

Miscellanea

Under the heading *Miscellanea*, essays will be published dealing with topics considered to be of general interest to the readers. All contributions will be refereed for their compatibility with this criterion.

Wargentin and the Origin of Swedish Population Statistics

*Erland Hofsten*¹

1. Background

During the 18th century, a growing interest in population studies could be observed in different parts of Europe. To accommodate the new discipline, new words and terms entered the language. In England the term *political arithmetic* and in Germany the word *statistics* were introduced and much used (United Nations (1973), Dupâquier (1985), and Glass (1973)).

During this era, hardly any reliable population data were available, and the discussion was rather theoretical and unrealistic. In England, it was not even known whether the population had increased or decreased since the Glorious Revolution in 1688. A lively discussion on this topic took place during the latter part of the 18th century; this discussion is called “the population debate” (Glass (1973)).

An understanding of even basic population matters requires census data and regular

(preferably yearly) data on vital events. In many European countries, censuses were taken during the latter half of the 18th century. In England and Wales, however, the first census was not taken until 1801.

2. The Swedish System for the Collection and Production of Population Data

In most countries, the taking of censuses and the collection of vital statistics have always been performed by different authorities, with each authority using its own system, method of data collection and processing. Data from different systems are seldom directly comparable. In Sweden, however, the production of data on the population's size and structure and the production of vital statistics were parts of the same system from their inception. This is still so.

The Swedish system began to operate in 1749. The Church Act of 1686 mandated the Swedish Lutheran clergy to keep continually updated registers of the total population of the parish, as well as registers of births and

¹ Demographer, Stockholm, Sweden.

deaths, etc. Most parishes were defined geographically. With few exceptions, every piece of land was assigned to one parish only. Furthermore, Sweden had no religious dissenters at the time; all Swedes were members of the Lutheran Church and thus the system covered the total population.

Not until after the end of the Northern War, in which Sweden was involved, did the population registration system function properly. Sweden was now no longer a great European political power. The new regime, installed after the end of the war, wanted to improve the failing economy through scientific and technological progress. To achieve this some basic demographic data was considered essential and an obvious source was the parish registers.

A system of censuses and vital registration based on the parish registers had two proponents, the one Pehr Elvius, Secretary of the then recently founded Swedish Academy of Sciences (1739) and the other, A.A. von Lantingshausen, who later became Governor of the City of Stockholm. Each suggested, independently of the other, that the registration system be used for annual estimates of the size and structure of the population, and for estimates of the number and structure of births and deaths. Under directives later revised by Elvius, dummy tables were filled in for each parish. On the basis of these tables, summary tables were filled in for each deanery, and then for each diocese. The diocese summary tables were sent to the county governors, who in turn would construct summary tables for the entire county for the Royal Chancellery in Stockholm.

At each level, there were three tables: table one, in which births and deaths were recorded; table two, in which data on deaths were broken down according to sex, age, and cause of death; and table three, in which census data on the total population were broken down according to sex, age, and resid-

ence. According to the original plans, table three was to be produced annually, but in fact, it was produced only once every three years from 1751 to 1772 and once every five years starting in 1775. One complication to this system is that one diocese could belong to two different counties. There were many cases of partial tables being made for a part of a diocese and being sent to the county to which that part of the diocese belonged and the table for the other part of that diocese being sent to a different county.

3. Responsibility Is Assumed by Wargentin

The system for data production, as described above, was to be in force in 1749. However, shortly before the end of 1749, Elvius died suddenly at the age of 39. Wargentin succeeded him as Secretary of the Academy of Sciences and assumed responsibility for the system for the production of population data. It took Wargentin some time to develop an interest in the registration system. But once interested, population studies became one of Wargentin's main interests and he wrote learned papers on the topic for the rest of his life; a devotion that earned him the appellation of "The Father of Swedish Statistics."²

In his papers, Wargentin demonstrated his skilled use of statistical data. Of particular interest is a paper originally published towards the end of Wargentin's life (1780). In this paper, Wargentin presented conclusions completely different from those then in currency about the extent of emigration from Sweden.

² In 1983 to celebrate the Bicentenary of Wargentin's death, Statistics Sweden published a facsimile edition of some of Wargentin's papers on population and an essay on Wargentin and his contributions to statistics, written by myself (Hofsten (1983)).

4. Wargentín's 1780 Paper on Emigration From Sweden

Wargentín begins his paper by saying that "For the past two decades, the general opinion has been that each year Sweden loses a large number of her inhabitants through emigration. Some have estimated this yearly loss at 5 000 to 6 000 people."

In 1763, the Swedish Academy of Sciences took the popular estimate of emigration from Sweden so seriously that it organized a competition on the theme: "Why do such great numbers of Swedes leave Sweden each year?" This competition resulted in 28 papers. One received a prize and many of the others were also published. (Nordin-Pettersson (1959)). What is surprising is that so few people at the time questioned the magnitude of the popular estimate of emigration from Sweden.

In his paper, Wargentín argues that if the natural population increase, i.e., births minus deaths for a period, is not equal to the total population increase, according to the census, the difference between these two quantities could be used as an estimate of the net natural migration for the period. However, faulty data could also cause this kind of difference.

Wargentín maintained that the data obtained from table one are free from grave errors. Table two is irrelevant to emigration. Table three, which contains the census data has errors of considerable magnitude. After scrutinizing table three for different years and for different counties, Wargentín came to the conclusion that the data for 1751 seemed to be correct. It is for 1754, 1757, and 1760 that he finds considerable errors. For 1763 the census data are relatively error free and remain so for 1766, 1769, and 1772.

As an example of the size of the error Wargentín mentions one county where the total population was given as 72 000 for 1751; for 1754 and 1757 the population is not more

than 60 000. Three years later, in 1760, the population is again 72 000. (The name of the county is not given.) The data for 1754 and 1757 are obviously faulty. Such errors appear to be common where one diocese is divided between two or more counties and the county authority has missed one or more of the diocese tables when making a summary table for the county. This is Wargentín's explanation of the too high net emigration figures.

Wargentín then makes new and more accurate estimates. The following table contains Wargentín's estimates for the 1751 to 1772 period.

From 1752 up to and including 1772

Births	1 812 401
Deaths	1 415 158
Natural increase (births minus deaths)	397 243

Population size

At end of 1751 (census figure)	2 179 945
At end of 1772 (census figure)	2 548 387

From the above figures, we see that the total population increase from the end of 1751 to the end of 1772 was 368 442. The difference between the natural increase and the total increase is 28 801, or 1 372 per year.

Wargentín made a total of eight such estimates for different periods, for instance, 1751–1766, 1754–1772, etc. The estimated emigration varies between 1 372 and 845 per year. Furthermore, he did separate calculations for men and women. These calculations showed that for most years, there was a net increase of 300 to 400 women and a net loss of 1 100 to 1 200 men.

The figures in table one do not include one county where there was a military garrison; for security reasons, figures for this county could not be published. Five of the counties

refer to Finland which at the time was part of Sweden.

What is remarkable about Swedish population statistics is that it has been possible to identify and follow birth cohorts for well over two centuries. From 1750 to the present day, data for five year age groups are available every fifth year for men and women separately (Sundbärg (1903) and Hofsten (1983)).

5. References

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Received May 1988