

# Free immigration and welfare access: the Swedish experience

by

Joakim Ruist\*

Department of Economics  
University of Gothenburg  
Box 640  
40530 Gothenburg, Sweden  
joakim.ruist@economics.gu.se  
Telephone: +46 703 96 77 31

April 2012

## Abstract

With the expansion of the European Union from 15 to 25 member countries in 2004, fears of migrants' excessive welfare use lead 14 of the 15 older member countries to impose restrictions on access of citizens of the new member countries – the A10 countries – to their welfare systems. Sweden was the only exception. This paper evaluates the net contributions of post-enlargement A10 immigrants on Swedish public finances in 2007. A10 immigrants make a small but significant positive net contribution. On average, they generate less public revenue than the population on average, but also cost less, in the end yielding a positive net result. A10 immigrants do not benefit more from basic social welfare than the population on average.

Keywords: immigration, welfare benefits, public finances, EU enlargement

JEL codes: H20, H31, H50, J61

\* I am grateful for comments and suggestions from Pelle Ahlerup, Lisa Andersson, Simona Bejenariu, Arne Bigsten, Jorge Bonilla, Oana Borcan, Lennart Flood, Olof Johansson-Stenman, Kristina Mohlin, Katarina Nordblom, and Anja Tolonen.

## **1 – Introduction**

A contentious issue in the immigration debate in many high-income countries is immigrants' actual or potential use of the host country's welfare systems. The risk of immigrants arriving with the intent of benefiting from welfare systems and thus draining public finances is a common argument in favor of restricting immigration, as in the debate preceding the EU enlargement in 2004. The same argument is supported by economic theory in the writings of, e.g., Friedman (1977), Borjas (1999), and Razin et al. (2011). Empirical studies of whether welfare benefits attract migrants to any substantial extent yield mixed results. Studies of immigrants' net contributions to public finances show that these are generally close to zero, but are confined to cases of restricted immigration, since until recently there has not been any case of a modern welfare state allowing free immigration from poorer countries. A recent exception is Sweden since the EU enlargement in 2004, when the EU expanded from 15 member countries (henceforth referred to as EU15) with high and relatively similar income levels by adding another 10 countries (referred to as the A10 countries) with substantially lower income levels on average. Sweden was the only EU15 country that did not impose restrictions on access of the new EU citizens to its welfare systems.

The Swedish case thus provides a possibility to study empirically the public finance contributions of immigrants arriving under a regime of unrestricted immigration and equal access to welfare systems. Two questions are of major importance. The first is the question of the overall net contribution of A10 immigrants to Swedish public finances, revenues and costs taken together. The second is whether A10 immigrants are overrepresented as beneficiaries of welfare systems, relative to the total Swedish population or to immigrants from the richer EU15 countries. This study provides answers to both questions, using detailed individual data from 2007 on tax payments, welfare receipts, and age structure of a sample of 3,000 A10 immigrants who moved to Sweden in 2004-2006. The estimated net contribution to public finances is small but significantly positive, and A10 immigrants' use of basic social welfare (minimum level of subsistence) is similar to the total Swedish population on average.

## **2 – The EU enlargement in 2004 and Swedish immigration**

The ten countries that acceded to the EU in 2004, the A10 countries, had on average substantially lower income levels and higher unemployment rates than the EU15 countries. Purchasing power adjusted income per capita and unemployment rates for the two blocks of countries in 2003, the year before the enlargement, are shown in Table 1. The enlargement

was preceded by extensive debate in the richer EU countries about the possible consequences of free labor mobility between dissimilar countries. There were fears that A10 citizens would migrate to the richer EU15 countries and use their social welfare systems excessively. Eventually, most of the EU15 countries imposed various restrictions on access of A10 citizens to their labor markets and welfare systems. Fewer restrictions were imposed by the UK, Ireland, and Sweden, where Sweden was the only country that did not impose any restrictions at all (Gerdes and Wadensjö, 2010); any citizen of any EU member country became eligible to reside in Sweden and use the Swedish welfare systems, as long as the person is actively looking for employment and has a realistic chance of finding it.

Table 1. Purchasing power adjusted GNI per capita and unemployment rates in 2003

<b>Country group</b>	<b>GNI per capita (PPP \$)</b>	<b>Unemployment rate</b>
Old EU member countries (EU15)	27,800	8.0%
Accession countries (A10)	13,300	14.9%

Notes: Numbers are averaged over total populations, not countries. Data source: World Development Indicators (the World Bank).

During the first years after the EU enlargement, the UK and Ireland received more immigrants than Sweden from the A10 countries, relative to their total populations. This may be explained by a smaller language barrier and to the strong Irish economic growth not least in the construction sector, which attracted many foreign workers. Fewer migrants than initially expected arrived in Sweden, yet the rate increased rapidly, as seen in Table 2.

Table 2. Swedish yearly immigration from A10 and other EU15 countries 2003-2007

<b>Year</b>	<b>No. A10 immigrants</b>	<b>% of home population</b>	<b>No. EU 15 immigrants</b>	<b>% of home population</b>
2003	2,381	0.03	19,005	0.05
2004	4,232	0.06	18,661	0.05
2005	5,559	0.07	19,403	0.05
2006	9,178	0.12	23,690	0.06
2007	10,767	0.14	25,065	0.07

Notes: Data source: Statistics Sweden. A10 immigration numbers prior to 2003 were similar to the 2003 numbers.

## **2.1 – Immigrant characteristics**

A10 immigrants differ from the total Swedish population in respects that are of first order importance for their net contribution to public finances. Most importantly, they have lower incomes and thus pay less tax, and very few of them are old, which implies low public costs related to old age. This section reviews these background characteristics in detail.

To describe the characteristics of A10 immigrants, I use micro data from the *Linda* database. The *Linda* database is managed by Statistics Sweden and contains detailed information from public authorities on two large samples of the Swedish population: the general sample and the immigrant sample. The general sample comprises a random 3% of the total population (referred to as sampled individuals), as well as all individuals belonging to the same households as those 3%. The immigrant sample comprises a random 20% of the Swedish immigrant population, plus all those who belong to their households. The database is longitudinal: it contains the same individuals each year, and each year the sample is adjusted through the addition of some new individuals to maintain its representativeness of the whole population. See Edin and Fredriksson (2000) for a detailed description of the data source.

The 2007 *Linda* immigrant sample contains information on 3,392 sampled individuals who immigrated to Sweden from the A10 countries in 2004-2006 and did not register emigration through 2007. It also contains data on 5,779 sampled individuals who immigrated to Sweden from the rest of EU15 during the same period.<sup>1</sup> Figures relating to the latter group are included in this paper to highlight the differences in net contributions of immigrants of different origin to public finances. The general *Linda* sample contains 323,418 sampled individuals. The samples together form the dataset used in this study. Only sampled individuals are included in order to maintain the randomness of the sample.

One important difference between A10 immigrants and the total Swedish population lies in their age distributions, which are shown in Figure 1. As the figure shows, A10 immigrants are heavily concentrated in the younger half of the working ages, and there are almost no individuals above retirement age. The distribution of EU15 immigrants is similar but not quite as uneven.

Table 3 shows the shares of the respective groups, aged 25-64, that have attended university. There is a large number of missing values in the *Linda* data on immigrants' schooling. Table 3 shows that EU15 immigrants are much better educated than the total population. There is also a possibility that A10 immigrants are better educated than the total population, yet the large number of missing values makes such a conclusion uncertain. In any case, the educational levels of A10 immigrants lie far above the averages of their home countries. This positive selection of the highly educated is a common feature of emigrants from most countries

---

<sup>1</sup> One may note the large difference between the ratio of these numbers and that of the corresponding numbers in Table 2. This is due to a much higher re-emigration rate of EU15 immigrants.

(Hanson, 2008). Interestingly, it applies also in this case where policies of the immigration country do not favor more skilled migrants over less skilled.

Figure 1. Age distributions of total population and immigrant groups

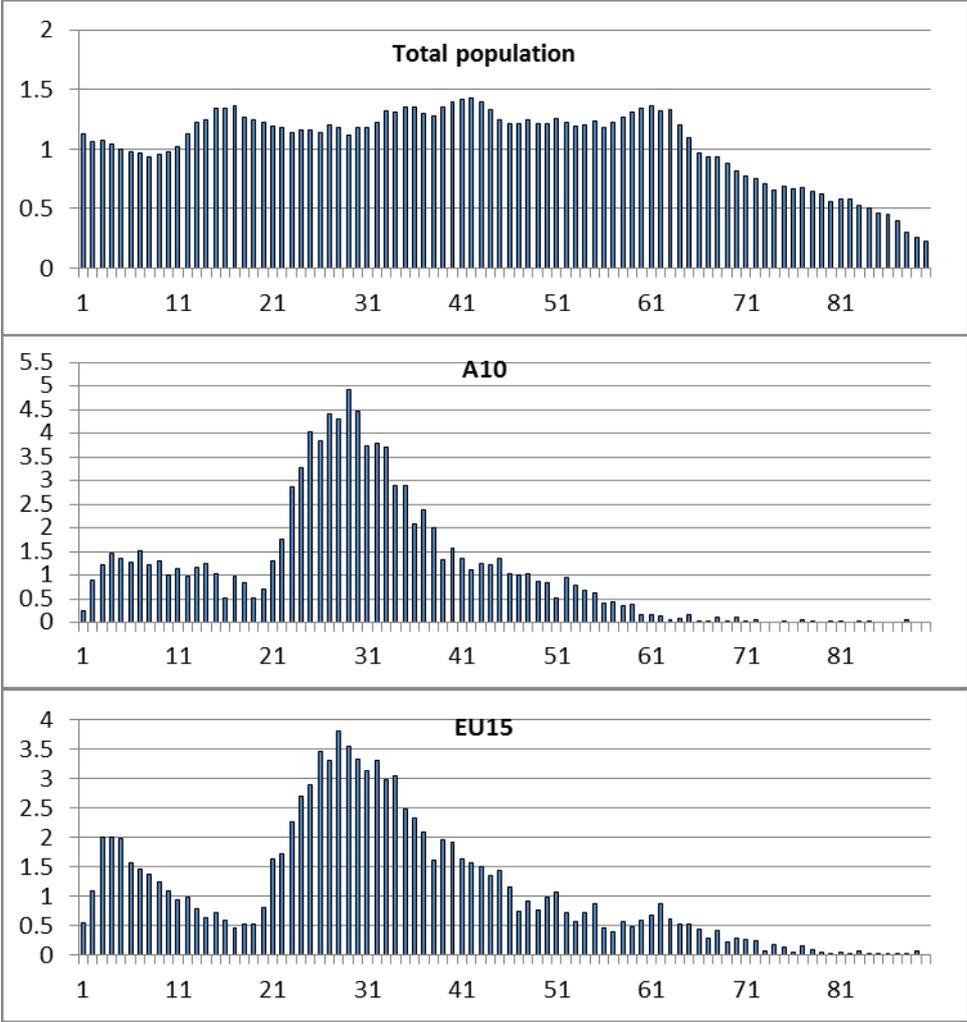


Table 3. Shares university educated, ages 25-64

	<b>Share university educated</b>	<b>Share not university educated</b>	<b>Share missing values</b>
Total population	36.1%	62.5%	1.4%
EU15 immigrants	53.3%	20.2%	26.3%
A10 immigrants	39.7%	37.3%	23.0%

Table 4 shows the distributions of income from work and business activity for ages 25-64. When obtaining reliable information on income distributions for recent immigrants, we are confronted with the question of which immigrants still remain in the country. While data on immigration from these countries are very reliable, re-emigration data are not. There is no real

incentive for emigrants to register re-emigration. In fact, some emigrants may even have an incentive *not* to register re-emigration, because one may then lose one's entitlements to sickness, parental leave, or unemployment support. A clear indication of immigrants having re-emigrated without registering is that out of all A10 immigrants in *Linda* who arrived in 2004-2006 and have not registered re-emigration, 11% have exactly zero household disposable income in 2007, which is not at all in parity with the rest of the population, but corresponds well to the estimate in Gerdes and Wadensjö (2010) that official statistics may contain around 10% of recent A10 immigrants who are no longer in Sweden. I deal with this flaw by deleting all individuals with household disposable income of zero or less from the sample. The smaller number with a registered disposable income below zero may not be as likely to have left Sweden, but there are probably other important errors in the data on these individuals. They are few enough to make their inclusion or exclusion irrelevant for the analysis.

Table 4. Distributions of income (in SEK) from work and business, ages 25-64

	<b>10<sup>th</sup> percentile</b>	<b>25<sup>th</sup> percentile</b>	<b>median</b>	<b>75<sup>th</sup> percentile</b>	<b>90<sup>th</sup> percentile</b>
Total population	85,000	171,000	249,000	327,000	435,000
EU15 immigrants	0	19,000	169,000	306,000	508,000
A10 immigrants	0	39,000	139,000	226,000	300,000

As shown in Table 4, most recent immigrants from EU15 and A10 countries earn less than the total population across the distribution, although the top segment of EU15 immigrants earn relatively more. Substantial shares of the recent immigrant populations do not earn any income, and this is after deleting individuals for whom the reported *household* disposable income, including welfare income, is non-positive. Table 5 shows the gender-breakdown of the data on individuals with no income. Both immigrant groups differ markedly from the total population and from each other in the total shares of no-earners and in the gender-breakdowns of the same. Among EU15 immigrants, both men and women have high shares of no-earners, while among A10 immigrants this is true only for women.

The statistics on 2004-2006 A10 immigrants presented so far indicate both positive and negative factors concerning Swedish public finances. Their age structure is obviously favorable, as it implies low costs for elderly care, while the fact that they earn less income from work should imply that they contribute less to public finances through taxes. The rest of

this paper presents a detailed analysis of public revenues and costs in order to estimate the net contributions of A10 immigrants to Swedish public finances.

Table 5. Shares earning no income, ages 25-64

	<b>Share men with no income</b>	<b>Share women with no income</b>
Total population	3.5%	3.6%
EU15 immigrants	16.6%	22.9%
A10 immigrants	5.5%	16.9%

### 3 – Method

The method used in this study is to ascribe, as far as possible, all Swedish public revenues and costs to the proper individuals or groups of individuals in the population, and thus to estimate the net contribution of A10 immigrants. Different individuals contribute very different amounts to public finances and also imply very different public costs. Young individuals typically do not contribute at all, while they imply high costs through publicly financed schooling and child care. During the working ages, about 20-64 years of age, the average individual is a net contributor who works and pays more in taxes than he/she costs in the form of welfare receipts and costs of health care. As individuals turn 65 and older they imply costs in the form of pensions, and the older they get the more hospital care and elderly care they require. Same-age individuals differ too. Although some parts of public services, such as infrastructure and defense, are more or less equally distributed, the majority of public costs can be attributed to specific individuals or groups of individuals. Examples are grants to specific persons, hospital care costs, or costs of running schools. On the public revenue side, an even larger share relates to specific individuals, although there is a certain share for which the connection is more far-fetched here as well, such as revenues derived directly from larger corporations.

The *Linda* dataset contains detailed information on all tax payments to and all individual receipts from the public finances for all individuals in the data. These detailed data correspond to about one-third of all public sector revenues and one-third of all public sector costs per individual. In addition, the income data in *Linda* can be used to estimate payroll taxes with high precision, adding a detailed breakdown of another third of public revenues. Income data can also be used to estimate VAT payments, which will not be very credible per individual, but arguably so when averaging over large groups and using aggregated data on the relation

between income and consumption. In total, *Linda* data can be used to ascribe with high credibility 78% of public sector revenues in 2007 to different groups of individuals.

On the cost side, about one-third of all public sector costs are costs of schooling and care, for which there are no detailed data on individual use of services. Yet there are detailed data on these costs by age group, and when averaging over larger groups of people these can be used to ascribe costs to different groups with high precision. This results in 62% of public sector costs in 2007 being ascribed to different groups. The share is thus lower on the public cost side than on the revenue side, which is mostly a reflection of the fact that a substantial part of public sector costs are counted equally for all.

Having ascribed all the public revenues and costs included in the study to different individuals, calculating the net contribution of A10 immigrants to public finances amounts to a simple estimate of difference in means between these immigrants and the total population. It could be argued that the proper reference value to set to zero would be the total population average *less the immigrant group in question*. However, since the group of interest in this paper amounts to less than 0.2% of the total population, this would not affect the results. The difference in means correctly estimates the net contribution of the group to the public sector if the public sector runs a balanced budget. Yet in 2007 the public sector ran a surplus of 11,400 SEK per individual, so to correctly estimate the net contribution, this surplus is added to the difference in means.

The method used is borrowed from a set of studies estimating the net contributions of immigrant stocks to public finances in various high-income countries. These studies were surveyed recently by Rowthorn (2008); Swedish studies were surveyed by Ekberg (2009). The resulting estimates of immigrants' net contributions to public finances are generally between +1% and -1% of GDP, yet estimates are of limited usefulness for immigration policy evaluation since the immigrant stocks at hand are the consequence of generations of immigration policies. In the present study, the method is used for more direct policy evaluation, focusing only on one group of immigrants that arrived under one specific policy regime.

### **3.1 – Data treatment**

Direct tax payment data is reported from the tax agency to Statistics Sweden, making the values in the dataset highly reliable. Earnings data are also directly reported, and payroll taxes

are estimated as 32.42% of earnings, which was the payroll tax rate in 2007. When estimating value-added taxes (VAT) from earnings data, I take into account that VAT payments are a highly concave function of earnings. Statistics Sweden publishes VAT payment estimates per disposable income decile of the population. I use these data to ascribe to each individual in the dataset VAT payments equal to the estimated mean of his/her income decile. No data are available to differentiate the consumption and saving behavior of natives from that of different groups of immigrants. While there are likely differences in this respect, they could not possibly be important enough to affect the results to any relevant degree (see Table 6 for the importance of VAT).

Similarly, all data on transfers to individuals, as well as student loan repayments, are directly reported to Statistics Sweden and are thus very reliable. The estimates of individual costs of education and care on the other hand are made using age (and gender) group means. Child care, schooling, elderly care, and disability care are municipality responsibilities, and all municipalities report average costs, per age group where relevant. These data are published by the Swedish Association of Municipalities and Regions (Sveriges Kommuner och Landsting, 2007). Schooling cost estimates per child are taken directly from these data. Child care cost estimates per child are adjusted for female labor force participation, as all immigrant groups have substantially lower female labor force participation than the Swedish population mean. Childcare costs for each immigrant group and immigration year are multiplied by the share of females aged 20-49 who report positive labor income in that group, and divided by the same share in the population. For A10 immigrants, this implies a multiplication by about 0.9.

The data on elderly care are adjusted for a more detailed data breakdown published by the National Board of Health and Welfare (Socialstyrelsen, 2008) of elderly care costs by five year age interval and gender. The average woman in each age group costs substantially more than the average man. The data on aggregate disability care costs from the Swedish Association of Municipalities and Regions are made individual by distributing them evenly across those individuals who received an individual disability support transfer (in *Linda*).

Hospital care is a regional and not a municipal responsibility. Thus, hospital care costs cannot be estimated using the same dataset as other care-related costs. Instead I rely on a study by Borgquist et al. (2010), who estimate hospital care costs by age group in 2007 in the county of Östergötland, which is deemed representative of Sweden as it includes both rural areas and two larger cities (neither one is among the country's four largest), and both a university

environment and basic industry. A10 immigrants may differ from the rest of the population in their use of hospital care, yet this is not possible to identify.

One problem in the data concerns calculating the number of children born to immigrants after they arrived to Sweden, since these children are not defined as immigrants. Hence, when identifying them in the data they may be mixed up with children who entered the household because the whole household composition changed. However, since the number of children born to immigrants up to three years after their arrival is not very large, any estimation errors do not affect the results to any large degree.

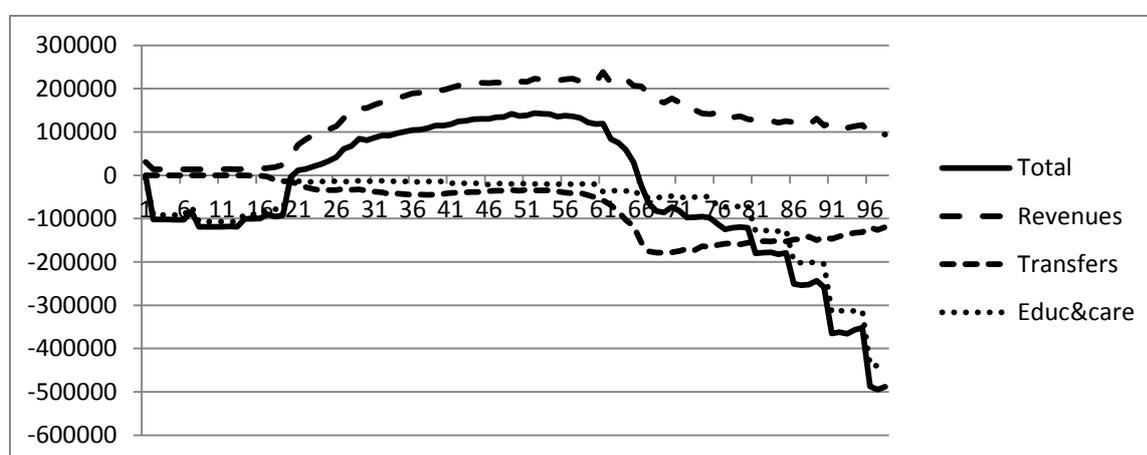
The data elements used in the study and their importance for the Swedish public sector are summarized in Table 6. The value of 36,024 toward the bottom is the net position per Swedish inhabitant vis-à-vis the public sector that is left when all the differently ascribed elements are accounted for. Subtracting this number from the total revenues minus costs for an individual or group, and adding the public sector surplus of 11,400 SEK, gives the estimated net public sector contribution of that individual or group. How this value varies with age is shown by the solid line in Figure 2.

Table 6. Data elements and their importance for public finances

	Average value per Swedish inhabitant (SEK)	Total value (billion SEK)	Percent of total public sector spending
<b>Revenues</b>			
--Direct taxes	59,144	542.6	35.3%
--Payroll taxes	58,205	534.0	34.8%
--Value-added taxes	21,577	198.0	12.9%
--Student support repayment	1,192	10.9	0.7%
<b>Revenues total</b>	<b>140,117</b>	<b>1,285.5</b>	<b>83.7%</b>
<b>Transfers</b>			
--Sickness support	3,020	27.7	1.8%
--Public pensions	32,332	296.6	19.3%
--Parental leave support	2,680	24.6	1.6%
--Unemployment support	2,772	25.4	1.7%
--Early retirement	6,140	56.3	3.7%
--Basic social assistance	929	8.5	0.6%
--Other family support	4,706	43.2	2.8%
--Other transfers	302	2.8	0.2%
--Student support	2,436	22.3	1.5%
<b>-Transfers total</b>	<b>55,318</b>	<b>507.5</b>	<b>33.1%</b>
<b>Education and care</b>			
--Child care	5,947	54.6	3.6%
--Schooling	11,938	109.5	7.1%
--Hospital care	15,717	144.2	9.4%
--Elderly care	10,992	100.8	6.6%
--Disability care	4,181	38.4	2.5%
<b>-Education and care total</b>	<b>48,775</b>	<b>447.5</b>	<b>29.2%</b>
<b>Costs total</b>	<b>104,093</b>	<b>955.0</b>	<b>62.2%</b>
<b>Revenues total minus Costs total</b>	<b>36,024</b>		
Difference	24,624		
<b>Public sector surplus</b>	<b>11,400</b>		

Note: N=309,502. Numbers are averaged over the total population of all ages.

Figure 2. Variation in revenues and costs with age



#### **4 – Net contributions of A10 immigrants to Swedish public finances**

The net contributions of the average A10 and EU15 immigrants to Swedish public finances are shown in Table 7. A positive sign indicates larger revenue or smaller cost, compared to the population at large, and a negative sign smaller revenue or larger cost. The net contributions of both immigrant groups are positive and significantly different from zero. Due to their age structures, both groups cost the public sector substantially less than the population average with respect to pensions and elderly care. For A10 immigrants, this smaller cost is balanced by smaller tax revenues, as they earn less and thus pay less tax than the population on average. Hence, the Revenues Total minus Costs Total row in Table 7 shows that the difference between A10 immigrants and the total population is not significantly different from zero, so the positive net contribution of the average immigrant to public finances closely corresponds to the public sector surplus. For EU15 immigrants, the negative difference in tax payments is smaller and the net contribution is more positive yet still economically unimportant. Multiplied by the number of immigrants, the total net contribution of all EU15 immigrants is only about 1/1,500 of the public sector turnover.

A10 immigrants' low hospital care costs are also due to the age structure. Notably, A10 immigrants also cost substantially less in disability care and early retirement than the population average. The differences on the remaining rows of Table 7 are smaller in absolute numbers, and are sometimes positive and sometimes negative. As regards whether welfare systems attract immigrants to any large extent, notably the difference between A10 immigrants' and the total population's average use of basic social welfare (minimum level of subsistence) is small and not significantly different from zero. While not amounting to any proof against welfare systems attracting low skilled migrants, it is important to note that the migrant group is not overrepresented in the use of basic welfare. The conclusion from Table 7 is that in the case of Sweden since the EU enlargement, free immigration and generous welfare access have managed to coexist.

On three rows, the numbers of Table 7 may be affected by relatively low immigrant eligibility. These are sickness and parental leave support, which require eight months of working for eligibility, and unemployment support, where eligibility increases gradually, and full eligibility is reached after twelve months of working. Thus, not all immigrants who arrived in 2006 were fully eligible for these benefits from January 1<sup>st</sup> 2007, even if they started working directly upon arrival. Table 8 contains the values that correspond to those in

Table 7, but for 2004-2005 and for A10 immigrants only. It shows that the immigrants who arrived during this period indeed used more of these systems in 2007. Substituting Table 8 values for the corresponding values in Table 7 changes the sum of revenues minus costs per A10 immigrant from +1,288 to -791 SEK, which is still not significantly different from zero.

Table 7. Net contributions of A10 and EU15 immigration on public finances

	Contribution of average A10 immigrant (SEK)	Absolute T value	Contribution of average EU15 immigrant (SEK)	Absolute T value
<b>Revenues</b>				
--Direct taxes	-30,220*	35.0	-622	0.3
--Payroll taxes	-20,985*	29.2	-3,124	2.2
--Value-added taxes	-3,774*	26.1	-961*	6.0
--Student support repayment	-1,150*	73.9	-1,060*	45.3
<b>Revenues total</b>	<b>-56,129*</b>	<b>35.1</b>	<b>-5,768</b>	<b>1.6</b>
<b>Transfers</b>				
--Sickness support	+1,745*	9.8	+1,665*	9.6
--Public pensions	+31,975*	180.6	+28,942*	73.8
--Parental leave support	-1,638*	6.1	-365	1.8
--Unemployment support	+1,233*	7.0	+1,470*	11.4
--Early retirement	+5,916*	67.0	+4,954*	31.2
--Basic social assistance	-273	1.8	-6	0.0
--Other family support	+272	1.5	+1,610*	13.2
--Other transfers	+104	1.4	+252*	8.8
--Student support	-117	0.6	-46	0.2
<b>-Transfers total</b>	<b>+39,217*</b>	<b>71.8</b>	<b>+38,477*</b>	<b>64.1</b>
<b>Education and care</b>				
--Child care	-1,233*	3.4	-3,704*	11.0
--Schooling	-170	0.4	+283	0.7
--Hospital care	+5,239*	97.3	+4,322*	59.3
--Elderly care	+10,772*	117.0	+9,985*	68.6
--Disability care	+3,592*	11.3	+3,762*	16.1
<b>-Education and care total</b>	<b>+18,200*</b>	<b>27.2</b>	<b>+14,649*</b>	<b>26.0</b>
<b>Costs total</b>	<b>+57,417*</b>	<b>71.5</b>	<b>+53,126*</b>	<b>67.6</b>
<b>Revenues total minus Costs total</b>	<b>+1,288</b>	<b>0.7</b>	<b>+47,359*</b>	<b>12.2</b>
Public sector surplus	+11,400	-	+11,400	-
<b>Net contribution</b>	<b>+12,688*</b>	<b>6.4</b>	<b>+58,759*</b>	<b>15.1</b>

Notes: The table shows difference in means estimates of A10 and total population values. Numbers are averaged over the total populations of all ages. A positive sign indicates either larger public revenue or smaller public cost. Significance at 1% level indicated by \*. Number of A10 immigrants in sample = 3,057. Number of EU15 immigrants in sample = 4,306.

The standard errors used in calculations of the T values in Table 7 are based only on (finite sample corrected) variance in assigned values, and thus do not reflect uncertainty in the value

assignment itself, i.e., they do not capture the unknown variation in age-related costs within age groups or in consumption within income deciles. Most importantly, there are no data that enable identification of whether A10 immigrants are on average different from the total population in their consumption behavior after controlling for income, or in their use of hospital care after controlling for age. Under the hypothesis that those differences are no larger than 10%, the estimates in Table 7 may be wrong by at most about 2,000 SEK for VAT and at most 1,000 SEK for hospital care, which are quite small figures.

Table 8. Estimated values for 2004-2005 A10 immigrants only

	Contribution of average A10 immigrant (SEK)	Absolute T value
--Sickness support	+1,132*	3.6
--Parental leave support	-2,923*	6.4
--Unemployment support	+264	0.8

Notes: The table shows difference in means estimates of A10 and total population values. Numbers are averaged over the total populations of all ages. A positive sign indicates either larger public revenue or smaller public cost. Significance at 1% level indicated by \*. Number of A10 immigrants in sample = 1,539.

#### 4.1 - Extensions

The close to zero net contribution of A10 immigrants to public finances is largely due to lower tax payments and lower age-related costs cancelling each other out. One possibly informative extension is then to estimate the net contribution while controlling for age. Such analysis must account for the fact that net contributions to public finances vary with age in a highly non-linear fashion, as seen in Figure 2 in Section 3. This is done by again calculating the difference in means between A10 immigrants and the total population, while weighting all observations in the total population sample to mimic the age structure of A10 immigrants. Weighting A10 observations to mimic the total population age structure would have been preferable but is not possible since there are too few A10 immigrant observations in the higher ages. The results are shown in Table 9. As expected, the net contribution is far more negative than that in Table 7. Perhaps more surprising is that when we control for age, A10 immigrants receive significantly *less* of all major individual welfare payments than do the population on average, except basic social welfare where the difference is still not significantly different from zero. This further strengthens the conclusion that A10 immigrants do not use basic social welfare excessively.

It would have been informative to split the results in Table 7 by educational attainment, yet the validity of such an analysis would be too hampered by the large share of missing values

on educational attainment (23%) and the strong correlation between a missing value on educational attainment and some of the parameters under study. Most obviously, no individual with a missing value on educational attainment has received an unemployment benefit. It seems clear that the administration of unemployment benefits is one of the sources from which data on educational attainment are collected.

Table 9. Counterfactual age-adjusted contributions of A10 immigration on public finances

	Contribution of average A10 immigrant (SEK)	Absolute T value
<b>Revenues</b>		
--Direct taxes	-24,098*	30.0
--Payroll taxes	-21,041*	29.4
--Value-added taxes	-2,979*	20.6
--Student support repayment	-2,344*	133.6
<b>Revenues total</b>	<b>-50,462*</b>	<b>32.3</b>
<b>Transfers</b>		
--Sickness support	+1,925*	10.8
--Public pensions	+1,886*	15.5
--Parental leave support	+1,971*	7.3
--Unemployment support	+2,116*	12.0
--Early retirement	+3,346*	40.9
--Basic social assistance	+229	1.5
--Other family support	+1,270*	7.0
--Other transfers	+177	2.3
--Student support	+2,138*	11.0
<b>-Transfers total</b>	<b>+15,058*</b>	<b>28.2</b>
<b>Education and care</b>		
--Child care	0	0
--Schooling	0	0
--Hospital care	0	0
--Elderly care	0	0
--Disability care	+2,699*	8.6
<b>-Education and care total</b>	<b>+2,699*</b>	<b>4.1</b>
<b>Costs total</b>	<b>+17,757*</b>	<b>22.6</b>
<b>Revenues total minus Costs total</b>	<b>-32,705*</b>	<b>16.9</b>
Public sector surplus	+11,400	-
<b>Net contribution</b>	<b>-21,305*</b>	<b>11.0</b>

Notes: The table shows difference in means estimates, with observations in the total population sample weighed to mimic the age structure of A10 immigrants. Numbers are averaged over the total populations of all ages. A positive sign indicates either larger public revenue or smaller public cost. Significance at 1% level indicated by \*. Number of A10 immigrants in sample = 3,057. Number of EU15 immigrants in sample = 4,306.

Further extensions that were tried without gaining any important additional insights include splitting the sample between Polish and other A10 immigrants. The numbers of immigrants from the remaining A10 countries are too small to analyze separately. When splitting the data

by year of immigration, I find some differences between immigrants arriving in different years, but with only three years it is not clear whether these are trends or only random differences.

## **5 – Discussion**

This paper estimates the net contribution of post EU-enlargement A10 immigrants to Swedish public finances. The estimated contribution is small but significantly positive. The average use of basic social welfare is not significantly different from the total population average. The results thus indicate that the fears that lead all other EU15 countries to restrict A10 immigrants' access to their welfare systems may have been ill-founded.

To my knowledge, the only existing study whose results are directly comparable with the ones obtained in this paper is the one by Dustmann et al. (2009), who estimate the contribution of post EU-enlargement immigrants from the “A8” countries, i.e., the A10 countries less Cyprus and Malta, on UK finances. The contribution they find is more positive than the one identified in this paper. I find three possible explanations for this difference: (1) Immigrants did not obtain access to welfare systems in the UK to the same extent that they did in Sweden (Gerdes and Wadensjö, 2010; Dustmann et al., 2009). Immigrants more likely to be eligible for welfare (in Sweden) may thus have had relatively higher incentives to choose Sweden than the UK. (2) Welfare systems are on average more generous in Sweden than in the UK. According to OECD statistics, social expenditure in the UK in 2005 was 20.6% of GDP, while in Sweden it was 29.1%. Again, immigrants who are more likely to be eligible for welfare may have had relatively higher incentives to choose Sweden. (3) More skilled emigrants in terms of English language proficiency should have had relatively higher incentives to go to the UK, and we would expect more skilled immigrants to have a more positive impact on public finances. In generalizing the results presented in this paper to a prediction of the effects of free migration from poorer to richer countries in general, points (2) and (3) indicate that certain other high-income countries may have reason to expect more positive results. The other important issue is income levels in the emigration countries: if they are lower than in the emigration countries included in this study, there may be reason to expect more negative results.

The starting point for this paper was the statement that it is not possible for a welfare state to have free immigration from poorer countries. The analysis has shown that in the case of Swedish post EU-enlargement immigration, at least in the short term this statement has not

been correct: free immigration and welfare access have coexisted, and so far the migrants have contributed positively to public finances. We cannot yet say what the longer-term consequences of this immigration will be. Immigrants will become older and thus more costly for the welfare state. On the other hand, the vast majority of them arrived in the younger half of the working ages, implying that they will have plenty of time to contribute to public finances before that, and in the end the most decisive factor for long-term outcomes will almost certainly be to what extent they re-emigrate before they become old, which is entirely unknown today. At any rate, whether the long-term outcomes will be slightly better or slightly worse than the short-term ones, they are unlikely to be devastating. Had immigrants arrived with the intent of receiving welfare benefits, there is no reason why we should not have been able to identify their excessive welfare use already in the first years. The analysis of this paper shows that they are not on average very different from the rest of the Swedish population. They might fare a bit better or a bit worse as they remain longer in Sweden, but according to what is found in the data they do not seem to have arrived with an intention to live on welfare.

## References

- Borgquist, Lars, David Andersson, Sven Engström and Henrik Magnusson (2010), "Primärvårdsersättning efter socioekonomi eller sjukdomsbörda", *Läkartidningen*, Volume 107, Issue 37, pp 2158-2163
- Borjas, George (1999), "Immigration and welfare magnets", *Journal of Labor Economics*, Volume 17, Issue 4, pp 607-637
- Dustmann, Christian, Tommaso Frattini and Caroline Halls (2009), *Assessing the fiscal costs and benefits of A8 migration to the UK*, CReAM Discussion Paper No 18/09, Centre for Research and Analysis of Migration, London
- Edin, Per-Anders and Peter Fredriksson (2000), *LINDA – Longitudinal INdividual DAta for Sweden*, Working paper 2000:19, Department of Economics, Uppsala University
- Ekberg, Jan (2009), *Invandringen och de offentliga finanserna*, Rapport till expertgruppen för studier i offentlig ekonomi 2009:3, Finansdepartementet
- Friedman, Milton (1977), *What is America?*, Lecture given at the University of Chicago, viewed September 20, 2011 at URL: <http://www.youtube.com/watch?v=3eyJIbSgdSE>
- Gerdes, Christer and Eskil Wadensjö (2010), "Post-enlargement migration and labor market impact in Sweden", in Martin Kahanec and Klaus F. Zimmermann (eds), *EU labor markets after post-enlargement migration*, Springer, Berlin Heidelberg, and IZA, Bonn
- Hanson, Gordon (2008), *International migration and development*, Commission of growth and development Working paper No 42, published by the World Bank, Washington DC

Razin, Assaf, Efraim Sadka and Benjarong Suwankiri (2011), *Migration and the welfare state: Political-economy policy formation*, MIT Press

Rowthorn, Robert (2008), “The fiscal impact of immigration on the advanced economies”, *Oxford Review of Economic Policy*, Volume 24, Issue 3, pp 560-580

Socialstyrelsen (2008), *Äldre – vård och omsorg andra halvåret 2008*

Sveriges Kommuner och Landsting (2007), *Vad kostar verksamheten i din kommun?*