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Statistics and ethics*

Abstract

The article concerns ethical rules compiled by both public statistics and users of public statistics. Ethical rules in statistics are partly codified in the European Statistics Code of Practice published by Eurostat, the statistical bureau of the European Union. The implementation of this code is subject to periodical reviews. The second part of the paper deals with various manipulations of statistical data performed by their users. The thesis of the paper states that if non-ethical practices appear, either in public statistics or in manipulations by users, they are relatively quickly denounced. This thesis is supported by some empirical facts.

Keywords: public statistics, Eurostat, statistics users, manipulations of statistical data

JEL Classification: C18

1. Introduction

In democratic societies, public statistics is an institution of public trust, which results from the official or state character of national statistical offices. Public statistics are financed from public funds, and statistical offices in their substantive activities are independent from state authorities. Activities of national statistical offices are regulated by law, as they constitute a vital element of governmental

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administration responsible for the most important part of the state's information infrastructure.

The aim and mission of official statistics are to describe and present reality, including economic and social reality, i.e. facts, processes and phenomena, by means of numbers and indicators. The significance of public statistics for society imposes many requirements and obligations. One of the most important is the reliability of official statistics, and the professional ethics of statisticians is its important determinant.

The article consists of three parts. The first part deals with the compliance with ethical principles in the system of creating official statistics. The second part presents various forms of manipulating statistical data by statistics users. The third part refers to the effects of unethical activities related to statistics.

2. The ethical dimension of the rules governing statistics

After 1989, a significant transformation of Polish official statistics took place. In the central planning system, public statistics did not follow many rules applicable in democratic societies. It was controlled by the power apparatus, which meant that its independence was severely limited. There are no known cases of direct falsification of data derived from statistical surveys. It is difficult to verify the anecdotal story that statisticians adjusted the amount of crops in agriculture to the numbers given by Władysław Gomułka, the First Secretary of the Polish United Workers' Party, during his speech at the annual harvest festival. However, no statistical research that might be inconvenient for the authorities, such as the study of the retail price index according to the rules applicable in developed economies, was undertaken. Significant methodological reservations towards the methodology used (Zienkowski, 1984) at the time have been reported. The cost of living index was also calculated for several social groups (employees, farmers, pensioners); however, under the conditions of market imbalance and common shortages, this gave a distorted picture of the situation, not only misleading in terms of the growth of retail prices but also the rate of economic growth (Zienkowski, 1982).

The basic principles of statistics were commonly violated through:

(1) the non-disclosure of the results of some statistical surveys,
(2) the selection of a group of privileged recipients of statistical survey results,
(3) the unrestrained use by the authorities or disclosure to the public of particular units of information obtained from statistical reports.

Such a legacy of official statistics in Poland and other countries undergoing systemic transformation was an important reason for codifying the rules of official statistics at the level of international organisations, the Statistical Commission of the United Nations and the European Commission (Eurostat, the Statistical Office of the European Union). This happened in the first half of the 1990s, thanks to the efforts of the Central Statistical Office and statistical offices of Central and Eastern Europe. Such actions were taken mainly due to the fact that the new authori-

ties of the countries undergoing transformation showed great reluctance to abandon the use of the three aforementioned principles applied in the central planning system.

In 1994, the UN Economic and Social Council announced the Fundamental Principles of Official Statistics.[1] Ten principles were formulated with ethical aspects present in the five listed below:

(1) Principle 2 refers to the use of professional methods and ethics in the collection, processing, storage and presentation of statistical data.
(2) Principle 3 requires statistical offices to present statistics in accordance with scientific standards regarding sources, methods and statistical procedures to facilitate the correct interpretation of data.
(3) Principle 4 states that statistical offices are entitled to comment on the erroneous interpretation and misuse of statistics.
(4) Principle 5 gives statistical offices freedom in selecting statistical data sources (statistical surveys, administrative records) with regard to quality, timeliness, costs and burden on respondents.
(5) Principle 6 refers to statistical confidentiality: data pertaining to an individual or an entity acquired by statistical offices must remain strictly confidential and may only be used for statistical purposes.

The principles of the United Nations Statistical Commission determine the basic rules of professional ethics, especially in the field of using scientific knowledge in all undertaken activities. The application by statistical offices of the commentary principle concerning the proper use of statistics occurs in serious cases.

The statistical confidentiality principle is important, since only full trust on the part of respondents that this principle is respected leads to statistical offices being provided with true information in their statistical reports (Wyżnikiewicz, 2009).

The European Statistics Code of Practice was announced in 2005 and amended six years later.[2] It includes 15 principles divided into three parts: the first one concerning the institutional environment (6 principles), the second part referring to the use of statistical processes (4 principles), and the third part describing the practices related to the results of statistical surveys. It can be said with only a slight exaggeration that the professional code of conduct of a statistician is quite detailed, and contains many ethical aspects. The code encompasses the following issues:

(1) professional independence (1 principle),
(2) commitment to ensuring adequate quality [of statistics] (4),
(3) confidentiality of statistics (5),
(4) impartiality and objectivity (6),
(5) sound methodology (7),
(6) appropriate statistical procedures (8),
(7) non-excessive burden on respondents (9),
(8) cost-effectiveness (effective use of resources) (10),
(9) relevance (11),
(10) accuracy and reliability (12),

[1] http://unstats.un.org/unsd/dnss/gp/fundprinciples.aspx
[2] http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-32-11-955/EN/KS-32-11-955-EN.PDF

(11) timeliness and punctuality (13),
(12) coherence and comparability (14),
(13) accessibility and clarity (15).

All rules have detailed explanations and indicators (from 3 to 8), and their implementation, as well as compliance with the rules, are regularly monitored by Eurostat.

Experience shows that two important principles of official statistics are particularly significant: the statistical confidentiality mentioned earlier (principle 5) as well as equal and simultaneous access to statistics (an aspect of principle 15). The authorities cannot have privileged access to published statistics.

The fundamental UN principles and the code of practice were amended at the end of the first decade of the 21st century under the influence of the experience derived from the first years of applying these rules in practice by statistical offices.

Statistical offices apply the general rule of announcing publicly more than a year in advance the specific dates (with exactness to the day and time) when important statistical information will be published. This stemmed from the intention to make public statistics independent of political events, as in the 1960s there were cases in the USA of announcing economic indicators during election campaigns, which was sometimes interpreted as interfering in those campaigns. Meanwhile, political objectivity and neutrality are obvious rules of public statistics.

Life has shown that the European Code of Statutory Practices has not been respected by all the European Union Member States. At the beginning of January 2010, the European Commission announced a report entitled *Report on Greek Government and Debt Statistics*[3] presenting the manipulation and falsification by the Greek government of statistics on the country's budget deficit and public debt. The obvious reason for this action on the part of the Greek government was the fear of revealing to the European Commission their irresponsibility in the management of EU funds, which included, among others, politicians "buying" the electorate through financing various social (and other) benefits, often using European funds directly. The scale of the fraud was significant, and it is amazing that despite the numerous reservations made by Eurostat, the practice of fraud continued until the unprecedented disaster of the Greek public finances.

For example, the Greeks presented Eurostat with an estimate of the budget deficit for 2002 at 1.2% in relation to gross domestic product. In the so-called notification process, the Eurostat adjusted that figure to 3.7%, and today we know that the actual deficit of the Greek budget in 2002 was 5.2% of GDP. In its so-called creative accounting, the Greek government used the assistance of experts from a well-known American investment bank.

The purity of the rules requires that statistical offices refrain from dealing with the preparation and publication of economic forecasts. The reliability and precision of macroeconomic forecasts are generally small, and the credibility of statistics published by statistical offices would suffer in such cases. In addition, it

[3] http://epp.eurostat.ec.europa.eu/cache/ITY_PUBLIC/COM_2010_REPORT_GREEK/EN/COM_2010_REPORT_GREEK-EN.PDF

would not be entirely achievable to eliminate the possibility of twisting statistics to fit previously published forecasts. It should be remembered that GDP and its aggregates are largely based on estimates. Until recently, Eurostat expanded statistical tables with GDP growth rates published on the Internet with forecasts provided by the European Commission, but in 2013 it abandoned that practice.

However, there are no contraindications regarding the preparation and publication of demographic forecasts by statistical offices. Making such predictions requires the availability of very detailed data which remain in the sole possession of statistical offices. In addition, the accuracy of long-term demographic forecasts is incomparably greater than the reliability of macroeconomic forecasts.

3. Ethics of statistics users

The level of economic knowledge in Polish society is low[4] as a result of both the mental legacy of the central planning period and the marginalisation of economic knowledge in the mainstream education system. Consequently, knowledge of statistics is at a low level. This situation is conducive to unethical activities consisting in the abuse of statistical data in order to meet various goals by politicians, trade unions, employers, and above all the media, often oriented towards providing bad (unfavourable) information that according to publishers "sells well", attracting readers.

Some abuses in the interpretation of statistics result directly from ignorance, others from ill will stemming from different interests, and sometimes those abuses result from both of these reasons. The social and economic processes in the modern world are becoming increasingly complicated, and the same is happening with statistics describing these processes. For the interpretation of some statistical indicators, apart from economic or social knowledge, it is necessary to familiarise oneself with the so-called meta-information, or explanations, definitions, and ranges of statistical information.

Frequent misinterpretations are encountered in the case of Gross Domestic Product, which describes the volume of the newly created value, i.e., production, and is incorrectly interpreted by many as an indicator of prosperity or standard of living. The general objection formulated against GDP concerns the fact that it incorrectly measures changes in the standard of living, though this indicator was not actually designed for this purpose.

The Central Statistical Office reports the GDP growth rate using two systems which are compliant with international standards. The first approach refers to the growth rate in constant prices from the previous year, while the other one, concurrently published, submitted to Eurostat and used for international comparisons, is

[4] In the report entitled *The Level of Economic Knowledge of Poles* [Stan wiedzy ekonomicznej Polaków] prepared by the Freedom Institute and Raiffeisen Polbank concerning a study conducted in January 2014 on a sample of one thousand people, the respondents were asked, among others, about the level of inflation in 2012. Almost half of the respondents answered "I do not know."

provided in 2010 prices. An economist associated with the political opponents of the PO-PSL (Civic Platform and Polish Peasant Party) coalition, after hearing the two differing estimates of the GDP growth rate, published an article[5] entitled *Is the Central Statistical Office Just Mistaken or Has It Decided to Join the Electoral Campaign of The Current Government?* The author also accused the Central Statistical Office of a "lack of reliability and incorrectness of the research apparatus."

In turn, a journalist from *Puls Biznesu* accused the CSO of the "biggest slip-up in years" in connection with the routine revision of the quarterly GDP growth rate.[6] He stated that: "this mistake seriously undermines confidence in this institution [...] because the Central Statistical Office could not explain why the mistake had been made." Meanwhile, revisions of GDP are a normal practice of statistical offices, as the pressure of public opinion and economy participants to quickly provide information about the economic growth rate is enormous. Therefore, statistical offices provide further approximations of this index. In the same quarter, in the United States, the GDP growth rate was revised from -0.1% to +0.4%. Nobody in the USA talked about the loss of credibility by the Bureau of Economic Analysis, the statistical institution of the US government dealing with GDP estimation, for this reason.

Frequently, the media create myths concerning economic phenomena that subsequently persist in the social consciousness. At the end of November 2013, in the weekly magazine *Polityka* (No. 48), the main theme of the issue was: "Polacy zarabiają za mało. Pracujemy wydajniej" [Poles Earn Too Little. We Work More Efficiently] (p. 22). The author of the article stated that "over the last 10 years, the share of wages in GDP has decreased by as much as 16 percentage points." She relied on OECD data obtained from Eurostat (which had previously been provided by the Central Statistical Office) and converted experimentally under certain assumptions with full information on the incomparability with national data. Using the definitions adopted in national accounts, it can be shown that in the years 2002–2012 the share of wages in the Polish GDP decreased, but only by 2.9, and not by 16 percentage points.

This type of manipulation of statistical data should be treated as seeking at all costs statistical data that confirm the journalistic thesis without taking into account their methodological correctness and compliance with reality.

Journalists from *Gazeta Wyborcza* behaved in a similar manner at the end of 2013 in a large article on business websites, quoting Eurostat that in 2012 labour productivity had increased in Poland by 5.6%, which was accompanied by a 0.1% drop in real wages.[7] Meanwhile, Eurostat had provided information about labour productivity per hour, with the reference that there was a break in the time series, meaning incomparability in time. One should not directly compare macroeconomic values (a change in the level of remuneration) with averaged microeconomic

[5] http://wpolityce.pl/polityka/185648-czy-gus-sie-tylko-myli-czy-postanowil-sie-wlaczyc-w-kampanie-wyborcza-obecnego-rzadu

[6] http://www.pb.pl/3097434,90894,o-jedna-dziesiata-od-recesji

[7] http://m.wyborcza.biz/Firma/1,116167,15112769,Polak_poprawia_wydajnosc_w_pracy__Ale_lepiej_nie_zarabia.html

values (labour productivity per hour). In other words, the substantive value of such information is questionable and, in principle, it should not be made public in this way also due to its high social sensitivity. In May 2014, the Eurostat table showed an increase in labour productivity in 2012 of 2.1%, still including the information about a break in time series.[8] In this case, the lack of imagination on the part of the Eurostat officials was noticeable. In addition to the journalists from *Gazeta Wyborcza*, journalists from *Polityka* also reported 5.6% in the aforementioned article.

Considerations related to retirement age are an example of another misinterpretation of statistical data. It is often claimed that a man retiring at the age of 65 will only receive his benefits for 7 years, since the average life expectancy for men in Poland is 72 years. Meanwhile, the life tables of the Central Statistical Office show that a man who is currently approaching 65 years of age in Poland still has an average of over 15 years to live, and it is an 81-year-old man who has an average of 7 years to live.[9]

The examples of interpreting statistical data by journalists quoted here show a lack of diligence on their part and also a reluctance to familiarise themselves with the so-called meta-information, or explanations, including methodological ones, referring to the published statistical data. C. Radhakrishna Rao (1994) points to the need to "train journalists to inform about statistical issues."

4. The effects of unethical and quasi-unethical operations performed on statistical data

The unethical actions of the Greek government in connection with its falsification of public finance statistics have had many consequences in Greece, the euro area countries and throughout Europe. First of all, they led the country into a deep economic crisis, resulting in a dramatic deterioration in living conditions, rising unemployment and falling income of the population. Secondly, these actions led to the instability of the single European currency, putting many creditors at risk of losing billions of euros lent to the Greek government and Greek banks. Thirdly, the rescue package for Greek public finances resulted in the allocation of taxpayers' money of the euro area countries, which caused justified social discontent in these countries and put politicians in a difficult position. Fourthly, the credibility of statistical offices in the European Union countries was undermined. Fifthly, the paradigm of the safety of investing in government debt securities was overturned, which contributed to an increase in interest rates on a global scale.

The doubtful thesis about the low earnings of Poles promoted by *Polityka*, the influential weekly magazine, became deeply embedded in the social consciousness, including that of economists, who, uncritically embracing this twisted

[8] http://epp.eurostat.ec.europa.eu/tgm/refreshTableAction.do;jsessionid=9ea7d07d30db2d9be926a63349b78e32e459f428336b.e34MbxeSaxaSc40LbNiMbxeNbh8Le0?tab=table&plugin=0&pcode=tsdec310&language=en

[9] http://old.stat.gov.pl/gus/5840_4721_PLK_HTML.htm

press fact, encapsulate this piece of information with various theories and considerations on the economic policy in Poland. The overstated increase in labour productivity in 2012 was been widely commented on. Information of this kind provides trade unions with a strong argument during negotiations on pay rises with employers and the government.

The examples of directing complaints, or even accusations, against the CSO provided in the article undermine the trust in Polish official statistics and its credibility in an unfair and unjustified manner. In other words, there is a lack of care for the public good that public statistics is. Such actions result, to a large extent, from the insufficient economic knowledge of journalists, and are also an element of the strategy of media competition which involves, among others, concentrating on "bad news" as well as on creating such messages based on incorrectly interpreted statistical data.

The conclusion from the article is that if there are instances of unethical behaviour in the operation of the public statistics system, then the probability of exposing such activities is high. The unethical behaviour of some media reporting statistical data is sometimes corrected by statistical offices, but more often this leads to a lowering of confidence in public statistics. Some media activities also result in the distortion of statistical information, which often leads to the disinformation of its recipients.

It should also be emphasised that statistical information is not always provided in a way that is understandable for people with little economic knowledge. Therefore, statistical offices should pay more attention to presenting the results of statistical surveys in a way that does not raise any doubts, even among poorly-oriented recipients.

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