

# Using the Respondents' Perspective in Redesigning the Survey on International Trade in Goods Statistics

Margreet Geurden-Slis, Deirdre Giesen & Leanne Houben<sup>1</sup>

## Abstract

In 2015, Statistics Netherlands introduced three major changes in the data collection for the survey on International Trade in Goods Statistics: 1) a new online data collection tool, 2) the option to report annually instead of monthly for establishments with trading values below a certain threshold, and 3) a new communication strategy. Throughout the process of redesigning, we used several methods to take into account the respondents' perspectives. This included the following steps: 1) in the first stage of the redesign, we discussed the feasibility and desirability of the intended changes with first the Respondent Advisory Board and later with six businesses in extensive qualitative interviews; 2) during the development of the new tool and the communication materials we conducted fourteen field visits to test the effectiveness and usability; 3) after implementation, we evaluated the changes with qualitative interviews (with the helpdesk staff and with 32 respondents and non-respondents), survey paradata and the results of a standardized telephone survey of a sample of about 2000 respondents and 600 non-respondents. In this paper we will describe what we have learned from each of these steps and how we used that information to improve the data collection.

**Key Words:** data collection design, pre-testing, multi-method

## 1. Introduction

Although the access to registers and big data has increased in recent years, data collected directly from businesses are still a crucial part of the statistics published by National Statistical Institutes (NSIs). It is a constant challenge to collect high quality data in a cost-efficient way both for the NSI and the respondent. User needs, data availability and technical opportunities change rapidly and data collection designs need to change accordingly.

It has been well established in survey methodology that respondents – as an important user group – have to be involved in the design of data collection. For example, the “Handbook of recommended practices for the development of questionnaires for the European Statistical System” advocates involving (potential) respondents in every stage of the questionnaire design process (Brancato et al. 2006) and the American Association for Public Opinion Research lists “Pretest questionnaires and procedures” as one of the 12 recommended practices for good survey research (<https://www.aapor.org/Standards-Ethics/Best-Practices.aspx#best6>). Over the past decades, NSIs seem to have become more aware that respondents' perspectives and experiences are needed to improve the (re)

---

<sup>1</sup> [m.geurden-slis@cbs.nl](mailto:m.geurden-slis@cbs.nl); [d.giesen@cbs.nl](mailto:d.giesen@cbs.nl); [apm.houben@cbs.nl](mailto:apm.houben@cbs.nl); Statistics Netherlands PO Box 4481, 6401 CZ Heerlen, The Netherlands. The views expressed in this paper are those of the authors and do not necessarily reflect the policies of Statistics Netherlands.

design of questionnaires (e.g. Gower 1994, Sudman, Willimack, Nichols & Mesenbourg 2000, Haraldsen 2004, Giesen 2007, Tuttle, Morrison and Willimack 2010). Of course, involving respondents and using their input has an impact on the budget and timeline of (re)design projects and thus needs to be carefully planned. In this paper we describe our experiences and lessons learned from involving respondents in a recent large project at Statistics Netherlands (SN), the redesign of the survey of International Trade in Goods Statistics (ITGS). This project not only involved the redesign of the data collection, but also the development of an extensive communication strategy. Both aspects of the redesign were discussed with respondents throughout the development and after implementation.

This paper continues with some background information on the ITGS survey. Next, section three describes the goals and content of the intended redesign. Section four provides an overview of how we involved respondents in the different stages of the redesign process and what type of input this yielded. Finally, in section five we reflect both on the overall result of the redesign process, in terms of data quality and respondents' satisfaction, as well on the methods we used to gain insight in the respondents' perspectives.

## **2. Background: International Trade in Goods Statistics**

### **2.1 Purpose and history**

International trade determines about 30% of the Dutch Gross Domestic Product (Statistics Netherlands 2015). Trade within the European Union (EU) is of significant economic importance for the Netherlands: 52% of all Dutch imports stems from EU countries and 73% of Dutch exports goes to EU countries (Statistics Netherlands 2016a). Obviously, statistics on international trade are an important economic indicator and essential for the system of national accounts. Government policymakers use these statistics among others to set trade policies. For the business world, trade statistics are essential for benchmarking and assessing market developments and opportunities.

Before 1993, custom control declarations were used to collect data on international trade in goods. However, with the establishment of a single EU market with free movement of goods and services between –at that time – twelve EU countries, a new data source was needed to provide information about the trade in goods inside the EU. This led to the development of the EU INTRASTAT system (Council Regulation (EEC) No 3330/91) and the – mandatory – ITGS survey. Over the years, there have been several alterations in the legislation of INTRASTAT, but the main principles have remained the same. These are: 1) Data are collected from traders; 2) There is a link with the VAT Information Exchange System declarations (VIES); 3) Small establishments with an annual trade value under a specific threshold are excluded from data provision (values for this threshold have changed over time).

From the beginning of the INTRASTAT system, response burden has been a major issue. Although many initiatives have been taken to reduce this burden, still about half of the total response burden caused by Statistics Netherlands stems from the ITGS.

### **2.2 Data collection**

In 2015, about fifteen thousand businesses were obliged to provide data for the SN ITGS. The survey collects - apart from information identifying the respondent and the reference period – the following data:

a. member country of consignment/destination;

- b. nature of the transaction;
- c. mode of transport;
- d. the 8-digit commodity code;
- e. the statistical procedure;
- f. volume of the goods (supplementary unit or weight);
- g. value of the goods.

From the start of the ITGS, respondents had two options for electronic reporting of the data. They could either use the SN package CBS-IRIS (Interactive Registration of the International trade Statistics) or send in data files in a Standard Record Layout (SRL). In the beginning the software and data were sent on diskettes. Later this was done via the internet. CBS-IRIS offered several possibilities for providing data, manual data entry – with or without the use of templates – and the import of files in a fixed format.

### **3. Redesign**

In 2015, SN introduced three important changes in the data collection of the ITGS. All changes aimed at reducing the response burden<sup>2</sup>, while at the same time maintaining quality standards. The redesign included the introduction of: 1) the online reporting tool IDEP (Intrastat Data Entry Package); 2) the option for establishments below a certain threshold for the value of imported and exported goods to report annually instead of monthly; and 3) a new design of the communication towards the businesses with a reporting obligation. Parallel to this, the ITGS data collection activities were transferred from the statistical department to the central division of data collection.

#### **3.1 IDEP**

As of 2015, the CBS-IRIS reporting software was replaced by the web-based application IDEP. IDEP has a number of advantages in comparison to CBS-IRIS, the main ones being: 1) IDEP is an online web application, while CBS-IRIS was an offline application which had to be downloaded. Downloading CBS-IRIS was burdensome for respondents who did not have the possibility to download software themselves and had to rely on others – sometimes even outside their organization – to get access to this tool. Moreover, every update required an effort from the respondent. The online application IDEP is updated by SN, so businesses always have access to the most recent version; 2) IDEP offers the option to import data directly from Excel (only upload in ASCII format was possible in CBS-IRIS); 3) IDEP is developed outside SN and is also used in six other EU countries. IDEP can be adjusted to fit specific country needs – which has been done for SN – but has a similar look and feel and logic for all countries. Some respondents provide data for several countries and appreciate the fact that they can use a similar tool. Moreover, the NSIs using IDEP meet in the IDEP User Group. Together they set and guarantee high levels of quality and user friendliness.

#### **3.2 Annual reporting option**

From the beginning of the ITGS, there have been thresholds defining which businesses had to report for ITGS (always on a monthly basis) and which not. Businesses with trading values below a certain threshold did not have to report, for this group VAT and VIES data are used. A new methodology has been developed (Roos 2016) in order to

---

<sup>2</sup> Currently at the EU level other options for reducing INTRASTAT burden are being studied. However, in order to comply with national targets for reducing response burden, SN already had to implement reduction actions in 2015.

meet new targets in reducing response burden and at the same time keep an acceptable level of quality. This method introduces a third group: businesses that have to report and are allowed to do this annually. For this group annual survey data and monthly VAT and VIES data are combined. For 2015, businesses with trading values below 1.5 million euros were excluded from reporting, businesses with values between 1.5 million and 5 million were allowed to report annually and business with values higher than 5 million still had to report monthly<sup>3</sup>. Almost half of the total number of companies obliged to report to the ITG are allowed to report annually. Deadline for filling in the annual declaration on 2015 was the end of February 2016.

### **3.3 Communication**

Because of the changes in the data collection it was necessary to develop a new communication strategy for ITGS in 2015. Initially, the communication strategy aims were (1) a smooth introduction of both IDEP and annual reporting, (2) to stimulate the use of IDEP and the option of annual reporting, (3) to inform SN staff about the changes (Houben, Storm, Göttgens & Snijkers 2015). An important decision in this strategy was that even though CBS-IRIS was still available as a backup for reporting in 2015, this option was not actively promoted in order to stimulate a high pick up rate of IDEP. Following the approach as described by Snijkers and Jones (2013), the communication strategy included both internal and external communication objectives and focused both on the pre-field and field phase.

## **4. Using respondents' perspectives: methods and results**

### **4.1 Overview of steps in test and evaluation process**

In this redesign project, the respondents' point of view was included at different phases in the process, using different methodologies. The overall purpose was to design the data collection, specifically the new tool and the communication about the changes in the data collection, as respondent friendly as possible. With a respondent friendly design, we aimed to get high quality data, to keep SN costs as low as possible, and at the same time to reduce the actual and perceived response burden for businesses. We assessed the respondents' point of view at three phases: During the initial planning of the changes, during the development of the tool and the communication materials and after implementation.

### **4.2 Phase 1: Initial planning**

#### *4.2.1 Purpose*

In the first stage of the redesign, one of our main questions was whether the introduction of annual reporting would reduce the actual and perceived response burden of respondents. Also, we wanted more insight into the respondents' views regarding the ITGS survey in general and other options to reduce response burden.

#### *4.2.2 Method*

SN co-operates closely with four chairs of trade organizations and four directors of companies in a Respondents' Advisory Board. This board advises SN on all respondent

---

<sup>3</sup> The threshold for mandatory reporting applies separately for imports and exports, so businesses may have to report for one flow but not for the other. The threshold for monthly reporting applies to both flows. If one of the flows exceeds the threshold, monthly reporting is required for both flows. This choice was made to avoid confusing respondents and to simplify the process.

related topics. The first step in getting the respondents' point of view in this redesign process was a discussion of the plans with this board. When they reacted positively, a next step was to discuss the plans in more detail with six businesses, all of them at that time reporting to ITGS. We selected businesses with some variation in the current mode of reporting, covering all options available (CBS-IRIS with data entry – with and without the use of templates, CBS-IRIS with import of records and SRL upload). The interviews were conducted by teams of a manager from the ITGS with either a methodologist or a field officer. For each interview a topic list was used. The interviews lasted between one and two hours and were audio recorded. The tapes were listened to while making a summary report of each interview according to a template. The overview file with summaries of all interviews was discussed by the methodologist and field officer involved in the interviews and together they came to conclusions and recommendations. Those were summarized in a report (Giesen and de Haan 2014) for the managers and project leader involved in the redesign project.

#### *4.2.3 Main results*

The main result of this small scale research was the conformation of businesses that annual reporting can reduce the response burden substantially. However, another important finding was that two businesses indicated that they would prefer to continue to report monthly. For one of those businesses reporting for ITGS took less than 10 minutes each month. They saw no gain from changing this routine, even if that might save a little time in the long run. The other business used SRL upload. They had to correct or complete information in their records occasionally, in order to be able to correctly fill the SRL file. They were afraid that if they would make this file only once a year, it would take more time to correct or complete transactions recorded long ago, and that this also would take too much time at once for the whole year. These findings provided support for the plan to allow annual reporting and made us confident that we could introduce this as an option to reduce response burden. However, we concluded also that businesses who are allowed to report annually should always have the option to report monthly. The interviews confirmed something also found in previous studies, namely that businesses have established routines for ITGS reporting which are not always the most efficient (anymore). Switching to more efficient ways of reporting (using templates for manual data entry, import of records instead of manual data entry, or SRL uploads instead of CBS-IRIS) takes time and for various reasons this time is not always invested. The introduction of IDEP would provide an excellent opportunity to stimulate businesses to make best use of the options for data reporting. To encourage this, our communication aimed to guide respondents to the reporting method most efficient for them. Further findings we used in the redesign included that businesses very much welcomed an online alternative to CBS-IRIS and that the timing of the annual report should preferably not be in December or January, as those are very busy months. Finally, we found it interesting that several respondents mentioned ITGS reporting was perceived as less burdensome than many other SN surveys, even though those other surveys usually take less time annually than ITGS. A possible explanation for this is that ITGS reporting has become part of the regular and planned work load. One of our respondents called it “a monthly ritual”. A less frequent reporting task may feel as “extra work”, interrupting routines and thus may be perceived as more burdensome. This also implied a risk for the introduction of annual reporting. Even though annual reporting can mean a substantial reduction in total time spent per year, the burden of this infrequent task may be perceived as higher than of the monthly routine task. This undesired effect may be mitigated by a careful and timely communication about the annual reporting task, to allow respondents to plan this work.

## **4.3 Phase 2: Field testing during the development**

### *4.3.1 Purpose*

In this phase the main purpose of our contacts with respondents was to test the efficiency and usability of the planned communication and of the new tool.

### *4.3.2 Method*

We conducted field visits with current respondents to the ITGS. This time we only visited businesses using CBS-IRIS, as this was our main target group of future IDEP users. We made sure we included the various options of using CBS-IRIS in our sample of test respondents. In July 2014, we did a first small test round with five businesses, even though not all options in IDEP were fully operational and we only had some first rough concepts for the communication material. In the autumn of 2014, this test was repeated with nine businesses with more fully developed (but not yet finalized) materials. During these test rounds the instructions and help texts for the respondents were not finalized. In the tests, respondents were shown and explained the planned communications and asked about what they had learned from this information and how they evaluated it. In the first test round, respondents were also asked to try out some tasks in IDEP and to report some transactions. In the second test round, we asked respondents to report – if possible – their actual monthly declarations in IDEP. We asked them to think aloud while doing so and observed them. During the second round, we instructed respondents to work with the tool as much as possible as they would if we would not have been there. We asked them only to turn to us for help if they had come to the point that in a real life situation they would have called the help desk. After observation of the completion task – sometimes asking a short question to clarify what the respondent was doing – we discussed and evaluated the task with the respondent. Each visit was done by a field officer or a methodologist, together with one of the colleagues involved in the redesign project. For all visits a protocol was used and for each visit a report was made in a fixed template. The visits lasted about two hours. Because of a lack of time we made no audio or video recordings and made the individual reports based on the notes and memories of the two interviewers. The overview of the results was discussed with several of the researchers involved in the data collection and together they arrived at conclusions and recommendations. As we gave priority to testing the tool in the second test round, we did not always have time to discuss the communication materials. If during the visit, we found that respondents could report more efficiently, we explained to them how to do this at the end of the visit. For both test rounds a report was made describing the methods, findings, conclusions and recommendations. This report was sent to the project team working on the redesign (Giesen, de Haan, van Kasteren 2014a; Giesen, de Haan, van Kasteren 2014b).

### *4.3.3 Main results*

Both test rounds yielded numerous smaller and bigger problems with the tested version of IDEP and ideas how to solve them. These included inconsistencies in translations throughout the tool, illogical structures in the menus and also some technical problems ('bugs'). The biggest problem found in the user test was the import of data from Excel. In the second test round, five respondents tested the import functionality, but none succeeded without our help. This might have worked better if the correct help text and the quick guides for the import task had been available at that time. Despite the problems found in the test, most respondents were positive about IDEP, appreciating the fact that it was online, had a pleasant look and feel and offered some new functionalities compared to CBS-IRIS. Initially, we were worried that some of the new logic in IDEP on how to organise the data entry might confuse respondents who had been used to CBS-IRIS for

many years. However, in the test this proved to be no problem. As for the communication, some suggestions were found for text improvements. The results from both test rounds again stressed that it would be crucial to remind annual reporters in time during 2015 about what was expected from them early 2016. The interviews also confirmed the finding from phase 1 that a deadline for annual reporting in January would be very problematic for the respondents. During and after the tests, all major problems found in IDEP were solved. However some minor recommendations could not be implemented before the start of the field work<sup>4</sup>. Moreover, there was no time to test the final version of IDEP and all the final versions of the communication materials with respondents before implementation. However, the final version of IDEP was tested by SN staff. As there were obviously so many benefits of IDEP and we would still have CBS-IRIS as a backup, it was decided that even though the final materials could not be tested with respondents, the implementation in the field should start according to schedule in January 2015. Extra research into respondents' perceptions during the first months of the field work was planned in order to be able to detect and solve any problems early on in the field work, and to adapt IDEP if necessary.

At the start of the fieldwork the main communication actions and material included:

#### *Pre-field communication*

- September 2014: Trade organizations were informed about IDEP and asked to publish information provided by SN about the upcoming changes on their websites and in their trade journals.
- October 2014: SN representatives met with communication managers of the trade organizations and discussed both the planned changes and the communication strategy. Trade organizations published about this in their newsletters.
- November 2014: The management of businesses reporting to ITGS was sent a brochure with ITGS results and information about all upcoming changes for 2015.
- December 2014:
  - A letter was sent to ITGS contact persons (usually the people who report the data) of businesses with a monthly reporting obligation with a link to the website on ITGS reporting and with a leaflet with information about IDEP.
  - An article about the changes in ITGS was published in the (externally oriented) SN stakeholder magazine and a newsletter was sent to the communication managers of the trade organizations to inform them about this article.

#### *Field communication*

The redesigned ITGS survey fielded in January 2015.

- January 2015:
  - Businesses with a monthly reporting obligation received login codes for IDEP and a link to a website with information for businesses reporting for ITGS.
  - Businesses allowed to report annually received a letter informing them about this and the fact that they would receive access codes to IDEP by the end of 2015, they were also informed what action to take if they wanted to keep reporting monthly and referred to the ITGS survey website for more information.
  - The mailing of the letter was accompanied by a corporate press release, which was again taken up by trade organizations.

---

<sup>4</sup> Most of these problems were addressed in a new release of IDEP in November 2015, one of the most important improvements being the introduction of a wizard to guide respondents through the process of importing data files.

- The help desk staff was temporarily doubled from three to six part-time employees.
- The ITGS survey web site ([www.cbsvooruwbedrijf.nl/ihg](http://www.cbsvooruwbedrijf.nl/ihg))<sup>5</sup> includes the following information:
  - Short description explaining the relevance of the survey;
  - Links to ITGS results, including two ‘fact sheets’ (e.g. Statistics Netherlands 2016b) that were developed with businesses as users in mind;
  - Information about IDEP, including a link to a webpage with YouTube videos and quick guides for all important functionalities of IDEP. These instructions also aimed at guiding respondents to the most efficient use of IDEP, for example the instruction about manual data entry starts with: “*Manual data entry* is intended for companies with a limited number of records in each declaration. Companies with large numbers of records in each declaration are advised to use the *import function* as importing data works much faster and more efficiently.”
  - Information about the use of SRL;
  - A list of FAQ – including the information that CBS-IRIS was still available in 2015 upon request.

#### *Internal SN communication*

Employees involved in ITGS were informed about the changes in the data collection during their regular work meetings. Also, the general SN employee website featured two articles about the changes in ITGS and news flashes about the redesign were presented on the Intranet and the TV screens in the SN office buildings.

### **4.4 Phase 3: Evaluation after implementation**

#### *4.4.1 Phase 3a: Qualitative interviews with helpdesk staff and (non)respondents*

##### *Purpose*

In the early stages of the implementation of the new design, our main purpose was to find out how the businesses responded to the new design, whether businesses who were allowed to report annually understood what SN expected of them, how respondents decided which mode to use (IDEP, SRL or CBS-IRIS) and how their experiences with IDEP were so far. This information would be used to make any “emergency repairs” if needed and to plan the further development of the communication materials and of IDEP.

##### *Methods*

In March 2015, we conducted a focus group interview and one individual interview (for practical reasons) with most of the help desk staff responsible for handling emails, telephone calls and web forms related to ITGS. We discussed the monitoring information available (waiting times, main types of questions) and their evaluation of how the implementation had gone so far. In April and May 2015, we conducted 32 open telephone interviews with a variety of respondents and non-respondents. The interviews were conducted by methodologists and field officers and based on a protocol. The interviews were summarized according to a template, and all summaries were integrated in one file, that was read and discussed by the interviewers. Based on this a report was written with the findings and recommendations.

##### *Results*

From the interviews it seemed that the implementation of the redesign went rather well. Annual reporting and IDEP were appreciated by many businesses. A big improvement

---

<sup>5</sup> See [www.cbsvooruwbedrijf.nl/index.aspx?Chapterid=481](http://www.cbsvooruwbedrijf.nl/index.aspx?Chapterid=481) for an English version of this web site with similar content.



for the helpdesk staff was the option to login remotely in the respondents' computers and to simultaneously view the screen with the users. This is very helpful in assisting respondents who encounter problems. However, we also found that there had been some technical and logistical problems; First of all, the passwords for IDEP were sent later than planned, only in January 2015, because of technical problems. This was considered too late by some respondents. The usual reporting deadline is the 10<sup>th</sup> working day of the month, leaving them little time to get used to the new tool. However, for this first month the reminder letters were sent later in order not to frustrate respondents. In the beginning of the fieldwork, issuing new IDEP passwords caused delay and confusion, sometimes resulting in respondents deciding to use CBS-IRIS instead of IDEP. We talked to two contact persons who had been struggling to get a new password in time for the reporting deadline and were very frustrated by this experience. From our interviews with contact persons we also learned that in some cases the letters SN sent had either not reached the correct person in the organization (which may be due to outdated contact information) or were not read by this person. One of the contact persons we spoke to, who was allowed to report annually, explained that he had not really read our letters and would usually only take action if reminder letters were sent. As he had not yet received any reminder letter he had not reported about 2015. He was not aware of his annual reporting duty. ITGS has over 80 different letters for the various subgroups and phases in the data collection. From our interviews we learned that in a few cases respondents had received a wrong letter (a wrong type of reminder or a letter for a slightly different subgroup). Based on the findings from this phase, various recommendations were done, among others regarding the handling of passwords and the further planning of the communication. One conclusion was that respondents who are allowed to report annually, should be reminded about their reporting obligation well ahead of time (around November 2015) and at that time should also receive login codes to allow them to explore the new tool.

#### *4.4.2 Phase 3b: Evaluation with a telephone survey and paradata*

##### *Purpose*

The purpose of last phase of the project was to evaluate the redesign in order to find out if additional actions were needed. Specifically, we were interested in the following questions:

1. How many businesses allowed to report annually are using this option?
2. What are the reasons businesses choose to report monthly or annually?
3. How many businesses are using IDEP?
4. How satisfied are users with the various reporting options offered for ITGS?
5. How has the perceived and actual response burden developed with the introduction of the redesign?

##### *Method*

In this phase of the project we used two data sources. The first data source is the paradata about the ITGS response regarding the statistical year 2015. This database provides information about the mode of response at the level of flow (import or output) per business. Businesses may report on either import or export or both and different modes can be used for the different flows. Please note that at the time of writing of this paper, the data collection for 2015 has not been completed fully yet, so the figures presented here may change. Second, we used the annual Customer Satisfaction Survey (CSS). This telephone survey has been conducted since 2005 (Beukenhorst, Israëls, Kroeze, Riele and de Vree 2005) and measures for several target groups their satisfaction with SN. One of the target groups are (non)respondents to business surveys. Since 2007 also

(non)respondents to the ITGS Survey have been interviewed for the CSS. The CSS asks among other things respondents about their perceived burden. This is measured with two questions. The first question assesses *perceived cognitive burden* by asking respondents whether they thought answering the questions is ‘easy’, ‘neither easy, nor difficult’ or ‘difficult’. The second question assesses *perceived time burden* by asking whether respondents found answering the questions was ‘much work’, ‘neither much, nor little work’ or ‘little work’. These measurements of perceived burden are based on the recommendations in the Eurostat Handbook for Monitoring and Evaluating Business Survey Response Burdens (Dale and Haraldsen 2007). For the 2015 CSS edition, we added some questions about the new design, including questions about the actual time spent and whether this had changed compared to the previous designs. The 2015 version of the CSS consisted of a sample of about two thousand respondents and six hundred non-respondents. The response to the CSS was 63% and 61% respectively. The 2016 version of the CSS is currently in the field and the data collection has not been completed yet. The preliminary 2016 data are a sample of 312 businesses that were allowed to report annually about the statistical year 2015 and had responded by the time of the CSS. Of this sample 75% responded to the CSS. Please note that CSS data collection for businesses who are allowed to report annually is not finalized yet. The preliminary data have relatively few respondents who are allowed to report annually and this group only includes respondents who have sent in their data in time. We decided to report this preliminary data as they provide the current best available quantitative information about how businesses perceive the redesign.

### *Results*

#### Does SN explain well enough why data are asked?

One of the first questions of the CSS is whether respondents think SN generally explains well enough why data are asked. Over the years between 63% (2008) and 74% (2011) of ITGS respondents says yes to this question. For the non-respondents to ITGS this percentage is always lower and ranges between 56% (2008) and 62% (2010). Despite the extra communication efforts including information about the usefulness of ITGS, the preliminary CCS data for the statistical year 2015 do not show any remarkable changes: 72% of the respondents and 63% of the non-respondents says that SN explains well enough why data are asked.

#### The annual reporting option: use and awareness

In the paradata of 2015, we see that about 20% of the businesses who were allowed to report annually still reported monthly. In the 2015 CSS we asked all business who were allowed to report annually if they were aware of this option. Also we asked an open question about the reasons for either using or not using that option. As can be seen in the last two columns of table 1, the majority of the businesses was aware of the option for annual reporting, however 22% was not. In the group of businesses still reporting monthly, more businesses were unaware of the annual option than in the group of businesses who had not reported monthly. Businesses who had made a conscious choice for either annual or monthly reporting, explained their choice by reasons similar to the findings in the previous qualitative studies. Businesses chose the option that seemed most efficient for them. The most frequent mentioned reasons for monthly reporting were avoiding a too high workload at the end of the year, keeping in line with other monthly reporting routines and that is easier to solve irregularities in the data on a monthly basis.

Table 1: Awareness and use of annually reporting

	Business allowed to report annually				Total	
	reporting monthly		not reporting monthly		N	%
	N	%	N	%		
Aware	99	66	315	83	414	78
Not aware	51	34	65	17	116	22
Total	150	100	380	100	530	100

Source: CSS 2015

2015 was a year of transition: it was the last year businesses could use the old reporting software CBS-IRIS for monthly reporting and the first year they could use IDEP. For businesses reporting annually it is not possible to use CBS-IRIS any more over the statistical year 2015. Table 2 shows that IDEP has been used by the majority of the respondents.

Table 2: Tool for data reporting for all business for the statistical year 2015

	Business obligated to report monthly			Business allowed to report annually		
	Import	Export	Total	Import	Export	Total
		%			%	
IDEP	74	71	73	77	75	76
CBS-IRIS	4	4	4	4	4	4
SRL	22	24	23	19	21	20
Total	100	100	100	100	100	100

Source: paradata ITGS (preliminary data)

The CSS asks respondents about their satisfaction with reporting tool. The preliminary data show that a large majority (81%) of the IDEP users is satisfied with this new reporting tool and 5% is dissatisfied. In 2014, 76% was satisfied with CBS-IRIS and 8% dissatisfied.

#### Perceived response burden

Overall the preliminary data show no big effects of the redesign on the perceived cognitive burden as measured in the CSS: 74% of the respondents say that it is easy to report the ITGS data. For 6% it is difficult. For comparison, in 2014 these numbers were 77% and 8% respectively. It is hard to predict if and how these numbers will change when we have the full data set, including more respondents with relatively low trading volumes and late respondents. The preliminary data indicate that of the annual reporters who report annually, a smaller group (70%) finds the reporting easy than respondents who are allowed to report annually but do so monthly (80%). This may be due to the fact that they have less routine compared to monthly reporting, but it may also be due to the fact that these are businesses with different types of respondents and/or data. We will need more analyses with the complete data to see how the redesign has affected perceived cognitive burden.

The preliminary results on the perceived time burden show a similar pattern. Overall, 43% of all the respondents thinks reporting for ITGS is little work and 29% thinks it is much work. In 2014 this was 43% and 28% respectively. Of the business who report annually 34% says it was 'much work'; For businesses that have the option to report annually but remain reporting monthly this is 24%.

In the CSS2015, respondents who had responded to ITGS both in 2014 and 2015 were asked if the time needed to report has increased, decreased or stayed the same. Please note that these are only businesses who have reported monthly. Most businesses (68%) say the time needed stayed the same, 22% says the time spent decreased and 10% says the time spent increased. Respondents who reported a change were asked the amount of change. Overall there is a monthly decrease in time of 12 minutes. In the CSS2015 and CSS2016 we also asked respondents to estimate the actual response burden, namely how much time was spent. At this time it is too early to make useful comparisons with the time reported about the old design (as we cannot distinguish meaningful subgroups for comparison in the average reporting times about the old design). When the CSS data collection on respondents who are allowed to report annually is completed, we can compare population totals.

#### Satisfaction with helpdesk

The CSS also asks if respondents have contacted the helpdesk and if so, how satisfied they are with the way they were helped. In the preliminary data base of the CSS respondents 22% contacted the helpdesk. Of this group 90% was satisfied with the help provided. In 2014 18% of the CSS respondents had contacted the helpdesk and 83% was satisfied.

## **5. Conclusions and discussion**

### **5.1 New design**

The results from the qualitative interviews and the CSS2015 (with an average reported decrease in time spent of 12 minutes per month) indicate that the redesign has indeed reduced response burden. The largest decrease in reporting time is of course expected from the businesses who have switched to annual reporting. We need to wait for the finalizing of the ITGS and CSS fieldwork before we can make any quantitative estimates. We consider it a success that already in the first year of implementation both IDEP and the annual reporting option are used by a large majority of the eligible businesses. One month after the introduction about 90% of submitted reports from previous CBS-IRIS users were done with IDEP. Also, businesses and trade organisations responded positively to the changes.

Before and during the transition SN invested a lot in a proper communication. The technical support desk was adequately staffed; the website was updated with all kind of information about ITGS. Besides our standard letters, we explained thoroughly why we needed the ITGS-information, we put short written instructions and short tutorial videos online, we updated frequently the FAQs on the website, and we issued press releases. SN tried very consciously to raise awareness about the oncoming changes amongst the trade organisations and the businesses itself.

The CSS2015 showed that despite all our communication efforts, still about 20% of the businesses allowed to report annually said they were not aware of this option. This may be partly due to wrong (old) contact information on the letters. This information is now being updated. On the other hand, we must probably accept that some of our contact persons at businesses will not open our letters (immediately) and if they open them, will only scan them to see if they are missing a deadline or may risk a fine. This is one of the reasons that in the course of 2016 we have started to make more use of telephone reminders for businesses with a low trade volume – a group that in the past has mainly been contacted by letters.

Also, the preliminary CSS data do not show that the increased communication has resulted in more respondents feeling that SN generally explains well enough why data are asked. This may be due to the fact that respondents to business surveys typically have contact with a NSI over many years and for multiple surveys. It is likely that the sum of these experiences determines how they answer this question. One year of improvements in one survey may not be enough to make them change their opinion.

Despite all our efforts, some errors were made; the main ones being the problem with the new passwords in the beginning and with some of the letters that were sent out to the wrong subgroups. These errors have regretfully irritated and burdened some of our respondents. However, we did not see overwhelming numbers of businesses contacting the helpdesk or large groups of respondents turning back to CBS-IRIS.

## **5.2 Methods used for including respondents' perspectives**

In this project we used input from respondents at different phases. Each round of consultation of respondents provided useful ideas for the further development of the redesign and the accompanying communication. Early on in the redesign process, it was discussed whether or not businesses who were allowed to report annually should have the option to report monthly. Offering this option would complicate the data collection process and if too many businesses would use it, the desired reduction of response burden might not be achieved. The interviews with the businesses early in the process provided support for the voluntary version of annual reporting. The paradata and the results from CSS indicate that this seems to have been a good decision, as a (small) part of the respondents perceives monthly reporting as less burdensome. It was certainly helpful that in the beginning of this research project ITGS managers were involved who could hear first-hand from businesses how they felt about the redesign plans. Later on, members of the redesign project team participated in the interviews. This also helped to make a smooth and efficient translation from findings in the interviews to implemented changes. Some of the problems found in the usability test were already solved during the test phase. If we had had more time and resources we would have preferred to have spent that pre-testing all finalized materials (including all different versions of the letters for all sub groups) as well as all procedures. The logistical problems with the issuing of new passwords and the wrong letters probably would have been prevented by such a final test. For a next redesign, we conclude that these types of complex procedures should be tested even more thoroughly, simulating and checking all possible letters and steps in the new procedures.

Another useful improvement would have been to include "retrospective" visits in a test phase with the final materials. Now, we only did visits where we observed the respondents during their first experiences with IDEP without having all instructions available. This provided useful information, but was in a way also a worst case test. Getting to know this new software took quite some cognitive effort. Doing this while two people are observing may have distracted the test respondents and may have pushed them to work more quickly than they normally would have. With the version of the software available during the test we did not feel we could send it to respondents and visit them later to hear about their experiences. Moreover, to get insight in usability problems we found it necessary to really observe what respondents are doing. However, it would probably have been a useful addition to our observation tests, if we had also done some retrospective visits. In such visits we could have interviewed respondents about their experiences getting to know the software without being influenced by our presence. Finally, a draw back in our research was that we did not explicitly target two important groups of respondents, namely respondents completely new to ITGS and respondents

who work in administrative offices and handle the ITGS reporting on behalf of others. Accidentally, we included a respondent from an administrative office in one of the open telephone interviews, and we did not find any specific problems for this respondent. But in hindsight we felt we should have sought to collect more input from these two groups as they are likely to encounter different problems with the communication materials and/or the reporting tool than experienced respondents and respondents who only report about their own business. For future studies we will try to include these groups as well. In this project we had the luxury of having an on-going telephone survey amongst our target group that we could use for evaluation of the redesign. The first impression from the preliminary CSS data is that they do not provide different or new insights compared to the qualitative interviews with respondents and help desk staff. It is very reassuring to see that the representative telephone survey supports the main findings from our qualitative interviews (in general satisfied with IDEP, not always informed about introduction of annual reporting, if conscious choice for annual or monthly reporting this is based on assessment of response burden of each option, in general satisfied with helpdesk contacts). For future redesign projects we would recommend to include qualitative interviews with the target group at each crucial stage of the redesign including the early implementation. This qualitative data combined with any quantitative paradata that is available (e.g. number of help desk calls, types of complaints, modes used etc.) or can be created, provides very useful input in developing and adjusting a survey redesign.

### **Acknowledgements**

The authors would like to express their gratitude to the numerous respondents and colleagues who have contributed to this project. We would especially like to mention Robert Götgens, Casper Hueting, Willem de Jong, Vronie de Haan and Thieu van Kasteren. For our former field officers Vronie and Thieu, the redesign of ITGS was one of their last projects at SN before retirement. In this project, as in many projects before, we deeply appreciated their vast knowledge about and passion for respondent-friendly data collection.

### **References**

- Beukenhorst, D, Israëls, A., Kroeze, D., Riele, S. te, & Vree, M. de, (2005). Klanttevredenheidsonderzoek 2005 (In Dutch. Customer Satisfaction Survey 2005). Internal Report, Statistics Netherlands .
- Brancato, G., Macchia, S., Murgia, M., Signore, M., Simeoni, G., Blanke, K., Körner, T., Nimmergut, A., Lima, P., Paulino, R. and Hoffmeyer-Zlotnik, J. (2006), Handbook of Recommended Practices for Questionnaire Development and Testing in the European Statistical System. [http://ec.europa.eu/eurostat/ramon/statmanuals/files/Handbook\\_of\\_Practices\\_for\\_QUEST.pdf](http://ec.europa.eu/eurostat/ramon/statmanuals/files/Handbook_of_Practices_for_QUEST.pdf)
- Dale, T. and Haraldsen, G. (Eds.) (2007). Handbook for Monitoring and Evaluating Business Survey Response Burdens. European Commission, Eurostat. <http://ec.europa.eu/eurostat/documents/64157/4374310/12-HANDBOOK-FOR-MONITORING-AND-EVALUATING-BUSINESS-SURVEY-RESPONSE-BURDEN.pdf>
- Giesen, D. (2007). The Response Process Model as a Tool for Evaluating Business Surveys. Proceedings of the Third International Conference on Establishment Surveys (ICES-III), 18-21 June, Montreal, Canada, 871-880. Alexandria, VA:

- American Statistical Association.  
<https://www.amstat.org/meetings/ices/2007/proceedings/ICES2007-000056.PDF>.
- Giesen, D., de Haan, V. and van Kasteren, T. (2014a). Report First User Test IDEP (In Dutch: ‘ Verslag eerste gebruikerstest IDEP’). Internal report Statistics Netherlands 18-7-2014.
- Giesen, D., de Haan, V. and van Kasteren, T. (2014b). Report Second User Test IDEP (In Dutch: ‘ Verslag tweede gebruikerstest IDEP’). Internal report Statistics Netherlands 2-12-2014.
- Gower, A.R. (1994). Questionnaire Design for Business Surveys, *Survey Methodology*, 20, pp. 125-136.
- Haraldsen, G. (2004). Identifying and Reducing Response Burden in Internet Business Surveys. *Journal of Official Statistics*, 20, 393-410.
- Houben, L., Storm, R., Göttgens, R. and Snijkers, G. (2015). Communicating a New Design of the Survey on International Trade in Goods (Intrastat). Memo prepared for the 4<sup>th</sup> International Workshop on Business Data Collection Methodology. Washington DC, 14-16 September 2015.
- Roos, J. (2016). Uitgebreide methode beschrijving Nieuwe opzet IHG (In Dutch “Extensive method description new design ITG”). Internal report Statistics Netherlands.
- Snijkers, G. and Jones, J. (2013). Business Survey Communication. Pp. 359-430 in: Snijkers, G., Haraldsen, G., Jones, J., and Willimack, D. *Designing and Conducting Business Surveys*. Wiley, Hoboken, NJ
- Statistics Netherlands (2015). Internationaliseringsmonitor 2015 eerste kwartaal. (In Dutch “Internationalisation Monitor 2015 – first quarter”). Statistics Netherlands The Hague/Heerlen. <https://www.cbs.nl/nl-nl/publicatie/2015/04/internationaliseringsmonitor-eerste-kwartaal-2015>
- Statistics Netherlands (2016a). International trade; import and export key figures. [http://statline.cbs.nl/Statweb/publication/?DM=SLLEN&PA=70017ENG&D1=0-1&D2=0&D3=0-2&D4=\(1-14\)-1&LA=EN&VW=T](http://statline.cbs.nl/Statweb/publication/?DM=SLLEN&PA=70017ENG&D1=0-1&D2=0&D3=0-2&D4=(1-14)-1&LA=EN&VW=T).
- Statistics Netherlands (2016b). Factsheet International Trade June 2015. <http://www.cbsvooruwbedrijf.nl/Sites/Files/0000023747 Factsheet %20Internationale%20handel-janjan2015.pdf>
- Sudman, S., Willimack, D., Nichols E. and Mesenbourg, T., Jr., (2000), Exploratory Research at the U.S. Census Bureau on the Survey Response Process in Large Companies. *Proceedings of the 2<sup>nd</sup> International Conference on Establishment Surveys*. Alexandria, VA: American Statistical Association, pp. 327-335.
- Tuttle, A., Morrison, R., and Willimack, D. (2010). From Start to Pilot: A Multi-method Approach to the Comprehensive Redesign of an Economic Survey Questionnaire. *Journal of Official Statistics*, 26, 87-103.
- Willimack, D. (2013). Methods for the development, testing, and evaluation of Data Collection Instruments. Pp. 253-301 in: Snijkers, G., Haraldsen, G., Jones, J., and Willimack, D. *Designing and Conducting Business Surveys*. Wiley, Hoboken, NJ