Extract of the recommendations on promoting, measuring and communicating the value of official statistics

Note by the Task Force on Value of Official Statistics

Summary

The document presents an extract of the Recommendations on promoting, measuring and communicating the value of official statistics focusing on its measurement framework.

The Recommendations were prepared by the Task Force on the Value of Official Statistics consisting of the United Kingdom (chair), Australia, Canada, Ireland, Mexico (vice chair), New Zealand, Switzerland, Turkey, Eurostat, the Organisation for Economic Co-operation and Development (OECD), the Partnership in Statistics for Development in the 21st Century (PARIS21) and the United Nations Economic Commission for Europe (UNECE).

This extract has been prepared for translation purposes and includes the latest outcomes of work, namely the measurement framework (Chapter 5 of the full report) and two annexes that include convincing points on the value of official statistics as well as a generic user survey model.

The Recommendations were consulted electronically with the countries and organizations participating in the work of the Conference of European Statisticians in March 2017. In view of the high support received from the consultation, the Recommendations will be submitted to the 2017 plenary session of the Conference of European Statisticians for endorsement.
I. Measuring the value of official statistics

A. Towards a framework with a set of indicators

1. Official statisticians are undoubtedly at a disadvantage in defending and promoting our industry with the lack of a recognised and persuasive means of computing the value on the outputs that we produce. At the very least, it leaves us open to the taunt that while we seek to measure all kinds of other outputs, we do not measure the value of what we ourselves produce. Furthermore, it weakens our ability to promote official statistics and argue for further investment in them since we are not able to show conclusively how their value exceeds the cost.

2. At the same time, measuring the value of official statistics needs to be done rigorously within a disciplined and principled framework. Ad hoc indicators, based on individual “bright ideas” could give misleading results and, in the process, undermine the credibility of the overall endeavour. Accordingly, this section discusses and sets out a proposed framework within which National Statistical Offices (NSOs) might work to measure the value of their outputs.

B. Objective indicators

3. When looking at possible objective indicators, one would typically look for indicators that reflect the actual use of official statistics in the various domains (policy, research, media, general public, etc.). In addition, one could include indicators which reflect the adherence to the Fundamental Principles of Official Statistics. The objective indicators should cover at least issues related to quality, transparency, use and relevance of statistics.

4. The key indicators that are available in each office could be grouped into a dashboard of indicators on quality, transparency, use and relevance. The exact indicators to use depend on each country. Examples of possible indicators are given in the following dashboard.

Figure 1
Dashboard with possible objective indicators on the value of official statistics

<table>
<thead>
<tr>
<th>Quality</th>
<th>Transparency</th>
</tr>
</thead>
<tbody>
<tr>
<td>punctuality of statistical releases (share of punctual/late/cancelled releases)</td>
<td>timeliness of metadata (average “age” of metadata on the website)</td>
</tr>
<tr>
<td>share of error free statistical releases</td>
<td>share of statistics released with metadata</td>
</tr>
<tr>
<td>quick correction of errors (average delay of corrections in days)</td>
<td>number of blog posts by official statisticians</td>
</tr>
<tr>
<td>timeliness of statistical releases (weeks from the reference period)</td>
<td>number of articles explaining statistics</td>
</tr>
<tr>
<td>number of new visualization tools introduced</td>
<td>number of open data solutions featuring statistics</td>
</tr>
<tr>
<td>innovation or quality awards received</td>
<td>number of partnership agreements</td>
</tr>
<tr>
<td>availability of quality descriptions (share of statistics released)</td>
<td>number of data cells in online statistical databases</td>
</tr>
</tbody>
</table>
Use | Relevance
---|---
number of website visits | number of citations by media
downloads of statistical data by domain | number of citations in research/policy work
visits to the digital library/website of publications | most cited statistics
number of followers in social media | most used/downloaded statistics
number of news feed subscribers | number of retweets
number of stats apps downloads | number of tailored services by user groups
number of chat contacts | number of new end-products/services
number of agreements to use microdata for research | working time used for development
number of agreements for chargeable services/sales of products/services | number of papers/presentations/inputs that contribute to international statistical work
sales/number of publications requested | number of international study visits hosted
number of responses to international requests | number of memberships in international expert groups

C. Subjective indicators – a generic user survey

5. In the case of subjective indicators, the obvious source of information is a survey of users. This section, therefore, proposes the form and coverage that such a survey might take. Indicators on more subjective perceptions could relate to the following topics:

- Satisfaction with products and services;
- User support;
- Design, communication and metadata;
- Relevance, responsiveness and innovation;
- Awareness of brand and message.
- Specific products and services.

6. The above represents a generic skeleton that individual NSOs could use to develop their surveys, with survey questions tailored to their own specific circumstances. A more detailed generic user survey is provided in Annex 3 of this report. Useful guidance for defining and measuring customer satisfaction is provided for instance by the International Organization for Standardization (ISO 10004)\(^1\).

7. In addition, NSOs are recommended to conduct or participate in occasional targeted surveys in addition to the main user survey. Targeted surveys could include, for instance:

- Government-wide surveys on how well people recognize different agencies, their logos and mandates, including the NSO.
- Online surveys that appear on the NSOs’ website with a couple of targeted questions on the usefulness of the website and its functions.

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1 www.iso.org/obp/ui/#iso:std:56869:en
- **Key stakeholder surveys** to find out about their specific needs. This would be a useful tool for developing effective partnerships and reinforcing the communication strategy.

D. **Monetizing the value added of official statistics**

8. Output indicators such as the number of downloads from the official databases, the number of references in the media, and the number of quotations in policy and research papers can provide very valuable insights into the use of official statistics, especially when monitoring developments over longer periods of time. Comparing a weighted index of these use indicators with a volume index of the resource inputs may also provide an indication, albeit an imperfect one, of the developments in the productivity or efficiency of producing official statistics. However, as noted at the beginning of this section, a more powerful and convincing story on the value added of official statistics can be generated by putting a monetary value on (the impact of) statistics. This section discusses a variety of possible valuation methods. Subsequently, the following approaches will be covered:

- cost-based approaches;
- market (equivalent) pricing;
- stated preference methods;
- revealed preference methods; and
- impact assessments.

1. **Calculating the cost-base**

9. One approach to put a monetary value on official statistics would be to calculate the total costs spent on the production of these statistics. In the area of national accounts, this is a commonly applied methodology for measuring the output of services (in current prices) for which market prices are not available. In this respect, one could also look upon the total costs for the production of official statistics as being equivalent to the value that a society is willing to pay for these services, as implicitly agreed via democratic procedures.

10. A cost-based method does not take into account differences in quality and productivity, when comparing data over time or across countries. Similarly, since the cost and value are deemed by definition to be equal, this can give no guide as to whether and to what extent investment in official statistics was worthwhile. The methodology can say nothing about productivity movements since, by definition, this would be always unchanged. In the field of national accounting, when measuring developments over time, recent Systems of National Accounts (SNA) have been advocating moving away from “output equals inputs” approaches wherever possible. It is, therefore, not advocated that this approach should be used to monitor developments over time of the value of official statistics.

11. At the same time, there are a number of good reasons why NSOs should assemble reliable and comprehensive data on their costs:

- Costs data enable the relatively low costs of official statistics to be demonstrated, certainly when expressed in per capita terms. One could argue that, for example, €15 per person per year is a true bargain for compiling a wealth of high quality information to support evidence based research and policy making;
- An analysis of the costs over time, either or not adjusted for price changes, would also allow for showing the often decreasing patterns in the budgets spent on official
statistics. Combining the volume-index of these costs with the development of a genuine measure of the constant price value of statistics makes it possible to assess productivity or efficiency gains over time;

- The data would also allow for a comparison across countries, for example by analysing either the costs per capita or the costs as a percentage of GDP. That said, in international comparisons, it is obviously important to compare like with like. As discussed below, that may be easier said than done. Nevertheless, with care, such exercises are not impossible;

- Comparing the cost base with the results of output-based valuation methods can produce interesting insights both between countries and over time.

12. In calculating the cost base, one can distinguish two basic methods. The first one is the pure cash recording, in which the relevant cash payments in a year are used for costing official statistics. The other method is the full accruals method. In this method, one tries to allocate the costs as much as possible to the years in which they add to the production of official statistics in that year. This methodology is especially relevant in cases where the budgets allocated to official statistics vary to a considerable extent over the years, an example in case being significant special budget lines for conducting a national census in certain benchmark years. New Zealand has applied this method in valuing the annual costs for their census. In doing so, Statistics New Zealand has made assumptions on the service life and the depreciation pattern of the census results\(^2\). It is clear that these assumptions are not always that straightforward. It may therefore be more convenient to simply allocate the average costs to the years from the relevant census to the next census, either or not adjusting them for price changes. The same method could be applied for other one-off budget lines, although here too one needs to make assumptions on the allocation of these costs to future years, which may be less trivial than in the case of a census. Whatever the chosen solution, such an accruals method is clearly preferable in principle to applying a pure cash recording.

13. As in calculating the cost base for other industries, it is proposed to take the following expenditures for the compilation of official statistics into consideration: compensation of employees, purchases of goods and services, and depreciation costs (for example, related to IT-equipment and office buildings owned). Secondly, it is important to be clear about the delineation of official statistics. In most countries, this is not confined to the national statistical institute, as there may be other statistical authorities involved in the production of official statistics, such as the statistical department of the national central bank. More generally, one would like to include all national institutes that in some way or another are involved in conducting statistical surveys, processing data and disseminating statistics, all preferably confined to what generally is considered part of “official statistics”. This approach would also provide better internationally comparable costing data, as organisational arrangements of official statistics can differ substantially across countries.

14. It is proposed to include neither the costs of respondents to complete statistical surveys nor the costs of producing administrative registers or private databases used in the compilation of official statistics. It is also proposed to exclude costs for users to access the information. However, in a more advanced methodology, one would want at a later stage to include these latter categories, thus enabling to monitor the possible impacts of, for example, shifts from surveys to administrative data, or the enhancement of dissemination systems.

15. Some countries, such as Estonia and Ireland, are using the Generic Statistical Business Process Model (GSBPM) as a tool to estimate the cost of producing official statistics. An extension to the GSBPM to cover the non-data activities of statistical organisations, namely the Generic Activity Model for a Statistical Organization (GAMSO), now provides a comprehensive tool for cost estimation with non-data activities also included. One advantage of this approach is an increased international comparability of cost break-downs.

2. Valuation by market (equivalent) pricing

16. In national accounting, market prices are the basic reference for monetary valuation. However, as in the case of many public services, market prices are not directly observable for statistical outputs. In the absence of market transactions, the main reference for valuation of such outputs should, as a general rule, be the market price that would have been received, if the statistical outputs had been sold in a market environment. One way to implement this approach is to approximate the market price by looking at the market prices of similar services or products which are actually transacted in a competitive market environment. If relevant data are available, such a market equivalent pricing method seems to be attractive for the monetization of the value of official statistics.

17. As a first step, the application of the market-equivalent pricing method would require the collection of extensive information on how private companies sell statistical information on the information market (see the full report).

18. The examples of private data brokers may be useful in providing market price information to monetize the value added of official statistics. On the other hand, the limits of such an approach are also clear, as its validity relies on the similarity between the outputs produced by official statistical authorities and the products sold on the information market. In most cases, this is not that straightforward. The relevant private companies typically create competitive advantages by exploiting commercial niches where official statistics are not adequate or not timely enough. These niches can be quite specialised and of interest for an extremely limited number of potential clients. Furthermore, the relevant statistical products are often marketed together with additional services such as instruments for data analytics, visualisation tools, and dedicated customer support services. Only in some cases it may be possible to observe equivalent products (e.g. EU-aggregate Balance of Payments). Another problem may be related to the fact that the relevant market services are often limited to some specific areas, thus not providing prices for the whole scope of official statistics. It is also limited, by its nature, to the price that customers are willing to pay on the market, thus underemphasising the value added from the (free) use of official statistics for research and public policy purposes. Finally, in applying this approach, one may be confronted with some practical problems, mainly due to the difficulty of getting access to the pricing policy followed by the private information providers.

19. While attractive in its principle, the approach of market equivalent pricing for establishing a monetary value of official statistics clearly has its limitations, both from a conceptual and a practical point of view. It is, therefore, recommended to work towards applying this methodology where this is practicable but recognising that this is likely to be for only a limited number of clearly identified statistical outputs (e.g. well established macro-economic statistics or key indicators with similar geographical and time coverage). That said, practical experience gained on a case by case basis may lead to greater scope for such methodology than is apparent as of now. It is, therefore, important that NSOs share their experiences of this approach.
3. Valuing with stated preference methods

20. There may be more scope for computing the value of official statistics from the stated preference method, sometimes referred to as the contingent valuation method. It relates to a survey-based approach used for the valuation of non-market goods and services, asking people directly about the values they attach to statistics. (It thus differs from the “revealed preference method” discussed in the next subsection, where values are inferred from the choices people make.). The contingent value of a non-market good or service is the amount that users are “willing to pay” for it, or “willing to accept” in return for not having it. The key difference between willingness to pay and willingness to accept is that the former is constrained by a person’s ability to pay (i.e., typically a person’s disposable income) and the latter is not.

21. In stated preference studies, randomly selected samples or stratified samples of individuals are selected from the general population and given information about a particular problem. They are then presented with a hypothetical occurrence, such as the provision of a specific good or service, and asked how much they would be willing to pay for the relevant product or the amount of compensation they would be willing to accept to give up the good or service. The actual format may take the form of a direct question (“how much”) or it may be a bidding procedure (ranking alternatives) or a referendum vote (yes/no). The studies can be undertaken as face-to-face interviews, telephone, or mail or internet surveys.

22. The stated preference method was one of several methods used to explore the economic value of the UK Economic and Social Data Service (ESDS)3. The ESDS is a distributed service which aims to promote wider and more informed use of data for research and teaching in social sciences. It has around 23,000 active users and an operating budget of £3.3 million. In the ESDS study, a user survey was undertaken in which respondents were asked to express their willingness to pay in terms of an annual (subscription) fee and on a pay-per-access basis. Responses were weighted by type of use, and the use-weighted means multiplied by the three year annual average number of active registered users.

23. This resulted in an estimated willingness to pay of around £25 million per annum among the survey population. The same survey also asked respondents what they would be willing to accept in return for giving up all access to the ESDS for one year. Some respondents were willing to accept nothing, because they believed that data should be free. Including these responses, the use-weighted mean of the individual willingness to accept was £5,333, and excluding them it was £6,154. When the data were multiplied by the three year average number of active users, the responses suggested a willingness to accept of around £111 million per annum among the survey user community. The results from this study illustrate the typically lower contingent values obtained when based on willingness to pay compared to willingness to accept, reflecting the budgetary constraints associated with the former.

24. Like all valuation methods, the stated preference method has advantages and disadvantages. The main advantage is that it is extremely flexible, as a consequence of which it can be used to estimate the economic value of virtually anything, albeit that it is best able to estimate values for goods and services that are easily identified and understood by users and that are consumed in discrete amounts. It is also the most widely accepted method for estimating total economic value, including all types of non-use and “passive use” values. Furthermore, the results are relatively straightforward to analyse and describe. Monetary values can be presented in terms of a mean or median value per capita, or as an aggregate value for the affected population. It is therefore not surprising that the method

has been used successfully in a variety of situations and that the methodology is being constantly improved to make it more reliable.

25. On the other hand, the estimates of non-use values are difficult to validate externally. The method also assumes that people understand the product in question and state their preference in the contingent market just as they would in the real market. However, some respondents may be unfamiliar with the product being valued and may not have an adequate basis for articulating its true value. Furthermore, respondents may fail to take the questions seriously because the financial implications of their responses are not binding. The expressed answers to a willingness to pay question in a contingent valuation format may also be biased, because the respondent is expressing views about the desirability of the scenario, rather than answering the question as intended. Finally, the method can be expensive and time consuming, because of the extensive pre-testing and survey work needed to arrive at adequate results.

4. Valuing with revealed preference methods

26. The revealed preference theory, pioneered by Paul Samuelson⁴, aims to understand consumers’ preferences for attributes when choosing among a bundle of goods or services when their choices are constrained by their available budget. In this sense, the method is similar to stated preference methods in that it exploits the trade-off between attributes. An example for this trade-off is the choice of schools based on available statistics on school quality and on commuting distance. The method is different from the stated preference method in that it does not use specifically designed and controlled surveys (or choice experiments), but attempts statistical inference based on observed real-world behaviour.

27. By way of illustration, the following text describes briefly two examples of the revealed preference methodology, the important ones.

28. The first relates to school choice. In this context, revealed preference methods are used to evaluate the trade-off between choosing a school based on academic performance (published in annual school league tables), geographic proximity (in terms of commuting time) and other attributes. In figure 2, the trade-off between geographic proximity (on the vertical y-axis) and academic performance (on the horizontal x-axis) is illustrated in the form of the average parents’ indifference curve that connects all x-y combinations of schools that yield the same utility to the parents. In this example, the parents’ indifference between schools A and B allows us to infer that they are “willing to pay” the higher price of commuting to the more distant school B, because they expect a better education for their child. If the commuting cost is monetized in the form of fuel prices or parents’ wage-equivalent time then this method gives the monetary value of the educational statistics. Burgess et al.⁵, for example, show that most English families have strong preferences for secondary schools' academic performance published in annual school performance tables. Parents also value schools' socio-economic composition and distance, which may limit the potential of school choice to improve academic standards. Less advantaged parents have weaker preferences for academic performance. Jensen⁶ finds that the perceived returns to secondary school in the Dominican Republic are extremely low, despite high measured returns. Students at randomly selected schools given information on the higher measured

returns completed on average 0.20-0.35 more years of school over the next four years than those who were not.

Figure 2
Preference trade-offs in revealed preference methods

29. The second example infers the value added of official statistics from the media coverage of statistics. It aims to evaluate the trade-off faced by a publisher who decides between two sources of revenue: placing advertisements (that have zero or even negative value for readers) and placing substantive content (to attract a wide readership and increase sales). It can then be assumed that, if a publisher places content instead of an advertisement, the value this content has to readers (in attracting additional readers) must at least be equivalent to the revenue that would have been generated from the advertisement. The value of statistics content to the readers can thus be approximated by the cost of placing an advertisement of the same size as the content. Good examples of this method have been elaborated by the Mexican and the Spanish statistical office (INEGI and INE), presented in box 1 of the full report. Both institutes publish the impact of official statistics in the media as part of their monthly communications reports. In the case of INE, the analysis is undertaken by the media company Kantar Media. INEGI produces the statistics in-house for some media types and outsources the remaining tasks to an external consultancy.

30. Revealed preference has a number of strengths as a tool for valuation. It relies on actual behaviour as opposed to what respondents say hypothetically as a way of computing observed value. Like stated preference, it is also a methodology which has been used in cost benefit analysis and economic appraisal for many years. Its use in the context of assessing the value of official statistics would, therefore, be lent credibility by the fact that it is such a standard tool, rather than something the official statistics community had invented itself or which could be used for special pleading.

31. At the same time, there are also undoubted caveats and limitations. Approaching a comprehensive assessment of value requires being able to locate revealed preference evidence relevant to all of its dimensions. For example, the media value approach practiced by INEGI and INE throws light on the value of official statistics as perceived by the general public. But it will not relate the value that would be placed on them by, say, policy makers or commercial decision makers in running their enterprises. It may sometimes be possible to find additional evidence of revealed preference that would take the assessment of value towards a more complete picture. Nevertheless, such evidence may not always exist or, if it does, be easily accessed.
5. **Impact assessments**

32. A third methodology for valuing official statistics relates to impact assessments, which aim to assess the causal effect of data availability on economic and social outcomes. There are many examples of impact assessments. Analysing differences in interest rates of debt securities issued by government across countries that have or have not high quality statistics may provide an indication of the costs of higher risk premiums in the absence of statistics. Another example relates to the impact of not having statistics, e.g. as a consequence of a partial government shutdown as was the case in the United States. More generally, it is possible to contemplate exercises to assess the costs of having no or unreliable statistics, by analysing the costs of wrong policy decisions, or by estimating the impact of lost trust in statistics on government decision making, international relations and the business environment. While it is not always straightforward to isolate the impact of the statistics alone, nevertheless careful analysis will often be capable of yielding useful information.

33. In this section, a concrete example of impact assessments is presented for school statistics, based on the work of Burgess and his colleagues. Public school choice is a well-established instrument to allow parents to choose the right school for their child. It has the potential to increase the accountability of schools, reward them for good performance and thus improve educational outcomes\(^7\). Building on a unique policy experiment in England and Wales, two exercises, as set out in box 2 of the full report, are summarised here that quantify the return-on-investment of official school statistics. The first estimates the effect on economic growth. The second quantifies the cost-savings from avoiding more costly investments in other areas, such as cutting class-sizes by hiring more teachers.

34. The publication of school league tables in England come at a cost of approximately £150 million per cohort. Burgess et al conclude, however, that this cost is more than offset, by a positive school accountability effect on student achievement that is equivalent to (i) an estimated increase in economic growth of £2.4 billion per year; and (ii) a class-size reduction worth £2.9 billion per cohort. Every £1 invested in providing school statistics thus results in a £16 to £18 return, depending on which of the two methods is used. Thus, this example demonstrates that substantial gains can be derived from investing in and publishing school performance information.

35. It is clear that impact assessments can allow calculation of the wide value of providing statistics, often on a monetized basis. As such, they can provide very strong evidence for the value added of statistics. On the other hand, impact assessments can only be conducted where circumstances imply an event which can be evaluated. So their application will be restricted to such circumstances. Nevertheless, where such exercises are possible, they allow thorough assessment of the value of the statistics concerned, often providing a compelling case.

6. **Summary and conclusions on monetizing the value of statistics**

36. The preceding sections have discussed a number of approaches to placing a monetary value of official statistics. One of these – calculating the cost of the statistics – cannot really be regarded as giving evidence of the value of statistics, certainly not when monitoring the evolution over time, and suffers from a number of drawbacks in this guise. Nevertheless, there are good reasons why NSOs would be well advised to construct comprehensive information about their cost base. Such information is useful in itself and...

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can also be used in conjunction with genuine information about value to assess efficiency and productivity, either on a comparative basis at a point of time or their evolution over time.

37. But, as discussed, there are a number of other methods – market equivalent pricing, stated preference, revealed preference, impact assessment – which can be used to generate well-based and convincing information about value. Each of these has strengths and weaknesses. None can be employed universally but only in particular circumstances. Nevertheless, together they have been used successfully to produce good information about the value of outputs other than official statistics, in appraisal exercises over many decades. There seems no reason, therefore, why NSOs should hold back from using the same techniques in our own field. Furthermore, experience of using such techniques will itself show how they can be used to increased effect.

38. All in all, if one would like to arrive at a relatively complete coverage of official statistics when trying to monetize their value added, the stated preference method and the revealed preference method (advertisement method), in addition to having data on the cost of producing official statistics seem to be the most promising. However, it is also clear that the more compelling results can be derived from the other revealed preference method (the example of school choice) and the impact assessments. Whatever one’s preference, it would be good to gain more experience in the practical application of the various methods for monetizing the value added of official statistics. Countries are therefore encouraged to compile (experimental) estimates and share them with other countries. For the purpose of the latter, it is proposed to set up a repository as part of the best practices wiki.
Annex 1

Why official statistics are valuable?

1. As set out in the full report, in a competitive world, it would be foolhardy to assume that official statistics will continue to be valued and funded as a matter of course. Official statistics offer many benefits that can be adduced to demonstrate their value. Nevertheless, a proactive approach is needed to conveying these points, not least to make the case for continued and increased investment in them.

2. This annex is intended as a repository of helpful material for use in this regard, based on the Task Force’s deliberations and case studies identified in the course of the work. The annex is not intended as a document to be used directly but rather one which can feed into presentations made in a variety of contexts for different audiences.

A. General value of official statistics

3. Official statistics are inherently about providing relevant information and become ever more important in the information age. 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:

   • They enable decision makers to function on the basis of high quality information – whether in the public sector for policy making or service delivery, in the commercial sector or people making decision in their everyday lives – thus leading to better outcomes;
   • They allow citizens to hold public and other bodies to account. They enable understanding society by providing relevant information while respecting the rights of people described in statistics and using them;
   • They facilitate research and analysis to proceed on the basis of a comprehensive evidence base leading to innovation and improved economic and social outcomes. It is a Fundamental Principle of Official Statistics to honor people’s right to information and secure equal access to statistics for everyone.

4. “Imagine the world without statistics. Governments would fumble in the dark, investors would waste money and electorates would struggle to hold their political leaders to account. This is why The Economist publishes more than 1,000 figures each week, on matters such as output, prices and jobs, from a host of countries.”

5. Official statisticians have by no means a monopoly on producing statistics, let alone the wider information base. Nevertheless, they do have numerous comparative advantages and unique selling points, as compared with other statistics and information:

1. Official statistics are impartial and free from political or commercial influence

6. Statistical legislation gives official statisticians guaranteed professional independence, thus ensuring objective and unbiased information. Methods and procedures for collection, compilation and dissemination of statistical data are based solely on

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8 www.economist.com/node/21548242
professional considerations, ethics and scientific principles, as well as internationally agreed concepts and methods. This is a unique feature of official statistics.

2. They are of best professional quality
   7. These same arrangements ensure that official statistics are of high quality. Professional peer pressure and review acts as a strong mechanism to maintain and improve the quality of official statistics, so they come with this assurance.

3. Provision of uniquely comprehensive information that is consistent over time
   8. Non-official producers of statistics generally act in accordance with their own needs and circumstances. This means they often have little or no incentive to maintain statistics which are produced and consistent over long periods of time. Furthermore, official statistics generally cover topics, regions, types of activities and other groupings that are essential to our societies but for which non-official producers of statistics may have no incentive to operate. Examples include statistics on economic development, construction, (un)employment, prices, human capital, housing, health, wellbeing, agricultural supply and demand, business performance, international trade, and many similar. Statistics needed for public policy and service delivery, measuring national progress, legislative requirements and international reporting obligations are among priorities. Without official statistics these needs would be largely unmet.

4. Assured equal access to official statistics
   9. It is a Fundamental Principle of Official Statistics to honour people’s right to information and secure equal access to statistics for everyone. By contrast, non-official providers of statistics and information may often have a commercial or other incentive structure which means they will not want to share all statistics which they compile. In the absence of official statistics, this would lead to seriously suboptimal economic and social outcomes.

5. Official statisticians are trusted guardians of data and confidentiality
   10. Statistical offices have a uniquely strong legal setting for ensuring strict confidentiality of individual data, as well as a reputation built up over many decades of the same. Individual data are not given to any other authorities and cannot be used for any other purposes than statistics and selected scientific research projects. Consequently, business and households are prepared to provide information to official statisticians that they would not be prepared to give to other statistical providers.

   11. Benefits of official statistics greatly outweigh their costs. Official statistics are cheap. In the United States, the production of government data is estimated to cost three cents per person per day, and the costs of producing official statistics represent around 0.03 per cent of the overall size of the Australian economy. Such costs are typical.

   12. They are an efficient use of resources. Official statistics represents a reusable public good and their use by one user does not reduce the amount of information available to others. On the contrary, the “network effect” of their being available to all potential users increases their value and benefit.

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10 www.esa.doc.gov/reports/fostering-innovation-creating-jobs-driving-better-decisions-value-government-data
Benefits of official statistics are of an order of magnitude higher than their cost. The time and attention given by fiscal and monetary authorities around the world attests to the importance of the information official statistics convey. (See the Economist quotation above.) But the effect is much wider, after taking into account the additional benefits to commercial and other parts of society.

B. The value of official statistics to different stakeholders

1. Value to the general public

14. Official statistics help us understand who we are, have been and are becoming. Official statistics describe our lives and the circumstances surrounding us. They give a basis for thinking about the future, grounded in good information about the present and the past.

15. High quality information, available easily and free of charge, underpins well based public debate. The use of official statistics is demonstrated every day in the newspapers, social media and websites, radio and TV. Without official statistics public debate would be markedly poorer. NSOs are increasingly exploring ways of providing easier access through closer collaboration with the media, development of data finders, better layouts, easier navigation, interactive graphs and maps, more insightful analysis and thematic releases looking at official statistics in a new light.

16. Evidence leads to sustained improvement in people’s lives. Statistics provide a story that describes how we make our living, what kind of products we consume, how much money we spend, what are the prices we pay, where do we live and work, what kind of enterprises produce the services and products we buy, are they multinational or local, how many people do they employ, how many people are unemployed, what is the quality of housing, how much mortgage do we have, what is our income level, how healthy are we, how long do we live, what kind of social services do we use, how are we educated, do we participate in decision making or voluntary work, do we live in one place or move to another city or another country, etc.:

   * Such information means that people can make better decisions affecting their lives, everyday ones as well as longer term ones regarding, for example, financial planning;

   * It also means that needs and social pressures can be identified more accurately and quickly. Good local data, for example, on population and housing makes it possible to plan and target government services better, such as schools and health care facilities, and thus avoid unnecessary spending of scarce public resources.

17. Official statistics raise community awareness. Statistics inform individuals about the communities in which they live and thus empower them to participate in democratic processes. People may seek to understand job opportunities in a particular location, compare house prices and costs of living and see how their country compares internationally. Having reliable official statistics has been compared to having ‘clean water’ or ‘sound money’ – things without which society starts to fall apart. Being informed is critical to the freedom of speech.

18. Official statistics facilitate scrutinizing and holding government and commercial institutions to account, and thereby add value.

   * Studies have shown that increased public transparency and disclosure of data generate confidence in the markets. Statistics can also enhance political
accountability and reduce corruption. This was shown for instance by the audits of local government\textsuperscript{12} in Brazil;

- Official statistics assist people in holding to account those elected to represent them. Statistics help to monitor the effectiveness of decision making and shed light on the consequences of such decisions.

19. Providing guidance on statistics and preventing their misuse and misinterpretation. By virtue of their independence and professional standing, it is becoming more common for NSOs to take part in topical debates to help guide the correct use and interpretation of statistics, or at least to avoid incorrect ones. This is an important role in underpinning well-based public debate, which official statisticians are uniquely well-placed to take.

2. Value to international policy and development

A. Comparable and harmonized official statistics are a powerful tool

20. International policy frameworks are increasingly evidence based and come with a measurement framework. This is true for the 2030 Agenda for Sustainable Development, human rights reporting under international human rights treaties, the Paris Climate Change Agreement, the Sendai Framework for Disaster Risk Reduction and many others. They are all reaching out towards official statistics to provide the basis for the reporting and monitoring, impelled by the strong international comparability offered by official statistics. The international statistical system has effective mechanisms for agreeing on standard definitions, classifications and methods to be used across countries. This makes meaningful comparisons possible and enables linking new data with the rich datasets of statistical offices.

B. Consult a statistician on how to measure it

21. After the lessons learned from difficulties to measure the Millennium Development Goals, early engagement of the statistical community has become a common practice. Policy makers ask statisticians how to formulate measurable targets, and especially which indicators to select and what kind of methodologies, concepts and definitions to use. The purpose is to enable meaningful monitoring of progress and reduce the need for costly additional investments.

C. The statistical network is effective in filling data gaps

22. The international statistical system works in collaboration, thereby bringing the best experts together to develop new statistics and statistical methods. For instance, statisticians developed guidance on measuring sustainable development years before SDGs were chosen as the next global development benchmark. Where important gaps exist in international reporting, statisticians can efficiently fill them by developing practical guidance that can be shared with and used by many countries.

D. NSOs provide the pathway to national statistics.

23. The pressure to increase coordination within the national statistical system is coming from users, including the government and international organizations, who are looking for compatibility, high quality and easier access to the required information. NSOs increasingly engage with other data producers within the official statistical system and in the civil society, academia and the private sector, and are called to provide advice on methods to

\textsuperscript{12} Ferraz, Claudio, and Frederico Finan (2011): Electoral accountability and corruption: Evidence from the audits of local governments.
ensure high quality of statistics. NSOs have been asked to coordinate the data flows on SDG indicators to provide easier access to data, but also to review the quality.

E. **Official statistics as a reliable measure of progress**

24. **Official statistics provide an independent and impartial means for assessing progress (or the lack of it!).** (a) They can provide the baseline: how many people live below the poverty line; what are the social, economic and environmental conditions; and what kind of infrastructure, health and education services are lacking. (b) They can be used to measure consequences and outcomes, for instance to evaluate whether maternal mortality has decreased through investment in health care or whether more children are attending school through better planning of school facilities and increased training of teachers.

F. **Building statistical capacity supports social, economic and environmental progress**

25. **Statistics support evidence based policy and provide information for analyzing civil, economic, political and social rights**. They also feed people’s right to information and thus support participation in society.

26. **National statistics are essential for developing public-oriented policies. NSOs’ coordination role helps to bring key stakeholders together to define shared needs and identify gaps. Availability of robust statistics by age, gender, income and geography inform aid donors and governments so that resources are targeted more effectively.**

3. **Value to decision makers**

27. **Official statistics provide the right information to inform decisions. Policy makers, businesses and individuals all make decisions and are affected by decisions based on official statistics:**

- Availability of trustworthy and timely statistics is crucial, for instance for a correct assessment of the monetary and economic situation of a country. Census data inform decisions to allocate resources across programmes and plan public services, such as building new hospitals, schools or roads. Statistics influence the direction of fiscal, economic and trade policies, social welfare and environmental policy decisions, and target efforts to improve efficiency and productivity, and identify cost savings;

- Almost 90% of businesses say that access to data is critical to being competitive. Official statistics underpin fundamental decisions, such as investment planning, risk assessment and market analysis, and to consider where to base the business and how to meet customers’ needs. According to estimates, in the United States government data guide trillions of dollars’ worth of investments each year.

A. **Wrong decisions are costly**

28. According to a British manager: “The investments involved in deciding about the location of stores are just too large to rely on gut feeling only. The immediate financial costs and long-term losses caused by poor location decision cannot be overestimated”. Inability to access well-based statistics leads to increased costs in the public sector too. For

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14 www.freshfields.com/uploadedFiles/Locations/Global/Data/content/dealingwithdata.pdf
15 www.esa.doc.gov/reports/fostering-innovation-creating-jobs-driving-better-decisions-value-government-data
16 Alison Green, Sainsbury’s Strategic Development Manager in Location Planning in *The 2001 Census and its Significance for the Commercial World*
instance, in New Zealand reactions to short-term population change without full consideration of the ongoing demographic transition resulted in a surplus of schools in some regions and a shortage in others. In one area, underestimation of pre-school children led to a shortfall of approximately 40 million USD in government funding during one year.\(^\text{17}\)

**B. Official statistics help towards an efficient and consistent evidence base for decisions**

29. In the absence of official statistics universally available, commercial and other decision makers would need to assemble their own statistical and information bases. This would result in duplication and inconsistency. User surveys show that decision makers rely on the fact that official statistics are produced impartially using internationally agreed scientific methods.

**C. Availability of official statistics relating to a wide range of domains and coverage means that interactions can be exploited with consequent economic, environmental and social gain.**

30. NSOs provide uniquely rich datasets that integrate data from direct statistical surveys, government datasets and other sources. NSOs work actively to improve timeliness and coverage, amongst others by increasing the use of new data sources: business information, trade transactions, scanner data, geodata, social media, web scraping etc:

- Use of these official statistics databases helps to save resources, reuse information and reduce the burden on respondents;
- In addition, the ability to exploit these integrated datasets opens up valuable new insights at modest additional cost, spanning key economic, environmental and social concerns.

**D. Official statisticians can provide reliable guidance and analysis.**

31. Statisticians' professional skills, experience, and the detailed knowledge they have by virtue of compiling their outputs, means they have the ability to appraise and draw out the implications of their statistics in ways which users and decision makers find increasingly valuable. This is evidenced by the growing requests to official statisticians for guidance in using their statistics and to confirm correct conclusions. Similarly, official statisticians are increasingly asked to inform decision makers as to the story told by the statistics, not just to provide some numbers.

**4. Value of official statistics to the information industry**

32. While official statisticians need to be aware that they are no more immune to competition than any other sector, they should also be aware of the opportunities for partnership and collaboration. In particular, official statistics are often the foundation stone for a vibrant and productive industry more widely.

**A. Official statistics are available for reuse as Open Data**

33. A number of information producers, in the public and private sectors, use statistical data as input to their own products and services. NSOs provide their data free of charge and more so in easily reusable machine readable formats. Reuse of existing data improves the efficiency of the whole information industry, and reduces costs and burden caused to respondents as less direct data collection is needed. NSOs also source a large part of their data from sources other than respondents, already providing integrated datasets for wider

\(^{17}\) http://icots.info/9/proceedings/pdfs/ICOTS9_5A1_FORBES.pdf
use. Governments promote Open Data as a driver of economic growth and job creation. Studies show that fast-growing economies often base their success on rich information, which translates into knowledge and more complex and diverse products 18.

B. Use of official statistical data can trigger innovation

34. Official statistics lend validity to private data as a reliable benchmark. Estimates using big data and other sources are compared to official statistics to test comparability and as a sense and reality check. Private companies, in search of data that deliver the most relevant and pertinent insights and adds value to their products, increasingly access official statistics for this purpose. Examples of innovative products include, for example applications facilitating transport benefit from data on public transport schedules, population densities, traffic patterns, locations of real estate and land use.

C. Industrialization of official statistics has wide benefits

35. The information industry greatly benefits from the common standards, definitions, classifications and methods developed by the statistical community. Statistical offices are creating environments that facilitate reuse and sharing of components, processes and data repositories. NSOs actively promote the wider acceptance and use of these standards to enable new products and services to be created. The UNECE High-Level Group for the Modernisation of Official Statistics is driving such development internationally, in partnerships with other players in the information industry, and recently finalized a project that developed machine readable common metadata standards that facilitate data integration, linking and reuse.

D. Official statistics are commercially valuable

36. Official statistics are a key input to a wide variety of commercial products and services in the economy. Private businesses value data as a strategic asset and invest important amounts in data to find their competitive advantage. In the United States, an estimation based on a very short and incomplete list of firms that rely heavily on official statistics, suggests that government data help private firms generate revenues of at least $24 billion annually, many times greater than spending on official statistics. McKinsey Global Institute estimates 19 the potential global economic benefits of open government data as 3 trillion dollars annually.

E. Official statistics grow key data science skills.

37. In order to be able to carry out what is required to produce and disseminate modern official statistics, NSOs increasingly invest in high level statistical and data science skills. They provide training and development to their staff and also encourage the supply chain of new skilled recruits. Such skills are often crucial for the data science industry as a whole, as well as businesses such as banks, insurance companies, ministries, research institutes and other sectors. In the short term, there may be competition between NSOs and the rest of the economy for such skills. But in the wider picture, the investment NSOs make in these skills is in the general interest.

5. Value to research

38. The research community is an essential adjunct to economic innovation and improved social and environmental outcomes. Much of the sector’s work is possible, however, only because of its access to wide-ranging official statistics. Testament to this fact

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is underlined by the pressure from research institutes in many or most countries for availability of further statistical information.

A. New research insights from integrated datasets

39. Statistical offices serve researchers by providing them with wide, complex and easily linkable datasets in technically advanced environments. Integrated large unit-level datasets enable universities, policy analysis institutes, research institutions, ministries, municipal agencies and individual researchers to do empirical analysis to inform future decisions. The datasets assist in studying complex problems that have multiple causes and cut across many areas of government, such as productivity, innovation, gender pay gap, income deprivation, climate change, joblessness, homelessness etc.

B. Services to increase the efficiency and productivity of research

40. NSOs typically provide researchers with data already collected, classified, combined, edited and corrected in the compilation of official statistics. Data come from multiple sources, such as censuses, surveys and population and business registers, tax registers, school systems, social protection and health systems, and as such enable a multitude of longitudinal and cross-sectional analysis. Accessible metadata together with a suite of research tools, applications and software are offered for processing and analysing data. These services enable researchers to focus on the key issues with which they are concerned, rather than on the preparation of the data itself.

C. Using official statistics’ data adds credibility

41. Official statistics are trusted because of the use of rigorous scientific methods in treating, editing, combining and checking data carefully. They are thus regarded as a reliable basis for research findings. Statistical datasets also offer more consistency of concepts across sectors and are available for sufficiently long time periods to make more reliable conclusions. It may also be possible to compare the specific findings of a research project to related official numbers.

D. Stronger research capacity by working together with statisticians

42. Statistical offices, universities and research institutes have a long record of working closely together to develop statistical methods on one hand and empirical research on the other. An example of joint investment in capability is the European Master in Official Statistics, a network of Masters programmes providing post-graduate education in the area of official statistics. Additionally, many NSOs offer traineeships to students and carry out training on survey techniques and statistical methodologies, again adding to the overall endowment of research capability.

E. NSOs work internationally to provide wider possibilities for researchers.

43. NSOs have developed common principles and tools for access to microdata for research purposes and are sharing best practices across countries. Eurostat provides researchers with several public-use files containing data from EU countries, and other international organizations have similar projects aimed at promoting this type of exchange. The survey on income and living conditions (EU-SILC) is a good example where the microdata is an end-product of its own and can be accessed by researchers globally. Such initiatives increase the scope for productive research on international phenomena and allow for comparative analysis across a range of subjects.
Annex 2

I. Generic user survey questions for statistical offices

A. Introduction to respondents:

Welcome to the User Survey of the National Statistical Office (NSO) [replace with a name of the office]. The NSO is committed to compiling quality, independent, objective and trustworthy official statistics.

Satisfaction of users is a priority for the NSO and our goal is to provide our users with the best service required to meet their needs.

In order to help us find out whether we are satisfying your needs and expectations, we would appreciate your help by taking a few moments to complete this survey. Your comments are appreciated and will help us to learn about what we are doing well and what we need to do better. Please be assured that your responses will be completely anonymous.

We appreciate your taking the time to participate in this survey which should take about xx minutes to complete [replace with an estimate that takes into account the duration of the national survey including common questions and specific national questions].

Please respond to all questions in each section which are relevant to you as a user of statistics.

You can submit your survey by [indicate how].

Thank you.

Optional user survey questions

1. Characteristics of data users

1. Please tell us about you. (We will not publish any personal information.)

Age group

Gender – Male / Female

Highest level of education attained [Replace dropdown lists with nationally relevant versions.]

- Primary school
- High school
- College
- Master’s degree
- Doctorate
- Other (please specify)

Sector / Industry

- Academic or student
- Central government
- International organization
- Local government
2. Use of statistics

2.A. When did you last contact the NSO or use its statistics?

- Earlier today
- Yesterday
- 2-3 days ago
- About a week ago
- 2-3 weeks ago
- About a month ago
- 2-3 months ago
- 4 months or more
- I have never been in touch with the NSO

2.B. [if an option more than a month ago selected] Why have you not contacted the NSO/used the NSO statistics in the past month?

- I have had no need for any statistical information
- I have found another website/source to use that suits me better
- I find it difficult to navigate the NSO’s website
- I prefer the design of another website/source
- I prefer the infographics/reports provided by another website/source
- I had not known about the NSO before now
- Other (please specify)

3. How frequently do you usually use NSO statistics?

- Daily
- Weekly
- Monthly
- Quarterly
- Annually
- Less often
- Never

[If Never] Please specify, why? ______

4. For which purposes do you use statistics? Please select all that apply.

- Work in general
- Business or market analysis
- Education
- Legislative work
- Media use
- Modelling or forecasting
- Negotiations
- Personal interest
Policy formulation/monitoring/evaluation
Regional analysis
Reports or publications
Research
Reuse in other products
Service planning
Other (please specify)

4A. [Optional] How important are the NSO’s statistics for the purpose you mentioned? [Displays only those purposes that were selected]

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Essential</th>
<th>Important</th>
<th>Background</th>
<th>Of minor importance</th>
<th>Of no use</th>
<th>Don’t know/NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work in general</td>
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<td>Business or market analysis</td>
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<tr>
<td>Education</td>
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<td>Legislative work</td>
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<td>Media use</td>
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<td>Modelling or forecasting</td>
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<tr>
<td>Negotiations</td>
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<tr>
<td>Personal interest</td>
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<tr>
<td>Policy formulation/monitoring/evaluation</td>
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<tr>
<td>Regional analysis</td>
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<td>Reports or publications</td>
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<tr>
<td>Research</td>
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<tr>
<td>Reuse in other products</td>
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<tr>
<td>Service planning</td>
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</table>

5. Which statistics do you use most often? [Please select all that apply]

- Population (e.g. census, education, migration, gender)
- Labour market (e.g. employment, productivity, earnings)
- Health (e.g. life expectancy)
- Income and consumption
- Education
- Energy
- Justice and crime
- Travel and tourism
- National accounts (e.g. GDP)
- Business (e.g. construction, industrial production, retail trade)
- Globalization (e.g. trade, foreign affiliates, balance of payments)
- Prices and costs (e.g. consumer and producer prices, living costs)
- Science, technology and innovation
- Environment and climate
- Sustainable development
- Regional
- Other (please specify)

Accessing statistics

6.A. How do you usually access NSO statistics and information? (Select 1-3 options)
7. How do you become alerted to the latest NSO statistics?

- NSO Calendar
- NSO website
- NSO twitter
- NSO Facebook
- NSO email contact
- Press / newspapers
- Radio
- TV
- Other printed publications
- Social Media
- Other (please specify)

8A. Which device do you use to access statistics? (select all devices used)

- Laptop
- Desktop
- Mobile phone
- Tablet
- Printed Media
- Other (please specify)

8B. [Optional] If more than one: What is your preferred device to access statistics?

User satisfaction

9. How satisfied are you with the extent to which the NSO statistics you use…

<table>
<thead>
<tr>
<th></th>
<th>Very satisfied</th>
<th>Satisfied nor dissatisfied</th>
<th>Dissatisfied</th>
<th>Very dissatisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meet your needs</td>
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<tr>
<td>Are accurate</td>
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<tr>
<td>Are trustworthy</td>
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<tr>
<td>Are free from political interference</td>
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</tbody>
</table>
Are clearly presented
Are easy to find
Are easily understood
Are timely
Are detailed enough
Are clearly documented
Enable comparisons
Are up to date
Are frequent enough
Are visually appealing

[Optional for the issues with which the respondent is not satisfied]

Please provide us with details of suggested improvements relating to NSO statistics (Q9) in…:

Relevance and innovation

10. To what extent do you agree with that the NSO…?

<table>
<thead>
<tr>
<th></th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Neither agree nor disagree</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
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<tbody>
<tr>
<td>Is independent</td>
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<td>Provides a quality customer service</td>
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<td>Has knowledgeable and competent staff</td>
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<td>Collects and dissemination useful statistics</td>
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<td>Protects confidentiality of individual data</td>
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<td>Explains data sources and methods clearly</td>
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<td>Supports the interpretation and use of statistics</td>
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<tr>
<td>Visualizes information well</td>
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<tr>
<td>Communicates clearly</td>
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<tr>
<td>Meets your information requirements</td>
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<tr>
<td>Is active in developing new services</td>
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<tr>
<td>Is actively present in Social Media</td>
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<td>Helps people understand our country</td>
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<tr>
<td>Effectively informs public debate</td>
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<tr>
<td>Provides valuable services and statistics</td>
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<tr>
<td>Is trustworthy</td>
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11. Please tell us:
   
   What you think the NSO is **doing well**?
   
   What you think the NSO **could do better**?
   
   What the NSO should do to inform your work that it does not currently do?
   
   What are the most important **outcomes or benefits** resulting from using our statistics or services?
   
   What the NSO currently does that you consider obsolete or not useful?

12. Please select the choice that applies:

   For my work or studies, NSO statistics and services are Essential/ Important / Background information/ of minor importance / of no use
13. Have NSO’s statistics and services helped inform any decisions or policies made by you (or by your organization) over the last years?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
<th>Don’t know/NA</th>
</tr>
</thead>
<tbody>
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<td></td>
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<td></td>
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</table>

[If yes] Please provide examples:

14. Do you think NSO statistics differ from other data and statistics, and how?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
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</table>

[If yes] Please explain briefly the difference:

The NSO as country X’s national statistical office is responsible for collecting data and producing official statistics that help people to understand better their country – its population, resources, economy, society, environment, culture etc. The NSO conducts about X studies on all aspects of our lives.

15. Would you say the NSO work makes a major/ moderate /little /no contribution to the wellbeing and life of in our country?

**Awareness and trust**

16. How well informed are you about the work of the NSO?

- Very well informed
- Fairly well informed
- Not very well informed
- Not at all informed
- Don’t know/not sure

17. To what extent do you trust the NSO statistics?

- Trust them greatly
- Tend to trust them
- Neither trust nor distrust
- Tend not to trust them
- Distrust them greatly
- Don’t know/not sure

18. How would you describe your overall view of the NSO?

- I would speak highly of NSO, without being asked
- I would speak highly of NSO, if someone asked
- I would be neutral about NSO; if someone asked
- I would be critical of NSO; if someone asked
- I would be critical of NSO; without being asked

19. How likely is it that you would recommend the NSO statistics and services to a friend or a colleague (using a scale from 0 to 10)?
Specific products and services

20. How satisfied are you with the following NSO products and services?

<table>
<thead>
<tr>
<th>Articles and stories on statistics</th>
<th>Very satisfied</th>
<th>Satisfied</th>
<th>Neither satisfied nor dissatisfied</th>
<th>Dissatisfied</th>
<th>Very dissatisfied</th>
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[Optional] Please provide us with details of suggested improvements relating to NSO products and services (Q20)?

Additional comments:

21. What, if anything else, would you like to say about the NSO or its statistics?

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