

# Response Burden Measurement: Current Diversity and Proposal for Moving towards Standardization

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## Abstract

In this paper we describe and discuss the results of a survey amongst 41, mostly European, National Statistical Institutes (NSIs) concerning their practices of measuring response burden imposed on businesses. The results show that most NSIs do have some kind of response burden measurement. However, the methodologies used vary. We argue that NSIs should move towards standardization in order to provide good quality and comparable response burden data and discuss some issues that need to be solved in order to accomplish standardization.

**Keywords:** business surveys, process quality, administrative burden

## 1 Introduction

Reducing administrative burden caused by statistics is one of the 13 priority areas in the Action Programme for Reducing Administrative Burdens (European Commission 2008). The EC High Level Group of Independent Stakeholders on Administrative Burdens (2009) states that even though the burden caused by statistics is only 0,5 % of the total administrative burden, it is of great concern to businesses because it is an ‘irritation burden’.

NSIs acknowledge the relevance of response burden as one of the costs to be considered in their decision making (e.g. Eurostat 2009, p. 24). As put in principle 9 of the European Statistics Code of Practice (European Commission 2005): *“The reporting burden should be proportionate to the needs of the users and should not be excessive for respondents. The statistical authority monitors the response burden and sets targets for its reduction overtime”*. It has been noted however that European NSIs have different methodologies for the measurement of response burden, which makes it very hard to compare burden levels and developments in various countries (Hermann and Junker 2008; Rainer 2008).

In this paper we describe if and how exactly response burden imposed on businesses is currently measured in NSIs in Europe and some other parts of the world. The research presented here is part of Work package 2 of the BLUE-Enterprise and Trade Statistics research project (see [www.blue-ets.eu](http://www.blue-ets.eu) for more information). The purpose of this part of the project is to bring together NSIs' experiences and practices for the measurement and reduction of response burden, in order to learn from each other and guide the discussion for moving towards joint best practices. As a first step of this project, a literature research was conducted (Bavdaž, Giesen and Mohorič Peternelj 2010; Mohorič Peternelj and Bavdaž 2011) to investigate how response burden is conceptualized and measured. This study, based on published reports, concluded that response burden is monitored in many countries, but there is a great variety in methods used for measurement and calculation of burden. It also showed that many NSI initiatives are not well documented in publicly available reports. This led us to the next step; we conducted a survey amongst NSIs to get a more comprehensive picture of their current practices in measuring and reducing response burden in business surveys. In this paper, we first discuss the reasons for response burden measurement and two main measurement models. Next, we briefly describe how we conducted the survey of NSIs and its main results. We conclude by discussing what seem to be good practices and why and how we should move towards standardization of response burden measurement.

## **2 Response burden measurement: reasons and measurement approaches**

Roughly, there are two main reasons for measuring response burden caused by business surveys: 1) political / economic concerns about the costs of businesses incurred to comply with government regulations requiring data provision from businesses and other government requests for data; 2) concerns about the quality of the collected data and the costs of data collection for NSIs.

Political and economic concerns about administrative burden have led to the establishment of the Standard Cost Model (SCM), a common EU methodology for measuring administrative costs imposed by all types of legislations (European Commission 2010). The SCM uses a small number of in-depth interviews to assess the average monetary costs for a business to comply with a specific regulation. This is done by assessing which activities are performed, how much time they take and what the hourly costs are (internal costs in wage rate and overhead, and direct 'out of pocket' costs). The total costs of a regulation are calculated by multiplying the thus found average compliance costs of a regulation with the total population of businesses involved and the frequency with which the activities have to be carried out each year. The SCM assumes full compliance, in survey terms: 100 % response. For political and economic purposes, burden is usually monitored annually at the national level and specified on the level of the (types of) regulation(s) causing the burden.

Quality and data collection concerns for response burden are based on findings that businesses can reduce a too high response burden by not responding at all, responding too late or responding with less accurate data than required (e.g. Bavdaž 2010). This may cause less than optimal data quality and additional costs for the survey organisation, for example, costs of sending out reminders and data editing.

Building on several, mostly qualitative studies of response burden in business surveys, and the Total Business Survey Burden Model, Dale et al. (2007) argue in their Handbook for Monitoring and Evaluating Business Survey Response Burdens that NSIs should take this quality perspective and should monitor four aspects of burden: 1) Perceived response burden (measured as perception of time, perception of burden); 2) Actual response burden (measured as time to collect information, time to complete questionnaire); 3) Perceived causes of response burden (measured as reasons for time consumption, conditions for burden) and 4) Motivation (measuring perceived usefulness to business and society).

Although Eurostat clearly states that response burden should be part of quality reporting, currently, only rather general recommendations for its measurement are given: *“The response burden [...] can be measured in hours spent or in financial terms. A commonly used method for business surveys is to measure respondent burden as the product of the number of dispatched or completed questionnaires multiplied by the average completion time. The latter may be estimated using focus groups or based on the responses to a specific question at the end of each questionnaire asking about completion time. Respondent burden in financial terms may be obtained by multiplying by the average hourly cost of respondent’s time, again estimated using focus groups”* (Eurostat 2009, p. 24). Note that measurement of subjective aspects of burden (‘perceived burden’) is not part of this recommendation.

### 3 Survey of NSIs

In total 45 NSIs from 42 countries received an invitation letter to participate in a web survey on the measurement and reduction of response burden in their business surveys. NSIs of all countries taking part in the European Statistical System, including the candidate and potential candidate countries, plus NSIs of four non-European countries: Australia, Canada, New Zealand and the USA. The web survey was on-line between November 2010 and February 2011.

In order to improve response rates, we kept the questionnaire as short and simple as possible. In the questionnaire we distinguished between measuring *actual* response burden (defined as the time and/or money it takes to comply with a survey request) and *perceived* burden (defined as the respondents’ assessments of how burdensome they find it to comply with survey requests). We asked details about the measurement of both types of burden, with more emphasis on actual burden – as we expected this to be the most frequently used. Furthermore, we asked if the NSI itself registered burden and whether or not some national authority kept track of all government survey requests.

Finally, we asked for any publications on burden measurement and reduction. With the advance letter the NSIs received an attachment called “literature search”. We showed in this attachment for every institute the publications about response burden measurement and reduction that we had found in our literature review (if any) and asked them to share with us any (other) documents they might have on this topic.

Some respondents asked for and received a paper version of the questionnaire. Reminders and follow-up questions were communicated by mail, e-mail and telephone. By now 41 out of 45 NSIs have responded to the survey. Currently, we are still in the process of following up on NSIs. The results presented in this paper must thus be seen as preliminary. After completion of the data collection there may be some small changes in the final results.

## 4 Survey results

The answers to the survey are treated as confidential, so in principle no references are made to specific NSIs or countries. This is only done when this information can also be found in publicly available documents.

From our contacts with respondents we learned that it was sometimes challenging for them to answer questions for all business surveys at their institute. Burden measurement practices can vary over surveys and often there does not seem to be one person or department responsible and informed about burden measurement. This also becomes clear when looking at the number of “don’t know” answers.

### *Measurement of actual and perceived burden*

The majority of the institutes measures actual burden; 34 of the 41 institutes answered positively to the question “*In the last five years, 2006-2010, has the actual response burden incurred by businesses to comply with survey requests of your organisation been calculated?*” 20 institutes do this annually. Several institutes that measure actual burden explained that this was only done for certain surveys, for example, some EU surveys or all mandatory surveys. From our follow-up contacts we learned that at least one respondent had interpreted our question as whether a *total* response burden was calculated (for all survey requests). This unclearness in the question phrasing may have caused some other institutes to answer negatively while in fact they do some kind of burden measurement.

Perceived burden is less frequently measured: only 12 out of 41 institutes have measured perceived burden in the past five years, 11 of those have also measured actual burden. 5 institutes measure perceived burden every year. As perceived burden is probably related to the image of an institute, we also asked whether the NSIs, in the last five years, had conducted any study on how businesses perceive the NSI, either in their capacity of data providers, data users or both. 17 NSI have done such a study.

*Details on actual burden measurement*

16 NSIs calculate actual burden in time costs only, 16 calculate both time and monetary costs, often by multiplying the time spent responding to surveys by some average wage rate. One institute measured burden in neither time nor money but used the number of surveys sent out to businesses. Some other institutes also mentioned that they have something like this, for example a monitoring system for the mean number of questionnaires which are filled in by each business in a given time period. One NSI could not tell whether burden was calculated in time, money or both.

As shown in Table 1, several types of data are collected for the calculation of actual response burden, with surveys of respondents to business surveys being most popular.

*Table 1: Data used in the last five years to calculate actual response burden of businesses (N=34 NSIs which have measured actual burden)*

<b>Type of data</b>	<b>Yes</b>	<b>No</b>	<b>Don't Know</b>
Information provided by respondents in surveys (e.g. through an additional survey question on time taken to complete questionnaire)	29	4	1
Estimates from staff/experts	25	7	2
Qualitative studies assessing the costs of complying (e.g. observation of respondents completing the questionnaire)	13	17	4
Other data	4	22	8

For two of the four 'other data' answers further specification was provided: 1) the response burden is calculated based on the frequency with which a business is drawn in samples for business surveys (a practice also mentioned by other countries in some part of the survey); 2) burden is sometimes calculated on the basis of a previous survey, suitably amended.

Of the 29 institutes that collect burden data with surveys of respondents to business surveys, 15 use samples and 21 collect the data at the same time as the survey data they relate to. One institute mentioned the use of Response Analyses Surveys to better understand burden and data error.

Often, institutes use several types of data to calculate response burden: 16 institutes used 2 different types of data, 9 institutes used 3 different types of data and 1 institute used 4 different types of data.

Table 2 shows which aspects of burden are explicitly included in the calculation of burden. Here we see how differently response burden is defined and measured. For example, only 13 institutes include recontacts as part of the burden, whereas 16 do not. One institute did not include 'filling out the questionnaire' as a source of burden. This institute takes only into account the number of surveys a business receives.

The other aspects of burden mentioned were ‘out of pocket costs/external costs’(stated twice) and ‘16 standard activities based on the standard cost model’.

*Table 2: Aspects of actual response burden included (N=33, 1 institute with actual burden measurement missing)*

<b>Aspect of actual response burden</b>	<b>Yes</b>	<b>No</b>	<b>Don't Know</b>
Filling out the questionnaire.	31	1	1
Retrieving, collecting and compiling requested information.	28	4	1
Reading questions and instructions.	25	6	2
Administrative tasks (e.g. coordination) involved in survey completion.	18	10	5
Record formation specifically done for reporting obligations.	16	12	5
Re-contacts with businesses about the data provided.	13	16	4
Other sources of response burden.	3	18	12

Another important difference in burden measurement is whether all questionnaires that are sent out are included in the calculation of total burden or only the responding units. 13 NSIs use the number of sent questionnaires for their measurement, 11 use the number of returned questionnaires and 6 do both (2 do neither, 1 does not know and 1 is missing). Using both groups may seem contradictory. However, for example, Ireland does in fact publish response burden measurement according to the Standard Cost Model (with the assumption of full compliance) and for the responding units only (Central Statistics Office 2010). The combination of both methodologies may also be explained by the fact that several institutes have indicated that they use different methods for different surveys. Theoretically, one could estimate burden separately for non-respondents and for respondents.

#### *Businesses' perception of NSIs*

The perceived legitimacy of the requested burden is probably an important aspect in how businesses perceive the response burden (Dale & Haraldsen, 2007). Business often complain that statistical agencies ask something rather useless of them. Swedish and Dutch research on how Structural Business Survey respondents perceive the usefulness of the resulting statistics (Giesen, Morren & Snijkers, 2009; Hedlin et al., 2008) shows that the majority of the respondents (ranging from 64% to 74%) thinks the statistics are useless for their business. Also, a substantial group (ranging from 20% to 41%) thinks the statistics are useless for society. We therefore also asked: *“In the last five years, 2006-2010, has any study been done on how businesses perceive your organisation – either in their capacity of data providers, data users or both? Please include any studies on businesses' perceived usefulness of statistics.”* Of the 41 institutes 9 answered ‘yes’ to this question.

### *Registers of response burden*

16 institutes answered that they have a database (a register) of the burden imposed on each business unit. New Zealand uses this to monitor and control the burden at the business level defined as 'respondent load' (Merrington, Torrey and van Heerden 2009). For each business, they calculate the typical time taken for a business of that size to complete their survey obligations in a year and count the number of surveys the business is in. The load as computed from these two measures is then compared to the relevant load thresholds for a business of that size to determine if they are overburdened (this is labelled a hotspot). Businesses that seem to be unfairly burdened are given some relief.

Also, in some countries registers are kept at the national level to monitor burden caused by surveys. 9 countries have such an organisation. In some cases the NSI must get approval from this authority to be able to conduct a survey.

## **5 Conclusion and discussion**

We must conclude that there is a large heterogeneity in measurement practices not only between institutes, but also within them. Most institutes do some kind of measurement of actual burden while perceived burden is less frequently assessed. This seems to implicate that burden measurement is more done out of political/economic concerns than out of concerns for the quality of the data collection.

The various practices found indicate both differences in the purpose and in the quality of the measurement. These results support Rainer's (2008) call to move towards international standardization of response burden measurement in order to get high quality and comparable measures.

In order to achieve a standardized measurement methodology we propose the following steps:

- 1) Define the purpose(s) of the measurement
- 2) Develop a methodology according to good survey practices
- 3) Pilot test and adapt this methodology
- 4) Describe the methodology in a detailed handbook
- 5) Disseminate actively, include in ESS Standards for Quality Reporting
- 6) Follow up in peer reviews
- 7) Evaluate the relevance and quality of the measurement

The first thing we need to do is to specify the purpose(s) of the measurement. We propose that, besides any national obligations to monitor the business burden caused by official statistics for political reasons, NSIs should also measure burden for the purpose of monitoring and improving data collection quality. This should be done both at the level of the data collection instruments (in order to detect problematic data requests) and at the level of the businesses (to detect overburdened businesses).

For national general estimates of the burden imposed on businesses it may be sufficient to give national totals in time and/or money costs. However, to detect problematic data requests and/or potentially overburdened businesses, it seems advisable to also measure two other aspects that often are discussed in terms of ‘perceived burden’: a) the cognitive burden (how difficult respondents find it to comply with the data request) and b) their motivation to comply.

Table 3 outlines our assessment of the main components of the response burden measurement. It must be noted, though, that there is not yet much quantitative empirical evidence for the effects of either actual or perceived response burden on the quality of the data collection. The first research priority should therefore be to assess these relationships. If we know more about the impact of time used, cognitive burden and motivation on the quality of the collected data and the NSI costs for data collection, we are better able to decide which aspects should be the core of a standardized response burden measurement.

*Table 3 Aspects, levels and purposes of burden measurement*

	Description	Relevant for monitoring economic costs of government regulations	Relevant for monitoring quality of data collection
<i>Aspects of burden</i>			
Actual burden	Compliance costs in terms of time and/or money	Yes	Probably
Cognitive burden	Difficulty of complying	No	Probably
Irritation burden	Perceived usefulness of requested burden / motivation to comply	No	Probably
<i>Measurement level</i>			
National	Annual total costs for all businesses	Yes	No
Regulation	Costs caused by specific legal regulations	Yes	No
Business	The business unit or enterprise	Maybe	Yes
Data collection instrument	Questionnaires or other tools used to collect data.	No	Yes

For the further development of a standard measurement of response burden we should apply the same standards that we use for any other survey in determining the sampling sizes, frequency of measurement, measurement instrument etc. We think that for both purposes of response burden measurement indicated in Table 3, the measurement should provide a valid and complete picture of reality. In this case this means assessing, with survey data collected of respondents, the total costs of all activities spent to comply to the data request from NSIs (including the costs of setting up reporting systems, the collection and calculation of requested data, filling out questionnaires, answering follow up calls etc.). Such an approach also implies that burden for non-respondents should be treated differently than burden for respondents.

An explicit cost-benefit assessment should be made when designing the measurement of response burden, including both the costs for the NSIs and the respondents. Although of course usually the quality of the measurement of a concept increases with the number of items used to measure it, it must be kept in mind that the measurement of burden itself should not be too burdensome. However, two or three short additional questions on response burden may also have a positive effect, as it signals to respondents that institutes care about the burden they cause.

Challenges in specifying the standard measurement include if and how to assess burden for non-respondents (for example, estimating the percentage of non-respondents who have started a questionnaire's completion but not finished it); how to measure burden for very short questionnaires with one item or two items, for which even a short burden questionnaire may be longer than the survey questionnaire itself; when and how often should we measure burden in panels; and if and how we can reliably measure burden experienced by others in the business besides the respondent.

Once a methodology is developed it should be pilot tested for several countries, surveys, business sizes and respondents, and adapted according to the results. The final proposed methodology should be described in a detailed handbook such as the one by Dale et al. (2007). Contrary to what happened to this handbook, the new handbook should be actively distributed, explained and promoted, for example, through professional and scientific events (such as meetings, workshops, conferences etc.) and, possibly required with regulations. Also in peer reviews of NSIs the implementation of this standard should be part of the assessment. Finally, the relevance and quality of the measurement should be evaluated at certain points in time. This all implies that it is not sufficient to organise a project team that develops the standard, but at least for the ESS, some department within Eurostat should take on the task of promoting and supporting the use of a standard method for response burden measurement.

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