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Democracy Dies in Darkness without Official Statistics

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Abstract

Is there a quantitative relation between democracy and official statistics? Why do the National Statistics Office (NSO) disseminate their statistics free of charge? How can a democratic country organize an election without official statistics? How close are the NSO staff to politicians? In a world increasingly shaped by data, the importance of official statistics often remains in the shadows, even within NSOs. Yet, these statistics (like employment rates, gross domestic product and pandemic data) are the lifeblood of democracy, influencing policy making, media narratives and electoral choices. In this work, the vital nexus between official statistics and democracy is highlighted by quantitative data and historical perspective (Keynes, Schumpeter and Popper). The correlation, which I calculated, between the Democracy Index and the Statistical Performance Index (SPI) for 2019 for 167 countries is 70.1%. Countries with a high level of democracy experience a high level of statistical performance, but we will also examine the exceptions hereafter. The media dedicates more space to the figures of the official statistics, than the best football player or singer. Every day, in the news, we listen to the employment rate, the GDP, mortality rate, car accidents and along with others. All these statistics are collected, produced and then disseminated by the National Statistics Offices (NSOs) around the world. The irony of it all is that, at the same time, it is quite unlikely that the media dedicates time and space to explain the responsibility of the NSOs around the world. 'In a democratic society the independence of official statistics has the same status as the freedom of speech for the citizens' (Jeskanen-Sundström, 2007). NSOs should be an independent body from the state but sometimes they are not. NSOs are an established entity and independent of the government all over the world. The methodology used by NSOs is mostly established and coordinated by the United Nations Statistics Division and other international organizations. The statistics of the NSOs help the population to better understand and to assess how the government is managing the economy and society. Nevertheless, the general public does not know the real function of the NSOs all over the world. Malaguerra (2005) exposed a similar idea in this way: 'Yet statistical science either remains quite unknown to a large proportion of the population'. This work not only underscores the global significance of official statistics, but also aligns with the United Nations Fundamental Principles of Official Statistics and the Sustainable Development Goals (SDG).The aim of this work is: (i) to shortly summarize the current work of NSO in an historical prospective (ii) to highlight the quantitative relation between official statistics and democracy, (iii) to analyse the role of national statistics offices in democracy, (iv) list some cases of conflict between statistics and politics (v) to trigger the discussion about national statistics offices' challenges and opportunities lying ahead

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Paper

1. Context of the Official Statistics

Social and economic statistics are the core of modern NSOs. This is because the aim of the national accounts is to provide a comprehensive conceptual and accounting framework for compiling and reporting macroeconomic statistics for analysing and evaluating the performance of an economy. Policymakers depend on the data produced by the NSOs. Macroeconomic data have become indispensable to governments, central banks, economic policymaking and academic research. 'The purpose of official statistics is to produce and disseminate authoritative results designed to reliably reflect economically and socially relevant phenomena of a complex and dynamic reality in a given country' (Bruengger, 2008).

From a social statistics point of view, the census is the pinnacle of social statistics. The word 'Census' has a long history all over the world. For instance, in China and other countries, they started a systematic count of the population from 1600 -1700 B.C. according to Zhu (1987). In Europe, the Catholic churches, historically, kept records of the births, marriages and deaths. Between 2005 and 2014 more than 6 billion people, that is more than 90% of the world's population, were enumerated by population census. Only 21 countries did not conduct a census: refer to the United Nations Fund for Population Activities (2016). Every country has one NSO in charge of the decennial census, that is, the social statistics and the main economic statistics. Every 10 years, all over the world, the census is implemented. Normally, the census is carried out when the years end with the number "1" (e.g.: 2001, 2011, 2021). Another fact is that, it is done during the first week of November.

From the economic statistics point of view, only after the Second World War, thanks to Stone and Keynes among others, Tily (2009), the United Nations Statistical Commission highlighted the need for international statistical standards for the compilation and updating of comparable statistics in support of a large array of policy needs. In Schumpeter et al. (1994, p.12), it is pointed out the relation between economics and statistics: 'It stands to reason that for economics, statistics, that is, the statistical figure or series of figures must be of vital importance. … We need statistics not only for explaining things but also in order to know precisely what there is to explain… It is impossible to understand statistical figures without understanding how they have been compiled. It is equally impossible to extract information from them or to understand the information that specialists extract for the rest of us without understanding the methods by which this is done—and the epistemological backgrounds of these methods. Thus, an adequate command of modern statistical methods is a necessary (but not a sufficient) condition for preventing the modern economist from producing nonsense'.

The people support the NSOs by paying their tax. The statistics of the NSOs are official and free. No government or political party or policy makers should challenge these statistics. NSOs are expected to be an organisation operating independently of the government, as the justice system and/or media system. In the today's complex society in which we live in, the knowledge of the structure of population,

the data of economy and the expertise depth of social phenomena (like tourism, immigration, energy…) are crucial elements to solve a problem. How can we solve a problem if we do not know the problem? No data, no problem! It is always knowledge that is the first step to resolving a problem. High-quality data is indispensable for understanding society and the consequent policy by policy-makers. Data - as open as possible, as closed as necessary - is vital for the population to be knowledgeable about the outcomes of policies. From data starts a cycle of knowledge, policy decisions, implementation and accountability.

Keynes (1940, p13, Ch 3) during World War II did not beat about the bush, he highlighted by very clear words his dissatisfaction on data and statistics: 'The statistics from which to build up these estimates are very inadequate. Every government since the last war has been unscientific and obscurantist and has regarded the collection of essential facts as a waste of money'.

Nowadays, NSOs are crucial to achieve the Sustainable Development Goals (SDG) data. Nevertheless, NSOs are in Sustainable Development Goals: SDG 17.18 and 17.19. The SDG 17 promote the official statistics: for instance, 'Number of countries that have national statistical legislation that complies with the Fundamental Principles of Official Statistics' (Indicator 17.18.2); or 'Number of countries with a national statistical plan that is fully funded and under implementation, by source of funding' (Indicator 17.18.3). And the Target 17.19 states: 'By 2030, build on existing initiatives to develop measurements of progress on sustainable development that complement gross domestic product, and support statistical capacity-building in developing countries'.

In the next section, I compute the quantitative relation between the country's statistical performance and democracy.

2. Relation between the Official Statistics and Democracy

The vital nexus between official statistics and democracy is highlighted by quantitative data. I found out that the simple correlation between democracy and official statistics is seventy per cent. Good country performance of statistical systems is more likely in a democratic country. Two different indicators were employed to calculate the correlation between democracy and official statistics: The Democracy Index[1] by the Economist and the Statistical Performance Indicators[2] (SPI) by the World Bank. Some well-meaning stakeholders may object that indicators are not always trustable, and correlation does mean causation. The computation of an indicator is always complex and is always done with a certain degree of subjectivity. However, those indicators - the Democracy Index and the Statistical Performance Indicators - are disseminated by reputable institutions, are produced with sound and valid methodology. I leave causation for future exploration, nevertheless the data maybe are not enough for a panel data exploration. Indeed, their results are consistent with the intuitively observed reality of democracy and statistical perspectives.

The Democracy Index assessed from 2006 onwards, the democracy of over 167 countries. This was based on five categories thanks to experts' assessments and the public opinion from multiple significant

[1] www.eiu.com/n/campaigns/democracy-index-2022
[2] www.worldbank.org/en/programs/statistical-performance-indicators

surveys. The index's values of these countries were within one of four types of regimes: 'Full democracies', 'Flawed democracies', 'Hybrid regimes' and 'Authoritarian regimes'.

The SPI by the World Bank assessed the performance of national statistical systems from 2016 to 2019 of over 174 countries. This Data came from the most important international organizations including the Open Data Inventory (ODIN) by Open Data Watch. The SPI is a framework of 5 pillars and 22 dimensions. Nevertheless, there are currently 14 dimensions that have been proven by their established methods, whereas the other 8 dimensions have no measurable indicators.

The correlation, I calculated, between the Democracy Index and the SPI for 2019 for 167 countries is 70.1%. Also, from the analysis, I observed high income countries have a high level of Democracy and Statistical Performance index. The indicators register 'Full Democracy' and a high score (top 20% quantile) of Statistical Performance in Western Europe and North America. Western European countries and North American countries (US and Canada) have high scores both in the democracy and in the statistical system. Norway has the highest score in the democratic index as well as in the performance indicator. Sometimes, I registered exceptions, 'Authoritarian' regime countries register poor and high Statistical Performance (even authoritarian regimes need data!). For instance: Belarus, Russia, Kazakhstan, Kyrgyzstan, Palestine and Egypt are not considered a 'Full Democracy' but they have very high statistical performance.

In Africa, Mauritius is a 'Full Democracy' and the SPI there has the highest score in the continent. There are similar stories with Ghana, South Africa, Cape Verde and Botswana as they registered both a high score in the Democratic index and the Statistical Performance Indicators. On the other hand, there is a different story for Egypt that registers a very high score in statistics but not in democracy.

In the region of Asia and Australasia: South Korea, New Zealand and Australia are a 'Full Democracies' and have high statistical performance. Central and Eastern European countries are atypical; the level of these countries' statistical performance is high, whereas the level of democracy is quite low. In Latin America, only Chile, Costa Rica and Uruguay are a 'Full Democracy'. These three countries registered the highest scores on Statistical Performance Indicators. Asia and Latin America have many emerging democracies and it will be interesting in the coming years to see if they strengthen their statistical systems.

In the next section, the role of the NSOs is described in modern society, and especially so, in a democratic context.

3. National Statistics Offices and Democracy

How to explain the strong connection between democracy and official statistics of the previous section? How can a democratic country organize an election without official statistics? The government would say that the economy and social indicators were positive, the opposition would say the opposite. The voters would not have any trustable data. In the past, two European dictators (i.e.: Hitler or Mussolini) before World War II won democratic elections, also because of the absence of trustable data.

The official statistics produced and disseminated from the NSOs are crucial for democracy in a modern society. In a society with an overwhelming availability of information, the credibility of the data source is a central factor in assessing the usefulness of statistics. National Statistical Offices in many countries benefit from this trust. The social and economic indicators by NSOs are the two main sources of

information to evaluate the economy and the government of the day. Governments, central banks, political parties, lobbying or private companies should never really challenge the figures of the NSOs.

'In a democratic society the independence of official statistics has the same status as the freedom of speech for the citizens. In order for official statistics to fulfil their important social task, they must be based on clear, publicly stated operating principles. Only thus is it possible to guarantee the quality of statistics and the trust among the users and providers of data towards compilers of statistics. The key ethical principles of official statistics are defined internationally by the UN Statistical Commission and with regard to EU statistics, by the EC regulation on statistics and by the European Statistics Code of Practice.' (Jeskanen-Sundström, 2007).

The Fundamental Principles of Official Statistics, in which it was stated that: 'Official statistics provide an indispensable element in the information system of a democratic society, serving the government, the economy and the public with data about the economic, demographic, social and environmental situation', United Nations, (2014).

In addition to this, Tam et al (2018) stated 'Official statistics are fundamental to democracy. With increasing demands for more relevant, frequent and rich statistical information, and declining resources, NSOs are continually looking for more cost-effective ways in the production of official statistics.'.

Those statistics are important for the people to evaluate the government of the day and other opposing political parties in waiting. For this reason alone, the production and the dissemination of statistics must be completely and entirely independent.

In Malaguerra (2005) it is stated: 'Since its beginnings in the second half of the 19th century, official statistics has made enormous advances, both quantitatively and qualitatively. It plays an essential role in the development of democratic societies. No real democracy can exist without a National Statistical Institute (NSI) producing independent information about the state and how it is changing. This may appear to be a paltry observation: we are used to ready free access to important information we need, and generally get it. However, on reflection, we have to accept that nothing is free forever, and that institutions like an NSI are fundamental for humankind. They require continual investment by statisticians, by politicians, and by society as a whole.'.

The first principle of European statistics (Eurostat) code of practice is on Professional Independence: 'Professional independence of statistical authorities from other policy, regulatory or administrative departments and bodies, as well as from private sector operators, ensures the credibility of European Statistics'[3]. One of the 35 chapters to enter in the European Union (1985) is fully dedicated to official statistics.[4] The European Union's official statistics is crucial. The Treaty of the European Union (TEU) / Maastricht Treaty[5] declares that 'Member States shall avoid excessive government deficits'. These calculations of the deficits are published on the NSOs figures. The above-mentioned Treaty established also the 'Collection of statistical information'.

[3] Eurostat is a Directorate-General of the Commission and is part of the portfolio of the Commissioner for Employment, Social Affairs, Skills and Labour mobility.

[4] 'The acquis in the field of statistics requires the existence of a statistical infrastructure based on principles such as impartiality, reliability, transparency, confidentiality of individual data and dissemination of official statistics. National statistical institutes act as reference and anchor points for the methodology, production and dissemination of statistical information.'

[5] Please see, Chapter 1 Article 104c and Chapter II Article 5 at www.europarl.europa.eu/about-parliament/en/in-the-past/the-parliament-and-the-treaties/maastricht-treaty

In political disputes and electoral campaigns in a full democracy, the data of the NSOs remain substantially uncontested, or should be. Perhaps the interpretation of the data is forced by political rhetoric; nevertheless, it should not be disputed.

An observer might argue that a proportion of the population do not trust statistics and do not know what is official statistics and the difference between statistics and official statistics. The evolution of Official Statistics in society is well described in Veloso (2021): 'In the past, statistics were used as an instrument of government control over the population, but over time they have become a tool for citizen participation, helping to ensure the proper functioning of democratic societies. Official statistical institutes took on a decisive role for this change.' This work – Veloso (2021) - analyses the changes in history, from a sociological point of view, to the relationship between the state and statistics. More so and generally speaking, the article attempts to position statistical science and official statistics as a key sociological factor in the construction and consolidation of modern democracies: Statistical information 'trustable and available to all' is one of the foundations on which modern democratic states are built. Thus, NSOs are essential democratic institutions. Probably for that reason statistics can be a 'dangerous' work as you can read in the next section.

4. Official Statistics and politics

The political system recognizes that official statistics as threatening. Indeed, the political system, in the countries mention below, tried to limit and control the statistical system. In 1945, Popper (2002) in 'The Open Society and Its Enemies' highlighted the complex relation between politics and free institutions: 'This aspect of scientific method shows what can be achieved by institutions designed to make public control possible, and by the open expression of public opinion, even if this is limited to a circle of specialists. Only political power when it is used to suppress free criticism, or when it fails to protect it, can impair the functioning of these institutions, on which all progress, scientific, technological, and political, ultimately depends'.

For instance, the NSO of El Salvador was incorporated in the Central Bank[6]. The NSO of El Salvador named Dirección General de Estadística y Censos (DIGESTYC), now is amalgamated by the El Salvadorian Central Bank and its new name is: Oficina Nacional de Estadística y Censos (ONEC). The NSO should be an independent body from the state: scientifically and financially independent. Complete independence is crucial that the NSO has a proper budget and to also have independent–employed persons, and spending resources.

In Ecuador in 2021 an unforeseen resignation by the NSO's (INEC in Ecuador) Director, took place just one week before the election day. Every NSO has a statistical calendar, normally pre-established and disseminated a few years in advance. In Ecuador, the unemployment rate was fiddled with one week before the election. Consequently, the INEC Director resigned the day before the dissemination of the unemployment rate.

[6] https://isi-web.org/statement/joint-statement-isi-and-iaos-el-salvadors-decision-dissolve-digestyc

Levada, a Russian polling company and a research institute, is considered by the government as 'performing the functions of a foreign agent'[7]. Data from an independent authority scared the government.

The National Bureau of Statistics of China suspended disseminating data on youth unemployment[8]. Presumably, the government did not like their own statistics.

The Greek government prosecuted, for many years, the former director of NSO Greece (ELSTAT) for allegedly falsifying Greece's debt and deficit figures, when in fact he brought them up to international standard, as certified by the EU. Despite these prosecutions, the Greek government has continued to use the same data[9].

INDEC (NSO Argentina) suffered a lot of political interference especially on the inflation rate, as high inflation is Argentina's weakness and it is a hot topic in any electoral campaign. Even, a trial was held against a former director of INDEC. Apparently, the former director of INDEC reduced the inflation rate to foster the current government[10]. Muñoz (2023) well described the rebuilding of Argentina's NSO in the last few years.

Regrettably, these examples are only a few. To explore the topic further, Georgiou (2021) focuses on the process of corruption of official statistics from a theoretical point of view with another small list of cases of manipulation of official statistics. The list of attacks on data dissemination is very long and mostly hidden. Paradoxically, this long list is another precious piece evidence of the importance of official statistics.

In the next section, the last one, 'Moving Forward' I write conclusion and future recommendations.

5. Final remarks

The seventy percent correlation between democracy and official statistics shows the importance of the National Statistical Institute in modern society at many levels. This importance is probably not fully understood even by NSO staff. It is difficult to witness this pride in the NSOs throughout the world. NSOs are crucial to archive the Sustainable Development Goals (SDG) data. Nevertheless, NSOs are in Sustainable Development Goals: SDG 17.18 and 17.19. As we know, 'Official statistics provide an indispensable element in the information system of a democratic society, serving the Government…' for the Fundamental Principles of Official Statistics UN (2014).

On the one hand, society must perceive the importance of the NSO; on the other hand, NSOs must be aware of their role and feel satisfied with their work. In NSOs, there is always room for improvement. For example, everyone has seen the change in the timeliness of mortality data before and after the COVID pandemic. Before the pandemic, mortality data was available after many years; now the timeliness has improved dramatically worldwide. Mortality data is administrative data. Thus, improving timeliness requires the involvement of many other stakeholders and not just the work of NSOs. NSOs

[7] https://en.wikipedia.org/wiki/Levada_Center
[8] https://www.nytimes.com/2023/08/15/business/china-youth-unemployment.html
[9] https://www.isi-web.org/statement/isi-statement-about-persisting-legal-action-against-andreas-georgiou
[10] https://www.lanacion.com.ar/politica/un-fiscal-pidio-procesar-a-guillermo-moreno-por-falsear-las-cifras-del-indec-nid2079771

did not drive the production of the COVID data during the pandemic. Thus, we need to change the perception of NSOs in society. This because, ell-updated mortality data are a great benefit to society.

Self-respecting NSO staff can convert official processes and inflexible routines into up-to-date analysis, modelling, experimental statistics, digitalization, and appropriate complementary granular sources. Now more than ever, a statistical framework and methodological expertise with self-esteem and public spirit is a vital resource. This information is critical for political and economic decisions. Also, statistical systems must provide reliable data to manage the SDGs, but they must also learn from the SDGs.

NSOs should encourage the creation of innovations and ecosystems that foster innovation in society and the economy. For example, a new task for the National Statistical Office would be to manage or administer data at the national level or data stewardship - how can NSOs address this challenge?

Official statistics need to confront new challenges, both internally and externally. Internally, every national statistics office needs to improve the data production. Externally, National statistics offices are called to make a statistical description of an unprecedented complex reality.

The aim of a national statistics office is not only to produce official data but also to provide a realistic 'picture' of our world, even in time of change and complexity. However, an official statistics system should not limit itself to just those standard tasks. National statistics offices should provide and participate in the production of high-quality data and information on new sources. Only like this, do NSOs staff can be proud of the role they have in democratic societies which in turn makes them produce verifiable official statistics. High quality data is actionable information for citizens, policy makers and the media. And most importantly, only with official statistics can there be light, instead of darkness, for a fully democratic society.

Reference

Bruengger, Heinrich (2008). UNECE, Statistical Division, How Should a Modern National System of Official Statistics Look?

European Union (1985). Chapters of the acquis (Schengen Agreement).

Eurostat (2017). European Statistics Code of Practice.

Muñoz, Hernán D. and Dupont, Julien (2023). 'Rebuilding of the National Statistical System of Argentina. Some Lessons Learned'. Statistical Journal of the IAOS - Volume 39, issue 1: 85 – 103.

Jeskanen-Sundström, Heli (2007). 'Independence of Official Statistics, a Finnish Experience'. Seminar on Evolution of National Statistical Systems.

Keynes, John Maynard (1940). *How to Pay for the War*: A Radical Plan for the Chancellor of the Exchequer. Macmillan.

Malaguerra, Carlo (2005). 'Official Statistics, Globalization and World Democracy? - A Challenge?'. International Statistical Review (2005), 73, 2, 187-190.

Popper, Karl R. (2002). The Open Society and Its Enemies. Routledge.

Schumpeter, Joseph A., and Schumpeter, Elizabeth Boody (1994). History of Economic Analysis. Routledge.

Tam, S. and Kim, J. (2018). Big Data ethics and selection-bias: An official statistician's perspective. Statistical Journal of the IAOS, 34(4), pp.577-588.

United Nations (2014). Fundamental Principles of National Official Statistics.

United Nations Fund for Population Activities (2016). Annual Report.

Veloso, Alexandre de Lima; García Cebrián, Lucía Isabel; Marcuello-Servós, Chaime (2021). Estado y estadística. La importancia de los sistemas oficiales de estadística para las democracias modernas Revista mexicana de ciencias políticas y sociales, vol. LXVI, núm. 243, 2021, Septiembre-Diciembre, pp. 55-78.

Tily, Geoff (2009). John Maynard Keynes and the Development of National Accounts in Britain, 1895-1941. Review of Income and Wealth, Vol. 55, No. 2, pp. 331-359

Zhu, Mu (1987). The Earliest Statistical Tables in China, Journal of Official Statistics Vol. 3. No. 1. 1987, pp. 37-43.