The effect of immigration on the Dutch labour market.

What kind of immigrants can be expected to enter?
Table of Contents.

Executive summary. 3
Introduction & research question. 5
  Method 7
  Definitions 9

Chapter 1: Overview of the Dutch migration flows. 10
  1.1 General overview. 11
  1.2 Motives of immigrants. 13
  1.3 Age of migrants. 16
  1.4 Gender of migrants. 17
  1.5 Top-ten sending countries. 18
  1.6 Educational attainments. 20
  1.7 Summary chapter 1. 22

Chapter 2: The Dutch labour market. 24
  2.1 Unemployment. 24
  2.2 Demand for labour. 26
  2.3 Supply of labour. 28
  2.4 Summary chapter 2. 30

Chapter 3: Theoretical insights. 31
  3.1 Wage and replacement effects. 32
  3.2 Human Capital theory. 33
  3.3 Dual labour market theory. 34
  3.4 Summary chapter 3. 36

Chapter 4: Testing the predictions of the theory. 37
  4.1 Human capital theory. 37
  4.2 Dual Labour Market theory. 42
  4.3 Summary chapter 4. 49

Chapter 5: conclusions 50

References 54
APPENDIX 57
Executive summary.

This thesis studies the effects of immigration on the Dutch labour market. The focus will be on the characteristics of the immigrants. Issues like: skill level or the duration of the stay both have their impact on the actual labour market effects.

This thesis is guided by the following research question: *What are the effects of immigration on the Dutch labour market?*

Whereas other studies (Roodenburg 2003) calculate the labour market effects for three different skills levels of immigrants this thesis pays more attention to the characteristics of immigrants. These characteristics are studied by using the Human capital (HCT) and Dual Labour market theory (DLT). The actual labour market effects are studied in a qualitative way.

This thesis first provides an overview of the Dutch labour migration flows. This background information introduces the immigration topic and will also be used to test the HCT and DLT. Chapter one presents the immigration figures with regard to the: motives, age, gender, origin and education of immigrants. Most information in this chapter has been obtained from the CBS database.

An analysis of the Dutch labour market is next. By combining labour market analyses of the MEV, RWI, SZW and CBS an overview of the expected labour market developments is presented. The labour market analysis underlined the importance of the proper labour market characteristics of immigrants.

The HCT and DLT are the selected theories to analyse the characteristics of immigrants. Both theories oppose each others predictions. Were the HCT expects mainly young, healthy and high educated immigrants to enter the Dutch labour market, the DLT expects immigrants to be temporary low educated (guest) workers. After linking the predictions of both theories to the data in chapter one the immigrant profile of the DLT turned out to have the best fit. However, both theories only seem to apply on part of the migration flow. In fact the immigrant profile that has the best fit with the reality seems to be a combination of both theories. The average immigrant is low skilled and unlikely to return to his home country.
When using this immigrant profile immigration will mainly affect the labour market position of low-educated residents. Given the expected entrance of Bulgarian and Romanian immigrants more immigrants are likely to match this profile in the future. Low skilled residents will have limited labour market opportunities as a result. Immigration has the most effect on residents with equal characteristics as the immigrants (De Beer 2007). Employers on the other hand can benefit from an increases labour pool. This allows them to select more productive workers.

At this moment mainly the citizens from the sending countries and the employers in the receiving countries seem to benefit from the migration. However, one should not forget that an increased prosperity in countries like Poland or Romania will on the long run be beneficial for the Dutch economy as well, as this creates new market.
**Introduction & research question.**

This thesis studies the effects of immigration on the Dutch labour market, in both a quantitative and qualitative way.¹

Native workers often fear to be replaced by immigrants. Employers, on the other hand might encourage immigration since they can benefit from a larger pool of potential employees. This thesis studies the effects for both parties and the general effects that migration can have on the labour market.

Labour markets can change rapidly. After the extreme low unemployment rates in 2001 the Dutch unemployment rates peeked from 2003 to 2005 (CBS 2008). As a result of the economic decline many people lost their jobs in this period. Recently, labour has become scarce again. The unemployment rate is about 4.2% and companies are having trouble in finding new employees. Extending the supply of labour by attracting new workers from abroad is often a suggested solution (European Commission 2005). A recent example is the entrance of Polish workers on the Dutch labour market.

In neo-classical economic theories labour market shortages cannot exist. In a free market, in which prices react on shortages, higher wages will attract new employees. It will therefore only be a matter of time before a new equilibrium (in which everybody works) is found (Massey 1993). Hence, open boarders might be a good solution to realize a steady supply of labour. However, governments seem to fear the negative externalities this might have. They fear the consequences of a massive migration flow for their citizens and the Dutch labour market.

Even within the current amounts some people cast serious doubts about the attribution of immigrants. They believe that immigrants in general only cost money instead of generate it (Roodenburg 2003). The report of Roodenburg, Euwels and ter Rele has been an important motivation for this thesis. They found that many immigrants have a negative (financial) contribution to the Dutch society. Others claim that this contribution depends on the characteristics of the migrants (Constant & Zimmermann 2005).

---

¹ The thesis will test the HCT and DLT, but the final effects will only be discussed in a qualitative way.
This remark by Constant and Zimmerman will be the focus of this thesis. This thesis investigates what kind of immigrants will enter the Netherlands and what will be the effect of their entrance on the labour market.

The discussion of the labour market effects will only have a descriptive instead of a calculated character. Results one should think of are the educational level of immigrants or the duration of the migration.

The research question that matches this subject is:

*What are the effects of immigration on the Dutch labour market?*

In order to be able to thoroughly answer the research question this thesis identifies the following sub-questions.

1. What are the Dutch migration figures like?
2. How is the situation on the Dutch labour market?
3. What kind of immigrants can be expected to enter according to the theory?
4. Are the predictions of the theory in line with reality?

All sub-questions will be discussed in separate chapters. Hence, this thesis has the following structure. The characteristics of immigrants will be determined by using qualitative as well as quantitative data. The quantitative data will be presented in chapter one. Chapter two will then analyse the labour market. The focus will be on the current labour market (2007 up to 2012). The qualitative characteristics of immigrants will be presented in chapter three using the Human capital (HCT) and Dual labour market theory (DLT). Chapter four will then test the predictions of these theories by using the data of chapter one complemented with empirical research. The conclusions can be found in chapter five.
Method

Migration figures.
In order to provide an overview of the Dutch immigration flows a substantial amount of data has been collected from the CBS\textsuperscript{2} database. This database contains valuable information about migration and is specified on the Dutch situation. Other databases that contain migration information, like Eurostat, have a European focus and the available information for the Netherlands is less detailed.

Labour market.
The actual effect of immigration on the labour market of course depends on the current situation on the labour market. High immigration rates during high unemployment are of course an undesirable situation. Using a variety of literature an analysis of the Dutch labour market is presented. The focus will be on the current labour market (2007-2012).

Human capital theory (HCT) & Dual labour market theory (DLT).
The main goal of this thesis is to determine the labour market effects of migration. These effects depend on the characteristics of the immigrants. In order to gain more insight into these characteristics the Human Capital and Dual labour market theory will be used. Both theories claim to predict which people are most likely to migrate. The theories have been selected because of their opposite predictions. The predictions of the theory will be compared with the data in chapter one. Possible deviations will be discussed in order to properly answer the research question.

The following sources have been used for information.
- CBS, Dutch population register. Website: www.cbs.nl
- CPB, division of the Dutch Ministry of Economics and responsible for economical analysis and forecasts. Website: www.cpb.nl
- Erasmus library, search engine of the Erasmus University that allows searching the databases of journals. Website: www.eur.nl
- NIDI, Dutch research organisation that focuses on research on the development of the size and composition of the population. Website: www.nini.knaw.nl
- Eurostat, statistical office of the European Commission. Founded to provide data for the European Union. Website: www.epp.eurostat.ec.europa.eu

\textsuperscript{2} Dutch population register.
IZA, German, independent research institution that provides research on national and international labour markets. Website: www.iza.org

OECD, an international cooperation of thirty capitalistic countries, includes studies on all kind of economical topics, of which migration. Website: www.oecd.org

Scirus, a science-specific search engine. Indexed over 450 million science-specific web pages. The engine is founded by Elsevier. Website: www.scirus.org

SER, semi governmental organization that looks upon the social economical developments within the Netherlands. This means that they look at the expected or current economical situation of certain groups. Website: www.ser.nl

World Bank, international organization responsible to provide information on how to encounter poverty and stimulate economic development. Website: www.worldbank.org
Definitions

Below the terms as stated in the research question are explained in more detail.

Migration
Migration is an important factor when observing the number of citizens in the Netherlands. When determining the population growth a mix is made between birth and mortality figures and emigration and immigration figures (CBS 2006). The difference between the two migration figures is called the migration balance.

Immigration
An immigrant is a person that enters a country. But how long do you have to stay in a country before you become an immigrant?

- CBS: a person that intents to stay in the Netherlands for at least four months will be indicated as immigrant.
- General Dutch municipality: a person that intents to stay at least 2/3 of the coming six months in the Netherlands will be indicated as immigrant.
- OECD: the OECD identifies an immigrant as a person that will stay for a long term in the new country (OECD 2006). A clear definition of long term is not given, but the OECD does state that temporary migrants should be excluded.³

Because an important part of this research is based on data of the CBS the definition of the CBS will be used.

Labour market:
The focus in this thesis will be on the labour force. An individual is indicated as a member of the working population when a person is in the age of 15-64.

The effects of immigration on the labour market will be viewed upon from this definition. So what kind of immigrants will find a job or will start looking for one?

³ Migration outlook 2006, p28: Temporary migrants are excluded by excluding all people with a temporary permit. Even tough the data will still contain many temporary migrants as many European students do not need a permit (author’s translation).
Chapter 1: Overview of the Dutch migration flows.

First step in this research is to gain more insight in the Dutch immigration flows. Migration can have large effects on a country’s labour market. But, these effects depend on the number, age, education and other kinds of characteristics of these migrants. So what are the migration figures like? This question will be answered in this chapter by presenting an overview of the Dutch immigration figures. The focus will be on the immigrants that enter the Netherlands with a labour motive.

First step in collecting migration data has been the selection of the primary source. Appropriate data for this subject is provided by the CBS and Eurostat. The CBS has been selected as primary source as it provides more recent information, is easily accessible through Statline⁴, and has more detailed data sets. The CBS also provides extra information. This additional information is published in short papers.

This chapter presents the following information on the Dutch migration figures:
1.1 General overview.
1.2 Age of migrants.
1.3 Gender of migrants.
1.4 Top-ten sending countries.
1.5 Educational attainments.
1.6 Motives of migrants.
1.7 Summary.

These topics have been selected as they are expected to relate to the labour market effects of migration. Furthermore, these topics should provide the background information that can be used to test the prediction of the HCT and DLT.

⁴ Search engine on CBS website.
1.1 General overview.

Like most other European countries, the Netherlands has a long history of migration. The most significant periods of large-scale emigration occurred during the nineteenth century (1840s, 1860s, and 1880s), the early 1900s, and the years following World War II (Swierenga 2000).

Nowadays the Netherlands caught up with the developed countries, and transformed itself into a high-income country. As a result many immigrants have come to the Netherlands (Dalen & Henkens 2007). For almost 3 decades the Netherlands has had a migration surplus. This means that the number of people that enters the country exceeds the number of people that leaves. Since 2004 there has been a change in this pattern. Figure 1.1 gives an overview of the development of the Dutch migration flows. The shift in immigration as well as emigration flows in the period around 2000 is clearly shown in this figure. At this point both flows show opposite movements. The number of immigrants shows a strong decrease and the number of emigrants shows a strong increase. This is likely the result of an economical decline. This makes the Netherlands less attractive. Hence, less people will immigrate and more citizens decide to move elsewhere.

Figure 1.1: Immigration rates.

![Immigration rates](image)

Source: Dalen & Henkens (2007) p. 45

Figure 1.1 is useful when observing trends but only shows the migration figures per 1000 inhabitants. In table 1.2 the numerical figures as published by the CBS are presented. Among statistic organizations there are deviations in the actual number of migrants. This is caused by the interpretation of the term migrant. The period that one should leave or enter
the country in order to be indicated as a migrant differs among organization. In this research the definition of the CBS is used which is explained in the introduction.

Table 1.2: Actual migration figures (x 1000).

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Immigration</td>
<td>109</td>
<td>110</td>
<td>122</td>
<td>119</td>
<td>133</td>
<td>133</td>
<td>121</td>
<td>105</td>
<td>94</td>
<td>92</td>
<td>101</td>
</tr>
<tr>
<td>Emigration</td>
<td>92</td>
<td>82</td>
<td>79</td>
<td>79</td>
<td>79</td>
<td>83</td>
<td>97</td>
<td>105</td>
<td>110</td>
<td>120</td>
<td>133</td>
</tr>
</tbody>
</table>

migration balance 17 28 43 40 54 50 24 0 -16 -28 -32

Source: after CBS Statline

In table 1.2 the opposite movement of immigration and emigration flows becomes clear as well. This opposite movement resulted in a negative migration balance. From 2004 till 2006 no less then 76,000 citizens left the Netherlands. This is striking in comparison to the positive migration balance of 74,000 people from 2001 till 2002.

Figure 1.2: Migration balance in European Union 2005.

The negative migration balance is almost unique in the Europe Union. According to the data of Eurostat there are only four other countries that have a negative migration surplus. This is confirmed by Nicolaas (2006). As shown in figure 1.2 only Lithuania, Latvia, Poland and Estonia have a negative migration balance as well. Striking is the situation in nearby countries like Belgium and Germany. In these countries the number of immigrants per 1000 inhabitants is positive. Among them are Dutch citizens that decided to move just over the boarder as the estate prices are lower in these countries.

Source: after Nicolaas 2006.
What are the Dutch migration figures like in general?

It can be concluded that there is much dynamics in the Dutch migration flows. There seems to be a relation in the decrease of immigration and an increasing emigration. For example the recent negative migration balance that is not only the result of a steady increase in emigration, but also of a strong decline in immigration. Migration is closely linked to the economic situation in a country. In times of economic decline immigration decreases and emigration increases. The emigration has recently shown an increase of 4.8% from 2003 to 2004 and of 9.1% from 2004 to 2005 and from 2005 to 2006 the increase has been 10.8%. The immigration on the other hand has shown a decrease since 2001 till 2005. From 2003 to 2004 the decrease has been 10.8%, from 2004 to 2005 the decrease in immigrants was 2.12% and from 2005 to 2006 there was an increase again, of 9.8%. Fluctuations in migration figures might be explained by economical prosperity or migration policy (Nicolaas 2006)

1.2 Motives of immigrants.

Paragraph 1.1 showed the aggregate migration figures. However, the focus of this thesis is on labour migration. Unlike the previous paragraph, the remaining section of this chapter will only show information on immigrants. This paragraph discusses the motivational drivers of immigrants. How many immigrants actually enter the Netherlands in search of work?

The information in this paragraph can be useful to determine the economic effects of immigration. An immigrant with a labour motive might for instance have a higher economical value then an immigrant with a social motive. The information in this paragraph is obtained from the CBS. Although not all, many immigrants inform the proper institutions with their reason for migration.

The CBS distinguishes the following immigration motives;

- Labour: immigrants in search of a job.
- Political motive: refugees
- Family reunion: migrants that immigrate some time after their relatives.
- Family member: family members like children, which travel along with the immigrants.
- Family creation: migrants that enter the Netherlands to marry an inhabitant of the Netherlands (can be either Dutch or a former immigrant).
- Study: those migrants that immigrate to study in the Netherlands, many of them only for a short term.
- Other: everyone with any other reason for immigration.
In figure 1.3 the share of immigrants using one of these migration motives is presented for 1996 till 2004. The CBS does not provide more recent information. In appendix A1 a numerical and proportional overview is added. Figure 1.3 shows that labour, family reunion and family creation are the main causes of immigration.

**Figure 1.3: Motives of non-Dutch immigrants.**

![Figure 1.3: Motives of non-Dutch immigrants.](image)

Source: after CBS Statline

Figure 1.3 shows some interesting patterns. The share of immigrants with a labour motive increased from 16.4% in 1996 to 24% in 2004 (see also appendix A1). The share of immigrants with a political motive decreased from almost 30% in 2000 to only 4.6% in 2004. A strong decline is the number of family members that travel along. This is probably the result of stricter regulations. In 2004 over 40% of the immigrants had a social motive. It is comprehensible that these migrants have a lower participation rate on the labour market then those immigrants with a labour motive. The number of migrants that come to the Netherlands to study has grown. This is probably the result of stimulation from several governments to study abroad. A large number of these students will only stay in the Netherlands temporarily. From 2000 till 2004 the immigration of students showed an increase of approximately 4,000 students. The increase of the group; others, might indicate the need for an extension of the current motivation groups as used by the CBS.

It is important to notice that figure 1.3 only consists of data on non-Dutch emigrants. Besides foreign immigrants the Netherlands faces a flow of immigrating former emigrants. In 2006 the group former emigrants consisted of approximately 23,000 people which is almost 23% of the total immigration in 2005 (CBS Statline).

---

5 The group of returning Dutch citizens is not added in figure 1.3
6 Calculation based on appendix A1.
Immigration is very sensitive for economic and political developments (CPB 2007). For this reason the results in figure 1.3 might be different in 2006, but the CBS does not provide this information yet.

To get insights into more recent immigration developments some migration policies are described. In 2004 several policies that might affect migration have been introduced. The most important regulations are (CBP 2007):

- There is no need for a labour license for immigrants that will earn over €45,000 a year (for those older then 30) or €33,000 (under 30).
- Financial incentives, expatriates may qualify for a special facility called the “30 per cent” (previously the “35 per cent”). This enables an employer to pay, for up to 10 years, employees seconded in the Netherlands a tax-free allowance of up to 30% of regularly received employment income and a tax-free reimbursement of school fees for children attending international schools (Dumont & Lemaitre 2005).
- The minimum age for the immigration of a wife or husband has been raised from 18 to 21 years.
- An immigrating partner should have an income of 120% of the minimum wage instead of 100%.
- Non European immigrants are tested on their knowledge about the Dutch society and language before entrance.
- Immigrants that already live in the Netherlands are tested on their knowledge about the Dutch society before they can stay permanently.

These are the most important changes in regulations and they are expected to have a positive effect on the characteristics of the entering immigrants (from an economical perspective). The selection of immigrants can for instance result in a decline in the number of unemployment services, because people who speak the Dutch language can more easily find a job (SZW 2005). As a result of a lack of data the actual impact of these measures remains unclear so far, but a decrease in the number of immigrants that enter the Netherlands for family creation or family reunion is expected.

**What are the motives of immigrants?**

The motives as included in the data of the CBS can be used to explain the immigration towards the Netherlands. For 2004 the most important immigration motives for foreign immigrants are; labour (24%), family creation (23.6%), family reunion (16.3%), and study (15.7%). These four motives explain almost 80% of the registered immigration of non-Dutch immigrants. Furthermore, a large number (20,000 in 2004) of former Dutch emigrants return to their country. In 2004 they represented over 20% of the total immigration.
Altogether the information provided by the CBS does only provide general and somewhat dated information. Other, specified information on the motives of immigrants is rare. The motive of returning former Dutch emigrants seems to be ignored totally. Using the general migration figures to test the HCT and DLT will likely result in wrong conclusions as labor migration only represents 24% of the total migration. Hence, from now on, more specific information is required.

1.3 Age of migrants.

The Dutch statistical organization CBS keeps track of the age of migrants. These figures can be of importance in determining the labor market effects of immigration because not all immigrants are capable, or allowed to work.

Age of immigrants.

Figure 1.4 shows the age structure for labor migration as well as for the aggregate migration. The figure is based on data collected from 1999 till 2004. The minimum age to enter the Netherlands with a labor motive is 18. The migrants in the age above 40 are joined because of their limited entrance. For labor migration they represent 20% of the total flow and for the aggregate migration about 12%. The young age of migrants can be attractive as these migrants are capable to work for a long time. In fact 80% of the labor immigrants are under 40. The average age of the total migration flow is somewhat lower due to the impact of along travelling children. For both groups almost 45% of the immigrants are in the age range 18-30. In appendix A2 the table that contains the numerical figures is available.

Figure 1.4: Age of immigrants.

![Age of immigrants](image-url)
What are the Dutch migration figures like with regard to age?
Most immigrants turn out to be rather young. 80% of the immigrants are under 40. This is especially understandable when migration is mainly driven by economical reasons as is the case for labour migration. Emigration at a younger age allows for a better adaptation to the new environment and better economical opportunities. But, also social migration is likely to occur at a younger age. Social migration one could think of is for instance related to family creation. The migration for study is also likely to occur at a young age.

1.4 Gender of migrants.
Gender can be of importance when looking at participation on the labour market. Women still have a lower labour participation rate than men (Janjetovic & Sebo 2006, CBS 2006-1). In table 1.3 an overview of the migration trends distinguished by gender from 1999 till 2004 is presented. Table 1.3 shows the gender rate for labour migration as well as for the aggregate migration. The figures show remarkable differences.
For the average migration, the ratio for men and women is about 50/50. For labour migration this ratio is on average 70/30. This share has been rather stable over the past years. For the aggregate migration there is a shift toward an increased immigration of women. The numerical overview for both flows can be found in appendix A3.

<table>
<thead>
<tr>
<th></th>
<th>labour migration</th>
<th>aggregate migration</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>male</td>
<td>female</td>
</tr>
<tr>
<td>1999</td>
<td>70%</td>
<td>30%</td>
</tr>
<tr>
<td>2000</td>
<td>69%</td>
<td>31%</td>
</tr>
<tr>
<td>2001</td>
<td>69%</td>
<td>31%</td>
</tr>
<tr>
<td>2002</td>
<td>66%</td>
<td>34%</td>
</tr>
<tr>
<td>2003</td>
<td>66%</td>
<td>34%</td>
</tr>
<tr>
<td>2004</td>
<td>67%</td>
<td>33%</td>
</tr>
<tr>
<td>average</td>
<td>68%</td>
<td>32%</td>
</tr>
</tbody>
</table>

Source: after CBS Statline

What are the Dutch migration figures like with regard to gender?
For the aggregate migration there is almost no difference between the entrance of men and women. Lately there seems to be a shift towards an increased entrance of female immigrants. For labour migration the differences between the genders are larger. Almost 70% of the labour migrants are men.
1.5 Top-ten sending countries.

This paragraph will cover the origin of the immigrants. Which countries send most immigrants? The top-ten of immigration countries were selected for providing this information. The CBS keeps track of all the immigrating nationalities. The top-ten countries are selected based on recent developments (the first selection has been made based on 2003 and 2004).

Origin of immigrants.

Migrants come to the Netherlands from all over the world. According to the municipality, Amsterdam is worldwide the city with the most different nationalities (177 different nationalities)\(^7\). Table 1.4 displays the top-ten countries with the highest share in the aggregate immigration. Despite the variety of nationalities among immigrants the top-ten of sending countries are responsible for about 50% of the immigration flow. In 2004 Belgium, Germany and Great-Brittan took account for 20% of the total immigration. In appendix A4 a numerical overview of the total immigration is available.

<table>
<thead>
<tr>
<th>Country of departure:</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aruba</td>
<td>9.9%</td>
<td>8.2%</td>
<td>6.9%</td>
<td>6.2%</td>
<td>5.5%</td>
</tr>
<tr>
<td>Belgium</td>
<td>4.3%</td>
<td>4.2%</td>
<td>4.4%</td>
<td>5.1%</td>
<td>5.6%</td>
</tr>
<tr>
<td>China</td>
<td>2.1%</td>
<td>2.9%</td>
<td>3.4%</td>
<td>4.0%</td>
<td>3.9%</td>
</tr>
<tr>
<td>Germany</td>
<td>6.4%</td>
<td>6.2%</td>
<td>6.6%</td>
<td>7.6%</td>
<td>9.2%</td>
</tr>
<tr>
<td>Great-Brittan</td>
<td>5.9%</td>
<td>5.9%</td>
<td>5.6%</td>
<td>5.6%</td>
<td>5.7%</td>
</tr>
<tr>
<td>France</td>
<td>2.6%</td>
<td>2.4%</td>
<td>2.5%</td>
<td>2.8%</td>
<td>3.1%</td>
</tr>
<tr>
<td>Morocco</td>
<td>3.3%</td>
<td>3.9%</td>
<td>4.2%</td>
<td>4.6%</td>
<td>3.9%</td>
</tr>
<tr>
<td>Poland</td>
<td>1.4%</td>
<td>1.6%</td>
<td>1.9%</td>
<td>2.0%</td>
<td>5.4%</td>
</tr>
<tr>
<td>Turkey</td>
<td>4.4%</td>
<td>4.8%</td>
<td>5.4%</td>
<td>6.6%</td>
<td>5.0%</td>
</tr>
<tr>
<td>United States</td>
<td>4.4%</td>
<td>4.3%</td>
<td>4.7%</td>
<td>4.6%</td>
<td>4.6%</td>
</tr>
<tr>
<td>other countries</td>
<td>55.3%</td>
<td>55.7%</td>
<td>54.4%</td>
<td>50.8%</td>
<td>48.1%</td>
</tr>
</tbody>
</table>

Source: after CBS Statline.

Now how is the situation for labour migration? Table 1.5 shows that the top-ten sending countries are now responsible for an even larger share of the total flow. About 60% of the labour migrants come from one of these countries. Most countries show rather stable trends. However, Poland shows a heavy increase. Especially the low impact of immigrants from Turkey is notable.

\(^7\)www.trouw.nl/hetnieuws/nederland/article778163.ece/Amsterdam_stad_met_meeste_nationaliteiten_177_ter_wereld
Apparently, many immigrants from this former labour recruitment country now have other motivational drivers. In Appendix A5 a numerical overview of the labour migration is available.

Table 1.5: Top-ten sending countries (labour migration).

<table>
<thead>
<tr>
<th>Country of departure</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belgium</td>
<td>5.0%</td>
<td>4.3%</td>
<td>4.5%</td>
<td>4.6%</td>
<td>4.0%</td>
</tr>
<tr>
<td>Germany</td>
<td>11.3%</td>
<td>11.0%</td>
<td>12.6%</td>
<td>11.6%</td>
<td>11.7%</td>
</tr>
<tr>
<td>France</td>
<td>5.7%</td>
<td>5.3%</td>
<td>5.4%</td>
<td>4.9%</td>
<td>4.8%</td>
</tr>
<tr>
<td>Italy</td>
<td>5.1%</td>
<td>4.9%</td>
<td>4.7%</td>
<td>4.6%</td>
<td>4.2%</td>
</tr>
<tr>
<td>Poland</td>
<td>3.0%</td>
<td>4.0%</td>
<td>3.9%</td>
<td>4.6%</td>
<td>12.1%</td>
</tr>
<tr>
<td>Portugal</td>
<td>3.6%</td>
<td>4.2%</td>
<td>4.5%</td>
<td>4.6%</td>
<td>4.0%</td>
</tr>
<tr>
<td>Spain</td>
<td>3.9%</td>
<td>3.8%</td>
<td>4.3%</td>
<td>4.4%</td>
<td>3.7%</td>
</tr>
<tr>
<td>Turkey</td>
<td>1.2%</td>
<td>1.5%</td>
<td>2.3%</td>
<td>5.2%</td>
<td>1.7%</td>
</tr>
<tr>
<td>United States</td>
<td>6.0%</td>
<td>4.9%</td>
<td>4.4%</td>
<td>4.7%</td>
<td>4.2%</td>
</tr>
<tr>
<td>Great-Brittan</td>
<td>18.7%</td>
<td>18.3%</td>
<td>15.6%</td>
<td>14.5%</td>
<td>12.1%</td>
</tr>
<tr>
<td>other countries</td>
<td>36.6%</td>
<td>37.7%</td>
<td>37.6%</td>
<td>36.4%</td>
<td>37.6%</td>
</tr>
</tbody>
</table>

numerical labour migration | 19,025 | 19,937 | 18,535 | 16,621 | 15,637 |
Source: after CBS Statline.

What are the Dutch migration figures like with regard to the top-ten sending countries?

When observing the immigration figures especially the increasing number of Polish immigrants is noticed. It is interesting to see that many immigrants come from countries that are nearby, like Belgium, Germany and the United Kingdom. Many Dutch people move to these countries, but apparently there is an opposite flow as well. Turkish and Moroccan immigrants, who represent large immigrants groups, in fact only represent a small share of the aggregate immigration flow. Other groups, like from Aruba and China, represent a large share in the aggregate migration but only a small share in the labour migration. The opposite goes for Italy, Portugal and Spain. They are large contributors for the labour migration while they are not in the top-ten for the total migration.
1.6 Educational attainments.

The educational attainment of immigrants is an important variable when studying the labour market effects of immigration and will therefore be discussed thoroughly. The Netherlands is said to be a knowledge orientated economy in which there is only a small demand for low educated people (CWI 2007). Stimulating the immigration of low-skilled workers is easy to do as many countries face a lower prosperity and educational level then the Netherlands. Many people in these countries are (at least for economical reasons) willing to enter the Netherlands. The immigration of high educated immigrants is harder as there is competition among European countries in attracting these immigrants (Roodenburg 2003, Dumont & Lemaitre 2005).

The term highly educated might sound subjective. According to Dumont & Lemaitre (2005) a highly educated person is a person who has a tertiary education. To probably indicate the educational level UNESCO developed the International Standard Classification of Education (ISCED). This classification can be found in appendix A6.

Originally, the goal of this paragraph was to provide a detailed overview of the labour migrant’s educational level. Unfortunately the Dutch institution that keeps track of the migration (CBS) does not keep track of this specific variable. But, there have been other studies where the data of several institutions (mainly of the OECD and ministry of Justice) has been compared (Dumont & Lemaitre 2005). This enabled the researchers to create an overview of the highly skilled migrants in Europe or OECD countries. By using the data of the OECD the definition of emigration of the OECD is used (see introduction) in this section. This switch is necessary due to the absence of information provided by the CBS on this subject. The switch to the different definition will have some impact on the outcomes. For instance students that have a temporary permit are not added.

Education of immigrants.

The diagram in figure 1.5 is particular for the Netherlands and uses the ISCED classification. It contains valuable information as it distinguishes immigrants by educational level. Unfortunately the figure is dated (though the best available) as it is based on figures from 2000 till 2002 and might therefore not be entirely relevant any more. It turns out that the major part of the immigrants is low skilled. This group represents 58% of all immigrants. The secondary skilled immigrants represent 26% of the immigrants and the remaining 16% consist of highly-educated immigrants.
Figure 1.5: Educational level of immigrants in the Netherlands (2000-2002).

Information specified on the educational attainment of labour migrants is scarce. However, several studies mention the high educational level of immigrants from developed Western countries like Japan and the USA (Nicolaas 2005). According to the Dutch government (2005) about 85% of the immigrants from these countries are highly educated. According to the CBS (2000) most labour migrants that entered the Netherlands in the 90's had either a secondary or higher education. However, the inflow of large groups of guestworkers was known for the low education of these labour immigrants. The shift towards higher educational level of immigrants can be explained a result of a stricter labour migration policy for low educated immigrants.

What are the Dutch migration figures like with regard to education?

One of the most important conclusions to be drawn at the end of this paragraph is that although education is recognized as an important feature for migrants, the available data is limited and dated. Furthermore, the results of the studies that have been performed in this field are sometimes a bit doubtful because it is hard to determine a good understanding of the term highly educated despite the ISCED classification. The level of education or expertise needed to be identified as highly educated might differ among countries as a result of quality or structural differences in the educational systems. Despite these criticisms this paragraph does reveal some interesting information. Figure 1.5 shows that the Netherlands holds the following partitioning of migrants as can be seen in table 1.6.
Table 1.6: Education of immigrants (2000-2002).

<table>
<thead>
<tr>
<th>Level of education</th>
<th>Share of total immigration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low education</td>
<td>58%</td>
</tr>
<tr>
<td>secondary education</td>
<td>26%</td>
</tr>
<tr>
<td>High education</td>
<td>16%</td>
</tr>
</tbody>
</table>

Because only 16% of the immigrants are highly educated immigration will negatively affect the share of highly educated people in the Netherlands. When linking this to the prediction for a growing demand for highly educated people CWI (2007) this is a bad development. However, for labour migrants the situation might be better. According to the CBS (2000) many labour migrants are nowadays highly educated. Especially immigrants from modern western countries have a high education. Up to 85% of the immigrants from countries like Japan and the US have a higher educational attainment.

1.7 Summary chapter 1.

This chapter provided an overview of the Dutch immigration figures. The data that has been obtained from the CBS will be used to test the predictions of the theories in chapter four. This summary will give a short overview of the most important outcomes in a chronological order in line with the paper.

The general migration figures show some interesting information. At first the emigration increased from 2003 to 2006 with over 25% (table 1.2). This is a large deviation and is likely the result of bad economic prospects. The immigration figures have shown a decline from 2002 till 2005, but then increased again in 2006.

Labour migration is only one motive for immigrants to enter the Netherlands. The information in paragraph 1.1 contains many other migration flows. For 2004 the most important immigration motives for foreign immigrants have been; labour (24%), family creation (23.6%), family reunion (16.3%), and study (15.7%). These four motives comprise almost 80% of the registered immigration of non-Dutch immigrants. In 2004 several new policies have been introduced in order to obtain a better regulated flow of immigrants.

Most immigrants turn out to be rather young. 80% of the labour immigrants are under 40. For the aggregate immigration this rate is 88%. This migration at a young age is understandable as it allows for a better adaptation to the new environment and better economical opportunities. The differences between the genders are small for the total migration flow. In
fact the share of both genders is almost equivalent. But, slightly more male immigrants enter the Netherlands. Just for labour migration the difference between the sexes is much larger. Almost 70% of the labour migrants are men.

The Netherlands is known for its multi-cultural society. However, many new immigrants share the same cultural background. The top-ten sending countries take account for about 65% of the labour migration flow. When observing the immigration figures especially the increasing number of Polish immigrants is noticed. It is interesting to see that many immigrants come from countries that are nearby, like Belgium, Germany and the United Kingdom. Many Dutch people move to these countries, but apparently there is an opposite flow as well. Turkish and Moroccan immigrants, who represent large immigrants groups, in fact only represent a small share of the aggregate immigration flow.

The educational attainment was the final factor to distinct immigrants. According to the CPB 58% of the immigrants have a low education, 26% has secondary education and 16% has a high education. There is competition among countries in attracting the most skilled immigrants, this makes it harder to attract these immigrants. There is even less information on the education attainment of labour migrants. According to the CBS there is a trend toward an increasing educational level of labour migrants. Especially immigrants from developed countries like the US and Japan have a good education.
Chapter 2: The Dutch labour market.

This chapter analyses the Dutch labour market. The information in this chapter will be used to determine the effects of immigration on the labour market. In order to determine these effects an analysis of the labour market is crucial. Because labour markets evolve, a period of time has been selected. The focus will be on the present labour market and the expected development in the near future (up to about 2012).

The goal of this chapter is to gain more insights on the labour market demand. This makes it easier to predict what kind of immigrant has the most labour market potential.

The paragraph is divided into three subjects.

2.1 Unemployment.
2.2 Demand for labour.
2.3 Supply of labour.

2.1 Unemployment.

At this moment there is a scarcity of labour and the unemployment rate has never been lower for four years (CBS 2008). Migration can have a large influence on unemployment rates. Unemployment rates are therefore a good starting point when analysing the labour market.

An individual is indicated as an unemployed member of the working population when this person is looking for a job for at least 12 hours a week and is in the age of 15-64. Also individuals within this same age range with a job of less then 12 hours that are looking for an extension of working hours are indicated as unemployed member of the working population (CBS 2008). For already three years now the unemployment rate is declining. Most recently (April 2008) the unemployment rate stabilized at 4.2%.

The decreasing unemployment rate does not equally affect social groups. The CBS keeps track of the unemployment rate when distinguishing for age, gender, nationality and educational attainment. The unemployment rates with regard to the age and gender are presented in table 2.1.
Table 2.1: Unemployment rates.

<table>
<thead>
<tr>
<th>Age</th>
<th>Unemployed share of working population</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>15-24</td>
</tr>
<tr>
<td>Men</td>
<td></td>
</tr>
<tr>
<td>2006 dec-feb</td>
<td>11.1</td>
</tr>
<tr>
<td>2007 dec-feb</td>
<td>8.2</td>
</tr>
<tr>
<td>2008 dec-feb</td>
<td>7.7</td>
</tr>
<tr>
<td>Women</td>
<td></td>
</tr>
<tr>
<td>2006 dec-feb</td>
<td>12.4</td>
</tr>
<tr>
<td>2007 dec-feb</td>
<td>11.5</td>
</tr>
<tr>
<td>2008 dec-feb</td>
<td>9.0</td>
</tr>
<tr>
<td>Aggregate</td>
<td></td>
</tr>
<tr>
<td>2006 dec-feb</td>
<td>11.7</td>
</tr>
<tr>
<td>2007 dec-feb</td>
<td>9.7</td>
</tr>
<tr>
<td>2008 dec-feb</td>
<td>8.3</td>
</tr>
</tbody>
</table>

Source: after CBS 2008

Table 2.1 shows the share of unemployed people for each age group. So in the beginning of 2008 8.3% of the working population in the age range of 15-24 is unemployed. The table shows that all groups faced a decreasing unemployment rate. But, when taking a closer look there are large comparative differences. Men in the age of 25 till 44 are most likely to find a job now and women in the age 45-64 are least likely to have benefited from the decreasing unemployment rate. The unemployment rate among very young (15-24) workers also remains at a relatively high level.

Besides young people, immigrants face trouble in finding work as well. The CBS keeps track of the unemployment rates among different ethnic populations. 4.3% of the labour force in the Netherlands that had the Dutch nationality was in 2006 indicated as unemployed. Immigrants with a Western background face a higher unemployment rate then Dutch people as can be seen in table 2.2. For immigrants without a Western background the unemployment rate is even three to four times higher (SZW 2005). A lower education is an important cause of the high unemployment rates among immigrants. But, according to the RWI (2007) the average education of (former) immigrants is rising.

Table 2.2: Unemployment rates among immigrant groups.

<table>
<thead>
<tr>
<th>Nationality</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unemployment rates %</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dutch</td>
<td>3.4</td>
<td>4.3</td>
<td>5.3</td>
<td>5.2</td>
<td>4.3</td>
</tr>
<tr>
<td>Western immigrants</td>
<td>5.4</td>
<td>7.1</td>
<td>8.4</td>
<td>9.1</td>
<td>6.8</td>
</tr>
<tr>
<td>Non-Western immigrants</td>
<td>10.5</td>
<td>14.6</td>
<td>16.1</td>
<td>16.4</td>
<td>15.5</td>
</tr>
</tbody>
</table>

Source: CBS Statline.
The effect of education on the likelihood of unemployment is shown in table 2.3. Unemployment is especially high among citizens that only have a primary education. In 2006 12.2% of the labour force that only had a primary education was unemployed. Working opportunities are positively correlated with the educational level. However, this does not hold for the final level of education (level 6). Unemployment rates are lowest among citizens that completed the first stage of tertiary education. Most important conclusion that can be drawn from table 2.3 is the importance of a good education to improve labour market opportunities.

<table>
<thead>
<tr>
<th>Educational attainment</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary education (1+2)</td>
<td>7.8</td>
<td>10.8</td>
<td>13.3</td>
<td>13.3</td>
<td>12.2</td>
</tr>
<tr>
<td>Secondary education (3)</td>
<td>5.8</td>
<td>7.4</td>
<td>8.1</td>
<td>8.9</td>
<td>7.4</td>
</tr>
<tr>
<td>Post secondary education (4)</td>
<td>3.5</td>
<td>4.7</td>
<td>6.2</td>
<td>6.3</td>
<td>5.3</td>
</tr>
<tr>
<td>First stage of tertiary education (5)</td>
<td>2.7</td>
<td>3.6</td>
<td>4.2</td>
<td>3.8</td>
<td>3.2</td>
</tr>
<tr>
<td>Second stage of tertiary education (6)</td>
<td>3.7</td>
<td>4.2</td>
<td>5.0</td>
<td>5.0</td>
<td>3.7</td>
</tr>
</tbody>
</table>

Source: CBS Statline.

This paragraph showed the preferences of the labour market. Besides age also education is important. Employees in the age range of 25-44 and that finished the first stage of tertiary education face the lowest unemployment rate.

This paragraph presented the current preferences on the labour market. The next session will provide an overview of the expected developments in these preferences.

2.2 Demand for labour.

This section will discuss the demand for labour on the Dutch labour market. The previous paragraph showed the current preferences and unemployment rates of the labour market. But how will these numbers developed?

The demand for labour is increasing. The declining unemployment rates as presented in table 2.1 are an indicator of this process. The amount of jobs in 2008 is expected to increase with 125,000 (CWI 2007) or even 145,000 (MEV 2008). From 2009 till 2012 this will diminish to 69,000 new jobs each year. This is approximately an increase of 1.3%.

Besides the numerical developments of jobs it is important to analyse the requirements of employers. In their labour market analysis the CWI (2007) recognizes a growing demand for flexible labour. Many new employees receive a temporary contract (CBS 2008, RWI 2007).

8 The number between the brackets indicates the ISCED scale.
These temporary contracts allow companies to react on market developments in a flexible way. The call for flexibility is also recognized by the Dutch government. The recent discussion for altering the rules for resignation is a good example. Besides a growing demand for flexibility there is a growing interest for knowledge workers (MEV 2007).

**Figure 2.1: Job growth forecast (2007 to 2012)**

![](image)


Figure 2.1 shows the growing demand for higher educated employees. In 2008 the CWI expects over 61,000 new jobs in the higher segment. However, this demand will diminish in 2009. Also for the secondary educational level the increase will diminish in 2008 and the prospects for 2009 show a heavy decline. Especially the increase in the demand for low educated workers is marginal.

Altogether there is a growing demand for all type of workers. However, in 2009 a heavy decrease in growth rates is expected. Despite the marginal job increase for low educated workers there still are opportunities in certain sectors. Especially in the production and maintenance sector there are many jobs. The SER (2006) believes that knowledge becomes more important, but also believes there are opportunities for lower educated people. How big these opportunities are depends on the technological developments, prosperity rate (as people might demand housekeepers) and the effects of the altering population.

---

9 Figure shows the expected amount of new jobs.
2.3 Supply of labour.

This section discusses the supply of labour. The developments in the demand for labour might be interesting, but only become valuable when related to the supply of labour. Every healthy person in the age range of 15-64 has working potential. Figure 2.2 shows how the Dutch population can be divided. The largest square represents the total population of 16.3 million people. Not all members of the population have the proper age to work. In fact about 11.0 million people are appropriate to work. Not all of these people are able (because of parenthood or study) or willing to work. The potential labour force of 11 million people can be divided into 7.1 million working people, 400,000 people that are looking for a job and 3.5 million people that are not looking for a job.

Figure 2.2: Dutch population.

The government tries to stimulate and help the 400,000 unemployed people to find a job. But the government also tries to increase the labour participation. This means an increasing participation level of the 3.5 million people that are currently not looking for a job. By doing so the Dutch labour force increases. Despite these measures the Dutch labour force will only grow marginally. In 2008 the expected growth is 0.9% but from 2009 to 2012 the growth is forecasted at only 0.3%. This growth is mainly the result of an increased participation level of women and lower educated people (CWI 2007). According to the CWI the labour market potential of this group is limited due to the lower education of these people. Lower educated people are sometimes discouraged about their opportunities on the labour market and decide to leave the labour market. This behaviour is also known as the discouraged workers effect (Johansson 2002) and makes it harder to motivate these people to re-enter the labour market.
The discouraged workers effect is shown in figure 2.3. It shows the differences between the working part of the labour force and the 3.5 million people from figure 2.2 that are not looking for a job. When using the ISCED classification in 2005 53% (18% Bo + 35% vmbo) of the non-participating workers have a lower education. For the active labour force this share is 33%. Given these differences the CWI concludes that the potential labour force is large, but does not meet the demand for labour. According to the RWI (2007) an increased level of participation will result in an increased supply of mainly low educated workers. This development might be useless given the bad job prospects for these workers.

Figure 2.4: Forecasted growth of the labour force (2007-2012).

<table>
<thead>
<tr>
<th>Year</th>
<th>Higher education</th>
<th>Secondary education</th>
<th>Lower education</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>79.9</td>
<td>17.3</td>
<td>-24.7</td>
</tr>
<tr>
<td>2008</td>
<td>78.4</td>
<td>14.3</td>
<td>-28.7</td>
</tr>
<tr>
<td>2008-2012</td>
<td>63.3</td>
<td>-5.5</td>
<td>-38.1</td>
</tr>
</tbody>
</table>

The CWI forecasted the development of the educational level of the labour force as presented in figure 2.4. The supply of secondary educated workers is very low, for 2008 the CWI expects the secondary educated labour force to increase with 14,300 new workers. The supply of high educated workers surpasses this supply by far. In 2008 the expected increase is over 78,000 new high educated employees. Striking is the drawback of low educated people from the labour market. This again can be the result of the discouraged worker effect, but can also be the result of the aging labour force.

2.4 Summary chapter 2.

This chapter focused on the sub-question: How is the situation on the Dutch labour market? Almost all studies on the Dutch labour market notice the growing demand for flexible and high educated employees. On the short term there is an increasing demand for all type (education) of workers. Soon this increase will diminish.

Figure 2.2 and 2.4 are essential in this chapter. The increasing demand for higher educated employees (figure 2.2) is covered by the growing supply of high educated workers (figure 2.4). In fact the supply surpasses the demand for high educated workers. Hence, the growing demand for educated workers is already compensated by a growing supply. However, labour market opportunities for high educated workers remains good. Lower educated people face a less favourable labour market. The job growth forecast of the CWI (figure 2.2) only shows a marginal increase of the amount of lower segment jobs. However, the opportunities for lower educated people might increase as many lower educated workers leave the labour market as shown in figure 2.4.

There are two ways to deal with the growing demand for low educated workers. First of all there still are over 400,000 persons unemployed and among them there are many low educated. Also, many lower educated people do not participate on the labour market. A growing demand for their skills might be an incentive for these people to enter the labour market. Age turns out be a more important issue then education. Unemployed people in the age range of 45-64 have more trouble in finding jobs. This is also the case for (former) immigrants.
Chapter 3: Theoretical insights.

The labour market analysis in the previous chapter introduced the most important developments and requirements on the labour market. The effect of immigration on the labour market depends on the characteristics of the immigrants. Are these new citizens’ mainly low or high educated people? And for how long will these immigrants stay? Many Turkish and Moroccan immigrants never returned. Polish workers on the other hand travel between the Netherlands and Poland and only few of them will stay permanently in the Netherlands (Entzinger 2006).

This chapter predicts the characteristics of labour immigrants by using two theories. The goal of this chapter is to answer the sub-question: What kind of immigrants can be expected to enter according to the theory? The Human Capital Theory (HCT) and the Dual Labour Market Theory (DLT) are the selected theories. These theories have been selected because:

- The theories oppose each others predictions.
- Good applicability on labour migration flows.
- Good applicability on the labour market.

Furthermore, this chapter provides the theoretical insights that are needed to analyse the effects of immigration on the labour market.

This chapter will first discuss a variety of studies on the wage and replacement effects of migration and will then discuss the human capital and dual labour market theory in order to redact an immigrant’s profile.

Hence, this chapter is built up in the following manner.

3.1 Wage and replacement effects.

3.2 Human capital theory.
   - Introduction.
   - Predictions of the theory.

3.3 Dual labour market theory.
   - Introduction.
   - Predictions of the theory.

3.4 Summary
3.1 Wage and replacement effects.

The discussion around the labour market effects of immigration often focuses on the effect for the native residents with regard to their wage and jobs. Although this thesis studies the labour market effects of immigration in a qualitative way some attention will go to the calculated effects of immigration.

In a perfect labour market wages should decline as a respond on an increased supply of an equal type of labour. However, market imperfections like labour contracts and minimum wage levels affect this process (Beer de 2007).

Roodenburg (2003) used the model of Borjas to determine the effects of immigration on the Dutch labour market. He found that residents with skills comparable to the immigrants will face the largest wage reduction. Residents with skills that differ from the skills of immigrants will on the long run gain from their arrival as they can use their services. Hence, the actual effect depends on the skills of the immigrants and to some extend on the skills of the Dutch citizens. Roodenburg calculated the wage effect for residents by assuming an inflow of immigrants that will lead to an increase of the labour force by 5%. An inflow of this size can, in the short run, result in a decline of wages from 1.7 till 9.7%. The actual effect depends on the skill level of the immigrants.

However, these results are obtained by using a stylized model that neglects several important aspects (for instance: unrealistic number of immigrants). Thus, the results are far from uncontested. Other studies as by Hartog & Zorlu (2002) find that the immigration of non-EU immigrants has a small, but negative effect on the wages of low skilled residents and a positive effect on the wages of high skilled residents. Bauer & Zimmermann (1999) found equal results among empirical studies across Europe. Immigration can affect wages, but will only have a minor effect. Neither does the inflow of immigrants result in large replacement effects. De Beer (2007) comes to the same conclusion.

The inflow of low skilled immigrants causes greater risk then the inflow of highly skilled immigrants. At first the likelihood of replacement effects is larger. Among low skilled workers the level of specialization is lower in comparison to high skilled workers. Hence, it is more likely that low skilled immigrants and low skilled residents compete for the same jobs. Secondly, low skilled immigrants are more likely to use social services like unemployment benefits.

Hence, this paragraph stresses the importance to gain insight on the characteristics of labour migrants. The actual wage and replacement effects depend on these characteristics.
3.2 Human Capital theory.

The discussion on the expected wage and replacement effects of immigration already showed the importance of the characteristics of migrants. The remainder of this chapter will discuss two theories that can help to gain more insight about these characteristics.

The human capital theory as developed by Mincer (1974) and Becker (1964) focuses on the supply side of the labour market. The theory distinguishes more and less productive workers. The productivity of the worker is based on the workers human capital (knowledge or skills, age and health). The theory assumes that when the human capital of a worker increases the productivity increases as well. So an employer would prefer a young, healthy and skilled employee or should otherwise be able to adjust wages. Hence, the HCT can be an important tool in explaining wage differentials or unemployment rates on the labour market.

Although the HCT is not a migration theory it can be linked to migration (Chiswick 1979). According to basic migration theory the crucial factor in migration decisions is the benefit the migrant can have from his decision (Dalen & Henkens 2007). A successful migration requires effort because the migrant has to learn the language and adapt to the new environment. In order to make this effort profitable the migrant should have certain advantages of the migration decision. The HCT assumes immigrants to be favourable selected with regard to age, health and education for the following reasons (Dalen & Henkens 2007).

- Age: the younger the migrant the more time there is to recoup the cost of migration.
- Health: the cost of migration can only be recouped when the immigrant is in good health.
- Education: high educated migrants are expected to more easily find a job because their knowledge is better interchangeable. Furthermore, they are expected to have less trouble integrating in the new country.

Predictions of the theory.

If the arguments as presented above are correct the favourable selective mechanism should select young, healthy and skilled immigrants. The direction of the migrants depends on the opportunities on the labour market. Migrants will move to the country in which they can have most benefit from their migration decision. These benefits are influenced by the transferability of knowledge. Hence, the influence of HCT factors varies between countries. The transferability of knowledge shows variety and is dynamic. Especially within the European Union the adaptation of the educational system greatly improved the transferability of knowledge. Hence, the preferred destination of migrants is influenced by the host country, the sending country, the relation between the countries and the policies in these countries.
Because of all these factors the direction of the relationship between an individual background variable, like age and education, is hard to determine (Massey 1993). Therefore this paragraph only uses the basic predictions of the HCT. This means that the migrant with the best opportunities to recoup his migration investment given his skills will emigrate.

On the Dutch labour market young (25-44), flexible and high educated employees have the best opportunities (SZW, CWI, and RWI). So according to the HCT these immigrants will enter the Dutch labour market. When relating this information to previous paragraph the expected wage and replacement effects are limited. Because of the specific knowledge of high skilled workers competition is less likely to occur. Hence the downwards pressure on the wages is low.

3.3 Dual labour market theory.

The dual labour market theory is often used for labour market analysis to distinct two segments in the labour market. An employee can be in the primary segment, consisting of steady well paid jobs, or in the secondary segment, that consist of mainly temporary, insecure and badly paid jobs (Doeringer & Piore 1971). Most workers in the secondary segment try to move to the primary segment. Employers on the other hand require a certain amount of secondary segment workers because these workers allow them to be more flexible. The Dutch labour market shows an increasing demand for temporary workers. However, developed countries often face problems in finding employees that are prepared to work in the secondary segment.

But why are these jobs so hard to fulfil, and why do they even exist? Piore (1979) identifies five important issues regarding this question.

1. Why are there unstable jobs?
Companies decide which amount of capital to labour to use as a production source. Of these two, labour is the more flexible one, as employees (especially temporary employees) can be dismissed. Therefore employers use capital to produce their fixed output and use labour when there is need for extra (temporary) production.

2. Why are local workers not willing to fulfil these jobs?
The society judges these kinds of jobs as low status. Furthermore, the potential upward mobility is limited and employees face high insecurity (risk of getting fired). These aspects can be used to explain why there are many Polish workers in the Netherlands despite the
current unemployment. Part of this situation can be explained by the unwillingness of Dutch people to fulfil these jobs. Labour market frictions, like location, play a role as well.

3. Why can the reluctance towards these jobs not be solved by higher wages?
According to Piore wages cannot respond freely to fluctuations in the supply of workers because there is an established occupational hierarchy (Fassmann 2005). This hierarchy is linked to wages and status that comes with a job. So if for instance the wages of bus drivers are raised other employees will demand higher wages as well (Massey 1993). This behaviour can be explained by the equity theory of Adams (1965) in which people judge their own situation by looking at other people. On the long run it is useless to raise wages as the occupational hierarchy will remain. The wages should stay in line with this hierarchy.

4. Why are foreign workers willing to accept such jobs?
Temporary workers do not care when a job is transient because they only planned a temporary visit anyway. The low-status that comes with the job is no issue because temporary immigrants only care for their status back home. When working temporary, their goal is just to make as much money as possible. And even tough they fulfil badly paid jobs, they still earn a lot more then they would have earned back home. The government of the sending countries agree as this is a perfect opportunity to temporally export unemployment (Massey 1989, Schoorl et al. 2000).

5. Why can these jobs not be filled in anymore by women and teenagers?
In the earlier days female labour was viewed upon as an extra labour force. Nowadays women have a high participation level and are not a secondary source anymore. Women demand challenging jobs and career perspectives. A lower fertility rate and longer education have diminished the availability of youngsters (Massey 1993).

According to the dual labour market theory these five issues have resulted in recruitment programs. Attracting workers from low-wage countries is the solution to obtain a steady flow of secondary segment workers (Fassmann 2005). These people view bottom-level jobs simply as a mean to earn money (Massey 1993). Programs that take care of the recruitment can be initiated by either companies or governments.

**Predictions of the theory.**
Some time after World War Two many countries (among them the Netherlands) implemented recruitment programs. These countries experienced a growing demand for workers willing to fulfil certain (bad) jobs. The first Dutch recruitment programs recruited Spanish, Italian and
Greece workers (Massey 1993). These workers temporary entered the Dutch secondary segment. The DLT predicts that these immigrants will only stay a certain period before they return to their home country and will be replaced by new recruited workers. This process will continue as long as there is a demand. Although the educational level is not specified in the DLT the average educational level of these immigrants is (at least to Dutch standards) low. When relating this information to the information in paragraph 3.1 the expected wage and replacement effects are limited. The recruited workers fulfil the jobs that the native workers are unwilling to do. Hence, there are no replacement effects. Because native and guestworkers do not compete for the same jobs there will be no effects on the wages either.

3.4 Summary chapter 3.

This chapter introduced the theories that are frequently used in analysing the labour market effects of immigration. The goal of this chapter was to answer the sub-question: What kind of immigrants can be expected to enter according to the theory?

Among studies the results for the effects of immigration on the wages and employment of native residents shows great variety. However, most studies find a small effect. The size of this effect depends on the size of the migration flow, the competition between native workers and immigrants and the skill level of immigrants. Until now temporary immigrants often fulfil jobs that Dutch residents are unwilling to fulfil.

To gain more insight in the characteristics of migrants this chapter used the insights of the human capital and dual labour market theory. The HCT assumes immigrants to be favourable selected with regard to age, health and education for the following reasons (Dalen & Henkens 2007).

- Age: the younger the migrant the more time there is to recoup the cost of migration.
- Health: the cost of migration can only be recouped when the immigrant is in good health.
- Education: high educated migrants are expected to more easily find a job because their knowledge is better interchangeable. Furthermore, they are expected to have less trouble integrating in the new country.

The DLT predicts that mainly low educated temporary workers will enter the Dutch labour market to fulfil jobs that are difficult to fill in. The flow of immigrants is controlled by the recruitment programs.

Both theories provide a different migration profile. The next chapter will test which profile has the best match with the labour migration population in the Netherlands.
Chapter 4: Testing the predictions of the theory.

This paragraph will test the predictions of the Human Capital theory and the Dual Labour market theory by looking at the Dutch migration flows.

The predictions of the theories oppose each other. So, which one is right? Or maybe both theories are correct, but apply on different migration flows. This chapter focuses on the sub-question: Are the predictions of the theory in line with the reality? The predictions of the theories will be tested by using the data of chapter one, complemented with empirical research.

But first a short repetition of the predictions of the two theories:

- **HCT**: The likelihood of migration is positively correlated with the amount of human capital factors.
- **DLT**: immigrants are temporary, low educated workers that have secondary segment jobs. Their arrival is controlled by recruitment programs.

This chapter is built up in the following manner.

4.1 Human capital theory.
4.2 Dual labour market theory.
4.3 Summary.

### 4.1 Human capital theory.

The positive selection of migrants with regard to age and health seems to be uncontested among studies. However, the assumed positive relation between skills/education and the likelihood of migration is not. Taylor (1987) found that Mexican emigrants are negatively selected due to the poor transferability of their human capital (in this case education). Whether migrants are favourably selected or not is important for understanding the economic and sociological consequences of migration for the sending and receiving regions (Chiswick 2000).

Now let's see what can be learned from the Dutch situation. The HCT will be tested for the Dutch immigration flows by looking at the age, health and educational level of immigrants that entered the Netherlands.
Age
The HCT predicts that there is a negative correlation between the age of labour migrants and the likelihood of migration. Migration at a younger age enables the migrants to recoup their immigration investment and allows them to properly adapt to the new country. Now how does this prediction of the HCT hold for the Dutch labour migration flow? The information in paragraph 1.3 can be used to test this prediction. Figure 1.4 showed the age structure for labour migration as well as the aggregate migration. In table 4.1 part of the data that has been used for figure 1.4 is presented.

Table 4.1: Age of labour migrants.

<table>
<thead>
<tr>
<th>Year</th>
<th>18-30</th>
<th>30-40</th>
<th>&lt;40</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
<td>45%</td>
<td>35%</td>
<td>19%</td>
</tr>
<tr>
<td>2000</td>
<td>46%</td>
<td>35%</td>
<td>19%</td>
</tr>
<tr>
<td>2001</td>
<td>45%</td>
<td>34%</td>
<td>20%</td>
</tr>
<tr>
<td>2002</td>
<td>46%</td>
<td>33%</td>
<td>21%</td>
</tr>
<tr>
<td>2003</td>
<td>44%</td>
<td>35%</td>
<td>21%</td>
</tr>
<tr>
<td>2004</td>
<td>44%</td>
<td>35%</td>
<td>21%</td>
</tr>
</tbody>
</table>

Source: CBS Statline.

The migrants in the age above 40 are joined because of their limited entrance. For labour migration they represent 20% of the total flow. Hence, 80% of the labour immigrants are under 40. The share of labour migrants is highest in the age range of 18-30. The negative correlation can be seen very clearly in table 4.1. When the age of the labour migrants increases the share of labour migrants decreases. Thus, the predictions of the HCT with regard to the age of labour migrants are well supported in the Netherlands.

Health.
The next factor, health, can unfortunately not be tested using the data of chapter one. In fact this factor seems to be ignored in the discussion on the HCT. Far more attention has been paid to the core factor of the theory: education/skills. However, it seems plausible that good health is a required condition for migration, apart from those migrants that enter a country to benefit from good health care. Therefore this factor does not receive any extra attention.

Education/skills.
The HCT assumes a positive correlation between the amount of education and the likelihood of migration. A higher education allows the migrant to quickly find a job. Higher educated migrants also have less trouble adapting to a new country and can recoup the cost of migration quicker. Therefore educated people are more likely to migrate (Chiswick 1979). Among studies this hypothesis faced severe critique as for instance by Taylor in 1987.
Now how does this hypothesis hold for the Netherlands?

Despite the importance of the educational level of migrants the amount of recent data is limited. The data in chapter one is based on 2000 till 2002. According to the study by Dumont & Lemaitre (2005) only 16% of the immigrants are highly skilled. Zorlu & Hartog (2001) also found that the average educational level of immigrants is low. Over 40% of the Moroccan/Turkish labor force that lives in the Netherlands only has a primary school education. However, the data as presented in paragraph 1.6 also contains other migration flows besides labour migration. According to Chiswick (2000) the impact of human capital factors is largest for labour migrants. Hence, the outcomes as presented above might suffer from the influence of other migration groups. This is also in line with the research results of the CBS (2000), Dutch Government (2005) and Nicolaas (2005). They found that recently migrated immigrants have a higher education. Especially when they come from developed Western countries. According to the Dutch government (2005) about 80% of the immigrants from modern Western countries, like Japan and the USA are highly educated. Other studies, like by Tidrick in 1971, Finifter in 1976, DaVanzo in 1976, Baily in 1993, Gabriel and Schmitz in 1995 and Chiswick in 1999 also found evidence that there is a positive selection among immigrants based on their educational attainment. Still, there has been and still is a substantial amount of low educated immigrants. This might indicate that the HCT is wrong or, more likely, only applies on certain migration groups.

Altogether, the impact of the HC factor age is well supported in the Netherlands. The influence of the educational level on the other hand only seems to apply on certain migration groups. Among studies there are mixed result about the positive selection among immigrants based on their educational attainment.

Now how can these differences between ethnic groups and studies be explained? This thesis recognizes six issues that can help to explain the different outcomes of studies and to determine on which migration groups the HCT applies in the Netherlands.

- Transferability of knowledge.
- Language barriers.
- Restricted entry of immigrants.
- No clear definition of: high educated.
- Different scope of studies.
- The (Dutch) tax system.
Transferability of knowledge.
The recognition of degrees can influence the immigrants’ educational level. Not all countries equally recognize diplomas. The rejection of certain degrees can result in a lower educational status for immigrants. When countries have a different recognition of diplomas this can cause equally educated immigrants to receive different educational statuses. The creation of a European diploma system has been an important step in obtaining an increased transferability of knowledge within Europe. However, the diplomas from immigrants that enter the Netherlands from less developed countries are more often refused (ISEO 2004). When people in the sending country are informed about this lower recognition this is likely to cause a downwards pressure on the educational level of the flow of immigrants from this country. Taylor (1987) found evidence for this process in Mexico. Because of the poor transferability of their knowledge Mexican citizens with a secondary education were better-off staying in Mexico then when migrating to the USA.

Language barriers.
Another explanation, which is closely related to education, is the language barrier. Educated migrants are not necessarily able to express themselves in another language. If they are able to do so then this is more likely to be in English instead of Dutch. Speaking the national language improves the labour market position (Zorlu & Hartog 2001). Hence high educated migrants are more likely to move to countries like Spain, France or the UK instead of the Netherlands (Doomernik 2007). Some evidence for this hypothesis can be found in the educational level of immigrants that enter the Netherlands without facing a language barrier. The flows of immigrants that do not face a language barrier (Suriname, Dutch Antilles) turn out to have higher educational levels then other immigrants groups (ISEO 2004).

Restricted entrance of immigrants.
Next possible explanation is the restricted entry of immigrants. The HCT assumes free movement of migrants. In reality countries protect their labour markets and regulate entrance. When testing the HCT on a global level it is therefore better to test for favourable self selectivity among immigrants in the sending countries instead of in the receiving countries. By doing so, the effects of entry restrictions can be avoided. However, as the focus of this thesis is on the Dutch labour market this test is not relevant here, but merely a suggestion.

No clear definition of: (highly) skilled.
The lack of a clear definition of the term (highly) skilled is perhaps the most influential explanation for the different outcomes among studies. Take for instance the definition used by Brücker in 2006 (on page 11):
“We distinguish two types of individuals: skilled and unskilled. An individual is defined as skilled if it has an educational attainment of 9 years of schooling or more, and as unskilled if it has 8 years or less”.

Now when we compare this definition with the definition used by Dumont & Lemaitre (2005) there are large differences. According to Dumont & Lemaitre people should be indicated as highly skilled when (on page 15): “Highly skilled persons correspond to those with a tertiary level of education”.

Although both studies do not identify the exact same group (skilled and highly skilled) the deviations between studies becomes clear from this example. Which definition is best is not the discussion here. But one could cast serious doubt about the sense of scientific research without a clear and uniform used definition.

**Different scope of studies.**

Many studies (DaVanzo 1976, Baily 1993, Gabriel and Schmitz 1995) that found evidence for the favourable selectivity of migrants only studied migration flows within the USA. Using a national scope greatly influences the outcomes as there are no effects of language barriers or entry regulations.

**Influence of the (Dutch) tax system.**

A challenging explanation for the different result of the HCT among countries has been brought forward by the CPB (2007-1). This report starts from the assumption that an immigrant is most likely to migrate to the country in which he can gain most from his migration decision. Countries with a highly distributive welfare state will therefore discourage immigrants that are likely to have a high income. For these migrants, who are mostly high educated migrants, countries with a low distributive welfare state are more attractive. For low educated immigrants this works the other way around. For these immigrants it is more attractive to enter countries with a highly distributive welfare state like the Netherlands. Given these insight the Netherlands will mainly attract low skilled immigrants. This line of thinking is very interesting and can be linked to the financial incentives introduced in 2004 as presented in paragraph 1.2. This incentive allows immigrants a tax free allowance of up to 30% of their wages\(^\text{10}\). This measure should make the Netherlands more attractive for highly skilled immigrants.

Altogether the HCT does not hold for the Dutch labour migration flows. However, the theory does apply on certain migration groups, like from the USA or Japan. 80% of the immigrants from these countries match the predictions of the HCT.

\(^{10}\) See also paragraph 1.2
Hence, it is hard to falsify the HCT from a theoretical perspective. Furthermore, the outcomes are influenced by imperfections that affect the free movement of migrants. Immigration is influenced by a frame of rules and regulations that coordinate the entrance of migrants and the transferability of knowledge. Language barriers can influence migration destinations. Striking is the absence of a clear definition of highly skilled. As long as the interpretation of highly-skilled differs among research is it hard to identify the effects of education on migration.

### 4.2 Dual Labour Market theory.

The demand based viewpoint of the DLT is a remarkable difference with other migration theories. According to the DLT migration is caused by a permanent demand for immigration labour that is inherent to the economic structure of developed economies (Massey 1993). Hence this theory uses a pull approach in which immigrants are pulled toward the Netherlands. But, there is another aspect that discerns this theory from other theories like the HCT. A weak aspect of other theories is the abstraction from the genesis of migration. Most theories assume that migration will simply occur when certain conditions, like wage differentials, are met. But, migrants should first be informed before they even consider migrating. The theory of Piore can be useful in explaining the genesis of migration flows as the recruitment programs can fill in the informational gap. But, despite the bridging function and the certain recruitment of immigrants there are also many immigrants that not seem to fit inside the DLT. For instance immigrants who come from countries that were never part of any Dutch recruitment program.

The remaining session of this paragraph will test the applicability of the DLT on the Dutch migration flows. Furthermore, the possible deviations will be discussed.

The applicability of the DLT will be tested by looking at the following issues.

- Duration of the visite.
- Motives of migrants.
- Educational attainment and labour market position.
**Duration of the visit.**

In times of labour shortages immigration can be very beneficial for a country’s economy. In order to benefit from migration it is crucial that a large share of the migrants indeed returns (Roodenburg 2003). However, just a quick glance in any large Dutch city shows that many former immigrants never returned. This is not in line with the predictions of the DLT as this theory assumes that labour migrants will only stay temporarily. The data in chapter one does not provide any valuable information that can be used to test the duration of the visit. However, the CBS did some additional research on the return migration of non-Dutch migrants. It turns out that in 2003 almost 25% of the 760,000 non-Dutch immigrants that entered the Netherlands from 1995 till 2002 have returned (CBS 2004). After the first year the return migration is at its highest level. On average 10% of the immigrants return after one year. After the second year the likelihood of returning decreases. The return rate for Western migrants is with 50% almost twice as high as for non-Western migrants. However these general return rates do not necessarily mirror the return rates of labour migrants. In fact the return migration rate is higher for those migrants that enter the Netherlands with a labour motive as can be seen in figure 4.2.

**Figure 4.2: Likelihood of settlement of labour immigrants.**

According to the CBS almost 70% of the labour migrants that entered the Netherlands in 1997 have left within five years. Bijwaard (2005) calculated the return rate for specific labour migration groups. Labour immigrants from the USA or Canada are most likely to return. Almost 80% of these immigrants return. However, Bijwaard also found that only 40% of the Moroccan labour immigrants will return.
Although the DLT realizes that some migrants will never return the information presented above is not in line with the predictions of the DLT. Especially non-Western migrants like from former recruitment countries, show relatively low return rates. In fact only 40% of these migrants return.

**Motives of migrants.**

Paragraph 1.6 showed the motives of migrants. When the DLT (or HCT) is applicable on the general Dutch migration flows then most migrants should enter the Netherlands with a labour motive. The focus will be on these migrants that enter the Netherlands from former recruitment countries. That the first recruited migrants from countries like Turkey, Morocco and Italy entered the Netherlands with a labour motive seems undisputable. The same goes for the Polish workers that now enter the Netherlands. Almost 35% of the Polish immigrants that entered the Netherlands from 2000 till 2004 had a labour motive (CBS Statline). However, many Polish labour immigrants are not registered; hence this share is likely to be even higher in the total flow from Poland (CBS 2004)\(^\text{11}\). High labour migration rates can also be expected for former recruitment countries. But somewhere along the way the motivational drivers of Turkish and Moroccan migrants have changed. In table 4.1 the recent motives of Turkish and Moroccan migrants have been displayed.

**Table 4.1: Motivational drivers of Turkish and Moroccan migrants (2000-2004).**

<table>
<thead>
<tr>
<th></th>
<th>Labour</th>
<th>political motive</th>
<th>Family reunion</th>
<th>Family member</th>
<th>Family creation</th>
<th>study</th>
<th>others</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moroccan</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td>3.87%</td>
<td>4.11%</td>
<td>31.14%</td>
<td>0.64%</td>
<td>53.33%</td>
<td>6.02%</td>
<td>0.90%</td>
<td>100%</td>
</tr>
<tr>
<td>2001</td>
<td>2.76%</td>
<td>1.19%</td>
<td>23.21%</td>
<td>0.48%</td>
<td>66.54%</td>
<td>4.54%</td>
<td>1.27%</td>
<td>100%</td>
</tr>
<tr>
<td>2002</td>
<td>2.94%</td>
<td>1.09%</td>
<td>27.49%</td>
<td>0.69%</td>
<td>62.71%</td>
<td>4.01%</td>
<td>1.07%</td>
<td>100%</td>
</tr>
<tr>
<td>2003</td>
<td>3.46%</td>
<td>1.16%</td>
<td>26.06%</td>
<td>0.53%</td>
<td>63.53%</td>
<td>3.18%</td>
<td>2.08%</td>
<td>100%</td>
</tr>
<tr>
<td>2004</td>
<td>3.77%</td>
<td>1.57%</td>
<td>26.43%</td>
<td>0.56%</td>
<td>58.35%</td>
<td>3.71%</td>
<td>5.61%</td>
<td>100%</td>
</tr>
<tr>
<td>Turkish</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td>4.59%</td>
<td>17.63%</td>
<td>22.36%</td>
<td>1.65%</td>
<td>50.83%</td>
<td>1.75%</td>
<td>1.19%</td>
<td>100%</td>
</tr>
<tr>
<td>2001</td>
<td>5.22%</td>
<td>14.45%</td>
<td>17.21%</td>
<td>1.27%</td>
<td>57.73%</td>
<td>2.34%</td>
<td>1.79%</td>
<td>100%</td>
</tr>
<tr>
<td>2002</td>
<td>7.22%</td>
<td>6.95%</td>
<td>19.76%</td>
<td>0.99%</td>
<td>61.01%</td>
<td>2.40%</td>
<td>1.68%</td>
<td>100%</td>
</tr>
<tr>
<td>2003</td>
<td>13.52%</td>
<td>3.50%</td>
<td>17.30%</td>
<td>0.89%</td>
<td>60.76%</td>
<td>2.37%</td>
<td>1.65%</td>
<td>100%</td>
</tr>
<tr>
<td>2004</td>
<td>6.14%</td>
<td>2.23%</td>
<td>21.21%</td>
<td>1.45%</td>
<td>59.52%</td>
<td>4.03%</td>
<td>5.41%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source: after CBS Statline

The limited entrance of labour migrants is especially striking for the Moroccan immigrants. Less then 4% of the immigrants from this former labour recruitment country now enters the Netherlands with a labour motive. The two social motives, family reunion and family creation now count for an average inflow of almost 90% of the Moroccan immigrants. For Turkish migrants this share is about 80% of the aggregate immigration. Turkish migrants show a

\(^{11}\) De Beer 2007: of the 100.000 Polish workers in 2004 only 10% was registered.
rather low rate of labour migration as well. When linking these results to figure 1.3 the results become even more remarkable. The information in figure 1.3 can be used as benchmark. From 2000 till 2004 the average share of labour migrants was 22% (see appendix A1), so the labour migration rates of Turkish and Moroccan migrants are extremely low.

At first glance the information in this session indicates that the DLT is wrong again. Although the DLT leaves some room for social migration especially Moroccan and Turkish migrants nowadays have extremely low labour migration rates. However, for other migration groups like Polish migrants labour migration can explain almost 35% of the registered migration. When specifically looking at the labour migration rates for Polish men this rate is almost 60% (CBS Statline).

Given these mixed results the DLT does not pass neither does it completely fail on this test. Especially when taking into account that Piore does state that labour migration might on the long run result in social migration.

Educational attainment and labour market position.

The DLT predicts that the average immigrant has low skills and will work in the secondary segment. Figure 1.5 provides general information with regard to the educational attainment of migrants. The major part of the immigrants can indeed be identified as low skilled. So far this is in line with the prediction of the DLT. However, 16% of the migrants are identified as highly skilled and this share cannot be explained by the DLT.

Zorlu (2001) discusses the low educational level of Turkish and Moroccan immigrants. According to Zorlu more than 40% of the Turkish/ Moroccan labour force only has a primary school education. These results are supported by Lautenbach (2007) and the RWI (2007). In table 4.2 the educational attainments of several migration groups have been displayed. The division has been made by using the ISCED classification as shown in appendix A6.

Although this data gives clear information it is hard to determine which part reflects on the labour migrants. As mentioned earlier data on the educational attainment of labour immigrants is limited. However, several studies (like Dutch Government 2005) mention the low educational level of former guestworkers.

| Table 4.2: Educational attainments of migration groups in the age of 15-64 (2005). |
|-----------------------------------------------|-----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Dutch nationality                          | Western immigrants | Turkish immigrants | Moroccan immigrants | Surinam immigrants | Antilles immigrants | Other non-western |
| low                                         | 33%              | 25.4%            | 56.2%            | 59.4%            | 42.8%            | 36%            | 36.2%          |
| secondary                                   | 41%              | 44.3%            | 36%              | 33%              | 42.5%            | 45.2%          | 43.3%          |
| high                                        | 26%              | 30.3%            | 7.8%             | 7.6%             | 14.7%            | 18.8%          | 20.5%          |

Source: after RWI 2007 p.22
Now what about the labour market position of migrants. The DLT predicts that immigrants will work in secondary segment jobs. Employers search for motivated people that are willing to fulfil these jobs. Immigrants seem to be the perfect employees because they only care for the money instead of the status of the job. According to Piore (1979) this is why recruited immigrants show similarities with the homo economicus of economic theory. For them work is purely a means to an end without any social value (Massey 1993). This will imply that most migrants fulfil low status and badly paid jobs. This prediction is confirmed by Zorlu (2001) who states (on page 12): “Turks and Moroccans still occupy an unfavourable position”.

This unfavourable position does not only result in bad jobs, but also in a high unemployment rate. Low educated workers have trouble in finding jobs in the upgraded labour market. However, Zorlu also mentions the improved position of other groups of guest worker. For instance, the positions of the South European and Yugoslav immigrants have improved significantly. Therefore, the prediction of the DLT about the skills and labour market position of migrants are only partly supported. The expected low educational level of labour immigrants is well supported for the guestworkers, but there is also a flow of high educated immigrants. Furthermore, immigrants are more often working better jobs now. Actually the ethnic minority groups seem to catch-up with regard to skills (RWI 2007). However, there still is a large gap.

Altogether the predictions of the DLT do not mach the Dutch migration flows. The DLT can be applied on a rather large part of the migration flow, but there are also many migrants that do not fit within the prediction of the theory. Migrants seem to be upgrading and are moving away from the DLT profile. Their educational attainment increases and immigrants do not only work secondary segment jobs anymore. Just as with the HCT it is hard to falsify the DLT. The theory seems to be valid in some situations. For instance the labour migration of Polish and in the past of Spanish and Italian workers (Dutch Government 2005) has a good fit with the DLT prediction. However, other migration groups like Turkish and Moroccon do not match the predictions of the DLT.

Now what factors influence the applicability of the DLT?

- Immigrants do not return.
- Limitations of the government.
- Immigrants care for their social status.
- DLT only encompasses part of the migration flow.

**Immigrants do not return.**

The basic idea of the DLT is that immigrants set themselves a financial target. When this target is reached the migrant will return home. However, what happens when the migrants is
unable to reach his goal? Besides social reasons (relating to a native citizen) this can be an important reason for a migrant to stay. Piore (1979) therefore raises the question or permanent settlement should be considered as success or failure.

Due to situations as described above migration flows that start out as transitory always loose part of their temporarily behaviour. Once a certain amount (critical threshold) of immigrants from a country has settled, migration flows become self-sustaining. Hence, the recruitment programs that were supposed to control the migration flows now have lost their control (Zorlu 2001). This process can be explained by the theory of network migration. The core of this theory is the self-perpetuating character of migration. This means that once migration has started it will continue. This continuity is caused by the growing abroad network that migrants can rely on. The information that was once provided by the recruitment programs can now be gathered trough a network of family and friends (for more information on the theory of network migration see: Massey 1993, Fassmann 2005). From this moment the flow of immigrants becomes less controllable and social related flows, as shown in table 4.1 take over. Other factors that might influence the return rates are distance and prosperity differences. Many former guest workers from Spain returned to Spain after a significant increase in the local prosperity level (Beer de 2007).

Limitations by the government.

Government policies also influence the validity of the DLT. According to Massey (1989) the DLT has been functioning according to plan until 1973. Due to economic decay (first Oil Crisis) fewer guest workers were recruited. Until then immigrants were willing to return home after a certain period as they could re-enter the country whenever they wanted. In times of economical decay the immigrants face the prospect of being denied to re-enter. As a result many guest workers decide to stay in the host country (Penninx 1986). Given their permanent settlement, immigrants decided to move over their wives, children and families. The Netherlands faced this situation as well (Martin 1979). This can be the explanation why so many Polish workers return to their home country. These immigrants face no entry regulation and are therefore more likely to travel.

Immigrants care for their social status.

So far the permanent settlement of migrants has been explained. But what are the effects of this permanent settlement. The transient character of migration is a crucial aspect of the DLT. Once this temporary character is gone this will influence the behaviour of migrants. Piore (1979) noticed that the temporary migrant has great similarities with the homo economicus. This rational person only cares for money and has no social commitment. Especially the lack of social commitment or status is why these immigrants are willing to work in low status jobs. The effects of the permanent settlement are easy to predict. Former
immigrants become like native citizens and also develop reluctance towards the jobs they were originally recruited for. Replacement effects are the result of this reluctance. At first native and immigrants worked in separated sectors of the labour market. After the settlement native and guestworkers start competing for the same jobs. Employers now need a new source of workers for their secondary segment jobs. The flow of Polish workers again is a good example.

**DLT only encompasses part of the migration flow.**

The final aspect that influences the applicability of the DLT is that it simply cannot explain all migration flows. Were the HCT encompasses a wider spectrum of migrants the DLT can only explain a small part of the total immigration, from a limited number of countries. Despite its limited applicability the DLT can still be valuable. This is also recognized by Arango (2000) on page 89: *The value of the dual labour market theory does not lie principally in providing a general explanation of the causes of international migration. Rather, it lies in highlighting an important factor for the occurrence of international migration, namely the structural demand for foreign labour that is inherent in the economic structure of contemporary advantaged societies.*

Altogether the DLT does not hold for all the labour migrants that enter the Netherlands. However, the predictions on the educational attainment of labour migrants match the reality for some groups. But, there is a trend towards a higher educational level of migrants (Constant & Zimmermann 2005). This tendency will increase the gap between the predictions of the theory and the actual educational level of migrants. Also the temporary character of migration, a key element of the DLT, does not hold for the Dutch migration flows. The switch from temporary to permanent settlement influences the behaviour of migrants. Settled migrants are more likely to bring over their families and care about their social status in Netherlands.

Entrance limitations also affect the DLT. When facing reduced entry immigrants decide where they want to live. Many immigrants decided to continue their lives in the Netherlands. It seems that the DLT is a good theory in explaining certain migration flows for a certain period. The flow of Polish workers for instance matches the DLT. But the question is for how long. It seems to be only a matter of time before also Polish migration will not be driven by the demand for labour but by social motives. However, this is not in line with the opinion of Entzinger (2007) who expects that only 5 till 10% of the Polish workers will stay in the Netherlands. Research by the municipality of Rotterdam on the other hand showed that 25% of the Polish immigrants in Rotterdam want to stay in the Netherlands. When this will actually happen the predictions of the DLT will be affected by the flow of social migrants.
4.3 Summary chapter 4.

The HCT predicts that mainly young, healthy and well educated migrants will enter the Dutch labour market. The DLT on the other hand predicts that the main labour migration flow will consist of temporary low educated workers that will work in secondary segment jobs. This chapter tested the predictions of both theories by using the information in chapter one and additional information when necessary. It turns out that the predicted migration profiles of both theories are only partly supported.

The HCT assumes that there is a relation between the amount of HC factors and the likelihood of migration. Although migrants are in general young and healthy, almost 60% of the aggregate migration flow is lowly educated. However, some migration groups like from the USA and Japan are mostly high educated. The absent link between the educational attainment and the likelihood of migration might be the result of a bad transferability of knowledge or language barriers. Entrance limitations can also play a role here. Striking in the research methods on the relation between human capital factors and migration are the different approaches. There is no universal used definition of highly skilled and the scope among studies differs from a national to an international approach.

The predictions of the DLT on the educational attainment of immigrants are more in line with the reality. Many immigrants indeed work or used to work in secondary segment jobs and have a low educational level. However, the expected transitory character of migration is not well supported in the Netherlands. For instance the low return rate of Moroccan labour migrants (40%). As a result of these low return rates migration flows have become self-sustaining. Once the amount of settled migrants from a certain background has reached a critical threshold the migration flow becomes self-sustaining. As a result labour migration is no longer the main motivational driver of migrants. Instead, social motives, like family reunion or family creation have become the main motivational drivers. For the Moroccan immigrants these motives nowadays count for almost 90% of the migration flow. Limitations by the government again affect the predictions of the theory. According to Massey (1989), immigrants that face a prospect of a denied re-entry massively decided to settle in the Netherlands.

Although the predictions of both theories do not match the reality the predictions of the DLT seem to have to best fit with the characteristics of the immigrants that enter the Netherlands. However, the immigration flows seem to be upgrading, due to a more selective entrance policy towards low educated workers.
**Chapter 5: conclusions**

The Netherlands has a long history in migration. After the emigration shortly after World War Two many Dutch people migrated to countries like Canada, Australia and the USA (Swierenga 2000). Until 1967 the Netherlands have had a negative migration surplus. Especially the inflow of large numbers of guest workers created a positive migration surplus. From that moment the inflow of migrants exceeded the outflow.

For years several ethnic groups have been recruited as guest workers. After the Italian, Spanish and Yugoslavs guest workers new guest workers were recruited in Turkey and Morocco. Several societal problems, like crime and unemployment have been linked to the entrance of immigrants. This thesis studies the effects of migration on the Dutch labour market, with the focus on the current (2007-2012) labour market.

The effects of immigration on the labour market are closely related to the characteristics of the immigrants. Therefore this thesis studied the characteristics of immigrants in order to make a migrant profile. The Human capital theory and the dual labour market theory have been useful tools in this process. The theories turn out to be useful in specifying a migrant profile for a certain ethnic group or migration flow, but the general predictive power of both theories is limited. The rather specific explanatory power of migration theories is also recognized by Arango (2000). The predictions are influenced by all kind of imperfections. For the HCT one could think of entrance limitations, bad transferability of skills and language barriers. The outcomes of the DLT are mainly influenced by the low return rate of immigrants, which itself is caused by entrance limitations and social bonding.

All these side-effects make it difficult to generate a good migrant profile. However, by combing the information of the DLT and the HCT with the data in chapter one and additional empirical research the following general migration profile has been specified.

**Migrant profile:** the average immigrant that enters the Dutch labour market has a lower education and is unlikely to return to his home-country.

This migrant profile should apply to the major part of the migration flow. However, other migrants like: Japanese, American and Polish immigrants do not match this profile. But, the impact of mainly Japanese and American immigrants seems limited. Although 80% of the immigrants from the USA are highly educated they only represent about 4.5% of the total
labour migration\textsuperscript{12}. In the near future Bulgarian and Romanian immigrants are expected to enter. These immigrants are likely to match the profile above. The return rate of these immigrants is still uncertain (also for Polish immigrants). The economic development in their home-country is an important factor that will influence the return rate.

Now what are the effects on the labour market when migrants that match the migrant profile enter the Netherlands? The effects will be discussed from an employer, employees and general point of view. Because the return rate is unclear there will be discussed two situations. The first situation expects a low return rate. The second situation expects a transient migration flow

**Effects for employers.**

An increased amount of available workers is, regardless of their skills, always in favour of employers. They now have a larger potential pool to select their employees from. Given the current unemployment rates employers would prefer an increased entry of immigrants. This increased pool of employees might result in more productive workers, or in lower wages. Or immigration is transitory is not relevant for the employers, but will mainly affect the welfare state as migrants might request social benefits.

*Low return rate:* a low return rate can cause migrants to develop reluctance against certain jobs. On the other hand it can be useful when an employer wants to invest in immigrants by for instance offering them education.

*High return rate:* a constant flow of new immigrants that are willing to work in the secondary segment is the best situation for employers (that require low skilled labour). There will be a steady flow of motivated cheap workers.

**Effects for native workers.**

The effects for native workers are less bright. Despite the low replacement effects native workers will experience a certain pressure on their position. Until now most immigrants fulfilled 'open' jobs. Hence, native workers do not really face competition by immigrants. However, an increased inflow of low-skilled workers from Bulgaria and Romania will put more pressure on the position of low skilled native workers. Especially when taking the low job forecast of the CWI (see chapter two) into account.

The entrance of low skilled immigrants will especially limit the labour market opportunities of the potential labour force. Chapter two showed that low skilled workers are over represented in the potential labour force. The Dutch government tries to motivate these people to enter the labour market. Low opportunities affect the motivational level of these people. Immigrants

\textsuperscript{12} See table 1.5.
will have negative effect on the labour market opportunities of these people, what will then affect their motivation. Therefore, the entrance of low skilled immigrants can negatively affect the attempts of the Dutch government to employ 200,000 long unemployed people. Employers are more likely to hire motivated and productive immigrants then less motivated Dutch citizens (Entzinger 2006).

*Low return rate:* a low return rate of immigrants will result in replacement effects. Residents and immigrants will start competing for the same jobs. As a result wages will go down or unemployment will increase.

*High return rate:* the negative effect for low skilled residents will be small in case of temporary migration. Research showed that the replacement effects are limited in that case as residents and immigrants work on different markets.

**General effect on the labour market.**
Altogether, the future for low educated Dutch citizens seems gloomy. For the Dutch low educated workers it would be best when low educated immigrants were refused to enter. However, the European laws do not allow this. The labour market position of low educated Dutch citizens will therefore become worse in the near future. The actual effect will depend on the size of the inflow of immigrants and the return rates. Because of the large potential supply from Eastern Europe low skilled immigrants from outside the European Union should only be allowed to enter when they can fulfil crucial labour market shortages.

Developing higher skills seems to be the best thing to do for native workers. This also seems to be recognized by the government who tries to motivate Dutch citizens to get educated. Based on the labour market analysis in chapter two this approach seems to work as the educational level in the Netherlands is increasing (CWI 2007).

Altogether the average labour market effects of immigration turn out to be negative for Dutch citizens. Employers on the other hand can benefit from a larger pool of potential employees. Especially low skilled workers will face competition.

At this moment mainly the citizens from the sending countries and Dutch employers seem to benefit. However, one should not forget that an increased prosperity in countries like Poland or Romania will on the long run be beneficial for the Dutch economy as well. Companies are in always in search for new demand or other ways to increase their profit. The needed increase in demand can be obtained by creating new markets. This can be done by raising the purchasing power of nations who where not yet able to afford certain products (Piore & Sabel 1984). Allowing new countries to enter the European Union is an important aspect in this strategy.
Furthermore the conclusions of this thesis are based on a general immigrant profile. Many migrants indeed match this profile, but many others do not. The Netherlands can gain from the inflow of certain migrants that can help to encounter labour market shortages. Chapter one showed that 42% of the immigrants are highly or secondary skilled. The entrance of these immigrants can be beneficial when they enter the labour market. Especially to encounter labour market shortages in certain sectors, like the maintenance or construction sector (MEV 2008).

Hence, it is unfair to claim that immigration will always harm the labour market position of Dutch residents. However, close monitoring is necessary to protect the Dutch citizens that face the negative effects of immigration.
References.


Becker, G S.(1964) Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education. National Bureau of Economic Research,


CBS (2006), Emigratie remt bevolkingsgroei, CBS persbericht PB06-104


CBS (2008), Werkloosheid niet verder gedaald, CBS persbericht PB08-020.


CPB (2007), Selectief arbeidsmigratiebeleid: Europees of nationaal?

CPB (2007-1), Immigration policy and welfare state design, a qualitative approach to explore the interaction. CPB document 153.


Dutch Government (2005), beleidsverkennende notitie arbeidsmigratiebeleid.


Entzinger H. (2007), Polen willen werk en eigen kerken. NRC May 1th

European Commission (2005), Green paper, on an EU approach to manage economic migration.


MEV (2007), Macro economische verkenning (CPB reeks).

MEV (2008), Macro economische verkenning (CPB reeks).


OECD (2006), International migration outlook 2006


SER (2006), 'Welvaartsgroei door en voor iedereen', publicatienummer 8, Themadocument Arbeidsmarktperspectieven laaggeschoolden en ontwikkeling kwalificatiesestructuur beroepsbevolking


SZW (2005), Etnische minderheden op de arbeidsmarkt, beelden en feiten, belemmeringen en oplossingen.


Tidrick K., (1971), Need for achievement, Social class and intention to Emigrate in Jamaican Students, Social economic studies 20, p. 52-60

APPENDIX

A1 Motives of immigrants (non Dutch).

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>labour</td>
<td>12,656</td>
<td>13,193</td>
<td>15,369</td>
<td>16,299</td>
<td>19,025</td>
<td>19,937</td>
<td>18,535</td>
<td>16,621</td>
</tr>
<tr>
<td>political motive</td>
<td>19,901</td>
<td>16,820</td>
<td>16,936</td>
<td>19,102</td>
<td>27,347</td>
<td>25,967</td>
<td>18,789</td>
<td>9,272</td>
</tr>
<tr>
<td>family reunion</td>
<td>15,286</td>
<td>14,777</td>
<td>14,887</td>
<td>14,476</td>
<td>14,492</td>
<td>12,045</td>
<td>11,757</td>
<td>11,372</td>
</tr>
<tr>
<td>family member</td>
<td>5,607</td>
<td>5,236</td>
<td>5,443</td>
<td>4,466</td>
<td>4,350</td>
<td>3,223</td>
<td>2,743</td>
<td>2,325</td>
</tr>
<tr>
<td>family creation</td>
<td>15,601</td>
<td>15,663</td>
<td>17,999</td>
<td>13,202</td>
<td>15,004</td>
<td>20,241</td>
<td>20,725</td>
<td>20,654</td>
</tr>
<tr>
<td>study</td>
<td>4,074</td>
<td>5,998</td>
<td>6,081</td>
<td>6,178</td>
<td>6,361</td>
<td>7,778</td>
<td>9,136</td>
<td>8,773</td>
</tr>
<tr>
<td>others</td>
<td>4,037</td>
<td>5,053</td>
<td>4,910</td>
<td>4,638</td>
<td>4,803</td>
<td>5,309</td>
<td>4,935</td>
<td>4,549</td>
</tr>
<tr>
<td>total</td>
<td>77,162</td>
<td>76,740</td>
<td>81,625</td>
<td>78,361</td>
<td>91,382</td>
<td>94,500</td>
<td>86,620</td>
<td>73,566</td>
</tr>
</tbody>
</table>

A2 Age of immigrants.

<table>
<thead>
<tr>
<th>labour migration</th>
<th>&gt;13</th>
<th>13-18</th>
<th>18-30</th>
<th>30-40</th>
<th>&lt;40</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
<td>-</td>
<td>-</td>
<td>7,398</td>
<td>5,741</td>
<td>3,160</td>
</tr>
<tr>
<td>2000</td>
<td>-</td>
<td>-</td>
<td>8,772</td>
<td>6,601</td>
<td>3,652</td>
</tr>
<tr>
<td>2001</td>
<td>-</td>
<td>-</td>
<td>9,018</td>
<td>6,838</td>
<td>4,081</td>
</tr>
<tr>
<td>2002</td>
<td>-</td>
<td>-</td>
<td>8,476</td>
<td>6,197</td>
<td>3,862</td>
</tr>
<tr>
<td>2003</td>
<td>-</td>
<td>-</td>
<td>7,368</td>
<td>5,743</td>
<td>3,510</td>
</tr>
<tr>
<td>2004</td>
<td>-</td>
<td>-</td>
<td>6,952</td>
<td>5,430</td>
<td>3,255</td>
</tr>
<tr>
<td>average</td>
<td>7,997</td>
<td>6,092</td>
<td>3,587</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>aggregate migration</th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
<td>13,508</td>
<td>14,911</td>
<td>13,982</td>
<td>11,369</td>
<td>9,266</td>
<td>7,611</td>
</tr>
<tr>
<td>2000</td>
<td>6,766</td>
<td>7,245</td>
<td>7,458</td>
<td>6,889</td>
<td>6,991</td>
<td>2,472</td>
</tr>
<tr>
<td>2001</td>
<td>30,626</td>
<td>36,274</td>
<td>39,595</td>
<td>38,543</td>
<td>33,887</td>
<td>31,061</td>
</tr>
<tr>
<td>2002</td>
<td>17,639</td>
<td>21,263</td>
<td>21,384</td>
<td>19,054</td>
<td>17,353</td>
<td>15,539</td>
</tr>
<tr>
<td>2003</td>
<td>9,820</td>
<td>11,689</td>
<td>12,087</td>
<td>10,763</td>
<td>9,398</td>
<td>8,425</td>
</tr>
<tr>
<td>average</td>
<td>18,705</td>
<td>10,364</td>
<td>10,364</td>
<td>10,364</td>
<td>10,364</td>
<td>10,364</td>
</tr>
</tbody>
</table>
### A3 Gender of migrants.

<table>
<thead>
<tr>
<th></th>
<th>labour migration</th>
<th>aggregate migration</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>male</td>
<td>female</td>
</tr>
<tr>
<td>1999</td>
<td>11,346</td>
<td>4,953</td>
</tr>
<tr>
<td>2000</td>
<td>13,088</td>
<td>5,937</td>
</tr>
<tr>
<td>2001</td>
<td>13,797</td>
<td>6,140</td>
</tr>
<tr>
<td>2002</td>
<td>12,195</td>
<td>6,340</td>
</tr>
<tr>
<td>2003</td>
<td>10,962</td>
<td>5,659</td>
</tr>
<tr>
<td>2004</td>
<td>10,517</td>
<td>5,120</td>
</tr>
<tr>
<td><strong>average</strong></td>
<td>11,984</td>
<td>5,692</td>
</tr>
</tbody>
</table>

### A4 top-ten of sending countries (total migration).

<table>
<thead>
<tr>
<th>Immigration</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>country of departure:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aruba</td>
<td>13,090</td>
<td>10,916</td>
<td>8,425</td>
<td>6,464</td>
<td>5,157</td>
<td>4,416</td>
<td>4,938</td>
</tr>
<tr>
<td>Belgium</td>
<td>5,755</td>
<td>5,599</td>
<td>5,357</td>
<td>5,348</td>
<td>5,303</td>
<td>5,584</td>
<td>6,149</td>
</tr>
<tr>
<td>China</td>
<td>2,789</td>
<td>3,848</td>
<td>4,101</td>
<td>4,204</td>
<td>3,649</td>
<td>3,341</td>
<td>3,325</td>
</tr>
<tr>
<td>Germany</td>
<td>8,438</td>
<td>8,227</td>
<td>7,959</td>
<td>7,921</td>
<td>8,671</td>
<td>9,134</td>
<td>10,424</td>
</tr>
<tr>
<td>Great-Britain</td>
<td>7,817</td>
<td>7,893</td>
<td>6,805</td>
<td>5,871</td>
<td>5,405</td>
<td>4,903</td>
<td>5,550</td>
</tr>
<tr>
<td>France</td>
<td>3,513</td>
<td>3,179</td>
<td>3,084</td>
<td>2,919</td>
<td>2,871</td>
<td>3,018</td>
<td>3,357</td>
</tr>
<tr>
<td>Morocco</td>
<td>4,445</td>
<td>5,199</td>
<td>5,123</td>
<td>4,828</td>
<td>3,625</td>
<td>2,357</td>
<td>2,007</td>
</tr>
<tr>
<td>Poland</td>
<td>1,884</td>
<td>2,176</td>
<td>2,275</td>
<td>2,106</td>
<td>5,073</td>
<td>6,672</td>
<td>8,214</td>
</tr>
<tr>
<td>Turkey</td>
<td>5,794</td>
<td>6,355</td>
<td>6,496</td>
<td>6,945</td>
<td>4,692</td>
<td>3,559</td>
<td>3,413</td>
</tr>
<tr>
<td>United States</td>
<td>5,872</td>
<td>5,697</td>
<td>5,679</td>
<td>4,768</td>
<td>4,345</td>
<td>4,410</td>
<td>5,191</td>
</tr>
<tr>
<td>other countries</td>
<td>73,453</td>
<td>74,315</td>
<td>65,946</td>
<td>53,140</td>
<td>45,228</td>
<td>44,903</td>
<td>48,582</td>
</tr>
<tr>
<td>total</td>
<td>132,850</td>
<td>133,404</td>
<td>121,250</td>
<td>104,514</td>
<td>94,019</td>
<td>92,297</td>
<td>101,150</td>
</tr>
</tbody>
</table>

### A5 Top-ten of sending countries (labour migration).

<table>
<thead>
<tr>
<th>labour migration</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>country of departure:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Belgium</td>
<td>947</td>
<td>857</td>
<td>842</td>
<td>758</td>
<td>620</td>
</tr>
<tr>
<td>Germany</td>
<td>2,144</td>
<td>2,195</td>
<td>2,344</td>
<td>1,928</td>
<td>1,837</td>
</tr>
<tr>
<td>France</td>
<td>1,090</td>
<td>1,065</td>
<td>1,001</td>
<td>815</td>
<td>754</td>
</tr>
<tr>
<td>Italy</td>
<td>967</td>
<td>977</td>
<td>880</td>
<td>757</td>
<td>650</td>
</tr>
<tr>
<td>Poland</td>
<td>567</td>
<td>804</td>
<td>731</td>
<td>771</td>
<td>1,896</td>
</tr>
<tr>
<td>Portugal</td>
<td>685</td>
<td>833</td>
<td>830</td>
<td>767</td>
<td>620</td>
</tr>
<tr>
<td>Spain</td>
<td>734</td>
<td>750</td>
<td>804</td>
<td>733</td>
<td>578</td>
</tr>
<tr>
<td>Turkey</td>
<td>231</td>
<td>292</td>
<td>422</td>
<td>861</td>
<td>262</td>
</tr>
<tr>
<td>USA</td>
<td>1,151</td>
<td>986</td>
<td>816</td>
<td>778</td>
<td>651</td>
</tr>
<tr>
<td>UK</td>
<td>3,554</td>
<td>3,856</td>
<td>2,894</td>
<td>2,408</td>
<td>1,895</td>
</tr>
<tr>
<td>other countries</td>
<td>6,955</td>
<td>7,522</td>
<td>6,971</td>
<td>6,045</td>
<td>5,874</td>
</tr>
<tr>
<td>total labour migration</td>
<td>19,025</td>
<td>19,937</td>
<td>18,535</td>
<td>16,621</td>
<td>15,637</td>
</tr>
</tbody>
</table>
A6: ISCED classification by UNESCO.

<table>
<thead>
<tr>
<th>Proxy criteria for contents</th>
<th>Main criteria</th>
<th>Subsidiary criteria</th>
<th>Name of the level</th>
<th>Code</th>
<th>Complementary dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>How to determine the level of a programme</td>
<td>Educational properties</td>
<td>Staff qualification</td>
<td>Pre-primary education</td>
<td>0</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>School or centre-based</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Minimum age</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Upper age limit</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Beginning of systematic apprenticeship of reading, writing and mathematics</td>
<td>Entry into the nationally designated primary institutions or programmes</td>
<td>Primary education</td>
<td>1</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Start of compulsory education</td>
<td>First stage of basic education</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Subject presentation</td>
<td>Entry after some 6 years of primary education</td>
<td>Lower secondary education</td>
<td>2</td>
<td>Type of subsequent education or destination</td>
</tr>
<tr>
<td></td>
<td></td>
<td>End of the cycle after 9 years since the beginning of primary education</td>
<td>Second stage of basic education</td>
<td></td>
<td>Programme orientation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>End of compulsory education</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Several teachers conduct classes in their field of specialization</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Typical entrance qualification</td>
<td>(Upper) secondary education</td>
<td></td>
<td>3</td>
<td>Type of subsequent education or destination</td>
</tr>
<tr>
<td></td>
<td>Minimum entrance requirement</td>
<td></td>
<td></td>
<td></td>
<td>Programme orientation</td>
</tr>
<tr>
<td></td>
<td>Entrance requirement, content</td>
<td></td>
<td></td>
<td></td>
<td>Cumulative duration since the beginning of ISCED level 3</td>
</tr>
</tbody>
</table>

Effect of immigration on the Dutch labour market.
<table>
<thead>
<tr>
<th>Age, Duration</th>
<th>Minimum entrance requirement, Type of certification obtained, Duration</th>
<th>First stage of tertiary education (not leading directly to an advanced research qualification)</th>
<th>3</th>
<th>Programme orientation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>5</td>
<td>Type of programmes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Cumulative theoretical duration at tertiary</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>National degree and qualification structure</td>
</tr>
<tr>
<td>Research oriented content, Submission of thesis or dissertation</td>
<td>Prepare graduates for faculty and research posts</td>
<td>Second stage of tertiary education (leading to an advanced research qualification)</td>
<td>6</td>
<td>None</td>
</tr>
</tbody>
</table>