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MEASURING UNEMPLOYMENT IN  
THE NETHERLANDS (1900-1940). THE  
OPERATIONALISATION OF AN ELUSIVE CONCEPT

PETER RODENBURG

*Because of the increase in unemployment insurances and the extension of employment policies, official statistical information about unemployment became important after 1900. How was unemployment to be measured? Appropriate categories and operational definitions were not available. Under these circumstances, what kind of measurement procedures were developed? To what extent were the conceptualization of unemployment and its measurement distinct stages in the process of measurement? The historical and statistical analysis of the practice of the registration of unemployment will provide answers.*

The word ‘unemployment’ is now widely used both in research and in everyday language. Although one might expect it to be an old term, it is in fact a fairly new one. In the Netherlands the term came into use in the last quarter of the nineteenth century. It is first mentioned in the *Encyclopaedia Britannica* in 1911, while the first theoretical work in economics explicitly devoted to the problem of ‘joblessness’ was (as far as we know) Pigou’s *Unemployment* in 1913. It may come as a surprise that even in the work of important nineteenth century writers like Marx, who studied and discussed the issue of joblessness extensively – the notion of involuntary unemployment is in fact one of the key concepts in his work – the term itself is absent. Whereas Marx spoke of a “reserve army of labour”, “surplus population” or “redundant working population”, his contemporaries used terms like “want of employment” or “involuntary idleness” or, which was more often the case, “laziness” or “pauperism” through “want of work”, rather than “unemployment”. So, before

Picture 1. *Unemployed queuing to have their cards stamped for unemployment benefits (1933).*



Source: photo collection of the International Institute for Social History Amsterdam

unemployment could be quantified at all, not only was a definition needed, but the very idea of unemployment as a social phenomenon had to be conceived: unemployment had to be ‘discovered’ before it could be measured systematically (**picture 1**).

It was not easy to conceive the idea of unemployment, which is illustrated by the fact that for many occupations, temporary idleness was considered an accepted part of the job. Therefore separating ‘unemployment’ or ‘underemployment’ from ‘inherent temporary idleness’ was extremely difficult, if not impossible. However, because of the serious social consequence of unemployment in the pre-welfare state era, there was an urgent need, most notably for city councils and charitable organisations, to chart unemployment and to develop poverty relief policies.

In the Netherlands, the Central Bureau of Statistics (CBS) usually worked out detailed descriptions or operational definitions before social phenomena were measured. The first quantitative information of unemployment, however, was collected at the end of the nineteenth century from unsystematic surveys without a clear concept of unemployment. Later, two different — and competing — measurement procedures, based on administrative data of trade

unions and labour exchanges, were established, yielding different statistics of unemployment and each giving a specific meaning to the abstract idea of unemployment.

The purpose of this chapter is to analyse how unemployment was quantified and operationalised in the Netherlands in the period before the Second World War, and how this helped the understanding of unemployment as a social concept. We will argue that prior to the measurement of unemployment, no operational definitions or detailed descriptions were established and that in fact statistical thinking about what constitutes unemployment developed along the way, as it was measured. Unemployment was conceptualised as it was measured, and measured as it was conceptualised. Conceptualization and measurement of unemployment thus went hand in hand, rather than constituting separate stages in a measurement process. They were mutually constitutive and statistical thinking about unemployment was intrinsically connected with the very way it was measured.

The outline of this chapter is as follows. We will begin with an overview of the first attempts to measure unemployment in the Netherlands and discuss definitions of unemployment and methods for its measurement. Then we will present the measurement procedure based on trade union data, focusing on the particular meaning of this type of unemployment and analysing its measurement problems. In the same way, we will discuss the statistics of labour exchange data, especially the specific meaning of labour exchange unemployment in social and public life and the measurement problems related to labour exchange unemployment. Finally we will draw a number of conclusions.

### First attempts to measure unemployment

In the Netherlands, local surveys of unemployment started in the winter of 1893, when unemployed workers were counted by order of the city council of Utrecht.<sup>1</sup> In the winter of 1894-1895, the city council of Amsterdam instructed the *Commissie tot bestrijding der werkloosheid* (Commission to Fight Unemployment) in co-operation with the *Bureau van Statistiek der Gemeente Amsterdam* (Amsterdam Municipal Bureau of Statistics).<sup>2</sup> The Commission to Fight Unemployment was asked by the city council to recommend measures to reduce the consequences of unemployment. It therefore needed to quantify the extent of unemployment. The Amsterdam Municipal Bureau

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1 See Kaan, 'De werkloosheidscijfers der arbeidsbeurzen', 228.

2 Bureau van Statistiek van de Gemeente Amsterdam, *Het bureau van statistiek 1894-1944*, 121.

of Statistics was established in 1894 primarily to support the Commission to Fight Unemployment, and the resulting report on unemployment was the bureau's first official publication.<sup>3</sup> These enumerations, however, made it clear that the classification of people without work was extremely difficult: no operational definition of unemployment was available, while for many occupations temporary idleness was considered an accepted part of the job. For dockers, day labourers and agricultural workers, for example, being temporarily or seasonally out of work was inherent to their occupation, and separating 'unemployment' or 'underemployment' from 'inherent temporary idleness' was extremely difficult. A subsequent report by the Commission in May 1897 again stated that no reliable statistics on unemployment could be produced and that, consequently, no sound policy measures to reduce unemployment could be recommended.<sup>4</sup> However, as the local authorities urgently needed statistics on unemployment, the commission proceeded by studying the labour conditions in separate industries in order to get to grips with the phenomenon of unemployment.<sup>5</sup>

The central government had less interest in measuring unemployment in the nineteenth century. Although surveys of occupations had been held in the Netherlands as early as 1849, in which even a distinction was made between 'persons with a profession' and 'persons without a profession',<sup>6</sup> it was only in 1901 that the Minister of the Interior asked the CBS (the Central Bureau of Statistics, established in 1899) to investigate the feasibility of producing reliable statistics of (what was then called 'occasional') unemployment.<sup>7</sup> Earlier, in 1893, the *Maatschappij tot Nut van 't Algemeen* (Society for Public Welfare) had requested the Central Commission for Statistics (CCS), established in 1892, and the forerunner of the CBS), to investigate the extent and nature of unemployment in the Netherlands. But the CCS replied that: 'To its regret our commission knows of no practical method for a statistical survey (...) that would describe the full extent of unemployment at a given point in time.'<sup>8</sup> The investigation of survey methods used abroad did not yield a satisfactory

3 *Ibidem.*

4 Commissie van onderzoek naar de omvang en feitelijke beteekenis der werkloosheid te Amsterdam, *Rapport*, 4.

5 *Ibidem.*

6 Van Maarseveen, 'Beroepstellingen 1849-1971/2000', 115-144.

7 CBS, 'Werkloosheid', 267. See also: Van der Velden, 'Statistics and the early Dutch labour movement', in volume I.

8 'Voor een statistisch onderzoek, (...) dat de werkloosheid in haren geheelen omvang op een gegeven tijdstip zou doen kennen, is onze Commissie tot haar leedwezen geen praktisch uitvoerbare methode bekend'. Centrale Commissie voor de Statistiek, *Jaarverslag* (1892-1893), 27.

method. The Commission did, however, fully acknowledge the importance of unemployment statistics.<sup>9</sup>

Thus, at the beginning of the twentieth century the concept of unemployment was vague and unclear, and there was no consensus about the definition of the concept and methods of counting it. The measurement of unemployment was in general driven by the relevance of unemployment as a social phenomenon and the desire to alleviate its social consequences such as poverty, rather than by a sincere interest in it as a scientific and theoretical phenomenon. It was above all the local authorities and charity organisations who wanted to chart and fight poverty; they were directly confronted with the consequences of unemployment, which was often seen as a cause of poverty. It was agents in the social field (put simply the ‘doers’) rather than the academics (‘thinkers’) who engaged in measurement of unemployment on an ad hoc basis. The use of the term ‘unemployment’ in politics and public life therefore predates its scientific use. Unemployment was of great social significance, but scientific theories of unemployment, which could perhaps help to establish an (operational) definition of unemployment, were basically missing.

### **Defining unemployment and methods for measurement**

In order to make the vague concept of unemployment measurable two things were needed. Firstly, a stable concept of unemployment had to be constructed. That is, the vague concept of unemployment had to be specified in such a way that it was open to one interpretation only, in other words, consensus had to be reached on its definition. Secondly, a standardised procedure for measurement had to be established.

#### *Definition*

The Minister of the Interior’s request to the CBS to quantify unemployment in 1901 did not come with clear instructions about how unemployment should be defined. Nor were social scientists able to provide helpful definitions. The CBS usually drew up its own instructions in which statistical concepts were described in detail, but these are not known for unemployment for the period 1900-1940.<sup>10</sup> A formal definition was established in 1914, when the *State Commission on Unemployment* defined unemployment as: ‘A lack of

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<sup>9</sup> *Ibidem.*

<sup>10</sup> The CBS archives mention a ‘*projet de définition du chômage*’ (project of defining unemployment) in 1921, but the result of this project appears to be missing, and seems of a late date.

employment for a shorter or longer period for persons who are at the same time able and willing to work, with the exception of those who cannot work because of sickness, disability, old age, strikes or lockouts, and laziness'.<sup>11</sup> It includes part-time unemployment as a result of economic recession and, perhaps more remarkably, unemployment because of the refusal to work for less than the going wage rate.<sup>12</sup> Internationally accepted definitions of unemployment did not emerge until the 1920s, when the International Labour Office (ILO) started to concern itself with labour issues. In 1925, the ILO specifically addressed the issue of international standardisation of unemployment and unemployment statistics at the second International Conference of Labour Statisticians. The conference formulated the following criteria for unemployed persons:<sup>13</sup>

1. that the ideal population 'field' to which the statistics should relate should be all persons whose normal means of livelihood is employment under contract of service, as well as those persons not hitherto wage earners who seek to become so;
2. that the unemployment measured should exclude that due to sickness, invalidity, participation in trade disputes, or voluntary absence from work, and should be limited to unemployment due to lack of employment or to lack of work while in employment;
3. that the necessary and sufficient condition for being enumerated as unemployed is that the individual must have been not at work for one day at least.

The ILO thus provided a clear, generally accepted definition of unemployment in 1925 – which resembles the modern, Dutch post-war definition of unemployment – but the CBS did not implement this ILO definition. Instead it preferred to retain its already well-established measurement procedures based on trade-union and labour-exchange data.

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11 'Het gedurende korteren of langeren tijd ontbreken van arbeidsgelegenheid voor personen, die tegelijk geschikt en bereid zijn tot arbeiden' met uitzondering van 'niet werken door ziekte, invaliditeit, ouderdom, werkstaking, of uitsluiting, alsmede werkschuweid'. Tepe, 'Het eindverslag', 510-511. See also: Van der Valk, 'Private or public?', and Van der Velden, 'Statistics and the early Dutch labour movement', both in volume I.

12 *Ibidem*.

13 International Labour Office, 'Methods of statistics of unemployment', 1925a, 72. For the international statistical relations see: Bracke, 'In search of comparability', and Van Maarseveen 'Co-operative but ambivalent', in Volume I.

To summarise, in the first two decades of the twentieth century, there are no signs of clear-cut operational or conceptual definitions of unemployment for the Netherlands. Neither politicians nor scientists provided detailed descriptions, probably because defining unemployment was considered too difficult and risky.

#### *Methods*

To measure unemployment a standardised method of measurement was needed. In the twentieth century, methods were developed to measure a number of abstract economic concepts directly, such as inflation, national income, and the balance of trade. Porter calls the standardised procedures or rules that transform qualities into quantitative measures *Standardised Quantitative Rules*.<sup>14</sup> These standardised rules (or procedures) are basically all formal or informal rules, procedures, routines, formulas, or working methods that result in quantification within bureaucracies. Scientists can construct these rules of measurement within science, but, as Porter points out, rules constructed in social or administrative practice have been equally important in terms of yielding quantities. It is the administrative rules laid down in bureaucracies that give rise to reporting and quantification, and these rules can be determined by law, statutory regulations, common practice, rules of thumb, calculating formulas, and so on. Without standardisation, arbitrary judgment will come into play, which will cause measurement errors and a loss of credibility in the numbers generated. The procedure must therefore rule out personal, subjective judgments and act as 'a mechanical judgment'.<sup>15</sup>

Standardisation of the measurement procedure is thus essential for measurement. However, it leaves room for many different measuring procedures. Unemployment could be measured by procedures based on different sources, or different methods, such as sample surveys, or total counts, like the censuses. In the Netherlands, as in almost all European countries, it became standard practice to collect unemployment data from administrations such as trade unions and labour exchanges, and two measuring procedures were founded on the administrative procedures for registering unemployed persons in these organisations. This practice is perhaps best put into words by the final conference report of the Second International Conference of Labour Statisticians in 1925.<sup>16</sup> It accepts as inevitable that statistics for continued records of unemployment were necessarily based on insurance, trade-union

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14 Porter, 'Making things quantitative', 389.

15 *Ibidem*, 392.

16 International Labour Office, 'Methods of Statistics of Unemployment', 1925a



or labour-exchange sources: “there are at present absolutely no complete statistics of unemployment, but simply more or less representative figures, since the meaning of the term ‘unemployed’ varies with the nature of the enquiry and the special purpose for which it is intended”.<sup>17</sup> Other potential methods for collecting unemployment figures, like censuses and surveys, were not considered, for reasons of cost efficiency and their periodical and non-continuous nature. Neither had sample-survey research been developed in the Netherlands at the time.

### The procedure for measuring trade-union unemployment

The first measuring procedure established for the calculation of figures on unemployment in the Netherlands was based on trade-union administrations. In the period 1906-1943 we can distinguish three different phases within which the measurement procedure and the interpretation of unemployment remained more or less stable.

#### 1906-1911

In 1860, the professional association (the forerunners of the trade union) of typographers in Amsterdam set up a private unemployment insurance arrangement for unemployed members, an example that was soon followed by the diamond cutters.<sup>18</sup> <sup>19</sup> By the turn of the century, some 2,800 of these unemployment funds started by professional associations were active in the Netherlands, operating locally and divided along social and religious lines.

These unemployment funds ran into severe financial trouble when unemployment increased sharply at the beginning of the twentieth century and they turned to the local authorities for financial support. In 1906, the municipality of Amsterdam established the first municipal unemployment funds in order to relieve the poverty of those who were out of work, and the city of Utrecht followed in the same year. The purpose of these funds was to subsidise local trade unions with an unemployment fund. By 1912, 32 municipal funds were active in the major cities.<sup>20</sup> As a consequence, local government gradually became involved in the care of the unemployed in the twentieth century. Although central government did approve of the municipal interventions, it

<sup>17</sup> International Labour Office, ‘The Second International Conference of Labour Statisticians’, 1925b.

<sup>18</sup> Earlier, in the disbanded guild system, however, financial transfers also existed. See, for example, Bos, *Uyt liefde tot malcander*.

<sup>19</sup> Velthuisen, *Werkloosheidsverzekering in Nederland*, 2.

<sup>20</sup> Van Gerwen, *De onthukende verzorgingsstaat*, 227.

did not consider the organisation of a national insurance arrangement or the subsidisation of trade unions' private unemployment funds as a government responsibility, as only workers who were members would benefit.

Each trade union subsidised from municipal funds had its own terms and conditions for providing benefits. In 1906, the CBS requested the municipal unemployment funds to provide data once a month, in weekly reviews, which were published in the *Maandschrift*, the monthly publication of the CBS, as the statistics of trade union unemployment.<sup>21</sup> Each trade union unemployment fund was mentioned separately, i.e. there was no notion of aggregated levels of unemployment.

#### 1911-1917

The way trade union unemployment figures were presented and constructed changed radically in 1911. The publication of statistics of individual funds was discontinued, and instead three indicators of unemployment were developed by the CBS, based on trade union data:

- (1) the index of unemployment; 22
- (2) the percentage of unemployment;
- (3) the number of days of unemployment per unemployed person per week.

These indicators were published each month, based on the average of four (or five) weekly returns, and remained in use until 1943. The most important and most-often used indicator was the index of unemployment. How these indicators were calculated can be illustrated by the following figures taken from the four-week period 1 to 27 August 1927.<sup>23</sup>

Number of insured persons: (in persons; average per week)	285,035
Number of unemployed persons: (in persons; average per week)	18,730
Number of days of unemployment per week: (in days; average per week)	92,360

<sup>21</sup> The data involved: the number of unemployed trade-union members that they subsidised, the number of persons unemployed in each week, the number of days of unemployment, and the total benefit payments.

<sup>22</sup> Later also called '*werkloosheidsdagen in percentages*' (days of unemployment in percentages).

<sup>23</sup> Figures are based on CBS *Maandschrift* of 31 October 1927.

The index of unemployment was defined as the ratio of the number of days of unemployment to the number of days insured trade union members could have worked.<sup>24</sup> It was calculated by dividing (C) by the number of insured workers (A) times 6, the number of working days per week. The index in the example is thus: 5.4 percent.<sup>25</sup>

The second indicator, the percentage of unemployment, was defined as the percentage of unemployed (B) of the total number of insured workers (A).<sup>26</sup> In the example the percentage of unemployment is: 6.6 percent.<sup>27</sup> The third indicator, the number of days of unemployment per week, is defined as the ratio of the number of days of unemployment (C) of insured workers to the number of insured unemployed.<sup>28</sup> The three indicators were calculated for different industries and occupations for which the ratios were different.<sup>29</sup>

Soon after the outbreak of World War I in August 1914, unemployment in the Netherlands increased sharply, and central government began to subsidise the trade unions on a temporary basis by passing the *Noodbesluit 1914* (Emergency Resolution 1914). In this resolution trade-union unemployment funds and some unemployment funds of trade unions without insurance were subsidised directly by both the municipal unemployment funds and central government. As a result of the Emergency Resolution, the number of municipal unemployment funds rose sharply from 32 in July 1914 to 87 in December

24 Velthuisen (*Werkloosheidsverzekering in Nederland*, 111) defines the index number of unemployment as: 'de verhouding in procenten van het gemiddeld werkelijk aantal dagen van werkloosheid per week en het aantal dagen, gedurende welke alle personen, van wie de werkloosheid is nagegaan, op zijn hoogst in een week hadden kunnen werken, indien er geen werkloosheid geweest was (d.i. zes maal het aantal personen)'.

25 Index of unemployment =  $\frac{\text{The number of days of unemployment of insured TU members}}{\text{Number of days of potential employment of insured TU members}} = \frac{C}{6 \times A} \times 100 \text{ percent} = \frac{92,360}{6 \times 285,035} = 5.4 \text{ percent.}$

26 The percentage of unemployment was calculated slightly differently than in most other countries. Usually the percentage of unemployed was defined as the number of *cases* of unemployment on a given day divided by the number of workers. In the Netherlands, however, the percentage of unemployment does not represent the number of *cases* of unemployment, but the number of *persons*. For example, a worker who was dismissed twice in one week was counted as one case of unemployment.

27 Percentage of unemployment =  $\frac{\text{Number of days of unemployment of insured workers}}{\text{Number of insured unemployed}} = \frac{C}{B} \times 100 \text{ percent} = \frac{92,360}{18,730} \times 100 \text{ percent} = 6.6 \text{ percent.}$

28 Number of days of unemployment per unemployed person per week =  $\frac{\text{Number of days of unemployment of insured workers}}{\text{Number of insured unemployed}} = \frac{C}{B} = \frac{92,360}{18,730} = 4.93 \text{ days (per insured person).}$

29 The indicators were related to one another as follows:

Percentage of unemployment x Number of days of unemployment per unemployed person per week = Index of unemployment x 6 (working days). Thus:  $\frac{B}{A} \times \frac{C}{B} = \frac{C}{6 \times A} \times 6.$

1914, and 119 in early 1917.<sup>30</sup> The number of unemployed people counted in the statistics rose from 73,000 in August 1914 to 140,000 in December 1914, and 167,000 in early 1917.<sup>31</sup>

#### 1917-1943

After 1917, temporary government interventions became more permanent. Although unemployment had fallen to more or less 'normal' levels by 1916, rendering government support superfluous, the pressure on the government to play a permanent role increased. Amongst other organisations, the *Vereeniging van Gemeentelijke Werkloosheidsfondsen* (Association of municipal unemployment funds), *Nederlandsch Verbond van Vakverenigingen*, (Netherlands league of trade unions), and the *Nederlandsche Werkloosheids Raad* (Netherlands unemployment council) called for a permanent role for the government in unemployment insurance.

In 1917, the government passed the *Werkloosheidsbesluit 1917* (Unemployment Resolution 1917), which provided the formal grounds for a permanent role for the government. The municipal unemployment funds were discontinued and the trade-union unemployment funds were subsidised directly by the state. However, the government suspected the trade unions of misusing benefit payments, and therefore attached several conditions to the subsidy transfer. The government instituted the *Rijksdienst der Werkloosheidsverzekering en Arbeidsbemiddeling* (National department for unemployment insurance and employment mediation) to supervise and implement subsidy transfers. One important early achievement of this department was the standardisation of conditions for trade-union benefit payments: it designed a standard regulation with 54 sections, which was adopted by practically all unions, though some deviations were allowed.<sup>32</sup> As a result of the government involvement and interventions, the trade unions devised similar regulations for granting benefits.

At the initiative of the ILO, the CBS later – in the 1920s – introduced a subdivision of unemployment figures per industry (20 classes) and per occupation (24 classes). The indicators of unemployment in this period were therefore also understood to represent unemployment at an intermediate, meso-level. The trade union statistics of unemployment were eventually discontinued in 1943, as a result of the German occupation in the Second World War.

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30 Van Gerwen, *De ontluikende verzorgingsstaat*, 227.

31 *Ibidem*.

32 Velthuisen, *Werkloosheidsverzekering in Nederland*, 32.

### The meaning of trade union unemployment

For the Dutch situation it is possible to analyse in closer detail how the concept of unemployment was defined and measured in the procedure based on trade-union data, with the aid of CBS unemployment data, trade-union membership data and data of the ten-yearly census of 31 December 1930 (figure 1). According to the 1930 census, on 31 December 1930, the total labour force consisted of 3,185,816 persons, of whom around 2,514,000 were in paid employment.<sup>33</sup> The remaining 671,816 were self-employed. Approximately 634,000 persons in the labour force, for example civil servants, were not at risk of becoming unemployed. For this reason, this group was left out of the analysis by the CBS. As a consequence, these groups were not represented in the index number of unemployment, which was interpreted as only being representative for the workers at risk of being unemployed. The group at risk of unemployment (group A) had good reasons to insure themselves against unemployment. This group numbered 2,551,816 persons, including the self-employed. However, there were no trade unions for the latter and therefore they could not insure themselves as workers could, and were consequently not covered by the index number of unemployment. This group was ignored in the CBS analysis, most likely because its size was too difficult to measure at the time. Only a small proportion of the workers at risk of becoming unemployed were members of a trade union: 446,975 persons (group B).<sup>34</sup> This corresponds to a membership rate of 14 percent of the total labour force ( $B/\text{total labour force} \times 100$ ). Non-members at risk of becoming unemployed numbered 2,104,841 persons and their employment status was unknown. In the measurement procedure, unemployed trade-union members were counted: group C1. On 31 December 1930 this group was 81,204 persons.<sup>35</sup> A sizeable fraction of unemployed union members, however, were not entitled to any benefit since their entitlement had expired (group D2) and the size of this group had to be estimated by the trade union.<sup>36</sup> Of course, estimation of the number of unpaid unemployed members made the statistics less reliable, but there are good reasons to assume that the trade unions were pretty well

33 Kloosterman, *Werkloosheid in Nederland*, 24.

34 CBS, *Maandschrift*, 1931, 356

35 *Ibidem*.

36 Rijksdienst der Werkloosheidsverzekering en Arbeidsbemiddeling, *Communication sur la méthode*, 5. In 1923, for example, the average number of unemployed persons per week who received a benefit was 15,600, while the number of unemployed trade-union members without benefit was 22,000. The number of days for which benefits were paid amounted to 72,000. The number of unpaid days of unemployment was 124,800.

Figure 1: *Composition of the Dutch labour force, 31 December 1930*

Total labour force  (3,185,816) <sup>a</sup>	Self-employed (671,816)	At risk of unemployment (A)  (2,551,816) <sup>a</sup>	Non-trade union members	Employed	Unemployed (C3)
	Workers  (2,514,000) <sup>a</sup>		(2,104,841)	Trade union members (B) (446,975) <sup>b</sup>	
		Employed TU members			Unemployed TU (C1) (81,204)
		'No' risk of unemployment (634,000)		Non-trade union members (634,000)	
			Employed		(C4) Unemployed

<sup>a</sup> Kloosterman, *Werkloosheid in Nederland*, 24, based on the 1930 census.

<sup>b</sup> CBS Maandschrift, February 1931, 356; numbers are averages for the month of December.

Source: Population Census of CBS.

informed about these members. Trade unions usually offered certain facilities to unemployed members without benefits, such as employment assistance and partial or complete exemption of subscription payment. The unpaid unemployed therefore had an incentive to register with trade unions as being out of work, even if they were not considered for benefit payment.

Figure 1 illustrates which part of the total labour force was assumed to be represented by the unemployed union members. It transpires that the number of unemployed union members (small grey area C1), consisting of both registered unemployed with a benefit (D1) and estimated unemployed without a benefit (D2), was taken as a sample of all unemployed at risk (= C1 + C2 + C3). The union members (B) were taken to represent all the workers at risk of unemployment (large grey area A). As already explained, the absence of the self-employed in the sample seems to be ignored in this consideration and also the possibility that workers with 'no' risk of unemployment occasionally became unemployed (area C4). They were not present in the sample group. In short, the ratio C1/B, which the trade-union statistics of unemployment represent, was assumed to correspond to the ratio (C1 + C2 + C3)/A. And, while D2 was a correct figure, D1 was estimated, so that C1 was itself partly an estimated figure.

The CBS was aware that this sample was not representative, and in 1925 started an investigation into the representativeness of the sample group. Trade unions were questioned about how representative their unemployed members were for total unemployment. Naturally, as they had no insight into unemployment among non-union members they could only answer this question with 'considerations of a general nature'.<sup>37</sup> On the basis of this investigation the CBS considered the unemployment among trade-union members to be representative: 'on the whole, in relative terms, unemployment among union members is not smaller than among non-members, but at least equal'.<sup>38</sup> In reality, the CBS took a more sophisticated stance. In order to give the index of unemployment an appropriate meaning it was interpreted as *the unemployment rate of workers at risk of unemployment*, reflecting the fact that the statistics were only representative for the workers at risk of unemployment.<sup>39</sup>

<sup>37</sup> CBS, *Jaarverslag 1925*, 8-9.

<sup>38</sup> Velthuisen, 'Bevolking en werkloosheid', 359. 'Over het geheel genomen, de werkloosheid onder de ongeorganiseerden naar verhouding niet kleiner is dan onder de georganiseerden maar op zijn minst even groot'.

<sup>39</sup> 'werkloosheidspercentage van vakbondsleden van wie de werkloosheid is nagegaan (exclusief de personen die gedurende de hele week buiten werk waren door militaire dienstplicht, staking, uitsluiting, ziekte, ongeval, bevalling, vrijheidsstraf)'. See e.g.: CBS, *Maandschrift* 1931, 514.

### Problems with measuring trade union unemployment

In retrospect it is possible to distinguish three problems encountered in the measurement of unemployment through the use of trade-union data.

#### *No stable concept of unemployment*

The step from unemployment as an abstract phenomenon to numbers required a process of conceptualisation. It was not immediately clear how the abstract idea of unemployment had to be understood, and how it could be transformed into something directly observable. There was no unequivocal, well-defined definition of unemployment; the CBS had no idea how to operationalise the concept of unemployment, and interpreted trade-union insurance data as 'unemployment'. As a consequence, the CBS left it to the trade unions to define unemployment, and the unemployment insurance figures acquired a particular interpretation. And since trade-union regulations were not standardised and varied from union to union in terms of period and frequency of benefit, this interpretation was a variable one. In addition, the number of unions with insurance arrangements increased over time, and the risk of unemployment varied between the sectors of industry they covered. This latter problem will be discussed in full below as the third problem with the use of trade union data.

#### *Inaccuracy as a result of selective sampling*

This problem concerns the accuracy of the measurement procedure: 'does the procedure measure what we actually want to measure?'. Accuracy refers in general to the degree of conformity to a true standard.<sup>40</sup> In this context: are some groups of trade-union members under- or over-represented? In the measurement procedure for trade-union unemployment, unemployed trade-union members were considered as a sample of total unemployment. However, trade-union members are not a representative sample, but form a group with specific features.

In the first place, only a small percentage of workers were members of a trade union. For the period 1920-1939, Kloosterman estimates that the share of workers organised in a union varied between 10-15 percent of the total labour force.<sup>41</sup> In this sample group, some specific types of workers were absent, while others were over-represented. In the Dutch trade unions, skilled workers were over-represented, but the self-employed, such as small

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40 See for example Boumans, 'Economics, Strategies in social sciences'.

41 Kloosterman, *Werkloosheid in Nederland*, 25.



independent businessmen in the free trades and professions (e.g. shopkeepers, farmers, craftsmen, lawyers, doctors, etc.) were completely absent. As a rule women were under-represented in the trade union data, and other groups of workers were also excluded: new entrants on the labour market and family members working in the family business. In some industries, the rate of unemployment insurance was much higher than in other industries. In 1930, the highest percentages of insured workers were in the diamond industry and the printing industry with, respectively, 89.4 and 70.0 percent of all workers. In other industries the rates were much lower: agriculture (9.7 percent), commerce (9.0 percent), transport (20.5 percent) and clothing manufacture (10.6 percent).<sup>42</sup> As these industries had different risks of unemployment, their weight in the sample group also differed.

Secondly, there also seems to be a regional aspect to the measurement of unemployment by trade-union data. Most union members lived in the west of the Netherlands, which was (and still is) the most urbanised and industrialised part of the country, and which was where the industries with high insurance rates were located. Industries with low insurance rates, such as agriculture and clothing manufacturing, were found in the more rural east of the country. As unemployment in industries in the west of the country was counted more often (because of the higher insurance rates), the index was likely to overestimate unemployment.<sup>43</sup>

It is clear that the sample on which the index of unemployment was based was not representative for the total population. In general, the workers whose employment status was reported could be characterised as male, skilled and salaried employees working in the urbanised part of the country. There was an obvious disproportionate representation of certain industries and one sex.

*Imprecision as a result of non-standardised sampling*

Precision refers to the degree to which measurement results are replicated by repeating the measurement operation (in other words, the spread of measurement results).<sup>44</sup> In this context: is the sample of trade-union members constant at different measurement points, or does it change? Although the measurement procedure of trade-union unemployment was standardised to a high degree after 1917, it did not yield standardised sampling over time. The problem was that the characteristics of the sample changed over time, not only as a consequence of variability in the phenomenon (unemployment), but also because of

<sup>42</sup> *Ibidem*, 17.

<sup>43</sup> Van Zanten ('Hoe groot is de omvang?', 315) mentions this uneven distribution of unemployment and its consequences already in 1928.

<sup>44</sup> See Boumans, 'Economics, Strategies in social sciences'.

Table 1: *Development of the measurement procedure of trade union unemployment, 1906-1943*

	1906-1911	1911-1917	1917-1943
Definition of unemployment	not uniform, determined by trade unions	not uniform, determined by trade unions	implicit, uniform definition determined by government
Standardisation of measurement	idiosyncratic trade union regulations	idiosyncratic trade union regulations	“standard” regulations of DWA
Interpretation of unempl. figures	local indicator	national indicator	national, industry and occupation indicator
Rules	subsidy by municipalities	subsidy by municipalities, temporary subsidy by state (Danish system)	permanent subsidy by state (Gentian system)
Basis of count	individual trade union records	individual trade union records via DWA	individual trade union records via DWA
Statistics	number of unemployed	IU, PU, DUW	IU, PU, DUW
Published	trade union members		
Presentation of data	totals	calculation of ratios (adjustment for seasons and some occupations)	calculation of ratios (adjustment for seasons)

abbreviations:

DWA = *Rijks Dienst der Werkloosheidsverzekering en Arbeidsbemiddeling*

IU = Index of unemployment

PU = Percentage unemployment

DUW = Number of days of unemployment per unemployed person per week

changes in the sample size. When insured union membership increased (i.e. the sample size increased), there would often be an upward trend in insured union unemployment rates. Skilled craftsmen were usually the first to organise themselves in a union, and were thus disproportionately represented in the early years.<sup>45</sup> As they usually ran lower risks of becoming unemployed, there was an upward trend in unemployment when union membership grew, and more, mostly unskilled, workers with higher risks of unemployment became organised in unions. Moreover, in a reaction to the financial burden of the 1930s recession, the unions limited support to older workers by lowering the age limit, and so shifted entitlement towards workers with lower risks of unemployment (or higher re-employment probability).<sup>46</sup>

This is a different problem from that of a selective sample: it is a problem of precision. The measurement procedure suffered from a measurement error caused by a disturbing factor it could not control for (bias with sample size). This problem became apparent for the periods 1917–1921 and 1929–1932, when union membership expanded rapidly. The problem of the non-standardised sample/population device was not addressed explicitly in publications by the CBS. It is not quite clear whether it was not recognised or ignored, as the CBS was probably unable to standardise the bureaucratic procedures from which numbers were drawn so that this problem could be solved.

To round off this section, the most important characteristics in the measurement of trade-union unemployment in the period 1906–1943 can be summed up as follows (table 1). The main problem with the measurement of trade-union unemployment concerns the representativeness of the figures for the whole economy. Most contemporary commentators were clearly aware of the bias and the fact that some high-risk industries were over-represented and thus caused misrepresentation of real unemployment. The problem was mentioned in many publications by statisticians (CBS, ILO), scientific researchers (Lubbers), policymakers (Velthuisen, *Rijksdienst der Werkloosheidsverzekering en Arbeidsbemiddeling*), and societal interest groups (Van Zanten, *Nederlandschen Werkloosheids-Raad*). There was less unanimity about the consequences of the bias; most often they were simply ignored. Lubbers, for example, mentioned the problem of selectivity, but like most commentators, he did not think it had serious consequences.<sup>47</sup> Others, for example Velthuisen, concluded that aggregation of unemployment rates over industries was indeed highly

45 Stiling mentions this point in 1907 (*Werkloosheid*, 13).

46 Thus, not only did C1 and B (in Figure 1) change (the fraction of unemployed trade-union members), but also B relative to A (the fraction of trade-union members representing workers at risk of unemployment), so that the ratio C1/B changed as did B/A. Cf. Morren, 'Wat er te leeren valt uit werkloosheidsstatistieken'.

47 Lubbers, *De statistiek van het arbeidsloon*.

problematic and that therefore the index could, at best, be used to indicate *changes* in unemployment *within* the same industry (and hence, the risk of unemployment).<sup>48</sup>

### Standardised measurement of labour exchange data

Unemployment was also measured with the aid of labour exchange data. This measurement procedure was based on the administrative procedures at labour exchanges for registering and allocating workers to jobs, and the process of transforming these raw data into the *Statistics of unemployment and employment assistance*. At the start of the twentieth century, the vast majority of workers had to look for work themselves. Only a small fraction of workers found a job through some form of employment assistance. In the period 1900-1940, public employment assistance through public labour exchanges became the most successful form of employment mediation, and formed the foundation of this measurement procedure.<sup>49</sup>

The period 1900-1940 can be subdivided into three periods, during each of which the measurement procedure and the corresponding interpretation of unemployment remained roughly unchanged.

#### 1902-1917

In 1902, a few years after the establishment of the first municipal labour exchange in Amsterdam in 1898, the CBS started to collect data on unemployment assistance. The CBS requested labour exchanges to supply data about the number of registered workers, and most labour exchanges complied. New municipal labour exchanges were contacted and also requested to provide data. From 1902 to 1917, the provision of data was voluntary and the labour exchanges were free to supply the data in any form they wanted. The labour exchange figures were simply copied from the reporting exchanges and published separately for each municipal labour exchange in the CBS monthly journal *Tijdschrift*.<sup>50</sup> As the number of exchanges increased, it became more unmanageable to publish the data of each exchange separately, and the need was felt to combine the data. To this end the CBS conferred in 1910 with

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48 Velthuisen, 'Bevolking en werkloosheid', 367-368, and Van Zanten, 'Hoe groot is de omvang der werkloosheid?', 315.

49 Other forms of employment assistance were private employment assistance, trade unions and employers organisations, associations of trade unions and employers organisations, and charitable institutions (e.g. the Salvation Army).

50 Later called *Maandschrift*.

the newly established *Vereeniging van Nederlandsche Arbeidsbeurzen* (Association of Dutch labour exchanges), in order to unify the data. This resulted in the introduction of a new form for collecting data in 1916, to be used by the labour exchanges.

#### 1917-1932

In its final report in 1914, the Treub State Commission of 1909 suggested the establishment of a national network of labour exchanges. In 1916, the Netherlands was divided into 30 districts with exchanges in major towns and cities and agencies in smaller places. The *Centrale Arbeidsbeurs* (Central Labour Exchange), established in 1914, became the obvious body to co-ordinate national employment assistance. As a result of the Unemployment Resolution 1917, which contained a clause obliging insured unemployed union members to register at labour exchanges in order to receive benefits, the number of yearly registrations rose. More insight was also obtained into the distribution of unemployment across the country.

#### 1932-1940

In order to fight the economic recession of the 1930s, the *Arbeidsbemiddelingswet 1930* (Employment Exchange Act 1930) was passed in 1930, and came into effect on 1 January 1932. This law involved the establishment of a legal monopoly for public employment assistance and a restricted permit system for private employment assistance. The requirement for the unemployed to register was expanded, and it became a legal obligation for every municipality in the Netherlands to establish a labour exchange or agency. Registration at labour exchanges thus became compulsory for four categories of workers:

1. unemployed trade-union members on benefit, (according to Unemployment Resolution 1917);
2. unemployed non-members, who were considered eligible for unemployment benefit payment via private unemployment insurance and, in some municipalities, unemployed workers supported by poor relief;
3. workers involved in unemployment relief work;
4. from 21 June 1935 onwards, family members in the above mentioned categories, (provided that they were capable of working, i.e. they were older than 15 years).

As a result of this law, the number of labour exchanges and agencies grew to 1,064 in 1935 and the number of registered unemployed increased drastically.

During the Second World War, the German occupiers transformed the system of labour exchanges in order to employ Dutch workers for the German war industry. Many unemployed, however, withdrew from registration from fear of being deported to Germany and the statistics became more and more unreliable. In 1945, the last year of the war, the CBS suspended all activities. The statistics were re-established after the war.

### Measuring labour exchange unemployment

The aim of the procedures at the labour exchanges was to match the supply of, and demand for, labour; employed workers looking for other employment could also register. Those registered included both people with and without work. The labour-exchange records did not distinguish between employed and unemployed persons, however. This distinction was only made later – in the 1930s – by a separate registration of the ‘registered employed’, and even this distinction was unclear: labour exchanges lacked clear-cut criteria for defining ‘employed’ and ‘unemployed’. Workers who registered had to judge their employment status themselves.<sup>51</sup>

In public and social life this nuance was often lacking, and the records of labour exchanges were interpreted as indicators of absolute numbers of unemployment.<sup>52</sup> This was partly a consequence of the low social status of labour exchanges. In social life ‘labour exchanges’ were generally seen by the public as ‘unemployment exchanges’.<sup>53</sup> As a result, comments on the reliability of labour exchange unemployment figures addressed the problems of ‘pollution’ (presence of incorrect items) of the labour exchange records. Kaan, for example, mentioned the problems of incomplete registration of ‘invisible’ unemployed, ‘pseudo-unemployed’, and re-employed workers who were not removed from the register.<sup>54</sup> ‘Pseudo-unemployed’ persons, for example, were self-employed people with small businesses who registered so that they were eligible for poor relief, and were seen by contemporaries as having a job as a small trader, and were therefore not considered as being rightfully ‘unemployed’.

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51 Kaan, ‘De werkloosheidscijfers der arbeidsbeurzen’, 232.

52 See, for example, Kaan, ‘De werkloosheidscijfers der arbeidsbeurzen’, or: Verweij, ‘Werkloosheid’.

53 Bouvy, ‘De taak der Arbeidsbeurzen’, 1140.

54 Kaan, ‘De werkloosheidscijfers der arbeidsbeurzen’.

In practice the labour exchanges mediated for selective occupations. Just as for the measurement of trade-union unemployment, specific groups of workers were better represented than others. First of all, workers who registered were as a rule low-skilled: cleaners, maids, manual workers, servants, casual workers, craftsman, etc. There were hardly any agricultural labourers, working family members, self-employed and under-aged workers. Secondly, there was a bias towards particular occupations, both for men and women. Women were only registered for a limited number of – typically female – jobs, such as nannies, housemaids, seamstresses, etc. and only if they were unmarried. The share of women in registered unemployment was therefore very low.<sup>55</sup> Lastly, persons who were partially unemployed were also generally excluded from the unemployment count. One group that was included in labour exchange unemployment but excluded from trade-union unemployment was young school-leavers seeking first employment; as they were unemployed, they could not join a union. Evidently, just as in the case of trade-union unemployment, some groups of workers were excluded more or less systematically from labour exchange unemployment, even though registration was voluntary and free. This problem will be addressed in full below.

### Measurement problems of labour-exchange unemployment

The measurement procedure of labour-exchange unemployment suffered from two problems: imprecision and inaccuracy.

#### *Imprecision as a result of non-standardised measurement procedure*<sup>56</sup>

As mentioned above, precision refers to the degree to which a measurement result can be replicated by repeating the measurement operation (in other words, the distribution of measurement results). Again, in this context: is the sample of the labour-exchange registration constant at different moments of measurement, or do differences occur? A first hurdle was the non-standardised reporting procedure, which resulted in problems concerning the precision of measurement. Until 1917, registration at labour exchanges was entirely voluntary, and for many workers there was little incentive to register. Agricultural labourers, for example, had a low union-membership rate and therefore little financial incentive to register; they also had to travel large distances to get to a labour exchange and register. The coverage of this category was

<sup>55</sup> Until the Second World War the share of registered women remained very small. On the 31 December 1930, for example, only 9,604 women were registered, compared with 146,617 men: only 6.1 percent. (CBS, *Maandschrift*, 1931)

<sup>56</sup> See footnote 38.

Table 2: *Development of the measurement procedure of labour exchange unemployment, 1900-1940*

	1900-1917	1917-1932	1932-1940
Collection of data	non-systematic	systematic	systematic
Reason for labour exchanges	social	social / economic	economic
Organisation	municipal	government	government
Coverage of labour exchanges	local	regional / national	regional / national
Extent of employment assistance	small	considerable	large
Co-operation in data collection	voluntary	compulsory	compulsory
Responsibility for data collection	CBS	DWA (1924-1933)	CBS (1933-1940)
Basis of count	voluntary	voluntary + compulsory	voluntary + compulsory
Processing of data	unprocessed	aggregation	aggregation + classification
Role of labour exchange	mediation	mediation / registration	mediation / registration

very incomplete and even as late as 1939, civil servants of the *Rijksdienst der Werkloosheidsverzekering en Arbeidsbemiddeling* estimated the labour-exchange mediation for agricultural workers to be 2 percent at the most.<sup>57</sup> As a consequence, the measuring procedure was not fully standardised, and hence it was a non-standardised quantitative rule. The 1925 conference of the ILO had already concluded that the usefulness of this sort of data was limited.<sup>58</sup>

In spite of the fact that, from 1917 onwards, trade union members were obliged to register in order to receive any benefit, the standardisation of the measurement procedure improved only slightly, since trade union membership was low and the vast majority of workers retained a voluntary option to register. In addition, this resulted in a selective target population, as the trade-union members were over-represented in the labour exchange statistics. This point will be discussed in full below (figure 2).

<sup>57</sup> De Kort, *De arbeidsbemiddeling in Nederland*, 329.

<sup>58</sup> International Labour Office, 'The Second International Conference of Labour Statisticians', 1925b, 491-512.



Figure 2: *Composition of the labour exchange unemployment in the Netherlands on 31 December 1930.*

		Employed (unknown)		
Total labour force (3,185,816)	Not registered at labour exchange (3,041,216)	Unregistered unemployed (unknown) <sup>a</sup>	Unregistered unemployed non-trade union members (unknown)	(no registration obligation)
	(A)	(B)	Trade union members (81,204) (C)	(registration obligation)
	Registered at labour exchange (156,221) <sup>c</sup>	(136,228) <sup>b</sup>	Registered unemployed non-trade union members (55,024)	(no registration obligation)
		registered & employed (19,993)		(no registration obligation)

<sup>a</sup> The trade union statistics suggest that this number should be at least 4 times the number of registered unemployed.

<sup>b</sup> CBS Maandschrift, February 1931, 362.

<sup>c</sup> CBS Maandschrift, January 1931, 118.

*Inaccuracy as a result of the selective conceptualisation of unemployment*

As explained above, labour exchanges mediated for selective occupations, which caused a bias and hence resulted in inaccurate measurement. We defined accuracy as the degree of conformity to a true standard. In this context: are some groups under- or over-represented in the labour exchange registrations? In order to get a better impression of the accuracy of the labour exchange unemployment figures, we shall analyse them in closer detail for December 31, 1930, when the ten-yearly census was held, and combine the census data with CBS figures of registered unemployment (see Figure 2). It turns out that of the total labour force of 3,185,816, only 156,221 people were registered as unemployed at a labour exchange (group A in Figure 2),<sup>59</sup> of whom 19,993 persons (12.8 percent of those registered) had a paid job. Therefore, the number of really jobless was 136,228 persons (group B).<sup>60</sup> Although the measurement procedure of labour exchange unemployment provided only absolute numbers, it is now possible to calculate a ‘labour exchange unemployment rate’ for December 31, 1930, if we define it as the ratio of registered unemployed persons at labour exchanges to the total labour force.<sup>61</sup> This comes to 4.9 percent.

From CBS data, it is known that – for that date – the measurement procedure of trade-union unemployment gave a percentage of unemployment of 18.2 percent and an index of 15.3 percent (see: the measurement of trade union unemployment), and that 81,204 trade union members (group C) were unemployed and received a benefit.<sup>62</sup> Unemployed trade-union members had a registration obligation if they wanted to receive a benefit, and had to report daily to the insurance fund,<sup>63</sup> where they received a stamp on their social insurance card (Section 42). As a result of this procedure the Dutch word *stempelen* (to receive a stamp) became synonymous with being unemployed. Under the assumption that all unemployed trade-union members registered at labour exchanges, we find that they account for 52.0 percent of the registered unemployed (the ratio C/A in Figure 4). The remaining 55,024 (35.2 percent of total registered) thus consist of non-trade union members. The majority of the registered unemployed (52 percent) were thus members of a trade union, while the measurement procedure of trade-union unemployment indicates only a participation rate of 14 percent for 31 December 1930. Trade

59 CBS, *Maandschrift*, 1931, 362.

60 CBS, *Maandschrift*, 1931, 118

61 Labour Exchange Unemployment Rate =  $\frac{\text{registered unemployed at labour exchanges}}{\text{total labour force}}$  x  
 100% =  $\frac{136,228}{3,185,816}$

62 CBS, *Maandschrift*, 1931, 356-367.

63 In accordance with Section 41 of the Unemployment Resolution 1917.

Table 2: *Development of the measurement procedure of labour exchange unemployment, 1900-1940*

	1900-1917	1917-1932	1932-1940
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Organisation	municipal	government	government
Coverage of labour exchanges	local	regional / national	regional / national
Extent of employment assistance	small	considerable	large
Co-operation in data collection	voluntary	compulsory	compulsory
Responsibility for data collection	CBS	DWA (1924-1933)	CBS (1933-1940)
Basis of count	voluntary	voluntary + compulsory	voluntary + compulsory
Processing of data	unprocessed	aggregation	aggregation + classification
Role of labour exchange	mediation	mediation / registration	mediation / registration

union members were clearly over-represented in the measurement of labour exchange unemployment.

So, the development of the measurement procedure of labour-exchange unemployment can be summed up as follows (table 2). In the early period, 1900-1917, labour exchanges were in their infancy and, consequently, the measurement procedure was not fully standardised. The exchanges operated only locally, and only a very small fraction of the unemployed working population registered voluntarily. Although attempts were made to standardise the procedure (i.e. the reporting paper forms), the measurement procedure remained non-standardised.

In the period 1917-1932, more standard procedures were introduced as a consequence of the Unemployment Resolution 1917, but unfortunately, the resolution applied to only a small proportion of the workers: insured trade-union members. Most workers (around 85 percent) were simply not members of a union, and some occupations were still more or less absent in the statistics. The Employment Assistance Law 1930 and the economic crisis of the 1930's caused the number of registered workers to increase sharply. The measure-

ment procedure of Labour Exchange unemployment was, however, still largely based on the voluntary registration of the large majority of workers.

### Conclusions

In the last quarter of the nineteenth century local government and societal organisations felt the need to alleviate the social consequences of poverty, and therefore wanted to measure a particular kind of poverty, namely poverty as a result of idleness or lack of work: unemployment. The first counts were conducted by order of the municipal councils of Amsterdam and Utrecht, but without a clear concept of unemployment. In 1894/5, for example, the Amsterdam Municipal Bureau of Statistics, counted persons who applied for relief work and presented this as an unemployment figure.<sup>64</sup> Other enumerations at that time show a similar lack of operational definitions. In 1901 when the government requested the CBS to quantify unemployment, the phenomenon was still unclear at a conceptual and epistemic level: no operational definitions of unemployment or practical methods for counting unemployment were known. The CBS therefore resorted to organisations that handled administrative unemployment data of one kind or another – the trade unions and the labour exchanges – rather than conducting surveys, censuses or interviews itself.

As a result two measurement procedures for unemployment were developed: one based on trade-union data and one on labour-exchange data. Table 3 compares the main characteristics of these two procedures.

Both measurement procedures involved (different) bureaucratic procedures such as bookkeeping, reporting and processing of raw data. In the early period both measurement procedures were standardised only locally, and provided only local knowledge of unemployment, and at a micro-level. By taking trade-union members as a sample of the total workforce (by calculating percentages and index numbers), the unemployment figures were raised to a macro-level. In a combination with the General Census of 31 December 1930, we get three completely different unemployment rates from these measurement procedures: an index of unemployment of 15.3 percent, a percentage of unemployment of 18.2 percent for trade-union unemployment, and a calculated unemployment rate of 4.9 percent for labour-exchange unemployment. The two measurement procedures used different implicit definitions of unemployment, and hence conceptualised unemployment differently. Standardisation of both measurement procedures did not take place until central government became involved in both unemployment insurance and employment assistance

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64 Bureau van Statistiek der Gemeente Amsterdam, *Statistiek der werklozen*.

Table 3: Comparison of the main characteristics of measurement of trade union and labour exchange unemployment

	Trade union unemployment	Labour exchange unemployment
Organisations	Trade unions, DWA, CBS Municipal unempl. funds (1906-1917)	Labour exchanges, CBS, DWA (1924-1933)
Quantitative rule	* Accounts of unemployment benefits by trade unions * Administration of subsidy by government	* Registering supply and demand of labour * Reporting quantities to CBS
		* Classification into occupational and industry subgroups
	* Reporting quantities to CBS / DWA	
	* Classification into occupational and industry subgroups	
	* Calculation of index numbers	
Standardisation	* High degree through standardisation of trade union regulations	* Moderate degree of standardisation
		* Registration based on voluntariness
	* Strong financial incentive to register	* Little direct incentive to register
		* Standardisation of reporting paper form to CBS
Implicit definition	Trade union members on welfare	Voluntarily registered job seekers
Unemployment rate	18.2 % (percentage unemployment)	4.9 %
31 December 1930	15.3 % (index of unemployment)	

Abbreviation:

DWA = *Rijks Dienst der Werkloosheidsverzekering en Arbeidsbemiddeling*

by acceptance of the Unemployment Resolution 1917. As a result, the two methods became closely related and more standardised, and the population measured by the methods increasingly overlapped.

The frequent use of all sorts of establishment data to describe social phenomena seems to be characteristic of the production of statistics in this era. The CBS presents, for example, 'the number of people who departed via the port of Rotterdam' as an emigration statistic. Although this was clearly not exactly what statisticians wanted to measure, as it only provided a very incomplete or distorted picture of a phenomenon, there was an organisation – the port authority of Rotterdam – that kept records and could provide cost-efficient quantitative data. There were various other organisations that could provide continuous data on social phenomena. The Second ILO Conference of Labour Statisticians in 1925 therefore agreed that: 'the only possible course is to use the data provided by the sources above (trade unions, insurance, and labour exchanges), imperfect and incomplete as they necessarily are'.<sup>65</sup> The use of data provided by such organisations was therefore common practice, not only for the Dutch CBS, but for other statistical offices in Europe as well.

Such a source-driven approach to the measurement of sociological concepts seems to come at a cost, however. Not only did it produce three different figures for the same phenomenon, but it leaned towards operationalism, Bridgman's practice of defining social constructs in terms of the operations for measuring them.<sup>66</sup> The elusive entity of intelligence in psychology, for example, finally achieved its meaning by simply defining it, according to E.G. Boring's suggestion, as what an IQ test measures. This also seems to apply in this case: an unclear, social concept was measured by using administrative data, which have a limited, local scope and validity at a micro-level. By constructing two measurement procedures, these locally valid concepts of unemployment gained empirical significance. As a consequence, the locally valid concept of unemployment became more widely used at a macro-level. The two measurement procedures created a new meaning and took the meanings of the measures beyond the limits of their original ones: trade-union and labour-exchange administrative registers.

However, this criticism does not seem fully justified to me, as it stretches the point too far. It neglects the role the measurement itself played. At the end of the nineteenth century 'unemployment' was a pre-scientific concept, a

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<sup>65</sup> International Labour Office, 'Methods of statistics of unemployment', 1925a, 14.

<sup>66</sup> For Bridgman 'a concept is nothing more than a set of operations; the concept is synonymous with the corresponding set of operations', Bridgman, *The Logic of modern physics*, 5.

mere buzzword without theoretical foundation. The early counts, conducted by social organisations and local governments, were unsystematic and faced problems concerning both accuracy and precision. For the charity organisations involved in unemployment relief, precise or accurate measurement of unemployment was perhaps not most important. What was much more important was that unemployment – a concept without scientific underpinning – was recognised as a valid social concept, which inflicted great social hardship upon society. Stilting, for example, illustrated this view when he argued in 1907 – having first disqualified the completeness of Dutch unemployment figures – that they still gave a picture of the size of this social evil, and that the lack of accurate statistics did not relieve society of its moral duty to alleviate the social consequences of unemployment.<sup>67</sup> In this way the early counts helped to constitute unemployment by transforming the buzzword ‘unemployment’, that cropped up in newspapers and social discussions, into a real thing, an undeniable fact, that later gave rise to theorising about the phenomenon. The first requirement for measuring a phenomenon is that a stable concept is constructed of it, and, in the case of unemployment, the measurement procedures of the two kinds of unemployment helped to achieve this. The measurement procedures thus played an active epistemic role: they helped to clarify the unclear phenomenon of unemployment so that researchers could gain access to it and study it. Unemployment was conceptualised as it was being measured, and measured as it was being conceptualised.

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<sup>67</sup> Stilting, *Werkloosheid*, 17.