



Department of Economic History  
Master Program in Economic Demography

Master Thesis

A Comparative Emigration Analysis of Swedish County Specific Responses to Socio Economic  
Push-and Pull Factors 1870-1900

By

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## **Abstract**

The aim of the thesis is to establish what impact the selected push- and pull factors had on the total number of emigrants and three chosen professional groups, farmers, factory workers and maids, who emigrated from five different Swedish counties between the years of 1870 and 1900. Analysis will also cover responses of the professional subgroups, such as the rural/urban- and female/male professionals within each county. Among the collected demographic and economic push- and pull factors it will be decided what their specific impact was on the total emigration in each county and how the emigration differed between these counties. The ordinary least square technique was applied and the regression results indicated there were differences between the subgroups, regarding their responses to the economic and demographic push- and pull factors, and different emigration patterns were displayed between the separate counties.

Key words: Swedish emigration, county specific emigration pattern, demographic and economic factors, OLS.

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# 1. Introduction

## 1.1 Research Problem

Migration is an old occurrence which has formed part of human life in all times. New territories have been conquered, populations transformed and societies have gone through drastic developments as a result of migration. This particular thesis investigates how the Swedish emigration rates of Swedish farmers, factory workers and maids, who in 1870-1900 emigrated from five selected counties, responded to changing economic and demographic push- and pull factors. It is very likely that the pressure of these factors changed in magnitude and signs over time, as Sweden developed from an agricultural based society into an industrial society, and it is therefore expected that different professional groups responded in dissimilar manners to an increase or decrease of the push-and pull factors. Hence, it is possible that rural and urban emigrants would display diverse emigration patterns due to their different responses to the changing economic and demographic conditions. In addition, there will be an analysis of the total number of emigrants who left during this time period, which includes professions such as servants, labourers, merchants, sailors and other workers, to examine how they, as a group, reacted to the pressure of push-pull factors. The counties chosen for the study are Jamtland, Gavle, Ostergotland, Stockholm and Gothenburg and the analysis will also include a summary of which counties saw most emigrants leave and how their emigrants differed in economic composition. The purpose of studying the Swedish mass emigration, which set off in the 1870s, is to explore which socio economic variables impacted upon the migration flows. The Swedish mass emigration was not unique of its kind. Many other European countries experienced the same phenomenon as well, which made it the largest mass movement of people at that time.

Literature review covering the relationship between economic cycles and emigration revealed very diverse outcomes on the topic. Emigration researchers, such as Dorothy S. Thomas and Harry Jerome, have researched and established their views on the relationship reaching different conclusions regarding whether it was the push- or pull factor which was the main important factor of emigration. Thomas emphasizes the push factors to be most influential in a migration decision while Jerome emphasizes the pull factors' main importance. These particular scholars, in addition to Briant Lindsey Lowell, who investigated the relationship between several non economic theories and the Swedish emigration, have made use of a quantitative approach in analyzing the determinants of emigration. On the other hand, most available literature written by Swedish researchers, such as Ulf Beijbom, Harald Runblom, Ingvar Henricson, Lars Ljungmark and the Uppsala Migration Research Team, seem to focus on qualitative research and moreover, the Swedish literature do not focus on the theories themselves but rather on the push and pull factors which were influential on the emigrants. Articles by Massey and Ravenstein were read for theoretical foundation in addition to parts of the very comprehensive book on the history of migration by Castles and Miller, which also incorporates the theories of migration. There are

many theories trying to explain migration but in this thesis only the neo-classical-, new economics of migration-, dual labour- and the network theory will be discussed and compared.

## **1.2 Aim and Scope**

The aim of this thesis is to analyze the impact of economic and demographic push- and pull factors on emigration through the use of a quantitative research methodology. The literature reviewed have identified the causes and consequences of the 19th century Swedish emigration pattern, yet it seems only a handful have done a quantitative analysis of the emigration pattern within specific different counties. To complement existing knowledge of the Swedish mass emigration, this thesis sets out to explore the most prominent push and/or pull factors for the Swedish emigrants between 1870 and 1900 in the chosen counties. The push-factors are Swedish wages and GDP growth rates, the difference between Swedish and US GDP growth rates, changes in Swedish population growth and poverty relief whereas pull factors are US wages, GDP growth rates and the difference between the Swedish and US GDP growth rates. It is believed that the results will bear some resemblance with previous research explaining emigration. The limitation of the thesis, in terms of the time frame and the number of counties, is due to the enormous time spent preparing the data for the study.

## **1.3 Outline of the Thesis**

In chapter 2, background information will be discussed to understand the context in which the Swedish emigration took place, before previous research and relevant migration theories will be examined as part of chapter 2. The theories will be used in order to create the last section in chapter 2, the hypothesis section, before discussing the data collection procedure and the data sources used in chapter 3. Chapter 4 defines the regression variables and the statistical technique used while chapter 5 presents the statistical results and the discussion of the outcomes, related to hypotheses and theoretical considerations. Chapter 6 ends the thesis with a conclusion.

# **2. Background**

## **2.1 Emigration in a Swedish Context**

### **2.1.1 Swedish Population Developments**

To fully appreciate the Swedish emigration it is necessary to view it from a broad historical context. The emigration took place in a time of great change, both economically and demographically speaking. In the beginning of 19th century, Sweden had about two and a half million inhabitants. In the 19<sup>th</sup> century the population rapidly increased due to lower mortality, predominantly among children but also among adults, as better food, health care and hygiene were available. For instance, average death rates in Sweden had dropped from 25.8 in 1820 to 18.3 in 1880 with a very noticeable decline in urban areas, where major initiatives were taken to bring infectious diseases under control. The governments took more responsibility for educating

people about their personal hygiene, and public health measures were taken to limit diseases spreading by water supplies and sewage disposals. In addition, smallpox vaccination was available from the 1840s and in 1874 Sweden had the Statue of Public Health enforced, resulting in a decrease in intestinal infections (McKeown et al., 1972:360). Population growth was steady and there is general consensus that overpopulation partly explains why 1.2 million people left Sweden between 1846 and 1929. Government social policies, improved standard of living and declining mortality rates had an effect on the population growth.

### **2.1.2 Composition of the Emigrants**

Emigration concerned most categories of people in society though at different time periods. In the 1840s it was often provincial strong minded, political or religious people who took the lead in organizing a joint migration of families, whereas in the 1860s this had almost disappeared and families now moved together without provincial or local leadership. Between 1860 and 1880 families made up the biggest emigrant group but over time single and married young people would emigrate in large numbers with the intention of getting work and making a bright future for themselves (Runblom et al., 1976:130). From the 1860s and onwards, there were a fairly low number of teachers, civil servants, doctors and professional people who emigrated. Farmers, factory workers, maids and other unspecified workers made up large numbers and generally speaking most emigrants came from the rural areas. This is emphasized when one looks at the pure numbers of people who left the country. But, what is also important to remember is that the emigration frequency was higher in the urban areas compared to the rural areas. However, it was not until 1880, especially 1880-1893, that the rural areas actually lost more people to the mass emigration than the urban areas did, before that rural areas had lost more people to internal migration than to external migration (Thomas, 1940:26).

### **2.1.3 Swedish Emigration Policy**

One aspect not given much consideration in the emigration debate is the emigration policy. One may take for granted that people were free to emigrate at any point in time, yet this was not the case until the beginning of the 1840s. At this time a long era of heavy restriction on emigration was abandoned, a policy that had occurred simultaneously in many other European countries. The lift on the ban was in line with political and ideological factors favouring freedom of emigration and freedom of man to make decisions of his own (Runblom et al., 1976:99). Of course, some people saw emigration as a good solution to future overpopulation. However, among officials and leaders there was a general negative attitude within the country towards the emigration since they feared the economic, demographic and political consequences. Even the king of Sweden was denouncing the non patriotic emigrants and in the 1880s the presidents of each county had to compile a report containing information of the emigrants together with the causes and what could have been done to prevent them leaving (Norman et al., 1980:68, Runblom et al, 1976:107). Sundbarg, a Swedish statistician was one of few influential men who held a positive attitude towards emigration. He would later in 1907 head the Swedish

Commission on Emigration where he recommended reform within Swedish society to prevent emigration rather than implementing policy restrictions on emigration as done in the 1880s, when legislation was enforced to prevent young males leaving the country. As in many societies this is the most valued segment of the general population and all young men had to do mandatory military service in order to be able to protect the country in the event of conflict. Therefore, military service is also seen as a possible push factor for emigration. In 1884 the Swedish government decided to exercise special mandates to prevent young men emigrating to make sure that they would fulfill their national duty (Beijbom, 1995:28, Sundbarg 1913:5). For the next two decades young males needed to be issued with special permission in order to emigrate and the aim was to stop illegal emigration among young men and to come to terms with under registration of emigrants. Another option for young emigrants was to emigrate from either Copenhagen or Norway, where at the outset of emigration they did not have preventative legislation.

#### **2.1.4 Causes of Emigration**

During the period leading up to the 1880s Sweden experienced a gradual increase in emigration to the US, but the same period also witnessed a remarkable number of people leaving their rural homes and livelihood for the urban cities. Life on the farm was no longer a trusted source of income that could sustain the population increase, due to an increase in crop failure and the difficulty to find employment in the rural areas. Crop failures such as the one in 1867/1868, which caused famine, triggered a large increase in emigration. Between the 1860s and the 1890s people emigrated in order to access free and fertile land and they often left small land plots with poor harvests behind, if they were landowners at all. It should be pointed out that the lack of land ownership further contributed to the emigration from rural areas in addition to the possibility of getting free US land, available to immigrants through the 1862 Homestead Act. This policy promised 65 hectares to any immigrant willing to become a US citizen and acted as a strong pull factor until it was scrapped in the 1890s (Beijbom, 1995:69, Runblom et al., 1976:147, Sundbarg 1913:5).

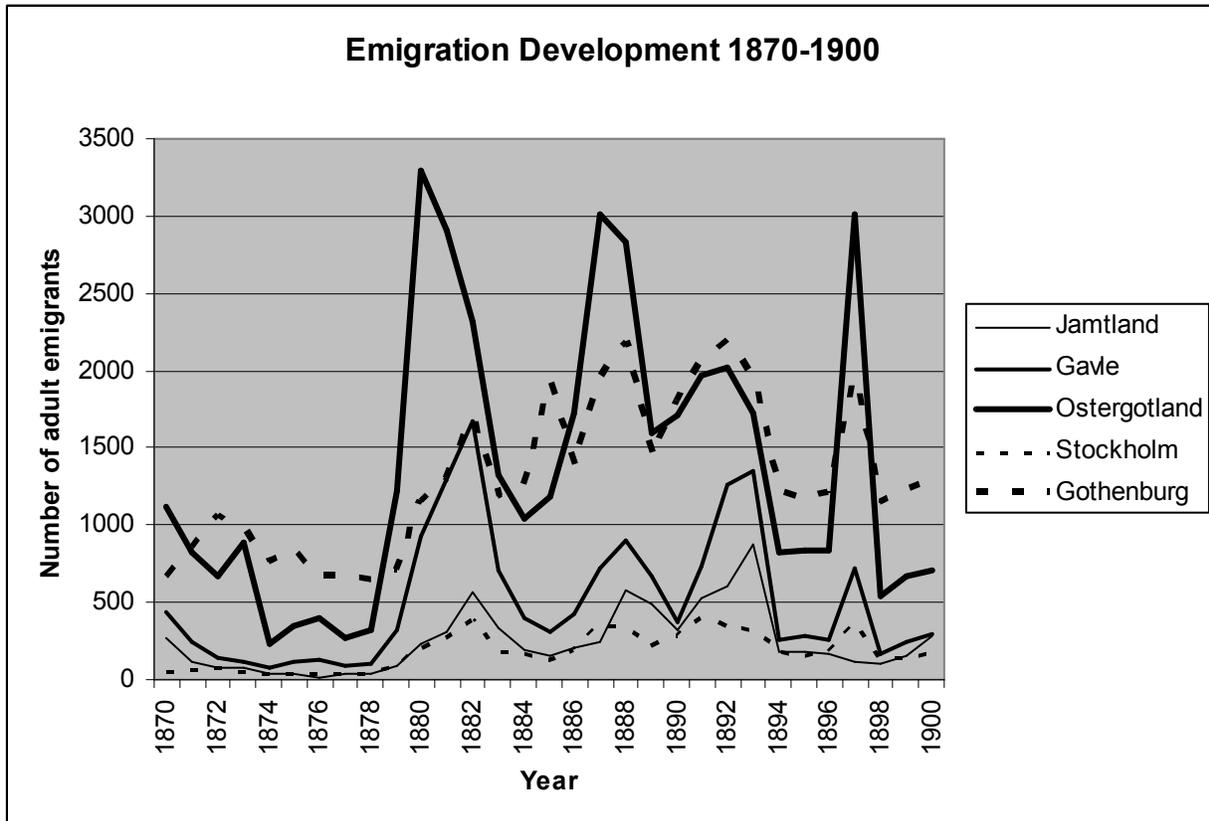
Most rural people were left with no other real option than to emigrate if they wanted to survive and provide a better future for their families. From mid 19<sup>th</sup> century the globalization process gathered a remarkable momentum due to developments in technology and communication which allowed capital, labour and products to be moved longer distances. This era experienced a global industrial revolution which implied an economic and social change across numerous societies. Technical development increased the pace at which people could arrive in a foreign country affecting the flow of migrants. However, industrialization did not occur without obstacles. In the 1880s there was clear downturn within the wood and iron industries which indicates that the industrialization brought not only progress but also uncertainty regarding job availability. Unfortunately, the Swedish labour market could not yet offer the same availability of jobs, high wages and free land as for example the US, and therefore many Swedes decided to leave their home country (Beijbom, 1995:22). Because emigration was a response to the industrial

revolution and the demographic transitions it will have to be seen within a context of global economic and social change (Runblom and Norman, 1976:14).

Other factors causing emigration were religious and political constraints. In the early days of emigration during the 1840s and 50s, there were people attracted by the religious freedom offered by the US where the church was completely separate from the state. Leaders within the Lutheran, Baptist and Mormon churches were deported from Sweden when their message were not in line with Protestantism, and sooner than later ordinary people started to question the state church and its influential and powerful leaders. People travelled overseas in groups to establish new Swedish religious communities where they were allowed to exercise their faith (Beijbom, 1995:30). There was a sense of that people were not treated equal by the law in Sweden during the 19<sup>th</sup> century and many believed all men be treated equal in America. Reports of opportunities to make a better life for one self and of successful emigrants were also making an impact on the decision to emigrate. Letters arriving from the US were optimistic and telling of greater work availability and higher wages. It was not uncommon that letters would include prepaid boat tickets which made the decision making whether to emigrate or not much easier.

Generally speaking, the emigration pattern in 19<sup>th</sup> century Sweden varied for different parts of the country, due to their different economic and social structures, but traditionally it was seen as a rational response to poverty due to population increase and a decrease in economic opportunities within the country (Lowell, 1987:11). Graph 2.1.1 shows county specific emigration developments, and it is observed that a definite pattern of the emigration is hard to detect due to the many fluctuations. With more certainty, however, it can be argued that all the counties have their emigration peaks simultaneously which probably indicates push- or/and pull factors in force on a national level.

Focusing on the individual counties it is evident that emigration from Stockholm was fairly constant in the beginning of the 1870s until approximately 1878. In addition, the graph indicates that Stockholm had the slowest emigration development among the selected counties with no more than 400 adult emigrants per year. It has been argued that the reason for such a weak emigration pattern is that people who moved from the rural areas of the county predominantly went to live in Stockholm rather than leaving for the US as a first choice (Sundborg, 1913:18). Gothenburg has much higher emigration rates than Stockholm which can be explained by the fact that people who moved in from the surrounding rural areas and counties had a stronger emigration tradition in comparison to the surrounding rural areas and counties of Stockholm. Despite the fact that Stockholm and Gothenburg both are large cities in Sweden they displayed different emigration patterns. Also visible from graph 2.1.1 is that Ostergotland county had the highest number of emigrants, followed by Gothenburg and Gavle, and throughout 1860-1910 Ostergotland had on average higher emigration rates compared to the national average during this period. In the 1880s the migration losses averaged about 35,000 per year which was about three fifth of the natural increase during this period (Thomas, 1941:7:8).



**Graph 2.1.1** Emigration development in five Swedish counties 1870-1900. Source: BISOS A.

### 2.1.5 Means of Emigration

Emigration on such a large scale was made possible through the rapid technological developments and inventions in communications during the second half of the 19<sup>th</sup> century, such as the steamship and the building of railways (Runblom et al., 1976:176). In the beginning of the emigration period direct ships were leaving from Gavle, Gothenburg, Stockholm, Malmo and Karlshamn, where the longest sailing time recorded was five months from Gavle to New York. From the 1860s emigrants could travel faster by leaving from Gothenburg to the UK where they changed to an English steamship in Liverpool heading for New York (Henricson, 1995:39). Not many researchers have investigated the shipping agencies' and their agents' influence upon the emigrant flow in respect of their pricing policies and their US propaganda. Part of the reason might be a difficulty to obtain records of business activities written by the shipping agents (Runblom et al., 1976:178). The shipping lines had agents spread out in the country to manage and organize emigrant recruitment and since the railway companies and the shipping companies worked together it was possible to buy tickets not just between the ports but also for inland travel in the US. Copenhagen was the nearest port for Southern Swedes just as the Norwegian port of Trondheim was a departure port for the northern Swedes while the port of Gothenburg remained the most important Swedish port.

## 2.2 Previous Research

Over time the Swedish emigration has become a popular research topic mainly because the mass emigration had an impact on many different areas of society. It has now been studied by different scholars. The topic lends itself to analysis from different social points of view, though most studies seem to be qualitative rather than quantitative. The main objective for the majority of migration studies is to understand why people decide to migrate, that is, to find out whether push or pull factors has the biggest impact on a person's decision to emigrate. Another objective is to understand the effect of emigration on the home country (sending country) and the host country (receiving country).

Some of the most well known Swedish researchers who greatly have contributed to the knowledge pool of Swedish emigration history during the 19<sup>th</sup> century are Gustaf Sundbarg, Ulf Beijbom, Ann-Sofie Kalvemmark, Hans Norman, Harald Runblom, Sten Carlsson, Sune Akerman and Lars Ljungmark. Outstanding emigration research has also been done by Americans such as Harry Jerome, Dorothy Swaine Thomas and Briant Lindsay Lowell. Swedish research projects were those of Sundbarg who wrote the '*Emigration Report*' during 1907-1913 and the Uppsala Migration Research Project *Sweden and American after 1860* which was in force 1963 to 1976 and produced '*From Sweden to America*' in 1976 where they looked at the push and pull factors of emigration. Sundbarg collected and consolidated very detailed statistical demographic county information, reported on Swedish emigration laws, push factors and measures that could be put into place to stop emigration. Beijbom has written numerous acclaimed informative books covering the emigration process in Sweden as well as in America and he is the founder of the Swedish Emigration Institute in Vaxjo, Sweden. In 1976 Lowell did an analysis of push factors in '*Scandinavian Exodus*' (his main determinants of emigration are agricultural development, economic- and demographic changes plus the influence of information within the social networks) while Jerome and Thomas both looked at push and pull factors influencing emigration, though they arrived at different conclusions. In 1926 Jerome presented '*Migration and Business Cycles*' and drew the conclusion that American economic business cycles had more weight than Swedish business cycles in the emigration decision, hence giving more importance to the pull factors. Thomas believed the constant agricultural push factor was very important, but that temporary economic business cycles had the strongest impact on the fluctuations of emigrants from one year to another. In addition, Thomas who in 1941 authored '*Social and Economic Aspects of Swedish Population Movements*', concluded, just as Lowell, there is no single factor that can exclusively explain the emigration phenomenon.

### 2.2.1 Swedish Emigration Research

Only a limited number of studies on the Swedish emigration were conducted prior to the 1960s. The first study was instigated because Swedish authorities became increasingly concerned about the mass emigration and its possible consequences for the Swedish economy at the time of industrialization. Therefore the Government decided in 1907 to create the Swedish Investigation

Commission on Emigration to understand how to best tackle the problem of emigration (Runblom et al., 1976:110). Gustaf Sundbarg, a statistician, was appointed head of investigation. Sundbarg compiled national historical statistic, county statistics and year by year tabulation of the Swedish population by age, civil status and gender back to 1750. In the '*Emigration Report*', which is his report of the findings of the investigation, he addresses in particular the agricultural sector, the measures he believes required to be implemented within this sector to prevent further emigration, how to improve life for the working class, the emigration phenomena and the emigration laws. In addition, he commissioned twenty knowledgeable people to write on special socio economic issues connected to emigration such as the recruitment of Mormons and emigrants' information collected by emigration agents. Nils Wohlin, a Member of Parliament and statistician, wrote a chapter on the agricultural sector while other chapters discussed emigration agents and the physical travel overseas. Sundbarg concluded the pressure of survival was greatest in the rural areas and it can be said that this pressure was positively correlated with emigration and in addition expressed that emigration and high unemployment rates were due to the economic stagnation in the agricultural sector. In essence, when employers within the agricultural sector complained of a shortage of workers Sundbarg pointed out they were to blame for the situation (Runblom et al., 1976:111). The main reason for stagnation was that the agricultural sector had not yet been developed and modernized and hence could not accommodate the increasing population. Though, Sundbarg did acknowledge that rapid industrialization developments would have a dampening effect on emigration, some of the emigration researchers in Uppsala did believe he should have given more weight to the labour market conditions within the industries in explaining the emigration (Beijbom, 1995:24). The thorough work accomplished reached high international standards and it can be compared to the '*Dillingham Report*', which is the forty one volumes American Immigration Report. Sundbarg's report was never used as a foundation to tackle the emigration issue as WWI started and put a natural end to the emigration.

The breakthrough of Swedish historical emigration research came in the 1960s and it was most likely a result of a series of books portraying the life of an emigrant family by Vilhelm Moberg. The starting point can be traced to 1962 when the History Department of Uppsala University implemented the project *Sweden and America after 1860: Emigration, Remigration, Social and Political Debate*. This research project, headed by Sten Carlsson, accomplished between 1962 and 1976, comprised various researchers providing a rich source of the emigration knowledge pool and most of its work has been presented in publications and PhD dissertations (Runblom et al., 1976:385). The project is a compilation of research on the mass emigration from 1850-1930 conducted by thirty something plus doctoral students at Uppsala University. Their main work has been to collect and analyze emigration numbers and to evaluate the structure of emigration, push- and pull factors and emigration policies. Carlsson, co author of '*From Sweden to America*' together with Runblom, Akerman, Kalvemark, Norman, Tedebrand and Brattne, believed that ownership of land was a strong pull factor in the beginning of the emigration period, but as the Homestead Act changed the emigration took on a new shape in the form of labour migration. He

also emphasized reasons for different regional migration patterns which he suggested were tradition of emigration within a region, the accessibility of owning land and the closeness to a large city. If people were within the near proximity of a big city he found less people in the surrounding counties emigrate compared to people who lived in counties far from any major cities (Runblom et al., 1976:134:135).

A different approach to the Swedish emigrant research was taken by Beijbom in '*Swedes in Chicago: A Demographic and Social Study of the 1846-1880 Immigration*' from 1971. During the 1960s Beijbom researched Chicago's Swedish colony, in terms of the demographic and socioeconomic aspects of the Swedish emigrant to find an indication as to how they acclimatized in the large city of trade, industry and communication. Geographical distribution, labour market position and the significance of Swedish organizations and secular societies were observed. His aim was to undo socio economic mistaken beliefs about the emigrants' characteristics. According to Beijbom there was a general misconception that almost all of the emigrants from Sweden settled in the rural farm lands in the US, when actually one out of four emigrants came from urban areas. He thought this stemmed from too many researchers having been influenced by Sundbarg's *Emigration Report*, where analysis centers on the agricultural crises and suggests that almost all emigrants wanted to settle in the rural areas of the Midwest and the Northeast. Beijbom believes this reasoning neglects the urbanization effect upon the emigrants and he wants to bring forward the fact that many emigrants settled in Chicago, which became the world's second largest Swedish city, because manual labourers found many economic opportunities within industries and business developments (Beijbom, 1971:10:11). In addition he researched the enormous impact Chicago had on the Swedish population back home through Swedish-American newspapers, letters and visits back home to Sweden.

Within the context of Swedish studies, Helge Nelson and Lars Ljungmark need to be mentioned in contribution to their research work. In '*The Swedes and the Swedish Settlements in North America*' from 1943, Nelson made mappings of the Swedish settlements during four trips to the US between 1921 and 1933. Her work consists of a description of Swedish immigration on county level together with a map showing the Swedish settlements (Beijbom, 1995:208). In 1909 she has contributed to the *Emigration Report* with studies on the settlements on the Swedish island of Oland. Ljungmark has written '*The Push- and Pull-Factors behind the Swedish emigration to America, Canada and Australia*' and '*Swedish Exodus*' and is internationally acclaimed for his research.

### **2.2.2 American Emigration Research**

The American researcher Lowell did a quantitative investigation of the emigration pattern from three rural areas of Sweden, the North, the West and the East, from an agricultural, economic, demographic and innovation diffusion point of view in '*Scandinavian Exodus*' from 1987. He believed it important to put the emigration in a social, historical and economic context and ran regressions using panel data from 301 Swedish local areas called '*harads*'. From the data

extracted out of the *Emigration Report* he found emigration tradition and the number of landless people, people without property and private land ownership, constituted the most important variables to have a positive relationship with emigration rates. They explained the biggest amount of variance in emigration rates (Lowell, 1987:158). Comparing the Eastern and Western regions, Lowell found, similarly to Carlsson, there were statistically significant differences in relationships between independent variables and emigration in every region (Lowell, 1987:153). Another prominent American researcher was Dorothy S. Thomas (1899-1977) who, according to Richard A. Easterline, was one of the founders of American demography (she also helped found the Pennsylvania State University Population Studies Centre). She worked closely with economist, sociologists and statisticians and published numerous invaluable literature on internal migration based on race, ethnicity, age and gender. Her influential quantitative piece of research published in her book *Social and Economic Aspects of Swedish Population Movements* focuses on how the long term agricultural progress and industrial adjustments influenced the emigration. Thomas believed that Swedish emigration did not become important until industrialization had made great progress and she investigated how the Swedish economic business cycle affected emigration figures.

In her research she found evidence of a one year lag in agricultural wages behind industrial wages in economic upswings, but in economic downswings the lag was not very obvious (Thomas, 1941:148). Therefore, she concludes the wage differential between the industrial workers and the farmers to be the main cause for farmers to emigrate. The wage differential was labeled a concealed permanent push factor and the temporary economic upturns were pull factors (Thomas, 1941:90). The latent agricultural push factor was in force up to the end of the 1880s but the impact of an increased push factor, such as a bad harvest, kept diminishing after 1870 and eventually became overshadowed with the increasing enhanced pull resulting from an economic up-or downturn (Thomas, 1941:92). The latent push was strengthened by economic pull factors up to the 1890s. To summarize, she found a negative correlation between harvest index and emigration before 1870 and explains this in terms of the importance of the harvest for people at that time and how the economic business cycles in the US had not yet reached any major importance in Sweden. According to her research the additional momentarily push factor was not a great influence upon the emigration variation between one year and another. Other findings were that Swedish economic upswings were negatively correlated with net emigration but that the correlation coefficients were smaller in magnitude than the coefficients between American business cycles and Swedish net emigration (Thomas, 1941:167).

To look at the issue in more detail table 2.2.1 shows the trend in emigration according to both the US and Swedish economic conditions simultaneously. The main results show that emigration was most intense when the push and pull factors were present at the same time and a decline in emigration was strongest when there was no prosperity in the US and no push in Sweden. What can also be observed is that when there was no push in Sweden the pull in the US was not very

important, equally, at the same time the push in Sweden was somewhat ineffective when there was no pull in America (Thomas, 1941:169).

**CUMULATIVE CHANGE IN PERCENT DEVIATIONS FROM TREND OF NET EMIGRATION BY YEARS FROM 1870 TO 1908 CLASSIFIED ACCORDING TO BUSINESS CYCLES IN AMERICA AND IN SWEDEN\***

<i>Pull in America</i>						<i>No pull in America</i>						<i>Doubtful in America</i>						
<i>Push in Sweden</i>		<i>No push in Sweden</i>		<i>Doubtful in Sweden</i>		<i>Push in Sweden</i>		<i>No push in Sweden</i>		<i>Doubtful in Sweden</i>		<i>Push in Sweden</i>		<i>No push in Sweden</i>		<i>Doubtful in Sweden</i>		
<i>Years</i>	<i>Change</i>	<i>Years</i>	<i>Change</i>	<i>Years</i>	<i>Change</i>	<i>Years</i>	<i>Change</i>	<i>Years</i>	<i>Change</i>	<i>Years</i>	<i>Change</i>	<i>Years</i>	<i>Change</i>	<i>Years</i>	<i>Change</i>	<i>Years</i>	<i>Change</i>	
1878-79	40.5	1870-71	-52.2	1879-80	98.6	1875-76	-5.5	1872-73	-18.6	1902-03	5.0	1876-77	-12.3	1887-88	.4	1894-95	46.2	
1885-86	29.8	1871-72	-14.2	1901-02	74.7	1877-78	7.4	1873-74	-38.7				1890-91	35.4	1888-89	-52.7		
1886-87	57.3	1880-81	-2.0			1884-85	-9.7	1874-75	11.2				1899-00	21.3	1896-97	-30.9		
1891-92	21.6	1881-82	-.9			1892-93	-5.5	1882-83	-73.3				1900-01	21.3				
1898-99	19.4	1889-90	3.4			1907-08	-70.7	1883-84	-33.6									
1904-05	14.3	1897-98	-6.2					1893-94	-122.7									
		1905-06	4.4					1895-96	15.6									
		1906-07	-2.0					1903-04	-107.1									
Average	30.5		-8.7		(86.7)		-16.8		-45.9		(5.0)		16.4		-27.7		(46.2)	

\* The classification is based on the curves of business cycles. "Pull" in America and "no push" in Sweden refer to revival or prosperity, i.e., upward movement of respective curves or maintenance at high level; "push" in Sweden and "no pull" in America refer to recession or depression, i.e., downward movement of respective curves or maintenance at low level. "Doubtful" conditions refer to abortive recessions or revivals, i.e., very slight or indefinite changes upward or downward. Figures in parentheses are "averages" based on one or two cases.

**Table 2.2.1** Source: Thomas: 1941:168.

'*Migration and Business Cycles*' by Jerome is the final result of research by the National Bureau of Economic Research and it deals with the causes, effects and characteristics of the variations in the economic cycles, with specific interest to the supply of labour in the US. Furthermore the literature take a natural science approach and the aim of Jerome's work is to determine to which extent changes in the US occupational structure and industrial developments have been related to the volume and type of emigration in the long run. He takes on an international view and made an analysis of the economic conditions in the sending countries in order to establish that the pull factor is stronger than the push factor. Simultaneously he has looked at how the business cycles of depression and prosperity has influenced migration to the US in addition to him relating the supply and shortage of employment to emigration. In 1926 he showed that immigration to the US was mainly determined by the American business cycles rather than by factors in the sending countries (Jerome, 1926:137). He also broke down the US immigrants into groups of gender and professionals to see any relative cyclical fluctuations and found as he expected that males immigrated in high numbers when there was an industrial boom but that women, who were mostly maids and servants, were not dependent upon the economic cycles for immigration. Another conclusion he drew from his research was that the fraction of workers with no specified occupation became bigger among the new immigrants when there was an economic down turn and the fraction of labourers (unskilled workers) decreased (Jerome, 1926:144).

### 2.2.3 Conclusion Previous Research

In conclusion, there is much available literature on the mass emigration even though, according to Carlsson, it is very surprising that so few Swedes have actually studied the event considering that a third of Sweden's population in the 1850s would have emigrated over the next eighty years. On the other hand, more literature has been produced by the host country and this could depend on the interest of the immigrant descendants in their heritage (Uppsala Migration Research Project, 1976:11). Other valuable literature not mentioned before are '*The Religious Aspects of Swedish Immigration*' by George Stephenson, '*The Emigrants and the Church: Letters To and From Swedes in America 1842-1892*' by Gunnar Westin and '*Return Ticket to America*' by Hans Lindblad, in which he investigates how the emigrant returnees contributed to developing the Swedish society with their newfound innovative knowledge and money (Beijbom, 1995:208).

## 2.3 Theoretical Foundation

Groups of people have traditionally emigrated to flee religious and political oppression which is very different from labor emigration, which generally entails voluntary emigration from their countries of origin, compared to involuntary emigration. There are many theoretical foundations, which complement each other, both on macro- and micro level, that migration research is based on, yet no single theory can fully explain all reasons why people decide to migrate (Castles et al., 2003:25, Massey et al., 1993: 432). These foundations should not be seen as contradictory but rather as complimentary in describing emigration. The theories mentioned below are the theories most used as theoretical foundations and economists will often label them either push or pull theories. These theories explain emigration either by a number of factors that induces an individual to leave a region, or country, or factors which attracts an individual to a different region or country. Possible push factors are low wages, political turmoil, low living standards and unsatisfactory employment prospects. Pull factors are such as higher wages, increased living standards, freedom from political oppression and awareness of demand for your skill set and experience (Castles et al., 1998:20).

For the purpose of analysis, the discussion is limited to the neo classical theory, the new economic theory of migration, the dual labour theory and the network theory, all of which are generally applicable and useful in studying and explaining the Swedish emigration. The migrations system theory does not support the explanation for the mass emigration since it seeks to clarify emigration as a result of links between receiving countries and their previous colonies. Since that does not apply to Sweden the theory will not be discussed (Castles et al., 1998:24). The neo classical theory and the new economic theory of migration both apply to free individuals, or households, making decisions about voluntary migration, such as the 19<sup>th</sup> century Swedish emigrants, while the dual theory does not support a conscious migratory decision. Theory development has mainly focused on three aspects of international migration: the causes of migration, the impact on receiving and sending countries and the social and economic

integration. Economic migration theory will primarily be used as theoretical foundation of this thesis. As patterns of migration have been shaped by social contexts and the global economy, there have been historical outlines in theory development to explain international migratory processes. The first theory to be reviewed is the neo classical theory, which is the oldest migration theory and it works on both the micro level and the macro level, followed by the new economics of migration.

### **2.3.1 Neo Classical Theory**

Most neo classical scholars view migration as a result from a discrepancy in supply and demand of labour between different geographical areas. Two core principles of the theory are that individual emigration is motivated by wages and that emigration eventually will cause economic equilibrium between two geographical areas that initially had different wage levels (Harris et al., 1970:129, Massey et al., 1993:433). The neo classical theory, on the one hand, states that on a macro level geographical differences in wages cause people to move from a low wage region or country to a high wage region or country and this wage difference is due to the demand and supply of labor in the particular regions. Countries with high labour force supply have lower wage levels than countries with low labour force supply and it is this wage difference which acts as a motive to emigrate. When the high wage countries have acquired a sufficient high labour supply the wage levels will eventually stabilize at equilibrium. Therefore the macro theory assumes that international migration will come to a stop when wage differences are eliminated. The migration flow is therefore conditional upon the labour market situation, which in practice can be regulated by the governments in the receiving and sending countries to control international migration (Harris et al., 1970:138, Massey et al., 1993:434). In summary, the neo classic theory illustrates the push-and pull factors impact on workers' movement from a developing country, or agricultural area, with a great supply of labour relative to capital, characterized by low wage rates, to an economically developed country, industrial area, with a large supply of capital relative to labour, with corresponding higher wage rates and larger demand for labour (Massey et al., 1993:433). The idea that wage differences between geographical regions has a strong impact upon the individual decision to migrate, developed in the late 19<sup>th</sup> century by Ravenstein, was probably a reasonable cause for the Swedes to emigrate, since the labour market could not absorb the number of jobless people and wages were kept down. It is also very plausible the reasons for emigration changed over time and they pull different weights depending on the historical and socio economic circumstance (Castles et al., 2003:20).

On the other hand, neo-classical emigration theory is also applied through a microeconomic model. This approach is based on the premise that individuals make the decision to emigrate not just based on wages but also based on the tentative investment in human capital. This implies that destinations will be selected where the return will be highest, after considering the psychological cost such as the prospects of finding employment, the probability of being deported from the host country and the monetary cost of emigration (Borjas, 1989:460). Hence,

possible migrants assess the psychological and financial costs of moving and if the net profit is positive emigration takes place. The theory concludes that individual characteristics such as assimilation, education and previous experience all influence the migrant's decision of migration since it influences the probability of getting employment in the destination country. It also states that if emigration costs decrease then emigration flows would increase (Massey et al., 1993:435). The decision to emigrate is based on future expectations of the advantages or disadvantages in the country of origin versus the destination (Jong, 2000:307). It seems reasonable for the micro level approach to explain part of the Swedish emigration since the social and economic information spread about the US mostly declared how great American wages, living standards, land and labour opportunities were compared to Swedish standards. However, there seems to be no real analytical distinction between the macro and micro versions of the neo classical emigration theory since emigration flows essentially are large numbers of individual decisions to emigrate.

According to Massey, modern patterns of emigration do challenge the underlying assumption of neo classical theory and Stark brings forward that emigration is also a factor of the likelihood of long term secure employment (Castles et al., 2003:22). Critique of the neo classical theory fall into two possible groups: the theory provides no scope for analyzing the global economic, social and political context effect on emigration as the individual decision process takes precedence, and secondly empirical study indicates it is not normally the poorest people who tend to migrate to less densely populated areas with higher wages (Castles et al., 2003:21). Massey studied Mexican immigration to the US, and realized that Mexican farmers emigrated, not because they did not have land, but because they did not have sufficient funds to make the land profitable (Castles et al., 2003:22). If wage differentials between countries were the only causes of migration more people should be emigrating and particularly people from the very bottom countries. Moreover, labour migrants do not always immigrate to countries where the highest wages can be achieved and in addition emigration flows should slow down and gradually come to a stop at equilibrium, yet this is not the case. In summary, neoclassical theory cannot predict future emigration patterns, due to ignoring social contexts, neither can it clarify why certain sending countries send migrants to particular receiving countries and some don't. Nor does it explain why some countries send migrants and some don't. The theory also lacks the ability to make clear why some distinct countries, such as the US, act as host countries and it's not possible to rely solely on the wage differences between the US and Sweden to explain the mass emigration.

### **2.3.2 New Economics of Migration**

Neo classical theory is based on the income maximizing individual who seeks to rise above deficiencies in the local labour market. In contrast, the new economics view migration as a result of failures in credit or capital markets which either don't exist or are insufficient. The new economics of migration, pioneered by Oded Stark in the 1980s, emphasizes that people make decisions for the good of the family to overcome credit barriers. Decisions are not made with a

single individual in mind but with the household as the unit of analysis. Families want to diversify their risks, not just the sources of income but also on a geographical basis to minimize their financial and property losses (Bloom et al, 1985:175, Massey et al., 1993:436). What has been observed is that one member of a household work in one particular region/country within a particular sector and another family member in a different field of work away from the original native region or country. Because not every member in the family is tied to the same work and region this reduces the risk that the family will end up losing their total security and wealth if one member would be laid off. This is the insurance policy of the developing, agricultural, world while they share the net positive returns from international migration (Bloom et al, 1985:175, Massey et al., 1993:436). Households try to improve their numerical income but also their income relative to other families. In this analysis wage differences are not necessary for international migration but it is rather the dissatisfaction of not having a higher income to match the more well off families which Bloom refers to as relative deprivation. That is, if a slightly affluent family has their income increased the other households will feel as if they are relatively worse off and hence their incentive to send a family member abroad to find better work increases (Bloom et al, 1985:439). The propensity to emigrate will therefore increase with a change in other household's income rather than being motivated by absolute poverty (Massey et al 1993:438).

Within the new economics of migration the primary reason for emigrating is to spread the risk rather than just increase income, thereby making emigration a more dynamic process with spatial differences in income levels not being a necessary precondition of mobility. The result is not necessarily that wage equilibrium is reached. New economics of migration theory better explains the emigration behavior of households and individuals than the neoclassical theory but the mode only entails the causes of emigration from the sending country and hence does not say anything about the receiving country of the emigrants. It is also not able to clarify how the initial Swedish emigrants experienced the relative deprivation. However, there are theories which combine the social and economic contexts into the emigration analysis, such as the dual labour theory and the network theory.

### **2.3.3 Dual Labour Theory**

The dual labor theory emphasizes the host country's demand for labor as an important factor of emigration and it points out that international migration is not a conscious choice of the migrants. Hence it is the pull factor which is important here (Massey et al., 1993:440). As in 19<sup>th</sup> century Sweden poor economic labour market conditions would not be the push factor, as in neo classical theory, but instead international migration is initiated by the host country's labour market demands. In Sweden this occurred in the 1960s when employers recruited labour from Southern Europe to the manufacturing industries, and in the 50s when Germany signed guest worker contracts with European, Turkish and North African governments. Since the dual labour theory focuses its theoretical attention on the receiving country, it cannot by its nature clarify all aspects of international migration. While active recruitment is important in initiating emigration flows,

the theory is unable to explain differences between receiving countries in the amount of emigration.

### **2.3.4 Network Theory**

The network theory states that people are more likely to migrate if they know people from the community who have migrated to the area beforehand, i.e. if they have acquaintances or relatives in the destination area. It reduces the psychological and financial cost and increases the security of migration (Castles et al., 2003:26). This network can help people get a foot onto the job market and ease their way into a new society. This theory can to some extent explain the continuing Swedish mass emigration since many emigrants during the late 19<sup>th</sup> century travelled overseas to Swedish-American relatives, often with prepaid tickets, who had arranged work for the newly arrived immigrant. The migrant network is very valuable since it helps migrants to make a more smooth transition into his/her new host country.

## **2.4 Hypothesis**

According to Sundbarg, the northern region (followed by the western region) had the greatest population growth during the last half of the 19<sup>th</sup> century. Graph 2.1.1 lends itself to support the statement where it was visible that Jamtland and Gavle had the highest population growth rates among the five chosen counties (Sundbarg, 1913:220-221). In addition, Sundbarg argued an increase in the rate of population growth, at least in the rural areas, increased the number of emigrants, while Lowell disagreed with Sundbarg's proposal that population growth in the rural areas impacted emigration, because he believed industrialization and urbanization created jobs in the cities which acted as a force preventing emigration. Lowell did not even believe population growth to be a correct prediction or measurement of emigration since the growth rate depends upon how many people actually emigrated, and hence it can't predict emigration. Instead, he used the rural population per unit of cultivated land as a measure of population pressure (Lowell, 1987:94). The hypothesis that an increase in population growth had a positive impact on emigration can be viewed in light of the neo classical migration theory. The combined effect of the population growth and the failure of the industries to initially be able to support all workers, acted as an incentive for people to emigrate. Therefore, emigration could have been the result of high labour supply in Sweden and the knowledge of high labour demand in the US. Hypothesis one is based on the neo classical theory.

### Hypothesis 1

*There is a positive relationship between the population growth rate and emigration.*

There were big changes within the agricultural sector in the 19<sup>th</sup> century which caused many people to become landless and to have increasingly more difficulties to survive. A group of workers called 'torpare', who had been allotted a small piece of land to cultivate by the land owner and a cottage to live in, were in the 1880s no longer allowed the land when new land

reforms were put in place (Lowell, 1987:80). This group previously had access to regular paid work on the main farm, to which their land belonged, but as farms become modernized and were consolidated cottages were torn down and the workers' employment status changed to become more uncertain. It is plausible to propose that when it became more difficult to find work on the farms the number of people receiving poverty relief increased just as the number of emigrants did.

### Hypothesis 2

*An increase in poverty relief increases emigration.*

Agriculture became a more specialized and initially a somewhat more unreliable source of income for landless people while the manufacturing industries offered a wide variety of work. Therefore, it seems possible that poverty relief was more prominent among people in the rural areas where the choice of employment was fairly limited, compared to in the urban areas, where there were more work opportunities available. According to the neo classical theory people are driven from areas with low wages to areas with higher relative wages and this wage difference was greatest between the rural Swedish areas and the US, in comparison with the wage difference between Swedish cities and the US. Hence, an increase in rural poverty relief would cause more rural people to emigrate than an increase in urban poverty relief would do.

### Hypothesis 3

*Emigration from rural areas is increased in a greater extent by an increase in poverty relief compared with emigration from urban areas.*

Hypothesis number four relates to wages/wage levels and it's worth noticing that Swedish wages did vary depending on the region. Jamtland was a county which had relatively high wages while for example Gothenburg county was in the lower end of the five chosen counties. Even relatively high Swedish wages were in comparison to American wages much lower, which according to neo classical theory would induce people to move to the US with higher wage levels. It is therefore feasible to suggest that an increase in Swedish wages, holding US wages constant, would lead to a decrease in emigration rates and an increase in US wages, holding Swedish wages constant, would increase emigration rates.

### Hypothesis 4

*An increase in Swedish wages reduces emigration and an increase in US wages increases emigration.*

In addition, growth rates of Swedish GDP and US GDP will be used to measure their impact upon emigration, just as their difference might have a relationship with emigration rates. If there was a large positive change in Swedish GDP and a small positive change in US GDP then Swedish workers would be expected to stay and not emigrate, while if there was a small positive

change in Swedish GDP and a large positive change in US GDP then workers would be likely to emigrate. On the other hand if there was a very small positive change in Swedish GDP and a small positive change in US GDP it would not induce a large migration flow. The fifth hypothesis follows from this argument.

#### Hypothesis 5

*An increase in the difference between the Swedish and US growth rates in GDP increases emigration and an increase in the Swedish growth rate decreases emigration as an increase in US growth rates increases emigration.*

From the 1850s Sweden mainly exported timber, oats, iron and steel and it was not until the 1870s that products such as butter, eggs, milk and meat took the place of oats and grains. The reason for this change in export was a huge drop in the price of oats and grains on the international markets due to the expansion of US corn and Russian wheat on the market (Lowell, 1987:115). Initially, this had a strong negative impact on the regional areas which had specialized in oat production and that were not able to switch to animal production on a large scale, which was necessary to be profitable. According to Lowell the northern region did not see their rye prices fall while counties such as Gothenburg and parts of Ostergotland saw their rye prices fall (Lowell, 1987:118). Lowell is analyzing whether this drop in price influenced the emigration and he concludes his analysis arguing that stable or rising rye prices would not affect emigration rates greatly but also points out that it's never really certain what unobservable psychologically factors actually affect prices, and therefore a relationship between prices and emigration might not be very clear. However, the sixth hypothesis states a negative relationship between emigration and rye prices.

#### Hypothesis 6

*An increase in rye prices reduces emigration.*

### **3. Data**

For the purpose of this thesis, the data comes from a variety of sources such as books and databases accessible via the World Wide Web. It can sometimes be difficult to get right to use historical data and to find existing data. The data used in the analysis are demographic details on the emigrants and various socio-economic variables illustrating the economic and social climate in Sweden during the late 19<sup>th</sup> century. Sweden is well known for its historical emigration data collection as it features high statistical quality and accurate information, providing a possibility to analyze the emigration on a national as well as on regional levels.

## **3.1 Source Material**

### **3.1.1 The Data**

The data on emigrant characteristics from Statistics Sweden is very detailed and there are many combinations of the emigrant characteristics which can be created in preparing the data set. However, what was important was to come up with a data set which could be used to answer the research questions proposed. Data on the emigrants consist of the total number of emigrants for each county, their professions, civil status, gender, the number of emigrant children and whether they emigrated from rural or urban areas. Professions were available in subgroups of rural/urban and male/female for 1870-1890, though not for the time period of 1890-1900, which only featured a rural/urban split. Professions were divided up into farmers, miners, labourers, factory workers, engineers, merchants, sailors, maids and other workers, but unfortunately not all of the professions were represented for the whole period 1870-1900. This inconsistency in presenting the data caused extra work preparing the data set to be used, and therefore I had to create two data sets to be run separately in STATA, one for 1870-1890 and one for 1881-1900. In addition, the period 1870-1890 reported the number of adult emigrants and the emigrant children separately while from 1890 onwards only the total number of emigrants was presented, which included the number of children. It should also be pointed out, that the source contains some deficiencies, such as understatement of the number of emigrants. The reason is that a number of emigrants did not notify the priests of their intended emigration and nor did they register a change of address with the local authorities. Hence, it was difficult for parish priests to know who migrated out of the parish because of seasonal work and those who left for good. The yearly population reports demonstrate this understatement (Runblom et al., 1976:86, BISOS A, 1881:XVII). Additional data from Statistics Sweden is the yearly change in poverty relief rate and the population growth for each county. The change in population growth was calculated in Excel from the yearly population in each county. The rest of the data such as wages and GDPs were already in Excel spreadsheets and hence could be directly exported into STATA.

### **3.1.2 Data Sources**

The quantitative data used for the purpose of analysis was retrieved from Statistics Sweden, Jorberg, the Swedish Treasury, Angus Maddison and Ulf Beijbom. Demographic emigration data extracted from Statistics Sweden's BISOS series, available in pdf files on SCB's website, contains Swedish official statistical information about the twenty four counties and their developments from the 1850s until 1911. The population data from Statistics Sweden is considered a reliable source, collected by entities such as Swedish authorities, churches and port officials. Starting from 1861, the early data sets collected annually on the emigrants were gathered by local priests who were responsible for delivering the number of emigrants and vital events within their parish to the Central Bureau of Statistics. The BISOS series is the most important and comprehensive documentation available. For the purpose of the analysis data was manually transferred from BISOS A and BISOS U which corresponds to the series regarding

demographic and social security (poverty relief) matters. The economic variables used for the thesis such as wages and GDPs were extracted from various sources. Jorberg's *'A History of Prices in Sweden 1732-1914'* was used to extract county specific male average day wages and rye prices while the Swedish Treasury provided wage information for males and females within different work sectors. Since the 1860s, the Swedish Treasury collects national wage information on males and females within different work sectors. Gosta Bagge at the Institute for Social Science at Stockholm University has consolidated information obtained from the archives of the Swedish Treasury and analyzed various data on different professional groups, skilled, semi-skilled and unskilled jobs, including wages for females. Bagge's work on manufacturing male wage data contains eight different industries while only two industries, textile and food industries, for female wage data. Within the research community discussion regarding the reliability of the data has occurred, but only one researcher, Bo Gustavsson, has created a wage series of his own to compare with the wages series constructed by Bagge ([www.riksbank.com](http://www.riksbank.com)). Overall, the source will be considered reliable. Angus Maddison is an economic historian recognized for his research regarding population growth, economic growth and why economic development has been so very unequal in different parts of the world. His publications within the field of economic history are *'Monitoring the World Economy 1820-1992'*, *'The World Economy: A Millennial Perspective'* and *'The World Economy: Historical Statistics and Economy 1-2003 AD'* from which GDP per capita has been taken for Sweden and the US. The data sets Historical Statistics for the World Economy on [www.ggdsc.net/Maddison/Historical-Statistical](http://www.ggdsc.net/Maddison/Historical-Statistical) consists of population, GDP and GDP per capita. The last data source *'Swedes in Chicago: a demographic and social study of the 1846-1880 immigration'*, written by Ulf Beijbom portrays the Swedish immigrants' conditions in Chicago. Beijbom has complemented his study with extracted data on American wages for different professions, retrieved from the Tenth Census publicized by the U.S. Bureau of Labour Statistics in *'History of Wages in the U.S from Colonial Times to 1928'*.

### 3.2 Sample

Two types of information are collected from my data set: the cross sectional information between the counties and changes within the counties over time. The data sets contain altogether 205 observations where  $X_{i,t}$  is a vector of observations for each county  $i$  and time  $t$  that is the value of  $X$  of the specific county at time  $t$ . There is a set of socio economic independent variables and five dummy variables, each dummy representing a specific county. Dummies are used, to avoid running separate regressions for each county. These dummy variables control for county specific effects which won't be picked up by the independent variables. The dependent variable is the number of emigrants from each county, expressed in subgroups of professions or gender.

## **4. Methods**

### **4.1 Limitations and Statistical Model**

This section comprises of a discussion divided up in three parts: the limitations of the study, the statistical model applied and the definition of the variables used. A quantitative analysis of preexisting historical data, made into a cross-sectional design, will be carried out for the purpose of identifying the impact of different push- and pull factors between emigrating farmers, factory workers and maids. A comparison will be made between the different groups as to whether push- or pull factors are the main cause of emigration for each group. The use of quantitative methods is common within economic history and is frequently used to study variations within countries. In addition it is also used to study differences between countries, much because of its ability to provide high quality results by limiting the subjectivity of the researcher to the choice of variables only. This can of course make a big difference to the outcome. Furthermore, a quantitative research experiment would yield similar results if it is repeated by a third party, indicating high reliability. For the purpose of the study at hand, the quantitative experiment assesses and reviews the push- or pull factors most influential in a selected number of counties over a specific time period. Distinct regressions will be run, separating the push- and pull factors, for the total number of emigrants and the total number of emigrants belonging to the particular professions. The professions can further be broken down to males/females and rural/urban categories. The 10% significance level will be used throughout the analysis, rather than the standard 5% significance level, due to the small sample size which decreases the probability that the true population parameters lie within a 95% confidence interval.

#### **4.1.1 Limitations of the Study**

Emigration is a huge area of academic research and study. A surplus of books, articles, essays and research projects have been, and continue to be, regularly published from a variety of disciplines and scholars. It is therefore necessary to appreciate the limits of this thesis by acknowledging the time and word constraints. Thus the study applies to a smaller time-period, a limited geographical focus, and a restricted number of chosen variables.

The 1860s experienced an emigration peak in 1867/68, during and after the crop failure. Prior to this era there had not been any comprehensive emigration flows. As such, the year of 1870 is the starting point for this study and the final year of study is 1900, which means the study episode would then include the seven year phase after the end of the culmination of a fifteen year long period of mass emigration, set off in 1879. The five counties chosen are from three geographical areas, traditionally classified by Sundborg as the Northern, Eastern and the Western regions. Gothenburg county and half of Ostergotland county belongs to the Western region, Stockholm belongs to the Eastern region while Jamtland and Gavle county belong to the Northern region. These particular counties were chosen on a number of grounds, the primary being that all, except for Jamtland, are located next to the sea (the North Sea and the Baltic Sea) and boast a large city.

All these counties display varied economic, social and demographic behaviors which are a cause to explore whether they led to different emigration patterns (Lowell, 1987:73). Another reason is that much Swedish emigration literature has their focus on emigration rich counties such as Smaland, Varmland, Halland and Blekinge which possibly could lead to a disproportionate and somewhat biased understanding of the Swedish mass emigration as it fails to accommodate other comparable contexts.

#### **4.1.2 Statistical Model**

To estimate the true population relationship between the dependent and the independent variables using the sample, the ordinary least squares (OLS) technique will be used. It is the most common type of ordinary linear regression. In addition, clustered standard errors are used to account for the fact that county specific data is used. The econometric model applied to OLS multiple regressions analysis is written:

$$Y_i = \alpha + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_i X_i + \varepsilon_i \text{ where } \varepsilon_i \text{ is the error term.}$$

### **4.2 Variables**

The applied variables are chosen on the basis of their relevance in previous research and the information available for this study. The independent variables are used to identify which push- and pull factors had the greatest impact on the emigration from the selected counties during the period 1870-1900. Each independent variable represents an actual number of emigrants within a certain profession or gender. The county specific data on the emigrants is taken from BISOS A. The independent variables are: percentage change in population growth, percentage change in poverty relief, Swedish and US wages, change in GDP for Sweden and the US and the difference between the changes in Swedish and US GDPs. The variables collected come from a variety of sources and they are often used in emigration studies and are accessible. On the other hand, there are many other variables that would be desirable for the study but are much more difficult to find. For example, the percentage of landownership was not obtainable for the relevant period just as overseas ticket prices were not listed officially and hence could not be included in the study.

#### **4.2.1 Dependent Variable**

The number of emigrants, the dependent variable, can be divided into rural and urban emigrants. Predominantly the migrants came from rural areas the majority being farmers, escaping the hardship of agricultural and livestock livelihood in hope of finding a new piece of fertile land of their own, whereas emigrants from urban areas were of a smaller portion but belonged to a variety of professions. As such, the emigrants are divided into 8 professional categories, though only farmers, factory workers and maids will be analyzed due to time constraint. The emigrants' professions are further categorized into adult females and males within the profession, in addition to the numbers of family members belonging to the particular professions for the period

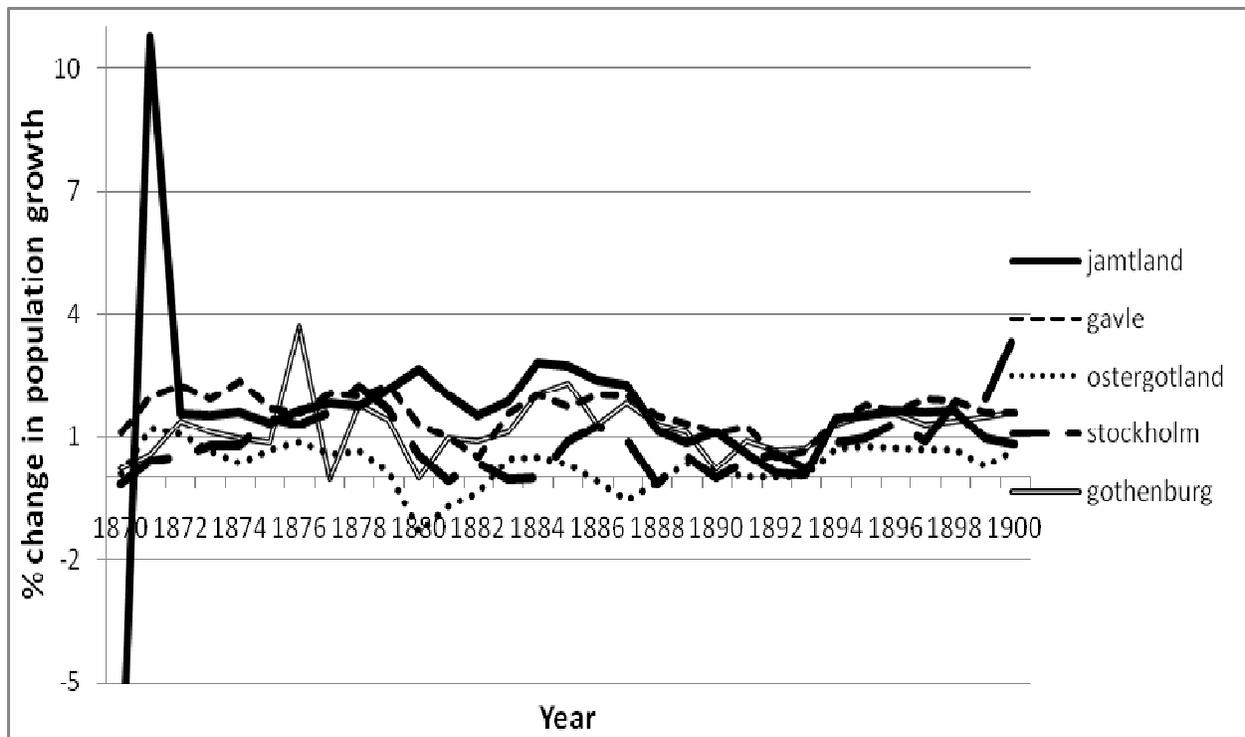
up to 1890. After 1890, the total number of emigrants in each profession, including children, is split on a rural and urban basis. To make the data comparable two data sets were created based on adult emigrants.

#### **4.2.2 Independent Variables**

##### Percentage change in population growth

County population growth from one period to another is composed of the net natural increase, births minus deaths, the internal migration and the net external county migration (Lowell, 1987:93). The variable measures the percentage change in population since last year 31st December, on county level, and data was taken from BISOS A. A change in population from one year to another is an important demographic variable since an increase would indicate pressures on land and the ability for people to live off their landholdings.

Graph 4.2.1 shows that Jamtland had a huge population increase in 1871 just to drop down to approximately 1.5% within the next year and then to keep the growth rate fluctuating for the next two decades between 0 and 3 %. Small peaks are visible in 1880 and 1884. In 1881-1882 Jamtland experienced a decrease in growth rates simultaneously as Gavle, which otherwise had a growth rate between 0.5 and 2.5%. Stockholm had a fairly increasing population growth until 1878 when it suddenly dropped and kept fluctuating mainly below 1% but in 1884 it starts to show an increasing trend. Gothenburg displays its greatest population growth in 1876 but otherwise keeps fluctuating between just below 0 and 2.5%. Ostergotland is the county showing the lowest population growth and has a negative growth 1879 to 1883 and between 1886 and 1889. In summary, the northern counties showed the greatest population growth but other than that it's difficult to detect any common trends between the counties 1870-1900.

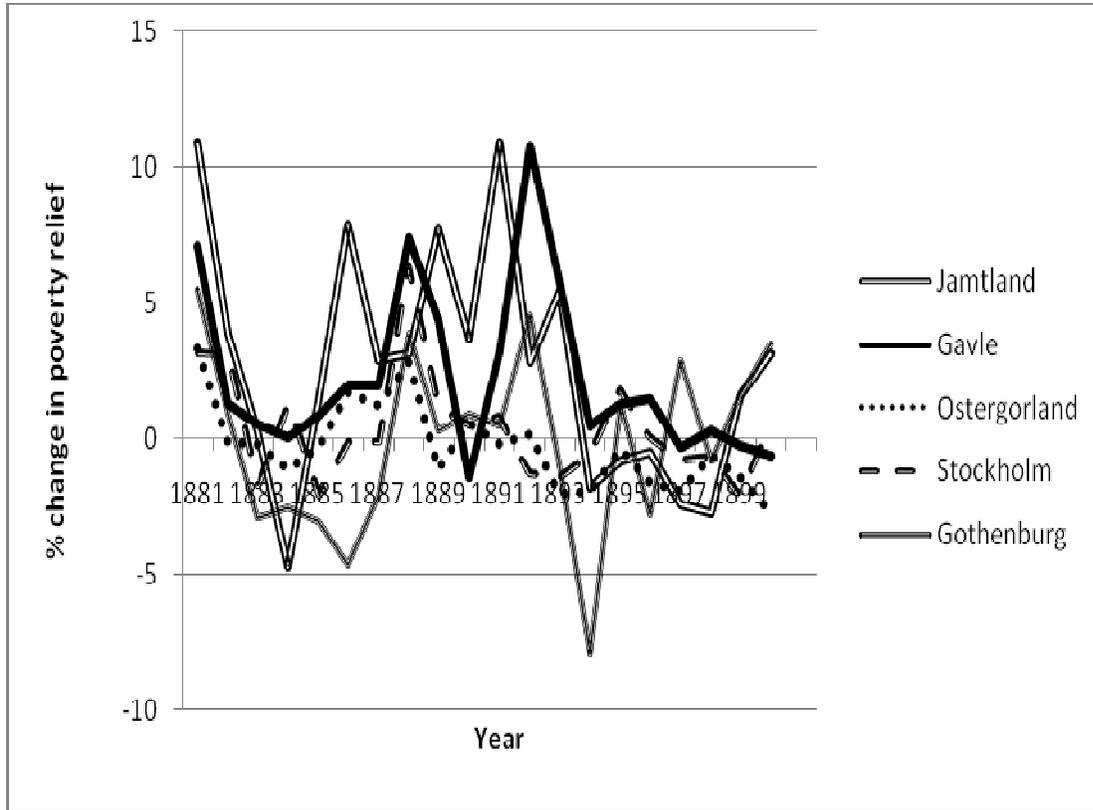


**Graph 4.2.1** Development in population growth. Source: BISOS A.

#### Percentage change in poverty relief

The agricultural sector was transformed in the mid 19<sup>th</sup> century as far as redistributions of land, the export trade and the importance of various crops over time (Lowell, 1987:82,113). The poverty relief variable indicates the level of living standard and the agricultural conditions affecting the rural areas. In times of bad harvest and economic hardships it would be expected to see an increase in poverty relief. It was the authorities together with the church which organized poverty relief for those who did not have enough to make ends meet (BISOS U). The aim is to see if there is the link between poverty relief and emigration.

Graph 4.2.2 shows that in 1881 all the counties have a decreasing, but yet positive, poverty relief rate until 1882/1883 when the relief rate is below zero. Between 1883 and 1887 most counties showed a negative change in relief rates which means the number of people who received poverty relief was decreasing. At most times, throughout the 1880s and in the beginning of the 1890, the counties of Jamtland and Gavle have a poverty relief rate above zero, which indicates an increase in poverty relief, and in addition, the particular counties display prominent peaks and dips and have a somewhat similar poverty relief pattern from 1887 and onwards. It is plausible that the counties, over time, converged towards a more stable pattern. Also worth noticing is that Gothenburg and Gavle had their peaks roughly at the same time in 1888 and 1892 and that Ostergotland seems to have had least fluctuations in the poverty relief rate while it also keeps the rates relatively low.

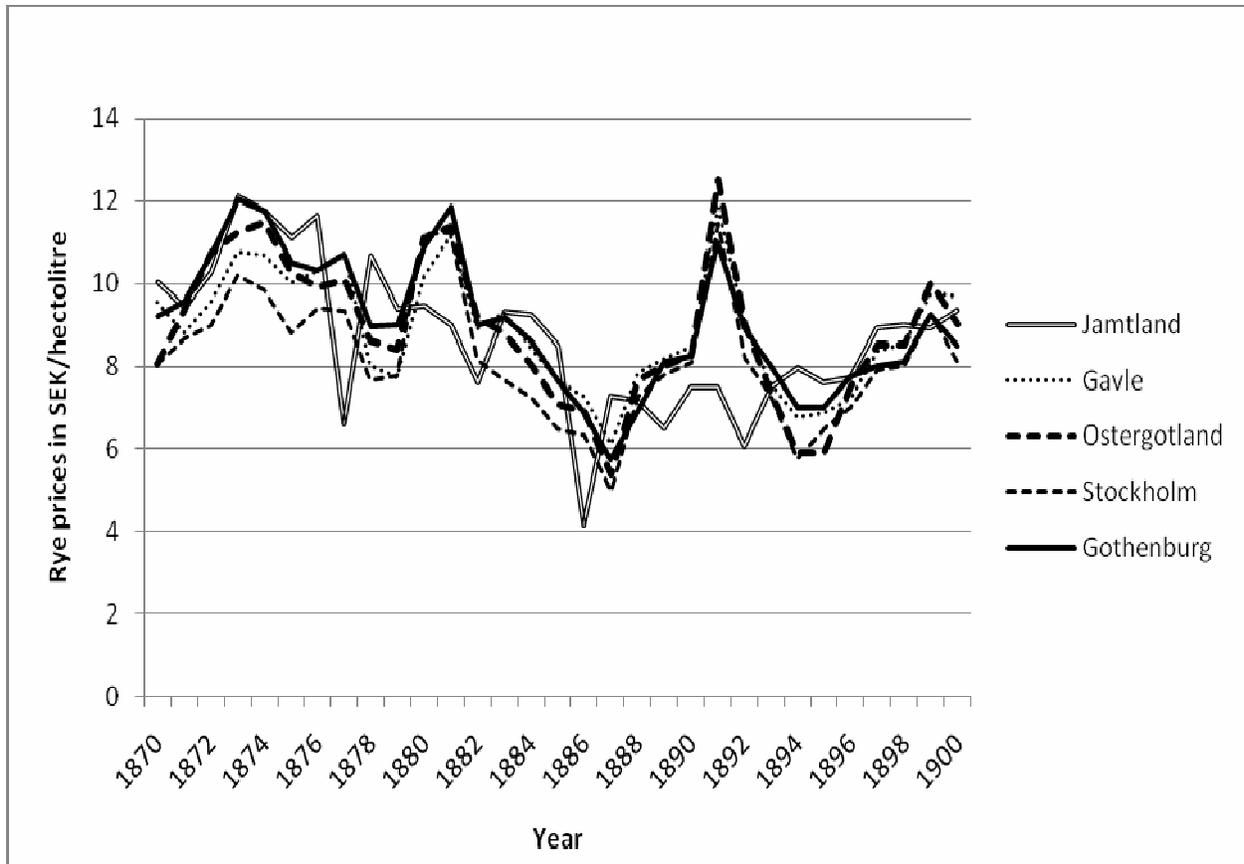


**Graph 4.2.2** Development of poverty relief. Source: BISOS U.

### Rye prices

Agricultural prices, such as those of rye, provide a good indication of the economic conditions because rye was an important staple in Sweden (Lowell, 1987:114). The analysis aims to find the impact of rye prices on the emigration from the different counties. It is possible that certain counties were less affected by fluctuations in rye prices than others and hence its emigration rates would not be greatly influenced. To be accurate, the information used is not actual rye prices but rather data that are representative of official rye prices through a market scale. The rye prices are county specific and the unit is SEK per hectoliter.

In graph 4.2.3 Gothenburg county consistently displays relatively high rye prices which makes sense since regions with urban centres traditionally have higher prices. On the other hand, Stockholm does not converge to this idea and displays very high prices relative to the other counties. In addition, among all the counties Stockholm had the lowest prices of rye for most of the 1870s. As expected, the graph shows how rye prices slumped during the 1880s due to the international market being flooded with cheap Russian and US agricultural products (Lowell, 1987:115). All the counties, except for Jamtland who had a drop in rye prices, had a price hike in 1892.



**Graph 4.2.3** Development of Rye Price. Source: Jorberg's 'A History of Prices in Sweden 1732-1914'.

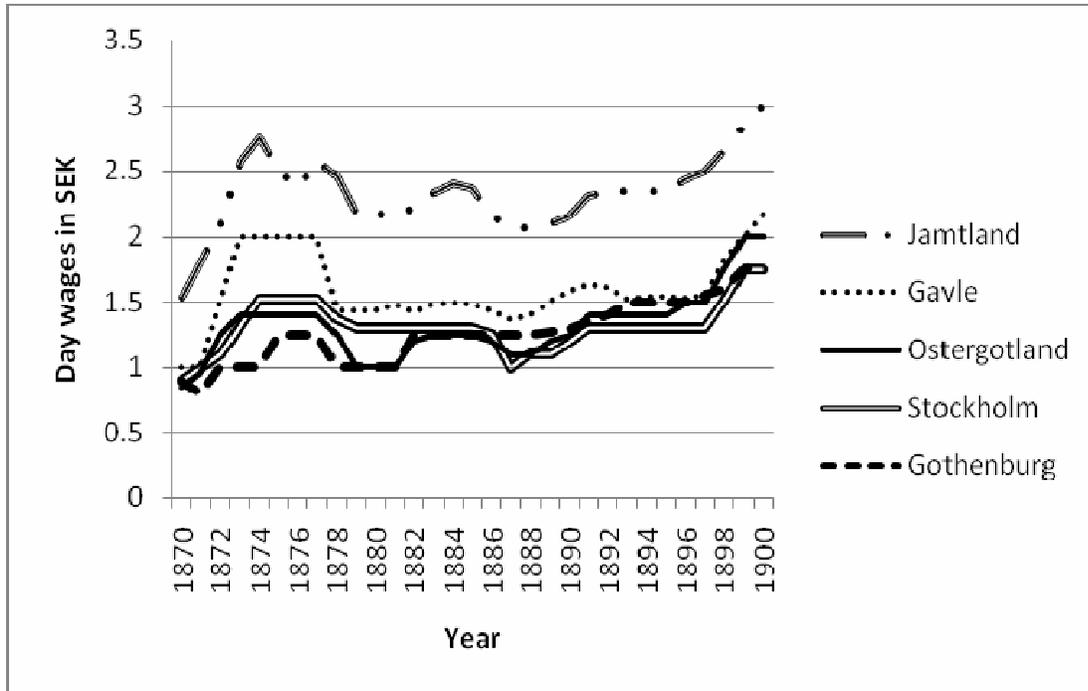
#### Swedish wage index, county specific male day wages and US factory wages

Agricultural wages after 1860 are no longer available and therefore an average wage index is used to represent hourly annual wages of male and female workers in the manufacturing industries ([www.riksbanken.se](http://www.riksbanken.se)). This data was taken from Bagge et al. and the aim is to find the relationship between the index and emigration to see if wages were a significant push factor to emigration. The index will indicate an increase or decrease of the living standard over the 30 years. County specific male day wages are reported in SEK and in addition day wages for American factory workers have been obtained. From graph 4.2.4 it is visible that Jamtland had quite a lot higher day wages than the other counties throughout the period while Gothenburg had the lowest wages until the mid 1880s when Stockholm's wages fell. A pattern in the wage development is visible and all counties had decreasing wages in the 1880s.

#### Swedish and US GDP Growth rates per capita & the difference between these growth rates

Growth in GDPs, in International Geary-Khamis dollars, is the next independent variable which aims to indicate the economic climate in Sweden and the US. The reason for choosing the change in GDP as an independent variable is to analyze whether a change in Swedish growth

rates, acting as a push factor, or a change in US growth rates, acting as a pull factor, had the greatest effect upon emigration during 1870-1900. In addition, the aim is to establish a relationship between the difference in growth rates between the countries and the propensity to emigrate.



**Graph 4.2.4** Development of average Swedish male day wages. Source: Jorberg's 'A History of Prices in Sweden 1732-1914'.

Before discussing the statistical results in chapter 5 table 4.2.5, page 31, gives an overview of the variables used in the regressions.

Variable	Specification	Table 4.2.5
<b>County</b>	Stockholm =1 , Ostergotland=2, Gothenburg=3, Gavle=4 Jamtland=5	
<b>Year</b>	1870-1890 and 1880-1900	
<b>Emigrant Professions</b>		
Farmers	Number of emigrant farmers in any year	
Female farmers	Number of female emigrant farmers in any year	
Male farmers	Number of male emigrant farmers in any year	
Factory workers	Number of emigrant factory workers in any year	
Female factory workers	Number of female emigrant factory workers in any year	
Male Factory workers	Number of male emigrant factory workers in any year	
Maids	Number of emigrant maids in any year	
Female maids	Number of female emigrant maids in any year	
Male maids	Number of male emigrant maids in any year	
<b>Total Emigrants</b>	Total number of emigrants in any year	
<b>Wages</b>		
Male day wage	Average county specific day wages for males	
Male factory wages	Hourly national wages for males	
Female day wage	Average hourly national day wages for females	
US factory wages	US say wages for male factory workers	
<b>Swedish GDP Growth Rate</b>	Change in Swedish GDP per year	
<b>US GDP Growth Rate</b>	Change in US GDP per year	
<b>Difference in Swedish and US GDP Growth Rate</b>	Difference in Swedish and US growth rate each year	
<b>Population Growth</b>	County specific percentage change in population per year	
<b>Poverty Relief</b>	County specific percent change in poverty relief	
<b>Id</b>	Identifies which cluster the standard errors belong to	
<b>County Dummy Variables</b>	Are set to 1 if used as reference category, otherwise 0	

**Table 4.2.5** Variables used in the analysis.

## 5. Empirical Analysis

### 5.1 Statistical Results

Log linear models were estimated using OLS for the time periods 1870-1890 and 1881-1900. Tables 5.1.1 and 5.1.2 show summary statistics of the data sets. There are on average, per year, less factory workers and farmers emigrating in 1870-1890 than in 1881-1900, while the mean number of maids emigrating per year is not all that different between the time periods. Despite the fact that average wages increased over time a larger number of people emigrated in 1881-1900 than in 1870-1890. The average number of rural emigrants per year, 1881-1900, from the five counties was double that of the number of urban emigrants.

Variable	Obs	Mean	Std. Dev.	Min	Max
county	105	3	1.420996	1	5
year	105	1880	6.084343	1870	1890
totemigrad~s	105	687.8762	732.429	16	3295
afarmers	105	106.9714	99.28586	0	512
afactory	105	87.69524	94.19161	0	488
amaids	105	202.9429	292.5728	3	1447
totalsingles	105	515.0762	572.0806	14	2451
totmarremigr	105	172.7905	181.4671	2	947
avgdaywage~e	105	1.476238	.4646182	.8	2.76
factorywage~e	105	2.766296	.4734471	1.598665	3.522477
avgfemwage	105	1.86452	.2750052	1.383461	2.66592
popgrowth	105	1.121237	1.585864	-8.437038	10.75978
ryeprice	105	8.92381	1.680838	4.16	12.11
uswagefact~y	105	2.262143	.2013093	2.08	2.55
swgrowthrate	105	1.173116	3.229352	-5.286728	7.997292
usgrowthrate	105	1.730137	3.208843	-2.956607	9.957495
diffgrowth~s	105	-.5570211	4.630382	-12.67032	6.52044

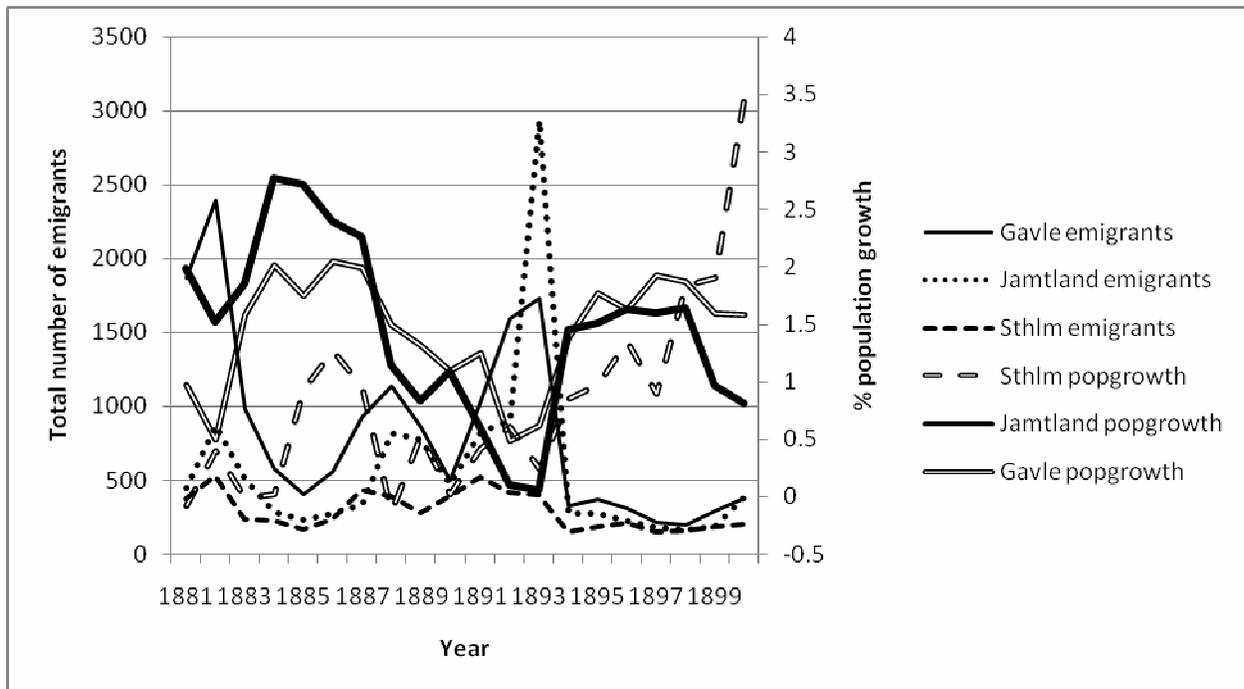
**Table 5.1.1** Source: STATA.

Variable	Obs	Mean	Std. Dev.	Min	Max
county	100	3	1.421338	1	5
year	100	1890.5	5.795331	1881	1900
totalemigr	100	1050.8	887.6589	151	3903
toturbemigr	100	308.09	368.7136	5	1446
totrurermigr	100	742.71	676.116	107	3473
totfarmers	100	188.31	156.7298	12	754
totfacwork~s	100	174.74	146.8075	7	579
totmaids	100	220.35	282.8941	7	1351
avgdaywage~e	100	1.6034	.4464172	1	3
factoryw~ale	100	3.033362	.313052	2.215693	3.6
avgfemwage	100	2.548788	.5363889	1.8	3.4
popgrowth	100	1.047366	.7784398	-.7	3.471353
ryeprice	100	8.1213	1.500829	4.16	12.5
changerelief	100	1.0017	3.254776	-7.9	10.9
usfactoryw~e	100	2.08	0	2.08	2.08
swechange	100	1.66476	1.746978	-1.235318	4.862957
uschange	100	.5526056	5.390435	-15.24214	9.971055
diffgrowth~s	100	1.112154	5.112062	-6.019946	16.16776

**Table 5.1.2** Source: STATA.

In total, approximately twenty plus regressions were run, where the first regression in each time period represents the total number of adult emigrants, followed by regressions for all farmers, factory workers and maids. Regressions for 1870-1890 were run splitting the professions into female and male categories and for 1881-1900 sub regressions were run in terms of rural and urban emigrants. The county of Gothenburg was chosen as the reference groups for all regressions. The important highlights will be made with the hypotheses as point of reference and the push factor regressions will be discussed firstly, then the pull factor regressions.

The first hypothesis stated an expectation of increased emigration as the population growth increased. All the coefficients, except for ‘urban farmers’, within the <sup>1</sup>1870-1900 time periods are negative and in 1870-1890 there are only two coefficients, related to female farmers and male factory workers, which are significant at the 10% level. <sup>2</sup>In 1881-1900 coefficients for all farmers, all factory workers and urban maids are significant at the 10% level. The hypothesis holds only for ‘urban farmers’ 1881-1900, not for any other groups, though the coefficient is not significant at the 10% level. In graph 5.1.3 emigration displays a negative relationship with population growth in Jamtland and Gavle, while it is more difficult to draw any conclusions regarding the relationship between emigration and population growth in Stockholm county.



**Graph 5.1.3** Development between emigration and population growth. Source: BISOS A.

<sup>1</sup> For 1870-1890 coefficients see Tables 5.1.7 and 5.1.8 in the Appendix.

<sup>2</sup> For 1881-1900 coefficients see Tables 5.1.9 and 5.1.10 in the Appendix.

On a more positive note, the poverty relief variable showed the expected relationship with emigration between 1881 and 1900 in both rural and urban areas. In 1881-1900 factory workers as a group were more responsive to a one unit increase in the poverty relief rate than both farmers and maids. Farmers as a subgroup had a stronger emigration response to poverty relief than all emigrants taken into consideration. Maids had the lowest increase in emigration due to increased poverty relief and with a response of 4.5% increase in emigration to a unit increase in poverty relief it is 1.05 percent units below average emigration, taken all the professions into account. A one unit increase in the poverty rate increased emigration among factory workers by 8.1% compared to 7.1% among farmers where the average for all emigrants was 5.3%. In addition, there is evidence for an increase in poverty rates to have a greater impact upon emigration among the rural areas compared to urban areas, which is what we expected from hypothesis number three.

Hypothesis number four expected an increase of Swedish wages to have a dampening effect upon emigration, which is in line with results for average male wages in 1870-1890, where all the coefficients are significant at the 1% level. In 1881-1900 all professions, except for farmers, have negative coefficients none of which are significant at the 1% level. Factory workers are not taken into consideration when discussing Swedish average wages since there is data for male factory wages available. As US factory wage goes up in 1870-1890 emigration falls. Females did not in 1870-1890 respond to an increase in their wages and therefore had a positive relationship with emigration. In contrast, regressions run for 1881-1900 results in only urban emigrants to have a positive coefficient and in addition overall indicating a negative relationship between female wages and emigration. Only the coefficients for rural farmers and farmers as a group are significant at the 10% level. Regressing on urban maids, total urban emigrants, total farmers and total factory workers results in a positive relationship between average Swedish wage and emigration rates.

Following the results for Swedish average male wages in 1870-1890, with a negative relationship between emigration and wages, it is surprising to see that an increase in Swedish GDP growth rates increases emigration in 1870-1890 which was contrary to hypothesis number five. In 1881-1900 most subgroups, except for farmers and rural emigrants, decrease emigration as Swedish growth rate increases as hypothesis number five predicted. The focus of hypothesis five will now switch to pull factor regressions where US GDP growth rate and GDP difference will be discussed.

In 1870-1890 the growth rate of US GDP and the GDP difference variable have positive coefficients, with farmers and female factory workers not significant at the 10% level, which hypothesis number five predicted, while in 1881-1900 all coefficients except those for farmers as a group and for rural farmers, are negative for both variables. The variable US wage was dropped in all regressions 1881-1900, probably because of multicollinearity, while in the 1870-1890 regressions US wage has a negative coefficient.

Total farmers, factory workers and maids all responded to an increase in the variables by an increase in emigration as predicted. The last hypothesis, number six, predicted that increased rye prices resulted in a decrease in emigration which, during 1881-1900, is only supported when regressing on urban emigrants, more specifically on urban factory workers and urban maids. 1870-1890 showed a negative relationship between the rye price and emigration and two thirds of the coefficients were significant at the 10% level, more specifically for all groups of factory workers, male farmers and for female and male maids.

<sup>3</sup>Regressing on the total number of emigrants, with separate push-and pull regressions, all the counties would have lower emigration rates than Gothenburg, if and only if, all counties had the same population growth, poverty relief etc. <sup>4</sup>County specific rates were also calculated for 1870-1900 and the county specific impact on emigration of some of the independent variables have been tabulated in the appendix. It is evident from the regressions that Ostergotland has the highest county specific poverty relief impact on emigration among the counties, while Stockholm has the lowest. A one unit increase in Ostergotland's poverty relief increases overall emigration by 0.192%, while a one unit increase in Stockholm's poverty relief rate reduces overall emigration by 0.001%. Gothenburg was the only county with a positive effect on overall emigration through its population growth, a one unit increase in its population growth increased emigration with 0.248%, while the other counties had negative county specific population growths, with Stockholm having the highest negative impact on overall emigration with 0.976%. Gavle specific male wages had the greatest impact among the counties on overall emigration figures, where a one unit increase in wages resulted in a 1.433% decrease in emigration and the corresponding highest impact of female wages was in Stockholm where emigration declined with 0.873% when wages increased with one unit.

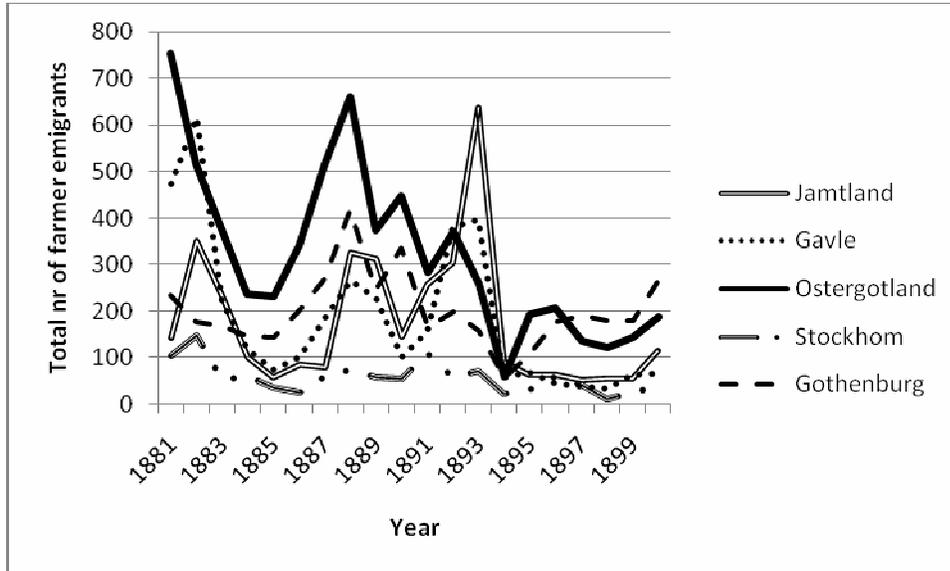
Comparing the different professions, most farmers left from Jamtland and Ostergotland whilst, among the counties, Jamtland had the smallest number of factory workers leaving, whereas Gothenburg experienced the greatest number of factory workers leaving. In addition to Ostergotland having many farmers leaving it also had the largest numbers of maids leaving. Graph 5.1.4 displays that in the first half of the 1880s there was a decrease in farmers' emigration but in the second half an increase among the farmers is visible. There are peaks in the late 1880s and early 1890s which are common to the farmers in every county and a slight pattern is detectable among the counties. Few factory workers left from Jamtland whereas Gothenburg saw the greatest numbers of factory workers leaving. Jamtland and Stockholm have fairly constant factory workers' emigration in comparison with the fluctuations of Ostergotland and Gavle. This is shown in graph 5.1.5 where it is also visible that most counties had factory

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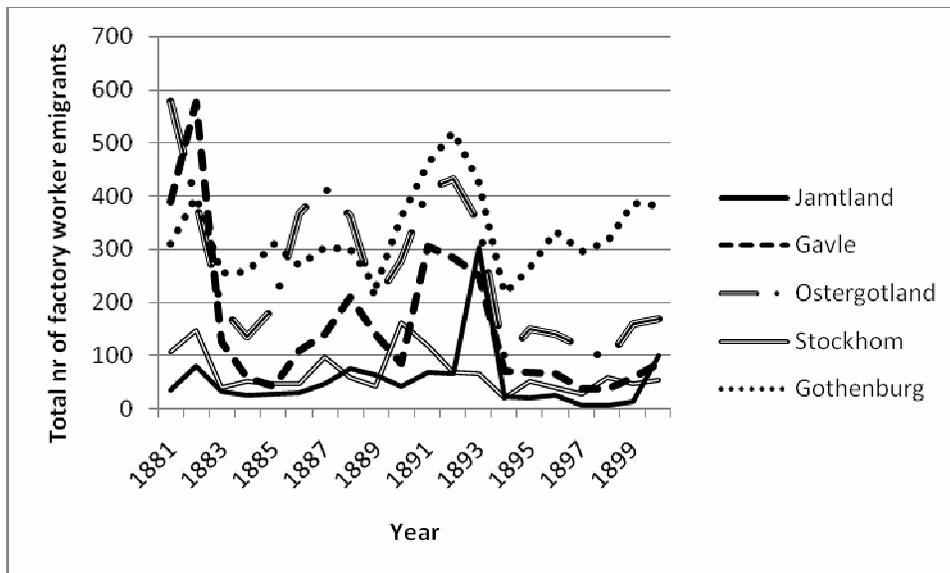
<sup>3</sup> Dummy coefficients for push- and pull regressions 1870-1890 and 1881-1900 see tables 5.1.11 to 5.1.13 in the Appendix.

<sup>4</sup> County specific rates for 1870-1900 are listed in table 5.1.14 in the Appendix.

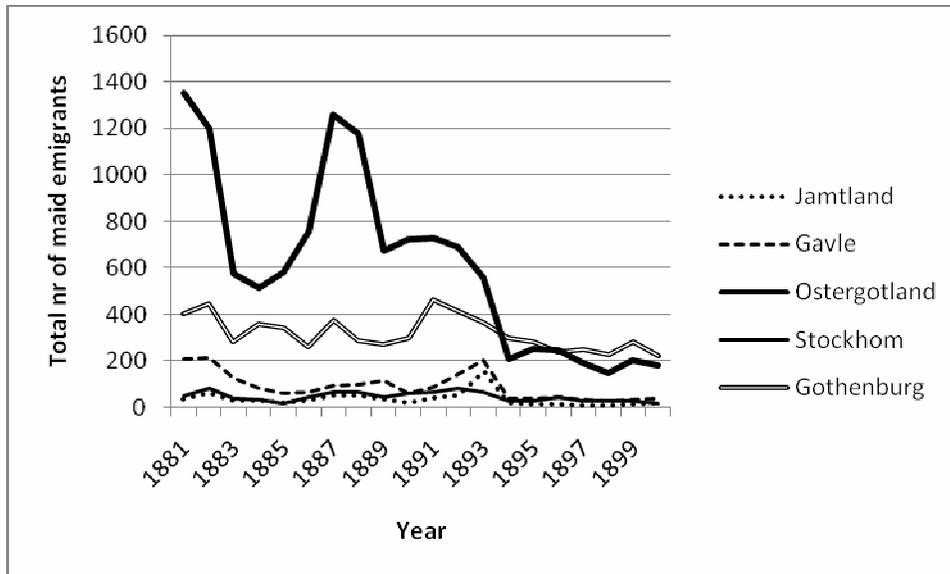
workers' emigration peaks in 1882/1883 and 1891/1893. In addition, as the emigration intense period is finishing around 1883 we see, in graph 5.1.6, a huge decrease in the number of maids from Ostergotland, which was the dominating county supplying emigrant maids. Stockholm and Jamtland had the lowest number of maids leaving.



**Graph 5.1.4** Development of farmers' emigration pattern. Source: BISOS A.



**Graph 5.1.5** Development of factory workers' emigration pattern. Source: BISOS A.



**Graph 5.1.6** Development of maids' emigration pattern. Source: BISOS A.

## 5.2 Discussion

The push- and pull regressions, for total number of emigrants, displayed an R-squared of 83.02% and 82.92% which means the models explain 83% of the variance in the dependent variable, the total number of emigrants. The regressions run for time period 1881-1900 have 60% of the coefficient signs in line with the expectations, which is very similar to the time period 1870-1890. As such it would be interesting to explore why the results deviate from the expectations and why results differed between the two time periods. Tentatively, the decade of 1880 must have been one with great changes.

As noticed, there are different responses to population growth depending on which sub groups are under scrutiny. It's not evident whether the subgroups were married or single, but my results, in contrasts to Lowell's results, indicate that emigration decreased as population increased. I am not entirely comfortable with my results, but will have to consider that the results might have looked different if I had chosen a different set of counties or looked at the emigration response on a national level. Two of the counties, Jamtland and Gavle, belong to the Northern region with great population growth but with low density, while the Eastern and in particular the Western region had high density. Increased population growth sometimes caused very high density which propelled emigration. This is supported by the county specific population growth rates, listed in the appendix, table 5.1.14, where Gothenburg is the only county that contributed to increased emigration through its population growth. Population growth is mainly applicable to the rural areas since it is an approximation for population density per unit of land, to measure the standard of living in the rural areas.

According to STATA output 1881-1900, the population pressure was greater in the rural areas and therefore it may be expected that the rural areas were more reliable upon poverty relief than the urban areas. However, it is worth pointing out that, holding everything else constant, rural people receiving poverty relief emigrated in bigger numbers than urban people receiving poverty relief. It is possible to argue that a reason for this was that urban areas offered more employment possibilities in the long run compared to the rural areas and that the prospects for finding employment in one's home country weighted stronger than emigrating. This argument is backed up by Thomas who assesses that if people had economic opportunities in their home country they would not be inclined to emigrate, even if they knew that their rewards might be greater in the US. Maids were shown to have the lowest emigration response rates to population relief, among the professions investigated, which can be attributed to the fact their employment often entailed being a live-in maid where food and lodging were included in their wages.

The pull factor US factory wage was dropped from the 1881-1900 regressions while it displayed a negative correlation with emigration in the 1870s to 1890s. Without a proper economic background it is difficult to understand this phenomenon but tentatively it could be the fact that the counties of Jamtland and Gavle had relatively high wages which influenced the overall results to show a negative relationship between emigration and US wage. Average Swedish wages were able to somewhat compete with US wages which leads one to consider which factor actually had the strongest influence. The relationship between emigration and US/Swedish factory workers cannot be explained. Contradictory as it may seem, but when the US factory wage goes up emigration goes down and when Swedish factory wages increases emigration increases. Females did not respond to increasing wages, 1870-1890, by decreasing their emigration. A reason for this could be that women, who were mostly maids and servants, were not dependent upon the economic cycles for emigration. Contrary, in 1881-1900 females show a decrease in emigration as wages increase which might imply that women were expanding on the labour market and realized new work opportunities. The period between 1870 and 1890 also experienced an increase in emigration while the difference in growth rates of Swedish and US GDP increased, whereas the period 1881-1900 displays the opposite trend. The economic theoretical foundations, related to wages and discussed in chapter 2, offer limited explanation to people's behaviour in relation to increasing wages. The analysis exposes how difficult it is to create theories that will hold under many different sets of circumstances.

Until the 1880s the Swedish economy had been fairly stable, focusing on the agricultural outputs, but when demand for Swedish oats decreased in the 1880s Sweden initially hit financial stress. Thomas argues that the correlation between the economic business cycles and emigration was diminishing in the 1880 compared to in the 1870s and early 1880s. Maybe this was a signal of the change in the nature of emigration, that is, from an act of necessity to improve quality of life into a labor-driven form based on want rather than need, in an environment where the business cycles played less importance. Many people had already left Sweden in the 1880s and the prospective emigrants based their decisions rather upon different values and opinions than in the

early 1870s. Based on the regressions of this study, it is suggested that US wages had a stronger impact on emigration than Swedish wages, when including both independent factors in the regression. This is precisely the conclusion Jerome arrived at in the mid 1920s. He thought the American business cycles added more weight than the Swedish business cycles in the decision to emigrate. Unlike Jerome, however, it is not possible to draw the conclusion that pull factors were of more importance than the push factors in the emigration decisions. Rather, the argument of this thesis is more in line with Thomas who believed that the constant agricultural push factor was indeed important, but that temporary economic up-or down turns had the strongest impact on the fluctuations of emigrants from one year to another (Thomas, 1941:92). Thomas also discovered that that the Swedish economic upswings were negatively correlated with net emigration but that the correlation coefficients were smaller in magnitude than the coefficients between American business cycles and Swedish net emigration (Thomas, 1941:167).

In regard to the price of rye, Lowell argued there was no relationship between emigration and rye prices. The results of this study show a positive relationship between the variables 1881-1900 and a negative relationship between the variables 1870-1890, therefore it is not possible to draw any final conclusions about their relationship.

## **6. Conclusion**

Economic theory has mainly guided the discussion on the causes of emigration. It is difficult, if not impossible, to understand the subject by just applying different theories, individually or together, such as the neo classical theory and the dual labour theory. However, these theories may complement each other and contribute to a specific aspect of emigration. In comparison, the new economics of migration theory, which focuses on relative deprivation, is not as easy to apply to the mass emigration since a proxy for relative deprivation would be hard to obtain. It seems reasonable enough that a large portion of the emigration decision is accredited, not just to current financial well being, but also to future well being.

Comparatively, half of the results obtained were in line with the stated expectations. Because the analysis is only considering five Swedish counties, out of twenty four, the results of this particular study can't be used to draw any general conclusions about emigration on a national level. Yet, the analysis illustrates evidence of differences in size, and sometimes magnitude, between the independent variables and emigration in every region, because the regions varied in their socio economic structure.

The emigration essentially took place in a time of great change with the urbanization and industrialization progressing. In addition to emigration, there was also a steady internal migration flow which had a positive impact on the urbanization. As the industrialization process gathered momentum there was a debate whether the emigration flows became more sensitive to the economic business cycles in Sweden and the US, compared to initial emigration flows. There is no strong cause to believe, from the performed quantitative analysis, that this study can reach a

conclusion as to what extent the economic business climate determined the emigration process but, results show that during 1870-1890 average male wages and differences in GDPs had the greatest impact on all emigrants, and in 1880-1900 US growth rates had the greatest impact on emigration figures. I believe economic factors must have had a considerable impact on the later emigration, but it is difficult to say how strong an impact it had, in relation to other variables which were not possible to include in the study. Most likely, the decision to emigrate was initially not based on economic business cycles.

To further the Swedish emigration research it would be useful to include additional variables, such as emigration tradition and the number of landless people, which would contribute to study the relevance of the network theory and the emigration pattern of the very poor rural people, as the agricultural land reform took shape. There is also the possibility to study causes and consequences of emigration on a more local level such as 'harads', which essentially are parishes, making use of micro level data. In addition, it would be interesting to explore the socio economic consequences of the emigration in selected Swedish counties.

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## Appendix

	Ln total emigrants	Ln farmers	Ln female farmers	Ln male farmers	Ln factory workers	Ln female factory workers	Ln male factory workers	Ln maids	Ln female maids	Ln male maids
SWGr	0.097**	0.069	0.074	0.093**	0.129**	0.085	0.144**	0.101**	0.128**	0.122**
DiffGr	-0.036*	-0.017	-0.031	-0.020	-0.071**	-0.061*	-0.077**	-0.028	-0.044*	-0.043
Ryprice	-0.090	-0.041	-0.108	-0.199**	-0.174**	-0.119*	-0.221**	-0.055	-0.139*	-0.128**
PopGr	-0.073	-0.083	-0.120*	-0.117	-0.167**	-0.079	-0.170**	-0.056	-0.093	-0.103
Avg Sw males wage	-1.584**	-1.80**	N/A	-1.507**	N/A	N/A	N/A	-1.629**	N/A	-1.438**
Avg Sw female wage	1.479**	1.184**	0.472	N/A	0.665	0.664**	N/A	1.123**	0.955*	N/A
Sw factory wage	N/A	N/A	N/A	N/A	0.410	N/A	0.771**	N/A	N/A	N/A

Regression Table 5.1.7 Push Factor Coefficients N=105 observations 1870-1890.

N/A refers to a variable not being applicable to the particular regression, either because the variable is gender specific or specific to a particular profession.

\*significant at 10% level

\*\*significant at 5% level

	Ln total emigrants	Ln farmers	Ln female farmers	Ln male farmers	Ln factory workers	Ln female factory workers	Ln male factory workers	Ln maids	Ln female maids	Ln male maids
US factory wage	N/A	N/A	N/A	N/A	-2.936**	-1.567**	-3.127**	-2.470**	-2.600**	-2.108**
USGr	0.008**	0.075	0.044	0.088*	0.075**	0.054	0.077**	0.122**	0.093**	0.139**
DiffGr	0.047**	0.050*	0.028	0.054**	0.041*	0.010	0.045**	0.074**	0.069**	0.072**

Regression Table 5.1.8 Pull Factors Coefficients N=105 observations 1870-1890.

N/A refers to a variable not being applicable to the particular regression, either because the variable is gender specific or specific to a particular profession.

\*significant at 10% level

\*\*significant at 5% level

	Ln total emigrants	Ln rural emigrants	Ln urban emigrants	Ln farmers	Ln rural farmers	Ln urban farmers	Ln factory workers	Ln rural factory workers	Ln urban factory workers	Ln maids	Ln rural maids	Ln urban maids
SwGr	-0.001	0.005	-0.033	0.053**	0.056**	-0.049	-0.035**	-0.038	-0.023	-0.013	-0.008	-0.062
DiffGr	0.013**	0.013**	0.012**	0.011	0.012	-0.023	0.019	0.016	0.015**	0.009	0.010	0.001
PopGr	-0.374	-0.393	-0.273	-0.292	-0.405	0.263	-0.350	-0.435	-0.217	-0.272	-0.232	-0.400
PovRelief	0.053**	0.0567**	0.026	0.071**	0.071**	0.103*	0.081**	0.098**	0.044**	0.045**	0.053*	0.032*
RyePrice	0.022	0.0343	-0.351	0.034	0.021	0.123	0.025	0.051	-0.01	0.023	0.046	-0.026
Avg Sw male wage	-0.196	-0.127	-0.806	0.197	0.292	-0.299	N/A	N/A	N/A	-0.591	-0.522	-1.160
AV Sw female wage	-0.328	-0.419	0.149	-0.556*	-0.566*	-0.226	N/A	N/A	N/A	0.307	0.231	0.554
Sw factory wage	N/A	N/A	N/A	N/A	N/A	N/A	0.194	0.274*	-0.003	N/A	N/A	N/A

Regression Table 5.1.9 Push Factor Coefficients N=100 observations 1881-1900. N/A refers to a variable not being applicable to the particular regression, either because the variable is gender specific or specific to a particular profession.

\*significant at 10% level

\*\*significant at 5% level

	Ln emigrants	Ln rural emigrants	Ln urban emigrants	Ln farmers	Ln rural farmers	Ln urban farmers	Ln factory workers	Ln rural factory workers	Ln urban factory workers	Ln maids	Ln rural maids	Ln urban maids
USwage	D	D	D	D	D	D	D	D	D	D	D	D
DiffGr	-0.011	-0.115	-0.016	0.026	0.030	-0.071	-0.004	-0.006	-0.003	-0.037	-0.043	-0.051*
USGr	-0.034*	-0.036	-0.035**	0.005	0.008	-0.053	-0.030	-0.031	-0.023	-0.057*	-0.06**	-0.064**

Regression Table 5.1.10 Pull Factor Coefficients N=100 observations 1881-1900.

D=dropped

N/A refers to a variable not being applicable to the particular regression, either because the variable is gender specific or specific to a particular profession.

\* significant at 10% level

\*\* significant at 5% level

	Ln total emigrants	Ln farmers	Ln female farmers	Ln male farmers	Ln factory workers	Ln female factory workers	Ln male factory workers	Ln maids	Ln female maids	Ln male maids
djamtland	-0.317	0.971	-1.278	0.709	-3.027	-2.414	-3.241	-1.001	-3.104	-0.447
dgavle	-0.551	0.034	-0.839	-0.045	-1.169	-0.717	-1.417	-1.018	-1.851	-0.612
dostergotland	-0.052	0.118	-1.169	0.106	-0.543	-0.214	-0.711	0.506	-0.068	1.435
dstockholm	-2.228	-1.873	-2.587	-1.791	-2.464	-2.076	-2.737	-2.422	-2.958	-1.841

Push Regression Table 5.1.11 Dummy Coefficients N=105 observations 1870-1890.

	Ln total emigrants	Ln farmers	Ln female farmers	Ln male farmers	Ln factory workers	Ln female factory workers	Ln male factory workers	Ln maids	Ln female maids	Ln male maids
djamtland	-2.080	-1.036	-1.284	-0.917	-2.901	-2.373	-2.979	-2.819	-3.099	-0.447
dgavle	-1.217	-0.741	-0.867	-0.669	-1.068	-0.721	-1.189	-1.705	-1.855	-0.612
dostergotland	-0.057	0.095	-0.226	0.181	-0.202	-0.103	-0.237	0.472	0.062	1.434
dstockholm	-2.316	-2.033	-2.409	-1.741	-1.981	-1.896	-2.002	-2.558	-2.777	-1.841

Pull Regression Table 5.1.12 Dummy Coefficients N=105 observations 1870-1890.

	Ln emigrants	Ln rural emigrants	Ln urban emigrants	Ln farmers	Ln rural farmers	Ln urban farmers	Ln factory workers	Ln rural factory workers	Ln urban factory workers	Ln maids	Ln rural maids	Ln urban maids
djamtland	-1.416	-0.719	-3.435	-0.369	-0.029	-1.404	-2.174	-1.049	-3.307	-	-1.791	-3.742
										1.524		
dgavle	-0.989	-0.464	-1.868	-0.384	-0.313	-1.489	-1.054	-0.075	-1.779	-	-0.845	-2.218
										1.469		
dostergotland	-0.112	0.444	-1.122	0.352	0.416	-0.544	-0.371	0.561	-1.075	0.429	1.259	-1.035
dstockholm	-1.856	-1.251	-3.100	-1.354	-1.277	-1.802	-1.711	-0.566	-2.889	-	-1.166	-3.483
										1.992		

Pull Regression Table 5.1.13 Dummy Coefficients N=100 observations 1881-1900.

	Poverty Relief	Population Growth	Average Swedish male wage	Average Swedish female wage
Jamtland	0.013	-0.666	-1.139	-0.708
Gavle	0.092	-0.458	-1.433	-0.570
Ostergotland	0.192	-0.654	-1.028	-0.240
Stockholm	-0.001	-0.976	-1.068	-0.873
Gothenburg	0.020	0.248	-0.920	-0.176

Table 5.1.14 County specific rates i.e. the effect of each independent variable in the relevant county.

