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ECONOMIC  
IMPACTS OF  
IMMIGRATION:  
A SURVEY

Sari Pekkala\*

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Valtion taloudellinen tutkimuskeskus

Government Institute for Economic Research

Arkadiankatu 7, 00100 Helsinki, Finland

Email: [etunimi.sukunimi@vatt.fi](mailto:etunimi.sukunimi@vatt.fi)

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**Abstract:** This survey presents findings from recent empirical studies on economic impacts of immigration with particular emphasis on European and Nordic countries. The survey consists of three parts. First, we look at the extent of immigration as an economic phenomenon in various host countries. The second part deals with the assimilation of immigrant workers in host country labor markets and the use of social benefits by immigrants. Third, the effect of immigration on natives' labor market outcomes is discussed. And finally, we survey studies on the impact of immigration on the host country public sector.

**Key words:** Immigration, assimilation, employment, unemployment, earnings, social benefits, welfare, labor market outcomes, public sector

**JEL Classification:** H53, J23, J31, J61, J68

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**Tiivistelmä:** Tämä kirjallisuuskatsaus esittelee viimeaikaisten empiiristen tutkimusten tuloksia maahanmuuton taloudellisista vaikutuksista eri maissa. Erityisesti tarkastellaan Eurooppalaisia ja Pohjoismaisia tutkimuksia. Katsaus koostuu kolmesta osiosta. Aluksi tarkastellaan maahanmuuton laajuutta taloudellisena ilmiönä eri maissa. Toinen osio käsittelee maahanmuuttajien työmarkkina-vaikutuksia. Niinä arvioidaan ensin muuttajien sopeutumista kohdemaan työmarkkinoille, sekä yhteiskunnan muuttajille maksamia tukia. Toisaalta tarkastellaan maahanmuuton kotimaan kansalaisille aiheuttamia työmarkkina-vaikutuksia. Viimeisessä osassa perehdytään tutkimuksiin, joissa pyritään laskemaan maahanmuuton julkiselle sektorille aiheuttamaa kokonaishyötyä tai -kustannusta.

**Asiasanat:** Maahanmuutto, kotoutuminen, työllisyys, työttömyys, ansiot, sosiaaliset tuet, työmarkkina-vaikutukset, julkinen sektori

**JEL -luokitus:** H53, J23, J31, J61, J68



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# 1 Introduction

Immigration has received noticeable attention in the economics literature for over three decades, and for a good reason. International migration is a mighty force globally: over 175 million people live outside the country they were born in (UN, 2002).<sup>1</sup> Also, most of population growth in the European Union and USA results from immigration (OECD, 1999; Borjas, 2003). The traditional destination countries, USA, Canada and Australia, have received large immigration flows for over 100 years. A substantial share of the global migration flow is still directed to these three countries. In the European context important destination countries include the UK, France, Germany and Sweden, each with a population share of immigrants of over 10 percent. Altogether 19 million foreign born individuals live in the EU countries, and over 70 percent of them originate from outside the EU. The volume of international migration, as well as the composition of the migrant flow, has varied greatly by decade and country. Migration rates were at their highest in the 1970s and again in the 1990s. In the late 19<sup>th</sup> and early 20<sup>th</sup> century Europeans migrated heavily, but more recently migrant flows have been dominated by Asians and South-Americans. Immigration has become a significant economic phenomenon in many previous emigrant-sending countries.

This paper surveys empirical studies on the economic impacts of immigration with particular emphasis on the European and Nordic countries. The important questions examined in recent literature include, firstly, who immigrate and how immigrants compare (in terms of age and education) with the average native born in the host country. Secondly, how well and how rapidly are immigrants assimilated to the labor market, and how much they therefore contribute in tax payments relative to the welfare services they consume. Thirdly, how native wages and employment are affected by immigration, and what happens to the overall wage structure of the host country. Comparing experiences from different countries helps understanding the role played by institutional factors on the potential gains and losses resulting from immigration.

The survey consists of three parts. First it looks at the extent of immigration as an economic phenomenon in different countries. In the second part, the labor market effect and assimilation of immigrants to the labor market are discussed. Finally, the third part presents a survey of studies on the fiscal impact of immigration.

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<sup>1</sup> Over their life time around 3 % of world's population permanently emigrate from their country of birth.

## 2 Immigrants in different countries

To gain some perspective for the comparison across countries, this section will compare the size of immigrant population and flows in different countries. International migration was rapid throughout the 20<sup>th</sup> century, but immigrants were concentrated very unequally around the globe. The largest immigrant populations are found in the USA, Canada and Australia. In the EU countries altogether 19 million foreign born individuals are living currently. Of these, 70 percent originate from outside the EU. Most of the immigrants in the EU live in Germany, France and the UK (table 1).<sup>2</sup> Largest shares of immigrants relative to labor force or population can be found in these countries, but also in Sweden and the Netherlands. The composition of migration flows has changed drastically over the last 30 years or so. For example, current migrants to the USA come to a large extent from Central and South America, and are much less educated than the earlier cohorts coming mainly from Europe. On the other hand, the US has recently received a large flow of fairly educated Asian migrants (22 percent of the total flow). The composition change has also been observed in Europe. For example, until late 1970s Sweden used to receive migrants mainly from other Nordic countries, but now the bulk of immigration comes from refugee sending countries. Appendix 1 presents the major source countries of immigration by host country.<sup>3</sup>

*Table 1 Immigrants in various countries*

Country	Number of immigrants (2000)		As % of population (2000)		As % of labor force (1999)		% of workers, all occup. (2003)
	Total stock (1000s)	New flow (1000s)	Total stock	Outside EU	From other EU	Outside EU	
Netherlands	1615.4	91.4	10.1	8.8	1.74	1.74	4
Great-Britain	2297.9	288.8	3.9	2.4	2.39	1.68	4
Norway	305.0	27.8	6.8	3.9	1.97	1.18	-
France	3263.2	119.1	5.5	3.5	3.85	2.30	6
Sweden	1003.8	33.8	11.3	7.2	3.01	1.28	4.5
Germany	7343.6	673.9	8.9	6.7	6.13	2.73	8
Finland	91.1	9.1	1.7	1.4	1.09	0.14	1.5
Denmark	259.4	20.3	5.8	3.9	1.59	1.00	2.5
EU15	18839.2	1425.8	5.0	3.5			
Canada	4971.1	227.2	17.4	-			
USA	19767.3	849.8	9.3	-			12.8*

Source: Eurostat (2002), OECD (2002), Eurostat (2003), US Census Bureau (2000a). New immigrant flow refers immigrants in 1999. Figures for Canada (total stock and % of population) refer to 1996. \* Refers to average of 1999/2000.

<sup>2</sup> Table 1 presents Eurostat statistics which are based on nationality status. Defining immigrants by country of birth gives a very similar picture on the extent of immigration (see e.g. Angrist and Kugler, 2003).

<sup>3</sup> It should be noted that the numbers in appendix 1 refer to legal migrants only. If illegal immigration was taken into account the number of immigrants coming from outside the OECD would be significantly higher for many host countries.

One of the hot political topics in recent years has been the migration of skilled individuals, i.e. “brain drain” and “brain gain”. OECD (2002) published a study comparing the shares of educated natives and immigrants in different countries. According to the study there are 146 million educated workers in the EU countries, 4.5 percent of which are foreign citizens (table 2). Most (67 %) of the educated immigrants originate from other EU or OECD countries, and only about a third come from “developing” countries. Many countries have clearly benefited from the international flow of skilled labor, USA, Canada and Australia in particular. In fact, a fourth of the highly educated labor force in Australia consists of immigrants (OECD, 2002). In the US the share is 9 percent and in Canada 19 percent. On the other hand, 36 percent of the high-school dropouts in the USA were foreign born in 2000 (calculation based on the CPS).<sup>4</sup> And even though many countries have gained human capital through international migration, the utilization rate of this educated labor force varies from country to country, as foreign degrees are not uniformly acknowledged. Moreover, the fact remains that in most western countries the majority of recent immigrants have a much lower level of education than the natives.

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<sup>4</sup> Antecol et al. (2003) use census data to compare immigrants’ skill levels in Canada, Australia and the USA, and note that immigrants in USA have much lower levels of education, English fluency and income. It has been argued that this results from more selective immigration policies of Australia and Canada, but Antecol et al. show that composition effect is behind this finding: if immigrants from Latin America are excluded, skill levels of immigrants are similar in all three countries.

*Table 2 Educated natives and foreign citizens in 1998, thousands of individuals*

Country	Natives	Immigrants from western countries	Immigrants from developing countries	Immigrants, % of all educated
Belgium	3583	226	48	7.1
Netherlands	7165	143	92	3.2
Great-Britain	25893	748	296	3.9
Italy	20165	99	94	0.9
Austria	3282	269	75	9.5
Greece	3822	132	13	3.7
Luxembourg	102	67	2	40.2
France	21260	675	534	5.4
Sweden	3797	132	17	3.8
Germany	32712	1862	963	7.9
Finland	2163	12	4	0.7
Denmark	2612	51	15	2.5
EU whole	145677	4553	2261	4.5
USA	216720	16770		7.2
	Employed skilled immigrants, % of total employment			
EU14	3.5			
USA	10			
Canada	18			
Australia	25			

Source: Cervantes & Guellec (2002) (using Eurostat LFS 2001 for the EU, CPS March 2000 for the USA and 1996 Census for Australia), Lucas (2004), US Census Bureau (2000b). "Immigrants, % of all educated" is the share of highly educated immigrants from the total number of all highly educated residents.

Relative to the number of studies considering economic impacts of immigration empirical economic literature has done little to study the causes of immigration. In principle, economic theory says that international labor mobility is caused by wage differences between countries. In the few existing international questionnaire studies migrants state higher income levels, better personal safety, short distance and existence of networks as the main reasons for choosing a host country, and econometric studies on the determinants of migration support these findings (see Lucas, 1975; Straubhaar, 1986; Long et al., 1988; Faini and Venturini, 1993; Zimmermann, 1995; Massey et al., 1998; IOM, 1998; Bauer and Zimmermann, 1999; Hatton and Williamson, 1998; Munschi, 2003). On the other hand, in these studies better employment prospects have not usually been found to influence immigration. In the USA, only 13 percent on immigrants arrived purely because of employment reasons (i.e. have a work permit) in 1992-2001, whereas in Canada the proportion was 24 percent (Lucas, 2004).<sup>5</sup>

<sup>5</sup> Canadian data refer to 1996-2001. Most migrants arrived due to family unification (62 % both in the USA and Canada). 12 percent of immigrants to the USA arrive as refugees and 13 percent as students (in Canada the respective figures are 12 % and 3 %). Of course, these figures do not necessarily rule out the

The importance of cross-country differences has recently been emphasized in Europe, when evaluating the emigration potential from the new EU member countries (Bauer and Zimmermann, 1999).<sup>6</sup> It has been estimated that anything between 13 and 27 million people are willing to emigrate from Eastern Europe (Coleman, 1993). Other studies suggest there might be only about 5 million potential emigrants (IOM, 1991; Layard et al., 1992; OECD, 1998; Fertig and Schmidt, 2001), whereas politicians worry about migration flows of over 40 million. As a comparison, large emigration flows were expected after the collapse of the Soviet Union, whereas in reality only 3.5 million people (1 % of the population) emigrated.<sup>7</sup>

In order to evaluate the economic impact of immigration it is not only important to know who immigrates, but also who eventually stays in the host country. In other words, the possibility of selective re-emigration may bias the estimated rate of assimilation and economic net impact. It is important to know which share of immigrants stays permanently, and whether the leavers are those who performed better or worse than average in terms of assimilation. This may play an important role in determining the potential gains and losses of immigration to the host country. However, there exist few studies on selective re-emigration, mainly due to data availability. In the USA, every fourth or third immigrant returns to his home country (Warren and Peck, 1980; Friedberg and Hunt, 1995). According to a carefully conducted Swedish study, around 30-40 percent of immigrants leave the country within five years of arrival, and re-emigrants are those who did not assimilate to the Swedish labor market (Edin, LaLonde and Åslund, 2000). The same seems to be true for Germany (Constant and Massey, 2003b). Hence, re-emigration is negatively selected, and estimates on economic success of immigrants overstate the rate of assimilation over time. On the other hand, economic costs of immigration fall in the long run, when the least successful immigrants move out again.

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possibility that immigrants arriving through family unification choose to migrate for better earnings and employment prospects.

<sup>6</sup> The extent of income differences can be studied by comparing income or GDP levels in the host country to the average level in the source countries (OECD, 2000). For example, in the USA this ratio is only 22 %, whereas it was 43 % in Finland and 90 % in Sweden.

<sup>7</sup> The comparison may not be fair, however, as emigration of the citizens of the former Soviet Union was severely restricted.

### 3 Immigration and the labor market

One of the most important determinants of the economic impact of immigration is the economic success of immigrants in the host country labor markets over time, i.e. assimilation. It is typically studied by comparing immigrant and native wages and employment at entry and over duration of stay. On the other hand, the impacts of immigration on native wages and employment, i.e. displacement effects, have been studied. This is typically done by comparing wage and employment in different regions or countries, and seeing how they are related to the size of migrant population. Such comparisons have often been criticized, because it is not clear which way the causality goes: do regional differences cause migration or vice versa? Nevertheless, a crucial aspect for both of the above topics is the relative education level of natives and immigrants, or how substitutable native and immigrant labor forces are.

Most studies concentrate on analyzing the assimilation of immigrant men, despite the fact that foreign-born females form a sizeable share of labor force in many countries. For example, in the USA immigrant women constitute around 5 percent of the total labor force. The lack of research on immigrant women is probably due to their relatively weak labor market attachment and the resulting lack of wage information. On the other hand, this should make studying their employment assimilation even more interesting. Those interested in the labor market assimilation of immigrant women should look at the literature survey and empirical study by Schoeni (1998).

#### 3.1 Immigrant earnings

Immigrants' success in the labor market is typically studied by comparing immigrant wages to those of natives, usually controlling for age, education and other relevant characteristics. Most studies estimate equation

$$\ln w(t)_i = X(t)_i\beta + \sum \alpha^j C_i^j + \delta YrsMig(t)_i + \phi YrsMig(t)_i^2 + \varepsilon(t)_i,$$

using either a single year of cross-section data (where time indicators  $t$  drop out) on a number of immigrant cohorts ( $j=1, \dots, J$ ), or panel / repeated cross-section data. Above,  $\ln w(t)_i$  is the natural logarithm of average (hourly, weekly, monthly or annual) earnings of individual  $i$  in year  $t$ .  $X(t)_i$  is a vector of characteristics which may include controls for age, education, region of residence, marital status, work experience and language spoken. If several years of data are used, studies include both controls for years since migration ( $YrsMig$ ) and migrant cohort  $C_i^j$  (maybe more broadly measured, such as 5-year intervals).

First studies done in the USA suggested that immigrants earn less than natives when entering the country, but catch up the native level in 15 years (Chiswick,

1978; Carliner, 1980). After 30 years, immigrants actually earned 11 percent more than natives of same age and education level. Hence, it was assumed the immigration has a positive impact on the economy. However, later research has challenged this positive view and shown that the education and labor market experience of recent immigrant cohorts has fallen (for the USA see Borjas, 1985 & 1995a and Yungert, 1994; for Canada see Borjas, 1993, and Baker and Benjamin, 1994). These studies argue that earlier cohorts were more educated and successful in the North American labor markets, whereas it is unlikely that the recent cohorts will ever catch up with the native wage level. In contrast, Chiswick (1986) and LaLonde and Topel (1991) find no evidence of declining cohort quality of immigrants. Indeed, much of the recent literature on immigrant assimilation tries to disentangle the year, cohort and years since migration effect.

*Table 3 Immigrant – native wage differences in various studies*

Study	Country	Year (cohort)	Wage diff. %
LaLonde & Topel (1991)	USA	1970 (1965-69)	-20,0
		1980 (1965-69)	-14,0
		1980 (1975-79)	-35,0
Yuengert (1994)	USA	1980 (1965-69)	-25,9 – +82,2
Borjas (1994)	USA	1990 (1985-89)	-29,5
Funkhouser & Trejo (1995)	USA	1989 (1985-89)	-30,0
Card (1997)	USA	1990 (-1984)	-6,0
		1990 (1985-90)	-29,2
Butcher & DiNardo (2002)	USA	1990 (-1989)	-9,5
Blau et al. (2003)	USA	1980 (1975-79)	-15,1
Borjas (1993)	Canada	1980 (1975-80)	-15,8
Grant (1999)	Canada	1981-91 (1976-90)	-30,1 – +7,3
Constant & Massey (2003a)	Germany	1984-97 (-1997)	-13,2
Ekberg (1994)	Sweden	1970-90 (-1970)	-2,0
Edin et al. (2000)	Sweden	1970 (1965-70)	-12,0
		2000 (1995-2000)	-46,0
Arai & Vilhelmsson (2004)	Sweden	1991(Nordic, -1991)	±0
		1991 (Europe, -1991)	-3,0
		1991 (Other, -1991)	-7,0
Hammarstedt (2003)	Sweden	1990	-42,5 – + 10,7
Bell (1997)	Great-Britain	1973-92 (-1989)	-34,0 – +30,5
Büchel & Frick (2003)	Spain	1994-97	+4,0
	Ireland	1994-97	+11,7
	Great-Britain	1994-98	+6,0
	Italy	1994-97	+5,0
	Austria	1995-98	-2,0
	Luxembourg	1994-96	+3,0
	Germany	1995-99	-26,0
	Denmark	1994-97	-53,0

Notes: Figures based on author's own calculations using sample averages reported in studies mentioned in the table. Wage difference is reported as the mean difference or as maximum – minimum difference for various immigrant groups. In most cases these differences do not control for the X characteristics.

The general view is that immigrants earn less than natives both at entry and over time, and that these differences vary greatly by country, time period and data set used (table 3). There are a large number of studies concerning the US, of which table 3 presents a subset. Even though most studies find that immigrants earn less than natives the opposite can also be true for some groups of immigrants (Bell, 1997; Grant, 1999). Especially the highly educated immigrants tend to enter the (U.S.) labor market with high wages and experience faster assimilation (Schoeni, 1997). Hence, the within-country differences can be as large as between-country differences. It is usually found that the earnings gap is largely explained by differences in levels of education.

An interesting finding is that the catch-up of wages over time (i.e. earnings assimilation) depends on the economic conditions the immigrants face when entering the country: Those who moved to Sweden during the 1990s recession were still facing inferior wage development 7 years later (Åslund and Rooth, 2003).<sup>8</sup> Similar conclusions have been made in other studies, for example in the USA and Canada (Nakamura and Nakamura, 1994; MacDonald and Worswick, 1998; Chiswick and Miller, 2004). However, other studies do not observe any time-of-entry effects in assimilation. On similar lines, Chiswick et al. (1997) found no effect of unemployment scarring for immigrants who arrived in the USA at the time of recession.

The earnings gap is assumed to diminish with time spent in the host country, and practically all studies surveyed find this to be true. Earnings assimilation happens as immigrants' language skills improve or they obtain more education (Chiswick, 1991; Borjas, 1994). There are several studies on linguistic adjustment of immigrants in the USA, Canada, Australia and Israel (e.g. Chiswick and Miller, 1992 and 1995).<sup>9</sup> However, the relative importance of language skills is difficult to study in practice as there is little reliable information on language skills in most data sets. The conclusion from recent literature is that even though immigrant – native wage gaps will diminish over duration of stay they are eventually going to remain permanent (e.g. LaLonde & Topel, 1992; Schoeni et al., 1996). In most host countries the more recent cohorts of immigrants are expected never to reach the wage level of the natives.

Finally, one strand of literature is concerned with the possibility of selective return migration that may bias the estimated rates of assimilation. For example, if the less successful return home the estimated earnings profiles over duration of stay look steeper than they actually are. In other words, migrants appear to as-

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<sup>8</sup> The study carefully controlled for source country, education, age and other factors correlated with wages. However, it should be also noted that the recession in Sweden was a particularly severe one.

<sup>9</sup> For more studies on immigrant language acquisition in different countries see McManus, Gould and Welch (1983), Evans (1986), Chiswick and Miller (1988), Robinson (1988) and Tainer (1988), among others.

similate faster than they actually do. Recent studies indicate that return migrants are indeed negatively selected (Edin et al., 2000; Lubotsky, 2000; Bellemare, 2003; Constant and Massey, 2003b).

### 3.2 Immigrant employment

Another important indicator of immigrants' success in the host country labor market is their relative employment rate to the natives. The European studies, in particular, are interested in studying assimilation in terms of employment, probably due to the higher levels of unemployment in these countries. Many studies have also looked at relative participation rates of immigrants, with particular emphasis on immigrant women. Table 4 shows that in most cases immigrants participate to labor force less than natives, and that their employment rate is also lower. This is especially true for female immigrants, at least partly due to cultural reasons. It is also noticeable how badly more recent immigrants fare in the labor market in the EU-countries. The latter may be partly due to large influxes of refugees, whose participation in the labor force may initially be limited due to their status.

*Table 4 Immigrants' participation rate relative to natives and unemployment rates, 1995-1999*

Country	Relative participation rate of immigrants				Unemployment rate (%)	
	Males		Females		Males and females	
	1995-99	Pre-1995	1995-99	Pre-1995	Natives	Immigrants
Netherlands	0.62	0.87	0.55	0.79	5.2	14.8
Great-Britain	0.79	0.96	0.61	0.84	7.8	11.5
Norway	0.84	0.85	0.58	0.80	4.5	8.6
France	0.77	0.99	0.45	0.78	12.0	19.0
Sweden	0.70	0.91	0.49	0.81	8.0	22.8
Germany	0.86	0.98	0.67	0.91	8.0	16.5
Finland <sup>*2</sup>	0.90	0.95	0.67	0.87	15.0	17.0
Denmark	0.75	0.84	0.42	0.81	6.0	12.5
USA <sup>*3</sup>	1.07		0.87		5.0	7.5

Source: Angrist and Kugler (2003), US Census Bureau (2000a) and (2000b). For EU-countries figures refer tot Eurostat labour force surveys (LFS). <sup>\*2</sup>LFS-information differs radically from actual employment figures for Finland due to small samples used in the LFS. <sup>\*3</sup>Refers to year 1997, immigrants include all who were born abroad. "1995-99" are those who immigrated in the last 5 years. "Pre-1995" are those who immigrated more than 5 years ago. Participation rate = labor force/working-age population.

The above figures show that, on average, employment situation of the immigrants is difficult in many countries. Nevertheless, there are large differences in labor market success between different groups of immigrants. It is also possible that immigrants start off with a worse position, but catch up later with natives. The fact that more recent immigrants fare worse relative to natives may be evi-

dence of a catch up. On the other hand, it may also reflect differences across cohorts of immigrants. Hence, an important question is what happens to employment differences during stay in the host country. Again, most studies estimate an equation very similar to the earnings equation:

$$\text{Prob}(E=1) = X(t)_i\beta + \sum \alpha^j C_i^j + \delta \text{YrsMig}(t)_i + \varphi \text{YrsMig}(t)_i^2 + \varepsilon(t)_i,$$

The results for the USA are somewhat conflicting: a part of the studies find large initial differences that disappear after 10 years (Chiswick et al., 1997) while others argue that differences remain permanent (Borjas, 1995a and b). Even though studies have used different methods there is a widespread view today that recent immigrant cohorts are unlikely to catch up with the natives. However, employment of immigrants has been of much lesser interest than immigrants' earnings in the USA. The opposite is true for most European countries. This reflects the difference in European and US unemployment rates and generosity of the unemployment benefit system. Even if a person remains unemployed in the USA he does not place such a great burden to the public sector, compared to the Nordic countries, for example. Below several studies from Nordic countries are surveyed.

The most important explanatory variable for employment differences among immigrants is their source country, which may in turn reflect various imperfectly measured characteristics such as education and work experience (table 5). For example migrants from other Nordic countries to Sweden do well in the Swedish labor market, whereas those from outside Europe tend to do less well (Nekby, 2002). Nevertheless, relative employment rates of all immigrants improve over the duration of their stay. Men who moved less than 5 years ago were 44 percent less likely to be employed (women 48 percent), but after 20 years the difference has reduced to less than 15 percent (both men and women). Also in Sweden the relative position of immigrants has worsened over the last 30 years while the composition of the migrant flow has changed. In the 1970s most immigrants were from Nordic countries and did not display weaker employment than the native Swedes (Ekberg, 1991 and 1999; Wadensjö, 1997; Lundborg, 2000; Vilhelmsson, 2000). In the 1980s and thereafter the labor market success of immigrants has declined. More migrants come from refugee sending countries. It should be noted that the composition of immigrant flows varies dramatically from country to country, which may explain the between country differences (Appendix 1). It is also difficult to tell the cohort effects and assimilation effects apart as there are not many panel data sets with long enough time dimension available.

*Table 5 Immigrant – native differences in employment and unemployment in large micro data sets*

Study	Country	Year (cohort)	Difference, %
<b><i>Unemployment difference</i></b>			
Arai & Vilhelmsson (2004)	Sweden	1992-95 (1968-91)	Non-EU: +69 – +101 EU: +17,0 – + 34,0 Nordic countries:+9,0– +23,0
<b><i>Employment difference</i></b>			
Nekby (2002)	Sweden	1990-2000 (1946-99)	Men: -32,0 Women: -30,0
Roodenburg et al. (2003)	Netherlands	2000	Western countries.: -4,0 Other than western: -18,0
Ekberg (1991)	Sweden	1989	-17,0
Card (1997)	USA	1989 (Pre-1986)	-2,6
		1989 (1986-89)	-15,8

### 3.3 Immigrants and social benefits

A crucial determinant of the economic impact of immigration on the host country is the amount of welfare services and other social benefits the immigrants use. As the immigrants typically earn less than natives and participate less in the labor force it has been assumed that they depend more on social security and other welfare services. Moreover, the level of social security is usually higher in the host countries than in source countries and thus it has been suggested that it is partly this difference that draws in migrants. This is called the “welfare magnet effect” (Borjas, 1999). There are several studies on immigrants’ use of social benefits (as loosely defined in the current paper) in the USA, Canada and Sweden. The highly cited US studies have actually led to law changes, and thus reduced the use of welfare services by immigrants.

The earliest studies concerning the USA concluded that immigrant families use social benefits less often than otherwise similar American families (Blau, 1984; Tienda and Jensen, 1986). However, the amount of benefits used for those who actually used them was the same in both types of families. These studies used a single cross-section of data (1976 and 1980, respectively), and hence were not able to demonstrate differences across migrant cohorts and whether welfare use decreases or increases over duration of stay. The more recent studies rely on panel data, and try to disentangle the assimilation effect. Table 6 shows how

much more likely users of social benefits immigrant are relative to natives, and whether they assimilate into or out of welfare.<sup>10</sup>

Borjas and Trejo (1991) found that immigrants' use of social benefits increased dramatically in the 1970s. This was mainly due to the weaker labor market status of new, especially 1960s, immigrant cohorts. Moreover, in contrast to some earlier findings, immigrants appeared to be using more social benefits the longer they stayed in the USA. Assimilation into welfare may be caused partly by the legal restrictions on welfare use that drop after 5 years of stay, or improving knowledge of social institutions. On the other hand, aging of immigrants also plays a significant role (Hu, 1998). In her study it was especially immigrants over 55 years old who used proportionally more social benefits relative to Americans. Table 6 shows Hu's calculations for age groups 18-64, but she also found that benefit use of over 55 year old immigrants increased from 18 to 64 percent in 1980-1990. The main determinant of benefit use was the age at time of entry, but compared to earlier immigrant cohorts the new cohorts are more likely, in all age groups, to be social benefit users than the natives. Other important determinants for immigrant benefit use were education, language fluency and labor market success.

Concerning the amount of social support received, Gustman and Steinmeier (2000) conclude that immigrant males both use social benefits less frequently and receive smaller amounts than natives. The only type of benefit they use more was food stamps, which forms only about 10 percent of all support. Immigrant women were more likely than natives to be on welfare, social security in particular, and received around 10 percent more support than natives. Gustman and Steinmeier calculate that by retirement immigrant men have paid in taxes 76 percent of the amount that comparable native men have paid, but receive in pensions and social security 83 percent of the amount natives receive (for women the figures are 78 and 80 percent). For later cohorts differences are greater. Borjas and Trejo (1991) calculate that the average immigrant family causes a cost of \$ 13 500 for the welfare system over the course of their stay in the USA, compared to the cost of \$ 7 900 of a native family.

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<sup>10</sup> The figures in table 6 show how many times more likely users of various social benefits the immigrants are. If 10 % of native families and 20 % of immigrant families use social benefits, can we conclude that immigrants are 100% more likely to be welfare users. It should be noted that large differences may be a results of very small absolute benefit use of natives, compared to which immigrants appear to be heavy users. Most studies do not take the amount of social benefits used into account, and thus the difference in amounts used may be much lower or higher than in the table.

Table 6 Immigrants and social benefits

Study	Country, type of benefit	Year	Difference in (prob. of) benefit use	Assimilation: Into or out of?
Borjas & Trejo (1991)	USA	1970 1980	1970: -3,3% 1980: +10,4%	Into
Hu (1998)	USA, Social security	1980 1990	1980: +35,7% 1990: +25,8%	Into, but refugees out of
Borjas (1995b)	USA	1970 1980 1990	1970: -1,7% 1980: +10,1% 1990: +20,3%	Into, but not for refugees
Gustmann & Steinmeier (2000)	USA, all types of support	1992	Men: -9,3% Women: +74,2%	-
Baker & Benjamin (1995)	Canada, Unemployment benefit	1985 1990	1985: -44,1 – -16,1% 1990: -36,3 – +7,1%	Into
	Canada, Social security		1985: -66,3 – -28,8% 1990: -45,7 – +10,6%	Into
	Canada, Housing support		1985: -32,4 – +76,7% 1990: -56,4 – +51,3%	Out of
Blume & Verner (2003)	Denmark, All income transfers <sup>11</sup>	1984-99	1990: +56 – +300% 1999: +57 – +315%	Out of
Hansen & Lofstrom (2003)	Sweden	1990-96	1990: +160 – +418% 1996: +117 – +583%	Out of

In Canada the situation is somewhat different: immigrants, apart from refugees, use less of most social benefits than natives (Baker and Benjamin, 1995). They included unemployment benefits, social security and housing support. On the other hand, they find that immigrants assimilate towards higher benefit incidence. Baker and Benjamin's findings have later been questioned in a study using more extensive data (Crossley, McDonald and Worswick, 2001). In their report incidence of benefit use does not increase with years spent in Canada. Nor do they find that the recent cohorts were any more likely to be on unemployment insurance or social assistance than the earlier cohorts. They conclude that estimates from cohort fixed effects models are very sensitive to the choice of survey years.

<sup>11</sup> The study looks at welfare dependence. Rate of dependence is calculated as percentage of income from social security transfers.

Compared to North-America, immigrants in most EU-countries rely more on social security and unemployment benefits as means of income relative to natives (Büchel and Frick, 2003).<sup>12</sup> Of the Nordic countries Sweden and Denmark are the main subjects of study in recent empirical studies. According to Blume et al. (2003) disparities in native – immigrant poverty rates increased from mid-1980s to late 1990s. In the end of 1990s 10 percent of native Danes and 15 percent of native Swedes were below poverty line, whereas every third immigrant in Denmark and every fourth immigrant in Sweden fell below the line.<sup>13</sup> This can be seen as increasing use of social security by immigrants over the 1980s and 1990s (Blume and Verner, 2003; Hansen and Lofstrom, 2003). Immigrants received over 18 percent of social benefits in Denmark in 1999, even though their population share is less than 3 percent (Blume and Verner, 2003). Also in Sweden immigrants currently use relatively more social security than they did in the 1980s (Hansen and Lofstrom, 2003), and the increase is due to changes in both the volume and composition of migrant flow as well as increased overall level of unemployment. Both in Denmark and in Sweden immigrants assimilate out of welfare, yet even after 20 years they are 5 to 8 percent units more likely to receive social benefits than natives. In the USA and Canada the respective differences are 5 and 7 percent units (Borjas and Hilton, 1996; Baker and Benjamin, 1995).

So far none of the above studies is able to tell whether the total economic impact of immigration on the host country is positive or negative. It is possible the immigrants pay more taxes than they consume in social benefits. Also the use of public goods and services is not necessarily correlated with social security dependence, and hence the costs of immigration may be less (or more) than indicated by social security use. Finally, the costs and benefits of immigration may not be uniformly distributed across different groups of population, and there may be externalities for some groups. The following sections will address these issues.

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<sup>12</sup> In Denmark, for example, 11 percent of native households and 57 percent of immigrant households use some form of social benefits. Other countries studied were Luxembourg, Ireland, Italy, Spain and Austria.

<sup>13</sup> In the USA the corresponding number for immigrants varies between 6 and 37 percent, depending on ethnicity (Borjas, 1990), and in Canada from 8 to 32 percent (Kazemipur and Halli, 2001).

## 4 Effect of immigration on the natives

One of the most intensely studied issues around the immigration debate is the possible displacement effect of immigration. In other words, immigrant labor may displace (at least the less skilled) native labor and/or reduce host country wages. Hence, even though the economic impact of immigration is positive on the whole, the welfare of certain population groups may be reduced. Many studies have looked at particular groups, such as high-school dropouts, young men, previous immigrant cohorts and so on, which are more likely to be substituted by immigrant labor force. Estimating the effect on the natives is typically difficult, because it will depend on immigrants' education level, cohort differences, the volume of immigration, spatial distribution of immigrants in the host country and other immigrant characteristics such as age, gender, source country and immigrant status (OECD, 2000).

Immigration increases the labor force in the host country, and it is possible that immigrants provide cheaper, more unskilled, labor than the natives. It has therefore been assumed that increasing flow of immigrants reduces the host country wage level (e.g. Angrist and Kugler, 2003) and native employment, at least to the extent to which immigrant and native labor are substitutes. The theory does not directly predict how unemployment and employment *rates* will react (Friedberg and Hunt, 1995). Empirical studies have used either 1) regional comparison, where the comparison is between labor markets in cities with high immigration flows and those with no (or smaller) flows, or 2) general equilibrium framework. In the latter the aim is to find a single immigration event where there exists a clear comparison group. This would help to isolate the effect of immigration from other labor market "innovations". The problem with regional comparison is to find suitably similar labor markets, the high degree of integration between local labor markets (which may cause spill-over effects), small data sets (when comparing a few cities over a few years) and ignoring of general equilibrium effects (such as price increases). The problem of the latter approach, on the other hand, is to find a suitable "case study", and whether the results from single case studies can be generalized to other situations.

### 4.1 Wage effects

Above it was shown how immigrants in many countries form a considerable share of the labor force. Immigrants tend to be particularly concentrated in certain regions of the host country, typically major cities. Moreover, immigration tends to increase the number the unskilled workers in relation to skilled workers. For example, in the USA 36 percent of high-school drop-outs participating in the labor force were not native born in 2000. On the other hand, the fraction of migrants with a college degree is also very high in the US (around 45 percent).

Hence, the question many studies are interested in is: “How do immigrant flows affect native wages, and who are affected by immigration flows?”

A typical study will estimate a wage equation like:

$$\ln w_{ijt} = \mu p_{ijt} + X(t)_{ijt}\beta + \psi_t + \varepsilon_{ijt},$$

where  $\psi_t$  is a time effect, and vector  $X$  includes controls for schooling, experience and full interactions. The identification comes from wage and immigration changes by cells that may be defined by region, education, experience, industry, occupation or some combination of these. It is often questionable whether a causal interpretation can be placed on the correlation between immigrant density and wages. Table 7 presents several studies from various countries. Most often, wage elasticity is calculated for a particular group of workers and can not be generalized to population level (nor should it necessarily be). Comparison of studies is somewhat difficult also because some refer to numbers of immigrants and others to their share in labor force. Most studies also look at short-term effects, and only very few talk about the long term impacts (e.g. Gross, 2002). The surveys of Borjas (1994) and Friedberg and Hunt (1995) gave a good picture on the evaluation of wage effects until early 1990s this survey will concentrate on more recent studies with particular emphasis on the European experience.

The conclusion of Friedberg and Hunt (1995) was that immigration has little impact on native wages. The typical wage elasticity in their survey was 0.1. In other words, if immigrant share of the labor force increases by 10 percent native wages will fall by one percent. Even relatively large influxes of immigrants did not have large wage effects. On the other hand, the effect may be much greater for certain groups of native population. For example Jaeger (1996) argues that immigration to USA has reduced the wages of high-school drop-outs by 3 percent, and this would explain about a fourth of the much debated increase in wage inequality. Probably the most influential example of area studies is Card’s 1990 study on Miami labor market after the arrival of 125,000 Cuban immigrants in 1980. Somewhat, surprisingly, the inflow did not affect native wages, even though it reduced the average wage level in Miami compared to other US cities.<sup>14</sup> Card’s later study (1997) estimated that immigration to major US cities has reduced wage levels by no more than one percent. The results of area studies have later been questioned as similar effects can be observed after non-existing immigration flows (“Mariel boatlift that didn’t happen” in Angrist and Krueger, 1999). In other words, the set-up relies on the validity of the difference-in-difference assumption, and it may not be infallible. Also, the direction of causality is often not clear in these area studies: do regional differences cause migration or vice versa?

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<sup>14</sup> Miami was compared to Atlanta, Houston and Los Angeles. Average wages fell mainly because arriving immigrants were employed in low-wage jobs.

Table 7 Wage effect of immigration on the natives

Study	Country	Year	Wage elasticity, %
DeNew & Zimmermann (1994a)	Germany	1984-89	-0.16
DeNew & Zimmermann (1994b)	Germany	1984-89	-0.35 (-0.54 – +0.12)
Bauer (1997)	Germany	1994	0.082
Bauer (1998)	Germany	1994	-0.021 – +0.035
Pischke & Velling (1994)	Germany	1985-89	±0 (+0.033)
Hatzius (1994)	Germany	1984-91	-0.058 – ±0
Winter-Ebmer & Zweimüller (1996)	Austria	1988-91	regional +0.037 industry +0.01
Winter-Ebmer & Zimmermann (1998)	Germany		0 – +0.01
	Austria		-0.16 – 0
Gang & Rivera-Batiz (1994)	Netherlands	1986-89	-0.09 – + 0.02
	Great-Britain		-0.08 – +0.02
	France		-0.11 – -0.01
	Germany		-0.05 – +0.11
Zorlu & Hartog (2005)	Netherlands	1998	-0.04 – +0.02
	Great-Britain	1997-98	-0.036 – +0.056
	Norway	1996	-0.063 – +0.180
Hunt (1992)	France	1968	-0.08 – -0.14
Dolado et al. (1996)	Spain		+0.02 – +0.04
Pope & Withers (1993)	Australia	1881-1981	±0
Friedberg (2001)	Israel	1994	+0.03
Grossman (1982)	USA	1970	-0.1
Card (1997)	USA	1989	-0.04 – -0.01
Goldin (1994)	USA	1890-1923	-1.6 – -1.0
LaLonde & Topel (1991)	USA	1970, -80	-0.6 – -0.1
Borjas, Freeman & Katz (1992)	USA	1967-1987	-1.2
Altonji & Card (1991)	USA	1970, -80	-0.86
Borjas (2003)	USA	1960-2001	-0.4 – -0.3

Notes: The figures in table show elasticity of wages with respect to one percent increase in the share of immigrants in labor force (or population). Sources include Bauer and Zimmermann (1999), and Friedberg and Hunt (1995) plus the studies mentioned.

More recent studies use so-called experiment set ups. Friedberg (2001) studies the effect of immigration in the Israeli labor market where labor force increased by 12 percent in 1990 – 1994 as a result of movement of Russian Jews. Friedman compares wages in occupations that Jews entered (she has information on their occupation before and after move) with wages in other occupations. However, she did not find evidence of (significant) negative effects on native wages. A somewhat similar approach was used by Borjas (2003) when he looked at impacts of immigration on the US labor market. He divided immigrants into cohort – schooling – experience cells, and compares wage changes over time. Borjas

finds large, negative wage effects: a 10 percent increase in immigrant labor supply reduced native weekly earnings by 4 log points.

It has been suspected that rigidities in European labor markets would lead to larger impacts of immigration on earnings and smaller impacts on wages. Most studies have looked at Germany, and find only small wage effects, despite the large volume of immigration (e.g. Bauer 1998; Pischke and Velling, 1994, Winter-Ebmer and Zimmermann, 1998). One German study found that unskilled wages reduced as a result of immigration in the 1980s, whereas skilled wages increased (DeNew and Zimmermann, 1994b). The conclusion of small wage effect seems to hold for other European countries, too: Zimmerman (1995) calculates that if population of the EU increased by one percent as a result of immigration European wages would fall by no more than 0.8 percent. One reason for the small wage effects in Europe is that immigrants do not usually find work immediately: as shown in the second section, a large share of the immigrants remains outside the labor force upon arrival.

## 4.2 Employment effects

Most European literature on labor market outcomes of the natives has concentrated on the displacement effects of immigration (table 8). Nevertheless there is little evidence of any major (adverse) employment effects (e.g. Zimmerman, 1994a; Mühleisen and Zimmerman, 1994; Winkelmann and Zimmerman, 1993). Some European studies have also looked at effects on native unemployment rates. Comparing the studies across European countries is somewhat difficult because of the emphasis on different outcomes. It is also not always clear whether these studies refer to native unemployment or average unemployment rates, which may increase due to labor force composition effect if the new immigrants remain unemployed. As an example, Bauer and Zimmermann (1999) calculate that native unemployment in the EU will increase by 0.2 percentage points if immigrants' share in the labor force increases by 1 percent. Another example, Gross (2002) argues that immigration to France will increase average level of unemployment in the short run but decrease it in the long run.

There is some evidence that rigidities within the European labor market setting exacerbate the negative impact of immigration on native employment (Angrist and Kugler, 2003). However, comparable or even greater employment effects have been found in the USA. Card (1997) reports employment negative effects of up to 2 percent due to immigration to the USA. Borjas (2003) finds very large disemployment effects: a 10 percent increase in immigrant labor supply implies a 2.4 log point reduction in weeks worked by natives (from 6.4 to 4.0). On the other hand, Altonji and Card (1991) argue that a one percent increase of immigrants' population share will actually reduce unemployment by 0.23 percent.

A general conclusion of the literature studying the effects of immigration on native labor market outcomes is that if such effects exist they are likely to be relatively small and/or concentrated to certain parts of the native labor force. There is some recent evidence of larger displacement effects (e.g. Borjas, 2003), but in most cases even large sudden inflows of immigrants do not seem to reduce native wages nor cause native unemployment (e.g. Hunt, 1992; Friedberg, 2001).

*Table 8 Employment effect of immigration on the natives*

<i>Study</i>	<i>Country</i>	<i>Year</i>	<i>Effect*</i>
Winkelmann & Zimmermann (1993)	Germany	1974-84	Small neg. employment effect
Mühleisen & Zimmermann (1994)	Germany	1982-89	0
Pischke & Velling (1997)	Germany	1986-89	Employment +2 %, Unemployment $\pm 0$
Hatzius (1994)	Germany		0
Velling (1995)	Germany	1988-93	Employment rate +0.24 %
Gang & Rivera-Batiz (1994)	Germany	1988	0
Winter-Ebmer & Zweimüller (1997)	Austria	1988-91	0
Winter-Ebmer & Zimmermann (1998)	Austria		Employment -0.1 %
	Germany		Small neg. employment effect
Dolado et al. (1996)	Spain		Negative employment effect
Hunt (1992)	France	1968	Unemployment +0.2 %
Angrist & Kugler (2003)	EEA	1983-99	Employment -0.07 – -0.02 %
Card (1997)	USA	1989	Employment -0.12 %
Altonji & Card (1991)	USA	1980	Employment rate -0.23 %
Gross (2002)	France	1975-95	Unemployment rate -0.16 %
Friedberg (2001)	Israel	1994	Employment -0.16 %

Notes: Table presents the change in native employment or unemployment as a result of 1 percent increase in immigrants' share in population or labor force unless otherwise stated. Sources include Bauer and Zimmermann (1999), and Friedberg and Hunt (1995) plus studies mentioned in table.

## 5 Immigration and the public sector

The central question in the immigration debate is whether immigration burdens the host country's social benefit system, welfare services, education system and health care sector more than is covered by the taxes paid by the immigrants (OECD, 2000). A number of studies attempt to evaluate the fiscal impacts of immigration, and conclude that the total economic impact on the host country is relatively small. Calculating the impact on the public sector and comparing the results across studies is very difficult, however: Estimates vary wildly depending on assumptions made, methods used, possible discounting of costs and benefits over time and data set (Coppel et al., 2001). Below, studies using different methods are summarized.

There are two main categories of studies on the economic impact of immigration on host country's public sector. The first type of studies use a simple "immigration surplus method" (see Borjas, 1994), whereas the second tradition is to apply generational accounting methods (see Auerbach and Kotlikoff, 1987). The first calculates the gain of immigration as a percentage of GDP using a very simple formula:

$$\Delta Q_N/Q = -\frac{1}{2}\alpha_L \varepsilon_{LL} m^2,$$

where  $Q$  is output,  $Q_N$  is the national income accruing to natives,  $\alpha_L (=w_L/Q)$  is labor's share of national income ( $L$  indicating work force),  $\varepsilon_{LL} (=d\log w/d\log L)$  is the elasticity of factor price for labor and  $m (=M/L)$  is the fraction of labor force who is foreign born. The second method has been used to estimate the total costs and benefits to the national economy caused by natives and immigrants, taking into account that these costs and benefits vary greatly by individual's stage of life. The calculation is based on assumptions about how much taxes immigrants pay over their life-time, how much public goods and services (including social benefits) they use and how long they live in the country. The total economic cost or benefit is the discounted difference between tax payments and income transfers received of a newly arrived immigrant over his entire life-span (or time spent in the host country).

The earliest studies on fiscal effects of immigration were done for the USA. For example, Passel and Clark (1994) calculate that immigrants paid \$ 27 billion more in taxes than they took out from social and education system. In contrast, Huddle (1993) argued that immigrants represented an annual net cost of \$ 40 billion in 1992. Borjas (1995a) criticized the earlier studies for making unreasonable assumptions and showed that the estimated net impact of immigration can be anything from \$ 16 billion net cost to \$ 60 billion net benefit, depending on the assumptions used. Hence, these methods do not necessarily provide even a ballpark figure for the fiscal effect. In a later study Borjas (2001) argues that the

positive effects of immigration are created by improved labor market efficiency: gains accruing to natives are between \$ 5 billion and \$10 billion.

More recent US studies argue that the average net cost or benefit caused by a single immigrant is very small (Lee and Miller, 2000; Smith and Edmonton, 1997; Auerbach and Oreopoulos, 1999; Storesletten, 2000). Storesletten calculates that one immigrant provides a net benefit of only \$ 7400 over his life-time. However, there are large differences between different groups in the net effects they cause. Highly educated immigrants provide (free) human capital, succeed in the US labor market and pay more taxes than they use in public goods and services. Those with no education and elderly immigrants cause large net costs to the society. In the net present value these differences are large: from \$ 36 000 net cost (caused by a non-educated migrant) to \$ 96 000 net benefit (from a highly educated migrant). Storesletten also notes that family migration may reduce the estimated benefits of immigration. A typical figure on discounted social net value by age of the migrant (and with different assumptions) can be seen in figure 1. As a comparison, a newly born native represents a discounted net cost of \$ 80 000.

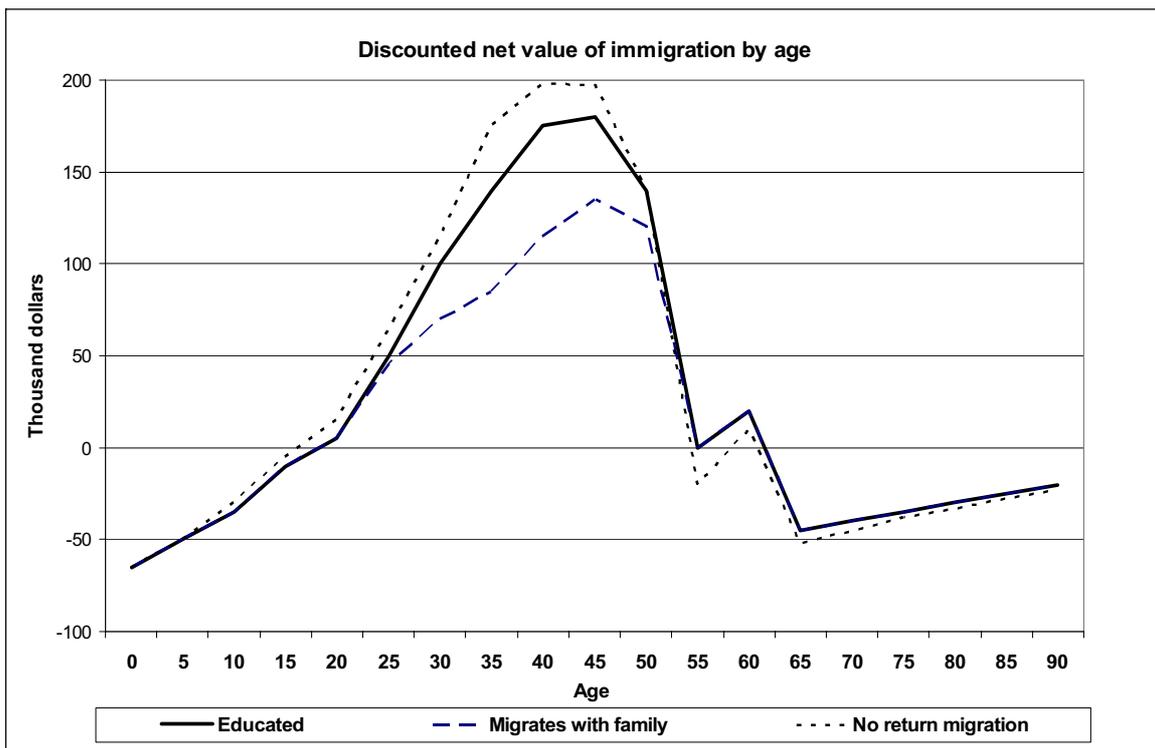


Figure 1 Discounted net value of immigration in the USA (from Storesletten (2000) figure 2)

When referring to taxes and public sector, it is particularly difficult to use the US results in the European context as most European countries have a much larger public sector than USA. Public expenditure in the USA is only 36 percent of GDP, whereas the European average is 48 percent. It is likely that this increases the costs of immigration, as consumption of public goods is divided evenly for natives and immigrants alike. Moreover, immigrants' success in the European markets has been weaker compared to the USA. This will reduce the economic benefits of immigration for host countries.

Swedish studies estimate that the average immigrant represents a net cost of € 20 000 for the public sector, but the variation between different groups of immigrants is very wide (Storesletten, 2003). Young immigrants potentially produce a net gain of € 24 000, whereas those aged over 50 represent a large net cost. The results again depend greatly on how the immigrants fare in the labor market. It is therefore crucial to evaluate the labor market success in terms of participation and employment rate. Another Swedish study notes that recently arrived immigrants and refugees (groups with weaker labor market attachment) cause much higher costs than those who have been in Sweden for more than 5 years (Gustafsson & Österberg, 2001).

Very similar to Sweden, studies made in the Netherlands find that while the fiscal net effects vary greatly by immigrant group the average impact is likely to remain very small (Roodenburg et al., 2003). Again, those who immigrate at a young age (under 25) or come from a western society produce a net gain, but all other groups represent a net fiscal cost. Moreover, immigration will cause an income transfer from labor to capital income. Another study supports these conclusions: even if all immigrants had the same level of education as the average native is the net fiscal benefit only marginal (Knaap et al., 2003). In reality immigrants' level of educations is much lower, so the possible benefits are also lower. The pessimistic view is a result of the extensive public expenditure on goods and services: immigrants will be (calculated as) consumers of these services whether they pay any taxes or not.

A German study concludes that at least in 1997 immigration represented a net fiscal burden to Germany, even though long-term immigrants (those staying over 25 years) cause more benefits than costs over their stay (Sinn and Werding, 2001). Other studies have looked at immigrants over their whole life-span and argued that they cause a small net benefit for the public sector, due to the young average arrival age and the fact that German pension system is tied to earned income (Bonin et al., 2000; Bonin, 2001). Similarly, it has been estimated that Italy and Austria benefit from the taxes paid by immigrants (relative to the cost they represent) (Moscarola, 2003; Ablett, 1999). It should be noted that all above studies are based on various assumptions about how public expenditure on goods such as national defense and infrastructure are divided among natives and immigrants. It is typically assumed that pure public goods will have to be produced

anyway, and consumption of a single immigrant will not increase expenditures. Other studies assume that both natives and immigrants consume equal amounts of such public goods.

## 6 Comments and conclusions

Economic literature on immigration is a good example of an evolving research tradition and its relevance for political decision making. This survey has presented recent findings on economic impacts of immigration on the host countries with particular emphasis on European and Nordic countries. The first section presented a comparison of immigration as an economic phenomenon in different host countries. Then, the empirical literature surveyed was divided into four sub-sections.

First, the evaluation of immigrants' success in host country labor markets is based on comparison of immigrant and native wages and employment at the time of entry and over time spent in the host country. While the US literature has mainly concentrated on wages most European studies analyze employment assimilation. Typically, immigrants are found to experience lower employment than the natives and to earn less. Recent literature also finds that, even though employment and earnings differences diminish over duration of stay, it is likely that the more recent immigrant cohorts will experience permanently weaker labor market success. This is particularly clear in the European countries. A related issue is the use of social benefits by immigrants. As immigrants are more often outside of labor force or unemployed, it has been assumed that they spend more time on welfare and use other forms of social assistance compared to the natives. This assumption is not uniformly confirmed by the literature, however. The findings on immigrants' use of social benefits vary widely from country to country, as does the degree of assimilation into or out of the host country welfare system.

The general view on immigration typically overstates the adverse effects of immigration on the natives. There is a large body of empirical literature looking at the effects of immigration on native employment and wages (i.e. the displacement effect). Most studies find only minor displacement effects, even after very large immigrant flows. On the other hand, the lack of evidence has been argued to result from poor methods and insufficient data. Some more recent studies have found larger effects, and many studies note that the effects only accrue to certain parts of the native population. The parts of the population most typically affected are the less educated natives or the earlier immigrant cohorts, that is those who are closest substitutes to the new immigrant flow in the host country labor market.

The effect of immigration on host country public sector has also been seen in a fairly negative light, especially in Europe. This has recently been seen in the political atmosphere in France, Italy and Germany, for instance. However, in most empirical studies the actual fiscal impacts of immigration have been found to be very small. On the other hand, there are large differences across migrant groups in the costs and benefits they cause for the host country economy. The net impact

depends on the age and education of the immigrant, as well as assumptions on how permanent the stay is likely to be. On average, immigrants seem to have at most a minor positive net (fiscal) effect on the host country, measured as percent of GDP or similar. It should be noted, however, that these benefits are not uniformly distributed across native population and sectors of the economy.

Finally, even though the literature on economic impacts of immigration considers the phenomenon from a multitude of angles there are still problems in most of the analyses that should be kept in mind while interpreting the results. First, most studies have a partial equilibrium view looking only at direct impacts of immigration. In other words, general equilibrium factors such as price levels and real wages cannot be accounted for. Also, most studies do not estimate effects of immigration on economic growth (through increased demand for domestic goods and services etc.).<sup>15</sup> Moreover, due to data constraints and problems in isolating the effect it is typical to consider only relatively short run effects, and only look at the last two decades of evidence. However, the effects of immigration may become more pronounced in the future when (native) labor force starts to shrink due to population ageing.

In the light of this survey it seems clear that, when analyzing and comparing the economic impacts of immigration, it is important to consider the particular host country's labor market institutions and welfare system. It is very difficult to draw conclusions for potential impacts for the European or Nordic countries based on the experience of traditional host countries of immigration (USA, Canada and Australia). On the other hand, comparison of findings across countries may help to understand the role played by institutions in realizing the potential benefits from immigration. This experience can be helpful when planning immigration policy or considering immigration as a way of coping with labor market pressures caused by the ageing of the native population.

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<sup>15</sup> Friedber and Hunt (1995) survey a number of studies estimating (at least indirectly) the influence of migration on growth.

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## Appendix 1

**Main source countries of immigration by host country, selected OECD-countries 1997–98 (percent of total immigrant flow and share of total immigrant population)**

Host country Source	Flow	Immigrant population	Host country Source	Flow	Immigrant population
<b>Australia</b>			<b>Germany</b>		
New Zealand	22.2	7.5	Poland	10.9	3.8
United King- dom	10.4	27.4	Yugoslavia	10.2	9.8
China	7.3	2.8	Turkey	8.0	28.6
<b>Belgium</b>			Italy	5.9	9.8
France	14.6	11.5	<b>Netherlands</b>		
Netherlands	12.3	9.1	Morocco	6.5	20.0
Morocco	8.5	14.7	Turkey	6.3	16.9
<b>Canada</b>			Germany	5.8	7.9
China	11.3	4.6	<b>Norway</b>		
India	8.8	4.7	Sweden	22.4	11.0
Philippines	4.7	3.7	Denmark	8.0	11.5
Hong Kong (China)	4.6	4.8	Great-Britain	4.7	6.9
<b>Denmark</b>			<b>Sweden</b>		
Somalia	8.6	4.1	Iraq	15.1	4.5
Yugoslavia	7.1	13.5	Finland	8.4	18.4
Iraq	6.3	3.4	Yugoslavia	5.4	6.1
Germany	5.5	4.8	Norway	4.6	5.6
<b>Finland</b>			<b>USA</b>		
Russia	29.8	23.6	Mexico	19.9	21.7
Sweden	9.6	9.3	China	5.6	2.7
Estonia	8.1	12.0	India	5.5	2.3
<b>France</b>			Philippines	5.2	4.6
Algeria	14.3	16.4	Dom. republic	3.1	1.8
Morocco	13.8	16.9			
Turkey	5.8	5.2			

Source: Coppel et al. (2001). Data on immigrant flow refers to 1998, except for Australia (1999) and Denmark (1999). Data on stocks of immigrants refers to 1997, except for Australia, Canada and Denmark (1996). Data on immigrant population refers to foreign-born population for Australia, Canada and the USA, and “immigrated” population for all other countries.

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