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HÖGSKOLAN I JÖNKÖPING

Invandrarnas Bidrag till Samhället

En Jämförelse mellan Sverige och Jönköpings Län

Kandidatuppsats inom Nationalekonomi

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Immigrants' Contribution to the Society

A Comparison between Sweden and the County of Jönköping

Bachelor's thesis within Economics

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Sammanfattning

Syftet med den här uppsatsen är att ta reda på hur stor del av kostnaderna för samhället som går att förknippa till invandrarna i Sverige. Sverige har jämförts med Jönköpings Län för att hitta eventuella avvikelser. Vi har försökt skapa ett beräkningssätt för att kunna visa hur mycket som går ut till invandrarna och hur mycket de ger tillbaka. Vi utrycker oss till största del i relativa termer i uppsatsen, för absoluta tal hänvisas till appendix. För att visa hur vårat beräkningssätt kan användas har vi gjort beräkningar på fyra kostnadsgrupper och en inkomstgrupp. Vi har kommit fram till att invandrare tenderar att arbeta mer än den inhemska befolkningen, men till en lägre lön. Trots detta så kompenseras inte kostnaderna för samhället av dess intäkter när man jämför de som är direkt kopplade till invandrarna.

Bachelor's Thesis in Economics

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Subject terms:	**Cost-Benefit Analysis, Labor - immigrants, Allowances**

Abstract

Our aim in this thesis has been to look at the foreign citizens' share of costs and benefits associated to the society in Sweden. We have compared Sweden on the national level to Jönköping County on the regional level to see if there are any deviations. We have conducted a new calculation approach in order to present the contributions given by immigrants and the associated costs. Figures are to a large extent viewed in relative terms in the thesis, and specified in concrete terms in the appendix. We have selected a series of four costs and one benefit in order to show how an estimation of the costs or benefits could be made. We have found that immigrants tend to work harder than the natives, but at a lower wage level. Even so they do not compensate for the costs to the society applied to immigrants.

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1 INTRODUCTION

In the following chapter the background to our thesis will be presented together with the purpose, framework and outline. There is also a part which describes previous studies made within the field of immigration and cost-benefit analysis.

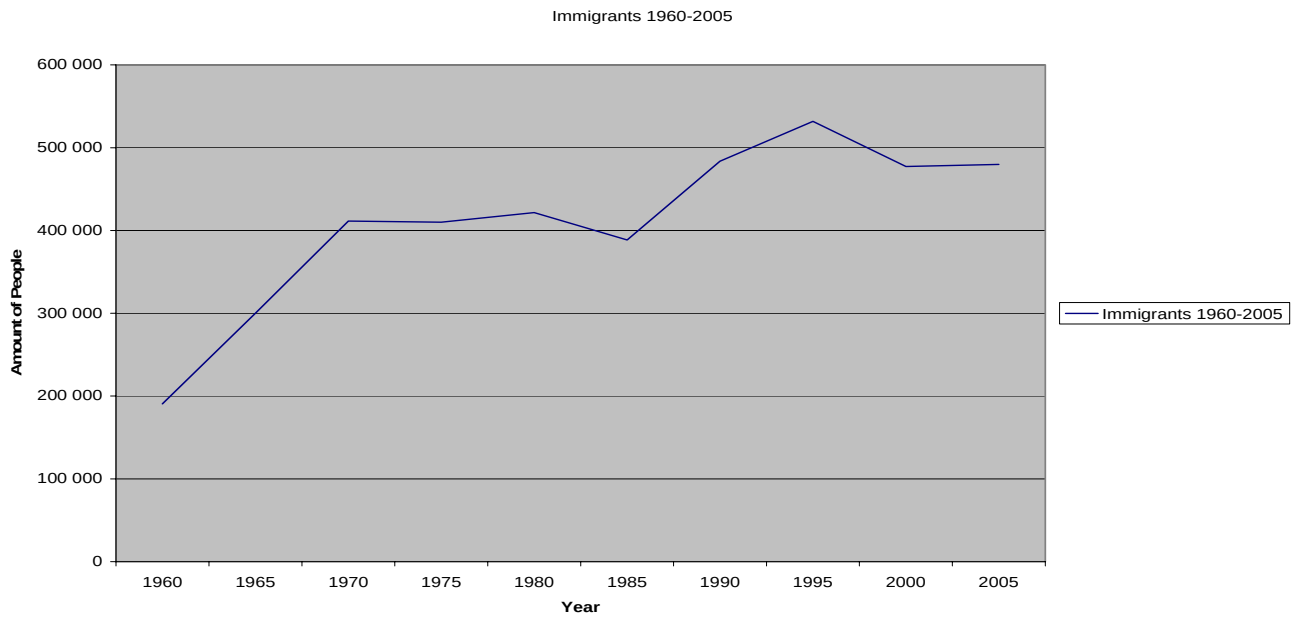
1.1 Background

The Swedish economy has had different relations to immigration, from being dependent on working immigrants coming to Sweden in order to build a sustainable society, to taking care of refugee immigrants coming to Sweden for other reasons than employment.

The massive Swedish emigration to America in the late 19th century and early 20th century was followed by a major shortage in labour supply in the economy. At that time, Sweden opened its boundaries to any immigrant wishing to settle in the country, in order to supply the shortened labour force in the economy.
Immigration before the 1970s was mainly labour motivated, the immigrants contributed to the Swedish economy by working in manufacturing and constructing sectors, consequently financing their integration, while contributing to the growth of the economy.

There has been a major change in the trend of immigration as from the early 1970s when immigration became mainly politically oriented. Throughout the years, the Swedish government has applied different laws and strategies in order to regulate immigration. Today immigration occurs because of various reasons. There are labour immigrants, as well as refugees immigrants. One can immigrate because of political reasons, the search of working opportunity or other reasons. Once a person has been granted the right to settled in a foreign country for a determined or undetermined period, that person is perceived as a foreign citizen in the welcoming country.

Figure 1. Total number of immigrants in Sweden 1960-2005



Source: Jönköpings kommun (2005)

The purpose of this thesis is to establish the first step of a simulation model aimed at estimating costs and benefits arising from immigration at a municipality or county level. These costs and benefits will be analysed on the level of Jönköping County and compared to the national aggregate level.

An Immigrant in the context of this thesis is a person who is born in a foreign country or a person living in Sweden with a foreign citizenship. We thereby neglect any second- or third-generation immigrant living in Sweden. Due to available data, the base year for this thesis will be 2003.

We will study foreign citizens in the age group 16 – 64 years; thereby we neglect the second and third generation immigrants and any person with a foreign background born in Sweden. This is done in order to narrow our field.

Immigration can be seen from many different angles, each perspective bringing a different kind of contribution to the society, whether it is on local or national ground. We will compare Sweden on the national level to Jönköping on the local county level, to see the impact that immigration has on the society. This is the fundamental basis to our study, where we will try to find an answer to the following questions related to the subject of immigration:

It is difficult to identify and estimate costs and benefits while trying to define if a project is profitable, the case of immigration in our study. Is it possible to create a method that can allow us to define and put a value on those costs and benefits properly?

1.2 Outline

Our thesis will be structured into four parts. We will start with an introductive chapter where we will give the background and limitations of our study. In the chapter that follows, we will present a model of calculation that we have developed, which will be used as the methodical basis to our study together with the cost benefit analysis. The empirical analysis will contain a description of our model, an application of it and the results that follows. There will also be a comparison between the county of Jönköping and the national aggregate, and an analysis of derived from the comparison. The resulting conclusion of the empirical analysis will be presented in the last chapter. References and appendices follow the conclusion.

Further, we will list some of the costs and one benefit associated to the foreign citizen's population. Detailed data from Försäkringskassan regarding the total expenditures on the total population will be in found in Appendix 1. In order to have the data fitting in our study, we calculate the share of foreign citizens among the total population and multiply it by the total cost shown in appendix 1. This gives us an expected cost/benefit associated to the foreign citizens.

2 THEORETICAL BACKGROUND

This chapter will present the fundamental idea behind the Cost Benefit Analysis and the assumption about Potential Pareto Improvements.

2.1 Previous Studies

There have been numerous studies about the impact of immigration flows on both the level of the local economy and the welfare of the population. Different articles written by various authors use special techniques and approaches in order to draw their conclusion, and obviously, they end up with dissimilar results. The reason behind this is how each one of them perceives the term "immigrants" and what type of data they use throughout their calculations. For instance, Edin and Al (2000) use longitudinal data while Ekberg (1995) uses cross-sectional data. Moreover, in the paper Edin and Al (2000) they divide immigrants into two groups; labour immigrants and refugee's immigrants, while Ekberg does not distinguish between the two groups. Whether the immigrant is working or not, an immigrant is considered someone who is born in a one country; and currently situated in another.

Previous studies have identified an immigrant as someone born outside the country he is living in, Sweden in this case, by using the term foreign-born. Some studies, like Ekberg, 1999, go even further by using the term of second generation of immigrants. They are people born in Sweden, but who have at least one parent who is foreign-born. The reader should be aware of the fact that results from those studies are influenced by the way the term immigrant was perceived by the author. All those studies differ to our own in the sense that we consider an immigrant, to be a foreign citizen, which means someone living in Sweden, but who does not have the Swedish citizenship. Another difference is the fact that, as mentioned in the introduction, we focus only on an age group (16-64) from that category of immigrants throughout our studies.

2.1.1 Nature and reason of immigration

Borjas (1990) attributes to any person immigrating to the US for economics reasons. There is a general perception that the US labour market offers a great opportunity. Thus, someone immigrating to the US will be driven by his desire to improve his welfare in one way or another. Edin and Al (2000) distinguish between immigrants' motivations and classify them according to the period of their immigration. For instance prior to the 1970 immigration to Sweden was mainly labour oriented. Towards the end of the 1970's the trend was reversed due to various reasons, Ekberg (1995) allocates to the shift in the Swedish economy, which started to face a recession, which lead the government to strengthen its immigration policy. This period of economic recession coinciding with the years of political clashes in Iraq, Iran, Africa, South America and later the Balkan states as described by Edin and Al (2000) contributed to a shift in the Swedish immigration, moving from labour- to refugee immigrants.

2.1.2 Immigrants contribution

Edin and Al (2000) conditioned the immigrant's performance to his or her country of origin. They argue that labour immigrants who entered Sweden prior to the end of 1970; coming from Northern and Western Europe had a positive effect on the Swedish economy. There was no need of acquiring country specific skills, they came from a similar

level of living standard, and since more than half of them came from the Northern Europe the language barrier was easily crossed. The same has not always been possible with the current immigrants according to their study. They also identified the costs arising from social insertion higher among refugees and other social allowances to cover start-up costs.

Ekberg (1995) somehow agreed to the concept that immigrants' economic performance depended on his country of origin by underlying the high percentage of Western/Northern European natives among immigrants during those years. However, Ekberg went even further. Since his study was to update the immigrants' contribution to the Swedish economy, he classified immigrants in age groups regardless of their country of origin. The age groups 0-19 and 64-plus are by Ekberg qualified as economically passive. Those two groups consume a huge part of the public goods under the form of child-care, education, health benefits and pensions. The immigrants in the age group 20-64 are economically active and their contribution is more significant to the society.

2.1.3 Results

The three studies Borjas (1990), Ekberg (2000) and Edin and Al (2000) agreed on the issue that the lifetime earnings of immigrants was higher in the period prior to the 1970 than that of the1980s' and 1990s', for instance; is the immigrants' employment rate higher than the natives'. However, there are some divergences when it comes to evaluating the impact of immigrant's native earnings. Ekberg (2000) argues that immigration can be harmful to the less educated part of the population, and to some extent profitable to the more educated one.

We do not know if Ekberg considered someone with a high school education as lowly educated. We assumed that the level of education is low, medium or maximum. Borjas (1990) argues that the impact of immigrant's flows on native (those with high school education) earnings in different industries in Los Angeles is somehow negligible. He showed that a 10% increase in the immigrant population in an industry reduces the earnings of the natives in that industry by 0.4%.

To the question we will be processing: are social expenditures on immigrants offset by the taxes they put into the system? Borjas (1990) found it difficult to answer due to the number of data taken into consideration. Edin and Al (2000) also found it difficult to answer, because more than half of the group they studied had left Sweden by the end of their study; especially labor immigrants who have a higher propensity to returning home than the refugees. However, after matching income and population registers, estimating the relationship between changes in the employment rate among the immigrants and changes in their net contribution to the public sector, Ekberg (1995) concluded the group he qualified as economically active did not compensate for the one he qualified as economically passive. Therefore, according to his study, immigration had an overall negative contribution on the economy.

2.2 Immigrants and the welfare of the natives

The argument from Ekberg (1999) stating that immigrants´ age structure and unemployment rate are keys factors in the calculation related to the contribution of immigrants in the social welfare of the host country will act as our fundamental basis to this analysis.

The argument is supported by Spencer (1999), who wrote that it is mainly their juvenile age structure and the resulting high labour force participation that define immigrants as an economic asset. Studies on the topic, such as Edin and Al, 2000 pointed out that the role played by the absence of country specific skills and the level of education among immigrants, matches that of natives in average. This fact creates a situation where immigrants tend to rush towards jobs that require a low level of education and skills. Therefore the part of the local population who is lowly educated faces a though competition in the face of employment. At first sight, it appears that immigration has a negative impact on the natives' welfare. In the following chapter, we try to classify different contributions brought to the local welfare system by immigrants and what they actually receive from it.

However, it is worth saying, as Edin and Al, 2000 pointed out, that the recruitment of young and motivated foreigners contributed to the growth of the Swedish economy during the years 1960-1970 even during the years prior to that period (Since that period coincide with the period when immigration was mainly labour oriented). Moreover, as Spencer (1994) says the side effect of having abundant foreign labour force is that natives attain higher professional positions; consequently leaving the lowly qualified positions to immigrants.

2.3 Our method of calculation

The method of calculation we use can be seen as path to conducting a Cost Benefit Analysis. In facts, the method results in the expected costs and expected benefits arising from foreigners. It is therefore judicious to talk about Cost Benefit Analysis after presenting our method of calculation.

Our model is useful when the costs and benefits to the society are not available in specified terms. Basically when the costs and benefits are expressed as a lump sum cost or benefit to the society and one is interested in knowing how much of each cost and benefit is accounted to a specific population group within the society, our model will be useful.

To determine the expected costs and benefits arising from foreigners in a county or municipality, we use a simple method of calculation that starts from taking **X,** the number of foreigners nationwide inducing a specific cost or benefit. We multiply X with Y the rate at which the applicable foreigners locate in the county or municipality. The product X*Y is the expected number of foreigners in the county or municipality. When we take the product X*Y and divide it with P the total population in the county or municipality; we obtained a result which is the expected rate or percentage of immigrants or foreigners in the total population at the county or municipality level that applies to the cost or benefit accounted for. In addition, when we multiply that result with T the total cost that falls on the total population inclusive of natives and citizens, we obtained the absolute value of the expected costs associated with immigration in the area. X, T and P are generally available in the national statistics. However, Y needs to be calculated; which is done in the first step of the empirical analysis.

2.4 Cost Benefit analysis

Connolly and Munro (1999) describe CBA as probably the most contemporary used tool by applied economists, and define it as the costs of a project deducted from the benefits. CBA is used mainly in the frame of public decisions. However, widely used by economists nowadays, the impulsion for measuring the benefits and costs of public decisions does not come from research of economists, but from agencies of the U.S. government. Gramlich (1990) track the CBA down throughout the history of American presidents and their public decisions.

Gramlich (1990) goes even further by explaining the evolution of the notion of CBA during different Presidents' term of office. President Truman is one of many presidents, under whom the Budget Bureau adopted a formal set of rules to be used in making project decisions. Throughout President Johnson's time in the White House, the government tried to adopt a Planning programming Budgeting System to support the process of spending decisions. President Reagan tried to apply a formal CBA to health, safety and environmental decisions.

2.4.1 The use of CBA

This thesis will explain the economic contribution of immigrants in their host country / county. CBA is used in order to determine the immigrants' economic contribution. Gramlich (1990) does not really describe CBA as a self-contained field of economics, rather as something uneasily positioned between microeconomics and public finance, with occasional doses of macroeconomics.

A high percentage of immigrants coming from less developed countries raise the concern about the impact of immigration and on the Potential Pareto Improvement in the overall social welfare; immigration nowadays is treated as a social issue in many countries. As the issue is growing in complexity and pressure for governments to remain fiscally and economically sound in the face of escalating responsibilities, cost-benefit analysis offers local decision makers a potentially effective source of guidance. Let us explain how to perceive governments in social terms. Gramlich (1990) does not describe the government as being an entity separate from its citizens, but as the collective expression of the will of citizens. The benefits and costs of the government's projects are therefore not the increase or decrease in governmental revenues but the gains or losses accounted to all members in the society. This means that while conducting a CBA, one should focus on the impact of immigration on the members of the community.

2.4.2 Estimating Cost and Benefit

Connolly and Munro (1999) often mention that, the hardest part of CBA is the estimation of costs/benefits from the project. If there are no market failures, the marginal benefit of a good is its price. They continue by declaring that since most of the goods involved in CBA are usually non-marketed, there is no method available for identifying the potential value that consumers place on the commodity. An example of a commodity could be cultural benefit of immigration in the society.

Having a multicultural society involves benefits, such as the opportunity to know different cultures, new lifestyles, traditions, habits, cuisine and music. There is a need to point out that, because, as Gramlich (1990) states *"CBA is a framework for organizing thoughts only"*. To make a decision in the real world, there are some issues that cannot easily be either listed or valued, and the analysis will easily become conjectural.

Therefore, the best way is to quantify the costs and benefits that can be quantified, to group and rank non-quantifiable factors, and to proceed from there. No benefit or cost should be left behind; whether it is of qualitative or quantitative nature. This is where our method of calculation steps in.

3 EMPIRICAL ANALYSIS

In our Empirical Analysis we will present a model to help making the specified calculations which applies to our main topic, the immigrants in the Swedish society. This will be done through help from relevant data for our study, some data which will be found in the appendix. The data will be structured in costs and benefits associated to the society and not to the individual.

3.1 Description of the empirical process

Our empirical analysis will be presented in two steps. In the first step we will present a model for estimating the costs and benefits associated to the immigrants. This is done to be able to account the amount associated to a population group in the society and to see how large the fraction of immigrants is, which the purpose of this thesis is. In the second part of this chapter we will apply our model to the real world. This will be done on local and national level. We will relate the model for Jönköping County on the local level and to Sweden on the national level.

3.1.1 How to look for Y, the rate at which the group of foreigners we are interested in located in the county or municipality in the year 2003

The first step in finding **Y,** is to look at the percentage at which foreigners enters Sweden in 2003. Since our study focuses on the age group 16-64, we look into the data[1] and calculate the percentage of entry by age group. We find out that 77.1% of foreigners who entered Sweden in 2003 were in the age group 16-64, see the following table.

Table 3:1. Age distribution of Foreign and Swedish population in 2003

Age group	Foreign	Swedish
0-15	20.8%	17.8%
16-64	77.1%	65%
65-more	2.1%	17.2%

Source: SCB (2003), Population, (Page 121-122)

First of all, we would like to comment the above table. Foreigners in general are younger than Swedish. If we mainly focus on the group we are interested in (16-64) we notice that in terms of percentage a higher share of foreigners are in the "working age" compare to the Swedish. While on the other hand, a very high proportion of Swedish are in the retirement age. This could pose a threat in the future, concerning how to finance the increasing pension allocation of the elderly people.

Coming back to the determination of Y, here we took the total number of newly entered immigrants by age group and per year, which is partially displayed in Table 4 in the appendix, and divided it by the total number of immigrants during that same year as displayed in Table 3 in the appendix. This yields a yearly percentage for each age group.

We now have an estimate of the percentage at which each age group enters Sweden as a whole. To have an estimate at which each age group enters Jönköping, we have to calculate

[1] Table 4, Appendix

an estimate of the percentage at which immigrants once in Sweden tend to locate in Jönköping. This is done by calculating the mean of the percentage at which immigrants located in Jönköping given their total number nationwide. We used data from Table 3 in the appendix.

Table 3:2. Immigrants' location rates in Sweden in 2003. How immigrants located themselves once in Sweden.

Area	2003
Jönköping County	2.50
Uppsala County	3.21
Västmanlands County	1.78
Dalarna County	1.88
Gävleborgs County	2.16
Södermanland County	2.33

Source: SCB (2003), Population, (Page 122)

The choice of the counties listed above is motivated by the size of their population. Jönköping County and Uppsala County have relatively the same number, with the population slightly bigger in Jönköping l County than in Uppsala l County. However, we see immigrant tend to locate more in Uppsala than in Jönköping, especially in 2003. Maybe it is due to the close location of Uppsala County to Stockholm.

On the other hand, the counties of Västmanlands, Dalarna, Gävleborgs and Södermanland also have relatively the same population size. However, Gavleborgs län and Södermanland län received more foreigners in 2003 comparatively.

The figure 2.5 we have, here at the level of Jönköping County, is the **Y** we were searching for. In fact, to find **Y**, we took the total amount of immigrants who entered Jönköping County in 2003 divided it by the total amount of immigrants who entered Sweden the same year as displayed in Table3 in the appendix.

3.2 Costs associated to immigration

To determine an expected cost associated to foreign citizens using our model, we will use four sample cost categories which are explain as they occur in section 3.3, the list is not explicit and is only used to apply the model. We classify the costs as follows:

-Unemployment and social allowances

-Education and Children allowances

-Absence from work

-Health contribution

3.3 Application of our model

In this part we will explain each cost and compare the costs incurred by foreigners in the county of Jönköping with the ones the incurred at the national level. We want to point out the fact that, the costs we use in this part may not be exhaustive. Consequently, the method remains valid, but the results may vary according to what inputs are considered as costs and how those costs are labelled.

Note: All the following costs are given annually and are costs that fall on the whole group.

An application of our model:

Ce, j, k=f(X, Y, N, T) = X*Y*T/P= where T is the total cost for the entire population in the county (can also be applied at municipality level); X, Y are the same as expressed above. e is the cost (children allowance for instance) among immigrant of group j in the county (or municipality) k..

3.3.1 Unemployment and Social allowances

Unemployment benefits are intended to provide temporary financial assistance to unemployed workers who meet the requirements of the country law. In the majority of cases, benefit funding is based solely on a tax imposed on employers.

Social benefits are the sums of all allocations paid out by the government which sole purpose is to improve the living conditions of the receivers. Those allocations are paid out because of an earlier contribution made by the receivers, while others are just grants.

- **Unemployment situation**

The rate of unemployment varies considerably from one group to another and is given in terms of people who are in the labour force, but who do not actually have a job.

Nordic Citizens: 6.2%

Other citizenship: 16%

Citizens of Sweden 4.4%

The rate of unemployment is higher among the foreign citizens population in comparison to the rest of the population; and this cannot be explained by the lack of country specific skills or language knowledge. There are two reasons to this. The first is the fact that foreigners are on average less qualified than the native citizens, sometimes the qualification a foreigner has is not even recognised or translatable in the welcoming country. Another reason could be discrimination. It is true that the origin of a foreigner has a sound impact on his integration (Edin & Al, 2000).

Discrimination does not apply the same way to every foreign citizen; there are several reasons behind this, mainly because foreigners have different origins meaning qualifications different to the ones in the welcoming country. The labour market structure also plays an important role in this process. A huge part of the foreign population, especially those from Sub-Saharan and Northern Africa, Turkey, Lebanon and some Arab countries qualified for jobs such as cleaning, housekeeping, commerce, which cannot really absorb a huge numbers of people.

In addition immigrants of second generation, those born in the country with at least one parent who is foreign born, have a higher unemployment rate than the Swedish. This can be explained by the lack of a real motivation from the policy makers to integrate them through appropriate employment network, the social origin of their parents and various types of discrimination according to their backgrounds. However, calling someone, who is born in a country, has that country citizenship; immigrant of second generation is in itself discriminatory. This means that regardless of to what degree his/her parents sacrifice; they will always be considered to be an immigrant, and their children, will be denoted with the term immigrant of third generation.

Unemployment insurance payments are proportional to the contributions paid by each individual, regardless of their country of origin. Therefore, the average amount of payments per recipient and the average amount of contributions cannot cause any differences between natives and immigrants. As Spencer, 1994, says, if there are differences between natives and foreigners, they should result from the probability of receiving an unemployment benefit. Consequently, calculating those figures will not result in anything relevant with to thesis. That is the reason why we just want to acknowledge that cost.

In this section we used the figures from table 3:4, which reflect the situation on the market in order to obtain the figures displayed below. In other words, we took into consideration the market imperfections and the real labour situation. However, the beneficiaries of the different costs vary according to the foreigners' status, employment situation. Therefore we need to calculate, in terms of percentages, the share of each group of beneficiaries in comparison to the total population in the country; we then take each share and multiply it by each cost in other to determine how much money accounted to the foreigners.

- **Numerical application**

T= total cost induced by both foreigners and citizens in 2003= 1 533 415 302 SEK

Nordic Citizens:

Xn=Number of Nordic citizens nationwide in the labour market but not employed in 2003=5000

Y=2.5%

P=Number of people in the county of Jönköping who are unemployed in 2003=8624

$\mathbf{C}_{e,\ j,\ k}= f(X, Y, P, T)$=X*Y*T/P= 5000*2,5%*1 533 415 302/8624=22 225 987 SEK

Other Foreign citizens:

X=Number of other citizens who are unemployed in 2003=25 000

The following Ce, j, k is given annually (year 2003) and is concerning the whole group of foreigners inducing unemployment and social allowances costs directly or indirectly.

$\mathbf{C}_{e,\ j,\ k}= f(X, Y, P, T)$=X*Y*T/P=25 000*2.5%*1 533 415 302/8624= 111 129 935 SEK

Sweden

At this level we will make a comparison between the expected cost at the level of the county of Jönköping and at the level of the whole country. To determine an estimation costs associated to foreign citizens in our age group; we take the total cost incurred by foreigners in Sweden in general (as displayed in table appendix 1 below) and multiply it by the percentages of foreign citizens, and their age distribution in Sweden and the county of Jönköping as calculated in tables 3.2 and 3.10 respectively. We obtained at this level that the foreigners consumed 4.6% of the total cost (see table labour force structure in the appendix)

In order to compare the foreigners' consumption in the county of Jönköping with the one at the national level, we need to express the cost at the level of Jönköping in relative terms and mix Nordic citizens with other citizens. From the calculations above we know the expected amount that is applied to the foreigners in Jönköping under social allowances. To find the percentage of those costs for both Nordic citizens and other foreign citizens, we have to sum up the two results to yield the percentage they represent in the total cost. We have:

(111 129 935+22 225 987) *100/1 533 415 302=8.7%

We see that, compared to the average level, foreigners consume more (8.7%) in terms of social allowances in Jönköping than they do on the national level (4.6%). One reason could be that some counties/municipalities have a very low rate of foreigners around, consequently driving the costs down at the national level.

3.3.2 Education and children allowances

Immigrants tend to migrate with their family. In those families, there are often under-aged children. In Sweden, there is a system of compulsory education for children under the age of 16. Moreover, education is provided free of charge to anyone. By sending their offspring to school, parents induce a cost to the system; sometimes increased by the fact that special arrangements are sometimes needed to put their children at the same level as the natives. An area we do not cover in this paper; since we rely on the fact school is compulsory until the age of 16, and we are interested in the age group 16-64.

However, we consider children allowances given to parents and the expenditures incurred by the fractions of immigrants who engage in a training program such as language program and/or practical training program.

Jönköping

T= Total expenditures on education and children allowances in the county of Jönköping in the year 2003= 822 384 080 SEK

X= the number of foreigners under the age of 15 nationwide in 2003=101 333.

P=Number of children between 0-15 in the county of Jönköping in 2003=63 564

The following Ce, j, k is given annually (year 2003) and is concerning the whole group of foreigners inducing education and children allowances costs directly or indirectly.

$C_{e,\ j,\ k} = f(X,\ Y,\ P,\ T) = X*Y*T/P = 822\ 384\ 080 * 101\ 333 * 2{,}5\% / 63\ 564 = 32\ 775\ 881$ SEK

In percentage terms, we have: 32 775 881*100/822 384 080=4%.

Sweden

Applying the same procedure we find that foreigners at the national level consume 5.3% of the costs arising from children allowances. (See table children allowances in the appendix).

3.3.3 Absence from work

It is interesting to comment immigrants behaviours at work compared to the native and Nordic citizens. The authors would like to draw the readers' attention to the fact that it is not everyone in age group 16-64, that is part of the labour force as. This can be explained by the fact that some are still studying, or might not have the country specific skills, among others reasons. This means that once a foreigner is identified as part of the labour force, it is indirectly mentioned that it has all the qualification to do so, such as the country specific skills, the knowledge of the language.

The cost is calculated partially given the availability of data. However, we just want to emphasize how such a cost can be calculated. In addition, while calculating the cost arising from absence from work, we assumed that everyone in the workforce induced the same amount of cost, regardless of whether he or she is a foreigner or a citizen, once absent from work. This means that the difference among Nordic citizens, other foreign citizens and Swedish citizens is made from the propensity of each group to be absent from work. In other words, it is the percentage of people absent at work from each group that will make the difference. The amounts of costs listed below are just to give a broad overview on how they are expected to look like. In reality, in addition to the propensity to be absent from work, the income level difference between the three groups will also make the difference.

Jönköping

Nordic Citizens=citizens from Denmark, Iceland, Norway and Finland

$C_{e,\ j,\ k} = f(X,\ Y,\ P,\ T) = X*Y*T/P = ZT$, where, $Z = X*Y/P$

X=total Nordic citizens absent from work at the national level in 2003= 16 000

Y= the foreigners' general location rate in the county of Jönköping in 2003=2.5%,

T= Total cost arising from absence from work in the county of Jönköping in 2003= 1 104 044 059 SEK obtained by summing all the costs arising from absence from work as displayed in tables 8 in the appendix.

P= Total number of persons absents from work in the county of Jönköping in 2003=26 827

The following Ce, j, k is given annually (year 2003) and is concerning the whole group of foreigners inducing costs arising from absence from work directly or indirectly.

$C_{e,\ j,\ k} = f(X,\ Y,\ P,\ T) = X*Y*T/P = 16000*2{,}5\%*1\ 104\ 044\ 059/26\ 827 =$ **16 461 685 SEK**

Other Foreign Citizens:

Xo= Total number of non-Nordic foreigners at the national level in 2003= 19 000

Y= Foreigners' general location rate in the county of Jönköping in 2003= 2.5

Po= Total number of foreigners in the county of Jönköping in 2003=26 827

The following Ce, j, k is given annually (year 2003) and is concerning the whole group of non-Nordic foreigners inducing the costs arising from absence from work directly or indirectly.

$C_{e,\ j,\ k} = 19\ 000*2.5\%*1\ 104\ 044\ 059\ /26\ 827 =$ **19 548 250SEK**

It is obvious that the expected cost can be higher if we include all of them in calculation process. The methodology is the same no matter what amount we have. However we want to point out for this cost as for any subsequent one that, if we remove X, the number of foreigners nationwide in the group we are interested in, out of the formula; we will result in cost per capita.

3.3.4 Health contribution

Health contribution covers people who do not pay contributions; family members of the contributor. The benefit in case of illness is the amount of contributions paid in the past. We would not however pay attention to the contribution amount paid by the contributor, since that contribution will be encompassed in one form or tax the employer/employee contribution we calculate in the benefits part.

T=total expenditures on health contribution in the county of Jönköping in 2003= 2 567 512 000 SEK

X=Total number of foreigners nationwide (here we assumed that any foreigner, non-Nordic and Nordic, induces a cost under the form of health contribution) in 2003= 476 195

P=Total population in the county of Jönköping in 2003=316 506

The following Ce, j, k is given annually (year 2003) and is concerning the whole group of foreigners inducing the costs arising from health contribution directly or indirectly.

$C_{e,\ j,\ k} = X*Y*T/P = 476\ 195*2.5\%*2\ 567\ 512\ 000/316\ 506 = 96\ 572\ 922$ SEK

Sweden

At the country level, foreigners absorbed 4.3% of the health expenditures (see table about health expenditures in the appendix). At the level of Jönköping, the percentage foreigners absorb is: 96 572 922*100/2 567 512 000=3.7%. The foreigners consume less of the health expenditures in Jönköping than at the country level.

3.4 Benefits associated with immigration

As for the costs, it is difficult to put a price or a value on each benefit that could arise from immigration. Benefit such as cultural diversity, entrepreneurial spirit from owners of different shop and pizzeria for instance are benefits that are very difficult to quantify. However, we identified some costs on which we can put a value, such as Pension Insurance Contribution, Income and Value added taxes. We will take the example of Income Tax

3.4.1 Income Tax

Each individual exercising a rewarded activity, regardless of his country of origin, pay a fraction of his earnings in the form income taxes. This type of contribution is consequently only possible for immigrants who have a remunerated activity.

To know the real impact of foreign citizens at this stage we mainly focus on the number of those employed, since it is through earnings that taxes are collected. However, Ekberg, 1999, Edin, and Al, 2000, have demonstrated that immigrants average earnings is 20% lower than those of natives. However, we will not lose ourselves in calculation sin trying to figure out exactly how much foreigners earn in Jönköping. We can apply our model to derive the expected amount contributed by foreigners in Jönköping because of income tax.

We use **B** since we talk now about benefits. **B** will be the expected average yearly income tax contribution among foreigners.

T**= 11 100 000 000 SEK** (SCB, labour market statistic, 2003) and is the total amount of money paid in Jönköping under the form of income during the year 2003.

X =221 000 and is Number of foreigners employed nationwide in 2003.

Y is the location rate in Jönköping in 2003= 2.5%.

P= 157 289 and is the number of people employed in the county of Jönköping in 2003 including foreigners and citizens without distinction.

The following **B** e, j, k is given annually (year 2003) and is concerning the contribution made by the whole group of foreigners, Nordic and non-Nordic in 2003.

B e, j, k= X*Y*T/P=221 000*2,5%*11 100 000 000/157 289= 389 903 299 SEK

In percentage terms, the foreigners' contribution of foreigners in Jönköping is: 389 903 299*100/11 100 000 000=3.5%

Sweden

At the national level, foreigners contributed a 3.3% of the total amount of income tax collected in 2003 (See table Tax collected in Sweden in the appendix).

4 CONCLUSION

We want to point out the fact that every time we estimate an expected percentage, it would be interesting to compare it to the actual figures in order to see if a county has a surplus in his total foreign population or not.

There are two ways of interpreting the results from our model. First of all the results can be used by the county or municipality in order to know its position in comparison to the national aggregate or other counties or municipalities. Second, the results can be use by the county or municipality to see if the expected figures are matching the actual ones. By doing so, a county or municipality could find out if it has more or less of what it is expected to have. The results can help the municipality or county to take appropriate action in this matter, since it will show if there is something incorrect somewhere.

The general perception is that immigration comes with higher costs than benefits; however, in general it is difficult to identify what a cost and what a benefit is, including how the cost or benefit arises. Putting an expected value on them is another difficulty. We have nevertheless shown that it is possible to estimate the different costs and benefits, so that they follow the same patterns as to have them match each other. By applying the model, we defined the costs and the benefits using the same method, by doing so there is not excess or decrease estimation.

Table 4.1 Summary of the results showing the share of costs and benefit associated to immigrants.

Costs and benefit	Sweden	Jönköping
Unemployment and social allowances	4.6%	8.7%
Education and children allowances	5.3%	4.0%
Health contribution	4.3%	3.7%
Income Tax	3.3%	3.5%

Figures from absence from work show that Nordic citizens working in Sweden induce a higher cost than the Swedish citizens, who in return induce a higher cost than foreigners with other citizens, do.

Observations from unemployment and social allowances show that at the national level, foreigners consume 4.6% of the expenditures falling under the social allowances while in Jönköping the consumption accounts for 8.7%. The cost is high relative to the participation of foreigners in the labour market. The disparity can be explained by low labour participation- and employment –rates, and by low rates of foreigners in some counties.

Results from education and children allowances show that at the level of the county of Jönköping, the percentage consumption of the costs by foreigners is 4%. Compared to the average at the national level, which is 5.3%, we notice that the share foreigners absorbed is lower at the county level. However, we can even go further and say that the rates are low at

both country level and national level. This is because, immigrants mainly migrate in the age group 16-64, and consequently there are few children in the migrating population.

Results from Health contribution show that at the country level, foreigners absorbed 4.3% of the health expenditures. Comparing that figures to the 3.7% we have at the level of the county of Jönköping, we can say that foreigners consume relatively less of the health expenditures in Jönköping than at the country level.

Figures are pretty much the same both in the county of Jönköping and in Sweden, when we apply the model to the income tax. However, comparing that share with the foreign population in each region the county of Jönköping and Sweden show that foreigners contribute less in both areas. Their number is higher than the actual contribution they could have made. This can be explained by the high ratio of unemployment among the foreign population.

The interpretations of the results done above, gives an outline of the immigration figures in Jönköping in comparison to the national aggregate level. In addition, regarding our purpose, is it possible to conduct an estimative model that can allow us to define those costs and benefits properly? We cannot answer the question at this level; we most certainly need the results of other tests to compare with ours, there is also a possibility that there are other ways to use our model of estimation. We have used our model in line with the data that has been available to us in this study, and highlighted how to interpret the results arising from it.

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Appendix

Table 1. Total cost paid by Försäkringskassan

Year 2003

Area	Sweden	Jönköping County
Total Cost of Insurance	**383 600 736 312**	**13 130 530 427**
Economic Family Politics	***51 740 593 481***	***1 836 673 378***
Children's contribution	**20 957 934 880**	**815 552 902**
Alimony support	4 120 497 959	117 572 285
Rental contribution	3 547 436 511	94 060 009
Adoption cost contribution	41 074 184	1 480 000
Child pension	1 044 577 909	34 678 534
Pregnancy allowance	380 901 367	16 838 788
Paternity allowance	15 689 780 982	554 724 995
Temporary paternity allowance	3 915 113 697	137 611 548
Health care contribution	2 043 275 992	64 154 317
Handicap Politics	***11 405 314 057***	***425 754 503***
Car support compensation	240 187 951	9 065 889
Assistance compensation	11 165 126 106	416 688 614
Compensation when unable to work	***100 387 805 941***	***3 052 744 612***
Sick money	39 948 746 169	1 104 089 541
Voluntary insurance	1 771 896	80 654
Next of kin allowance	65 091 272	2 795 971
Rehab allowance	2 180 902 011	111 043 250
Special contribution – rehab	44 526 425	1 895 648
Special contribution - activity compensation	841 744	5 667
Working aid	55 646 862	3 252 752
Sickness through working allowance	28 150 893	1 231 840
Working injury, life insurance	5 032 859 394	214 471 685
Working injury insurance	924 893 289	

Sick compensation	49 566 191 853	1 529 599 995
Activity compensation	249 731 467	8 080 902
Additional rent aid for people with sickness- and activity compensation	1 200 753 783	43 883 067
Handicap compensation	***5 600 014 930***	***81 580 999***
Purchasing rehab service	176 405 223	3 775 669
Collaboration within the rehab-area	45 345 507	615 884
Special rehab work	*2 782 431 909*	*40 568 250*
Further measures against unhealthy	2 595 832 291	36 621 196
Health- and Sick- care Politics	**181 709 361**	**3 819 384**
Dental care	155 632 502	3 384 140
Compensation for contagious	26 076 859	435 244
International healthcare	*9 621 200 003*	*224 258 835*
Further Contributions	**37 484 425**	**2 604 611**
Family contribution	9 497 141 632	220 949 014
Activity support	4 848 265	27 851
Small business insurance	31 992 897	509 074
Vacation wage insurance	643 363	19 509

Source: Milton, 2006, *FK*

Table 2. Immigrants coming to Jönköping and Sweden

Area	2000	2001	2002	2003
Jönköping	1 378	1 536	1 636	1 589
Sweden	58 689	60 795	64 087	63 795

Source: SCB (2003), Population, (Page 119)

Table 3. Immigrants age structure in the year 2003, for the whole country

Age structure	**2003**
0-15	13 243
16-64	**49 191**
65- +	1 361

Source: SCB (2003), Population, (Pages 119-120)

Table 4. Labour force structure and total income by age

Age group	Number in 2003	Amount earned 2003
16-19	433 915	9 755 680 000
20-24	469 909	53 777 120 014
25-34	1 158 278	219 744 400 000
35-44	2 926 560	521 011 400 000
45-54	1 180 084	293 354 160 000
55-64	1 154 498	277 015 400 000
Total	**4 693 244**	**1 374 658 160 014**

Source: Milton, 2006, *FK*

Table 5. Social Allowances

Area	Sweden	Jönköping County
Voluntary insurance	71 945	1 816
Sick allowance	1 622 300 429	40 963 085
Next of kin allowance	2 643 326	66 744
Activity compensation	34 182	863
Working aid	2 259 793	57 059
Activity compensation	10 141 481	256 072
Additional rent aid	48 762 065	1 231 242
Purchasing rehab service	7 163 735	180 884
Collaboration within the rehab area	1 841 460	46 496
Special rehab work	112 993 295	2 853 080
Activity support	196 885	4 971
Small business insurance	1 299 212	32 805
Vacation wage insurance	26 126	659

Source: Milton, 2006, *FK*

Table 6. Children allowances

Area	Sweden	Jönköping county
Adoption cost contribution	1 666 746	42 085
Pregnancy allowance	15 456 566	390 278
Paternity allowance	636 674 367	16 076 027

Source: Milton, 2006, *FK*

Table 7. Health expenditures

Area	Sweden	Jönköping county
Health contribution	82 977 636	2 095 185
Rehab allowance	88 565 439	2 236 277
Special contribution-rehab	1 808 197	45 656
Sick by working allowance	1 143 194	28 865
Working injury, life insurance	204 382 133	5 160 648
Working injury insurance	37 559 496	948 377
Sick compensation	2 012 860 528	50 824 728
Further measure against unhealthy	105 415 569	2 661 743
Dental care	6 320 158	159 583
Compensation for contagious	1 058 968	26 738

Source: Milton, 2006, *FK*

Table 8. Social Allowance

Area	Sweden	Jönköping County
Beneficiary: Persons at work	15 886 663	526 961
Voluntary insurance	77 254	3 548
Activity support	223 020	1 225
Activity compensation	37 720	250
Working aid	2 559 755	143 121
Activity compensation	11 487 647	355 560
Small business insurance	1 471 673	22 399
Vacation wage insurance	29 594	858
Beneficiary: absent from work	**168 750 897**	**2 437 636**
Special rehab work	100 321 492	88 191
Additional rent aid	55 234 674	2 018 621
Purchasing rehab service	8 114 640	173 680
Collaboration within the rehab area	2 085 893	28 330
Next of kin allowance	2 994 198	128 814

Source: Milton, 2006, *FK*

Table 9. Health expenditures

Area	Sweden	Jönköping county
Persons absent from work	2 750 946 832	68 678 593
Health contribution	93 990 695	2 245 401
Rehab money	100 321 492	3 886 513
Special contribution-rehab	38 720	66 347
Sick by working money	1 294 941	43 114
Working injury, life insurance	231 511 532	7 506 508
Working injury insurance	42 545 091	1 379 478
Sick compensation	2 280 044 825	53 535 999
Compensation for contagious	1 199 535	15 233
Beneficiary: Total foreign citizens	**162 336 422**	**1 200 159**
Dental care	9 182 317	101 524
Further measure against unhealthy	153 154 105	1 098 635

Source: Milton, 2006, *FK*

Table 10. Immigrants (Age group 16-64)

Area	2000	2001	2002	2003
Jönköping	1 378	1 536	1 636	1 589
Sweden	58 689	60 795	64 087	63 795

Source: SCB (2003), Population, (Page 119)

Table 11. Emigrants (Age group 16-64)

Area	2000	2001	2002	2003
Jönköping	701	738	721	660
Sweden	34 091	32 141	33 009	35 023

Source: SCB (2003), Population, (Page 119)

Table 12. Reproduction rate in Sweden by county

Counties	**Average births per household**	**Percentage of birth with at least one foreign parent**
Stockholms län	1.80	22
Uppsala län	1.87	13
Södermanlands län	1.85	13
Östergötlands län	1.84	13
Jönköpings län	**1.92**	**14**
Kronobergs län	1.87	1
Kalmar län	1.86	9
Gotlands län	1.85	4
Blekinge län	1.81	9
Skåne län	1.84	19
Hallands län	1.89	10
Västra Götalands län	1.84	15
Värmlands län	1.82	8
Örebro län	1.85	14
Dalarnas län	1.85	6
Gävleborgs län	1.79	7
Västernorrlands län	1.82	6
Norrbottens län	1.82	6
Sweden	**1.94**	**11**

Source: Registret över totalbefolkningen (RTB) 2002 och 2003

Table 13. Unemployment and Social benefits

Area	Sweden
Unemployment and Social Benefits as a percentage of total expenditure in the area in 2003	**4.6%**
Voluntary insurance	71 945
Sick money	1 622 300 429
Next of kin money	2 643 326
Special contribution-Activity compensation	34 182
Working aid	2 259 793
Activity compensation	10 141 481
Additional rent aid for people with sick-and activity compensation	48 762 065
Purchasing rehab service	7 163 735
Collaboration within the rehab area	1 841 460
Special rehab work	112 993 295
Activity support	196 885
Small business insurance	1 299 212
Vacation wage insurance	26 126

Source: Milton, 2006, *FK*

Table 14. Children Allowances

Area	Sweden
Children allowances as a percentage of total expenditure in the area in 2003	**5.3%**
Adoption cost contribution	1 666 746
Pregnancy money	15 456 566
Paternity money	636 674 367
Temporary paternity money	158 871 085

Source: Milton, 2006, *FK*

Table 15. Health expenditures

Area	Sweden
Health expenditures as a percentage of total expenditure in the area in 2003	**4.3%**
Health contribution	82 977 636
Rehab money	88 565 439
Special contribution-rehab	1 808 197
Sick by working money	1 143 194
Working injury, life insurance	204 382 133
Working injury insurance	37 559 496
Sick compensation	2 012 860 528
Further measure against unhealthy	105 415 569
Dental care	6 320 158
Compensation for contagious	1 058 968

Source: Milton, 2006, *FK*

Table 16. Tax collected in Sweden

Area	Sweden
Amount of tax collected as a percentage of the total amount in the area. **T=33%**	**3.3%**
Total earning population in Area	1 374 658 160 014
Total earning foreigners	45 692 400 000
Avg. Amount of tax collected in the area	453 637 192 800
Avg. amount tax paid by foreigner	15 078 492 000

Source: Milton, 2006, *FK*