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DUTCH HISTORICAL STATISTICS: 19th CENTURY POPULATION CENSUSES

Report submitted by the Statistics Netherlands* /

I. INTRODUCTION

1. For some time now, the interest in historical statistics has been growing strongly. In reaction to this, Statistics Netherlands has compiled and revised a number of long, consistent time-series, concerning, for instance, population and labour force data based on census results. Even a superficial examination of the results of the nineteenth century censuses shows how difficult it is to compare them. This paper touches on these censuses against the background of the development of Dutch statistics.

II. A BIRD'S EYE VIEW OF THE DEVELOPMENT OF DUTCH STATISTICS

2. In the development of the present Dutch system of economic and social statistics three phases can be distinguished. In the first, the period before 1795, the government had no great need for statistical information.

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Data were occasionally gathered for tax levying purposes, for example. Besides, statistical data became available as by-products of government activities. However, the government did not publish the figures and sometimes even treated them as official secrets. In some cases historians were able to find such material in archives which resulted in surprising

conclusions (Estienne, 1802). However, for the period before 1795, there is no system of statistics and the statistics are not complete.

3. The second phase in the development of the Dutch statistics started in 1795. The French revolution of 1789 had major consequences for the enfeebled Republic of the Seven United Provinces. A French invasion acted in favour of the Patriots in the internal struggles, and a period of bloodless revolutions followed with a steadily increasing French influence. In this period, many things changed in the Netherlands. The decentralised public authorities were partly replaced by a central authority which introduced a general obligation of registration of births and deaths. Of great importance for the development of the statistics hereabouts was the French interest for statistics. In France reports on the departments were made with both qualitative and statistical information. Such a report was made on the Batavian Republic as well: 'Statistique de la Batavie' (Estienne, 1802).

4. Far more extensive is the report 'Aperu sur la Hollande' (Statistics Netherlands, 1900) which was written for, but probably never sent to them. It remained concealed in the archives until 1899 when it was published by the newly founded central bureau of statistics. The statistical data in the report were by-products of the activities of the ministries.

5. In the Netherlands the interest for statistics grew. The Patriots shared the ideals of the French revolution: to give the people more influence on the government. In 1795, this resulted in a population census in aid of creating equal electoral districts. The outcomes of this census were fully published.

6. In 1798, an 'Executive Administration' was established, assisted by eight 'Agents'. The aim was to replace regional policies by a national one. Johannes Goldberg became the agent for the national economy (Zappey, 1967). He was involved in politics and he had published a report on the finances of Holland in the years 1788-94. He wanted reliable statistics, and made several efforts to gather data but failed. However, he did not give up and set himself the goal of making a complete statistical description of the country within ten years. He set out on a five-month journey around the country, to see the situation for himself, and distributed many questionnaires. However, Goldberg did not succeed in achieving his goal due to insufficient preparation and instructions on how to answer the questions, refusals to answer the questions, and a lack of capacity at the municipalities which had to collect the questionnaires.

7. In 1815 the government of the new Kingdom of the Netherlands used the Goldberg method to get information about industrial activities. Again, a final report was never completed. However, Brugmans found data of this survey in a number of municipal archives which he published (Brugmans, 1958).

8. Following the French occupation the government of the Kingdom was prepared to publish statistical data in the possession of the ministries. It started with the foundation of a 'Commission for Statistics' which was made responsible for the sampling and publication of the data back to about 1803. A number of ministries published their 'own' figures, and a section of the Ministry of Home Affairs was put in charge of the compilation of statistical yearbooks which gave a selection of available data. However, in 1878, this section was disbanded. Although the developments resulted in the availability of a considerable amount of information, it related only to government activities or by-products of these activities. Both scientists and the business world wanted figures on other issues as well.

9. A group around the lawyer J. de Bosch Kemper were very active in this field. In 1849, he published the first 'Staatkundig en Staathuishoudkundig Jaarboekje' (Abstract on Politics and Economics). This initiated the founding of the 'Vereeniging voor de Statistiek' (Association for Statistics) (Mooij, 1994). The Association asked the government for more statistics. It tried to gather statistical information itself as well, but failed as a result of lack of capacity, lack of financial possibilities and because it was not possible to make response compulsory.

10. As far as statistics are concerned, the rest of the nineteenth century was a sequence of unsuccessful efforts to sample, process and publish reliable statistics. Statistical commissions were founded and dissolved again. It took until 1899, when a former president of the Association for Statistics became a cabinet minister, that parliament accepted his proposal to found both a Central Commission for Statistics and a Central Bureau of Statistics.

11. Looking at the development of statistics in the nineteenth century it becomes clear that no experience was acquired for the very first step in making statistics: the sampling of data, due largely to the fact that the figures were mainly by-products of government activities. Also the Population Censuses, which were not by-products, only rendered that experience at the end of the century, probably because the censuses were held only every ten years.

12. A consequence of the lack of experience was that the publications very seldom gave information about the definitions of the variables estimated. Also, continuity was often absent, even in the case of statistics (the by-products) which came available on the basis of laws which remained unchanged for years. For instance, a proposal to change a tax law was made to adapt the law to the deviation between the rules of the law and the rules in practice.

13. The complete description pursued by Goldberg remained unattainable until far into the twentieth century. On the one hand because economic theory could not yet give the necessary basis, and on the other because the government clung rigorously to the linking of the statistical information to its own policy.

14. In the third phase of the development of the Dutch statistics the breakthrough to the present system of statistics was effected. The majority of the statistics became a part of the description of the economic and social processes. Two facts influenced these developments in the Netherlands: the centralisation of the statistical information and the economic, social and political situation in the 1930s.

15. The first fact is formulated in the Royal Decree of 9 January 1899 which established a central statistical office: 'The Central Bureau of Statistics gathers, processes and publishes, as far as the available resources permit, the statistical information which the director-general considers useful for practice and science'. And next: 'The Bureau shall not undertake new statistical research or outlays, or terminate existing statistics, without permission from the Central Commission for Statistics.'

16. The first activity of the Central Bureau of Statistics was to take over the statistics which were compiled by the ministries. It also set up new statistics. During World War I, the Allies asked for information about the Dutch imports in relation to the stringent Dutch needs. Therefore, statistics on production and use for a great number of industries were set up. After the war, the original aim of these statistics no longer existed but the Bureau succeeded in saving the financing of them. The sentence 'as far as the available resources permit' in the Royal Decree endured the influence of the government via the Bureau budget.

17. The centralisation of statistics expanded experience with all aspects of making statistics. The less strict attitude of the government resulted in a modest extension of the scope of the statistics.

18. The second fact has to do with both the economic decline and its consequences and the threat of war in the 1930s, which forced the government to take measures. One result was the development of the system of national accounts which was used for economic policies. In the Netherlands, Jan Tinbergen played a decisive role in this area. In 1936, he presented his famous macro-economic model for the Dutch economy which led to the elaboration of the national income estimates and to the development of the input-output tables which were used to optimise the utilisation of scarce raw materials. After World War II, the newly established Central Planning Bureau required new national accounting data. This led eventually to a major expansion of the Central Bureau of Statistics.

19. Traditionally, the Bureau did not want to make estimates (as opposed to counting). This already becomes clear in the publication of the 1899 Population Census which presents a detailed explanation and comparison with other statistics. However, differences between figures were only indicated, they did not result in improvements of the data. The results of the calculation of the national income, which was based, of course, on many estimates, could only be published with the remark in the accompanying text that making estimates was not a task for the government but should be done by independent researchers. However, as the estimates were used to a

greater extent by policy makers, the objections gradually disappeared.

III. THE CENSUSES

Introduction

20. In the Netherlands, official censuses were taken every ten years starting in 1829. The census scheduled for 1940 was cancelled because of the outbreak of World War II. The last census was taken in 1971. After that year the opposition to the census had become so great and widespread that the government decided to abolish the population census.

21. Before 1829, a number of enumerations of the population took place. The first general one was taken in 1795 1/ at the instigation of the newly formed Batavian Republic. In the period between 1795 and 1815 the various governments repeatedly asked the provincial governors for information on the size of the population. This was given on the basis of the population accounting, sometimes completed on the basis of local enumerations. In 1795, the purpose of the enumeration was to create a basis for the organisation of elections. In 1815, the government of the new Kingdom of the Netherlands held an enumeration of the population for the formation of military districts.

22. When defining their concepts, researchers preparing new statistics should consider the wishes of potential users of their findings. They should also take into account the restrictions imposed by the process of sampling and compiling the data. When reworking existing statistical sources this relative freedom does not exist: the concepts have already been chosen. However, this does not mean - especially in the case of the nineteenth century statistics - that they are always clearly described. Historical research has therefore to find out which concepts were used in the original statistics. Only then does comparison become possible with the method currently in vogue, and the 'old' data can be transformed into 'new' ones. 'Bridging' definitions may have to be used to make data comparable in order to arrive at meaningful historical time series.

The Population in the Netherlands 1795-1899

23. Historians describing social and economic developments in the Netherlands in the nineteenth century are rather hesitant when it comes to explaining population movements during that period. The results of population censuses and the statistics on births and deaths are considered trustworthy, but the statistics on migration are generally rejected. Hofstee (Hofstee, 1978), starting out from this evaluation used census figures and the statistics of births and deaths for the period 1815-1850 for estimating net migration. His result was a net migration of 143,000 people (including the province of Limburg for 1815-1830). Stokvis (Stokvis, 1985), however, estimated the number of Dutchmen living abroad in 1850 at 68,000 and the number of foreigners living in the Netherlands in the same year at 71,000, concluding that it seemed difficult to accept Hofstee's estimates. Since this

conclusion creates uncertainty about the accuracy of all nineteenth century population statistics, it seemed appropriate for Statistics Netherlands to re-investigate this problem (Oomens, 1989).

24. Oomens' study analyses Dutch population data, statistics on Dutch immigrants in other countries and comments on these figures, resulting in substantial corrections on the original census data, for the following reasons:

- border changes;
- the change from actual to resident population (1849 and 1869);
- different census dates;
- most of the navy personnel on ships that were not in home waters on the census date were not included in the censuses;
- skippers inland vessels and their families (up to and including 1849).

25. A comment on the births and deaths statistics in the 'Statistisch Jaarboekje van 1839' (Statistical Abstract of 1839) (Lobatto, 1839) turned out to be significant. It necessitated a correction for the number of births as published in the period before 1837, as in many provinces the number of births did not include stillbirths, while the number of deaths did. Approximately about 174,000 births in the period 1796-1837 were affected.

26. In other countries, direct information on immigration in the nineteenth century hardly exists. There are immigration statistics for the United States, but these are considered incomplete (Swierenga, 1981). German (Prussian) statistics provide figures, but these are limited to immigrants who opted for the German (Prussian) nationality. Information available for many countries is found in censuses (usually for 1850 and later years) and refers to the number of residents by country of birth and/or by nationality. Estimates on immigration or emigration for a number of countries can be based on these figures. If the information refers to the country of birth, a method can be used which was described quite elegantly by Kuznets and Rubin (1954).

27. Table 1 presents a summary of the estimates concerning the state of the population and population movement for the period 1796-1899. The differences between the (corrected) census figures and the estimates from the (corrected) data of the population accounting are surprisingly small. The conclusion is that the new estimates present a reliable picture of nineteenth century population.

Table 1. Summary of the estimates, 1796-1899

The labour force in the Netherlands 1849-1899

28. In the Netherlands, occupational censuses, as a component of the population censuses, were taken in 1849, 1859, 1889, 1899, 1909, 1920, 1930, 1947, 1960 and 1971. After 1971, data are derived from labour force surveys and the labour accounts. It is very difficult to compare the occupational censuses, a view shared by the census commissioners themselves. Von Baumhauer, who played a leading role in developing professional statistics in the Netherlands and was in charge of the 1859 occupational census wrote: 'It is completely impracticable to make a comparative observation of the statements of the population concerning their occupation for both censuses (1849 and 1859)' (Baumhauer, 1873). The introduction to the occupational census of 1889 quotes this statement and comments: 'However, to nearly the same extent this also holds for a comparison of the results of the first two censuses with that of 1889' (cf. Uitkomst, 1889). Comments on the censuses held after 1889 are less negative, but research has shown that then, too, differences still existed which made it difficult to obtain a clear overall picture. So, tracing the differences is a first step towards coherence. The next step is to implement the corrections in order to make the censuses comparable (Oomens and Den Bakker, 1994).

29. In studying the population in the nineteenth century it was possible to use supplements, comments and studies on this field which were made through the years. This is not the case with regard to the occupational censuses. The ones of 1849 and 1859 were unsuccessful according to the Association for Statistics; further substantial comments on the occupational censuses are not available.

30. In the project the following method was used (see also section 3.1):

- Analyzing the scheme, implementation and results of the occupational censuses;
- Comparison of the census figures with data from other sources;
- Analyzing differences between successive censuses which seem unrealistic.

31. The comparison of census data with those from other sources did not yield much result because only a few other sources exist and because of differences in concepts used. In fact, only tax data concerning domestic servants were useful. The detailed analysis of the censuses was useful because in some cases it was mentioned that improvements were made to avoid errors which were made in the previous census. Many corrections on the original census data were made on the basis of detailed comparisons of successive censuses.

32. In the recent past, many forms of part-time jobs have been introduced. However, already in the nineteenth century part-timers participated in the labour force, for instance in agriculture (wives and children) and in brickyards. The questionnaires for the occupational censuses did not take

account of part-time work. The population was divided into people with and people without occupation and the interpretation was left to the poll-taker. It goes without saying that this resulted in great differences between successive censuses. Although these differences were corrected for, it was not possible to determine the norm used to classify a person in the category with or without occupation.

33. Another problem has to do with the census date (December 31) and the definition of the population. Persons who worked in the Netherlands but did not live in the Netherlands at the end of the year were not counted (for instance, peat cutters and coal miners).

34. Further remarks on the study:

- At the time of the first occupational censuses questionnaires did not yet differentiate between kind of enterprise and occupation. The censuses of 1849, 1859 and 1889 concerned only the occupations: all workers with the same occupation were added together, regardless of the type of enterprise they were employed by. The 1899 census provides both an industrial and an occupational classification which were used to make an industrial classification for the previous censuses.

Apart from this distinction, the classifications used in subsequent censuses have not been identical. In order to arrive at comparable data we need to choose one and only one classification. The next step is then to 'doctor' the data of all censuses according to the classification of our choice.

In earlier attempts to compile comparable data on the labour force it was more or less automatically assumed that they should be based on the most recent classification. An objection is that even the most recent classification has to be altered in due time which means that work on time series will have to be done all over again.

Since reclassifying older censuses will by far require the most energy, it seemed better to choose a classification not much different from the nineteenth century structure. We have chosen the classification of the 1920 census as a benchmark, since this was the first census with a reasonably workable industrial activity index.

- The criticism of contemporaries on the censuses of 1849 and 1859 concerned mainly the fact that many people were classified as 'worker' without further comment. In 1889 the same occurred, but the poll-takers were obliged to give a further description (233,654 questionnaires were affected).
- In the nineteenth century, persons who employed domestic servants had to pay tax on them. For tax purposes, domestic servants include people who work for their employer's company and live in his house.

The latter were erroneously classified as domestic servants in the censuses of 1849 and 1859.

- After implementation of the mentioned corrections for the regions (17 towns and 11 provinces, excl. these towns), a time series analysis was carried out. It appeared that great differences occurred concerning people without occupation which were a consequence of mistakes in the processing of the questionnaires.
- At the request of the Ministry of Defence, from 1889 to 1930 conscripts were classified under their previous occupation. After 1930 they were classified as soldiers.
- The poll-takers of the 1899 census had great difficulties in classifying women who belonged to a religious order and worked as nurses. The time series of women employed in religious organisations and in nursing reveals that the same problem evidently occurred in previous censuses.
- In 1899 the number of porters was much lower than in previous censuses, presumably because of a change in the terminology for which corrections had to be made.

IV. THE 19TH CENTURY POPULATION CENSUSES AND WHAT WE HAVE LEARNT FROM THEM

35. Two general conclusions from the Dutch nineteenth century censuses are:

- The government decided on the purpose of the censuses. They were focused on information needed for government activities. Social issues seldom played a role in the censuses;
- There was insufficient attention for the comparability of the censuses.

36. Broadly speaking, population censuses are taken because society demanded certain information. However, in the nineteenth century it was only one part of the society which determined what had to be counted in the Dutch censuses: the government. No other parts of society had any influence in this respect.

37. In the course of the nineteenth century both scientists and the business world put forward proposals on the kinds of data to be gathered. However, the government was very reluctant to meet these wishes: only data which were needed for government activities were compiled. Of course, in a way these government activities reflected the issues in society. There were external discussions about the variables to be measured in the censuses. But these debates were mainly held by professional statisticians who were sometimes closely associated with the authorities. The authorities disliked such debate: around 1880 the small group of statisticians employed at the Ministry of Home Affairs was dismissed.

38. Social issues sometimes played a role in censuses. The 1795 population census was taken with the aim to form electoral districts. Here the social context is clear: realisation of an important ideal of the French revolution, viz. influence of the people on the government. 2/

An important aim of the 1815 census was the one that already played a role in the ancient censuses: how many soldiers could be recruited from the population. The government also often wavered in its idea of what should be asked. On several occasions blind people and deaf-mutes were counted to estimate the costs of their education; in 1909 the physically handicapped were counted. Also sometimes questions were asked about living conditions.

39. In the Netherlands, censuses were taken to control the system of population accounting. After every census it appeared that the outcomes did not match the data derived from the previous census and the data from the population accounting. However, the results of the last census were kept. The explanation for this statistical discrepancy was found in the incompleteness of the figures concerning immigration and emigration.

40. From 1849 onwards, occupational censuses were taken together with the population census (with a number of exceptions). In the preparation of the 1889 census there was a debate on the question of whether an occupational census was necessary, in view of the technical and financial objections. The advocates of an occupational census argued that it was necessary to judge the social situation of the population. The composition of the labour force and the nature of the enterprises influence, for instance, the concentration of the population in cities, which could, among other things, give rise to unemployment and social unrest, lead to public health problems and result in a drop in moral standards. The position of the government was still that only data have to be gathered which are of importance for government activities. However, it was felt that the government is responsible for the social health of the population, which made an occupational census necessary. So, the discussion of the role of the government was reflected in the questionnaires of the censuses.

41. A more recent example of the influence of social phenomena on population censuses is the dwelling census which was taken in 1947. The aim was to get information about the housing stock after World War II. This information was needed for the planning of home construction, because so many houses had been destroyed in the war.

42. A statistical lesson from nineteenth century censuses is the need for comparability. Censuses are taken to obtain information on the population of a country at specific moment in time. Censuses are taken regularly, which should enable comparisons in time. However, for that purpose definitions and classifications should remain unchanged, or at least should be able to be linked to each other. The lack of comparability in the nineteenth century Dutch censuses asked for great efforts afterwards to attain comparability, whereby numerous assumptions had to be made.

43. Looking at the successive censuses it appeared that 'learning by experience' hardly applies to the 19th century censuses. Some examples to illustrate this are:

- The remark of the official in charge of the 1859 occupational census about the lack of comparability between the 1849 and 1859 censuses did not improve the comparability of those censuses with the next one, on the contrary (see section 3.3);
- In 1849, as a result of obscure instructions, many people were classified as 'labourers, day-labourers', without further description. In 1859, the same occurred with a dramatic result: about 19% of the labour force was classified in that category. In 1889, the same happened, but the poll-takers were obliged to give a further description;
- It took until 1859 before inland shippers and their families were included in the population censuses;

44. Perhaps the period of ten years between two successive censuses is too long to take advantage of the lessons from previous censuses. Probably, the centralisation of the statistics in 1899 had a positive effect in this respect.

ENDNOTES

1/ Before 1795, from the Middle Ages to the French Revolution only local or provincial censuses were held.

2/ A report of the 1795 Census Commission for Holland started with the famous words 'Liberty, equality, fraternity' of the French revolution and the date was: 6 January 1796, the second year of the Batavian Freedom.

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