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Construction of a Census of Companies for The Netherlands in 1896*

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Abstract:

To overcome the lack of a representative dataset on the manufacturing sector in the Netherlands before the first census of companies in 1930, we constructed an alternative census of companies for 1896. Based on a large collection of local-preserved municipal reports, we estimated the number of establishments, employees, and steam engines, standardized for all Dutch municipalities and all manufacturing sectors. In contrast to other source material around this time period, this newly created dataset gives researchers for the first time a view on the structure and competitiveness of the Dutch manufacturing sector at the timing of its Industrial Revolution on such a geographical and sectoral detailed level. Following our illustration of the textiles manufacturing sector, we found that in 1896 modern factories and steam engines were limited to smaller centres in the eastern and southern part of the country, while the majority of the country still depended on smaller, non-mechanized handicraft establishments.

Introduction

During the first half of the nineteenth century, the economic gap between the Netherlands and its Western European neighbours was widening: while most countries followed the British industrial exam-

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ple, the Netherlands faced an economic standstill. Thanks to political and economic reforms after the 1840s, the economic tide began to turn as a period of economic modernization and industrialization started after the 1860s, helped by the economic transfers with its overseas colonies. Why the Netherlands embarked so late in the nineteenth century on this path towards modern economic growth has been the topic of debate among both contemporaries and historians.¹ One hindrance to answering this question has been the lack of available source material, to the point of the Netherlands being described as a 'statistical late-comer'.² With its first census of companies only published in 1930, the Netherlands falls behind in a long list of most European countries, in terms of the measurement of its manufacturing sector.³ In other words: even though all evidence indicates that the Dutch Industrial Revolution happened relatively late for a Western European country, between 1860 and 1910, due to a lack of data we know relatively little about the structure of the Dutch economy before or during this period.

Of course, sources do exist for the second half of the nineteenth century. Yet, it is often difficult to assess their reliability. For 1857 and 1871, the private organization Dutch Society for the Promotion of Industry compiled two editions of the *Condition of the Dutch Factories*, which assembled a large collection of municipal and provincial reports of the Chambers of Commerce and Factories.⁴ For 1888-1890, the inquiry of

1 For an introduction on this topic and debate, I refer to J.L. van Zanden and A. van Riel, *Nederland 1780-1914. Staat, instituties, economische ontwikkeling* (Amsterdam 2000); M. van Tielhof et al., 'Introduction. Economic history in the Netherlands between 1914 and 2014', *TSEG / Low Countries Journal of Social and Economic History* 11:2 (2014) 1-20. Based on the increase in total factor productivity growth and GDP after the 1860s, see: J.P. Smits, E. Horlings and J.L. van Zanden, *Dutch GNP and its components 1800-1913* (Research Memorandum Groningen Growth and Development Centre, Groningen 2000). Most publications put forward the 1860-1914 period as the start in which the Netherlands industrialized and caught up with economic growth, often pointing to a time-lag effect after the economic reforms of the 1840s (see: Van Zanden and Van Riel, *Nederland 1780-1914*). However, based on the continuing dominance of smaller industrial firms and a rather slow transition of the labour force from the agricultural sector to the manufacturing and services sectors during 1860-1890, other authors put forward 1890-1914 as the period in which the Netherlands started industrializing (see: J.A. De Jonge, *De industrialisatie in Nederland tussen 1850 en 1914* (Amsterdam 1968)).

2 J.L.J.M. van Gerwen, 'A statistical latecomer. Dutch industry in figures', in: J.G.S.J. van Maarseveen, P.M.M. Klep and I.H. Stamhuis (eds.), *Official statistics, social progress and modern enterprise. Vol. 1: The statistical mind in modern society. The Netherlands 1850-1940* (Amsterdam 2008) 335-356.

3 The first census of industry in the Netherlands was published in 1930, relatively late compared to Sweden (1749), Norway (1769), Austria (1841), France (1845), Belgium (1846), United States (1850), or Germany (1875).

4 Nederlandsche Maatschappij ter bevordering van Nijverheid, *Staat van de Nederlandsche fabrieken volgens de verslagen der gemeenten, die aan het Ministerie van Binnenlandsche Zaken worden ge-*

the engineers H.W.E. Struve and A.A. Bekaar reported the large manufacturing enterprises in the Netherlands,⁵ while in 1910 J.C.A. Everwijn edited the *Description of the Commerce and Industry in the Netherlands*.⁶ Yet, the representativeness of each of these sources is disputed. The *Condition of the Dutch Factories* of 1857 and 1871 more than often lack numbers on establishments or employees, as the municipal governments often did not fill in their reports completely, while the edition of 1857 only documented on 655 of a total of 1,209 municipalities. Furthermore, the inquiry of Struve and Bekaar reported an unspecified share of larger companies and, in addition, did not contain information on the city of Tilburg and the entire province of Limburg.⁷ Lastly, Everwijn did not capture the smaller manufacturing enterprises and reported exclusively 'a certain number of areas of trade and industry'.⁸

In order to fill this statistical gap, we reconstructed a new 'census of companies' for 1896, a benchmark year roughly located in the middle of what has been identified as the Dutch Industrial Revolution. For the construction of such a new census, we chose to collect an unprecedented large sample of yearly filled-in Dutch municipal reports, being the only source that documented industrial activities on the local level quantitatively.⁹ By augmenting this dataset with data of the population

zonden (Haarlem 1859) and Nederlandsche Maatschappij ter bevordering van Nijverheid, *Statistiek van de fabrieks- en ambachtsnijverheid in Nederland: getrokken uit de verslagen, welke door burgemeester en wethouders, ingevolge art. 182 der gemeentewet, jaarlijks den gemeenteraad worden aangeboden* (The Hague 1874).

5 To access and for more information, please consult: <http://www.neha.nl/struve/>.

6 J.C.A. Everwijn, *Beschrijving van handel en nijverheid in Nederland* (The Hague 1912).

7 After a first initiative of the House of Representatives in 1887 and as a first test, Struve and Bekaar first visited the factories in the cities of Tilburg and Maastricht, together with the entire province of Limburg. As their reports on these regions deviated strongly – both in structure and content – from the data provided in the later inquiry of Struve and Bekaar, data about these regions were not included by Struve and Bekaar in their later inquiry. The archival sources documenting the manufacturing sector in these regions can be found in National Archives of the Netherlands (The Hague), 2.02.22 Archief van de Tweede Kamer der Staten-Generaal 1815-1945; 3286-3300 Stukken van de commissie van enquête omtrent het tegengaan van overmatige arbeid en de toestand van fabrieken en werkplaatsen met het oog op de veiligheid, de gezondheid en het welzijn der werklieden 1886-1887, file 3300, attachments T, U, and V.

8 Van Gerwen, *A statistical latecomer*, 339-340. Everwijn was fully aware of the incompleteness of his survey as well, see: Everwijn, *Beschrijving van handel en nijverheid in Nederland*, 14.

9 One could argue that, next to the municipal reports, the reports of the locally-installed Chambers of Commerce would also be able to provide a basis for the construction of an alternative 'census of companies'. However, we believe that the municipal reports are better suited for this exercise, based on the two following reasons. First, the Chambers of Commerce reports seem only available for the larger Dutch municipalities. Second, these reports prove to be very heterogeneous in both structure and content, often lacking information on the smaller handicraft companies and often lacking quantitative informa-

census of 1899, we achieved a complete coverage of the labour force in all Dutch municipalities. Thus, we can present for the first time a complete estimate of the Dutch manufacturing sector before 1930 on the sectoral and municipal level, which, in turn, can be linked to the editions of the Condition of the Dutch Factories of 1857 and 1871. In section 2, we review and discuss the 1896 municipal data in greater detail. In section 3, we put our dataset in perspective by comparing it with the data of the aforementioned inquiry of Struve and Bekaar (1890) and the population census. Furthermore, we illustrate the census with an empirical test for the Dutch textiles sector, a sector commonly regarded as having a catalytic effect for the industrialization process of other manufacturing sectors,¹⁰ followed by a brief illustration of the textiles manufacturing sector in section 4 and a conclusion in section 5. For the scholar with an interest in using this dataset, we refer to the appendices of the forthcoming publication of the PhD manuscript of the author.¹¹

The collection of municipal reports of 1896

In most cases, the municipal reports were preserved in the archives of the *States-Provincial of the Netherlands* (for the list of the respective municipalities for which we found a matching municipal report, see Appendix 1).¹² However, for the provinces of Limburg, Zeeland, Noord-Holland, and Zuid-Holland this was not the case.¹³ For these four provinces,

tion crucial for our goal, that is an estimation of the number of establishments, employees, and steam engines.

10 See, for instance: N.F.R. Crafts and C.K. Harley, 'Output growth and the British industrial revolution. A restatement of the Crafts-Harley view', *Economic History Review* 45:4 (1992) 703-730; S. Broadberry and B. Gupta, 'Lancashire, India, and shifting competitive advantage in cotton textiles, 1700-1850. The neglected role of factor prices', *Economic History Review* 62:2 (2009) 279-305.

11 Until this publication, the reader is always free to contact the author via email.

12 In Dutch: *Provinciale Staten-Generaal*. After being filled in by the municipal government, these reports were sent to these States-Provincial or the provincial governments in the Netherlands, where they often were stored in their respective provincial archive. For an overview of these archives, see: Appendix 1.

13 In Limburg, all the municipal reports were destroyed after the provincial government composed a yearly volume based on these reports, deeming the municipal reports not useful anymore, even though this composed volume unfortunately only reported the larger factories. For the 1896 version, we refer to the *Verslag van den toestand van het hertogdom Limburg in het jaar 1896 gedaan aan de Provinciale Staten door de gedeputeerde staten in de zomervergadering van het jaar 1897* (Maastricht 1897). For Zeeland, a large part of the provincial archive and its municipal reports in Middelburg went up in flames after the bombing of the city centre during World War II. For the province of Zuid-Holland, since it lacked an official provincial government, no municipal reports were collected on the provincial lev-

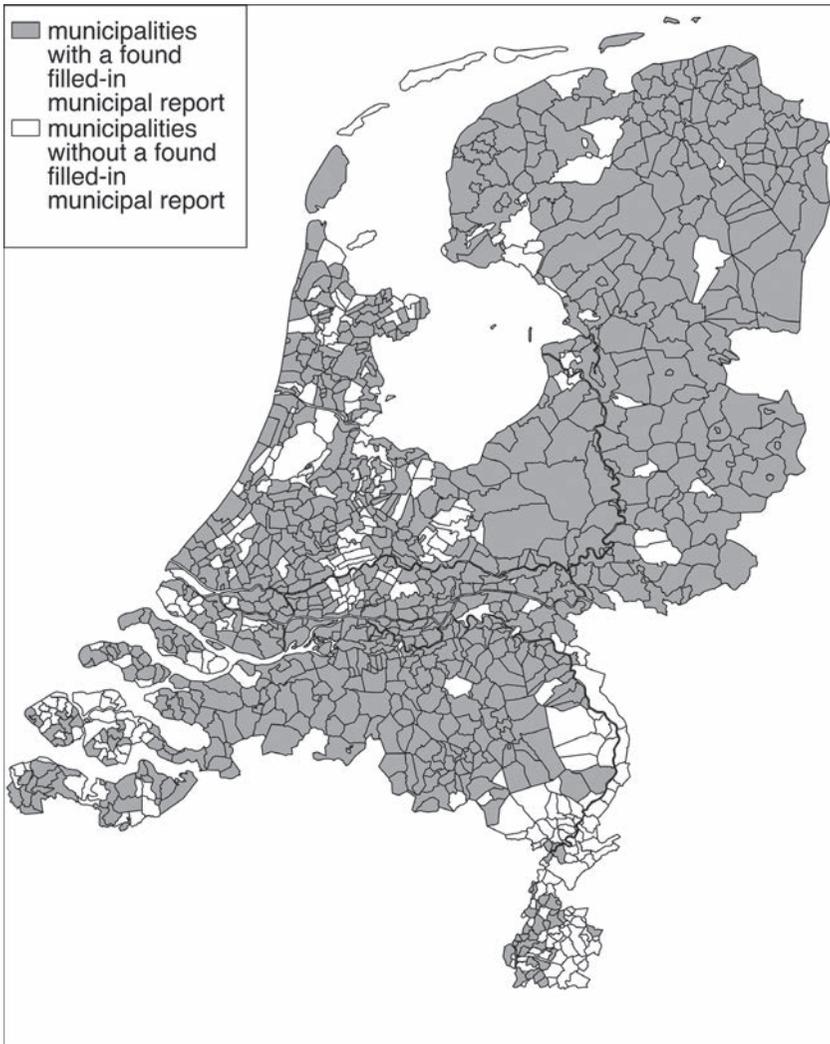
we had to turn to local, municipal government archives (for a complete overview, see Appendix 1) which preserved these reports before sending them to the provincial government. Needless to say, we were not able to retrieve a representative municipal report for each Dutch municipality: in total, we found filled-in municipal reports for 852 of the 1,121 municipalities in the Netherlands (see Map 1). Especially for the provinces of Limburg, Zeeland, Noord-Holland and Zuid-Holland, the provinces where the municipal reports could not be retrieved in the provincial archive, we seem to lack a substantial amount of municipal reports. These gaps in our dataset can mainly be credited to the fact that the local archives, often organized by a small municipal government, were less capable of preserving these sources throughout the twentieth century.¹⁴ Furthermore, although these reports were filled in on a yearly basis, information about employment in the industry sector was only provided on a five-year basis. However, the pages which documented statistics on the manufacturing sector often remained empty, leaving us in doubt whether this was attributable to the implausible fact that no industrial activity within the town was present or negligence of the local administrative staff.¹⁵

el. Lastly, for Noord-Holland, although we found no direct evidence on the reason why the provincial government archive did not preserve the municipal reports, we believe that one of the various destructions of provincial government archive material during 1896-1943 may have led to the destruction of the municipal reports. For an overview and more information on the destruction of archival material in the provincial archive of North Holland, we can refer to the introduction to the inventory of the provincial archive, to be found in *Archief van Noord-Holland, 16 Provinciaal Bestuur van Noord-Holland*, online available (accessed 25 July 2018) via <https://noord-hollandsarchief.nl/bronnen/archieven?mivast=236&mizig=210&miadt=236&miaet=1&micode=16&minr=851674&miview=inv2&milang=nl>. Although we could not find any evidence for the possible destruction of the municipal reports in North Holland in this introduction, we believe (given the mention that the older municipal budget reports were destroyed in 1943), the most plausible explanation is that the municipal reports also were destroyed on one of such occasions.

14 A multitude of reasons could have been responsible for the loss of the local municipal reports: some municipal governments destroyed these reports due to shortage of storage, some reports were lost during the merge of municipal governments (and thus the merge of municipal archives), in some municipal archives it proved unable to find the reports for our selected benchmark year, etc.

15 This assertion is based on our own research on samples of the yearly municipal reports in the provinces of Limburg, Utrecht, and Groningen (available on request). Although these reports mostly document on a yearly basis, employment in industry was only reported on a five-year basis (on the years of 1846, 1851, 1856, 1861, ... and following). Since some municipal reports did not contain any information in its edition of 1896, we first tried to solve this issue by consulting the editions of 1891 or 1901. However, if this also did not contain any information, we considered such municipalities as a municipality with no useable municipal report (see: Appendix 1).

Map 1 The municipalities covered by the sample of the census of companies in 1896



Each municipality documented four categories of information about the activity of the manufacturing sector within its municipal boundaries. First, they reported on an individual basis the number of factories (subdivided by factory/handicraft establishments), the number of employees (subdivided by gender and adult/child), the manufacturing activity, the number of steam engines and the amount of horse power they induced. In the municipal reports a factory was defined as each establishment with more than 20 people employed and/or if a steam en-

gine was present. Second, each report noted the number of establishments and employees operating without steam engines and employing less than 20 people. These were classified as *ambachten* or handicraft establishments and categorized according to activity or profession, although this was done arbitrarily, as no formal classification system of these activities or occupations was provided by the central government. Third, they reported information on potential peat or coal mining activities, often including information on the number of establishments and employees. Fourth, they included information on shipbuilding facilities and the number of ships produced in the local dockyard.

As we want to construct a census of companies directly comparable to the later constructed censuses of companies in the Netherlands, we decided to collect the following information on the municipal level: the number of establishments, the number of employees (with a division over gender and adult/child), and the number and induced horse power of the steam engines, per manufacturing sector and per municipality. However, for the conversion of these municipal reports to a standardized dataset on each of these indicators, we first turn to the next section.

Corrections to the municipal reports data

Although the municipal reports contain valuable information in itself, two corrections had to be made before we could have a representative account of establishments and employees. A first correction involved those cases in which reports were filled in but did not contain all the necessary information. So did most reports mention the handicraft establishments, or the factory establishments, but not always both. Of the 852 municipalities for which we found a report, 64 provided data for the handicraft establishments but not for the factory establishments. We corrected these cases by using the data of Struve and Bekaar to fill in the missing factory establishment data. For the reports which provided data on the factory establishments but not on the handicraft establishments, which was the case for 114 municipalities, we applied a more elaborate method (see *infra*). Furthermore, for 6.54 per cent of all records, the number of establishments were listed but not the number of employees. In these cases, we multiplied the former number by the average number of employees per establishment in that particular branch of industry. In the reverse scenario, if we did have numbers of employees but no data on the number of establishments (this was the case for 4.42 per cent of

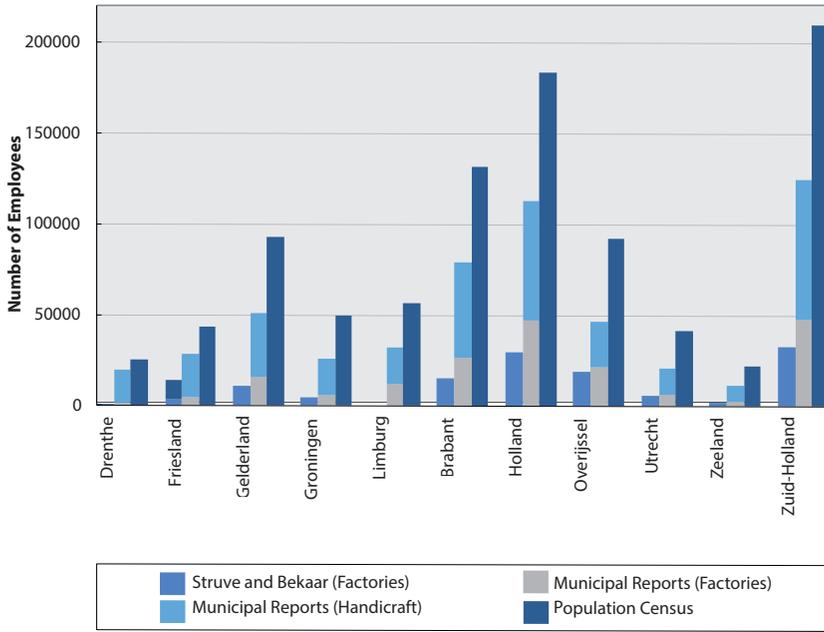
all records), we used the average number of employees in that particular industry branch to reconstruct the number of establishments.

Second, we had to standardize the heterogeneous professions and industrial activities listed in the municipal reports. As the guidelines for the municipal governments did not provide a centralized classification system for the documented occupations or manufacturing activities, 2,982 unique occupational titles or activities were listed in the municipal reports. We solved this issue by attributing each unique occupational title or manufacturing activity to the most suitable class of the International Standard Industrial Classification of All Economic Activities (ISIC), revision 4 classification system. As the ISIC classification is a well-defined classification system which leaves relatively little room for misinterpretations, it presents an ideal framework for classifying all the industrial activities listed in the municipal reports. Thus, we were able to categorize all 2,982 unique activities listed in the reports to 137 standardized four-digit classes of manufacturing activities.

In order to assess the coverage of the dataset of municipal reports, we compare these results with two other sources which measured the Dutch labour force in manufacturing around this time. As mentioned in the first section, one source that does inform us about the manufacturing sector, is the inquiry of the engineers H.W.E. Struve and A.A. Bekaar of 1888-1890. This report lists 464 firms, yet it remained uncertain to what extent these firms captured the larger manufacturing firms in the Netherlands. Comparing the sample of factory-based employment recorded in the municipal reports with the results of Struve and Bekaar (see figure 1), it seems that Struve and Bekaar have missed only a small fraction of the larger Dutch manufacturing firms. One could argue that the deviation between both numbers can be credited to the difference in time of measurement between Struve and Bekaar (1888-1890) and the municipal reports dataset (1896). However, it is hard to imagine that the deviation between both datasets could solely be attributed to new businesses being established between 1888 and 1896. Furthermore, one could argue that Struve and Bekaar's results should even be higher than the results of the municipal reports, as Struve and Bekaar put forward a more inclusive definition of factories than the latter.¹⁶ In particular the employment in the provinces of Noord-Holland and Noord-Brabant seems to have been underestimated by Struve and Bekaar, although the

¹⁶ While according to Struve and Bekaar's definition a factory or a large manufacturing enterprise is an establishment which employed more than ten people, and/or made use of a steam engine, the municipal

Figure 1 Employment in the collection of municipal reports (1896) by Dutch province, in comparison to the inquiry of Struve and Bekaar (1891) and the occupational records of the population census of 1899



lower number in the latter province could be explained by the exclusion of Tilburg in their inquiry.¹⁷

For the larger factory establishments, we can say that, based on the recorded number of steam engines, the municipal reports present a representative image. So does our sample of municipal report 4,617 steam engines (of which 4,237 steam engines seem to match the definition of manufacturing as outlined in the ISIC classification), compared to the 2,918 active steam engines recorded in the inquiry of Struve and Bekaar and the 3,930 steam engines according to earlier estimations of the number of steam engines in the Netherlands in 1890.¹⁸ Yet, a compari-

reports defined a factory as an establishment which employed more than twenty people, and/or made use of a steam engine.

17 Struve and Bekaar were appointed by the House of Representatives to report on all large manufacturing enterprises (here defined as establishments which employed more than ten people, or made use of a steam engine) in the Netherlands in 1888-1890 (Van Gerwen, *A statistical latecomer*, 343). However, as they visited the cities of Tilburg and Maastricht and the entire province of Limburg on an earlier occasion, they did not include the numbers on these regions in their later inquiry.

18 So did H.W. Lintsen, *Geschiedenis van de techniek in Nederland. De wording van een modern samenleving, 1800-1890. Deel VI. Techniek en samenleving* (Zutphen 1993) 192. He estimated that 3,930 steam engines were active in the Netherlands in 1890.

son of the employment numbers in the population census of 1899 with the municipal reports suggests that our dataset faces an underreporting of employment numbers as well, though significantly lower than Struve and Bekaar (see figure 1).¹⁹ To a large extent, this underreporting can be explained by the incomplete geographical coverage of our assembled municipal reports. However, further investigation (available on request) revealed that there appears to have been a highly unequal reporting of handicraft industry in particular manufacturing sectors, with the largest deviations between our sample and the population census to be situated in the manufacturing of food, textiles, apparel, and leather products (respectively ISIC divisions 10, 13, 14, and 15). Since these activities often served as by-employment for subsistence farmers, the composers of the municipal reports might have underreported these activities. In addition, the underreporting of employment in particular provinces (available on request) – the provinces of Noord-Holland, Zuid-Holland, and Overijssel – might not come as a surprise either: these were the provinces with a widespread small-scale, domestic employment in manufacturing.

Therefore, to upgrade the collection of municipal reports to a complete census of companies, we implement a final correction. By adding the difference between employment per municipality and per manufacturing sector in the population census of 1899 and the employment numbers of the municipal reports to the latter, we acquire a complete coverage. By doing so, we tackle two main shortcomings related to the registered number of employees in the municipal reports dataset, namely the gaps in geographical coverage and the structural underreporting of certain sectors in the reports. Furthermore, by using the average number of establishments per employee and multiplying this by the added employment of the population census, we also acquire a representable number of establishments. Of course, this is done under the assumption that the non-reported and reported establishments have the same size, although it is more likely that the non-included establishments in the municipal reports were smaller in size than the registered establishments.

Of course, by mixing both these sources, we introduce several problems in our estimation of the census of companies. First, since the population census aimed to categorize the entire population by occupa-

19 For this exercise, similar to the industrial activities listed in the municipal reports, we attributed each occupational title listed in the population census to the most fitting ISIC revision 4 class.

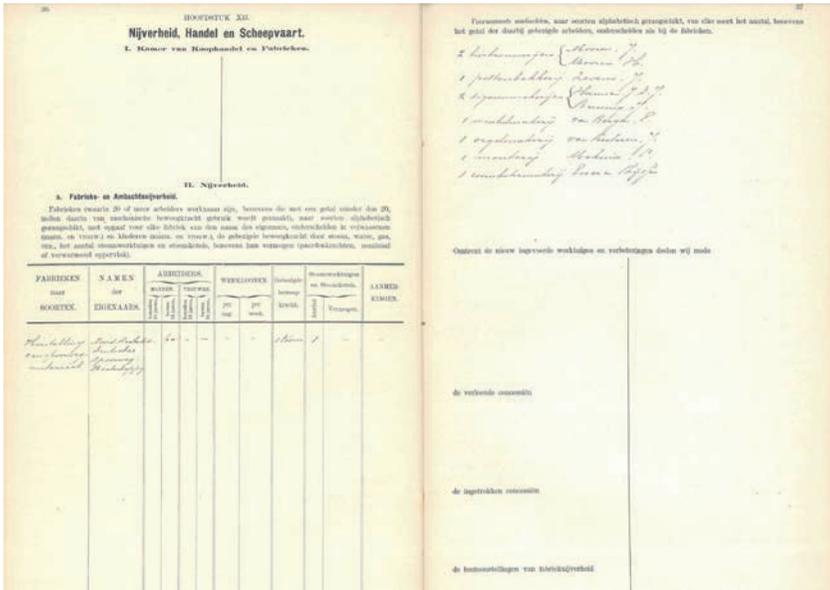
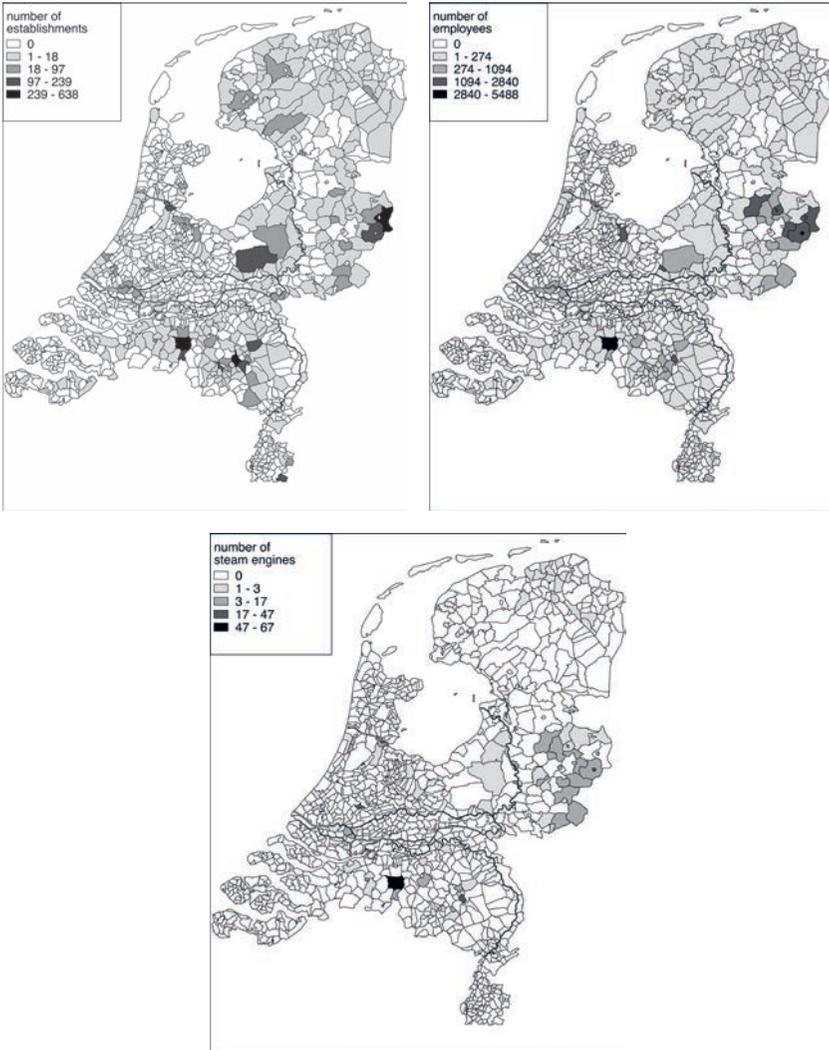


Illustration 1 Extract from the 1896 municipal report of Gennep (Limburg) (source: Municipal Archive of Gennep, 568-642. Reports of the condition of the municipality 1851-1871, 1873-1889, 1891-1935, 607).

tion and the municipal reports aimed to report all current employment in industrial activities, it seems difficult to reconcile the employment numbers of both sources. However, by carefully attributing all occupations to the lowest sectoral breakdown of the population census in the systematized classification system of ISIC revision 4, as we did earlier for the activities listed in the municipal reports (see section 2), large distortions on this issue are unlikely. Second, the municipal reports recorded employees according to the location where the industrial activity took place. In contrast, the population census recorded the geographical location where the employees had their (main) place of residence. Hence, with our exercise, we risk attributing employees in the wrong municipality due to the practice of commuting. Nonetheless, given the high transportation costs and long travel times during this period, we believe our results were not significantly distorted. Third, we also introduce in our dataset several general shortcomings related to the population censuses: this was for instance the case when unemployed people listed their previous job as their current occupation, although one could argue this at the same time also corrects for seasonal employment.

Maps 2a-c Number of establishments, employees, and steam engines in the textiles sector (ISIC division 13) in the Netherlands in 1896



Maps 3a-c Number of employees in the textiles sector (ISIC division 13) in the Netherlands in 1896 (respectively total number of employees, number of employees in factory-based employment, handicraft-based employment)

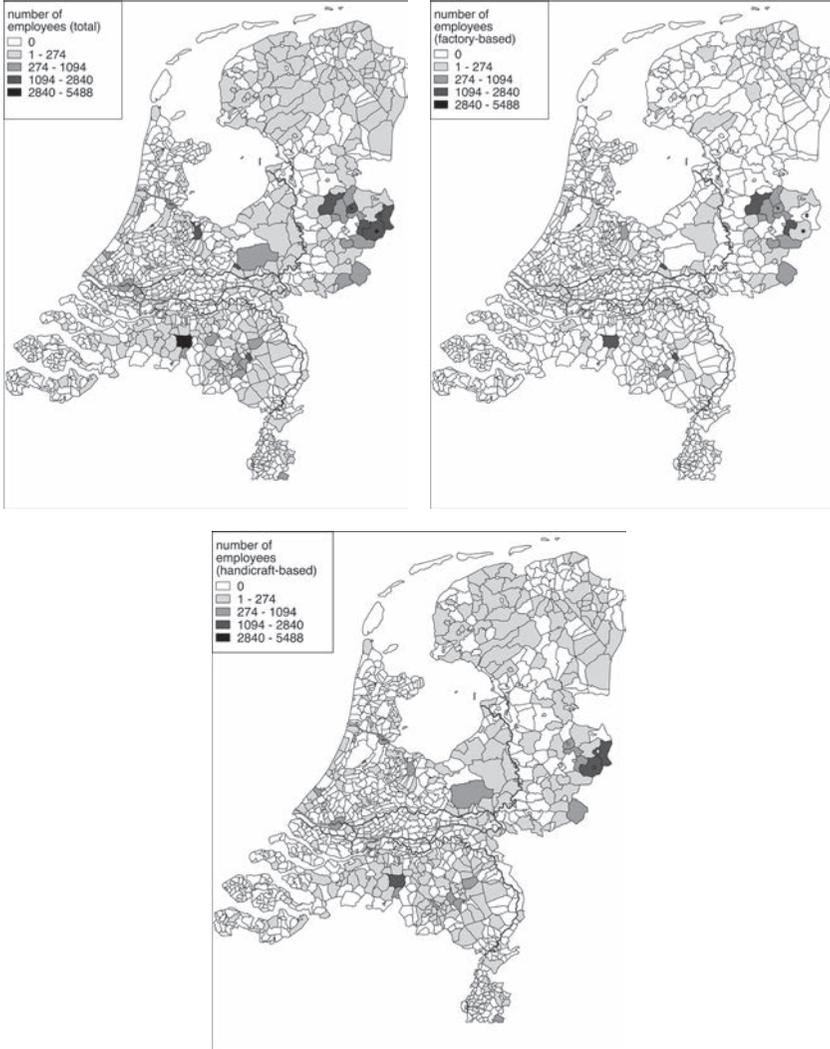


Illustration: The textiles manufacturing sector

Notwithstanding the aforementioned shortcomings, we consider the employment numbers of the population census a solid benchmark, given the fact that multiple studies used these numbers as the most reliable, if not the only, estimation of the Dutch labour force.²⁰ Furthermore, we believe combining both sources allows us to gain further insight in the structure of the Dutch economy, as it enables us to differentiate between employment in factory establishments and handicraft establishments. An example of such an exercise could be found in Maps 2a, 2b and 2c, which show the total number of employees, establishments, and steam engines in the textiles manufacturing sector (ISIC division 13), a sector regarded in both international and Dutch historiography as one of the most exemplary for the Industrial Revolution. Furthermore, given the distinction between the factory and handicraft establishments in the municipal reports data, this also allows us to distinguish the data in Maps 2a-2c between both groups, for which the results are provided in Maps 3a-3c.

Both series of maps not only provide us of a first sight into the economic structure of the textiles sector in this time period, and to highlight the added value of this new census of companies, it also allows us to briefly revisit some theories on economic growth around this time in the Netherlands. Based on the increase in total factor productivity growth and GDP after the 1860s, most publications put forward the 1860-1914 period as the start in which the Netherlands industrialized and caught up with economic growth, often pointing to a time-lag effect after the economic reforms of the 1840s.²¹ In contrast, J. A. De Jonge put forward 1890-1914 as the period in which the Netherlands started industrializing, based on the continuing dominance of smaller industrial firms and a rather slow transition of the labour force from the agricultural sector to the manufacturing and services sectors during 1860-1890.²²

20 Given the widely use of the occupational records of the population census for the estimation of the Dutch labour force, we believe it is safe to assume that the population census of 1899 is able to provide a complete coverage of the Dutch labour force in this year. See, for example: C.A. Oomens, 'De loop der bevolking van Nederland in de negentiende eeuw', *Statistische onderzoeken* 35 (1989); C.A. Oomens and G.P. Den Bakker, 'De beroepsbevolking 1849-1990', *Supplement bij de sociaal-economische maandstatistiek* 2 (1994), and J.G.S.J. van Maarseveen (eds.), *Algemene tellingen in de twintigste eeuw, De methode van onderzoek bij personen en bedrijven* (Voorburg 2002).

21 See: Smits, Horlings and Van Zanden, *Dutch GNP and its components 1800-1913*; Van Zanden and Van Riel, *Nederland 1780-1914*.

22 De Jonge, *De industrialisatie in Nederland*.

In maps 3, the presence of steam engines seem almost exclusively confined to centres as Tilburg, Enschede, Hengelo, Almelo, and Amsterdam. A similar picture arises if we take a look at the factory-based employment in Maps 3a-3c, which appear to be confined to the southern and eastern part of the country. In contrast, in many of the Dutch hinterland handicraft-based employment remained widespread. Thus, Maps 2a-c and 3a-3c seem to support the view of De Jonge and force the literature to take a more nuanced standpoint in the Dutch industrialization process by the year 1896.

Conclusion

In an attempt to fill a considerable gap in the Dutch historiography, we constructed a new census of companies for 1896, based on the rehabilitation of locally-preserved municipal reports. After two corrections – accounting for missing entries and classifying the manufacturing activities – an additional round of corrections was needed to overcome the underreporting of domestic and small-scale handicraft activities. Thus, we are able to present the earliest estimate of the structure of the Dutch industrial sector, both on the local geographical (municipal) and sectoral level. Notwithstanding the limitations of this method, we believe the gains outweigh the costs, as the construction of this census allows us to have a complete list of the number of establishments, employees, and steam engines for all Dutch municipalities and manufacturing sectors within a reasonable margin of error.

A small sample of this dataset on the textiles manufacturing sector, hints at only one of the many possibilities of how this source could be used for further enquiries into the Dutch Industrial Revolution. Research possibilities also include the linkage of this source with later censuses of companies – 1930, 1950, 1963, and 1978 – or recent measurements of the Dutch manufacturing sector. An additional research possibility could be linking this census of companies with earlier estimations of the Dutch industry sector, by using a similar method as outlined in section 2 and 3 with the editions of the *Condition of the Dutch Factories* of 1857 and 1871, as both sources also used municipal reports. Such an exercise would be able to paint a standardized image of the Dutch manufacturing sector over the past 150 years. By doing so, we would not only acquire more insight on how and why the Dutch industrial sector went from retardation to its current strong position in the

international market, it would also enable us to uplift the Netherlands from its position as a 'statistical latecomer'.

About the author

Robin Philips (1992) is a PhD researcher at the International Institute of Social History in Amsterdam. After obtaining a MA in History and a MSc in Economics at the University of Ghent, he is writing his PhD manuscript on regional industrialization in the Netherlands and Belgium, under supervision of prof. dr. Jan-Luiten van Zanden (Utrecht University) and dr. Bas van Leeuwen (International Institute of Social History).

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Appendix 1 Archives and respective municipalities for which a municipal report was used to construct the census of companies of 1896

Archief De Domijnen: Beek, Broeksittard, Grevenbicht, Limbricht, Munstergeleen, Obbicht en Papenhoven, Oirsbeek, Schinnen, Sittard, Spaubeek, Stein

Archief Delft: Delft, Hof van Delft, Maasland, Rijswijk, Vrijenban

Brabants Historisch Informatie Centrum: Aalst, Aarle-Rixtel, Alem, Maren en Kessel, Almkerk, Alphen en Riel, Andel, Asten, Baardwijk, Baarle-Nassau, Bakel en Milheeze, Beek en Donk, Beers, Bergen op Zoom, Bergeyk, Berghem, Berkel-Enschot, Berlicum, Besoijen, Best, Beugen en Rijkevoort, Bladel en Netersel, Boekel, Bokhoven, Boxmeer, Boxtel, Breda, Budel, Capelle, Chaam, Cromvoirt, Cuijk en Sint Agatha, de Werken en Sleeuwijk, Den Dungen, Deurne en Liessel, Deursen en Dennenburg, Dieden, Demen en Langel, Diessen, Dinteloord en Prinsenland, Dinther, Dommelen, Dongen, Drongeleen, Haagoord, Gansoyen, Doevere, Drunen, Duizel en Steensel, Dussen, Munster en Muilkerk, Eersel, Eindhoven, Empel en Meerwijk, Engelen, Erp, Esch, Escharen, Etten en Leur, Gassel, Geertruidenberg, Geffen, Geldrop, Gemert, Gestel en Blaarthem, Giessen, Gilze en Rijen, Ginneken en Bavel, Goirle, Grave, Haaren, Halsteren, Haps, Hedikhuizen, Eethen, Genderen en Heesbeen, Heesch, Heeswijk, Heeze, Helmond, Helvoirt, Herpen, Heusden, Hilvarenbeek, Hoeven, Hooge en Lage Mierde, Hooge en Lage Zwaluwe, Hoogeloon, Hapert en Casteren, Huisseling en Neerloon, Huijbergen, Klundert, Leende, Liempde, Lierop, Lieshout, Linden, Lith, Lithoijen, Loon op Zand, Luyksgestel, Maarheeze, Maashees en Overloon, Made en Drimmelen, Meeuwen, Hill en Babylon in Broek, Megen, Haren en Macharen, Mierlo, Mill en Sint Hubert, Moergestel, Nieuw-Vossemeer, Nieuwkuijk, Nistelrode, Nuland, Nuenen, Gerwen en Nederwetten, Oeffelt, Oerle, Oijen en Teeffelen, Oirschot, Oosterwijk, Oost-, West- en Middelbeers, Oosterhout, Oss, Ossendrecht, Oud en Nieuw Gastel, Oudenbosch, Oudheusden, Putte, Raamsdonk, Ravenstein, Reek, Reusel, Riethoven, Rijsbergen, Rijswijk, Roosendaal en Nispen, Rosmalen, Rucphen, 's-Gravenmoer, 's-Hertogenbosch, Princenhage, Sambeek, Schaijk, Someren, Son en Breugel, Sprang, Sint-Michielsgestel, Sint-Oedenrode, Standdaarbuiten, Steenbergen en Kruisland, Stiphout, Stratum, Strijp, Terheijden, Teteringen, Tilburg, Tongelre, Uden, Udenhout, Valkenswaard, Veen, Veghel, Veldhoven en Meerveldhoven, Velp, Vessem, Wintelre en Knegsel, Vierlingsbeek, Vlierden, Vlijmen, Vrijhoeve-Capelle, Vught, Waalre, Waalwijk, Wanroij, Waspik, Werkendam, Westerhoven, Wijk en Aalburg, Willemstad, Woensdrecht, Woensel, Woudrichem, Wouw, Zeeland, Zeelst, Zesgehuchten, Zevenbergen, Zundert

Drents Archief: Anloo, Assen, Beilen, Borger, Coevorden, Dalen, Diever, Dwingeloo, Eelde, Emmen, Gasselte, Gieten, Havelte, Hoogeveen, Meppel, Nijveen, Norg, Odoorn, Oosterhesselen, Peize, Roden, Rolde, Ruinen, Ruinerwold, Schoonebeek, Sleen, Smilde, Vledder, Vries, De Wijk, Zuidlaren, Zuidwolde, Zweeloo

Erfgoed Leiden en Omstreken: Leiden, Leiderdorp, Noordwijk, Rijnsburg, Sasenheim, Voorhout

Gelders Archief: Aalten, Ammerzoden, Angerlo, Apeldoorn, Arnhem, Barneveld, Batenburg, Bemmelen, Bergh, Bergharen, Beusichem, Borculo, Brakel, Brummen, Buren, Buurmalsen, Culemborg, Deil, Didam, Dinxperlo, Dodewaard, Doesburg, Ambt-Doetinchem, Stad-Doetinchem, Doornspijk, Doorwerth, Dreumel, Driel, Druten, Duiven, Echteld, Ede, Eibergen, Elburg, Elst, Epe, Ermelo, Est en Opijnen, Ewijk, Gameren, Geldermalsen, Gendringen, Gendt, Gorssel, Groenlo, Groesbeek, Haaften, Harderwijk, Hattem, Hedel, Heerde, Heerwaarden, Hengelo, Herwen en Aerdt, Herwijnen, Heteren, Heumen, Hoevelaken, Horssen, Huissen, Hummelo en Keppel, Hurwenen, IJzendoorn, Kerkwijk, Kesteren, Laren, Lichtenvoorde, Lienden, Lochem, Maurik, Millingen, Nederhemert, Neede, Nijmegen, Nijkerk, Oldebroek, Ophemert, Overasselt, Pannerden, Poederroijen, Putten, Renkum, Rheden, Rossum, Rozendaal, Ruurlo, Scherpenzeel, Steenderen, Tiel, Ubbergen, Valburg, Varik, Voorst, Vorden, Vuren, Waardenburg, Wadenoijen, Wageningen, Wamel, Warnsveld, Wehl, Westervoort, Wijchen, Winterswijk, Wisch, Zaltbommel, Zevenaar, Zoelen, Zuilichem, Zutphen

Gemeentearchief Borsele: 's-Heer-Abtskerke, Borssele, Ellewoutsdijk, Heinkenszand, Nisse

Gemeentearchief Capelle aan den IJssel: Capelle aan den IJssel

Gemeentearchief Gennep: Gennep

Gemeentearchief Goes: 's-Gravenpolder, Goes

Gemeentearchief Hulst: Clinge, Graauw en Langendam, Hengstdijk, Hontenisse, Hulst, Ossenisse

Gemeentearchief Landgraaf: Ubach over Worms

Gemeentearchief Maasgouw: Maasbracht, Stevensweert, Thorn, Wessem

Gemeentearchief Meerssen: Bunde, Geulle, Meerssen, Ulestraten

Gemeentearchief Oegstgeest: Oegstgeest

Gemeentearchief Oud-Beijerland: Oud-Beijerland

Gemeentearchief Peel en Maas: Helden

Gemeentearchief Reimerswaal: Krabbendijke, Kruijningen, Rilland-Bath, Waarde, Yerseke

Gemeentearchief Schiedam: Schiedam

Gemeentearchief Schouwen-Duiveland: Bruinisse, Burgh, Dreischor, Duivendijke,

- Elkerzee, Ellemeet, Haamstede, Koudekerke, Nieuwerkerk, Noordgouwe, Noordwelle, Oosterland, Serooskerke (Schouwen-Duiveland), Zierikzee, Zonnemaire
- Gemeentearchief Sluis:** Aardenburg, Eede, Groede, Hoofdplaat, IJzendijke, Oostburg, Sint Kruis, Sluis, Waterlandkerkje, Zuidzande
- Gemeentearchief Terneuzen:** Axel, Overslag, Sas van Gent, Schoondijke, Terneuzen, Westdorpe, Zaamslag
- Gemeentearchief Tholen:** Oud-Vossemeer, Poortvliet, Scherpenisse, Sint Philipsland, Sint-Annaland, Sint-Maartensdijk, Tholen
- Gemeentearchief Venlo:** Maasbree
- Gemeentearchief Vlissingen:** Ritthem, Vlissingen
- Gemeentearchief Wassenaar:** Voorschoten, Wassenaar
- Gemeentearchief Zaanstad:** Koog aan de Zaan, Krommenie, Oostzaan, Westzaan, Wormer, Wormerveer, Zaandam, Zaanwijk
- Gemeentearchief Zederik:** Ameide, Leerbroek, Lexmond, Meerkerk, Nieuwland, Tienhoven, Zoeterwoude
- Gemeentearchief Zoetermeer:** Zegwaard, Zoetermeer
- Groninger Archieven:** Adorp, Aduard, Appingedam, Baflo, Bedum, Beerta, Bellingwolde, Bierum, Delfzijl, Eenrum, Ezinge, Finsterwolde, Grijskerk, Groningen, Grootegast, Haren, Hoogezand, Hoogkerk, Kantens, Kloosterburen, Leek, Leens, Loppersum, Marum, Meeden, Middelstum, Midwolda, Muntendam, Nieuwe Pekela, Nieuweschans, Nieuwolda, Noordbroek, Noorddijk, Oldehove, Oldekerk, Onstwedde, Oude Pekela, Sappemeer, Scheemda, Slochteren, Stedum, Ten Boer, Termunten, Uithuizen, Uithuizermeeden, Ulrum, Usquert, Veendam, Vlagtwedde, Warffum, Wedde, Wildervank, Winschoten, Winsum, 't Zandt, Zuidbroek, Zuidhorn
- Haags Gemeentearchief:** 's-Gravenhage, Loosduinen, Voorburg
- Historisch Archief Westland:** 's-Gravenzande, De Lier, Monster, Naaldwijk, Wateringen
- Historisch Centrum Overijssel:** Ambt-Almelo, Stad-Almelo, Avereest, Blokzijl, Borne, Dalfsen, Ambt Delden, Stad Delden, Denekamp, Deventer, Diepenveen, Enschede, Genemuiden, Giethoorn, Goor, Gramsbergen, Haaksbergen, Den Ham, Ambt-Hardenberg, Stad-Hardenberg, Hasselt, Hellendoorn, Hengelo, Holten, Kampen, Kuinre, Lonneker, Losser, Markelo, Nieuwleusen, Oldemarkt, Oldenzaal, Olst, Ambt-Ommen, Stad-Ommen, Ootmarsum, Raalte, Rijssen, Staphorst, Steenwijk, Steenwijkerwold, Tubbergen, Ambt-Vollenhove, Stad-Vollenhove, Vriezenveen, Wanneperveen, Weerselo, Wierden, Wijhe, Zwartsluis, Zwolle, Zwollerkerkspel
- Noord-Hollands Archief:** Bennebroek, Beverwijk, Bloemendaal, Haarlem, Haarlemmerliede en Spaarnwoude, Heemskerk, Heemstede, Spaarndam, Uitgeest, Uithoorn, Velsen, Zandvoort

Regionaal Archief Alkmaar: Akersloot, Alkmaar, Broek op Langedijk, Callants-oog, Castricum, De Rijk, Den Helder, Egmond aan Zee, Egmond-Binnen, Graft, Harenkarspel, Heiloo, Koedijk, Limmen, Noord-Scharwoude, Petten, Schagen, Schoorl, Texel, Warmenhuizen, Wieringerwaard, Winkel, Zijpe, Zuid- en Noord-Schermer, Zuid-Scharwoude

Regionaal Archief Dordrecht: 's-Gravendeel, Alblasterdam, Bleskensgraaf en Hofwege, Brandwijk, Dordrecht, Dubbeldam, Giessendam, Goudswaard, Hardinxveld, Heerjansdam, Hendrik-Ido-Ambacht, Klaaswaal, Langerak, Maasdam, Molenaarsgraaf, Nieuw-Lekkerland, Nieuwpoort, Numansdorp, Oud-Alblas, Papendrecht, Puttershoek, Sliedrecht, Streefkerk, Strijen, Wijngaarden, Zuid-Beijerland, Zwijndrecht

Regionaal Archief Gorinchem: Arkel, Asperen, Gorinchem, Heukelum, Kedichem, Leerdam

Regionaal Historisch Centrum Limburg: Amby, Borgharen, Cadier en Keer, Eijsden, Houthem, Itteren, Margraten, Mheer, Noorbeek, Oud-Vroenhoven, Schin op Geul, Sint Geertruid, Valkenburg

Regionaal Historisch Centrum Rijnstreek en Lopikerwaard: Barwoutswaarder, Bodegraven, Hekendorp, Lange Ruige Weide, Oudewater, Papekop, Reeuwijk, Rietveld, Waarder, Woerden

Regionaal Historisch Centrum Zuidoost-Utrecht: Hagestein, Vianen

Regionaal-Historisch Centrum Vecht en Venen: Weesp

Stadsarchief Amsterdam: Amsterdam, Buiksloot, Nieuwendam, Nieuwer-Amstel, Ouder-Amstel, Sloten, Watergraafsmeer

Stadsarchief Rotterdam: Barendrecht, Bergschenhoek, Berkel en Rodenrijs, Bleiswijk, Hillegersberg, IJsselmonde, Overschie, Pernis, Rhoon, Ridderkerk, Rotterdam, Schiebroek

Stadsarchief Vlaardingen: Maassluis, Vlaardingen, Vlaardinger-Ambacht

Streekarchief Goeree-Overflakkee: Dirksland, Goedereede, Melissant, Middelharnis, Nieuwe Tonge, Ouddorp, Sommelsdijk, Stad aan 't Haringvliet, Stellendam

Streekarchief Gooi en de Vechtstreek: Blaricum, Bussum, Hilversum, Huizen, Laren, Muiden, Naarden, Nederhorst den Berg

Streekarchief Midden-Holland: Bergambacht, Berkenwoude, Gouda, Gouderak, Haastrecht, Krimpen aan de Lek, Krimpen aan den IJssel, Lekkerkerk, Moerkapelle, Moordrecht, Nieuwerkerk, Ouderkerk aan den IJssel, Schoonhoven, Stolwijk, Waddinxveen, Zevenhuizen

Streekarchief Rijnlands Midden: Aarlanderveen, Alkemade, Alphen, Benthuizen, Boskoop, Hazerswoude, Koudekerk, Nieuwkoop, Nieuwveen, Oudshoorn, Rijnsaterwoude, Ter Aar, Woubrugge, Zwammerdam

Streekarchief Voorne-Putten en Rozenburg: Brielle, Geervliet, Heinenoord,

Hekelingen, Hellevoetsluis, Oostvoorne, Oudenhorn, Spijkenisse, Vierpolders, Zuidland, Zwartewaal

Tresoar, Frysk Histoarysk en Letterkundich Sintrum: Baarderadeel, Barradeel, Bolsward, Dantumadeel, Dokkum, Aengwirden, Ferwerderadeel, Franeker, Franekeradeel, Gaasterland, Harlingen, Haskerland, Hemelumer Oldephaerd en Noordwolde, Hennaarderadeel, het Bildt, Hindeloopen, Idaarderadeel, IJlst, Kollumerland en Nieuwkruisland, Leeuwarden, Leeuwarderadeel, Menaldumadeel, Oostdongeradeel, Ooststellingwerf, Opsterland, Rauwerderhem, Schiermonnikoog, Schoterland, Sloten, Sneek, Tietjerksteradeel, Utingeradeel, Weststellingwerf, Wymbritseradeel, Wonseradeel, Workum

Utrechts Archief: Abcoude-Baambrugge, Abcoude-Proosdij, Achttienhoven, Amerongen, Amersfoort, De Bilt, Breukelen-Nijenrode, Breukelen-Sint Pieters, Bunnik, Bunschoten, Harmelen, Hoenkoop, Hoogland, Houten, IJsselstein, Jutphaas, Kamerik, Kockengen, Laag-Nieuwkoop, Leersum, Loenen, Loosdrecht, Maarssen, Mijdrecht, Montfoort, Odijk, Oudenrijn, Rhenen, Rijenburger, Schalkwijk, Soest, Tienhoven, Tull en 't Waal, Utrecht, Veenendaal, Vinkeveen en Waverveen, Vreeswijk, Werkhoven, Westbroek, Wijk bij Duurstede, Wilnis, Zegveld, Zeist, Zuilen

Waterlands Archief: Beemster, Beets, Broek in Waterland, Edam, Jisp, Middelle, Monnickendam, Oosthuizen, Purmerend, Warder, Wijdewormer

Westfries Archief: Abbekerk, Avenhorn, Barsingerhorn, Berkhout, Blokker, Bovenkarspel, Enkhuisen, Hensbroek, Hoogkarspel, Hoorn, Medemblik, Midwoud, Nibbixwoud, Opmeer, Opperdoes, Oudendijk, Schellinkhout, Sijbekarspel, Spanbroek, Twisk, Ursem, Venhuizen, Wijdenes, Wognum, Zwaag

Zeeuws Archief: Arnemuiden, Middelburg, Sint Laurens, Veere, Westkapelle, Zoutelande

Municipalities for which no municipal report was found: 's-Graveland, 's-Heer Arendskerke, 's-Heerenhoek, Aagtekerke, Aalsmeer, Abbenbroek, Achtkarspelen, Ameland, Ammerstol, Amstenrade, Andijk, Ankeveen, Anna Paulowna, Appeltern, Arcen en Velden, Assendelft, Baarland, Baarn, Baexem, Balgoij, Bathmen, Beegden, Beesd, Beesel, Belfeld, Bemelen, Benschop, Berg en Terblijt, Bergen (Limburg), Bergen (Noord-Holland), Beuningen, Biervliet, Biggekerke, Bingelrade, Blankenham, Bocholtz, Borkel en Schaft, Born, Boschapelle, Breskens, Broekhuizen, Brouwershaven, Brunssum, Buggenum, Cadzand, Colijnsplaat, Cothen, Den Bommel, Diemen, Diepenheim, Domburg, Doniawerstal, Doorn, Driebergen, Driewegen, Echt, Eemnes, Eijgelshoven, Elsloo, Everdingen, Fijnaart en Heijningen, Geleen, Giessen-Nieuwkerk, Goudriaan, Grafhorst, Grathem, Grijskerke, Gronsveld, Groot-Amers, Grootebroek, Grubbenvorst, Gulpen, Haarlemmermeer, Haarzuilens, Haalen, Heel en Panheel, Heenvliet, Heer, Heerhugowaard, Heerlen, Hei- en

Boeicop, Heino, Hemmen, Herkingen, Herpt, Herten, Heythuysen, Hillegom, Hoedekenskerke, Hoek, Hoensbroek, Hoogblokland, Hoogvliet, Hoogwoud, Hoornaar, Horn, Horst, Hulsberg, Hunsel, IJsselmuiden, Ipendam, Itervoort, Jaarsveld, Jabeek, Kamperveen, Kapelle, Kats, Kattendijke, Katwijk, Katwoude, Kerkrade, Kerkwerve, Kessel, Kethel en Spaland, Klimmen, Kloetinge, Koewacht, Kortenhoef, Kortgene, Kwadijk, Landsmeer, Langbroek, Leimuiden, Lemsterland, Leusden, Linne, Linschoten, Lisse, Loenersloot, Lopik, Maarn, Maarsseveen, Maartensdijk, Maasniel, Maastricht, Marken, Meerlo, Meijel, Melick en Herkenbosch, Meliskerke, Merkelbeek, Mesch, Mijnsheerenland, Montfort, Mook en Middelaar, Nederweert, Neer, Neeritter, Nieuwen Sint Joosland, Nieuw-Beijerland, Nieuw-Helvoet, Nieuwe-Niedorp, Nieuwenhagen, Nieuwenhoorn, Nieuwstadt, Nieuwvliet, Nigtevecht, Noordeloos, Noordwijkerhout, Nootdorp, Nunhem, Nuth, Obdam, Oh en Laak, Ooltgensplaat, Oost- en West-Souburg, Oostkapelle, Oploo, Sint Anthonis en Ledacker, Oterleek, Ottersum, Ottoland, Oud-Valkenburg, Oude-Niedorp, Oude-Tonge, Oudelande, Oudkarspel, Oudorp, Ouwerkerk, Ovezande, Peursum, Philippine, Piershil, Pijnacker, Polsbroek, Poortugaal, Posterholt, Ransdorp, Renesse, Renswoude, Retranchement, Rijckholt, Rockanje, Roermond, Roggel, Roosteren, Rozenburg, Ruwiel, Schaesberg, Schelluinen, Schermerhorn, Schijndel, Schimmert, Schinveld, Schipluiden, Schoonrewoerd, Schore, Schoten, Serooskerke (Walcheren), Sevenum, Simpelveld, Sint Jansteen, Sint Maarten, Sint Odilinberg, Sint Pancras, Sint Pieter, Slenaken, Smallingerland, Snelrewaard, Soerendonk, Stavenisse, Staveren, Stompwijk, Stopeldijk, Stoutenburg, Stramproy, Susteren, Swalmen, Tegelen, Terschelling, Urk, Urmond, Vaals, Valkenburg (Zuid-Holland), Veldhuizen, Venlo, Venray, Veur, Vleuten, Vlieland, Vlist, Vlodrop, Voerendaal, Vreeland, Vrouwenpolder, Wanssum, Warmond, Weert, Weesperkarspel, Wemeldinge, Wervershoof, Westdongeradeel, Westerbork, Westmaas, Westwoud, Wieringen, Wijk aan Zee en Duin, Wijlre, Wijnandsrade, Willeskop, Willige-Langerak, Wilsum, Wissekerke, Wittem, Wolphaartsdijk, Woudenberg, Zalk en Veecaten, Zelhem, Zevenhoven, Zuiddorpe

