group averages. Households are classified into each group according with the country of birth of the household head. The IPO identifies the household head as the highest earning person in the household, *i.e.* the main bread winner. An institutionalized household is a household in which all individuals reside in an institution, *e.g.* a nursing home.

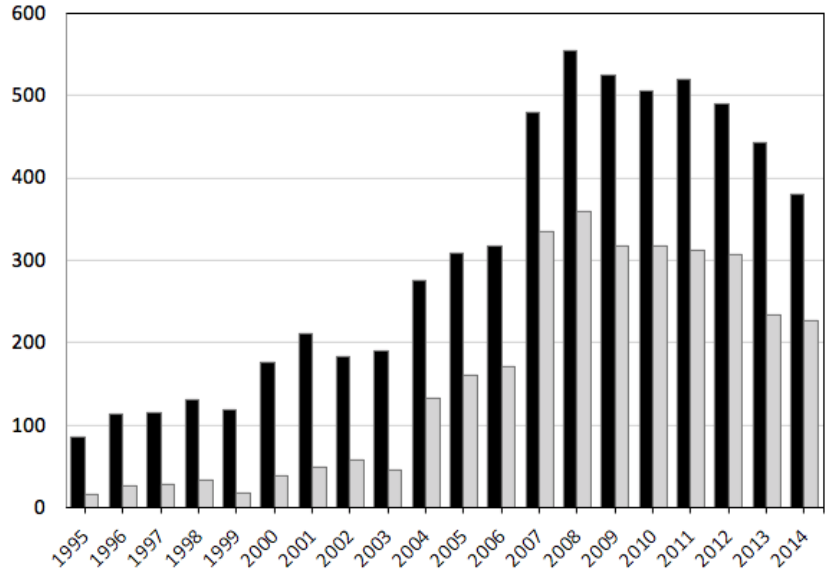
Table 3: Summary Statistics - Transfer Receipt

		NL	EU	EU-CEE
Total Transfers	Share	76.48%	69.91%	69.30%
	Amount	4,903	4,852	3,623
	Share of Income	24.89%	26.98%	25.61%
Contributory Transfers				
State Pension	Share	15.93%	13.10%	3.87%
	Amount	10,107	9,056	8,700
Disability and Sickness Benefits	Share	5.43%	6.08%	5.34%
	Amount	11,131	10,253	6,613
Unemployment Benefit	Share	4.21%	5.82%	8.73%
	Amount	7,894	6,738	4,810
Other Contributory	Share	0.93%	0.76%	0.39%
	Amount	9,740	10,239	5,901
Total Contributory	Share	25.02%	24.00%	16.43%
	Amount	10,540	9,498	6,896
	Share of Income	14.16%	12.64%	6.38%
Non-Contributory Transfers				
Social Assistance	Share	2.95%	4.17%	5.87%
	Amount	8,667	7,093	6,543
Child Benefits	Share	41.38%	38.74%	41.17%
	Amount	1,068	1,037	1,090
Health Benefits	Share	26.32%	23.83%	32.32%
	Amount	739	785	809
Housing Benefits	Share	6.39%	10.14%	13.50%
	Amount	1,397	1,465	1,492
Study Benefits	Share	7.21%	3.65%	3.17%
	Amount	1,819	2,195	2,580
Total Non-Contributory	Share	64.68%	59.40%	64.62%
	Amount	1,721	1,874	2,132
	Share of Income	10.87%	14.52%	19.37%

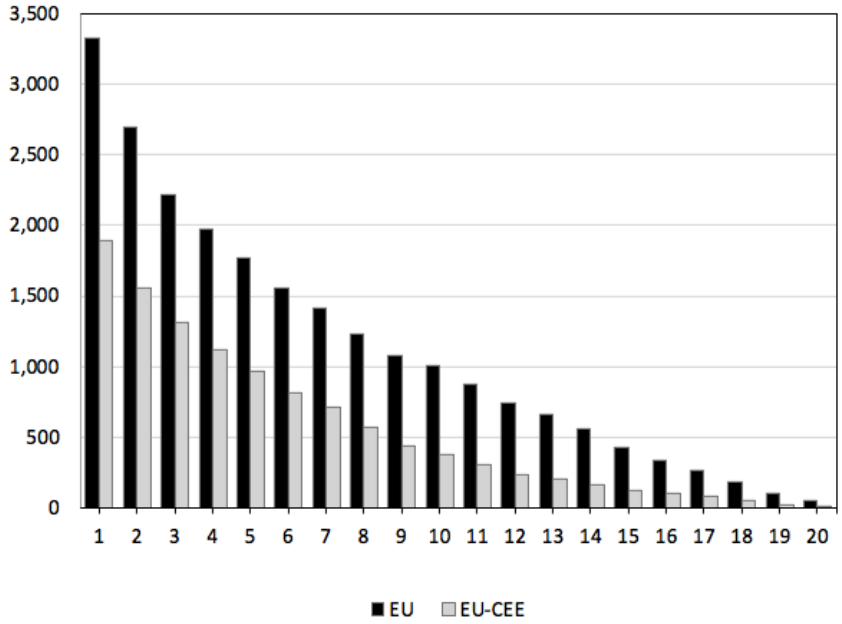
Notes: Shares refer to the percentage of individuals within a group that receive a particular transfer. Average amounts are provided in Euros and are conditional on receipt. Share of income refers to the average share out of total personal gross income.

Figure 2: Arrival of EU and EU-CEE Migrants into the Netherlands

(a) Year of Arrival



(b) Years Since Arrival



Notes: Both in Panels (a) and (b) the vertical axis measures the frequency in the sample. In Panel (a), each migrant contributes only one observation corresponding to his/her year of arrival. In Panel (b), all individual-year observations in the sample corresponding to migrants are pooled together. For more details, see main text.

Table 4: Results - Baseline

	EU		EU-CEE	
	(1)	(2)	(3)	(4)
(a) Total Transfers				
Transfer receipt	-0.066***	-0.034***	-0.072***	-0.024***
	(0.014)	(0.005)	(0.029)	(0.007)
Amount received	-50.275	-194.670***	-1,280.283***	-281.251**
	(120.792)	(66.412)	(174.805)	(112.984)
Controls	No	Yes	No	Yes
Share receipt	0.763	0.763	0.764	0.764
Average amount	4,902.030	4,902.030	4,893.591	4,893.591
(b) Contributory				
Transfer receipt	-0.010	0.007**	-0.086***	0.025***
	(0.010)	(0.003)	(0.010)	(0.005)
Amount received	-1,041.677***	-1,068.401***	-3,643.854***	-2,431.538***
	(147.136)	(109.336)	(302.704)	(198.645)
Controls	No	Yes	No	Yes
Share receipt	0.250	0.250	0.249	0.249
Average amount	10,510.840	10,510.840	10,519.360	10,519.360
(c) Non-Contributory				
Transfer receipt	-0.053***	-0.031***	-0.001	-0.021***
	(0.011)	(0.005)	(0.019)	(0.007)
Amount received	153.030***	41.621	410.908***	121.946
	(48.057)	(43.550)	(103.461)	(96.309)
Controls	No	Yes	No	Yes
Share receipt	0.645	0.645	0.647	0.647
Average amount	1,724.968	1,724.968	1,724.379	1,724.379

Notes: Standard errors clustered at the household level are provided in parenthesis. Regressions for the amount received and the average amounts provided are conditional on receipt. Regressions for EU migrants are estimated with a sample of 1,644,890 observations, while regressions for EU-CEE migrants are estimated with a sample of 1,611,248 observations. *significant at the 10% level, **significant at the 5% level, ***significant at the 1% level.

Table 5: Results - Contributory Transfers

	EU		EU-CEE	
	(1)	(2)	(3)	(4)
(a) State Pension				
Transfer receipt	-0.028***	-0.005***	-0.121***	-0.002***
	(0.007)	(0.001)	(0.006)	(0.000)
Amount received	-1,050.777***	-1,278.733***	-1,406.811***	-1,712.732***
	(109.371)	(90.333)	(428.768)	(356.297)
Controls	No	Yes	No	Yes
Share receipt	0.159	0.159	0.158	0.158
Average amount	10,081.770	10,081.770	10,101.790	10,101.790
(b) Disability and Sickness Benefits				
Transfer receipt	0.007**	0.004*	-0.001	0.000
	(0.003)	(0.003)	(0.004)	(0.003)
Amount received	-878.114**	-446.849	-4,518.273***	-2,100.173***
	(355.248)	(285.148)	(525.998)	(406.202)
Controls	No	Yes	No	Yes
Share receipt	0.054	0.054	0.054	0.054
Average amount	11,102.750	11,102.750	11,093.450	11,093.450
(c) Unemployment Benefits				
Transfer receipt	0.016***	0.0122***	0.045***	0.034***
	(0.002)	(0.002)	(0.004)	(0.004)
Amount received	-1,156.369***	-955.994***	-3,083.498***	-1,899.792***
	(237.144)	(169.251)	(267.833)	(204.824)
Controls	No	Yes	No	Yes
Share receipt	0.043	0.043	0.043	0.043
Average amount	7,848.627	7,848.627	7,840.714	7,840.714
(d) Other				
Transfer receipt	-0.002*	-0.002**	-0.005***	-0.003***
	(0.000)	(0.000)	(0.000)	(0.000)
Amount received	498,684	766.926	-3,838.674***	-2,453.126***
	(1,283.744)	(1,258.780)	(742.664)	(671.181)
Controls	No	Yes	No	Yes
Share receipt	0.009	0.009	0.009	0.009
Average amount	9,751.746	9,751.746	9,726.284	9,726.284

Notes: Standard errors clustered at the household level are provided in parenthesis. Regressions for the amount received and the average amounts provided are conditional on receipt. Regressions for EU migrants are estimated with a sample of 1,644,890 observations, while regressions for EU-CEE migrants are estimated with a sample of 1,611,248 observations. *significant at the 10% level, **significant at the 5% level, ***significant at the 1% level.

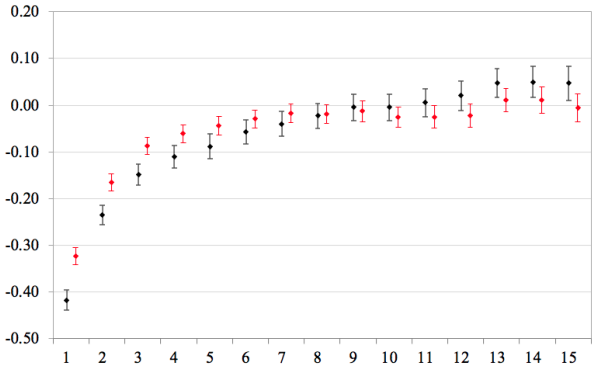
Table 6: Results - Non-Contributory Transfers

	EU		EU-CEE	
	(1)	(2)	(3)	(4)
(a) Social Assistance				
Transfer receipt	0.012***	0.002	0.029***	0.006
	(0.002)	(0.002)	(0.004)	(0.006)
Amount received	-1,574.197***	-1,157.185***	-2,123.806***	-1,740.117***
	(374.548)	(207.138)	(550.587)	(293.826)
Controls	No	Yes	No	Yes
Share receipt	0.030	0.030	0.030	0.030
Average amount	8,604.048	8,604.048	8,631.905	8,631.905
(b) Child Benefits				
Transfer receipt	-0.026**	-0.012***	-0.002	-0.013***
	(0.013)	(0.003)	(0.026)	(0.005)
Amount received	-31.398	44.894***	21.527	146.725***
	(14.661)	(6.944)	(24.723)	(16.268)
Controls	No	Yes	No	Yes
Share receipt	0.413	0.413	0.414	0.414
Average amount	1,067.152	1,067.152	1,068.176	1,068.176
(c) Health Benefits				
Transfer receipt	-0.025***	-0.022***	0.060***	0.025***
	(0.004)	(0.004)	(0.007)	(0.006)
Amount received	45.431***	43.657***	70.005***	79.470***
	(12.736)	(6.551)	(25.040)	(10.560)
Controls	No	Yes	No	Yes
Share receipt	0.262	0.262	0.264	0.264
Average amount	740.432	740.432	739.970	739.970
(d) Housing Benefits				
Transfer receipt	0.037***	0.026***	0.071***	0.061***
	(0.004)	(0.004)	(0.010)	(0.008)
Amount received	67.104**	49.749**	94.832**	133.666***
	(26.826)	(19.797)	(37.215)	(27.875)
Controls	No	Yes	No	Yes
Share receipt	0.065	0.065	0.065	0.065
Average amount	1,400.398	1,400.398	1,399.063	1,399.063
(e) Study Benefits				
Transfer receipt	-0.036***	-0.020***	-0.040***	-0.041***
	(0.002)	(0.002)	(0.003)	(0.004)
Amount received	376.822***	117.185**	761.865***	272.425**
	(70.039)	(49.967)	(159.481)	(118.768)
Controls	No	Yes	No	Yes
Share receipt	0.071	0.071	0.072	0.072
Average amount	1,824.120	1,824.120	1,821.403	1,821.403

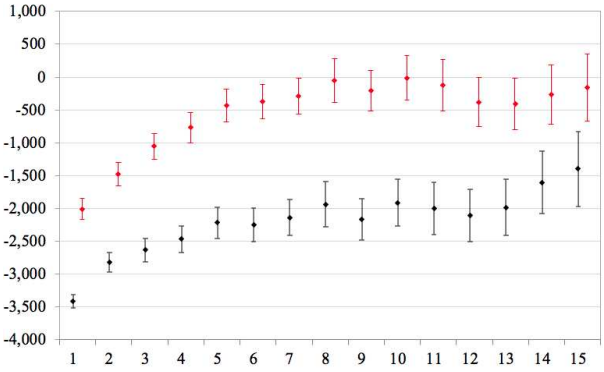
Notes: Standard errors clustered at the household level are provided in parenthesis. Regressions for the amount received and the average amounts provided are conditional on receipt. Regressions for EU migrants are estimated with a sample of 1,644,890 observations, while regressions for EU-CEE migrants are estimated with a sample of 1,611,248 observations. *significant at the 10% level, **significant at the 5% level, ***significant at the 1% level.

Figure 3: Results - Transfer Aggregates by Years Since Arrival (EU Migrants)

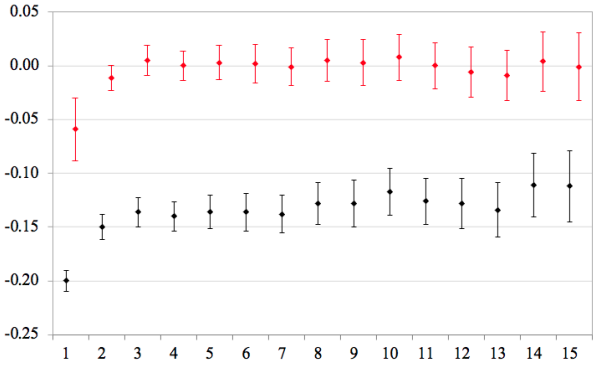
(a) Total Transfers - Receipt



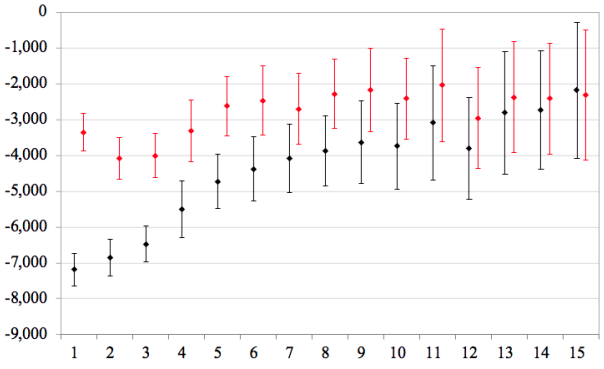
(b) Total Transfers - Amount Received



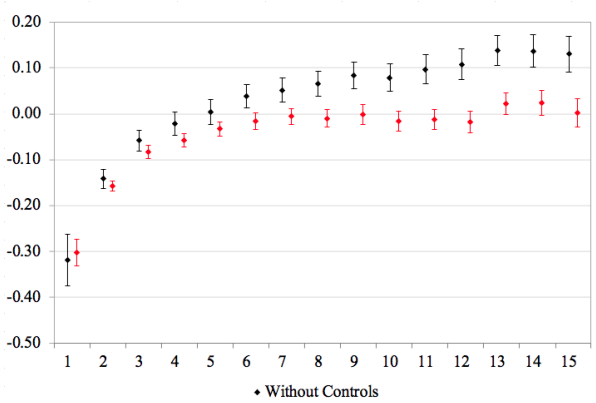
(c) Contributory Transfers - Receipt



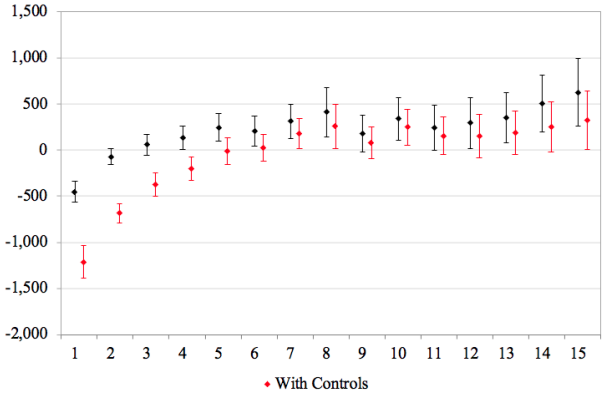
(d) Contributory Transfers - Amount Received



(e) Non-Contributory Transfers - Receipt

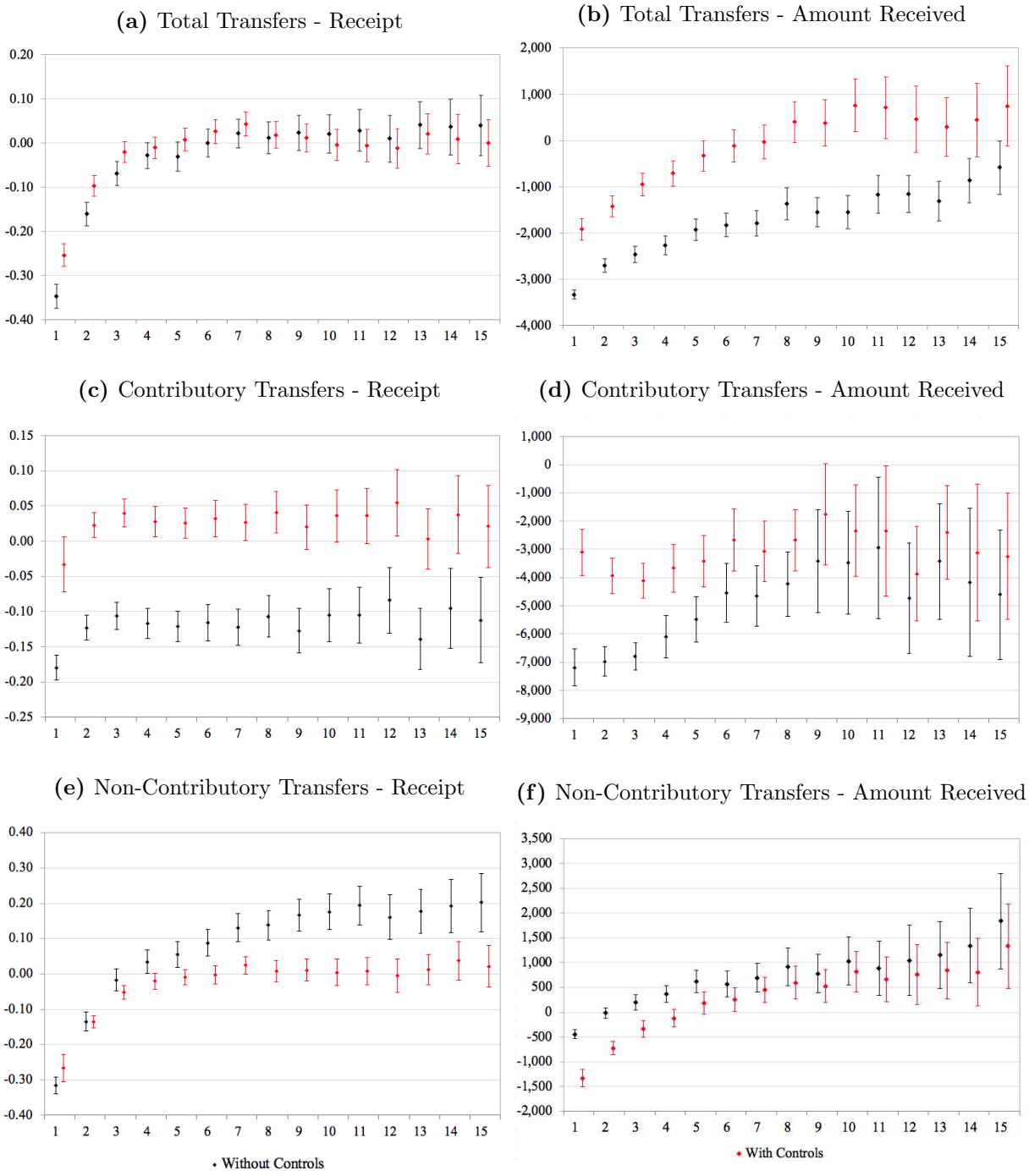


(f) Non-Contributory Transfers - Amount Received



Notes: All results are based on the same regressions in Columns (1) and (2) of Table 4 replacing the EU migrant dummy with a set of dummies for year since arrival. The vertical axis provides the value of the estimates for each dummy, while the horizontal axis provides the year since arrival. Point estimates are surrounded by the 95% confidence intervals.

Figure 4: Results - Transfer Aggregates by Years Since Arrival (EU-CEE Migrants)



Notes: All results are based on the same regressions in Columns (3) and (4) of Table 4 replacing the EU migrant dummy with a set of dummies for year since arrival. The vertical axis provides the value of the estimates for each dummy, while the horizontal axis provides the year since arrival. Point estimates are surrounded by the 95% confidence intervals.

Table 7: Decomposition Total Transfers

	EU		EU-CEE	
	Transfer receipt	Amount received	Transfer receipt	Amount received
	(1)	(2)	(3)	(4)
Difference	-0.066***	-50.275	-0.072***	-1,280.282***
	(0.014)	(120.792)	(0.029)	(171.948)
Explained	-0.032***	144.395*	-0.048***	-999.032***
	(0.012)	(88.087)	(0.016)	(108.893)
Individual Level Variables				
Age	-0.005**	-19.943	-0.023***	-1,223.723***
	(0.003)	(67.759)	(0.004)	(81.808)
Gender	-0.001***	-14.669***	-0.001***	-30.170***
	(0.000)	(2.448)	(0.000)	(5.272)
Household position	0.013***	166.057***	0.009***	324.119***
	(0.001)	(43.940)	(0.002)	(93.613)
Household Level Variables				
Household structure	-0.009***	-60.646***	-0.001	-161.301***
	(0.002)	(19.037)	(0.003)	(31.657)
Marital status head	0.007**	71.866***	0.017*	116.729***
	(0.004)	(19.865)	(0.007)	(44.994)
Children	-0.040***	-38.881	-0.059**	-137.469
	(0.015)	(52.787)	(0.025)	(114.539)
Region and Time				
Urban	0.004***	30.935***	0.005***	33.952
	(0.000)	(5.426)	(0.001)	(6.454)
Province	-0.004***	-24.905***	-0.005***	-36.458***
	(0.000)	(5.138)	(0.001)	(6.543)
Year	0.004***	34.581***	0.012***	115.288***
	(0.000)	(4.040)	(0.001)	(6.361)
Mean dep. variable	0.763	4,902.030	0.764	4,893.591
R^2	0.452	0.436	0.453	0.437
Observations	1,644,890	1,151,649	1,611,248	1,129,326

Notes: Standard errors clustered at the household level are provided in parenthesis. *Difference* refers to the difference in means between natives and migrants without accounting for control variables. *Explained* refers to the part of that difference that is explained by the control variables. Regressions for the amount received are conditional on receipt. The R^2 corresponds to the regressions including control variables as reported in Columns (2) and (3) of Table 4. For more details on the decomposition, see main text. *significant at the 10% level, **significant at the 5% level, ***significant at the 1% level.

Table 8: Decomposition Contributory Transfers

	EU		EU-CEE	
	Transfer receipt	Amount received	Transfer receipt	Amount received
	(1)	(2)	(3)	(4)
Difference	-0.010	-1,041.677***	-0.086***	-3,643.854***
	(0.010)	(143.673)	(0.009)	(298.707)
Explained	-0.017*	26.725	-0.110***	-1,212.316***
	(0.009)	(81.715)	(0.008)	(197.424)
Individual Level Variables				
Age	-0.023***	-91.823	-0.119***	-1,448.827***
	(0.008)	(63.228)	(0.006)	(167.319)
Gender	-0.001***	-59.168***	-0.002***	-153.899***
	(0.000)	(13.354)	(0.000)	(24.868)
Household position	0.009***	47.147**	0.015***	53.752
	(0.002)	(23.122)	(0.003)	(43.477)
Household Level Variables				
Household structure	-0.005***	9.591	-0.007***	126.768***
	(0.001)	(17.573)	(0.002)	(39.527)
Marital status	0.002**	76.987***	0.002	40.937
	(0.001)	(22.725)	(0.002)	(42.984)
Children	0.002	-39.022	0.001	-154.442**
	(0.002)	(25.214)	(0.004)	(68.272)
Region and Time				
Urban	0.001***	4.217	0.001***	5.070
	(0.000)	(6.393)	(0.000)	(7.889)
Province	-0.002***	25.537***	-0.003***	34.779***
	(0.000)	(6.865)	(0.000)	(7.664)
Year	0.000***	53.259***	0.001***	283.546***
	(0.000)	(8.547)	(0.000)	(20.235)
Mean dep. variable	0.250	10,510.840	0.249	10,519.360
R^2	0.579	0.204	0.580	0.204
Observations	1,644,890	411,085	1,611,248	401,986

Notes: Standard errors clustered at the household level are provided in parenthesis. *Difference* refers to the difference in means between natives and migrants without accounting for control variables. *Explained* refers to the part of that difference that is explained by the control variables. Regressions for the amount received are conditional on receipt. The R^2 corresponds to the regressions including control variables as reported in Columns (2) and (3) of Table 4. For more details on the decomposition, see main text. *significant at the 10% level, **significant at the 5% level, ***significant at the 1% level.

Table 9: Decomposition Non-Contributory Transfers

	EU		EU-CEE	
	Transfer receipt	Amount received	Transfer receipt	Amount received
	(1)	(2)	(3)	(4)
Difference	-0.053***	153.030***	-0.001	410.908***
	(0.011)	(48.057)	(0.019)	(103.461)
Explained	-0.022***	111.409***	0.020	288.962***
	(0.008)	(19.678)	(0.015)	(34.220)
Individual Level Variables				
Age	0.008	21.397***	0.049***	81.914***
	(0.005)	(5.737)	(0.006)	(7.200)
Gender	-0.001***	14.233***	-0.002***	28.344***
	(0.000)	(1.981)	(0.000)	(4.118)
Household position	0.015***	126.404***	0.012***	206.763***
	(0.001)	(28.584)	(0.002)	(56.982)
Household Level Variables				
Household structure	-0.012***	-7.029	-0.004	-13.410
	(0.002)	(11.529)	(0.003)	(18.476)
Marital status	0.008**	80.842***	0.016**	204.153***
	(0.004)	(24.650)	(0.008)	(46.960)
Children	-0.046***	-137.478***	-0.068**	-255.285***
	(0.017)	(42.345)	(0.028)	(84.649)
Region and Time				
Urban	0.004***	40.634***	0.004***	42.824***
	(0.001)	(4.019)	(0.001)	(4.750)
Province	-0.005***	-39.038***	-0.006***	-41.346***
	(0.000)	(3.496)	(0.001)	(4.525)
Year	0.005***	11.443***	0.018***	35.003***
	(0.004)	(1.560)	(0.001)	(2.552)
Mean dep. variable	0.645	1,724.968	0.647	1,724.379
R^2	0.534	0.305	0.535	0.310
Observations	1,644,890	856,818	1,611,248	840,829

Notes: Standard errors clustered at the household level are provided in parenthesis. *Difference* refers to the difference in means between natives and migrants without accounting for control variables. *Explained* refers to the part of that difference that is explained by the control variables. Regressions for the amount received are conditional on receipt. The R^2 corresponds to the regressions including control variables as reported in Columns (2) and (3) of Table 4. For more details on the decomposition, see main text. *significant at the 10% level, **significant at the 5% level, ***significant at the 1% level.

Appendix

Table A.1: Individual Transfers per Transfer Category

Contributory Transfers	
State Pension	*Algemene ouderdomswet* (AOW).
Disability and Sickness Benefits	*Wet werk en inkomen naar arbeidsvermorgen* (WIA), *wet op de arbeidsongeschiktheidsverzekering* (WAO), *ziektewet* (ZW).
Unemployment Benefit	*Werkloosheidswet* (WW).
Other Contributory	*Wet arbeidsongeschiktheidsverzekering zelfstandigen* (WAZ), *algemene weduwen en wezenwet* (AWW), *algemene nabestaandenwet* (ANW), *wachtgeld uitkering* (WU).
Non-Contributory Transfers	
Social Assistance	*Algemene bijstandswet* (ABW), *wet werk en bijstand* (WWB) *bijstandbesluit zelfstandigen* (BBZ), *wet inkomensvoorziening oudere en gedeeltelijk arbeidongeschikte werkloze werknemers* (IOAW), *wet inkomensvoorziening oudere en gedeeltelijk arbeidongeschikte gewezen zelfstandigen* (IOAZ), *toeslagenwet* (TW), *oorlog en verzet pensioen* (OVP), *wet arbeidongeschiktheidsvoorziening jonggehandicapten* (WAJONG).
Child Benefits	*Algemene kinderbijslagwet* (AKW), *kindgebonden budget* (KGB), *kinderopvangtoeslag* (KOT).
Health Benefits	*Zorgtoeslag* (ZT).
Housing Benefits	*Huursubsidie* (HS), *Rijksbijdrage eigen woning* (RBEW), *Huurtoeslag* (HT).
Study Benefits	*Uitkering studietoelage* (US), *tegemoetkoming studiekosten* (TS).

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