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STATISTICS DENMARK

IMDACO - Improved Data Collection

Final Report

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Contents

1. Introduction

This report is the final report on the project "IMDACO – Improved Data Collection". The overall objective of the project is to reduce the response burden and to collect better quality and more reliable data for the PRODCOM statistic.
The project is divided into two areas: Area 1 and area 2. In this report, we will present findings, achievements and decisions made from the work on the two areas.

2. Main results

Area 1

Objectives

Area 1 has focused on the first three objectives of the IMDACO project:

a- identify and implement the most effective reporting solutions to improve the efficiency of the electronic data collection process;
b- maximize the system's ability to validate the respondents' data before submission;
c- improve the nomenclature-related thesaurus functions that the PRODCOM respondents can access.

These objectives have been achieved through:

- Development of technical solutions which have improved the existing data collection solutions.
- Collection and analysis of user feedback through usability testing and questionnaires as wells as support team contact with users.
- Adjustments to guides and user interfaces based on user input.

A description of the results and deliverables for Area 1 are summarized below, and expanded in Section 3 and the appendices of this report.

Increase in IDEP.web users

The result at the end of the latest data collection period shows an increase in the number of IDEP.web users from 16 to 101 since the start of the project. This is ca. 4% of the total number of reporters to the PRODCOM survey. The number of IDEP.web users is expected to increase, as we will continue the information campaign in the coming reporting periods.

Usability test of IDEP.web

The feedback from the usability tests has led to significant improvements being made to the IDEP.web user interface. Most of these changes were implemented in the IDEP.web program immediately after the testing, so that a new version of IDEP.web was already in production for the 2nd quarter 2016 data collection period. Participants who used economy systems commented that it was easier to upload data than to enter figures into the form.

Improved user guides

As a result of input from the usability tests, the IDEP.web guides have been improved so that they contain step-by-step diagrams and a minimum of text, making it easy for users to refer to guide for the exact screen where they need help.

User feedback survey

A user feedback questionnaire was developed by the DST survey team and has been implemented in IDEP.web in connection with the 2nd quarter 2016. Data from the questionnaire will help us to continuously improve the solution based on user input, as well as measure and compare user satisfaction with the other Statistics Denmark surveys.

Improved validation in reporting solutions

A web service has been developed by Statistics Denmark based on the validation rules which the statistical office uses for checking the PRODCOM data. This will result in a reduction of the response burden, as there will be much less need to re-contact users in connection with error checking. It will also decrease the burden on the statistical office as they should receive better quality data. The web service will be implemented in the test platform of both reporting solutions in September 2016. After testing, it will be released to production in connection with the 4th quarter 2016 data collection period.

Thesaurus function

A list of synonyms (mostly associated with IT terms) was created, based on input from a list which the Swedish Statistical Bureau has implemented in IDEP.web. The list has been sent to the Danish Tax Authority for approval. This has unfortunately resulted in a delay in implementing the function in the reporting solutions. After approval, the new synonyms will be implemented in IDEP.web and the Virkform. Statistics Denmark will continue to expand the number of synonyms through collecting input from users in connection with support to PRODCOM.

Area 2

Objectives

Area 2 has focused on the fourth objective of the IMDACO project:

d- Investigate the possibility to utilize alternative data sources (VAT data) in collaboration with the PRODCOM data collection.

This objective has been achieved through:

- Data analysis on matching PRODCOM and VAT data.
- Identifying enterprises that may be exempted from quarterly reporting to the Danish PRODCOM statistics.

A description of the results and deliverables for Area 2 are summarized below, and expanded in Section 4 and the appendices of this report.

Utilizing VAT as an alternative data sourceObjectives

The VAT statistics (purchases and sales statistics), is based on administrative data, i.e. the enterprise's VAT reporting's. The variable in the VAT data that is comparable with total turnover in the PRODCOM data is *Total sales*, which are domestic sales added export sales.

Challenges

There are significant conceptual differences between the statistics mainly relating to the fact that the turnover measures of the two statistics include different types of turnover. Another main obstacle to a successful integration of data is the detail level: In the PRODCOM statistics, the turnover is divided on product and service codes, and volume is also reported. This information is not available in the VAT statistics. A third challenge is that the statistical unit for PRODCOM is the KAU, while the statistical unit for the VAT statistics is the enterprise.

Data matching

The challenges mentioned above were handled by identifying enterprises with the following characteristics:

- The enterprise reports to the PRODCOM statistics on only one CN-code
- The enterprise contains only one KAU
- The enterprise does not use joint reporting groups
- The total VAT sales in 2015 lays in the interval between 20 percent less/more than the PRODCOM total turnover

Consequences for data quality

The data analysis showed that 495 enterprises in 2015 had the characteristics listed above, which makes them suitable for being exempted from reporting quarterly. Their reported turnover makes up 3.5 percent of the total PRODCOM turnover. If the VAT figures for 2015 had been used as an alternative data source for the 495 enterprises, the results would have been almost identical. The figure based hereon deviates only 0.1 percent from that originally published. Based on these findings, Statistics Denmark has decided to revise the PRODCOM production system to be able to utilize VAT data as an alternative data source in PRODCOM. This will significantly reduce the administrative burden for almost 500 enterprises (17 percent of the population).

3. Area 1

The aim of Area 1 has been to reduce the response burden for enterprises and improve user satisfaction with the reporting solutions. Companies that report many product lines to PRODCOM have been encouraged to use IDEP.web, a reporting solution which allows users to upload data extracted directly from the enterprises' economy/production system.

Another important factor in reduction of the response burden is the introduction of improved validation techniques in the reporting solutions used for data collection

for the PRODCOM survey. Pre-validation of data before submission is expected to reduce re-contact to respondents by Statistics Denmark, which will result in time saved for both respondents and the statistical office.

By measuring user feedback through the feedback survey and through user testing, it will be possible to identify problem areas and make changes that will improve usability and thereby increase the level of user satisfaction.

3.1. Informing target groups about IDEP.web

Increase in IDEP.web users

The primary target group was contacted in connection with the reporting period for the 4th quarter 2015. This group consisted of 140 enterprises that are currently reporting 10 or more product lines via the Virk-form. An e-mail was sent to the contact person in the company, informing them of the advantages of using IDEP.web. Links to user guides and example files were included in the mail.

The first contact mail resulted in a small increase in the number of reports via IDEP.web. The secondary target group (existing IDEP.web users) was contacted via e-mail in connection with the 1st quarter 2016 data collection. An announcement on the start page of the IDEP.web program encouraged users to try IDEP for PRODCOM. This gave an improved result. Follow-up telephone support has been given to users who experienced difficulties with preparing data or who were not familiar with the IDEP.web user interface.

In connection with the 2nd quarter 2016, information about IDEP.web was inserted into the standard invitation sent out to all participants in the PRODCOM survey. This has again increased the number of reporters, using IDEP.web (see table below).

Reporting period	3rd quarter 2015	4th quarter 2015	1st quarter 2016	2nd quarter 2016
No. of IDEP users	16	21	79	101

The results at the end of the latest data collection period show an increase from 16 users (3rd quarter 2015) to 101 users (2nd quarter 2016). This is a positive development and it is expected that the number of IDEP.web users will continue to increase in the coming reporting periods, as we will continue to inform the entire user group about the possibility of using IDEP.web for reporting to PRODCOM.

3.2. Usability test of IDEP.web

Usability testing led to improvements

Usability testing was conducted in April 2016 in connection with the reporting period for the first quarter 2016 for the PRODCOM survey. The tests were conducted at the offices of the respective companies and using the test participant's own computer. This gave a valuable insight into the reporting procedure, especially extraction and preparation of data. Participants who used economy systems commented that it was easier to upload data than to enter figures into the form.

The feedback from the usability tests has led to significant improvements being made to the IDEP.web user interface. These adjustments to IDEP.web were undertaken as part of subcontract by the external company Revolux and were already implemented in production in time for the 2nd quarter data collection.
The complete report can be seen in *Annex 6.1: Usability test of IDEP.web for PRODCOM*.

Improved user guides

As a result of input from the usability tests, the design of the IDEP.web guides has been changed so that they contain step-by-step diagrams and a minimum of text. An example can be seen in *Appendix 6.2 - New guide for IDEP.web – PRODCOM*.

The quick-guide for the Virk form will also be updated with the new user interface and include a description of the pre-validation function as well as information about the advantages of correcting data before submission.

3.3. Feedback survey on IDEP.web

User feedback survey

A user feedback questionnaire was developed by the DST survey team and has been implemented in IDEP.web in connection with the reporting period for the 2nd quarter 2016 (see *Annex 6.3: User feedback questionnaire*). The first results of the survey are included in this report. At the time of this report, there were only 10 users who had answered the questionnaire (which is voluntary), so there is insufficient data to make any conclusions. The measurements from the 3rd quarter will be used as a baseline measurement for the coming periods.

We expect to see an improvement in the satisfaction index as users become familiar with IDEP.web. We will also receive feedback about the new features (e.g. pre-validation) which will be introduced in the coming reporting periods. Data from the questionnaire will help us to continuously improve the solution based on user input. The contents of the report can be seen in *Annex 6.4: User evaluation report 2nd quarter 2016*.

3.4. Development of pre-validation for reporting solutions

Improved validation in reporting solutions

A web service has been developed by Statistics Denmark based on the validation rules which the statistical office uses for checking the PRODCOM data. As the online validation is based on enterprise-specific data which are adjusted quarterly, the user is only presented with values that are relevant for their products and not standard values. Amounts less than 5 million Danish crowns are not validated, so this also minimizes the response burden. A complete description of the validation rules can be seen in *Appendix 6.5: Error checking parameters for PRODCOM*.

The same web service will be used for both the reporting solutions (Virk form and IDEP.web) so that there will be consistency in error validation between the two platforms. The web service has been tested with 31 different user cases in a specially designed test platform to ensure that the quality corresponds to the error checks which are made by the statistical office. For a full description of the web service and testing procedures, see *Annex 6.6: Improved online validation for PRODCOM*.

Implementation of the web service in IDEP.web has required more resources than originally planned, as many adaptions to the program have been necessary in order to handle the message processing from the web service and validation of aggregated data. The release of the new version of IDEP.web with the validation will take place in September 2016, and will be followed by a test period, where all the same tests that have been undertaken in the internal test platform will be repeated. It will be put into production in connection with the data collection for the 4th quarter 2016, so that there is time to inform the users about the new function and update the user guides.

The introduction of a web service has also resulted in a redesign of the Virk-form to incorporate this new function. The new form will be released to the test platform in September 2016 and tested thoroughly, so that it also will be ready for use in the 4th quarter 2016.

The introduction of pre-validation in the Virk form and IDEP.web is expected to improve the quality of the data received by the statistical office from the reporting solutions. This will result in a reduction of the response burden, as there will be much less need to re-contact users in connection with error checking. This will also save time for the statistical office. The web service is central, so that any changes to validation data need only be updated one place.

3.5. Thesaurus function

Synonyms for CN8 commodity codes

In the IDEP.WEB program, it is possible to enter/upload synonyms for commodity codes via MStool (a program for editing IDEP.WEB). When these synonyms are entered into the search field, IDEP displays the associated commodity codes in

the search result. The Swedish Statistical Bureau (SSB), who are using IDEP.web for Intrastat, have already created a list of synonyms (mostly associated with IT terms), which they have implemented in IDEP.web. Statistics Denmark has translated this list to Danish.

In Denmark, commodity codes are controlled by the Danish Tax Authority (SKAT), and it is not permitted for Statistics Denmark to make any changes affecting the codes without their approval. So any suggestions for synonyms must therefore be approved by SKAT before they can be implemented. At the time of this report, SKAT has affirmed that they will check the list and approve the synonyms, so we expect to soon be able to implement the approved list in IDEP.web and the Virkform. For more details and a list of the synonyms, see *Annex 6.7: Thesaurus for CN8 commodity codes*.

4. Area 2

The aim of this area has been to investigate the possibilities of utilizing VAT data for small and medium-size enterprises as an alternative data source for PRODCOM, and thereby reduce the response burden for enterprises reporting only one product code. The analysis in this chapter provides the basis for a decision on whether it is reasonable to use the VAT data instead of PRODCOM survey data for some of the enterprises.

In part 4.1, 4.2 and 4.3 the two statistics are compared and potential challenges in using VAT data as an alternative data source for PRODCOM are pointed out. Part 4.4 contains a data analysis, where the focus is on which enterprises to choose and how to match data from the two statistics. In part 4.5 and 4.6, we discuss the consequences for data quality, response burden, and administrative burden, from utilizing VAT as an alternative data source.

4.1. PRODCOM in Statistics Denmark

The PRODCOM survey is carried out by Statistics Denmark quarterly, since the production of Danish quarterly national accounts requires quarterly PRODCOM data. The statistics are published 60 days after the end of the reference quarter.

Statistical unit and variables

The reporting unit in PRODCOM is the kind of activity unit (KAU) with main activity in *manufacturing* industries and *mining and quarrying* industries.
The reported turnover from the enterprises is divided into two groups: Sales of own goods and sales of industrial services. Own goods are defined as goods extracted, produced, processed or assembled by the reporting enterprise. Goods manufactured by a subcontractor on basis of inputs owned by the reporting enterprise are

also included. The own goods are reported on CN-codes instead of PRODCOM-codes to be compatible with foreign trade statistics. The industrial services are reported on four additional codes, that represents the following categories: 'Construction work for other enterprises', 'Reconditioning and repair work for other enterprises', 'Contract work for other enterprises' and 'Commercial resale turnover'.

4.2. Purchases and sales – the VAT statistics

The VAT statistics (the purchases and sales statistics) is a monthly statistic based on administrative data, i.e. the enterprises' VAT reporting's. Data is primarily collected for administrative purposes, and Statistics Denmark receives it on a monthly basis from the Danish tax authorities. The statistics is under normal circumstances published within 45 days after the end of the reference month.

Statistical unit and variables

The reporting unit in the purchases and sales statistics is the enterprise.
The variable in the VAT data that is comparable with total turnover in the PRODCOM data is *Total sales,* which are domestic sales added export sales. These two variables are described below.

…domestic sales

Domestic sales is calculated by multiplying the reported VAT sum by 4 (the current VAT rate is 25 pct., which is applicable to almost all domestic sales of goods and services).

…exports

The export figures are potentially less reliable than domestic sales, the reason being that the export figures have no influence on how much VAT the enterprise must pay. The information is collected in a supplementary section of the VAT form, which the enterprise must complete. Exports are divided into three data fields. EU export is divided into exports of goods and exports of services. Exports outside EU is reported in a field that also includes some domestic turnover from certain non VAT eligible activities. The field thus includes more than export, and there is no feasible method to isolate the export share of what is reported.

Frequency and timeliness

Statistics Denmark receives data monthly from the Danish tax authorities in several shipments. This has been arranged so that data validation and editing can be initiated before the final version of the month is available.

One important issue is that only a minority of enterprises report VAT data monthly. Small enterprises (annual turnover <= 5 mill. DKK) must submit their VAT form biannually, while medium sized enterprises (annual turnover between 5 and 50 mill. DKK), reports quarterly. The consequence is that a large proportion of data has to be imputed. For total manufacturing 7-8 per cent of total turnover is imputed in the first release. However, for some subcategories dominated by SMEs the imputed share may exceed 25 per cent of turnover.

Joint reporting groups

Some enterprises use joint reporting groups, which means that one VAT declaration covers two or more legal units. In these circumstances, the total sales measured in the VAT statistics will be larger than the total turnover measured on the same unit in the PRODCOM statistics.

4.3. VAT data as an alternative data-source for PRODCOM - challenges

As mentioned above, the relevant variables to match are *total sales* in the VAT statistics and *total turnover* in the PRODCOM statistics. Since the PRODCOM statistics is survey based, and the VAT statistics is based on administrative data from the Danish tax authorities, there are fundamental differences between the two statistics.

Contents of the variables and detail level

In the PRODCOM statistics, the data is collected with the specific purpose of getting information on the sales of own manufactured goods and industrial services. In the VAT statistics, however, the main purpose is to collect information on VAT payments, and the statistical use of the data is secondary. The domestic sales are calculated from VAT reports, and some of the sales that require VAT payments are not included in the PRODCOM statistics. For this reason, total sales in the VAT statistics are sometimes larger than the total turnover in the PRODCOM statistics.

Another challenge is that the PRODCOM statistics is much more detailed than the VAT statistics. While the turnover in PRODCOM are reported on product and service codes, the total sales in the VAT statistics is simply the sum of domestic and export sales. Furthermore, there is a requirement of reporting volumes sold on most of the commodity codes in the PRODCOM statistics.

Statistical units

The reporting unit in PRODCOM is the KAU, while the reporting unit in the VAT statistics is the enterprise. In cases where the enterprise does not equal the KAU, that is, if an enterprise consists of two or more KAUs, where at least one of them does not have main activity in manufacturing industries, it will imply that the turnover reported is larger in the VAT statistics than in the PRODCOM statistics.

Timeliness

Since the enterprises reporting to the VAT statistics have different reporting frequencies, it is necessary to estimate (impute) figures for the quarterly and bi-annual declarations. This can cause differences in the reported turnover between the two statistics.

4.4. Findings from the data analysis

Enterprises reporting on only one commodity code

Since there is no information on products sold in the VAT data, it is necessary to identify enterprises that report on only one product code and have no industrial services. We found that 712 of the 2929 enterprises reported on only one commodity code (CN-code) and had no industrial services in 2015.

Statistical units

As mentioned earlier, the statistical unit for the VAT statistics is the enterprise, while the statistical unit for PRODCOM is the KAU. Therefore, it is necessary to identify enterprises among the 712 units found above, that have only one KAU. The data analysis shows that KAU equals the enterprise for 668 of the enterprises that reported on only one commodity code in 2015.

Data matching

For various reasons mentioned above, there is often a divergence between the turnovers reported to the two statistics. Therefore, it is necessary to identify the units where the turnover in the two statistics matches. To do this, we compared the yearly turnover in the two statistics for each of the 668 units that report only one product code.

The chosen criteria for a match is that the VAT total sales lies in the interval between 20 percent smaller/greater than PRODCOM total turnover. Enterprises with a VAT reporting diverging more from the PRODOM reporting, are exempted from further analysis. In this process, we also exempt enterprises that use joint reporting groups, and enterprises with a annual turnover larger than 300 mill. DKK. (40 mill. Euro). On basis of this match criterion, we found an acceptable match between the VAT total sales and the PRODCOM total turnover on 495 units. These 495 units will be examined further below.

A few enterprises with a difference between PRODCOM and VAT exceeding 20 per cent have been examined. Some of the differences can be explained by the fact, that for some commodity codes, there are special rules for VAT-payments. In these circumstances, the PRODCOM turnover is not comparable with the turnover calculated from the VAT reporting. Other differences between the two figures are due to misunderstandings and misreporting. For example, we found that some of the enterprises only report their own manufactured goods, and not their commercial resale turnover, even though it ought to be reported in the PRODCOM questionnaire. This implies that the VAT turnover for these enterprises is higher than the reported PRODCOM turnover. In some of these cases, we have asked the enterprises to correct their reporting to the PRODCOM statistic. In other cases, the findings have led to a revision of the enterprises' NACE activity code.

Analysis of the 495 units …commodity codes

The identified enterprises report on 252 different CN-codes. In the whole Danish PRODCOM population, the enterprises report on 3217 CN-codes. The most used code among the identified enterprises is 73269098 *Articles of iron or steel, n.e.s.*,

and 42 enterprises report on this code. Table 4.1 below contains the five most used CN-codes among the 495 identified units. *Annex 6.8: Commodity codes (CN8),* contains a complete list of the CN-codes that the 495 units report on.

Table 4.1 – Most used CN-codes among the 495 identified units

CN-code	Description	Number of units
7326 90 98	Articles of iron or steel, n.e.s.	42
7308 90 98	Structures and parts of structures of iron or steel, n.e.s.	27
7308 90 59	Structures and parts of structures, of iron or steel, solely or principally of sheet, n.e.s.	21
3926 90 97	Articles of plastics and articles of other materials of heading 3901 to 3914, n.e.s.	19
4911 10 90	Trade advertising material and the like (other than commercial catalogues)	8

On 25 of the 252 CN-codes, enterprises among the 495 units are the only enterprises in the Danish PRODCOM statistics that report on these codes. On 60 CN-codes, the 495 enterprises have at least 75 percent of the total turnover on each of these codes. See table 4.2 below and *Annex 6.9: Percent of total PRODCOM turnover*.

Table 4.2 – Percent of total turnover on CN-codes

Percent of total turnover	Number of CN-codes
100 %	25
>75 %	60
>50 %	94
>25 %	148

…industries

The identified units are divided on 116 industries (NACE rev.2 6-digit). In the whole Danish PRODCOM population, the reporting units are divided on 223 industries.

Three out of the 495 enterprises are the only enterprise reporting in their industrial activity group in the Danish PRODCOM. These three enterprises have the following NACE activity codes:

- 16.22 *Manufacture of assembled parquet floors*,
- 23.44.00 *Manufacture of other technical ceramic products*
- 28.24.00 *Manufacture of power-driven hand tools*

Table 4.3 below contains the most common activity codes among the 495 identified units. The table shows, that 36 of the identified units have the NACE activity code

25.99 *Manufacture of other fabricated metal products n.e.c.,* while 35 units have the activity code 25.11 *Manufacture of metal structures and parts of structures*.

Table 4.3 - Most common NACE activity codes among the 495 identified units

NACE Rev. 2	Description	Number of units in the NACE activity class	Turnover – 1000 DKK
25.99	Manufacture of other fabricated metal products n.e.c.	36	1.265.376
25.11	Manufacture of metal structures and parts of structures	35	1.846.234
25.62	Machining	30	1.269.883
31.09	Manufacture of other furniture	27	1.441.343
22.29	Manufacture of other plastic products	24	947.004

See the complete list of number of enterprises and turnover on each activity class in *Annex 6.10: NACE activity codes*.

…volumes

Some enterprises do not report volumes on some of the commodity codes. One reason for this is that not all commodity types require reporting on volumes. Another reason is that some enterprises are unable to report volumes on specific types of commodities. In the data analysis we found that out of the 495 enterprises 300 report volumes and 195 do not report volumes. Since the VAT data does not provide information on volumes, it is necessary to estimate volumes for the 300 enterprises that report volumes.

… estimation

Since the enterprises that might be exempted from reporting quarterly to the PRODCOM survey are still required to report once a year, it is possible to calculate a unit price from the annual reporting. In combination with the VAT total sales, this unit price can be used to estimate a volume for the three remaining quarters. Furthermore, the annual reporting will contain information on whether the KAU is still producing the same product or if some changes has happened, that requires shift to quarterly reporting.

…VAT reporting frequencies

Among the 495 identified units, 208 report VAT monthly, 285 report quarterly, and the last two units report bi-annually.

4.5. Consequences for annual reporting of PRODCOM to Eurostat

The 495 enterprises make up 17 pct. of the enterprises in the total Danish PRODCOM population. Their reported turnover in 2015 amount to 26.5 bill. DKK (3.6 bill. Euro), which is 3.5 percent of the total PRODCOM turnover.

Sensitivity analysis

Based on reported VAT figures for 2015 as an alternative data source the results would have been almost identical. The published turnover for 2015 was 749.8 bill. DKK (100 bill. Euro). If we had used the VAT total sales for the 495 units instead, the turnover would have been 750.2 bill. DKK. This figure deviates only 0.1 percent from that originally published. However, for a few minor headings, the difference is visible. See *Annex 6.11: PRODCOM total turnover and VAT total sales on CN-codes.*

4.6. Consequences for the response burden and the administrative burden

Reduction of response burden

If Statistics Denmark starts using the VAT data as an alternative data source for PRODCOM, the 495 identified units could be exempted from reporting every quarter. Instead, they would submit data once a year. The rest of the year, Statistics Denmark would use the reported CN-code, turnover and volume in combination with the VAT data, to estimate the enterprises' turnover and volume sold for the following three quarters. This implies that the 495 enterprises would save a considerable amount of time spent on reporting to the PRODCOM statistics. It is very likely, that this would result in increased user satisfaction.

From the perspective of Statistics Denmark, the exemption of the 495 enterprises from quarterly reporting could possibly reduce the time spent on error checking and recontact to enterprises. On the other hand, it might be necessary to spend some additional time on error checking the reporting of the identified units in the VAT statistics.

Revisions of the PRODCOM system

The solution requires some major revisions of the Danish PRODCOM production system. Since some of the enterprises are to report only once a year, while the remaining enterprises will continue to report every quarter, it is necessary that the system is able to handle two different populations. Furthermore, the system has to be revised in a way that makes it fit to extract and validate data from the VAT-system.

To sum up, the utilizing of VAT data as an alternative data source in PRODCOM will lead to a significant reduction of the response burden for small and medium sized enterprises, in both the short and the long run. For Statistics Denmark, on the

other hand, the implementation of the solution will involve some additional costs in the short run, until the solution is fully implemented in the Danish PRODCOM production system. In the long run, we expect both the small and medium sized enterprises and Statistics Denmark to gain from utilizing VAT as an alternative data source in PRODCOM.

5. Outcome and future actions

Monitoring and improving the reporting solutions

The improvements to IDEP.web and the Virk form, which have been achieved through the IMDACO project, will be continuously monitored and evaluated. Data from the user feedback questionnaires for IDEP.web and the Virk form will enable Statistics Denmark to improve the solutions based on user input. Further improvements will be made to the user guides as we collect feedback about the new validation function. We will continue to expand the number of synonyms available in the search function through collecting input from users in connection with support to PRODCOM.

Flexible web service validation

The pre-validation web service can be altered and expanded, if new requirements arise. This will enable changes or additions to the validation rules to be made in the statistical data base and implemented in the reporting solutions without having to update the user interface. The web service also reflects adjustments based on the data collected, so that it will always be relevant to the individual enterprise.

Exemption of SME's from quarterly reporting

The findings from the data analysis showed, that it is possible to use VAT as an alternative data source for approx. 500 enterprises. This makes it possible to exempt these enterprises from quarterly reporting, which will reduce the response burden considerably. The next step in the process is to revise the PRODCOM production system to handle two different populations and the extraction and validation of VAT data in the PRODCOM production system.

Dissemination of results

This report and the appendices will be published on the Statistics Denmark website, so that they are available for interested parties. The results which specifically involve IDEP.web will be shared and discussed at the biannual IDEP/CN8 meetings where the EU member countries using IDEP.web (Sweden, Netherlands, Luxembourg and Austria) as well as Revolux, are participating. The results that involves utilizing VAT as an alternative data source, will be shared with the PRODCOM Working Group.