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CONCEPTUAL PROBLEMS IN THE UNDERSTATEMENT OF LONG-TERM UNEMPLOYMENT

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0 Abstract

The current number of long-term unemployed and that number as a proportion of the total of unemployed people describe the size of the group of persons for whom unemployment has become not a brief interlude, but rather a serious problem, in some cases threatening their very existence. In West Germany this share amounted to 31.9% in 1996.[1]

This same figure or the same percentage is also used to evaluate labour markets or the effect of economic and labour market policy measures. In the latter case long-term unemployment can be used as an indicator.

The paper will show that the current method practised here and elsewhere for counting the long-term unemployed serves therapeutic purposes and totally satisfies these, but it systematically and significantly under-reports the extent of long-term unemployment. In the last decade spells of unemployment lasting longer than one year made up more than 50% of the total volume of unemployment in West Germany; currently (1996) the figure is 58.4%. One can say that long-term unemployment is in fact roughly about twice as high as the official rate.

A comparison with England and France shows that long-term unemployment is an even bigger problem there; in both of these countries about 67% of current unemployment is long-term unemployment. Bearing this in mind the ranking procedures for labour markets and labour market policies which are based on the figures normally used, must be put into perspective and considered with great caution.

1. Preface

Much has been written about the long-term unemployed, their number and the proportion of all unemployed that they constitute. Every month the latest figures for long-term unemployment are reported. Is there anything new to add?

As a first indication one might look at the different terminology: this paper mainly uses the term ‘long-term unemployment’ rather than referring to ‘long-term unemployed people’. In popular usage both terms are normally synonymous. Experts now tend to relate unemployment to a quantity of volume, e.g. man years, while the unemployed are the individuals counted on a specific reference date or during a period.

To be sure, both of these concepts overlap: saying that in the annual average 4 million people are unemployed, of course, is to say that unemployment has reached a volume of 4 million man years. This would correspond to 4 million (fictitious) persons who had been unemployed for one year.

But also the definition of long-term unemployment starts out with real persons:

Whoever is unemployed for more than one year or whose unemployment has lasted for over one year etc. is considered to be a long-term unemployed here and elsewhere. This is the simple description of the matter, is readily understandable for anybody, based on a

[1] For source see page 11

surveying concept which is usually not explained in detail (because it seems equally obvious) and used in almost all national, supra- or international statistics (e.g. of the EU, OECD, ILO) on the labour market. The OECD provides a detailed definition: ''.... the long-term unemployed (are) active persons who have been unemployed for a minimum of twelve months without interruption.'' (OECD, 1987, p. 279).

In essence this process results in the following statement: on a certain reference date a total of x unemployed people are counted. A certain percentage of these has been unemployed for one year or more.

Again this statement is simple and readily understandable. It made much sense for the purpose that originally motivated such counts: one wanted to know the size of the group of people for which the above-average duration of their unemployment had become a special problem for finding work. The intention was to help them to return to employment by looking after them intensively, by offering financial support and - to the extent possible on the basis of the experience gained therefrom - to prevent long-term unemployment from coming about by pre-emptive action.

This is the core of the phenomenon of long-term unemployment about which a great number of papers have meanwhile been written, describing its extent, structure, causes and consequences, the policy measures against it and their efficiency.

But meanwhile ''long-term unemployment'' is also used for quite different purposes: it is used to rank countries, to define labour markets or their condition as better or worse. It is seen as an indication of such basic evils as immobility, inflexibility regarding wages and working hours and of overly generous social security; it is used as a descriptive variable in econometric models etc. In short: quantifying long-term unemployment ceased merely to be a means to determine ways of helping the affected persons and is used next to the unemployment rate as a kind of sub-indicator for the condition of an economy and a labour market.

There are e.g. OECD publications discussing the macroeconomic effects of long-term unemployment or the unemployment hysteresis (OECD, 1987, p. 279 and 291 ff); in its opinion for 1995 the German expert council for the development of the national economy says: 'the renewed increase in the percentage of the long-term unemployed is yet another indication that the labour market situation in West Germany is still far from relaxed' (SVR, Jahresgutachten 1995, no. 129, p. 142). A study concerning the international comparison of employment policy says: 'A high rate of long-term unemployment indicates that past labour market policy was not very successful.... Therefore long-term unemployment in our view is a sensitive complementary element to evaluate labour market policy in addition to the degree of activity and qualification measures' (Huckemann, van Suntum, 1994, p. 189).

While the original purpose, as first mentioned above, had a therapeutic approach, the latter is analytic leading to the question of whether the standing 'definition' of long-term unemployment is reasonable and helpful for both or whether analysts are taking the easy way out by simply adopting this definition more or less uncritically.

2. Long-term unemployment for analysis: is what you are measuring really what you intend to measure?

2.1 The length of a spell of unemployment as a link between inflow to unemployment and the volume of the unemployed

At first sight there are two well-known ways of defining the duration of unemployment:

- duration of unemployment in progress, i.e. the period between the onset of unemployment and a given census date,
- completed spell, i.e. the period between onset and end of unemployment.

The concept of the completed period as the link between the flow into unemployment and the stock has become the dominant one in employment research.

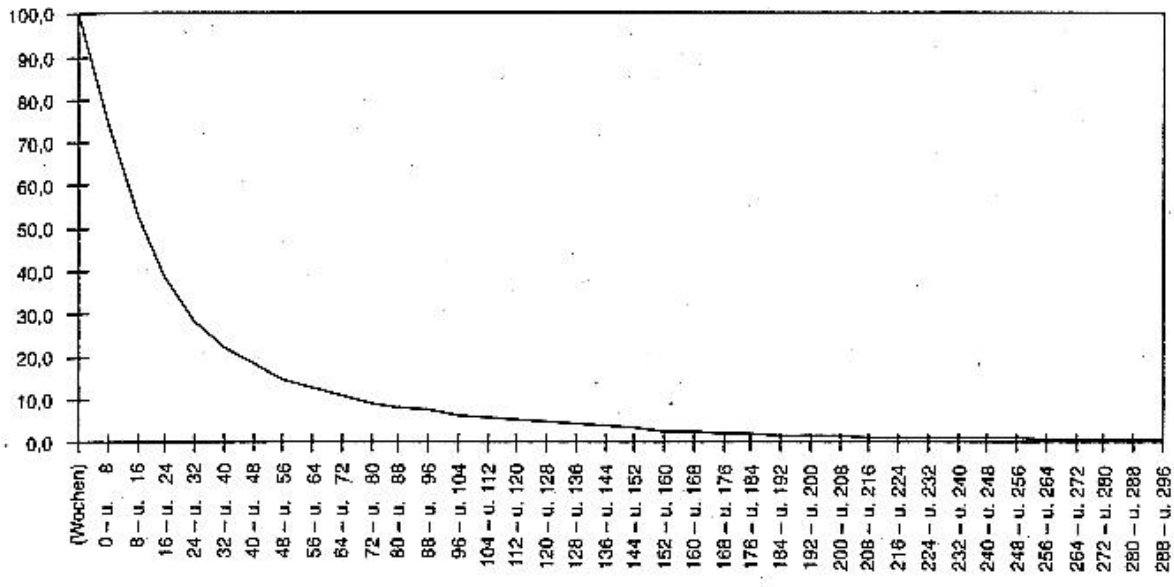
Two of the factors mentioned (inflows, completed spell, volume) determine the third one. This has been dealt with in published writings and will not be discussed at this point (e.g. Cramer, Karr, Rudolph, 1986, p. 409 ff). However, for long-term unemployment the duration of unemployment in progress is also of central importance, because it is used to classify the unemployed as the long-term unemployed and others. This method has the known drawback of including only those long-term unemployed for whom this condition (unemployment has lasted one year and over up to the given date) has already been registered, which is quite sensible for the therapeutic approach mentioned.. It does not comprise those who while being unemployed on the reference date, will not become long-term unemployed until a few days, weeks or months later.

Classifying current durations of unemployment according to the length of periods does not yield a distribution of completed durations for analytical purposes, separating short-term from long-term spells; rather it indicates how many of the unemployed are still at the beginning of these 'dire straits', how many are at mid-term and how many are in an alarmingly advanced stage. Anybody stating - based on these statistics - that no more than three out of ten unemployed will be re-employed within one year on average in the EU (while, in fact, in the countries investigated in this paper more than 80% leave unemployment behind within one year), ignored precisely this aspect (Information Service of the Institut der deutschen Wirtschaft (iwd), no. 5, 30 January 1997, p. 4.) Therefore, at 'second sight' there is only one valid concept to measure the duration of unemployment.

How many persons unemployed at a given date experience long-term unemployment can be determined one year later at the earliest. One arrives at the same result (when conditions are stationary) when basing the distribution of durations on an outflow cohort. This distribution of the length of unemployment is a central benchmark to characterise labour markets; it shows very clearly whether unemployment consists mainly of shorter spells with frequent turnover indicating a well working labour market or whether long-term spells are dominant, indicating a rather static and solidified labour market. a polarised labour market which is split into a well-working and a solidified segment can be identified. The dichotomous split of the volume into the parts contributed by short-term spells and by long-term spells is the only suitable measure for the analytic purposes cited above. (In the remainder of the paper the duration of unemployment shall always mean the completed spell.)

Length of spell of unemployment (or outflows out of unemployment) according to

categories of duration (weeks)
Outflow cohort May/June 1996



The diagram illustrates the distribution of durations in the form of a survival curve. This graphic depiction of the distribution of different spells of duration shows that most of the unemployed are leaving unemployment behind after a short period, thus contributing relatively little to the stock of unemployment, which might be better known as average volume of unemployed. Despite the low number of cases the long-term unemployed make a much bigger contribution to this volume.

The distribution of durations as described indicates the number of cases (= of persons) classified in this duration segment who are flowing in or out during each time period (measured e.g. in days, weeks or months). With this distribution it becomes relatively easy to see how many persons have been unemployed for one year and over. This figure is interesting, it is relatively small and - most significantly - it is not the figure meant when referring to long-term unemployment, e.g. about 17% of the people among the outflows from unemployment in 1996 had been unemployed for more than one year. In case of stationarity[2)] this will therefore mean that 17% of the people becoming unemployed now must expect to be unemployed for a longer period (1 year and over). This is a figure that even those who professionally deal with the problem of long-term unemployment are probably not aware of.

Economists, however, are mainly interested in the volume of unemployment (average stock) and its structure or composition. Here it is of relatively little importance how frequently specific individuals (in contrast to fictitious-average persons) turnover in these different segments.

Thus the focus is on the volume of unemployment which can be classified according to

2) In the present context stationarity exists, if the inflows (and thus outflows) per time period and their distribution of duration are constant.

many different criteria, including by segments of duration - just as can be done when focusing on individuals.

The duration distribution of unemployment spells of people can now be easily converted to determine the contribution of the duration groups to the volume of unemployment.

From the relationship

$$\text{inflow} \cdot \text{duration} = \text{volume (stocks)}$$

volume or volume proportions for given duration groups$_i$ can be calculated. Where I represents the number of entries (inflow), d - duration, U - volume and $_i$ a defined period of time, e.g. periods of unemployment of ≥ 1 year, the product

$$I_i \cdot d_i = U_i$$

will result in the volume of unemployment made up of spells of over 1 year, i.e. the long-term unemployed. When I_i and d_i are known U_i can be calculated. It might come as a surprise, though that U_i is far from the figures usually quoted. In mid-1996 U_i for Germany/West is e.g. slightly over 58%, while only 32.9% were identified as long-term unemployed in the official statistics for end of June 1996. Normally this goes unnoticed, because in most countries I and d are not recorded and thus not known.

We are now dealing with two measurements of 'long-term unemployment': the analytically derived share of the volume of 58% and the everyday-count-based measure of 32.9% of people being unemployed for more than one year at a given point in time.

How can these two measurements be reconciled? The 32.9% measures the contribution the long-term unemployed made to unemployment volume after the first year of the spell. Thus, 25.1% of the unemployment volume is made up by the first year of long-term spells.

Although economists often take the share of long-term unemployed persons as a measure of the long-term unemployment volume it understates its scope by neglecting the first 12 months.

It has not been laid down anywhere why the volume of long-term unemployment should be measured by the 12 months exceeding parts of the spell, nor why this should be a meaningful definition for the purposes of economic analysis. It is simply used by convenience and due to the availability of data, in analogy to other characteristics such as gender, age or qualification. While the variable is defined at the onset of the spell for all other characteristics, e.g. gender, it does not become defined for long-term unemployment until after one year. Thus the generally correct interpretation of the share in the volume as a measure for the proportion of the volume does not hold in the case of long-term unemployment.

2.2 Examples for the systematic under-recording of long-term unemployment

Even examples which are simplified to such an extent that they are far removed from

reality may be useful to illustrate complex matters. This is what we shall endeavour to do in the following.

Supposing a country's unemployment consisted only of long-term unemployed defined as those with a completed duration of unemployment of one year and more. Supposing further that the spell of unemployment was of the same lengths for each of them, e.g. 13 months. Any statistics designed to show this aspect under analytic aspects (e.g. solidified labour market) would be expected to show 100% long-term unemployment. But such statistics do not exist anywhere nowadays. Rather the approach would be the following: there is continuous inflow and therefore on a given reference date precisely $^{1}/_{13}$ of the long-term unemployed will be included in the volume. $^{12}/_{13}$ of them are still in the stage of less than one year (to date). Therefore the percentage of long-term unemployed would not be more than 7.7%. A labour market policy maker with therapeutic intentions will say: that is precisely what I want to know and these are the people I want to help. There is absolutely nothing wrong with that.

But could a ranking expert be content with this result? Despite these assumed 100% long-term unemployment he would come up with extremely favourable results.

When the example is modified by extending the duration of everybody's unemployment from 13 to 15 months, the volume on a given reference date would indicate $^{3}/_{15}$ long-term unemployed, i.e. precisely 20%, although their number had not changed, merely the period had become longer. Therefore one would not even know whether more people became long-term unemployed or whether it was merely the length of the period that changed.

If the unemployment spell was to be 24 months $^{12}/_{24}$ or 50% long-term unemployed would be shown according to the traditional measuring method, all other conditions being equal.

This directly shows two things

a) Long-term unemployment defined as the proportion of prolonged periods within the volume of unemployment is systematically under-recorded.
b) Under-recording is all the more drastic the less long-term unemployment lasts beyond the period of one year it is defined by.

We stress that this result is not the consequence of this highly simplified model. Even complex constructions which are close to reality show this effect, albeit less clearly.

3. Empirical findings

Labour market statistics in West Germany are relatively helpful for the issue studied here. There are monthly volume figures and figures for the long-term unemployed contained therein plus inflows and outflows for 2 to 4 week windows (May/June). The latter state the lengths of the completed spell of unemployment for each case. When assuming a stationary process for simplicity's sake the inflows will in number and duration equal

These can be subdivided into the long-term unemployed and the unemployed who have been less than one year unemployed:

Flow out of unemployment, June 1996

Duration	Cases	%	Σ days	%	∅duration (days)
up to 1 year	310 665	83.2	35,576,890	41.6	114.5
≥ 1 year	62 918	16.8	49,845,366	58.4	792.2
all	373 583	100	85,422,256	100	228.7

This is a very interesting table which shows *inter alia* the following:

– 16.8% of the inflows to and outflows from unemployment will be or have been respectively unemployed for over one year

because of the average duration of unemployment of 2.2 years these long-term unemployed make up more than half of the volume (58.4%). The volume of long-term unemployed estimated on the basis of the figures available is 1,638,752. Officially a figure of 875,885 or 32.9% was shown in June 1996 (899,558 (31.9%) in September 1996).

Duration	Volume calculated			
	abs.	%	abs.	%
up to 1 year	1,169,651	41.6	1,790,005	67.1
≥ 1 year	1,638,752	58.4	875,885	32.9
all	2,808,403	100	2,665,890	100

Thus there is an obvious disparity between the long-term unemployment that can be

3) The volume for June 1996 was 2,665,890. The difference is probably attributable to the fact that stationarity was not really achieved. (There might also have been certain problems with the collection of statistics, such as additional seasonal effects.)

1) June 1996

shown in the volume (58.4%) and that which is actually quoted (32.9% and 31.9%). The following table (which is limited to structural data) proves that this was not only true for 1996, but applied to previous years as well in the same proportions.

Table 1: Flow out of unemployment [1], West Germany

	1989	1990	1991	1992	1993	1994	1995	1996
Cases (%)								
Duration of unemploym.								
< 1 year	85.2	86.6	86.5	86.7	87.0	82.5	80.5	83.2
≥1 year	14.8	13.4	13.5	13.3	13.0	17.5	19.5	16.8
Aver. length in days for spells of unemploym.								
< 1 year	105.0	104.7	106.4	106.9	111.2	121.7	115.7	114.5
≥ 1 year	758.2	835.5	818.2	812.4	761.1	684.8	755.7	792.2
Volume (%) (cases x average length or ∑ days)								
< 1 year	44.3	44.8	45.4	46.1	49.5	45.6	38.7	41.6
≥ 1 year	55.7	55.2	54.6	53.9	50.5	54.4	61.3	58.4
Long-term unemployed as shown in the stocks (Percentage)	31.4[2]	29.7[2]	28.3[2]	26.6[2]	25.9[2]	30.2[3]	32.7[3]	31.9[4]

[1] Results from St 9 for the given years
[2] St 4, September 1989 and 1990
[3] Annual averages
[4] Average October 1995 - September 1996

The table indicates that the percentage of long-term unemployment has been clearly above 50% at all times. The percentage is surprisingly consistent between 50.5% and 61.3%. The long-term unemployed shown in the current volume varies in a slightly wider range of 24.9% and 32.7% which is, however, only almost half thereof.

What is also striking are the different combinations one would never become aware of, if the figures were not arranged in this way.

In 1990 and 1994 the percentage of long-term unemployment was said to be 29.7% and 30.2%. Effectively, however, it was 55.2% and 54.4%. The difference in the levels is considerable, but the difference between both years is minor, irrespective of the measuring method. At first sight it seems that the labour market situations for both years were basically the same. In fact, however, they are considerably different. The situation in 1990 is very polarised. Only 13.4% of those leaving unemployment had been unemployed for one year plus; but on average they had been unemployed for about 836 days or 2.3 years; 86.6% had been unemployed for under one year, i.e. 105 days or 3.4 months. While the long-term unemployment shown for 1994 was almost the same, the polarisation in the distribution was not so extreme. A high percentage of 17.5% of the

outflows had been unemployed one year plus. Average unemployment had lasted for 685 days or 1.9 years; 82.5% had been unemployed for under one year, i.e. 122 days or 4 months.

4. How the different results come about

As previously stated, in the stationary model which we have now assumed, multiplying the inflow I (per time period) by individual or average duration d will result in the volume quantity B.

$$I \cdot d = U$$

This relationship does not only apply overall, but also for each group of individuals within the unemployed, e.g. for men or women, different age groups, different qualifications and for the distribution of duration itself.

$$I_r \cdot d_r = U_r$$

$$\sum_r I_r \cdot d_r = U$$

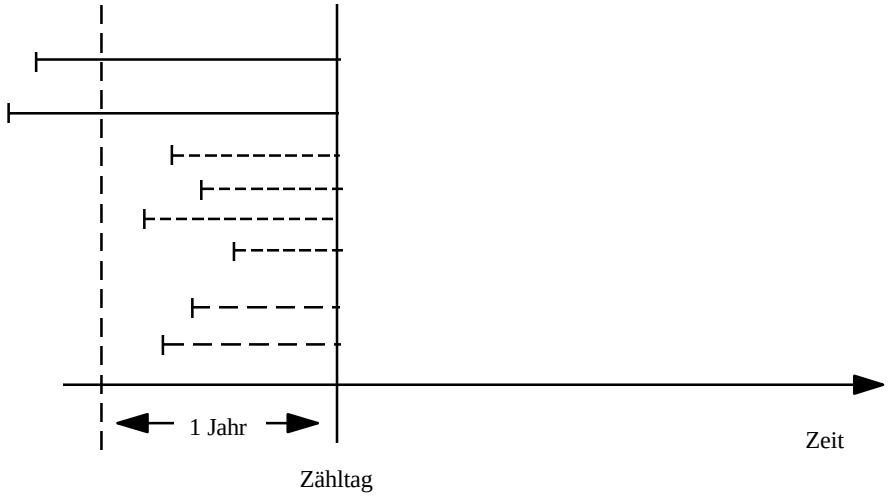
where r is adjusted for the different qualitative characteristics. The durations d_r assigned to these characteristics act as weightings. Therefore the volume figures U_r are figures which are permanently weighted for the corresponding inflows. The proportion of a certain group of people in the volume increases the longer this group forms part of the volume, i.e. remains unemployed, which means the heavier the inflow figures are weighted.

In this way one can compute the total number of people recorded in the volume and the number of them which fits each property (including certain categories of duration). The calculation consists of multiplying the number of inflows by the duration.

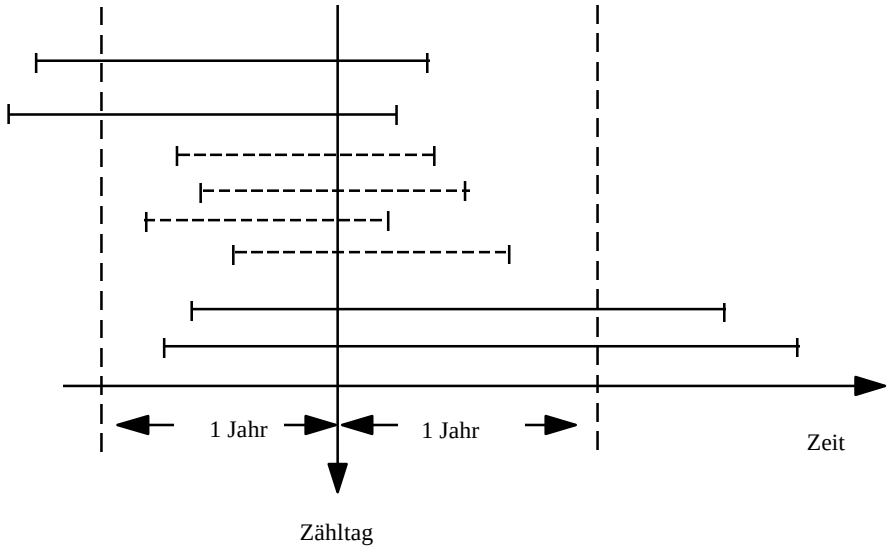
However, the long-term unemployment shown in the examples in the table is almost twice as high as the figures recorded in the volumes. It accounts for over half of all unemployment. It seems that the identity of the composition of the volume and that of the individuals in the volumes explained above does not apply. Indeed, long-term unemployment is the only one among the properties that exhibits one peculiarity: it is not a property the unemployed person has right from the start such as sex or qualification. Rather it materialises only with the lapse of time, after precisely one year an unemployed person becomes a long-term unemployed which he then remains for the rest of his spell. We can neutralise this effect by postponing the recording date by the relevant period, i.e. by at least one year from the present point in time for purposes of analysis.

The following diagrams illustrate this condition:

1) Reference date/counting date onset of unemployment spells on the verges of the current period



2) Same reference date/counting date as in 1), over one year later Completed spells of unemployment



The first diagram includes 8 unemployed people on the reference date, two of them are long-term unemployed (solid line) and 6 of them have spells shorter than one year (broken line). What is shown is the duration of the unemployment to date. In the second diagram all of these processes have been completed. Two more long-term unemployed have been added to the original 2 as they turned into long-term unemployed after the reference date. Thus the percentage of long-term unemployed on the reference date doubles from 25% to 50%.

This means that the group of persons in the stocks is structured in the same way as is the volume (inflow x duration).

Therefore measurements which ignore the potential long-term nature of unemployment spells that started on the verge of the recording period are hardly suitable for analytic purposes of describing and evaluating labour markets (in contrast to therapeutic purposes!). By applying this concept long-term unemployment is systematically under-recorded. This might be tolerable, if it happened everywhere to the same extent or in the same proportions, i.e. if ranking within orders were not affected thereby. But, as shown above. the extent of this under-recording depends on the ratio between average duration of long-term unemployment and the decisive period, i.e. one year which is different from country to country.

One must stress once again that the continuous inflow and outflow into and out of unemployment brings about permanent distributions in this country according to which more than half of unemployment consists of long-term spells which last one year and over. Recording duration of unemployment at a given reference date hides this fact.

Can the actual extent of long-term unemployment be inferred from the volume figures available?

We briefly mentioned above that on a given reference date only a certain part of the long-term unemployed can be perceived as such. This part is all the smaller, the less the long-term unemployment extends beyond the defining period of 12 months. If it is 13 months $1/13$ will be perceived, if it is 14 months $2/14$ will be perceived etc. The larger the segment of duration under review becomes, the higher the proportion of the unemployed in this segment which have been unemployed for more than 12 months (visible part) compared to those that are still in the less than one year segment.

When assuming variable (x + 12) for all segments of duration over 12 months, then the expression $\frac{x}{x+12}$ describes the visible and the expression $\frac{12}{x+12}$ the (still) invisible number of the long-term unemployed at a given time. Both expressions, of course, add up to 1. The different segments of duration must be weighted with the different case numbers.

It will be appreciated that the relationship between both figures is not linear or proportional to the varying duration of unemployment. As a direct consequence of this an arithmetic mean of all segments of duration shows too high a percentage of (the visible + potential) long-term unemployed in the current volume. Adding up the actual percentages of the long-term unemployed in all segments of duration will always result in a lower number than the one resulting from the ratio of 12 months to the average duration of long-term unemployment. However, this problem must be solved either by totalling the number in each time segment or, if continuous, by integrating the functions described.

To simplify matters the proportion of long-term unemployed with average duration of unemployment (= average completed periods of unemployment of all cases of $d \geq 1$ year) is to be estimated. Where

A_L is the proportion of long-term unemployment (in the analytic sense, i.e. the per-

centage of the volume);

A_{SL} is the proportion of the long-term unemployed visible in the current volume;

d_L is the average completed duration of long-term unemployment (expressed in months),

it follows that $A_L = \frac{A_{SL}}{1 - \frac{12}{d_L}}$

is a lower limit for the size of long-term unemployment; here it is supposed that A_{SL} (standard method to measure long-term unemployment) and d_L are known.

Actually, only A_{SL} is known, but widely and erroneously used for the above purpose.

When extrapolating the official volume figure A_{SL} (visible part) for the entire size of long-term unemployment A_L the figures used here show the following results:

Table 2: Estimated long-term unemployment based on the official long-term unemployment percentages

	1989	1990	1991	1992	1993	1994	1995	1996
Official percentage of long-term unemployed (%) A_{SL} (Source see Table 1)	31.4	29.7	28.3	26.6	25.9	32.5	32.7	31.9
Average duration of completed long-term unemployment d_L (months)	24.9	27.5	26.9	26.7	25.0	22.5	24.9	26.0
Estimated percentage of long-term unemployed $A_L = \frac{A_{SL}}{1 - \frac{12}{d_L}}$ (%)	60.5	52.7	51.1	48.3	49.8	68.1	63.2	59.2
Percentage of long-term unemployed measured in outflow samples	55.7	55.2	54.6	53.9	50.5	54.4	61.3	58.4

The estimated and the measured figures compare very differently. And there are reasons for this:

The first one being the stationarity which is assumed, but does, of course, not strictly exist (if such stationarity existed the values measured for the different years would have to be the same).

The economic cycle is cited as the main reason for the disruption of the stationary process. The 1987 OECD Employment Outlook provides a very helpful description (OECD 1987, p. 286, see also Pfahler, 1995, p. 292 ff). The OECD presentation can be illus-

trated with the figures for the years 1992 to 1994/95:

While unemployment is increasing, as we saw it do in West Germany after 1992, the proportion of the long-term unemployed is shrinking; the base figure grows as outflows are outnumbered by inflows who will initially only be unemployed for a short period. In 1994 the increase came to a (temporary) standstill.

In the volume figures on the reference date (official figure with systematic under-recording) long-term unemployment had meanwhile risen to 32.5%. Of course the long-term unemployed were underrepresented in that year's outflow figures. This explains the extreme discrepancy between the long-term unemployment estimated when referring to the volume and that measured in the outflow (68.1% versus 54.4%).

Labour market policy measures for the benefit of the long-term unemployed, likewise affect stationarity. There is the example of the so-called DM 250 million programme which granted subsidies for reintegration of the long-term unemployed into the labour market after 1989. The scheme was extended several times and integrated into the German Labour Promotion Act as its section 62d on 1 January 1994; currently it is limited until 31 December 1998.

Finally the results are flawed by inconsistency of inflow and outflow statistics on the one hand and volume statistics on the other. This inconsistency was abolished in 1995 (as of this year the estimates and the measured figures are relatively close).

Unfortunately none of the latter considerations is very helpful. Total long-term unemployment (defined as an analytical quantity) could only be estimated on the basis of the (therapeutically useful) long-term unemployment shown at the end of each month, if at least the average completed duration of long-term unemployment was known. But in Germany this figure is surveyed only once a year (up to 1996 only for the West) and in most other countries not at all.

In Germany the average duration of completed long-term unemployment in the years studied is in the order of 24 months which means that a rough approximation of the ratio

$$\frac{average\ duration\ of\ \ long-term\ unemployment}{defining\ \ period} = \frac{24}{12} = 2$$

renders a long-term unemployment that is twice as high as the figure officially quoted.

5. How to arrive at an international comparison?

The foremost interest of the 'analytical' concept which we distinguished from the 'therapeutic' one, is the comparison of similar national economies for size and composition of unemployment, while the general institutional conditions (e.g. in areas like labour law, social law and collective bargaining law) and the attitudes of the parties acting on the labour market (e.g. with regard to corporate manpower planning or the mobility of workers) differ.

Thus it is not anymore the level of long-term unemployment as previously determined that is at the centre of attention, but how to prevent or ameliorate long-term unemploy-

ment, by whatever measures. Low long-term unemployment in international comparisons stands for a positive condition of the labour market, its reduction for successful labour market policy.

To permit sensible international comparisons the recording should be uniform, such as the EU is doing for labour statistics; otherwise complex calculations are required which for instance OECD is engaging in (the European labour statistics are integrated into the OECD figures).

In these Labour Force Surveys the number of unemployed and long-term unemployed included is determined by questioning people (or households). Simply because of this the results will already be different from those of the national registers for the registered unemployed which mostly exist parallel thereto.

The duration of unemployment is very much affected by this: when the Bundesanstalt für Arbeit succeeded in making 756 000 placements in jobs lasting up to 7 calendar days, in 1995 this constituted merely a short-term interruption of unemployment rather than its termination for the unemployed in this group. There are other reasons for interruptions such as illness, failing to register and the like. While these interruptions are accounted for in the registers and become effective, they do not take effect in the minds of the people concerned, i.e. the unemployed themselves. They do not consider such interruptions as the termination of a previous spell of unemployment and the beginning of a new one. In their view their unemployment lasted for the entire period irrespective of short interruptions. Spells recorded in this way will therefore always be longer than those in the registers. (For Germany the proportion of long-term unemployed recorded in this way amounted to 48.3% in 1995, while it was only 31.6% as counted by the Bundesanstalt für Arbeit.) This does, however, not solve the formal problem described above (visible plus not yet visible proportion of long-term unemployed in the current volume), it merely lifts it to another level.

With this data collection method (labour force sample) the data (at this higher level) can be compared well only for the therapeutic concept, where this is, however, of relatively minor interest. The analytical question about the proportion of long-term unemployment of the volume can unfortunately not be answered. The combination of inflows, durations of unemployment and resulting volumes that is possible with the process data of the unemployment registers is not yet possible with the survey results. The data required for the considerations relevant here are limited to data on volumes according to different categories of duration, where the current duration on a reference day (or a week of reporting) is more of an age distribution than a distribution of lengths of spell. Significant factors such as inflow into unemployment are roughly estimated based on the shortest duration segment (e.g. one month). (In Germany between 15 and 20% have gone out of unemployment by then already.) With this estimate of the inflow and the volume, however, no more than a rough estimate of the average length of unemployment is possible. The decisive factor, i.e. the distribution of the duration of completed unemployment, cannot be determined. Thus these otherwise very useful statistics do not help answer the analytical question of what proportion of the unemployed are long-term unemployed, but they are nevertheless reported.

By way of example the proportion of long-term unemployed (OECD, 1996, p. 202) is cited for the following countries:

	1994	1995
USA	12.2	9.7
Japan	16.9	18.1
United Kingdom	45.4	43.5
France	38.3	45.6
Germany	43.9	48.3

As shown above these figures are systematically under-recorded (if one is interested in the long-term unemployed as a proportion of the volume) and the resulting ranking depends very much on the ratio of the completed duration of long-term unemployment to the defining period of one year.

The French Ministry of Labour (ANPE) and the British Office for National Statistics were kind enough to make figures on the outflow of unemployed according to categories of duration (for completed spells of unemployment) available from their records. Unfortunately this data was not available in the very fine-tuned distinction (e.g. by weeks) we have for (West-)Germany. It contains only numbers of cases per category of duration and therefore one has to be satisfied with an estimated average length per segment to determine the volume; however, this fact becomes a problem only in the last class which was open. (The calculations presented for Germany above could be done in all segments with the precision of one day).

The data made available to us on the number of people leaving unemployment (cases according to categories of duration) for the UK for August 1996 and for France for the third quarter of 1996 have been compiled in Tables 4 and 5 and used for the computation of volume quantities. As average duration of stay for the different duration segments the results determined for Germany were used. They are always below the class means and thus come closest to the outflow polygon.

Table 3: Outflows out of unemployment in Germany 1996

Completed unemployment duration in weeks	Cases				Volume (days)					
			cumulated				cumulated		average duration	variance
	abs.	%	abs.	%	abs.	%	abs.	%	days	
Total	373583	100.0			8542225	100.0			228.7	129918.9
of these										
0 to less than 1	28320	7.6	28320.0	7.6	57443	0.1	57443.0	0.1	2.0	2.5
1 to less than 2	12346	3.3	40666.0	10.9	122772	0.1	180215.0	0.2	9.9	4.2
2 to less than 4	20295	5.4	60961.0	16.3	406964	0.5	587179.0	0.7	20.1	16.6
4 to less than 6	20382	5.5	81343.0	21.8	693334	0.8	1280513.0	1.5	34.0	15.3
6 to less than 8	15748	4.2	97091.0	26.0	759297	0.9	2039810.0	2.4	48.2	15.8
8 to less than 13	39230	10.5	136321.0	36.5	2832215	3.3	4872025.0	5.7	72.2	101.2
13 to less than 26	105297	28.2	241618.0	64.7	1338529	15.7	18257321.	21.4	127.1	771.6
26 to less than 39	46280	12.4	287898.0	77.1	1022612	12.0	28483442.	33.4	221.0	714.6
39 to less than 52	24336	6.5	312234.0	83.6	7658245	9.0	36141687.	42.4	314.7	727.8
52 to less than 65	14844	4.0	327078.0	87.6	6006361	7.0	42148048.	49.4	404.6	749.9
65 to less than 78	10721	2.9	337799.0	90.5	5357760	6.3	47505808.	55.7	499.7	702.5
78 to less than 104	12140	3.2	349939.0	93.7	7632974	8.9	55138782.	64.6	628.7	2778.8
104 to less than 156	12749	3.4	362688.0	97.1	1142220	13.4	66560988.	78.0	895.9	10755.4
156 to less than 208	5807	1.6	368495.0	98.7	7260437	8.5	73821425.	86.5	1250.3	9840.7
208 to less than 260	2244	0.6	370739.0	99.3	3622563	4.2	77443988.	90.7	1614.3	10620.3
260 weeks and over	2844	0.8	373583.0	100.1	7978268	9.3	85422256.	100.0	2805.3	1254370.
up to 1 year	310665	83.2			3557689	41.6			114.5	8062.5
over 1 year	62918	16.8			4984536	58.4			792.2	349662.1

Table 4: Outflow out of unemployment (persons who had been receiving benefits) in the United Kingdom, August 1996

Duration cat./weeks	Cases	%	Cases cumulated	% cum.	Duration days	Vol. 1000	Vol. %	Vol. cum.	% cum.
≤ 1	14022	5.3	14022	5.3	2.0	28.0	0.1	28.0	0.1
1 - 2	18096	6.8	32118	12.1	9.9	179.2	0.3	207.2	0.4
2 - 4	32012	12.1	64130	24.2	20.1	643.4	1.0	850.6	1.4
4 - 6	24159	9.1	88289	33.3	34	821.4	1.3	1672.0	2.7
6 - 8	15710	5.9	103999	39.2	48.2	757.2	1.2	2429.3	3.8
8 - 13	24164	9.1	128163	48.3	72.2	1744.6	2.7	4173.9	6.5
13 - 26	40531	15.3	168694	63.6	127.1	5151.5	8.0	9325.4	14.5
26 - 39	28556	10.8	197250	74.4	221	6310.9	9.8	15636.3	24.3
39 - 52	17565	6.6	214815	81.0	314.7	5527.7	8.6	21164.0	32.8
52 - 65	14457	5.5	229272	86.5	404.6	5849.3	9.0	27013.3	41.9
65 - 78	8527	3.2	237799	89.7	499.7	4260.9	6.6	31274.2	48.5
78 - 104	8597	3.2	246396	92.9	628.7	5404.9	8.4	36679.2	56.8
104 - 156	8221	3.1	254617	96.0	895.9	7365.2	11.4	44044.3	68.2
156 - 208	3512	1.3	258129	97.3	1250.3	4391.1	6.8	48435.4	75.0
208 - 260	2319	0.9	260448	98.2	1614.3	3743.6	5.8	52179.0	80.8
> 260	4446	1.7	264894	99.9	2805.3	12472.4	19.3	64651.3	100.1
	264894	100	-			64651.3			

Table 5: Outflows of unemployment in France, 3rd quarter of 1996

Duration category	Cases (1000)	%	Cases cumulated	% cum.	Duration days	Vol. 1000	Vol. %	Vol. cum.	Vol. cum. %
<1 mon.	118.8	11.3	118.8	11.3	9.6	1140.5	0.4	1140.5	0.4
1 - 3	264.2	25.2	383.0	36.5	56.9	15033.0	5.1	16173.5	5.5
3 - 6	183.8	17.5	566.7	54.0	127.1	23361.0	7.9	39534.5	13.3
6 - 12	230.1	21.9	796.8	75.9	253.3	58284.3	19.6	97818.8	32.9
12 - 24	157.5	15.0	954.4	90.9	503.8	79348.5	26.7	177167.	59.6
24 - 36	53.9	5.1	1008.2	96.0	895.9	48289.0	16.2	225456.	75.9
> 36	41.5	4.0	1049.7	100.0	1731.2	71844.8	24.2	297301.	100.0
	1049.7	100.0				297301.	100.0		

Calculation in column vol/1000 days = rounded figure (column 2) *duration

The distribution of durations in the volume of unemployment is readily perceivable:

In the UK 81% of the cases left unemployment behind within one year; they contributed 32.8% to the volume (or the average volume). While only 19% were unemployed for more than one year, they made up 67.3% of the volume. As explained in detail above, this figure represents the proportion of long-term unemployed (visible + not yet visible) included in the volume of unemployed people.

In France 75.9% of the unemployed left unemployment behind within one year. They make up 32.9% of the volume; 24.1% of the unemployed were unemployed for more than one year, representing 67.1% of the unemployment volume. The stocks included this percentage of existing or future long-term unemployed.

Table 6 summarises the proportion the long-term unemployment spells (outflows) and of the proportion of long-term unemployment in the volume for Germany, France and the UK. It shows that in all countries long-term unemployment is higher than is shown by the questioning about the current duration of unemployment in the Labour Force Surveys, despite the more critical way of counting which allowed for interruptions. However, this comes as no surprise, because the completed duration of unemployment for a certain person will always be longer than the time to date measured on a specific reference date. If the Labour Force Surveys also inquired about the completed duration of unemployment the effect would be still more striking.

What is much more relevant for the problem posed initially is that also the rankings which play a crucial role in the evaluation of labour market performance. In 1996 a figure of 58.4% for long-term unemployment (as a proportion of total unemployed) puts Germany (West) clearly behind France at 67.1%. With this figure Germany (West) is also lower than the UK at 67.3%. (Using the proportions measured by current duration of long-term unemployment Germany is behind France (33.7%) at 31.9% and both of these are behind the UK (35.7%). (Table 6)

However, this relative shift is no reason to relax: it is conspicuous in the countries compared that long-term unemployment is characterising total unemployment to a large extent. Unemployment consists by far more than one half of unemployment spells which are longer than one year.

Table 6: Extent of long-term unemployment (1996) in Germany, France and the United Kingdom

	Cases %	Vol. %	∅ duration (days)	Proportion of long-term unemployed as registered in the volumes (%)
Germany 1996				
< 1 year	83.2	41.6	114.5	
> 1 year	16.8	58.4	792.2	31.9
total	100	100	228.7	
France 1996				
< 1 year	75.9	32.9	122.8	
> 1 year	24.1	67.1	788.8	33.7
total	100	100	283.2	
United Kingdom				
< 1 year	81.0	32.8	98.5	
> 1 year	19.0	67.3	868.4	35.7
total	100	100	244.1	

6. Summary

The considerations and calculations made are intended to draw attention to two phenomena which have gone almost unnoticed until now:

(1) The number of long-term unemployed and their proportion of all unemployed determined on a specific reference date is the correct and important information required to assess the current size of this target group in the labour market. It provides an answer for the therapeutic approach described.

This figure and this proportion is not identical with analytically defined long-term unemployment. That figure is systematically underestimated by the former way of measuring. In any given outflow cohort of the past decade (and most probably also for the time being) the distribution of the completed spells of unemployment shows that half of the cumulated durations (or even more) consisted of long-term spells. This statement corresponds (if stationarity is assumed) to saying that exactly the same proportion of unemployed would be found in the volume at any given reference date that is dated back from the current verge for more than one year.

(2) The ratio of the number of the long-term unemployed measured on any given reference date to the real extent of long-term unemployment is not known for most countries. In recent years the ratio was roughly 1:2 in Germany (West), i.e. long-term unemployment was about twice as high as currently and officially stated. This ratio, which will vary according to time and country, is determined by the ratio of the defining period (of one year) to the duration of the long-term unemployment beyond this time. Because underestimation of the proportion of long-term unemployment is the more drastic, the less

the duration of this segment exceeds the 1 year mark, the standard ordering principles in international comparisons can be easily affected.

Therefore there is an urgent need to define clearly the specific purpose in any discussion of the long-term unemployed or long-term unemployment. Anybody devising schemes and programmes to control or reduce long-term unemployment is aiming at those who are currently (or might in future be) in this difficult situation. Anybody who attempts to assess labour markets, their functioning or dynamics, however, using the available figures relating to the current reference date would be ill advised; the examples quoted (national and international) have shown this clearly. On the other hand, he is also left alone by the statistics for these issues. It is difficult to comprehend that in a labour market situation that is a difficult one almost anywhere in the world now and given the vast theoretical and methodical know-how about the process character of the labour market, the data required for the labour market's description or analysis, i.e. specifically inflows, outflows, distribution of durations, are almost unavailable for any country.

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