Judgement of employment by the methods of systematic data collection

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Our research aims at examining the opinion of the Hungarian population about employment. We would like to define what factors are mainly associated with employment and what the exact meaning of these factors is. To carry out our research we have used the techniques of systematic data collection.

This method, developed in the 1980s by anthropologist Susan C. Weller, and mathematician A. Kimball Romney in the United States, help researchers in the social sciences collect better interview or questionnaire data. This slowly spreading qualitative research method of systematic interviewing – where each informant is asked the same set of questions – diminished the sample size required in social science research in a revolutionary way.

In our paper we present a research overview about how to examine employment with the method of systematic data collection.

Key words: systematic data collection, interview techniques, employment, sampling

1. Introduction

In spite of many favourable macro-economic processes the man in the street feels that the nadir of global recession is still ahead. The Eurobarometer survey conducted in the EU 27 member states indicates that citizens regard unemployment as the main menace. At the same time, their anxieties concerning the economic situation have become somewhat less.

That is why communicating the objectives and tools of employment policy in the most comprehensible way possible receive heightened significance. It is important that the man in the street understands and makes use of the opportunities and

thus his/her sense of uncertainty decreases; (s)he helps economy get over the crisis by way of optimistic anticipations. We argue that the Hungarian employment policy, its institutional system, the official databases and the researchers use numerous definitions, while the society interprets the particular phases differently. It is the task of the legal system and the profession to use the concepts developed in a given era.

In this study we introduce a method for labour market research that enables faster reaction at lower investment in terms of time and money. It means a fast and flexible feedback between the hypothesis and research findings and formulating a more comprehensible economic policy.

It leads to stories, we can generate processes, which are effective and can correct the hypotheses, extremely far from reality, of theory and politics; or at least warn those people who try to seek connections between the professional theorems to the concrete processes that they are wasting their time.

The reason for choosing the method we use – briefly introduced in chapter 3 – is to attempt to introduce a fast, flexible and cost-effective process for labour market analyses. The method basically is a sampling survey, its information are not deeper, however it provides opportunity for quick report-like surveys.

2. Employment situation

One of the mid-term priorities of the Hungarian employment policy, aiming at enhancing the long-term stagnating employment, is that the expansion of employment should be facilitated by way of letting inactive population return to the labour market and preventing unemployment to become permanent.

The token of success in the case of the European and thus the Hungarian employment policy is that the actors of the economy can understand and operate it. The labour market problem of the core member states of the European Union and those problems experienced in new joiners are similar. European labour markets – as opposed to the American one – are usually regarded as inflexible and sclerotic because the employment is lower, the regional and industrial crises are more permanent, it takes longer for the unemployed to find job, and the wages and salaries adapt to changes in the demand over a longer period of time. Hungary occupies an average position in the region according to the labour market indicator used in the comprehensive World Bank study (2002) and the Cazes-Nesporova (2003) book. Similarly to other countries in the region, the employment of those completed primary school is extraordinarily low, the regional differences are high and permanent, and the taxes on labour are relatively high.

The Hungarian economy got into a slump in the fourth quarter of 2008, as a result of the recession of the world economy that began to improve only in the second half of 2009. The nadir in 2009 brought about a decrease in living standard, it also increased income discrepancies. The setback of the internal demand, which was

even greater than that of the external demand, entailed considerable real sacrifices. The rate of unemployment was also at its lowest point, the number of long-term unemployed significantly grew.

*Figure 1.* Labour market situation in Hungary
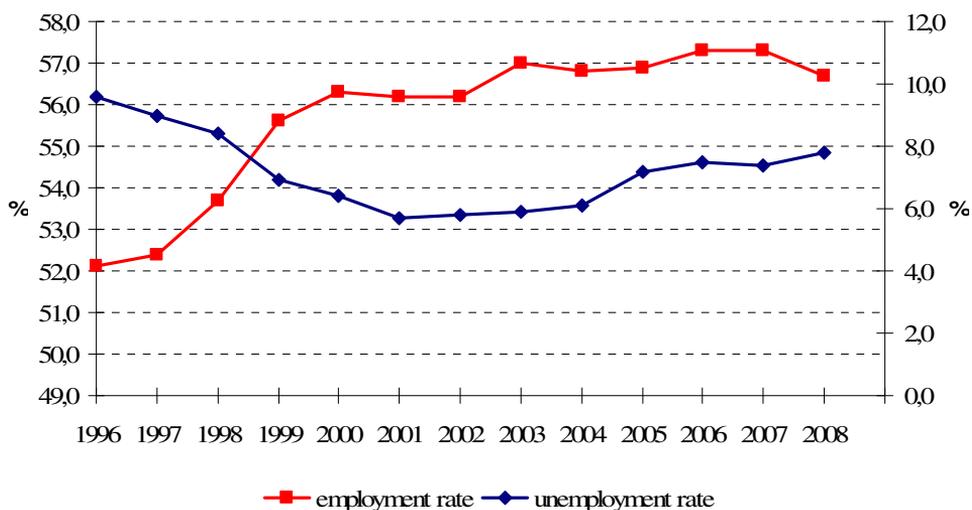
Source: own compilation on the basis of Eurostat data

The value of the two main labour market indicator, in the chart displayed in Figure 1, has showed a similar trend to the other ex-socialist countries. Putting the rates of unemployment and employment in the same system of co-ordinates demonstrates that the trend changed to opposite between 1998 and 1999.

Hungary is different from other countries of the region in two respects: the job-seeking intensity of unemployed men (with special regard to those with low level of education) is extraordinarily low; some sources mention that the costs of launching new enterprises are high. Apart from the general European objectives (supporting the disabled, fostering life-long learning and fighting tax-avoidance), employment policy has to concentrate on the above areas in Hungary including making efforts to find out, using more profound data-collection and analysis, that whether the picture, developing from the elementary statistics and the available research findings, is precise enough.

The rate of unemployment well demonstrates the regional differences in Hungary (Figure 2).

Figure 2. Rate of unemployment in Hungarian subregions (2007)

1,78 - 4,53
4,59 - 7,21
7,22 - 9,86
9,92 - 15,46
15,48 - 26,57
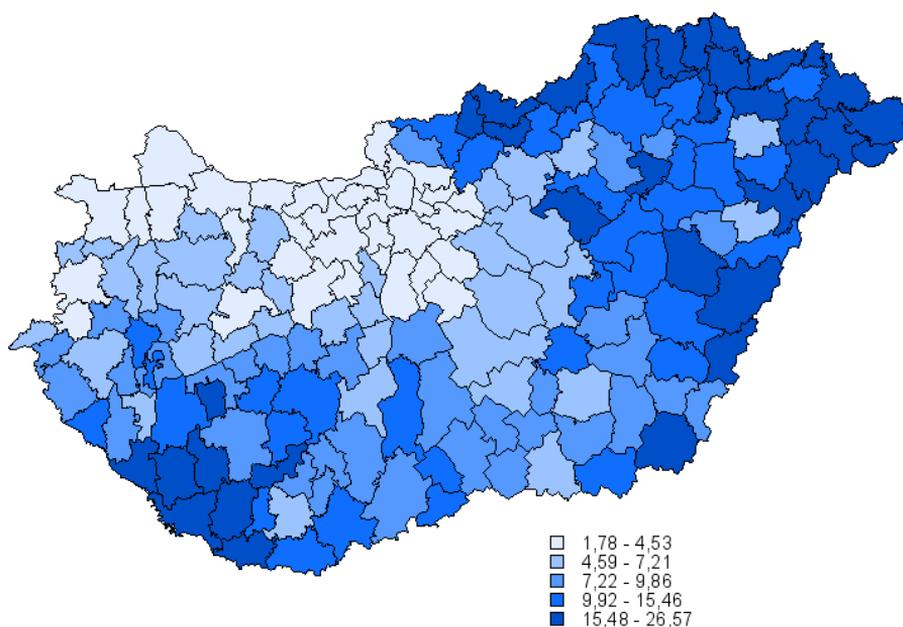
Source: Resource map, Hungarian Academy of Science

First of all, significant changes are necessary in the institutional system of la-
bour-market policies, in the inter-institutional co-ordination, and in the integrated
operation of the organisation that puts the employment policy into practice. It is
common that the institutional system of the labour policies is, similarly to other
countries, scattered in Hungary and there is much to improve in the area of inter-
institutional co-ordination as well. The various organisations use different concepts,
and the impacts of the various measures, which are well known and properly inter-
preted by experts, fail because of the social incomprehension and misunderstand-
ings. The various concepts are not only mixed up in the surveys conducted in the
specific member states but also in the international comparative researches.

3. Methodology

Items expressing the general belief about the terms of employment can be found us-
ing qualitative research methods. First, a list of items related to employment is elic-
ited from informants, and then they are asked to rank these items to find the ones
most related to the field of interest.

The first step in any study is to get a clear understanding and boundaries of
what is being studied. To do this, informants have to be asked to list the items be-

longing to the domain of interest. Free listing is a good way to ensure that the domain and the items are culturally relevant. The most important use of free listing is to ensure that the researcher is dealing with relevant items and to find the boundaries of the domain (Weller - Romney 1988). In this study, free listing is going to be used to get a list of items for further research, and to obtain understanding on what people think of the terms of employment. The sample size necessary for free listing was determined by taking into account the amount of agreement in the responses of the informants. Stability in order usually can be found at around 20 or 30 informants, so a sample size of 20 or 30 is in general sufficient. Informants are going to be chosen using multistage cluster sampling. The list of unemployment-related items is going to be elicited by asking the following questions: 'Who do you consider to be unemployed in general?', 'Do you know unemployed people?', 'Why do you think they are poor?'. Similarly, items related to social aids can be collected by asking: 'What kind of social aids do you know?', 'Do you know of anybody who is entitled to social aids', 'What kind of aid does he/she get?', 'Why do you think he/she is entitled to it?', 'Do you think that social aid can help him/her in solve his/her problem?'. Based on their answers, further answers can be asked if necessary.

This study has two aims: finding out (1) what the factors most related to the term unemployment and social aid are; and (2) what the exact meaning of long and short term unemployment are. The first question can be answered by ranking the items from free listing. As ranking a large number of items could be difficult and could take a lot of time, special methods are used to simplify the task. The method of the analysis is thus systematic data collection, developed in the 1980s by the anthropologist, Susan C. Weller, and the mathematician, A. Kimball Romney in the United States. This method helps researchers in the social sciences collect better interview or questionnaire data. The goal of social sciences, that is the better understanding of experimental and observational data, requires careful analysis of data. Increased understanding requires systematic observation, classification, analysis and evaluation. Structured interviewing formats help to reach this goal (Weller - Romney 1988).

The qualitative research method of systematic interviewing – where each informant is asked the same set of questions – diminishes the sample size required in social science research in a revolutionary way while the reliability of the results is still as high as in case of traditional techniques. This is possible by taking into consideration cultural competence of the population in defining the sample size.

Consensus theory is used when the researcher does not know what the answers are or what they should be and, instead, tries to discover the "culturally correct" responses to the questions. This theory helps to determine the number of informants necessary to get reliable answers in cases when the answers to the questions are not known ahead of time. It gives the possibility to measure the cultural competence of informants (the probability that the informant knows the answer to a given question) and it allows to reconstruct the "culturally relevant" answers to a

specific question (Romney et al. 1986). It is assumed that the correspondence between the answers of any two informants is a function of the extent to which each is correlated with the truth, for example with the culturally correct answers (Nunally 1978). Cultural competence is the result of the socialization process, which refers to the incorporation of social effect and beliefs to the individual's behaviour and personality (Vajda 1999). Roberts (1964) states that in any culture information is stored in the minds of its members and in artefacts. This study focuses on the part of the culture that is stored in the minds of its members.

According to consensus theory, the number of informants needed depends on the average level of competence, the confidence level and a minimum rate of questions we would like to classify correctly (Weller - Romney 1988). The average level of competence can be defined on the basis of free listing and then consensus theory can help to define the sample size.

If at least 90% of the questions should be classified correctly at the 0.95 confidence level, the reference to Table 1 shows the sample size.

Table 1. Minimal Number of Informants Needed to Classify a Desired Proportion with a Specified Confidence Level for for Different Levels of Competence

Proportion of Questions	*Average Level of Competence*				
	0.5	0.6	0.7	0.8	0.9
0.95 Confidence Level					
0.80	9	7	4	4	4
0.85	1	7	4	4	4
0.90	13	9	6	4	4
0.95	17	11	6	6	4
0.99	29	19	10	8	4
0.99 Confidence Level					
0.80	15	10	5	4	4
0.85	15	10	7	5	4
0.90	1	2	7	5	4
0.95	3	14	9	7	4
0.99	*	0	3	8	6

[*] Well over 30 informants needed

Source: Weller, S. C - Romney, A. K.: Systematic Data Collection. p 77.

Informants then can be selected using the method of multistage cluster sampling with stratification (Maxfield - Babbie 2009).

The general belief about unemployment and social aid can be investigated with the methods of triadic comparisons, quicksort or balanced-incomplete block designs. The choice of the method to be used is determined by the number of items elicited in free listing.

After establishing the list of items, triad data may be collected by first enumerating all sets of size three for the items. The next step is to randomize the triads, both by position within the triad and by triad order. With a triad form ready, you can collect data either orally or with a questionnaire. Informants are asked to order the items within triads from "most" to "least" on some attribute. As for unemployment, informants would be asked to choose the item most related to unemployment. Then, from the remaining two items they are asked to choose again the one that is most related to unemployment. The total number of triads, however, goes up very rapidly with an increase in the number of items, so this data collection format is only practical with 10 or fewer items. The total number of triads can be reduces by using a balanced incomplete block design (Weller - Romney 1988).

Balanced-incomplete block (BIB) designs systematically compare subsets of items. The designs work by controlling the number of times that each pair is compared. By reducing the number of times each pair is compared to other items, the total number of subsets is reduced, while still maintaining comparisons among all items. BIB designs are identified with three parameters: n, the number of items; lambda, the number of times each pair occurs; k, the number of items in each set or block; and b, the number of sets or blocks. Even using this data collection format, the method becomes impractical with more than 25 items (Weller - Romney 1988).

Comparison of a large number of items can be done with quicksort. It minimizes the number of paired comparisons by assuming transitivity. It means that if an informant has judged A to be greater than B and B greater than C, then you assume that A is greater than C and you do not ask any questions about that pair. Names of items are written on cards which are first randomized and a card is selected as a 'standard'. All cards are compared to the standard and are divided into two piles: the cards 'greater than' and those 'less than' the standard. This process is repeated for each pile, until all items are ordered (Weller - Romney 1988). In case of unemployment related items, informants would be asked to divide them into two piles: items that are related more and related less to unemployment.

To answer the second question, namely the exact meaning of short and long term unemployment, rating scales can be used. They are the most widely used methods to collect data in written format as they work best with literate informants. Scales are usually expressed as four- to eleven-point scales. The more points a scale has, the more reliable it is said to be (Weller - Romney 1988). To find out the general belief about long term unemployment, informants may be asked the following question "What is the minimum time period for which somebody has to be unemployed in order to be considered long term unemployed?". A similar question can be asked for short term unemployment ("For how long can you be unemployed at longest to be considered short term unemployed?") to control for the potential inconsistency in the answers.

Eszter Siposné Nándori tested the model referring to poverty. In fact, there is no single exclusive interpretation of poverty and that is the reason why both the size

and proportion of poverty calculated on the basis of the various theoretical concepts are different. The essence of the systematic data collection methods is that every interview respondent receives the same questions. The objective of her research with these types of questions was to identify those factors the respondents would consider to have the closest (also less close or no) relationship with poverty (Siposné 2008). She conducted a traditional data collection as well in order to test the reliability of the estimation and hypothesis testing, in the course of which she used a sample size generally accepted in social sciences. She examined, by way of contrasting the findings of the two data collections, whether the systematic data collection using small sample can reach the same level of reliability as the traditional methods.

Research findings: the sample she used was extremely small; she tested the reliability of the method by a similar research conducted on a larger sample. Having contrasted the two research findings it has become clear that they have lead to the same result in the case of all variables examined. Therefore, the assumption behind the systematic data collection, that is one can draw reliable conclusions from smaller samples than usual if the average competences of the respondents are taken into consideration, is reasonable. Average competences of respondents mean here the extent to which they think in a similar way of the concepts used in the survey.

A great advantage of systematic data collection regarding the clarification of employment-related issues, is that it decreases the necessary sample size, and thus, it reduces the time and cost to be spent on the research. Whether or not the method can really be applied in surveying employment and unemployment could be ascertained once we have the result of the, so called, free-listed enumeration. The average competence of data providers, that has to reach a critical value so that later phases of the method are applicable, can be established only on the basis of this.

4. Research plan aiming at the clarification of the concepts of employment policy

4.1. Concptualization, operationalization and Itelszon's hypothetic-deductive method

By our research plan we use the conceptualization and operationalization. Conceptualization is a process by way of which we define what mean by particular expressions. In the course of conceptualization we specify what mental pictures are related to our concepts and we choose the observations and measurements are appropriate for our research purposes.

The following concepts need precise definition in our research:
- Unemployment
- Employment
- Economic meaning of employment policy tools

- Effect of employment policy tools on national and regional development

While conceptualization means refining and specifying abstract concepts, operationalizing means developing those concrete research procedures that take us to real empirical observations using these concepts, that is, we define concrete empirical procedures leading to measuring the variables.

Having set the main objectives, we have to identify the most appropriate method to reach them. In this case we chose the previously introduced method of systematic data collection. The research is new also in that this method has mainly been used for sociological researches, and not for labour market and economic analyses.

We used Itelszon's hypothetic-deductive method in our research, this method includes six phases. (Itelszon 1967)

1. We assume that the economic performance of the national economy relates to the efficiency of regional employment policies. The central tools do not get to the heavily problematic segments in the case of specific countries.
2. We are going to examine the unsuccessfulness of employment policy.
3. According to our hypotheses the weight of regional employment policies has to be significant and the have to respond to individual problems. Communication faults play role in the efficiency of the employment policy tools. The labour market definitions do not cover the population's concepts. The concept of employment, activity and unemployment are undefined in the society.
4. We can critically argue that regional competitiveness is improved by strategies focusing on individual problems. Its success requires strategy-awareness.
5. In a crucial experiment we are going to make a comprehensive comparison using regional employment policy tools.
6. As a theorem, we wish to assert that the various regions in Europe are in different labour-market situations; therefore, not only EU and national employment policy are necessary but also more explicitly defined regional employment policy.

In ordinary people's thinking employment means that one has a job or not. On the contrary, unemployment means the lack of job – in over-simplified terms. That is why we hold it important to ask, by way of the method introduced above, the man in the street about the most important questions and definitions relating employment and unemployment.

The purpose of our research is to match the meaning of the concepts emerged in employment policy with the colloquial language of the man in the street. Our reason for establishing this purpose was that, according to our hypothesis, the professional definition and the population's definition concepts mismatch. It also

leads to the insufficient efficiency of the economic policy measures because the population cannot make use of these measures due to misunderstanding. The axiom taken from business management suggests that every strategy is worth the extent to which it is implemented.

The indirect result we wish to reach is to explore information that can help economic policy actors communicate their measures more precisely to the population. The direct result will be the population's interpretation of the labour market definitions.

4.2. Definitions relating unemployment

The literature knows and uses many and basically similar definitions for both employment and unemployment. Below give an incomplete overview of the most well known ones.

"Unemployment, as an overall social phenomenon has existed in the world since capitalism became a dominant form of production" – suggests Bánfalvy (1997) in the introduction of his book.

Unemployment has gradually reached its modern meaning which demonstrates the evolution of the concept: "That person can be regarded as unemployed who would occupy a job, but currently (s)he has not got a paid job". (Galasi 2003)

Those bereft of hope are also worth mentioning who, although unemployed, do not seek job because of the lack of employment opportunities. Hidden unemployed often get out of the traditional unemployed category and are regarded as inactive then.

Theoretically an individual is unemployed if (s)he, among given labour-market conditions, is willing but unable to undertake a paid job. The situation is somewhat more complicated from an empirical perspective. A person is unemployed, according to ILO, if the following conditions apply:
- (s)he did not have a job during the week before the survey,
- although (s)he actively sought job and
- would have been available for work. If (s)he spent at least 1 hour work for wage or salary the week before the survey then (s)he is regarded as employed. If (s)he had a paid job for shorter than 1 hour or did not seek job, then (s)he is inactive.
- A person is registered unemployed if (s)he has been registered with a job-agency. The one who is eligible for unemployment allowance is called insured unemployed. Their proportion might show a distorted picture because this category may include those who do not want to undertake job or may exclude those who seek job but do not register.

4.3. Range of tasks of employment policy

Employment is, on the one hand, shaped by the market and, on the other hand by the governmental policy influencing it. Making employment policy work is the joint

competence of the governmental, local-governmental and business sphere, in which the government relies on the contribution of the actors of the economy in order to accomplish the employment goal. The tasks of the employment policy can be illustrated by the enumeration below. Employment policy is an external regulatory system of the labour market aiming to influence the labour market in a way that:

- its operation becomes more flexible and harmonic,
- it fosters the establishment of labour market equilibrium,
- the implementation of social functions also receives attention,
- the size and professional/educational structure of the labour supply entering the labour market meets the requirements of the demand,
- the labour supply decreases, e.g. the increase of the number of participants in education or the length of education,
- it continuously adjusts labour supply to demand as perfectly as possible,
- it helps develop the size and structure of labour market demand that is capable of employ workforce appearing as labour supply to the greatest extent possible,
- it supports the living, on the basis of the principle of social care and solidarity, of those who exited the labour market through no fault of their own.

4.4. Questions asked in the interview

The method of systematic data collection can start with the questions below. Since the objective of our study is to introduce the methodology, we have not conducted the actual survey yet; we are going to elaborate on the findings of our future research in a subsequent paper.

- Who do you think is unemployed?
- What is the minimum period of time spent unemployed by those regarded as permanently unemployed?
- Up to what age can someone regarded as of working age?
- What does "black work" mean for you?
- Up to what age do you consider someone to be an entrant in the labour market?
- Who do you think are bereft of hope in terms of employment?
- What do you mean by the application of active employment policy tools?
- What are the characteristics of the traditional forms of employment?
- What is the minimum working time of full-time employees in terms of hours?
- Below how many hour of working time per week can be somebody regarded as part-time employee?

5. Conclusions

We have introduced the theoretical background of the systematic data collection in our paper, we approached the issue only from a methodological perspective in our study. This method, developed in the US, is used to define the concepts of social sciences, including economic sciences, that are difficult to be defined.

The advantage of this method is that it decreases the necessary sample and, at the same time, the level of reliability of the data is the same as that of those research techniques using large samples.

We have developed the research plan for employment policy and unemployment, and we intend to use the systematic method of data collection in our future research.

We regard the method as acceptable, as Eszter Siposné Nándori has tested systematic data collection for poverty surveys and she received similar findings as using the traditional data collection. We suggest that the method of systematic data collection may make researchers' work easier, although the focus of the research is of key importance.

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