SWEDISH ECONOMIC POLICY REVIEW 7 (2000) 59-83

Immigration, the labour market, and public finances in Denmark

Eskil Wadensjö [*]

Summary

■ The immigration of a group involves transfers to and from the group via taxes, transfers and public consumption which result in net transfers to or from the rest of the population. This paper analyses the effects of immigration on the public sector redistribution in Denmark. This is carried out for four years—1991, 1995, 1996 and 1997—using data from the Danish Ministry of Economic Affairs' Law model.

The study shows that the transfers *to* immigrants from non-western countries, i.e. immigrants from countries other than those with the most highly developed economies, are considerable. On the other hand, there is a net transfer *from* immigrants from western countries. This pattern appears to have been stable during the 1990s. The study indicates the great importance of the poor employment situation for the relatively large fiscal transfers to immigrants from non-western countries. ■

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Eskil Wadensjö *

Up to WW1 all of the Scandinavian countries experienced large-scale emigration to non-European countries, mainly the US. In the inter-war period, international migration was of minor importance. The main flow consisted of earlier emigrants returning home. In the post-war period, Denmark, Norway and Sweden all became immigration countries and that trend has continued for several decades. Sweden became an immigration country during WW2 when many refugees arrived. Many of them remained in the country even after the war. In the first decade after the war, labour migration to Sweden was largely a response to the growing number of job vacancies especially in the manufacturing industry. This migration continued to expand in the 1960s, the same decade in which Denmark and Norway also became destination countries for labour migrants. The growth of immigration in the Scandinavian countries closely resembles that of most other Western European countries. At the end of the 1960s, the policy became more restrictive in relation to labour force migration to Sweden, and the other two countries followed. From 1972-73, labour migration was restricted in practice to movement within the common Nordic labour market (founded in 1954). This was subsequently extended to cover movement within the European Union.

The halt of labour migration did not mean that immigration became less important. Other types of migration increased instead. Refugee migration, which was large-scale during and immediately following WW2, once again became important. The refugees in this period did not come mainly from European countries but from other parts of the world such as Latin America, the Middle East and later Africa. Another important group of migrants consisted of family members joining relatives who had already migrated. In some years,

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they comprised an even larger group of immigrants than the refugees in both Denmark and Sweden.

Many of the immigrants have returned to their home countries. However, many have stayed which means that an increasing part of the population in the Scandinavian countries is now foreign-born. In 1996, in Denmark, this proportion was 5.0 per cent, in Norway 5.6 per cent and in Sweden 10.7 per cent.[1]

Whatever the cause of migration, it has economic effects in the host country. Immigration can influence the economy of the host country in several different ways, both directly and indirectly. Immigration may exert a direct influence on wages and prices. The effects on public finances of immigration are on the other hand more indirect in nature. The public sector redistributes resources among individuals and groups of individuals on the basis of factors such as family status, age, and labour market circumstances. The immigration of a group involves transfers to and from the group, via taxes, transfers and public consumption. This may result in net transfers to or from the rest of the population. This paper contains an analysis of the effects of immigration on the public sector redistribution of resources in Denmark.

1. Redistribution via the public sector: principles[2]

The focus of this paper is on the process of redistribution that is carried out via the public sector. The underlying question is: what effects does an influx of immigrants have on the population already residing in the country in terms of the income and expenditure of the public sector? The basic idea is that if income rises more than expenditure, then resources will be redistributed in favour of the existing population, while the opposite will result if expenditure rises more than income.

Individuals are consumers throughout their entire lives, but are only active in production for part of this time. Children are not allowed to take employment, and the age at which individuals enter the

[1] See Coleman (1999).

[2] For a good theoretical and empirical discussion of the basis for this type of study, see MaCurdy, Nechyba and Bhattacharya (1998). See also Storesletten (2000) for an interesting study of public sector effects of immigration to the US. See Bonin, Raffelhüschen and Walliser (1999) for a study of corresponding effects for Germany, Larsen and Bruce (1998) for Norway, and Wadensjö (1973), Ekberg (1983, 1999), Gustafsson and Larsson (1998) and Storesletten (1998) for Sweden.

labour force has gradually risen. After a period of employment, individuals usually enjoy a number of years as pensioners. What they produce during their "active" lives must not only meet the needs of their own consumption, but also cover consumer expenditure for people of a "passive" age, i.e. children and the elderly. This is made possible by means of a process of redistribution between the generations. This process takes place in three fundamentally different ways: via the family (for example, parents who provide for their children), via the market (for example, working individuals who invest in a pension insurance) or via the public sector (two examples would be publicly financed schools and a pension system funded by tax revenues). Redistribution via the public sector has come to be of ever-greater importance in the Scandinavian societies.

The redistribution via the public sector is carried out not only between generations, but also between individuals of an active age. An important form of this type of redistribution is that which takes place between those who are employed and those who are not employed or who hold a job but cannot work, for example, due to illness. Resources are also redistributed from people who earn high wages or have high incomes to those who earn low wages and have low incomes. The redistribution takes place through the tax system, the system for income transfers, and the system for individual-oriented public consumption.

Immigration may influence the different forms of redistribution in various ways. In most societies, immigrants are generally overrepresented among those of active age. This should imply that resources are transferred from them to the rest of society, provided that all factors other than age are equal for both groups. On the other hand, employment levels are often lower among immigrants, and their average wage level is often lower, all of which would suggest a transfer to the immigrants. Hence the question of the direction in which resources are actually transferred via the public sector is an empirical question, and the answer varies from country to country and within a given country over a period of time.

2. Public consumption, transfer payments and taxes

Public sector consumption may be divided into several different parts: 1) a part which is independent of the size of the population, 2) a part where the extent of public sector activity depends upon the size and composition of the population, but where it is not possible to tie a

particular unit to a particular person and 3) a part which can be viewed as publicly financed private goods. It is also possible to distinguish a fourth part of public sector activities directly related to immigrants.

When the cost of public sector goods is independent of the size of the population, and when their value for each resident of the country does not depend on the total number of people residing in the country (no crowding effects), these goods are public goods. Common examples of this are expenses related to maintaining the royal family, diplomatic representation, defence, and border control.

Another type of public sector activity is dependent in a more obvious way upon the size of the population. This is the case, for example, with expenses related to maintaining road networks. If the size of the population grows, more residential areas are built, and more infrastructure for residential areas (for example, local road networks) is needed.

A third category of public consumption can be tied to individuals. This is the case for education and health care, for example. If there is an increase in the number of schoolchildren, costs will also rise, and it is easy to see the direct financial effect of the increase.

A fourth kind of public consumption is that which is provided specifically for immigrants, and whose costs can be directly related to immigrants. In certain cases, these costs can be attributed to particular individuals, and sometimes they can be linked to the immigrants as a group. An example of an activity whose costs can be related to particular individuals would be the instruction of immigrants in the language of the immigration country. Public support of immigrant associations is an example of a cost that is difficult to relate to specific individuals, but which can be related to immigrants as a group. Measures such as these can be referred to as **immigrant** policy, as opposed to **immigration** policy. Immigration policy consists of measures aimed at regulating the number of immigrants who arrive and are permitted to remain in the country.

It is very important to distinguish between immigrant policy—which is related to the fact that immigrants are living in a country and is generally aimed at assisting immigrants in various ways—and immigration policy, which regulates the inflow of immigrants to the country. The expenses related to dealing with people seeking asylum, and to the return of refugees who are not granted asylum to their countries of origin (or to the country they have entered from) are covered

under border control activities. They form a part of immigration policy, but not of immigrant policy.

Transfer payments intended for specific individuals are easy to allocate in principle. They are simply traced to the individual in question. It is more difficult, however, to find an appropriate principle for granting subsidies to businesses (in many cases it might not be appropriate to distribute them to individuals). Each of these transfers must be examined separately in order to determine the relevant principle of allocation.

Immigrants contribute to public sector finances by paying taxes and various special charges, such as those paid for unemployment insurance and pensions. One problem in relating taxes to various individuals and groups is that the issue of who actually pays the taxes is not always clear. This is easy to determine in relation to certain taxes. The income tax, for example, may be attributed to the person who pays the tax. A fairly easy solution may also be found in the case of certain other taxes. The value-added tax and selective purchase taxes may be allocated in proportion to the consumption level of different individuals and households, while general payroll taxes may be allocated in proportion to wages. The most difficult taxes to allocate are business taxes (taxes on profits, environment taxes, etc.). The degree of uncertainty surrounding this point, as well as many others, means that the type of calculations in which we are engaged should be interpreted cautiously.

3. Redistribution via the public sector in Denmark: an empirical analysis[3]

Let us now look more closely at patterns of redistribution of resources between immigrants and the native population in Denmark. We can do this for four different years, 1991, 1995, 1996 and 1997, using data from the Danish Ministry of Economic Affairs' Law model.[4] This extends an earlier study carried out by the Ministry of Economic Affairs that covered 1995.[5] In this paper, individual observations for one year are used, 1996, and not only aggregate data as in

[3] See Wadensjö (1999) for an earlier version of this study and Wadensjö (2000) for a more detailed presentation of the study.

[4] I am grateful for all the assistance with data that the Danish Ministry of Economic Affairs has provided.

[5] See Økonomiministeriet (1997).

the study by the Ministry of Economic Affairs. The Law model contains information on a sample of the population living in Denmark. The data for 1996 consists of 147 289 individuals. Of them, 136 451 were born in Denmark with parents who were also born in Denmark, 1746 were born in Denmark with one parent born in Denmark and one in a western country, 444 were born in Denmark with one parent born in Denmark and one in a non-western country, 3087 were born in a western country, and 5561 were born in a non-western country. We have data for each person on taxes paid, transfers received, and public consumption. The major part of public consumption is allocated to individuals. The main exceptions are expenditure on defence and central governmental administration. The transfers and costs for public consumption by children under 18 are included in that of their parents. However, the taxes paid by those under the age of 18 are given separately. There are 8570 children 17 years of age or younger who paid taxes in 1996. The amounts are very small on average (1500 DKK). These tax amounts are included in the calculation of the aggregate data presented in Tables 1 and 2 below and in Figures 6-8 but not in the calculation of the Figures 1-5 or in the regression estimates presented below. This is due to the fact that we do not have information on the families to which these children belong.

One problem with the database is that most descendants of immigrants who were born before 1960 are not included, but fall into the same category as the rest (Danish part) of the population. The same is true for immigrants and descendants of immigrants who became Danish citizens prior to 1978. This means that a number of those immigrants who are most successfully integrated into the Danish labour market will not be categorised as immigrants.

Table 1 indicates a net transfer (in part to cover expenditures related to collective public goods such as defence) from the Danish population, but also from immigrants from western countries (EU countries, Norway, Switzerland, Iceland, North America, Australia and New Zealand). This is the case for all three years included in the study. By contrast, the table shows a significant transfer to immigrants from non-western countries (all other countries). The transfer per person is greater in 1995-1997 than in 1991, even when changes in the price level are taken into account.

Table 1. Net transfers per person from different groups (amounts given in Danish kroner) for the years 1991, 1995, 1996 and 1997

Group	1991	1995	1996	1997
Danish population (excluding those with one immigrant parent)	13600	15800	18600	22700
Danish population (including those with one immigrant parent)	13600	15900	18700	22800
Second generation—one Danish parent and one immigrant parent from western countries	17700	25700	29600	31000
Second generation—one Danish parent and one immigrant parent from non-western countries	4900	14500	12400	19000
Immigrants from western countries	14900	10700	12300	14700
Immigrants from non-western countries	-48000	-62600	-63700	-60300
Second generation—parents from western countries	19600	18900	27500	34400
Second generation—parents from non-western countries	700	-32300	-11600	-13100
Total	**12000**	**12600**	**15000**	**19500**

Note: Western countries are EU countries, Norway, Switzerland, Iceland, North America, Australia and New Zealand; non-western countries are all other countries.

Table 2 presents information about net transfers for immigrants from non-western countries according to length of stay in Denmark. It is striking that all of the values are negative. Studies of other countries have shown considerable differences between categories based on the length of stay in the host country. Here there are differences, but the values are consistently negative, and the differences are not very great.

Table 2. Net transfers per person from non-western countries according to length of stay in Denmark (amounts in Danish kroner) for the years 1991, 1995, 1996 and 1997

Length of stay	1991	1995	1996	1997
Less than one year	-45200	-82000	-55800	-45500
1-3 years	-63200	-56600	-89900	-79900
3-5 years	-65400	-76300	-79300	-78300
5-7 years	-70300	-79300	-83600	-71500
7-10 years	-40400	-76600	-82100	-70500
10 years or more	-34100	-49000	-46700	-46000
Second generation	700	-29300	-10700	-13100
Total	-48000	-62600	-63700	-58200

Notes: The division according to length of stay is based on exact age. "Less than one year" in the column for the year 1996 includes those who immigrated on 1 January 1996 or later, "1-3 years" includes those who immigrated between 1 January 1994 and 31 December 1995 etc.

Until now we have shown the results per capita. However, the total net transfers are of greater interest in the public debate. These also depend on the size of the immigrant population. See Table 3. The total transfer increases considerably from 1991 to 1996. In that year it is 8624 million DKK. In 1997 the total net transfer declines and it has probably continued to decline as a result of an improvement in the employment situation of the immigrants.

What explains the large differences in the average net transfers between different ethnic groups? One explanation may be that the composition according to age, gender, and family situation differs between immigrants and non-immigrants. A second explanation may be that the employment situation differs between the groups given their demographic characteristics and a third that some part of the difference also remains when we control for employment. A remaining difference may, for example, be due to wage differences between immigrants and non-immigrants.

Table 3. Total net transfers to the public sector from different groups in 1991, 1995, 1996 and 1997; in current prices (in million DKK) and in 1997 prices within parentheses; and as a per cent of GDP

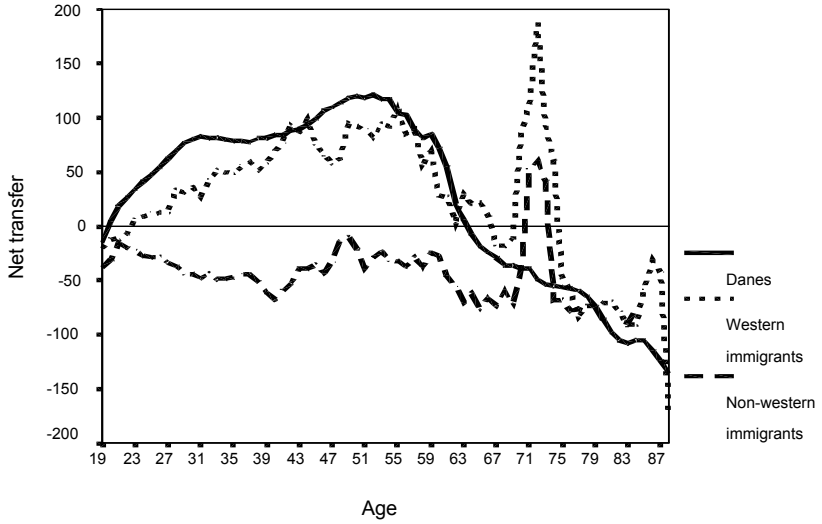
	Group	1991	1995	1996	1997
(1)	Second generation—parents from western countries	124 (136)	123 (128)	205 (209)	253
(2)	Immigrants from western countries	1046 (1150)	808 (842)	912 (931)	1051
(3) = (1)+(2)	Immigrants from western countries (first and second generation)	1170 (1285)	931 (970)	1117 (1141)	1304
(4)	Second generation—parents from non-western countries	1 (1)	-147 (-153)	-69 (-70)	-92
(5)	Immigrants from non-western countries	-4855 (-5336)	-8421 (-8775)	-9672 (-9875)	-9220
(6)= (4)+(5)	Immigrants from non-western countries (first and second generation)	-4854 (-5335)	-8568 (-8928)	-9741 (-9946)	-9312
(7) = (3)+(6)	All immigrants (first and second generation)	-3684 (-4049)	-7637 (-7958)	-8624 (-8805)	-8008
(8)	Immigrants from western countries (first and second generation) as per cent of GDP	+.13	+.09	+.10	+.12
(9)	Immigrants from non-western countries (first and second generation) as per cent of GDP	-.54	-.85	-.91	-.84
(10) = (8)+(9)	All immigrants (7) as per cent of GDP	-.41	-.76	-.81	-.72

Note: Western countries are EU countries, Norway, Switzerland, Iceland, North America, Australia and New Zealand; non-western countries are all other countries.

We will start by looking at the differences for different age groups. Figure 1 shows the net transfers for Danish men and the two groups of immigrant men according to age. The most interesting part of the age span is that between 18 and 65. It shows that the net transfers are positive for Danes and for western immigrants from the early 20s up to 63. The net transfers are slightly higher for the Danes than for the

immigrants from western countries. The net transfers, however, are negative for immigrants from non-western countries for all age groups between 18 and 65. They receive more in transfers and public consumption than they pay in taxes. The figures for those aged 65 or more are based on very few observations for the two immigrant groups. Changes in the net transfer curve are attributable to individuals with very high incomes. It is likely that the curve for the Danes in that age group is better as a basis for predicting future changes in the net transfer for the immigrant groups.

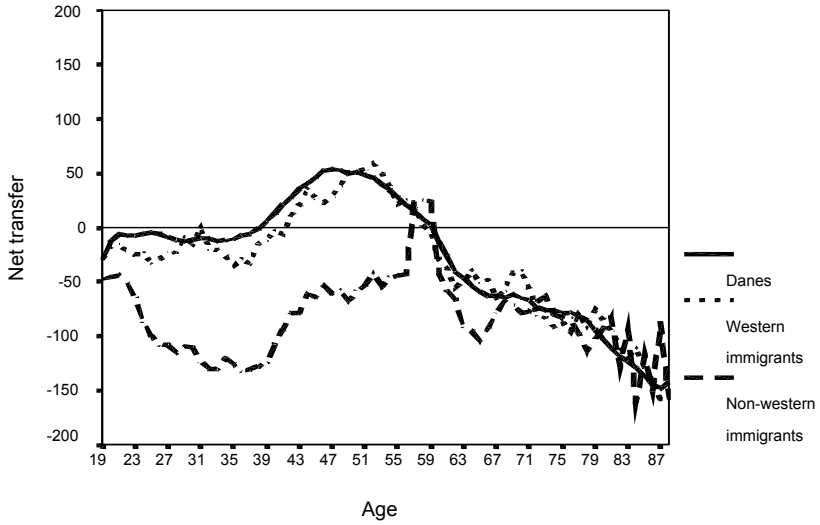
Figure 1. Net transfer per person (three-year average) in 1996 for Danes, western immigrants and non-western immigrants. Men



For women the differences between the three groups show the same pattern. The net transfer curves for the Danes and the western immigrants are close to each other, and the net transfer curve for non-western immigrants is negative for all age groups with one exception. (The exception is due to the fact that there are a few older immigrants with very high earnings).[6]

[6] The sample contains three immigrants with very high incomes (and large net transfers) aged 71-73, two from western countries and one from a non-western country. If they are deleted from the sample the two spikes in the figure disappear. The same

Figure 2. Net transfers per person (three-year average) in 1996 for Danes, western immigrants and non-western immigrants. Women



The next step is to take a closer look at how much of the difference may be explained by demographic variables—age, gender, family status—and employment rate (0-100) variations. The regressions estimates are presented in Tables 4 and 5.

In the first equation (1) only the variables representing the various groups according to origin are included. In the next equation (2) the demographic variables are also included. As expected, these variables are highly significant and the sizes of the coefficients are large. However, the variables that represent being born outside Denmark change only slightly and not in the direction of the smaller effects.

In equation (3), the employment rate is also included. The inclusion of this variable changes the sign of the coefficient for immigrants born in a western country and the size of the coefficient for immigrants from non-western countries.

estimations and figures have been made with data from 1997. There are no corresponding spikes in the figures for that year.

Table 4. Regression estimates of effects on net transfers to the public sector in Denmark related to age, gender, family type and country origin

Variables	(1)	(2)	(3)
Constant	18.210	-129.699	-162.383
	(.452)	(2.823)	(2.478)
Born in Denmark			
Both parents born in Denmark	0	0	0
One parent born in Denmark, one in a western country	10.411	3.547	13.585
	(4.255)	(3.946)	(3.456)
One parent born in Denmark, one in a non-western country	-7.845	-8.227	16.212
	(8.963)	(8.274)	(7.248)
Both parents born in a western country	8.624	6.269	18.542
	(10.304)	(9.491)	(8.313)
Both parents born in non-western country	-34.212	-20.615	4.133
	(11.040)	(10.914)	(8.929)
Born outside Denmark			
Born in western country	-7.343	-8.409	13.624
	(3.103)	(2.858)	(2.506)
Born in non-western country	-84.465	-95.158	-14.761
	(2.364)	(2.193)	(1.960)
Gender		-53.346	-30.079
		(.813)	(.721)
Age		9.764	4.414
		(.127)	(.115)
Age^2		-.115	-.043
		(.001)	(.001)
Family status			
Unmarried, no children		0	0
Unmarried with children		-85.912	-93.066
		(2.543)	(2.288)
Married, no children		30.259	14.017
		(1.102)	(.895)
Married with children		-.484	-38.841
		(1.149)	(1.023)
Employment rate			1.953
			(.010)
N	138718	138718	138718
R2(adj)	.009	.160	.355

Variables representing the length of stay in Denmark are included in Table 5. The pattern of the sign for those born in a western country is not clear. For those born in a non-western country the coeffi-

cient is lower for those who have stayed in Denmark longer (more than 12 years), but the coefficient is large and negative.

Table 5. Regression estimates of effects on net transfers to the public sector in Denmark related to age, gender, family type and country origin

Variables	(4)	(5)	(6)
Constant	18.210	-127.901	-164.043
	(.452)	(2.833)	(2.487)
Born in Denmark			
Both parents born in Denmark	0	0	0
One parent born in Denmark, one in a western country	10.411	3.155	13.909
	(4.254)	(3.945)	(3.455)
One parent born in Denmark one in a non-western country	-7.845	-8.679	16.663
	(8.963)	(8.272)	(7.245)
Born outside Denmark			
Both parents born in western countries	8.624	6.152	18.643
	(10.301)	(9.488)	(8.310)
Both parents born in non-western countries	-34.212	-21.187	4.715
	(11.037)	(10.911)	(8.926)
Born in a western country			
Immigrated >12 years	-8.732	3.249	6.623
	(3.976)	(3.670)	(3.214)
Immigrated 10-12	-27.655	-52.406	-10.541
	(22.924)	(21.112)	(18.491)
Immigrated 7-10	-5.431	-30.177	-.875
	(12.821)	(11.810)	(10.344)
Immigrated 5-7	-3.740	-30.770	16.409
	(13.110)	(12.076)	(10.578)
Immigrated 3-5	5.898	-14.568	21.993
	(12.475)	(11.491)	(10.065)
Immigrated 1-3	6.174	-17.000	30.931
	(8.974)	(8.271)	(7.247)
Immigrated < 1 year	-24.198	-35.006	45.616
	(10.322)	(9.515)	(8.342)

Table 5. Continued…

Born in a non-western country			
Immigrated >12 years	-59.584	-75.044	-23.341
	(3.872)	(3.573)	(3.139)
Immigrated 10-12	-99.763	-121.449	-34.148
	(9.696)	(8.939)	(7.840)
Immigrated 7-10	-100.958	-107.672	-23.526
	(6.095)	(5.624)	(4.942)
Immigrated 5-7	-102.117	-103.134	-13.996
	(7.505)	(6.921)	(6.077)
Immigrated 3-5	-97.661	-100.933	-5.366
	(9.696)	(6.849)	(6.016)
Immigrated 1-3	-108.298	-120.427	-10.639
	(5.919)	(5.461)	(4.813)
Immigrated < 1 year	-73.967	-82.542	-34.246
	(7.968)	(7.348)	(6.460)
Gender		-53.356	-30.078
		(.813)	(.721)
Age		9.697	4.456
		(.128)	(.115)
Age^2		-.114	-.0043
		(.001)	(.001)
Family status			
Unmarried, no children		0	0
Unmarried with children		-85.959	-92.830
		(2.543)	(2.288)
Married, no children		30.373	13.802
		(1.017)	(.895)
Married with children		-.288	-38.778
		(1.149)	(1.023)
Employment rate			1.958
			(.010)
N	138718	138718	138718
R2(adj)	.010	.160	.356

The regression results underline the importance of the employment rate. In Figures 3 and 4 the employment rates according to age are shown for Danes, immigrants from western countries, and immi-

grants from non-western countries. The differences between the employment rates of the groups are very large.[7]

Figure 3. Employment rate (three-year average) in 1996 among Danes, western immigrants, and non-western immigrants. Men

One way of illustrating the importance of employment is to compare the net transfers to the public sector of those with an employment rate of 100 per cent for the three groups. See Figure 5. The figure shows that, as expected, the net transfer to the public sector is positive for all groups. The net transfer rate is lower for non-western immigrants, probably mainly as a result of lower wages for this group.

[7] This pattern is present in many other immigration countries in Europe and elsewhere. See for example Winkelmann (1999) for corresponding figures for New Zealand.

Figure 4. Employment rate (three-year average) in 1996 among Danes, western immigrants, and non-western immigrants. Women

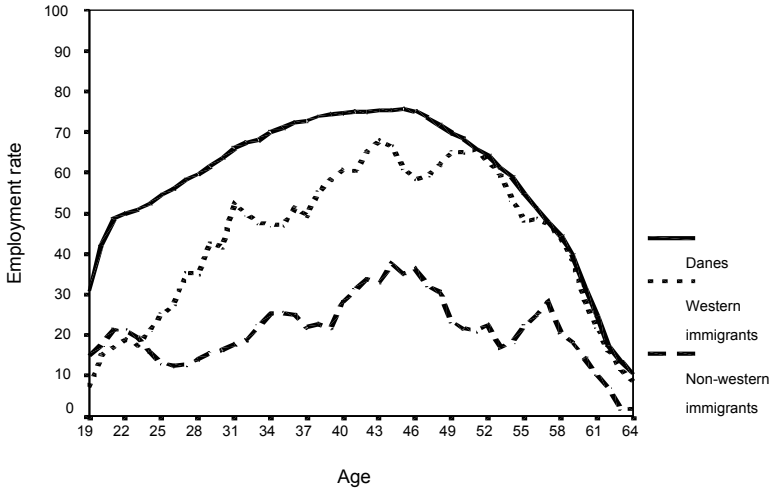
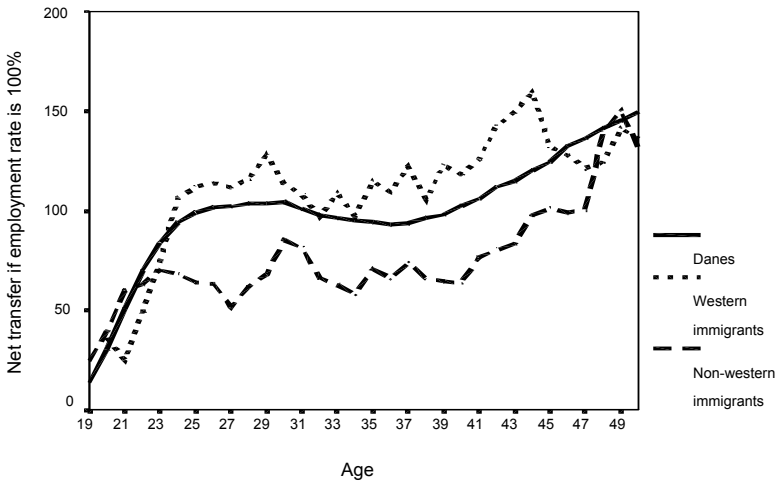


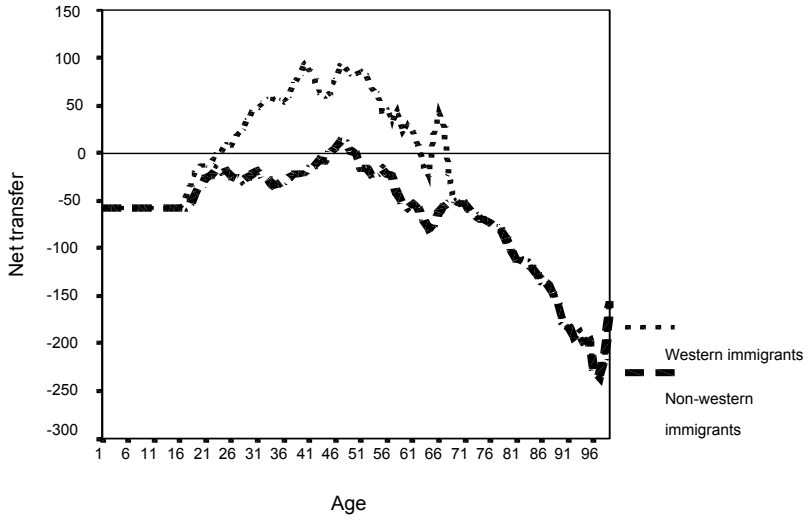
Figure 5. Net transfer per person (three-year average) in 1996 for Danes, western immigrants and non-western immigrants with employment rate = 100. Men and Women



These results indicate that the integration of immigrants into the labour market is the central issue. There is obviously an urgent need for analyses of the weak position of immigrants in the labour market as well as studies of measures that may influence their rate of employment.

Up to now the net transfer to children under the age of 18 has been included in the net transfer to their parents. Another way of doing it would be to treat children as separate individuals and calculate the transfers to them. To study the net transfer according to age over the life cycle, the net transfers to children under 18 have been eliminated from the net transfer to those 18 and older. The results for the two immigrant groups are shown in Figure 6.

Figure 6. Net transfers according to age in 1996



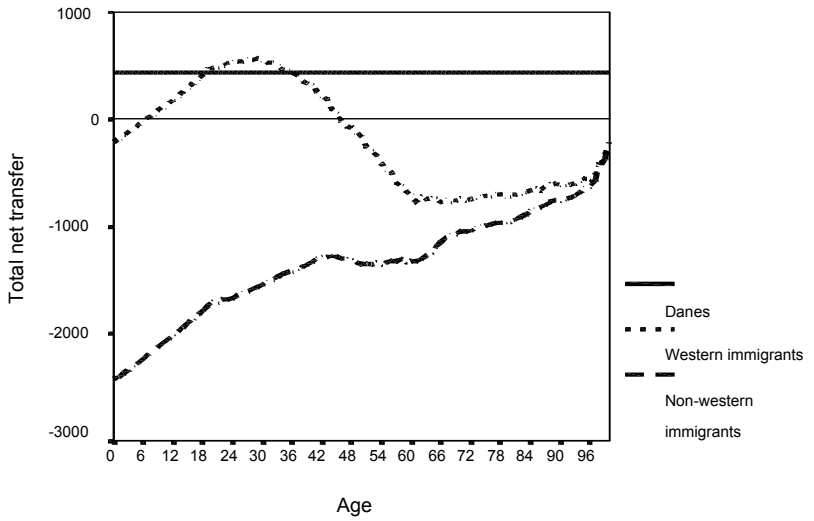
Note. Average calculated values for those 0-17 years, actual values for each group aged 18-67 years, and the values for the Danish groups for those 68 years and older.

The next step is to calculate the total net transfer for those who have immigrated at different ages. In order for the calculation to be meaningful, we must take into account the mortality and return migration rates for the different groups. If this is not done, years of old age will be given too high a weight. For the calculations, we have used information on mortality rates according to age for the total population. Data on return migration for immigrants from EU countries

have been used for the estimates of return migration of immigrants from western countries, and data on return migration of immigrants from Asia have been used for the estimates of return migration of immigrants from non-western countries.

In Figure 7 the (non-discounted) values are shown for immigrants from western and non-western countries. As a comparison, the value for Danes, who "immigrate" at the age of 0 is provided (the value is calculated for age 0 but in order to make the comparison easier a horizontal line is presented in the figure). We have not taken emigration of Danes into account in the calculation. As the net transfer in all age groups are from the public sector to non-western immigrants, the total transfers are lower, the higher the age that immigration take place. For western immigrants, the net transfer is highest if the immigration takes place at the age when most people enter the labour market.

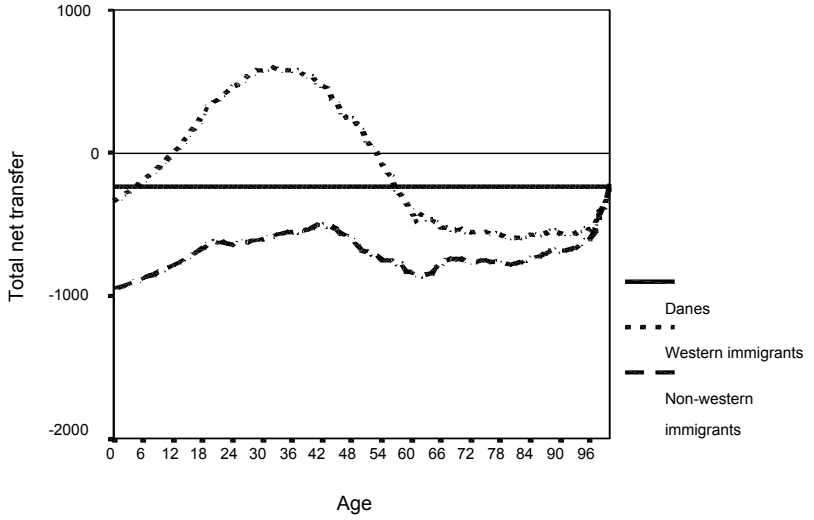
Figure 7. Total net transfers at immigration at different ages; as a comparison the value for Danes (who "immigrate" at age 0) is shown as a horizontal line; values for 1996; discount rate = 0 per cent



It can be expected that the net transfer changes over time in response to the growth of the economy. Both taxes, transfers and public consumption will grow with the economy. This suggests that the figures for the coming years should be adjusted upwards. On the

other hand there are arguments for discounting future net transfers (we prefer a *krona* now compared to a *krona* later). As mentioned earlier, the values in Table 7 are not discounted (or adjusted upwards accounting for the growth of the economy). This could be seen as an assumption that the growth rate and the discount rate are of the same size. To test the sensitivity of this assumption, we have made calculations using discount rates of 1, 2, and 3.5 per cent. The case with a discount rate of 3.5 per cent is shown in Figure 8.[8] The changes are considerable. For example, the Danes also receive a net transfer from the public sector.

Figure 8. Total net transfer at immigration at different ages; as a comparison the value for Danes (who "immigrate" at age 0) is shown as a horizontal line; values for 1996; discount rate = 3.5 per cent



The sensitivity of the results to the choice of discount rate is illustrated in Table 6. This table shows the total net transfers for four different values of the discount rate. In all cases, the results are shown for immigration at the time of birth.

[8] The same value as Storesletten (1998) uses in his study on immigration to Sweden.

Table 6. Total net transfers to immigrants who immigrate to Denmark aged 0 years (and for children of Danes born in Denmark)

Discount rate (per cent)	Danes	Immigrants from western countries	Immigrants from non-western countries
0	437	-213	-2427
1	240	-238	-1713
2	16	-285	-1298
3.5	-236	-337	-947

4. Conclusions

Studies conducted in different countries in recent years indicate that a redistribution of resources to immigrants occurs via the public sector, and especially to immigrants who come from countries that differ most in economic terms from the host country. The studies also indicate that these results are highly dependent on the fact that these particular groups of immigrants have a very low rate of employment.

The study of the fiscal effects in Denmark presented here produces similar results. The transfers to immigrants from non-western countries, i.e. immigrants from countries other than those with the most highly developed economies, are considerable. On the other hand, there is a net transfer from immigrants from western countries. This pattern appears to have been stable during the 1990s. However, a comparison with immigrants who had been in Denmark for an equal length of time indicates that net transfers to immigrants from non-western countries increased during the period 1991-1995/96.

The study also indicates the great importance of the poor employment situation for the relatively large fiscal transfers to immigrants from non-western countries. An important factor underlying these results may be that many of these immigrants have come to Denmark as refugees or to join family members, rather than as job-related immigrants.

The results of the fiscal study indicate the central role that the labour market plays in determining the effects that immigration has on redistribution via the public sector, and also for the position of the immigrants themselves in Danish society.

Labour force participation is very low among immigrants from less developed countries. Different studies suggest that the situation has

gradually deteriorated. The unemployment rate among immigrants from these countries is higher than that among the population as a whole. It varies in accordance with the general state of the economy, just as it does for the population as a whole, but there is a trend towards rising unemployment among immigrants.

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