

Zorlu, Aslan; Hartog, Joop

**Working Paper**

## Employment assimilation of immigrants in the Netherlands: catching up and the irrelevance of education

IZA Discussion Papers, No. 3534

**Provided in Cooperation with:**

IZA – Institute of Labor Economics

*Suggested Citation:* Zorlu, Aslan; Hartog, Joop (2008) : Employment assimilation of immigrants in the Netherlands: catching up and the irrelevance of education, IZA Discussion Papers, No. 3534, Institute for the Study of Labor (IZA), Bonn, <https://nbn-resolving.de/urn:nbn:de:101:1-20080609155>

This Version is available at:

<https://hdl.handle.net/10419/35152>

**Standard-Nutzungsbedingungen:**

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

**Terms of use:**

*Documents in EconStor may be saved and copied for your personal and scholarly purposes.*

*You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.*

*If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.*

IZA DP No. 3534

## Employment Assimilation of Immigrants in the Netherlands: Catching Up and the Irrelevance of Education

Aslan Zorlu  
Joop Hartog

June 2008

# Employment Assimilation of Immigrants in the Netherlands: Catching Up and the Irrelevance of Education

**Aslan Zorlu**

*AIAS, AMIDSt Amsterdam  
and IZA*

**Joop Hartog**

*Tinbergen Institute, AIAS Amsterdam  
and IZA*

Discussion Paper No. 3534  
June 2008

IZA

P.O. Box 7240  
53072 Bonn  
Germany

Phone: +49-228-3894-0  
Fax: +49-228-3894-180  
E-mail: [iza@iza.org](mailto:iza@iza.org)

Any opinions expressed here are those of the author(s) and not those of IZA. Research published in this series may include views on policy, but the institute itself takes no institutional policy positions.

The Institute for the Study of Labor (IZA) in Bonn is a local and virtual international research center and a place of communication between science, politics and business. IZA is an independent nonprofit organization supported by Deutsche Post World Net. The center is associated with the University of Bonn and offers a stimulating research environment through its international network, workshops and conferences, data service, project support, research visits and doctoral program. IZA engages in (i) original and internationally competitive research in all fields of labor economics, (ii) development of policy concepts, and (iii) dissemination of research results and concepts to the interested public.

IZA Discussion Papers often represent preliminary work and are circulated to encourage discussion. Citation of such a paper should account for its provisional character. A revised version may be available directly from the author.

## ABSTRACT

### **Employment Assimilation of Immigrants in the Netherlands: Catching Up and the Irrelevance of Education<sup>\*</sup>**

Using two Dutch labour force surveys, employment assimilation of immigrants is examined. We observe marked differences between immigrants by source country. Non-western immigrants never reach parity with native Dutch. Even second generation immigrants never fully catch up. Caribbean immigrants, who share a colonial history with the Dutch, assimilate relatively quick compared to other non-western immigrants but they still suffer from high unemployment. The study also documents that the quality of jobs is significantly lower for immigrants, especially for those who are at larger cultural distance to Dutch society. Job quality of immigrants increases with the duration of stay but again, does not reach parity with natives. The western immigrants seem to face no considerable difficulties in the Dutch labour market. The most remarkable conclusion is the irrelevance of education for socio-economic position of immigrants once the country of origin has been controlled for.

JEL Classification: J15, J21, J24

Keywords: immigrants, employment, unemployment, job quality

Corresponding author:

Aslan Zorlu  
AIAS, University of Amsterdam  
Plantage Muidersgracht 12  
1018 TV Amsterdam  
The Netherlands  
E-mail: [A.Zorlu@uva.nl](mailto:A.Zorlu@uva.nl)

---

<sup>\*</sup> The research was based on collaboration with Statistics Netherlands. We are grateful to Henk-Jan Dirven.

## 1. Introduction

Europe is gearing up for a new stage in its migration history. In the post-war period, after accommodating migration flows following the war upheaval and the decolonisation era, large numbers of low-skilled immigrants entered the north-western European labour markets. When the long post-war boom period ended, these flows were cut off, but family formation and reunification kept entry at substantial levels. During the '90's, refugees massively knocked on the door; admission rates initially were substantial, but later this inflow was also severely restricted. Immigration of guest workers and their relatives and of refugees has left the countries in North West Europe with large populations with a disadvantaged socio-economic position. For several decades now, governments have sought policies to integrate these immigrants (and their offspring) smoothly into society, with little visible success. The new policy interest is in acquiring high skilled immigrants to boost the international competitive position. In the meantime, the European Union (EU) has opened up labour markets ever further; labour mobility between the old EU countries, with labour forces of comparable qualification structure, is free, immigration from the new EU members, with sometimes quite different level and distribution of qualifications, is also completely free or will soon be so. Thus, policy attention concentrates on integrating the stock of unskilled "old" immigrant groups, on shifting from low skilled to high skilled new immigrants (who presumably assimilate much more easily and smoothly than the old unskilled groups) and on coping with immigrants from the new EU members.

One might define successful integration or assimilation<sup>1</sup> as the situation where an ethnic group that is observationally equivalent to native-born citizens is also observationally equivalent in socio-economic outcomes (employment rate, earnings, job quality). A useful tool to study this is the Dip&Catch-up model: immigrants enter at a disadvantage relative to comparable natives because they lack host country specific skills, but they will catch up because of their strong incentives to invest in these skills. We will use this model to assess the position of immigrant groups in The Netherlands.

The Netherlands has experienced the standard European history sketched above and we have an interesting though still imperfect dataset. The Dip& Catch up model has been developed and mostly applied in the United States, almost exclusively focused on earnings. We will extend the range of application of this model beyond earnings profiles of male immigrants (Chiswick 1978, Borjas, 1985, 1995; Friedberg 2000) and also estimate the assimilation pattern of immigrant women<sup>2</sup> and we will go beyond wages. Looking only at wages implicitly assumes that immigrant labour market assimilation takes place predominantly through wages and access to employment is self-evident. Such an assumption may perhaps apply to the US labour market but it is less relevant for northern and western European countries with a less flexible labour market and a generous welfare system.

In European labour markets, labour market participation is an important issue in immigrant assimilation because especially immigrants from non-western countries have dramatically low participation and high unemployment rates. A small number of studies show that non-western immigrants experience an initial employment disadvantage and that the assimilation pattern of immigrants varies by the country of origin (Bevelander and Nielsen, 2001; Wheatley Price, 2001; Hartog and Zorlu, forthcoming; Amuedo-Dorentes and de la Rica, 2007). The low

---

<sup>1</sup> We do not want to engage in disputes over terminology or definition of integration versus assimilation etc. We take our definition as simply reflecting a policy goal.

<sup>2</sup> Labour market assimilation of immigrant women has been studied in only a very limited number of studies (see for instance Adsera and Chiswick 2007; Schoeni 1998)

activity rate and high welfare benefit rate of immigrants is seen as a significant redistribution mechanism and also as a source of poor integration of migrants in social, cultural and political domains of society although a reverse causality cannot be excluded. Therefore, immigrants' labour market performance is at the heart of public debate in the Netherlands, like in other European countries.

Labour market disadvantage of immigrants systematically is not restricted to employment status. It appears also in the segment of employment. A concentration of immigrants in particular types of employment, occupations and sectors has consequences for the quality of their jobs, earnings, employability and correspondingly career prospects. However, little is known about the assimilation pattern of immigrants by job type and we will contribute new evidence on this issue.

This study examines employment and occupational assimilation of male and female migrants in the Netherlands with an emphasis on the duration of residence, using the Labour Force Survey (LFS) 2004 and 2005. LFS contains no information on wages and household income but includes detailed information on characteristics of employment. Therefore, this study estimates reduced form probabilities of employment and unemployment, rather than modelling labour supply behaviour. Occupational assimilation is approximated by *ceteris paribus* immigrant mobility into better jobs. The job quality is assessed by the Erikson-Goldthorpe-Portocarero social class scheme (EGP), which has been derived from a number of factors like income, economic security, likelihood of promotion, position in production relations, power relations in the production process and the degree of autonomy. This paper is the first in the Netherlands studying employment assimilation of migrants over time.

Using cross-section data is admittedly a methodological drawback because the analysis cannot properly deal with possible changes in quality of immigration cohorts, selective return migration and variation in economic conditions. However, the use of cross section data can be justified with two main arguments. The first is a simple but solid restriction: the absence of suitable longitudinal data<sup>3</sup>. The second one is a more intuitive assumption on quality of immigration cohorts and selective return migration of non-western immigrants. We argue that the country of origin is a good predictor of immigrant quality and that selective return migration is modest for non-western migrants because the return migration rate of these migrants itself is very low and return is often not voluntary. Since a large part of immigration from main source countries to the Netherlands has occurred as family migration, no significant variation in educational composition of subsequent immigration flows within this category is expected. This may be less relevant for asylum migrants who come from a variety of countries. Regular changes in the composition of source countries can affect 'quality' of asylum migrants because education level of migrants varies across the countries of origin (Hartog and Zorlu, forthcoming).

This study identifies varying assimilation patterns for the major groups of migrants in the Netherlands for the first time. Turkish and Moroccan immigrants start with a low activity rate and predominantly low quality jobs and improve their position significantly with the duration of stay but they cannot catch up with natives. Caribbean immigrants face even a lower activity rate upon arrival but the quality of their jobs is relatively high. This group improves its position sharply over time and almost catches up with natives. Particular high performance of Caribbean women is notable. Asylum migrants suffer from complex admittance procedures and experience a long 'take off' period and remain far behind other immigrants. The study also evidences that Western migrants face no significant difficulties in the labour market.

---

<sup>3</sup> We have longitudinal data on labour market position but information on education is not included.

## **2. Origins of the immigrant population**

Immigration to the Netherlands followed a common European sequence characterised by post-war and post-colonial restructuring, recruitment of unskilled guest workers and arrival of refugees in large numbers. In the Netherlands, decolonisation refers to Indonesia (1949) and Surinam or Dutch Guyana (1975). The first decolonisation generated two major immigration waves from Indonesia between 1949-1951 and between 1952-1957 and a relatively smaller immigration in the early 1960s. The decolonisation of Surinam also led to two large immigration flows, in the year of decolonisation (1975) and between 1979-1980. Integration of Indonesian immigrants has been relatively smooth. However, Surinamese migrants have still a disadvantaged position and so are immigrants from the Dutch Antilles.

The flow of 'guest workers' started in the beginning of the 1960s, predominantly from Italy, Spain, Portugal, Turkey, Greece, Morocco and Yugoslavia. Many immigrants from Italy, Spain, Portugal and Greece have returned home as these countries have integrated in the European Union while immigration from Turkey and Morocco kept growing due to the inflow of spouses, children and brides of these predominantly male workers despite increasingly tighter immigration policy.

In the end, Surinamese, Antilleans, Turks and Moroccans have become the largest migrant groups in the Netherlands. Immigrants from (former) colonies (Surinamese, Antilleans) are familiar with Dutch society and often speak the language while Turks and Moroccans have a different religious and cultural background, and often have very poor command of the Dutch language; new and old immigrants are now required to learn Dutch. .

During the 1990's, immigration flows were dominated by asylum migrants from among others former Yugoslavia and Soviet Union, Iran, Iraq, Afghanistan and China. Further tightening of immigration policies in the beginning of 2000's has hindered asylum migration as well as family migration from Turkey and Morocco substantially. At the same time, the extension of the European Union with eastern European countries has generated a legal ground for immigration from these countries although the immigration from these countries is not yet completely free and subject to controls according to the perceived need for immigrant labour.

In addition to the immigrant population from non-western countries, the Netherlands hosts a large number of immigrants from the European Union countries and from other developed countries like the United States, Canada, Australia and Japan. All these immigrants are categorised as Western immigrants. They enter the Netherlands as labour migrants and perform even slightly better than natives in the labour market. The stock of these immigrants does not change very much due to migration flows that are highly sensitive to business cycles.

## **3. Data and descriptive statistics**

This study uses Labour Force Survey (LFS) data from Statistics Netherlands. To retain more observations on immigrants, we pool LFS's from 2004 and 2005; we restrict the sample to people aged 25 to 64 years who are not in full-time education. LFS contains information about education in addition to a large number of other variables. However, no distinction is made between education acquired in the home country or in the Netherlands. This raises some doubt about measurement error when foreign education has been translated to the standard education classification in the Netherlands (see Hartog and Zorlu, forthcoming).

Considering similarities in starting conditions in the labour market, immigrants are clustered into 6 groups. The first group (*TurkMoroc*) contains Turkish and Moroccan immigrants whose labour market positions are very similar in time. Immigrants from Dutch Antilles and the former colony Suriname are pooled into the second category (*Caribbean*). The third group

covers Eastern European immigrants (*EastEur*). The fourth group (*Refugees*) contains Iranian, Iraqi and Afghani immigrants who have often significantly contributed to refugee flows into the Netherlands. Other non-western migrants are aggregated into the fifth group (*NW*) that also includes other refugees. Immigrants from western countries are clustered into the category (*Western*).

Differences in labour market positions are likely due to differences in human capital endowments and demographic characteristics of the groups. Table 1 presents mean values of dependent variables (employment and unemployment) and covariates for natives and the immigrant sub-samples.

Employment probabilities of the immigrant groups are in general lower than for natives while their unemployment and inactivity rates are relatively high. Striking are the substantially lower employment and higher unemployment probabilities for the group of Asylum migrants which consists of relatively newly arrived immigrants. The share of second generation in this group is negligible. Also the activity rate of Turkish and Moroccan migrants (*TurkMoroc*) is significantly lower, especially for women although this group has a long migration history and a higher share of the second generation. Eastern European migrants (*East*) and immigrants from other non-western countries (*NW*) have lower activity rates than natives. Employment rates of Caribbean migrants and especially western migrants are the most similar to those of natives. Notably, the unemployment rate is particularly high for immigrants from non-western countries while western immigrants enjoy a relatively low unemployment rate.

It is immediately apparent that the demographic and educational characteristics of Western immigrants are similar to natives. Other immigrant groups have a younger age structure and their educational distribution is characterized by significant inter-group differences. *TurkMoroc* has the lowest education level with a high concentration in the lowest category while asylum immigrants have a bipolar distribution with relatively large concentrations in the lowest and highest categories.

Immigrants, but especially non-western immigrants are relatively young and more often lower educated on average. They have more often children aged below 12 years. Interestingly, the share of immigrants from Western, *NW* and Asylum having a university education is higher than for natives. As indicated by the mean values of years since migration (*YSM*), western immigrants have the lowest duration of stay in the Netherlands, which can be largely explained by a high turn over rate (return migration); western immigration is not a recent feature. Refugees, however, are the most recent immigrants, together with a large number of Eastern European immigrants. Almost all refugees in our data arrived after 1990. Hence, their durations of stay are less than 15 years.

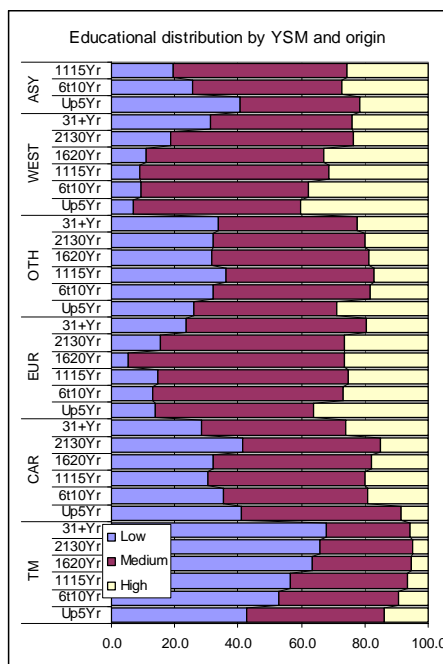


Table 1. Mean values of variables by gender and origin, 25-64

	Men							Women						
	Native	TurkM	Car	East	Ref	NW	west	Native	TurkM	Car	East	Ref	NW	west
Employed	0.85	0.68	0.78	0.73	0.49	0.72	0.80	0.67	0.35	0.65	0.55	0.22	0.50	0.65
Unemployed	0.04	0.18	0.16	0.14	0.29	0.18	0.06	0.05	0.10	0.13	0.14	0.14	0.12	0.06
Age	44.79	38.86	41.37	42.77	40.48	40.71	46.00	44.64	37.08	41.23	41.04	38.76	39.58	45.36
Second gen		0.15	0.28	0.24	0.01	0.11	0.74		0.19	0.24	0.15	0.01	0.10	0.70
YSM		16.05	15.23	10.06	8.88	12.87	6.06		14.62	15.76	10.31	8.20	11.95	6.46
Education	13.43	10.77	12.52	13.62	13.37	12.63	13.63	12.85	9.56	12.26	13.43	11.92	12.06	13.10
Married	0.56	0.56	0.53	0.55	0.58	0.57	0.54	0.53	0.51	0.44	0.51	0.52	0.49	0.50
1 Child 0-5yr	0.12	0.30	0.16	0.17	0.21	0.21	0.12	0.12	0.30	0.17	0.19	0.27	0.23	0.13
2+ child 0-5yr	0.08	0.14	0.07	0.07	0.09	0.12	0.06	0.08	0.14	0.07	0.05	0.09	0.10	0.07
Child 6-11yr	0.19	0.38	0.18	0.20	0.26	0.25	0.17	0.20	0.44	0.26	0.22	0.38	0.30	0.19
Full-time	0.76	0.60	0.70	0.66	0.39	0.62	0.71	0.16	0.13	0.28	0.20	0.07	0.21	0.19
Hours 24-32	0.06	0.04	0.06	0.05	0.04	0.07	0.06	0.20	0.09	0.22	0.17	0.10	0.13	0.20
Naturalised (Imm)		0.19	0.90	0.16	0.07	0.36	0.37		0.17	0.86	0.19	0.05	0.34	0.39
N	61333	1728	1160	522	410	971	5333	62136	1716	1549	851	285	1278	5829

#### 4. The limitations of cross section data

Using cross-section data is potentially subject to methodological drawbacks because the analysis cannot properly deal with possible changes in quality of immigration cohorts, selective return migration and changes in economic conditions that have lasting effects. We use cross section data simply because longitudinal data without information on education are not suitable. But we will argue that in our case the drawbacks are probably not serious.



Change in immigrant quality over time is a big issue in the US debate over catching-up (or different relative performance of more recent cohorts of immigrants). We doubt whether this is an issue as long as we distinguish immigrants by origin country. To get a first impression of observable cohort quality, we conduct a simple analysis to understand changes in education level of subsequent immigration cohorts. The descriptive analysis, shown by figure 1, indicates that the skill level of immigrants from Turkey and Morocco, and other non-western countries has increased particularly in the last 10 to 15 years while the skill level of Caribbean and asylum migrants has fluctuated in time to decline in the last 10 years. Further, a steady increase in the overall skill level of western immigrants and a rise in the share of medium skilled immigrants from Eastern Europe are striking.

Since education levels have significantly increased in the Netherlands in the post World War period, as well as in most source countries, any increase in the education level of subsequent immigration cohorts does not necessarily imply an increase in the relative cohort quality. Ideally, we need to compare the age-specific skill distributions of natives and immigrants to account for possible changes in the cohort quality. However, it is hard to measure true age-specific skill distributions of immigration cohorts recursively from the cross-sectional data, as return migration may be selective (but see below) and in particular because sample sizes are small. To obtain some indication, we regress years of education on age and YSM in the whole

sample to see relative skill levels. Subsequently, we repeat this exercise for the separate origin countries. The results in table 2 confirm the descriptive results after controlling age and gender: an increase in the skill level of immigrants from Turkey/Morocco and other non-western and western countries, and a declining skill level for asylum seekers. The pattern for second generation immigrants is remarkable: an increase for some source countries, a decline for others.

Of course the real problem is change in unobserved quality. Some of the relevant unobserved qualities no doubt correlate with education and this will restrain the bias in the estimated effect of YSM.

Table 2. Regression analysis of education

	ALL		Nativ		TurkM		Car		Eur		Refug		othnw		West	
	Coef.	t	Coef.	t	Coef.	t	Coef.	t	Coef.	t	Coef.	t	Coef.	t	Coef.	t
Woman	-0.59	-36.0	-0.58	-33.0	-1.37	-11.8	-0.21	-1.7	-0.31	-1.7	-1.21	-4.2	-0.56	-3.5	-0.58	-9.4
Age	0.02	3.3	0.01	1.0	0.05	1.0	0.19	3.4	0.06	0.8	0.42	3.2	0.21	2.9	0.13	5.0
age2	0.00	-11.4	0.00	-8.9	0.00	-2.8	0.00	-3.7	0.00	-1.1	0.00	-2.9	0.00	-3.2	0.00	-6.4
YSM	0.15	5.9			-0.13	-4.1	-0.06	-1.9	-0.04	-1.0	0.27	3.2	-0.11	-3.4	-0.08	-5.0
YSM2	0.00	3.1			0.00	4.4	0.00	3.0	0.00	0.4	-0.01	-2.0	0.00	3.6	0.00	3.4
gen2nd	0.13	1.2			1.07	3.8	1.16	3.9	-1.10	-3.1	3.65	2.5	1.34	3.9	-1.25	-7.5
TurkMoroc	-2.39	-19.4														
Caribbean	-0.99	-7.6														
East-Europ	0.20	1.4														
Refugee	-2.06	-8.4														
Non-western	-0.84	-6.7														
Western	0.20	1.9														
TurkMoroc*YSM	-0.23	-9.0														
Caribbean*YSM	-0.16	-6.5														
East-Europ*YSM	-0.16	-6.0														
Refugee*YSM																
Non-west*YSM	-0.18	-7.0														
Western*YSM	-0.17	-6.8														
Constant	14.26	97.8	14.61	94.21	12.01	11.59	8.76	7.62	13.52	8.72	2.14	0.81	9.17	6.24	13.03	23.07
R-squared	0.06		0.045		0.15		0.04		0.02		0.10		0.04		0.04	
N	145089		123469		3434		2709		1373		695		2249		11160	

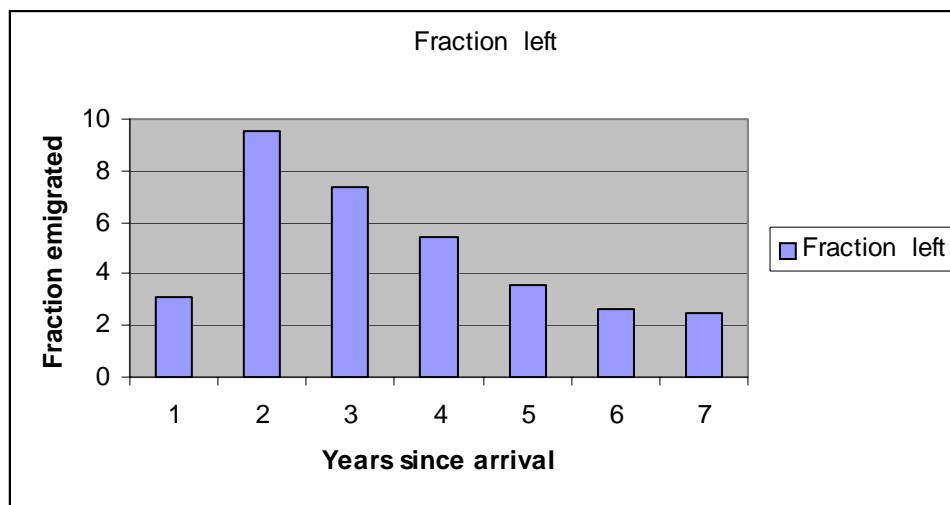
Selective return migration for our purpose is to some extent a matter of interpretation. With our data we estimate the effect of years since migration on socio-economic outcomes. Outcomes are only observed for immigrants that have not left. If emigration of immigrants is not random, the estimated profile is a biased estimate of the effect of being exposed to or engaged in the host country economy. If the effect of exposure per se is zero, the estimated profile will only show the differences between immigrants still around after t years and those still around after t+1 years. With negatively selected emigration, the profile will slope upwards (more successful immigrants stay), with positively selected emigration the profile will slope downwards (the less successful stay). Schmidt (1997) notes that in Germany between 1950 and 1990, 11 million guest-workers entered from the six primary source countries, while their net immigration over this periods was only 2 million. With such intense outmigration of immigrants, the question of selectivity is of foremost importance.

Research on selectivity in return migration is not abundant. Edin, Lalonde and Aslund (2000) analyse a 3 % sample of immigrants to Sweden in the period 1970-1990. Among Nordic immigrants, 44% emigrate within 5 years, among OECD immigrants 31% and among non-OECD immigrants 10%. Emigration patterns obey a standard profile (cf Hartog and Winkelmann, 2004): a marked increase in the first years after arrival, and then a long decline, with emigration generally peaking between 2 and 4 years after arrival. Judged from the

situation in the first year after arrival, emigration is not selective in earnings, but there is negative selection in employment. However, correcting earnings growth over a period of 10 years after arrival reduces the growth rate by 86%, 120% and 21% resp for Nordic, OECD and non-OECD immigrants, respectively.

We know that immigrants to the Netherlands do not stay forever. From 1995 to 2001, 658 000 persons born outside the Netherlands immigrated; 142 000, or 22% of them had left again by 2001. The pattern we observe for the oldest cohort (1995 immigrants), in Figure 1, is also visible in later cohorts. Six years after arrival, about a third of the immigrants have left again.

Figure 1. Percentage of immigrants that have emigrated, by years since arrival,



Source: Hartog and Zorlu, 2004; year 1 is the year of arrival

Of course, departure of immigrants differs by immigration motive and by country of origin. Among labour migrants (using entry cohort 1997), 62% had left within five years, while among refugees only 13% had left. Among immigrants motivated by family re-unification, 19% has left within five years, while this is 16% for immigrants motivated by family formation (Hartog and Zorlu, 2004). Bijwaard (2007), applying a mover-stayer model and including repeat migration, estimates the long-run probability of ending up in The Netherlands, by motive and country of origin. For an unmarried male immigrant from an EU or EFTA country, the probabilities are 51% for labour migrants, 35 % for family reunion and 74 % for family formation (Bijwaard excludes refugees). The percentages are substantially higher for married men and for women. By country of origin, variation is modest for family formation (mostly between 85 and 95%) and larger for labour migrants (roughly between 57 and 89%) and also larger for family re-union (roughly between 37 and 74%)

While it is thus clear that a fair share of immigrants leave again after some time, we have no evidence on the selectivity of this process in The Netherlands. Constant and Massey survey the international literature and cite some European studies that suggest negative selection of return migration. In their own analysis of the first 14 years of the German SOEP panel (started in 1984), they find that immigrants from the EU are more likely to return, that the return propensity is lower for the better integrated and for those who are fluent in German. They find no evidence of selectivity bias when estimating earnings functions corrected for selective emigration, but they do report that return migration is sensitive to employment: immigrants without a job are more likely to leave. There is also evidence of negative selection

with respect to occupational prestige. The effect of extent of integration in German society and to fluency in German also suggests a relationship to initial qualities of immigrants, i.e. an endogeneity in relation to the original selection of immigrants; selectivity need not be entirely related to events that occur in Germany.

Jensen and Pedersen (2007) study out-migration in Denmark. From the cohort of immigrants entering Denmark in 1984, some 80% of the Turks was still in the country after 10 years; this was just under 60% for Pakistani, 30% for EU12 immigrants and just over 20% for immigrants from other Nordic countries (o.c., Figure 2)<sup>4</sup>. Rooth and Saarela (2007) analysed labour market outcomes for Finns in Sweden and found that return migration is not selective in unobserved skills relevant for earnings.

Cross-section analysis may also provide biased estimates when immigrants and natives are asymmetrically influenced by business cycles. Chiswick et al. (1997) note the role of high unemployment at the time of entry and path dependence in the following years. Longva and Raaum (2002) show that labour market outcome for immigrants is more sensitive to a rise in unemployment than for natives.

Given our data, we cannot attempt any correction for unobserved heterogeneity differences between entry cohorts and for possible selective return migration. Thus, we should be aware of potential bias in estimated effects of YSM. However, there is no unequivocal and compelling evidence that return migration in Europe is highly selective. Moreover, we believe that unobserved quality differences are more important when comparing immigrants from different source countries than when comparing different cohorts for the same source country and that consequently, the bias in estimating YSM effects need not be dramatic when we control for country of origin.

## **5. Employment and unemployment**

Upon arrival in the Netherlands, non-western immigrants are less likely to be employed and if employed, they usually work in lower skilled jobs, compared to natives with comparable observed characteristics. On the other hand, the labour market performance of western immigrants does not much differ from that of natives. Differences in the initial position of these two immigrant groups can be attributed to two main reasons. The first one refers to different immigration policies for these groups. Western immigrants do not face any legal restriction and they enter usually as a labour migrant having already a job before arrival; non-western immigrants may enter only on the basis of humanitarian reasons, as a family or asylum migrant. Correspondingly, non-western immigrants have often no permission for work immediately upon arrival. They need some time to get full access to the labour market. The second argument for the smooth transition of western immigrants to the labour market refers to a high degree of skill transferability of these immigrants acquired in the home country and selectivity of immigrants. On the other hand, skills of non-western migrants may not be easily transferred, and immigrants entering on the basis of humanitarian reasons may lack sufficient measured and unobserved qualifications.

To model the progress of assimilation, we assume that the probability of employment, as employee or self-employed,  $y$ , is captured by the following regression equation.

---

<sup>4</sup> The authors analyse the propensity to leave within 10 years of arrival and find several statically significant results. But all these variables are endogenous and the result may well reflect reverse causality (as the authors themselves note: unemployment has a negative effect on the propensity to leave, but you can only have an unemployment record if you stay).

$$y = \alpha + \beta_1 A + \beta_2 A^2 + \beta_3 SG + \beta_4 YSM + \beta_5 YSM^2 + \sum_{j=1}^6 \beta_{mj} M_j + \beta_6 Edu + \sum_{j=1}^6 \beta_{mj} (YSM * M_j) + \beta_7 X + \varepsilon \quad (1)$$

where  $A$  is age (with identical effect for natives and immigrants),  $SG$  is a dummy variable for the second generation,  $YSM$  is the years since migration and  $M$  is the set of indicator variables for 6 immigrant groups. By construction,  $YSM = 0$  for natives and for the second generation.  $Edu$  is education (measured in years),  $X$  is other controls (marital status and the number of children aged between 0 to 11 years).

Equation (1) has been fitted by standard probit models for the sub-samples of men and women separately, since participation behaviour of women is different from men. We present four models to facilitate understanding the role of education, varying assimilation patterns for immigrant groups and family status.<sup>5</sup>

Since migrants are more likely unemployed than natives, we also estimate unemployment probabilities by gender similar to the estimation procedure of employment probabilities to provide a more complete picture of the labour market. Unemployment probability  $U$  is defined as

$U = 1$  if individual is a labour market participant and unemployed

$U = 0$  if individual is employed

Unemployment probabilities are separately estimated for men and women using the same equation (1).

### 5.1 Estimates of employment probabilities

In equation (1), the coefficients of  $YSM$  and  $YSM^2$  measure how the native-immigrant employment gap diminishes as immigrants gain home-country specific experience, if no systematic changes have occurred in unobserved employment potential  $\varepsilon$  of successive immigration cohorts. Since  $YSM$  captures the assimilation effect over time, the indicator variables for immigrant groups ( $M$ ) reflect the initial employment gap of immigrants in the year of arrival relative to comparable natives. We test for different assimilation profiles by allowing interaction terms between  $YSM$  and  $M$ . Immigrants' assimilation pattern can be affected by their education level already accomplished upon arrival and by later investments, but unfortunately, as in most studies, our data do not allow the distinction between education acquired abroad and education acquired domestically. The data collector possibly translated foreign education into equivalent domestic scales, but we have no information on this. We have estimated the regression equation also including interaction variables of immigrant groups and education to check possible differences in values of education for immigrants

---

<sup>5</sup> More recent studies proposed a family framework to analyse the labour supply of immigrant men and women since labour market decisions of spouses are interrelated. Baker and Benjamin (1997) argued that immigrant husbands work less than comparable natives after arrival in Canada while immigrant wives work more than natives to support their husbands' investment in human capital. With assimilation, employment rates of immigrant husbands and wives will move towards these of native counterparts. Blau et al (2003) apply a similar framework and conclude that the wage rates and work hours of both immigrant men and women are less than for comparable natives upon arrival in the US but they increase with time to a similar extent. We plan a separate paper using the family framework.

from various countries of origin. The interaction effects are not statistically significant<sup>6</sup>, in contrast to our expectation that education acquired in many developing countries is not equally evaluated in the labour market. So, perhaps this outcome indeed reflects a successful pre-translation of home country education into Dutch formal education scales.

Table 3 shows the estimates of employment probabilities for men and women separately. Starting from Model I, Model 2 adds education, Model III differentiates assimilation profiles and Model IV adds family background, marital status and urbanisation. To facilitate interpretation, also marginal effects are presented; for dummy variables, this gives the percentage point difference in the employment probabilities of the dummied group and the reference category (natives). Adding seven education dummies to the regression (moving from Model I to Model II) has mostly negligible effect on the other coefficients; only for Turks and Moroccans there is a noticeable effect on the entry gap.

The employment probability for men and women goes up with age, but at a decreasing rate. Assimilation profiles are also concave. As expected, individuals with a higher education level are more likely to be employed (not shown). The coefficients for the country of origin dummies give the initial employment gap of immigrants upon arrival. The entry gaps have the same ranking for men and for women. The gap is largest for refugees, the next group is non-western, Turks/Moroccans, East Europeans and Caribbeans, with modest differences between them and the smallest gap, not surprisingly, is for western immigrants. Second generation immigrants do substantially better than first generation immigrants, but for men, the generation gap is never higher than the entry gap, implying that even second generation immigrants have a weaker labour market position. We have estimated second generation effects separately by origin country and found that the performance of the second generation Eastern European and other non-western immigrants (both men and women) is significantly better than for other origin groups (models with interaction terms are not shown here). However, allowing the second generation gap to vary by source country, we find that for men no entry gap is wiped out by the second generation gap; for women it is only wiped out for western immigrants. Hence, for essentially all source countries, second generation immigrants have poorer employment probabilities than native Dutch of similar qualities<sup>7</sup>.

The assimilation profile indicates that the probability of employment increases at a decreasing rate and reaches a maximum for men after 18 years<sup>8</sup>, and 20.5 years when controlling for education level, after 27 and 30 years for women. If we allow different assimilation patterns for the migrant groups, rather than assuming a common assimilation structure, the assimilation rate is the highest for refugees who have a very high initial employment gap<sup>9</sup> (models III and IV). They are followed by non-western immigrants, immigrants from Turkey/Morocco have the lowest assimilation rate. In general, immigrant women start with a larger employment gap but their assimilation rate is greater than immigrant men. In the next section we will further focus on assimilation patterns. Adding additional controls for family

---

<sup>6</sup> With one exception for men (higher educated Caribbeans) and three exceptions for women (medium and higher educated Turks/Moroccans, and higher educated western), with *lower* employment).

<sup>7</sup> We estimate no second generation gap for refugees, for lack of observations.

<sup>8</sup> The maximum is calculated as a first order condition,  $\beta_4 + 2\beta_5 YSM = 0$ , of the assimilation function ( $\beta_4 YSM + \beta_5 YSM^2$ ) in the model I for men and women, for instance:  $18 = 0.036 / (2 * 0.001)$ .

<sup>9</sup> The non-linear structure does not differ across the immigrant groups. Therefore a common quadratic term is maintained for all immigrants, interaction only affects the linear part of YSM. .

background, marital status and urbanisation barely affects the coefficients of other variables: both for men and women the differences are negligible.

Table 3. Employment probabilities, probit: coefficient, [marginal effect] and (standard error).

	MEN				WOMEN			
	Mod I	Mod II	Mod III	Mod IV	Mod I	Mod II	Mod III	Mod IV
Age	0.260*** [0.052] (0.001)	0.265*** [0.051] (0.001)	0.266*** [0.051] (0.001)	0.261*** [0.049] (0.001)	0.147*** [0.053] (0.002)	0.154*** [0.055] (0.002)	0.155*** [0.056] (0.002)	0.159*** [0.057] (0.002)
Age-sq	-0.003*** [-0.001] (0.000)	-0.004*** [-0.001] (0.000)	-0.004*** [-0.001] (0.000)	-0.003*** [-0.001] (0.000)	-0.002*** [-0.001] (0.000)	-0.002*** [-0.001] (0.000)	-0.002*** [-0.001] (0.000)	-0.002*** [-0.001] (0.000)
YSM	0.036*** [0.007] (0.001)	0.041*** [0.008] (0.001)	0.028*** [0.005] (0.001)	0.027*** [0.005] (0.001)	0.054*** [0.020] (0.002)	0.060*** [0.022] (0.002)	0.051*** [0.018] (0.002)	0.054*** [0.019] (0.002)
YSM-sq	-0.001*** [0.000] (0.000)	-0.001*** [0.000] (0.000)	-0.001*** [0.000] (0.000)	-0.001*** [0.000] (0.000)	-0.001*** [0.000] (0.000)	-0.001*** [0.000] (0.000)	-0.001*** [0.000] (0.000)	-0.001*** [0.000] (0.000)
TurkMoroc	-1.471*** [-0.489] (0.026)	-1.274*** [-0.406] (0.027)	-1.070*** [-0.326] (0.031)	-1.074*** [-0.325] (0.031)	-1.965*** [-0.618] (0.009)	-1.676*** [-0.572] (0.013)	-1.535*** [-0.541] (0.018)	-1.471*** [-0.527] (0.020)
Caribbean	-1.042*** [-0.323] (0.029)	-0.970*** [-0.289] (0.029)	-0.998*** [-0.299] (0.036)	-0.969*** [-0.286] (0.036)	-1.059*** [-0.403] (0.021)	-1.012*** [-0.387] (0.022)	-0.985*** [-0.378] (0.027)	-0.996*** [-0.382] (0.028)
East-Europ	-1.099*** [-0.348] (0.031)	-1.120*** [-0.349] (0.032)	-1.073*** [-0.331] (0.041)	-1.063*** [-0.325] (0.041)	-1.094*** [-0.414] (0.019)	-1.184*** [-0.444] (0.019)	-1.167*** [-0.438] (0.024)	-1.256*** [-0.466] (0.023)
RefugeeCount	-1.827*** [-0.621] (0.025)	-1.855*** [-0.626] (0.025)	-2.251*** [-0.737] (0.033)	-2.244*** [-0.735] (0.034)	-1.970*** [-0.610] (0.012)	-1.983*** [-0.616] (0.012)	-2.753*** [-0.671] (0.007)	-2.770*** [-0.675] (0.007)
Non-western	-1.258*** [-0.409] (0.027)	-1.203*** [-0.380] (0.028)	-1.379*** [-0.450] (0.034)	-1.364*** [-0.442] (0.034)	-1.344*** [-0.489] (0.015)	-1.299*** [-0.479] (0.016)	-1.364*** [-0.497] (0.019)	-1.376*** [-0.501] (0.020)
Western	-0.702*** [-0.189] (0.021)	-0.666*** [-0.172] (0.021)	-0.662*** [-0.171] (0.025)	-0.654*** [-0.167] (0.025)	-0.956*** [-0.367] (0.019)	-1.011*** [-0.386] (0.019)	-1.021*** [-0.390] (0.022)	-1.042*** [-0.397] (0.022)
Second Gen	0.595*** [0.086] (0.006)	0.536*** [0.076] (0.007)	0.527*** [0.075] (0.008)	0.529*** [0.075] (0.007)	1.000*** [0.269] (0.009)	1.006*** [0.265] (0.009)	1.004*** [0.265] (0.010)	1.020*** [0.266] (0.010)
Caribb*YSM			0.015** [0.003] (0.001)	0.014** [0.003] (0.001)			0.009 [0.003] (0.002)	0.009* [0.003] (0.002)
EastEur*YSM			0.009 [0.002] (0.001)	0.009 [0.002] (0.001)			0.008 [0.003] (0.002)	0.011 [0.004] (0.002)
Refug*YSM			0.058*** [0.011] (0.003)	0.058*** [0.011] (0.003)			0.093*** [0.033] (0.007)	0.094*** [0.033] (0.007)
Non-west*YSM			0.027*** [0.005] (0.001)	0.026*** [0.005] (0.001)			0.015** [0.005] (0.002)	0.016** [0.006] (0.002)
West*YSM			0.013*** [0.003] (0.001)	0.013** [0.002] (0.001)			0.012** [0.004] (0.001)	0.013*** [0.005] (0.001)
Log Likelihood	-24482	-23608	-23589	-23519	-40499	-38442	-38426	-37633
Pseudo R-sq	0.23	0.25	0.25	0.26	0.14	0.19	0.19	0.20
N	71445	71445	71445	71445	73644	73644	73644	73644

p<.05; \*\* p<.01; \*\*\* p<.001

Model II and III also include dummies for 7 categories of educational achievement. Model IV additionally include 3 dummy variables for the presence of children below 11 years, controls for marital status, the degree of urbanisation and for naturalisation of immigrants.

Above we noted that entry gaps do not differ by level of education. We have also tested for interaction between the effects of YSM and education. We found very modest effect for high educated immigrant men but no significant effect for immigrant women. *This indicates that education generally has a negligible effect on assimilation: it affects neither the entry gap nor the assimilation profile!* This is certainly a remarkable conclusion, contrary to what one might have anticipated: one would expect the higher educated to benefit faster from the switch to a new country, to be better equipped to exploit the opportunities. As Figure 1 indicates, the results can not be due to lack of variation in schooling levels: Sample sizes for some origin groups are small (e.g. only 285 female refugees), but generally, the sample sizes are large enough for education effect to show up. It seems then that the conclusion we found for refugees to the Netherlands (Hartog and Zorlu, forthcoming) generalizes: for immigrants, education is not the sure way to success!

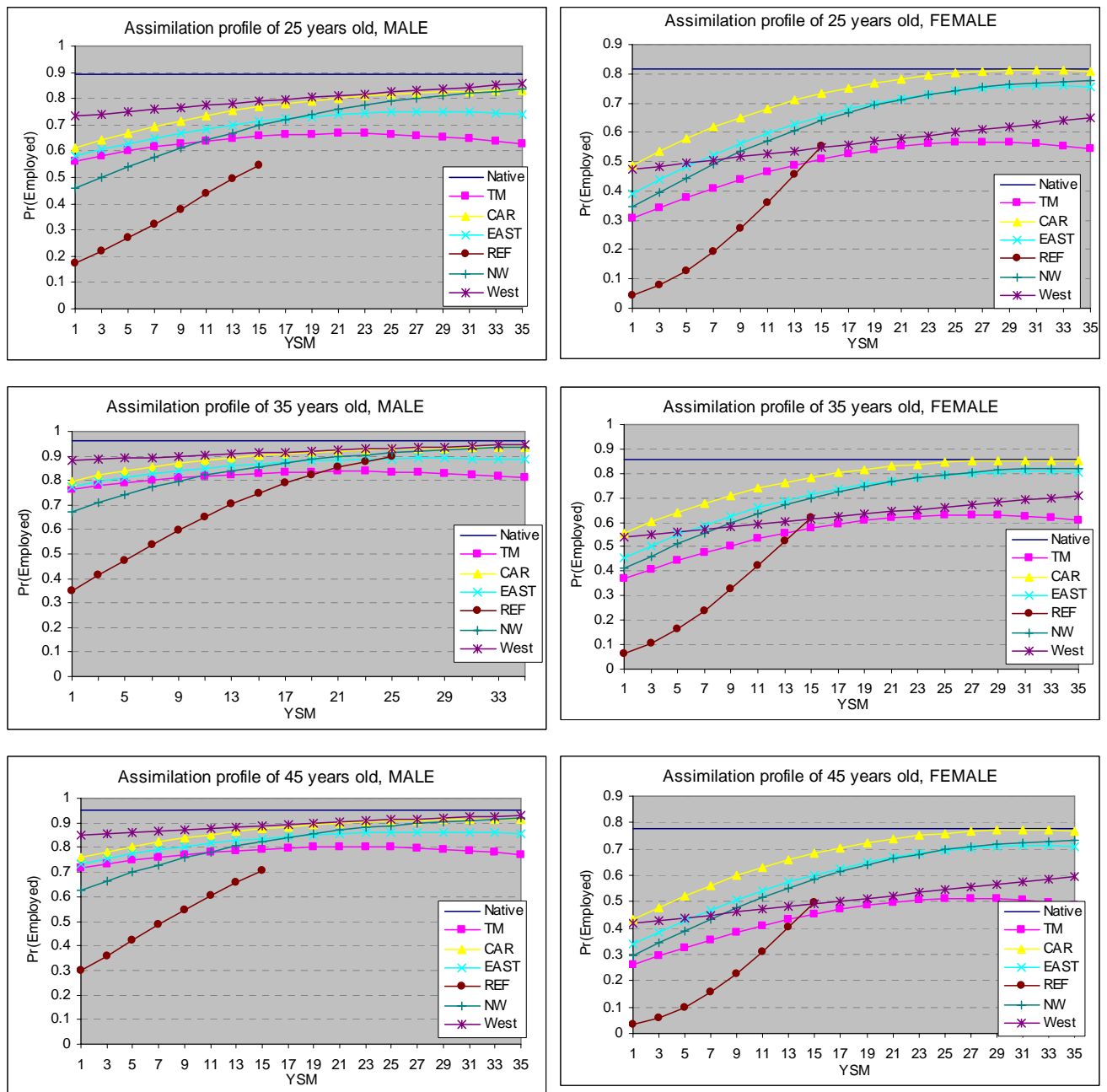
## 5.2 Simulations assimilation patterns

Employment assimilation patterns for migrant men and women are simulated with the parameter estimates from equation (1). We put the other variables at their sample means and chose three levels of age.(Figure 2). We keep age constant for both natives and immigrants and thus the curves give the pure effect of catching up on the gap that exists at a given age during years since migration. As the duration of residence is less than 15 years for most refugees, we have not extrapolated beyond 15 years for this group. Age and hence age at entry has an impact on the patterns of assimilation, as the model is non-linear and employment probabilities are limited to the 0-1 interval. The effects are parabolic, reflecting the parabolic effect of age at immigration: immigrants arriving at age 35 start at higher employment probability than immigrants arriving at age 25, but with entry at age 45, the employment probably appears to have fallen. There is a tendency to convergence, in the sense that the slope of the curve is higher for groups with larger gap at entry, as predicted by Duleep and Regets (1999). Men who enter at age 25 never fully close the gap, but some immigrant groups entering at age 35 do quite well. Western and Caribbean men reach up to parity with native men. Turkish and Moroccan men always remain behind and in fact loose more ground after 15 years. Immigrants from refugee countries have a striking speed of assimilation.

The profiles for women show similar ranking by origin country as for men, but the differences between the groups are larger. Caribbean, East-European and non-western women do quite well, Turkish and Moroccan women have much lower employment probabilities throughout and remain far from parity with natives. Female refugees also catch up at an amazing speed.



Figure 2. Probability of employment by years since migration, for different ages at arrival.



### 5.3 Estimates of unemployment probabilities

Table 4 displays native-immigrant unemployment differences and the impact of YSM on unemployment probabilities. Again, the differences between specifications are fairly modest, with one exception discussed below. The unemployment rates for male non-western immigrants upon arrival are 20 to 30 percentage points higher than for natives. For women these differences are no more than 8 to 15 percentage points, reflecting their much higher non-participation rates. The effect of arrival at higher age is positive at diminishing rate. Second generation immigrants also have higher unemployment, as the second generation dummy does not surpass the origin country dummies. Allowing the second generation effect to differ by origin country, we find that the immigrant disadvantage is only wiped out for the

East European second generation; in all other cases we find that even second generation immigrants do worse than native born Dutch of similar observed quality. Adding some controls in specification IV (family situation, urbanisation) has little effect on other coefficients. The ranking by region of origin indicates three levels: the highest unemployment gap is for refugees, the lowest for western immigrants, the other countries are in between at fairly similar levels. The ranking for women is rather similar but at much smaller differences; for female refugees, the initial unemployment gap is replaced by an increasing gap over time. To allow differences for the second generation across the origin countries, we interacted the origin country fixed effects with the dummy for the second generation (models with these interactions not shown here). The interaction terms indicate much larger unemployment probabilities for the second generation Turkish and Moroccan men and women as well as the second generation women from Eastern Europe and Other non-western Europe, relative to the second generation Western immigrants. Additionally, we interact YSM with education to test the intuition that higher educated immigrants may benefit relatively more from a longer stay in the Netherlands. The results provide no indication for this proposition. As before, time profiles are simulated for each origin group.

Table 4. Unemployment probabilities, probit: Coefficient, [marginal effect] and (standard error)

	MEN				WOMEN			
	Mod I	Mod II	Mod III	Mod IV	Mod I	Mod II	Mod III	Mod IV
Age	0.008 [0.001] (0.001)	0.008 [0.001] (0.001)	0.010 [0.001] (0.001)	0.048*** [0.005] (0.001)	0.074*** [0.008] (0.001)	0.073*** [0.008] (0.001)	0.074*** [0.008] (0.001)	0.086*** [0.008] (0.001)
Age-sq	0.000 [0.000] (0.000)	0.000 [0.000] (0.000)	0.000 [0.000] (0.000)	-0.001*** [0.000] (0.000)	-0.001*** [0.000] (0.000)	-0.001*** [0.000] (0.000)	-0.001*** [0.000] (0.000)	-0.001*** [0.000] (0.000)
YSM	-0.026** [-0.003] (0.001)	-0.027** [-0.003] (0.001)	-0.033** [-0.003] (0.001)	-0.032** [-0.003] (0.001)	-0.013 [-0.001] (0.001)	-0.014 [-0.002] (0.001)	-0.030** [-0.003] (0.001)	-0.035** [-0.003] (0.001)
YSM-sq	0.000 [0.000] (0.000)	0.000 [0.000] (0.000)	0.000 [0.000] (0.000)	0.000 [0.000] (0.000)	0.000 [0.000] (0.000)	0.000 [0.000] (0.000)	0.000 [0.000] (0.000)	0.000 [0.000] (0.000)
TurkMoroc	1.116*** [0.240] (0.034)	1.068*** [0.223] (0.033)	1.175*** [0.259] (0.040)	1.327*** [0.301] (0.043)	0.500*** [0.077] (0.022)	0.445*** [0.065] (0.021)	0.634*** [0.105] (0.030)	0.762*** [0.132] (0.033)
Caribbean	1.043*** [0.218] (0.035)	1.031*** [0.213] (0.035)	1.097*** [0.235] (0.044)	1.150*** [0.242] (0.045)	0.668*** [0.115] (0.026)	0.651*** [0.110] (0.025)	0.677*** [0.116] (0.030)	0.609*** [0.095] (0.028)
East-Europ	0.913*** [0.179] (0.035)	0.926*** [0.182] (0.036)	0.642*** [0.105] (0.038)	0.658*** [0.104] (0.037)	0.685*** [0.120] (0.025)	0.679*** [0.117] (0.025)	0.703*** [0.123] (0.031)	0.749*** [0.130] (0.032)
RefugeeCount	1.347*** [0.328] (0.040)	1.348*** [0.328] (0.040)	1.340*** [0.324] (0.075)	1.374*** [0.326] (0.077)	0.619*** [0.104] (0.033)	0.599*** [0.099] (0.032)	0.024 [0.003] (0.032)	0.140 [0.015] (0.037)
Non-western	1.067*** [0.226] (0.033)	1.063*** [0.224] (0.033)	0.961*** [0.191] (0.039)	0.949*** [0.179] (0.038)	0.569*** [0.092] (0.021)	0.547*** [0.086] (0.021)	0.453*** [0.067] (0.023)	0.496*** [0.072] (0.024)
Western	0.547*** [0.080] (0.019)	0.561*** [0.083] (0.019)	0.551*** [0.081] (0.023)	0.536*** [0.073] (0.021)	0.286** [0.037] (0.014)	0.278** [0.035] (0.014)	0.313** [0.041] (0.017)	0.333** [0.041] (0.016)
Second Gen	-0.367*** [-0.029] (0.006)	-0.366*** [-0.028] (0.006)	-0.361** [-0.028] (0.006)	-0.377*** [-0.027] (0.006)	-0.209* [-0.019] (0.007)	-0.192* [-0.017] (0.008)	-0.233* [-0.021] (0.008)	-0.278** [-0.022] (0.007)
Caribb*YSM			0.002 [0.000] (0.001)	0.006 [0.001] (0.001)			0.013 [0.001] (0.001)	0.012 [0.001] (0.001)
EastEur*YSM			0.033**	0.035**			0.012	0.012

			[0.003]	[0.003]			[0.001]	[0.001]
			(0.001)	(0.001)			(0.001)	(0.001)
Refug*YSM			0.008	0.007			0.086**	0.083*
			[0.001]	[0.001]			[0.009]	[0.008]
			(0.002)	(0.002)			(0.003)	(0.003)
Non-west*YSM			0.015	0.022*			0.023*	0.021*
			[0.002]	[0.002]			[0.002]	[0.002]
			(0.001)	(0.001)			(0.001)	(0.001)
West*YSM			0.008	0.012			0.013	0.014
			[0.001]	[0.001]			[0.001]	[0.001]
			(0.001)	(0.001)			(0.001)	(0.001)
Log Likelihood	-7445	-7423	-7417	-7208	-8090	-8051	-8045	-7850
Pseudo R-sq	0.04	0.05	0.05	0.07	0.03	0.03	0.03	0.06
N	37165	37165	37165	37165	38411	38411	38411	38411

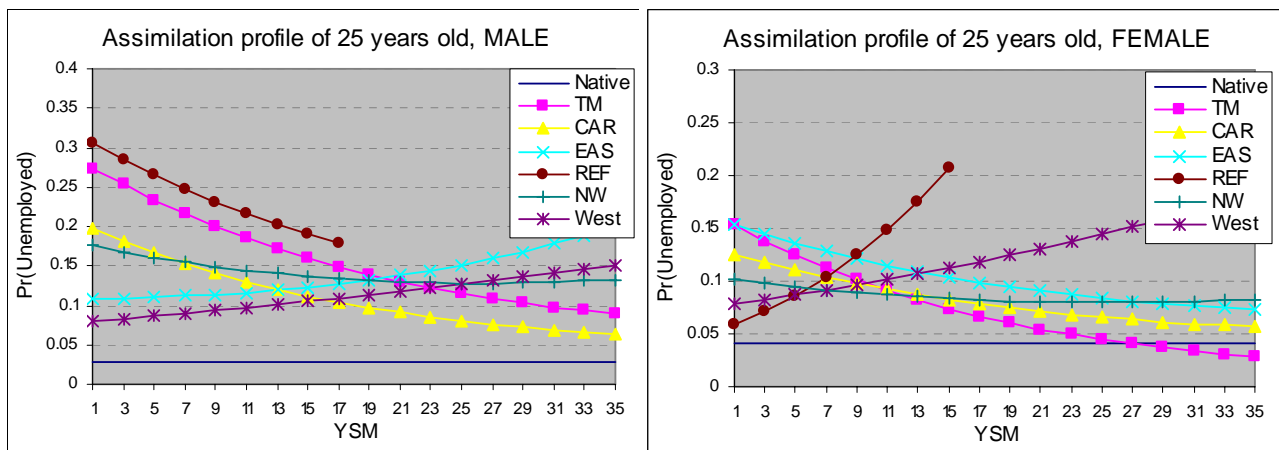
p<.05; \*\* p<.01; \*\*\* p<.001

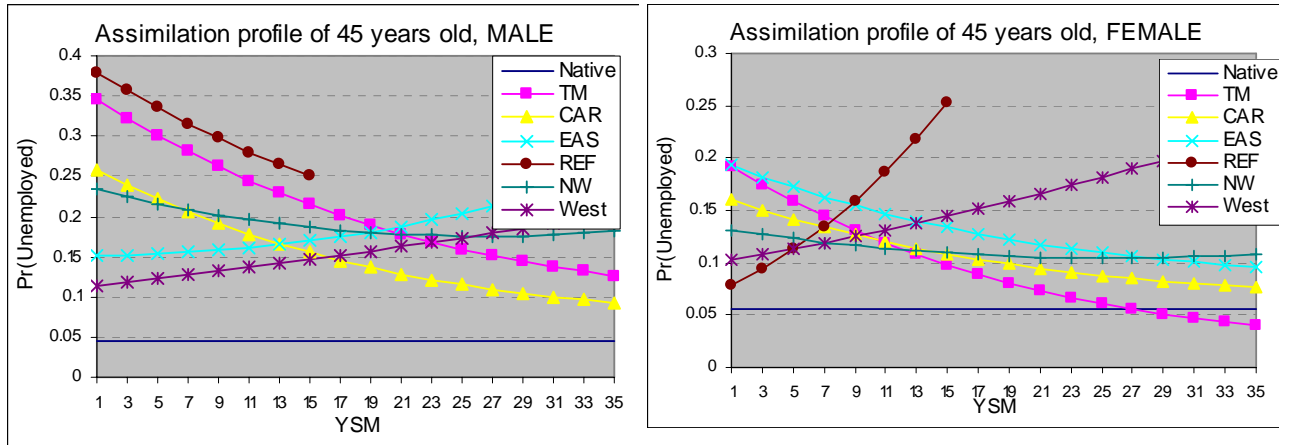
Model II and III also include dummies for 7 categories of educational achievement. Model IV additionally include 3 dummy variables for the presence of children below 11 years and controls for marital status, the degree of urbanisation and for naturalisation of immigrants.

#### 5.4 Simulations

In figure 3 below, we graph the probability of unemployment in function of years since migration for an average immigrant: all other variables are set at their sample means for the relevant origin group. Again we see large differences between origin groups, with refugees doing worst and Turks/Moroccans doing remarkably well. The latter effect may be due to better alternatives: non-participation, disability benefit. Men do not reach parity with natives, some women immigrant groups do (Caribbeans, Turks/Moroccans). Very remarkable is the difference in slopes of the profiles. Among men, East-Europeans and western men have unemployment rates increasing with years since migration, among women it's refugees and western immigrants that have this deviant pattern.

Figure 3. Probability of unemployment by years since migration, for different ages at arrival.





## 6. Occupational structure

Immigrants' disadvantage is not limited to low labour market participation and high unemployment. It has been widely documented that the quality of jobs occupied by immigrants is usually relatively low. Since no direct measurement of job quality is available and no information on wages is included in the LFS, the quality of jobs will be approximated by the Erikson, Goldthorpe and Portocarero (EGP) social class scheme, which is regularly used by sociologists (Evans 1992). The EGP reflects various dimensions of job quality, like wages, skill requirements, employment status, power relations in production process, routines of tasks, promotion possibilities and career prospects. To assess the relative position of immigrants in occupational classes, we reorganise the original eleven categories of the EGP into three categories, referred to as 1: *Service class* (professionals and managerial jobs), 2: *Intermediate jobs* and 3: *Working class* (routine non-manual and semi- and unskilled manual jobs)<sup>10</sup>.

Table 5 shows the distribution of natives and immigrants across the occupational classes. Non-western immigrants are highly concentrated in the category working class jobs while the occupational distribution of western immigrants is closer to that of natives. Among immigrants, the categories TurkMoroc, Asylum and non-west migrants are overrepresented in working class jobs. Caribbean migrants have a better position than other non-western migrants. Native and western men have more likely service class jobs compared to their female counterparts while the opposite holds for women from the other categories TurkMoroc, Asylum and Eastern-European.

Table 5. Distribution of natives and immigrants 25-64 by job class. percentages (weighted)

	Men			Women		
	Service	Interm	Working	Service	Interm	Working
Native	43.5	34.7	21.7	37.7	36.2	26.1
TurkMoroc	15.4	26.8	57.9	17.7	26.8	55.4
Caribbean	30.7	34.8	34.6	31.4	32.3	36.3
East-European	25.5	41.8	32.7	28.7	28.7	42.6
Refugee	13.8	30.1	56.2	41.1	24.5	34.5
Other non-west	26.3	31.9	41.9	23.0	27.4	49.6
Western	49.0	29.2	21.8	40.8	32.2	27.0
<b>Total</b>	<b>42.4</b>	<b>34.0</b>	<b>23.6</b>	<b>37.2</b>	<b>35.3</b>	<b>27.6</b>

<sup>10</sup> *Professional and Managerial jobs* refer to the categories I and II of Goldthorpe's original eleven classes while *Unskilled Jobs* are captured by IIIb, VIIa and VIIIb

The distribution of the employed labour force across these job categories is no doubt largely determined by individual background variables. To assess ethnic differences in the distribution, we study determinants of being in one of the three job types by regression models. We will not impose a strict ranking assumption on the job classes and model. The probability of being in one of the occupational classes as a multinomial choice process. The coefficients for reference outcome 3 (Working class jobs) are normalized to zero; thus, we estimate probabilities of having a service class or intermediate job, separate for men and women, relative to having a working class job.

### 6.1 Results

The estimates are presented in table 6a and 6b. It is immediately apparent that education level has a strong positive effect on the probability of having service and intermediate class jobs relative to working class jobs, as expected. Remarkably, immigrants are still significantly less likely in service and intermediate class jobs after controlling for age, education and family status. The initial probability of having service class jobs upon arrival is about 37 percentage points lower for immigrant men from Turkey/Morocco and East-Europe than for native men, as indicated by marginal effects for the origin fixed effects in model 4. Male immigrants from the Caribbean and Western source countries do experience an initial disadvantage of about 28 percentage points relative to natives. This gap is the highest for Refugee men (43 percentage points). The initial gap for service class jobs is relatively smaller for immigrant women relative to native women and the variation between the origin groups is relatively small, ranging from 19 to 26 percentage points.

The initial ethnic gap for intermediate jobs is relatively lower for immigrant men, compared to service class jobs: about 15 percentage points for Turks/Moroccans and 8-9 points for Caribbean, Eastern European and Western immigrants. However, it is relatively larger for immigrant women, varying from 22 to 29 percentage points. These ethnic gaps decline at a diminishing rate with additional year of residence (YSM). The decline is sharper for refugees as indicated by an interaction of the origin fixed effect with YSM. The probability of having service class and intermediate jobs will reach its maximum after circa 30 years of residence for immigrant men and 50 to 60 years of residence for immigrant women<sup>11</sup>.

Again, to test a possible variation in assimilation profiles of immigrants with different education level, we estimated models with interaction terms of origin countries and education, and alternatively interaction terms of YSM and education (not shown here). Similar to the analysis of (un)employment, value of education tends be lower for Turks/Moroccans and the group other non-western migrants. We found no evidence of a higher assimilation rate for higher educated immigrants. Medium educated migrants have even a less favorable assimilation profile relative to the lower educated. These results underline, once again, a limited relevance of education for migrants in employment assimilation.

---

<sup>11</sup> These optimum values reflect the first order conditions, derived from the assimilation function ( $\beta_4 YSM + \beta_5 YSM^2$ ), calculated using the estimated coefficients for YSM and YSM-squared ( $\beta_4$  and  $\beta_5$ ) in tables 6a and 6b, model 4 for immigrant men and women. Note the maximum for refugee men will differ from other groups since the interaction term with YSM for this group is statistically significant.

Table 6a. Determinants of Service and Intermediate Jobs; multinomial odds ratios, (standard errors) and [marginal effects], MEN

	Service				Intermediate			
	Mod I	Mod II	Mod III	Mod IV	Mod I	Mod II	Mod III	Mod IV
Age	1.122*** (0.010) [0.022]	1.201*** (0.012) [0.033]	1.203*** (0.012) [0.034]	1.130*** (0.013) [0.027]	1.042*** (0.010) [-0.008]	1.071*** (0.010) [-0.015]	1.072*** (0.010) [-0.015]	1.019 (0.011) [-0.016]
Age-sq	0.999*** (0.000) [-0.000]	0.998*** (0.000) [-0.000]	0.998*** (0.000) [-0.000]	0.999*** (0.000) [-0.000]	0.999*** (0.000) [0.000]	0.999*** (0.000) [0.000]	0.999*** (0.000) [0.000]	1.000 (0.000) [0.000]
YSM	1.030* (0.014) [-0.001]	1.126*** (0.018) [0.017]	1.122*** (0.020) [0.016]	1.113*** (0.021) [0.016]	1.060*** (0.014) [0.009]	1.075*** (0.015) [-0.003]	1.073*** (0.016) [-0.003]	1.063*** (0.016) [-0.004]
YSM-sq	1.000 (0.000) [0.000]	0.998*** (0.000) [-0.000]	0.998*** (0.000) [-0.000]	0.998*** (0.000) [-0.000]	0.999** (0.000) [-0.000]	0.999** (0.000) [0.000]	0.999** (0.000) [0.000]	0.999** (0.000) [0.000]
TurkMoroc	0.080*** (0.161) [-0.317]	0.034*** (0.210) [-0.379]	0.037*** (0.240) [-0.374]	0.034*** (0.243) [-0.379]	0.143*** (0.147) [-0.186]	0.145*** (0.157) [-0.155]	0.149*** (0.178) [-0.152]	0.146*** (0.180) [-0.153]
Caribbean	0.250*** (0.160) [-0.174]	0.093*** (0.213) [-0.300]	0.124*** (0.244) [-0.273]	0.111*** (0.250) [-0.284]	0.264*** (0.156) [-0.131]	0.217*** (0.165) [-0.107]	0.264*** (0.198) [-0.078]	0.251*** (0.202) [-0.082]
East-Europ	0.197*** (0.180) [-0.225]	0.035*** (0.236) [0.376]	0.036*** (0.297) [-0.374]	0.038*** (0.299) [-0.373]	0.311*** (0.166) [-0.089]	0.185*** (0.175) [-0.115]	0.186*** (0.225) [-0.115]	0.199*** (0.227) [-0.099]
RefugeeCount	0.123*** (0.222) [-0.274]	0.010*** (0.284) [-0.414]	0.003*** (0.584) [-0.429]	0.003*** (0.591) [-0.429]	0.195*** (0.194) [-0.152]	0.120*** (0.208) [-0.185]	0.084*** (0.432) [-0.233]	0.101*** (0.439) [-0.206]
Non-western	0.192*** (0.158) [-0.218]	0.045*** (0.211) [-0.363]	0.038*** (0.256) [-0.371]	0.040*** (0.259) [-0.371]	0.250*** (0.150) [-0.127]	0.195*** (0.160) [-0.107]	0.168*** (0.197) [-0.133]	0.188*** (0.200) [-0.110]
Western	0.416*** (0.136) [-0.072]	0.106*** (0.183) [-0.285]	0.102*** (0.202) [-0.290]	0.104*** (0.206) [-0.289]	0.302*** (0.134) [-0.142]	0.211*** (0.142) [-0.105]	0.208*** (0.163) [-0.105]	0.218*** (0.164) [-0.096]
Second Gen	3.264*** (0.139) [0.083]	10.799*** (0.185) [0.277]	10.969*** (0.200) [0.281]	10.576*** (0.203) [0.278]	3.271*** (0.136) [0.069]	4.634*** (0.145) [-0.111]	4.619*** (0.160) [-0.114]	4.475*** (0.161) [-0.115]
Caribb*YSM			0.987 (0.013) [-0.001]	0.982 (0.013) [-0.001]			0.989 (0.010) [-0.001]	0.982 (0.010) [-0.001]
EastEur*YSM			1.001 (0.022) [0.000]	0.995 (0.022) [-0.000]			1.001 (0.016) [0.000]	0.995 (0.017) [-0.000]
Refug*YSM			1.143** (0.051) [0.026]	1.136* (0.052) [0.026]			1.039 (0.041) [-0.013]	1.030 (0.042) [-0.015]
Non-west*YSM			1.019 (0.017) [0.002]	1.010 (0.017) [0.002]			1.013 (0.013) [0.000]	1.002 (0.013) [-0.001]
West*YSM			1.012 (0.012) [0.002]	1.011 (0.012) [0.002]			1.004 (0.009) [-0.001]	1.002 (0.009) [-0.001]
Pseudo R-sq	-62734	-48083	-48075	-47748				
Log likelihood	0.01	0.24	0.24	0.25				
N	59430	59430	59430	59430				

p<.05; \*\* p<.01; \*\*\* p<.001

Model II and III also include dummies for 7 categories of educational achievement. Model IV also includes 3 dummy variables for the presence of children below 11 years and controls for marital status, the degree of urbanisation, naturalisation of immigrants and working hours.

Table 6b. Determinants of Service and Intermediate Jobs; odds ratios, (standard errors) and [marginal effects], WOMEN

	Service				Intermediate			
	Mod I	Mod II	Mod III	Mod IV	Mod I	Mod II	Mod III	Mod IV
Age	0.935*** (0.011) [-0.012]	0.991 (0.014) [-0.000]	0.991 (0.014) [0.000]	1.072*** (0.015) [0.013]	0.974* (0.011) [0.003]	0.986 (0.012) [-0.002]	0.985 (0.012) [-0.002]	1.017 (0.013) [-0.006]
Age-sq	1.000*** (0.000) [0.000]	1.000 (0.000) [0.000]	1.000 (0.000) [-0.000]	0.999** (0.000) [-0.000]	1.000 (0.000) [-0.000]	1.000 (0.000) [0.000]	1.000 (0.000) [0.000]	1.000 (0.000) [0.000]
YSM	1.041** (0.015) [0.002]	1.078*** (0.020) [0.008]	1.095*** (0.023) [0.010]	1.091*** (0.024) [0.009]	1.060*** (0.015) [0.008]	1.065*** (0.016) [0.004]	1.074*** (0.019) [0.004]	1.072*** (0.020) [0.004]
YSM-sq	0.999 (0.000) [-0.000]	0.999* (0.000) [-0.000]	0.999* (0.000) [-0.000]	0.999 (0.000) [-0.000]	0.999* (0.000) [-0.000]	0.999* (0.000) [-0.000]	0.999 (0.000) [-0.000]	0.999 (0.000) [-0.000]
TurkMoroc	0.088*** (0.184) [-0.269]	0.117*** (0.248) [-0.221]	0.095*** (0.289) [-0.239]	0.070*** (0.296) [-0.256]	0.101*** (0.182) [-0.257]	0.135*** (0.201) [-0.249]	0.117*** (0.234) [-0.266]	0.095*** (0.242) [-0.293]
Caribbean	0.287*** (0.165) [-0.134]	0.183*** (0.224) [-0.176]	0.190*** (0.251) [-0.171]	0.134*** (0.254) [-0.200]	0.229*** (0.171) [-0.184]	0.202*** (0.187) [-0.196]	0.201*** (0.212) [-0.199]	0.152*** (0.218) [-0.236]
East-Europ	0.267*** (0.163) [-0.147]	0.069*** (0.221) [-0.269]	0.073*** (0.268) [-0.267]	0.067*** (0.271) [-0.265]	0.225*** (0.168) [-0.183]	0.130*** (0.180) [-0.244]	0.142*** (0.219) [-0.231]	0.133*** (0.224) [-0.243]
RefugeeCount	0.450* (0.318) [-0.055]	0.096*** (0.430) [-0.243]	0.131* (0.845) [-0.207]	0.092** (0.833) [-0.234]	0.264*** (0.346) [-0.184]	0.151*** (0.367) [-0.228]	0.133** (0.665) [-0.255]	0.106*** (0.666) [-0.283]
Non-western	0.168*** (0.163) [-0.208]	0.056*** (0.223) [-0.284]	0.059*** (0.264) [-0.282]	0.050*** (0.267) [-0.284]	0.171*** (0.164) [-0.207]	0.127*** (0.179) [-0.244]	0.135*** (0.213) [-0.236]	0.120*** (0.218) [-0.253]
Western	0.400*** (0.144) [-0.068]	0.164*** (0.197) [-0.180]	0.157*** (0.212) [-0.191]	0.142*** (0.215) [-0.194]	0.242*** (0.152) [-0.194]	0.164*** (0.164) [-0.223]	0.182*** (0.179) [-0.203]	0.163*** (0.184) [-0.220]
Second Gen	3.146*** (0.146) [0.020]	6.523*** (0.200) [0.107]	6.785*** (0.210) [0.133]	6.607*** (0.213) [0.113]	4.438*** (0.154) [0.173]	5.996*** (0.167) [0.089]	5.570*** (0.176) [0.062]	5.764*** (0.181) [0.074]
Caribb*YSM			0.982 (0.016) [-0.002]	0.976 (0.016) [-0.003]			0.987 (0.013) [-0.001]	0.982 (0.013) [-0.001]
EastEur*YSM			0.979 (0.022) [-0.002]	0.972 (0.022) [-0.002]			0.979 (0.017) [-0.002]	0.973 (0.018) [-0.002]
Refug*YSM			0.960 (0.065) [-0.009]	0.972 (0.064) [-0.006]			0.998 (0.050) [0.006]	1.001 (0.049) [0.004]
Non-west*YSM			0.981 (0.019) [-0.002]	0.973 (0.020) [-0.002]			0.983 (0.015) [-0.001]	0.972 (0.016) [-0.003]
West*YSM			0.988 (0.014) [0.001]	0.984 (0.015) [0.001]			0.976* (0.012) [-0.004]	0.973* (0.012) [-0.004]
Log likelihood	-51840	-37874	-37869	-36726				
Pseudo R-sq	0.01	0.28	0.28	0.30				
N	48161	48161	48161	48161				

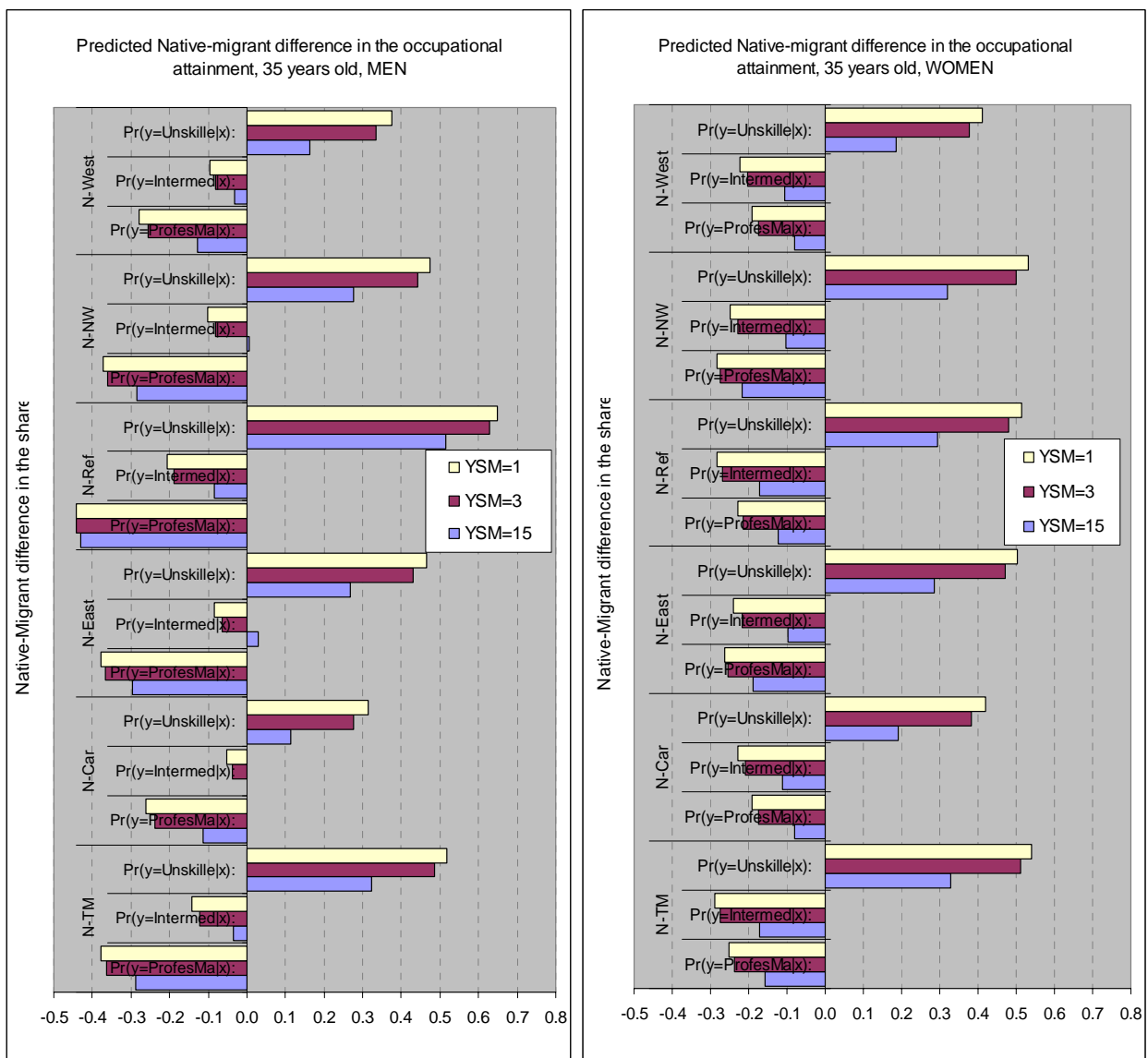
p<.05; \*\* p<.01; \*\*\* p<.001

Model II and III also include dummies for 7 categories of educational achievement. Model IV also include 3 dummy variables for the presence of children below 11 years and controls for marital status, the degree of urbanisation, naturalisation of immigrants and working hours.

## 6.2 Simulations

With the results in Table 6 we have simulated the distribution of occupational quality over three levels (Figure 4). Not surprisingly, immigrants are concentrated at lower occupational levels. But remarkably, this holds for all immigrant groups, including those from western countries. In all cases, the excessive concentration in unskilled jobs, relative to natives, decreases over time, and is generally reduced to about half its original value in 15 years time (except for refugees). The excess concentration in unskilled jobs is markedly stronger for women than for men. None of the groups reaches parity in 15 years time and in that sense we can say that for none of these groups is there successful integration within a reasonable time span.

Figure 4. Distribution of occupational quality: probability for natives minus probability of immigrant groups (source: Table 6)





## 7. Conclusions

We have studied the position of immigrants in The Netherlands using a large cross-section dataset for 2004 and 2005. We measure the gap at entry between immigrants and natives for some socio-economic variables and we measure assimilation profiles in function of years since migration. While admittedly this assignment of differences between cohorts over time to longitudinal effects may be invalidated by unobserved quality differences and selective emigration we have given reasons not to worry too much about such bias. We find some usual and hence anticipated results, such as poor performance of immigrants from non-western countries (including poor results for the second generation) and much better performance of immigrants from western source countries. But we also report several novel and not fully anticipated results.

The analysis has shown that non-western immigrants are substantially less likely employed. The employment level of western immigrants is quite close to that of natives. Among non-western immigrants, the labour market position of immigrants from former colonies in the Caribbean (Surinam and Dutch Antilles) is the best despite the fact that these immigrants are still significantly disadvantaged compared to natives. The significant higher performance of women from this group is remarkable. The participation rate of non-western immigrants is still very low and they are employed in low quality jobs, conditional on the relevant characteristics observed. The probability of participation and employment as well as quality of jobs is low upon arrival but increases significantly with the duration of stay.

As the working population is considered, the same disadvantaged immigrant groups are less likely in professional and managerial jobs and highly concentrated in semi and unskilled jobs. Immigrants start with a low-qualified job upon arrival and the quality of job significantly goes up with the time elapsed in the Netherlands although the final position remains lower than for natives.

Comparing with native gender counterparts, immigrant men are in general relatively more disadvantaged than immigrant women. Only among Turkish and Moroccan immigrants, the active participation rate of women is relatively low. Especially immigrant men from Iran, Iraq and Afghanistan, who likely entered as asylum seekers, are less likely active in the labour market. Their low participation rate is possibly related to their particular position. During their asylum application, they are not allowed to work. However, high unemployment and low job quality can indicate a difficult starting position due to depreciation of their human capital endowment during the forced idleness (Hartog and Zorlu 2007).

Comparing immigrant groups, we found that in terms of employment probability, Turks/Moroccans perform worst, Caribbeans and western men perform best. We find support for the Duleep-Regets hypothesis of a negative relationship between dip and catch-up. The bigger the initial employment gap for an origin group, the steeper the effect of years since migration: employment probabilities converge over time. Also, convergence appears stronger for men than for women. Unemployment probabilities do not develop uniformly with time since migration: they generally decrease and approach levels for natives, but they *increase* for western immigrants, for East European men and for refugee women.

We have also considered assimilation in terms of type of jobs. The gap in occupational quality between natives and immigrants appears larger for women than for men. Just like all other immigrant groups, immigrants from western countries are more likely to work in unskilled jobs than natives (even when controlling for education!).

As our most remarkable result, we note that controlling for education has no effect on the entry gap in employment and on the unemployment probability. Also, controlling for education has no effect on the assimilation profile: the effect of years since migration on employment and unemployment is not sensitive to years of education. We find (but did not report) the same results if we suppress country of origin, hence country of origin does not absorb some possible interaction effects of education. This is a most unexpected result. Education appears to be impotent in affecting the position of immigrants!

## References

- Adsera, A. and B. R.; Chiswick (2007), Are There Gender and Country of Origin Differences in Immigrant Labor Market Outcomes across European Destinations? *Journal of Population Economics*, 20, 3, 495-526
- Blau, F., L. M. Kahn, J. Moriarty, and A. Souza (2003), The Role of the Family in Immigrants' Labor-Market Activity: An Evaluation of Alternative Explanations: Comment," *American Economic Review*, 93, 1, 429-447
- Baker, M. and D. Benjamin (1997), The Role of the Family in Immigrants' Labor Market Activity: An Evaluation of Alternative Explanations, *American Economic Review* 87, 705-727.
- Bevelander, P. and HS Nielsen. (2001). Declining employment success of immigrant males in Sweden: Observed or Unobserved characteristics?, *Journal of Population Economics*, 14 (3) , pp: 455-472.
- Bijwaard, G. (2007), Modelling migration dynamics of immigrants: the case of The Netherlands, Econometric Institute EUR, Report EI 2007-10
- Borjas, G. (1985). Assimilation, Changes in Cohort Quality, and the Earnings of Immigrants, *Journal of Labor Economics*, 3: 463-469.
- Borjas, G. (1995). Assimilation and Changes in Cohort Quality Revisited: What happened to Immigrant Earnings in the 1980s? *Journal of Labor Economics*, 13: 201-245.
- Chiswick, B. (1978). The effect of Americanization on the Earnings of Foreign-Born Men, *Journal of Political Economy*, 86: 897-921.
- Chiswick, B., Y. Cohen, and T. Zach, The labor market status of immigrants: Effects of the unemployment rate at arrival and duration of residence. *Industrial and Labor Relations Review* 50 (1997) 289-303
- Constant, A. and D. Massey (2002), Self selection, earnings and out-migration: a longitudinal study of immigrants to Germany, Bonn: IZA Discussion paper 672
- Duleep, H. and M. Regets (1999), Immigrants and human capital investment, *American Economic Review*, 89 (2), Papers and Proceedings, 186-191
- Edin, P-A., R. LaLonde and O. Aslund (2000), Emigration of immigrants and measures of immigrant assimilation: evidence from Sweden, *Swedish Economic Policy Review*, 7, 163-204
- Evans, G. (1992). Testing the validity of Goldthorpe class schema. *European Sociological Review*, 8, 3, 211-232
- Friedberg R (2000) You can't take it with you? Immigrant assimilation and the portability of human capital, *Journal of Labor Economics*, 18(2):221-251
- Hartog, J. and R. Winkelmann (2002). Comparing migrants to non-migrants: The case of Dutch migration to New Zealand", *Journal of Population Economics*,

- Hartog, J. and A. Zorlu (forthcoming) How important is homeland education for the economic position of refugees in The Netherlands?, *Journal of Population Economics*
- Jensen, P and P. Pedersen (2007), To Stay or Not to Stay? Out-Migration of Immigrants from Denmark, *International Migration*, 45 (5),87-113
- Longva, P. and O. Raaum (2002), Unemployment and Earnings Assimilation of Immigrants, *Labour*, 16, 469-89
- Rooth, D. and J. Saarela (2007), Selection in migration and return migration: Evidence from micro data, *Economics letters*, 94 (1), 90-95
- Schmidt, C.M. (1997), Immigrant performance in Germany: Labor earnings of ethnic German migrants and foreign guest-workers, *Quarterly Review of Economics and Finance*, 37 (Special Issue), 379-397.
- Schoeni, R.F. (1998) Labor market assimilation of immigrant women, *Industrial and Labor Relations Review* 51 483-504.
- Wheatly Price S. (1999). The employment adjustment of male immigrants in England, *Journal of Population Economics*, 14(1), pp: 193-220.
- Zorlu, A., J. Hartog, A. Sprangers and H. Nicolaas (2004): Retourmigratiegedrag van recente immigranten, *Economisch Statistische Berichten*, 89 (4440), pp. 402-404

## Appendix

### Predicted probabilities EGP, men

		SERVICE				LOW			
		Low	Med	High	Total	Low	Med	High	Total
	Native	0.13	0.28	0.85	0.43	0.54	0.18	0.03	0.22
TurkMoroc	YSM up to 2 yrs	0.00	0.03	0.45	0.09	0.95	0.72	0.37	0.73
	YSM; 3-4 yrs	0.01	0.05	0.54	0.12	0.91	0.63	0.28	0.69
	YSM; 5-6 yrs	0.01	0.06	0.59	0.20	0.91	0.59	0.22	0.55
	YSM; 7-9 yrs	0.01	0.08	0.62	0.11	0.89	0.55	0.20	0.65
	YSM; 10-14 yrs	0.02	0.12	0.65	0.12	0.86	0.47	0.14	0.61
	YSM; 15-20 yrs	0.02	0.14	0.67	0.14	0.82	0.44	0.12	0.57
	YSM 20 + yrs	0.03	0.16	0.67	0.14	0.78	0.36	0.11	0.56
	Second Gen.	0.05	0.14	0.68	0.26	0.69	0.31	0.09	0.36
	Total	0.03	0.13	0.65	0.16	0.81	0.43	0.14	0.55
Carrib	YSM up to 2 yrs	0.00	0.10	0.72	0.23	0.97	0.54	0.13	0.54
	YSM; 3-4 yrs	0.02	0.15	0.33	0.12	0.86	0.40	0.44	0.55
	YSM; 5-6 yrs	0.03	0.12	0.62	0.15	0.79	0.44	0.12	0.49
	YSM; 7-9 yrs	0.04	0.14	0.70	0.22	0.79	0.41	0.10	0.48
	YSM; 10-14 yrs	0.05	0.18	0.76	0.26	0.75	0.36	0.07	0.40
	YSM; 15-20 yrs	0.07	0.19	0.77	0.30	0.69	0.30	0.06	0.33
	YSM 20 + yrs	0.11	0.27	0.80	0.33	0.61	0.23	0.04	0.31
	Second Gen.	0.11	0.26	0.83	0.39	0.60	0.22	0.04	0.26
	Total	0.09	0.23	0.80	0.33	0.65	0.27	0.05	0.33
East-Eur	YSM up to 2 yrs	0.00	0.04	0.64	0.12	0.97	0.59	0.19	0.59
	YSM; 3-4 yrs	0.01	0.04	0.55	0.24	0.88	0.63	0.24	0.49
	YSM; 5-6 yrs	0.01	0.05	0.62	0.23	0.88	0.55	0.16	0.46
	YSM; 7-9 yrs	0.01	0.08	0.63	0.24	0.89	0.49	0.17	0.41
	YSM; 10-14 yrs	0.02	0.09	0.71	0.21	0.80	0.45	0.12	0.40
	YSM; 15-20 yrs	0.03	0.10	0.65	0.28	0.79	0.38	0.11	0.34
	YSM 20 + yrs	0.06	0.13	0.75	0.29	0.65	0.30	0.06	0.25
	Second Gen.	0.06	0.15	0.70	0.30	0.59	0.25	0.06	0.30
	Total	0.05	0.10	0.68	0.25	0.67	0.41	0.11	0.36
Refugee	YSM up to 2 yrs	0.00			0.00	0.89			0.89
	YSM; 3-4 yrs	0.00	0.02	0.42	0.15	0.93	0.70	0.32	0.67
	YSM; 5-6 yrs	0.00	0.03	0.36	0.15	0.93	0.62	0.39	0.64
	YSM; 7-9 yrs	0.00	0.03	0.44	0.16	0.90	0.64	0.30	0.57
	YSM; 10-14 yrs	0.01	0.04	0.43	0.16	0.85	0.56	0.29	0.51
	Total	0.00	0.04	0.45	0.18	0.89	0.59	0.28	0.53
NW	YSM up to 2 yrs	0.01	0.05	0.50	0.15	0.91	0.66	0.28	0.61
	YSM; 3-4 yrs	0.01	0.08	0.61	0.23	0.89	0.56	0.20	0.50
	YSM; 5-6 yrs	0.01	0.09	0.71	0.20	0.88	0.53	0.13	0.52
	YSM; 7-9 yrs	0.01	0.11	0.70	0.22	0.84	0.47	0.13	0.47
	YSM; 10-14 yrs	0.02	0.12	0.70	0.21	0.80	0.43	0.12	0.48
	YSM; 15-20 yrs	0.03	0.15	0.75	0.22	0.76	0.34	0.07	0.41
	YSM 20 + yrs	0.05	0.19	0.76	0.28	0.68	0.25	0.05	0.33
	Second Gen.	0.09	0.17	0.78	0.43	0.57	0.26	0.05	0.22
	Total	0.04	0.14	0.73	0.26	0.75	0.38	0.09	0.40
West	YSM up to 2 yrs	0.04	0.10	0.76	0.38	0.85	0.57	0.12	0.39
	YSM; 3-4 yrs	0.02	0.11	0.83	0.35	0.87	0.52	0.08	0.39
	YSM; 5-6 yrs	0.03	0.14	0.82	0.48	0.83	0.46	0.08	0.30
	YSM; 7-9 yrs	0.05	0.17	0.81	0.44	0.79	0.40	0.07	0.28
	YSM; 10-14 yrs	0.06	0.21	0.84	0.42	0.74	0.36	0.05	0.29
	YSM; 15-20 yrs	0.12	0.25	0.87	0.50	0.65	0.31	0.04	0.22
	YSM 20 + yrs	0.11	0.30	0.86	0.43	0.63	0.23	0.03	0.26
	Second Gen.	0.16	0.33	0.88	0.50	0.52	0.17	0.02	0.19
	Total	0.15	0.30	0.87	0.49	0.54	0.22	0.03	0.21

Predicted probabilities EGP, Women

		SERVICE				LOW			
		Low	Med	High	Total	Low	Med	High	Total
	Native	0.08	0.20	0.80	0.37	0.70	0.20	0.03	0.26
TurkMoroc	YSM up to 2 yrs	0.00	0.03		0.02	0.98	0.77		0.88
	YSM; 3-4 yrs		0.07	0.72	0.35		0.71	0.17	0.48
	YSM; 5-6 yrs	0.01	0.08		0.04	0.96	0.61		0.83
	YSM; 7-9 yrs	0.02	0.12	0.84	0.13	0.93	0.54	0.06	0.70
	YSM; 10-14 yrs	0.02	0.12	0.78	0.14	0.92	0.52	0.09	0.66
	YSM; 15-20 yrs	0.03	0.12	0.75	0.13	0.90	0.49	0.09	0.69
	YSM 20 + yrs	0.04	0.15	0.80	0.15	0.87	0.41	0.06	0.61
	Second Gen.	0.06	0.18	0.79	0.28	0.74	0.21	0.04	0.31
	Total	0.04	0.15	0.78	0.19	0.87	0.37	0.06	0.54
Carrib	YSM up to 2 yrs	0.02	0.20	0.52	0.19	0.94	0.40	0.32	0.65
	YSM; 3-4 yrs	0.04	0.10	0.80	0.15	0.88	0.56	0.06	0.64
	YSM; 5-6 yrs	0.03	0.14	0.70	0.32	0.89	0.42	0.14	0.42
	YSM; 7-9 yrs	0.03	0.17	0.71	0.25	0.89	0.40	0.12	0.47
	YSM; 10-14 yrs	0.04	0.17	0.76	0.28	0.86	0.37	0.08	0.42
	YSM; 15-20 yrs	0.05	0.16	0.77	0.27	0.82	0.36	0.07	0.39
	YSM 20 + yrs	0.06	0.20	0.78	0.29	0.81	0.30	0.06	0.41
	Second Gen.	0.11	0.21	0.80	0.41	0.64	0.17	0.03	0.20
	Total	0.06	0.19	0.78	0.31	0.79	0.29	0.06	0.36
East-Eur	YSM up to 2 yrs	0.01	0.06	0.51	0.21	0.95	0.63	0.35	0.56
	YSM; 3-4 yrs	0.01	0.07	0.63	0.32	0.95	0.61	0.22	0.45
	YSM; 5-6 yrs	0.01	0.09	0.68	0.34	0.94	0.54	0.17	0.42
	YSM; 7-9 yrs	0.01	0.08	0.67	0.27	0.94	0.56	0.16	0.45
	YSM; 10-14 yrs	0.01	0.09	0.67	0.28	0.93	0.53	0.16	0.44
	YSM; 15-20 yrs	0.01	0.11	0.73	0.19	0.93	0.45	0.12	0.43
	YSM 20 + yrs	0.03	0.11	0.73	0.32	0.84	0.45	0.09	0.40
	Second Gen.	0.04	0.12	0.72	0.30	0.78	0.26	0.05	0.31
	Total	0.03	0.09	0.68	0.29	0.86	0.49	0.15	0.42
Refugee	YSM up to 2 yrs								
	YSM; 3-4 yrs		0.13		0.13		0.45		0.45
	YSM; 5-6 yrs		0.09	0.74	0.31		0.55	0.13	0.41
	YSM; 7-9 yrs	0.01	0.12	0.63	0.30	0.97	0.48	0.21	0.42
	YSM; 10-14 yrs	0.02	0.13	0.78	0.41	0.90	0.45	0.09	0.35
	Total	0.03	0.13	0.72	0.39	0.88	0.45	0.13	0.34
NW	YSM up to 2 yrs	0.01	0.04	0.55	0.18	0.97	0.72	0.29	0.66
	YSM; 3-4 yrs	0.01	0.05	0.55	0.23	0.97	0.65	0.30	0.58
	YSM; 5-6 yrs	0.01	0.06	0.58	0.20	0.94	0.62	0.26	0.59
	YSM; 7-9 yrs	0.01	0.07	0.59	0.17	0.94	0.57	0.23	0.57
	YSM; 10-14 yrs	0.02	0.09	0.65	0.19	0.91	0.52	0.17	0.55
	YSM; 15-20 yrs	0.02	0.09	0.64	0.17	0.90	0.47	0.14	0.53
	YSM 20 + yrs	0.02	0.10	0.66	0.24	0.89	0.43	0.13	0.46
	Second Gen.	0.06	0.10	0.69	0.37	0.69	0.29	0.07	0.22
	Total	0.02	0.08	0.64	0.23	0.90	0.49	0.16	0.49
West	YSM up to 2 yrs		0.12	0.77	0.47		0.58	0.14	0.34
	YSM; 3-4 yrs	0.02	0.15	0.80	0.36	0.94	0.50	0.10	0.42
	YSM; 5-6 yrs	0.05	0.18	0.80	0.44	0.85	0.45	0.09	0.31
	YSM; 7-9 yrs	0.03	0.15	0.82	0.42	0.88	0.46	0.08	0.33
	YSM; 10-14 yrs	0.04	0.17	0.82	0.39	0.88	0.42	0.07	0.32
	YSM; 15-20 yrs	0.03	0.19	0.82	0.40	0.90	0.40	0.07	0.32
	YSM 20 + yrs	0.06	0.20	0.83	0.34	0.83	0.34	0.06	0.37
	Second Gen.	0.09	0.21	0.81	0.40	0.69	0.20	0.03	0.25
	Total	0.09	0.20	0.82	0.39	0.71	0.26	0.04	0.27