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**ELECTRONIC REPORTING  
IN NORWAY**

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# 1. Introduction

The aim of this paper is to give a description of the history behind developing electronic reporting in Statistics Norway (SSB). The paper will focus on electronic reporting of:

- Questionnaires
- Annual accounts

The paper will briefly describe the history behind the processes, present the development measured by numbers of units using electronic solutions in the last decade and consequences. Some technical facts and functionality in the portal for electronic questionnaires will be presented. The paper finishes by describing future plans and a summary.

The tax authorities were managing the project concerning developing an electronic solution for reporting annual accounts, but SSB also participated in this project. This process and the consequences have been included in the paper due to a significant positive impact on the response burden in our surveys. It is also an example of how important it is that public institutions cooperate in order to reach solutions which lower the response burden on the business environment.

## Limitations of the paper

The cases in the paper, illustrating the development of electronic questionnaires consist of selected yearly and quarterly economic statistics within services. Structural business statistics within Wholesale and retail trade and Construction is also included. It should be added that the chapter focusing on electronic reporting of annual accounts, includes all units, independent of statistic. The exception is the example "residual sample" within SBS.

# 2. History – development of electronic questionnaires in SSB

## 2.1 History behind IDUN

In the late 90'ties electronic reporting to SSB was possible for through the KOSTRA-project, which included public institutions at county land and local authority level. Other questionnaires had to be sent by paper. At same time the tax authorities, The Brønøysund Register Centre (Norway's central register authority) and SSB were developing – separately – electronic report solutions for the business environment. The institutions joined a common project (Altinn), where the goal was to develop a common portal for these units. The common portal is named Altinn. At this time SSB were also focused on developing an own portal named IDUN. The paper will return to Altinn in the chapter "future plans".

Early in year 2000 the IDUN project was established. IDUN stands for ”Informasjon og datautveksling med næringslivet”. A translated version would be: *Information and exchange of data with the business environment*. The IDUN portal was developed, operated and managed by SSB. No other public institutions used this portal. In 2001 a few enterprises within a few statistics was offered to report electronically through IDUN. The pilot was increased in 2002. By the end of 2003 SSB offered electronic reporting within 28 out of 55 surveys directed towards the business environment. In 2004 an important milestone was reached. All surveys for businesses did now include a possibility for electronic reporting. The majority of the businesses were using IDUN, but data from a few statistics were also collected through Altinn. During the last years the focus has been directed towards integrating IDUN and Altinn, making it possible for respondents to get access to surveys in IDUN directly from Altinn.

## **2.2 Some technical facts concerning IDUN**

A paper questionnaire is usually the basis for the electronic version. Based on paper questionnaire, metadata is defined by the division in SSB responsible for the survey. Logical controls in the questionnaires (e.g.  $50+50=100$ ) are also defined at this stage. The information is sent to the division responsible for register the metadata, in the metadata base. The IDUN system generates the questionnaire based on these data. The front page is standard for all surveys where a business unit is the respondent. IDUN is not a tool for questionnaire designing. Small changes in a questionnaire generate a relatively high working burden on both the division who designs the questionnaire and the division who has to change specifications and test the new questionnaire. Interactive communication between the respondent and SSB is not possible through IDUN. When data is received, any further communication must go through other channels (e.g. telephone or e-mail). It is not possible through IDUN to check information sent earlier in connection with former surveys.

## **2.3 Functionality in IDUN**

To get access to the survey at the IDUN portal, respondents need a user ID and password, which they receive from SSB in connection with each survey. As mentioned above, the front page is standard for all surveys where a business unit is the respondent and includes basic information concerning the business itself. The respondent can change this if necessary (address, email, NACE-code, name of business etc.). The following pages include the questions for the survey. A guideline is also available. It is possible for the respondent to move forwards and backwards in the questionnaire. It is also possible for respondent to jump from the first to the last page if e.g. the survey is not relevant (wrong NACE code, no activity etc.). An automatic sum-up function (e.g. if questions include percentages) can be implemented in each survey. Most questionnaires include a set of logic controls. If answers do not fit the controls, warnings “pop-up”. There are two kinds of warnings:

*Yellow warnings:* Indicate that the answer may be correct, but should be considered once more. The respondent is allowed to ignore the warning and move on to the next page in the questionnaire.

*Red warnings:* Indicate that answer is not acceptable. One example is that the sum up of percentages is not equal to 100. In this case the respondent is not allowed to move on to the next page before the answer has been corrected.

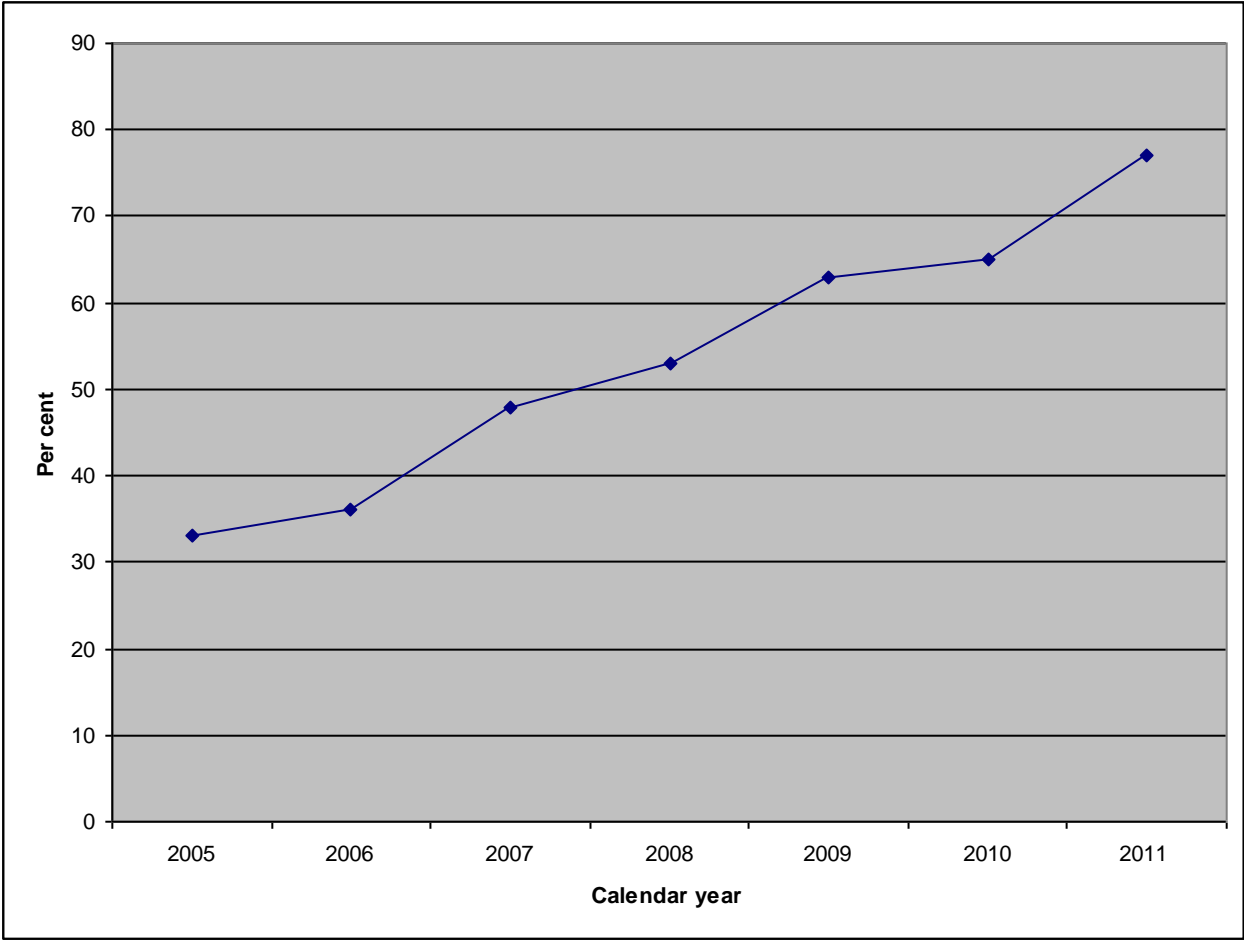
The experience is that it is important not make too many controls, making it difficult for the respondent to send in the questionnaire. Emphasis is therefore put to create more red warnings than yellow ones. Yellow warnings can be followed up if necessary after the data is received. At the last page it is possible to give specific comments in a box. The respondent send the questionnaire to SSB by marking the bottom "send", at the last page and receives immediately a confirmation/receipt on email that data has been send. It is possible to use the same User ID and password more than once for the same survey in case of mistakes. Two (or more) dataset from the same respondent will then show up in the application for edition. The editor has to decide which of the dataset to be used.

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**2.4 Development of electronic reporting**

Figure 2.1 shows how electronic reporting to SSB in general has developed from 2005-2011.

**Figure 2.1. Electronic reporting 2005-2011. SSB**

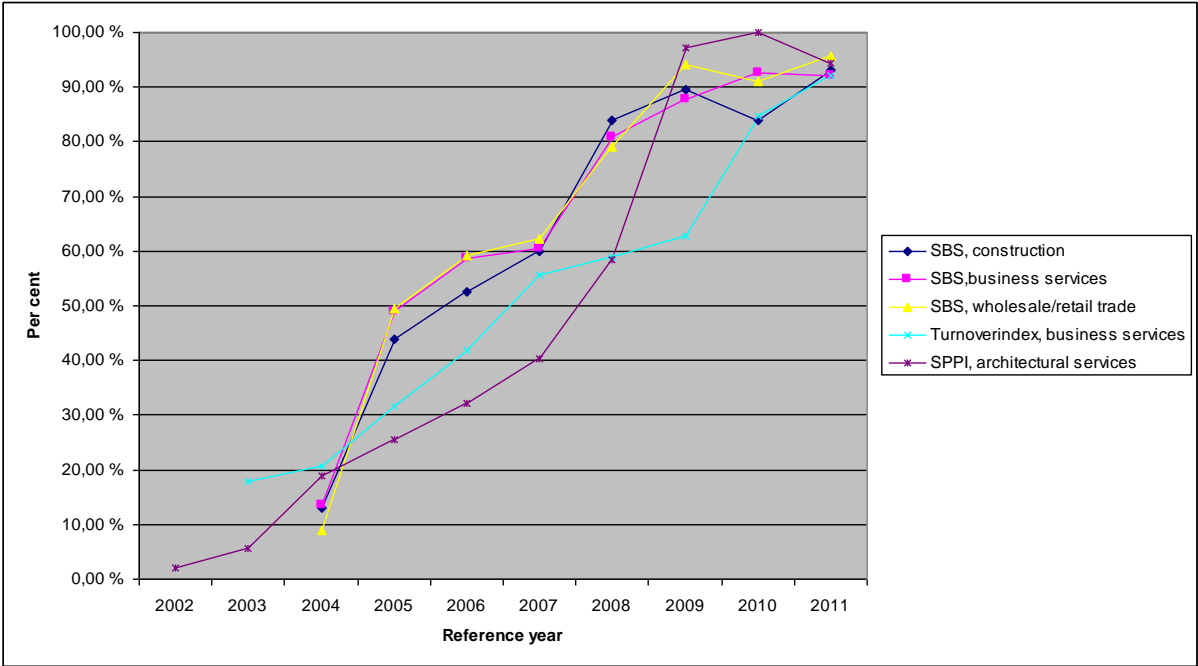


*Source: Annual reports for SSB 2008 and 2011*

Figures 2.2, 2.3 and 2.4 show the development of the electronic reporting within selected statistics, distinguishing between statistics which had:

- First reference period before 2002
- First reference period between 2005-2007
- First reference period in 2008 or later

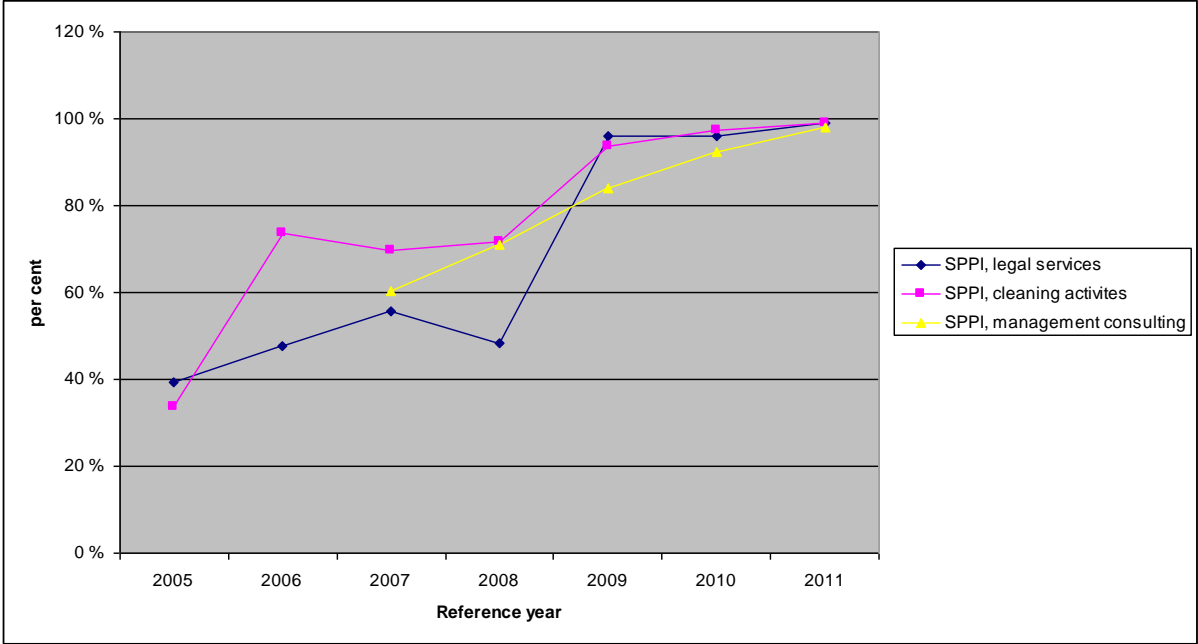
**Figure 2.2 Statistics with first reference year before 2002. Development of electronic reporting**



Source: SSB, business register

The figure shows that the Structural business statistics (SBS) had a significant increase in the degree of electronic reporting from 2004 to 2005, followed by two years with steady increase and then again a “jump” between 2007 and 2008. For the turnover index and the Service Producer Price Index (SPPI) for architectural services the growth is steady the first years. The turnover index experiences a significant increase in electronic reporting between 2009 and 2010. For architectural services, SPPI, the percentage of electronic reporting increases significantly between 2008 and 2009.

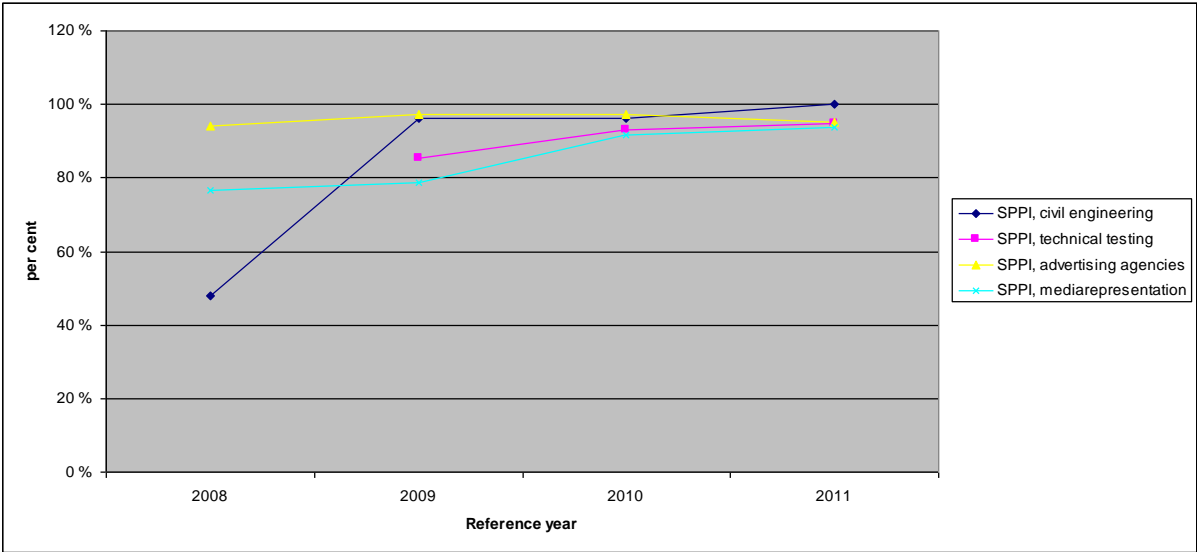
**Figure 2.3. Statistics with first reference period 2005-2007. Development of electronic reporting**



*Source: SSB, business register*

One difference between the figure 2.2 and 2.3 is that the start level of electronic reporting is higher within statistics having their first reference period in 2005-2007. One possible explanation is that some units already had gained experience from IDUN before 2005 through other surveys (e.g. SBS for business services). For the price indices for legal services and cleaning activities, a large increase in the electronic development occurred between 2008 and 2009. The development within the SPPI for management consulting services has been steadier, but the electronic reporting started on a higher level than the two other statistics.

**Figure 2.4. Statistics with first reference period 2008 or later. Development of electronic reporting**



*Source: SSB, business register*

The youngest statistics also have the highest degree of electronic reporting the first year (besides from civil engineering). As mentioned in connection with figure 2.3, this might have to do with experience from electronic reporting through other surveys, but another factor also played an important role. SSB started to cut out the paper questionnaire in the first letter to businesses during the reference years 2008-2010 (different from statistic to statistic). This is an important explanation for the significant increase in the degree of electronic reporting in this period. This can also be viewed in figures 2.2 and 2.3. It was (and is) still possible to report by paper questionnaire, but it has to be ordered by the businesses (by phone). It shows that in Norway a strategy of “softly” pushing the remaining respondents towards electronic reporting, starting from reference year 2008 has been successful.



SSB is still obliged to offer the respondents a paper questionnaire. Within the three divisions being responsible for:

- Transport, tourism and ICT
- Construction and service
- Manufacturing and R&D

11 statistics (total portfolio is approximately 90) still have enclosed a paper questionnaire in the first letter due to different reasons:

1. Limited access to internet for small units ( Business survey, Svalbard)
2. Surveys are based on interviews
3. Low electronic response rates
4. Few respondents, too costly to develop IDUN questionnaire compared with the benefit

Within three of the eleven statistics it is considered to exclude the paper questionnaire in the first letter in the near future.

## **2.5 Consequences of electronic reporting of questionnaires**

The implementation of electronic reporting of questionnaires had first of all consequences for the division in SSB responsible for data collection.

- Time used for opening post, scanning of questionnaires and verification of these was reduced.
- The need for competent guidance of respondents using IDUN increased. Some of the exceeding resources were used for this purpose (support service).
- Other part of the exceeding resources was used to help other divisions in SSB with data editing.
- From the time where paper questionnaires were not automatically enclosed anymore, the cost of postage has decreased due to lower weight. Also time used for package has been reduced.

In the period when IDUN was introduced, the survey portfolio in SSB was also changing towards more tailor made questionnaires for specific industries. One example is the introduction of pilot surveys for CPA with first reference year 2004 in connection with the new annex 8 in the SBS regulation. Instead of one questionnaire for business services the survey now included eight different questionnaires. Exceeding resources were also used to manage this development.

SSB was and is still obliged to offer all respondents a paper questionnaire. Therefore introducing electronic reporting did also result in more resources used when new surveys were developed. Both a paper and an electronic questionnaire had to be made, before for the collection data could start.

For divisions producing data, the largest advantage is probably that the quality of reported data (due to controls in the IDUN-questionnaires) has increased, which might have resulted in reduced edition. It is not possible to isolate this effect, since especially the SBS's (which have far the largest samples) have gone through several other changes during the last 6-7 years. Reduction of samples, the transfer from SN2002 to SN2007, new application for editing and integrating three divisions in the same SBS-system during the last 3 years are areas which have affected the amount resources of used. In addition several new SPPI's has been developed in the same period.

### **3. Electronic reporting of annual accounts**

#### **3.1 History**

In 1997 the tax-authorities established a project for electronic reporting of the annual account (the SLN-project). SSB and The Brønøysund Register Centre also participated in this project. The project met challenges and SSB was early in the process evaluating if scanning of these data could be used (in order save manual registration) but gave it up for two reasons:

- Technical matters. The data (or the data cells) at the annual account were too compressed, making it difficult to distinguish between two cells during the scanning.
- Confidence in that the SLN project would succeed.

Before electronic reporting started, only annual accounts from the different samples in business statistics was collected and registered manually. In 1999 SSB established an internal project where the main goal was to create a common database for the annual accounts (called the NO-base).

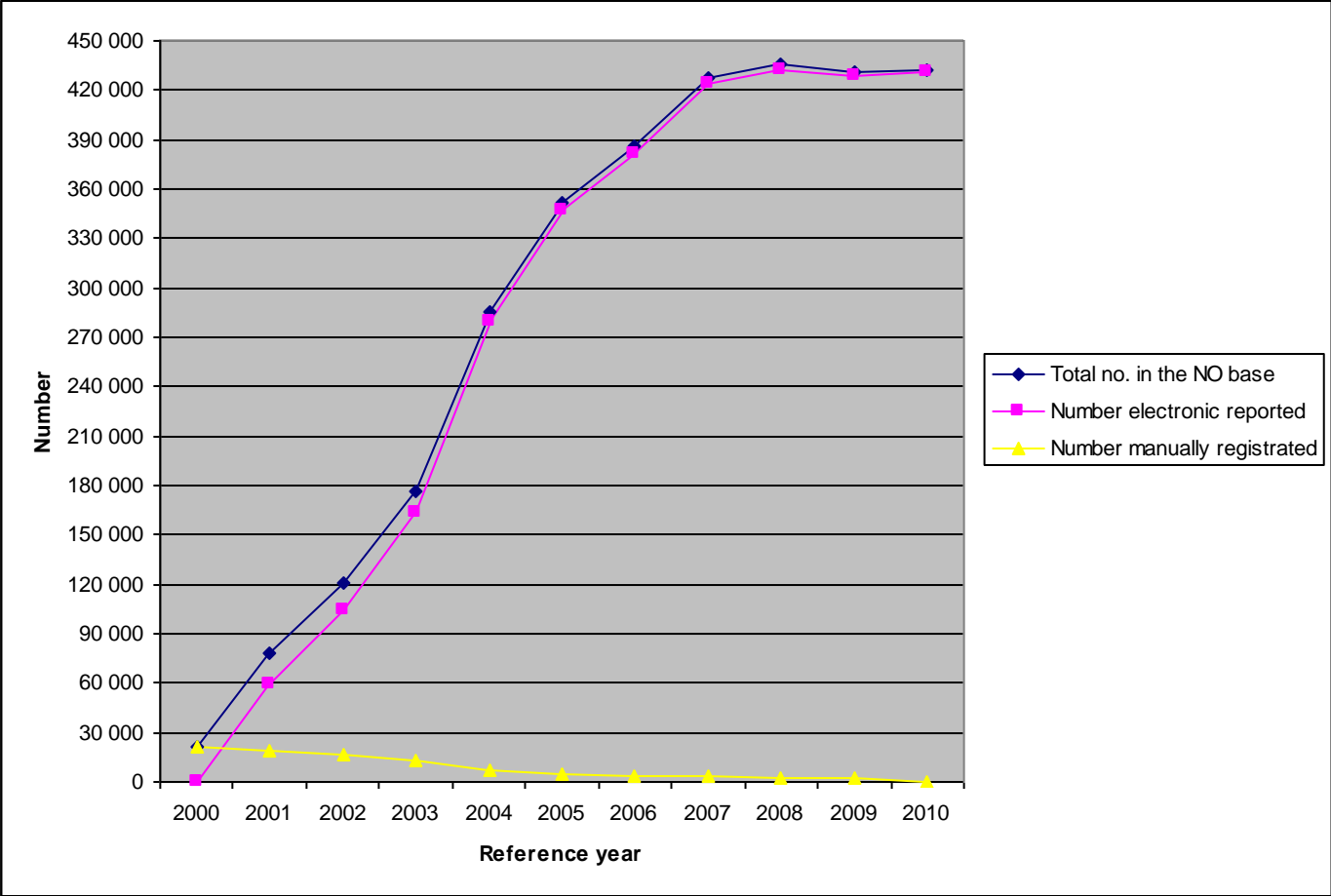
The NO- base would make it possible for several divisions in SSB to use the same data for different purposes. It was agreed with the tax authorities that all electronically reported annual accounts should be transferred to SSB. This would reduce the response burden on units which reported electronically and at the same time were drafted to a survey in SSB. For businesses reporting by paper, the burden would be the same as before (double reporting). It would also increase the quality in the statistics where the annual accounts were one of the sources, due to access to a higher quantity of data.

For the reference year 2001, SSB received electronically annual accounts for the first time.

**3.2 Electronic reporting of annual accounts**

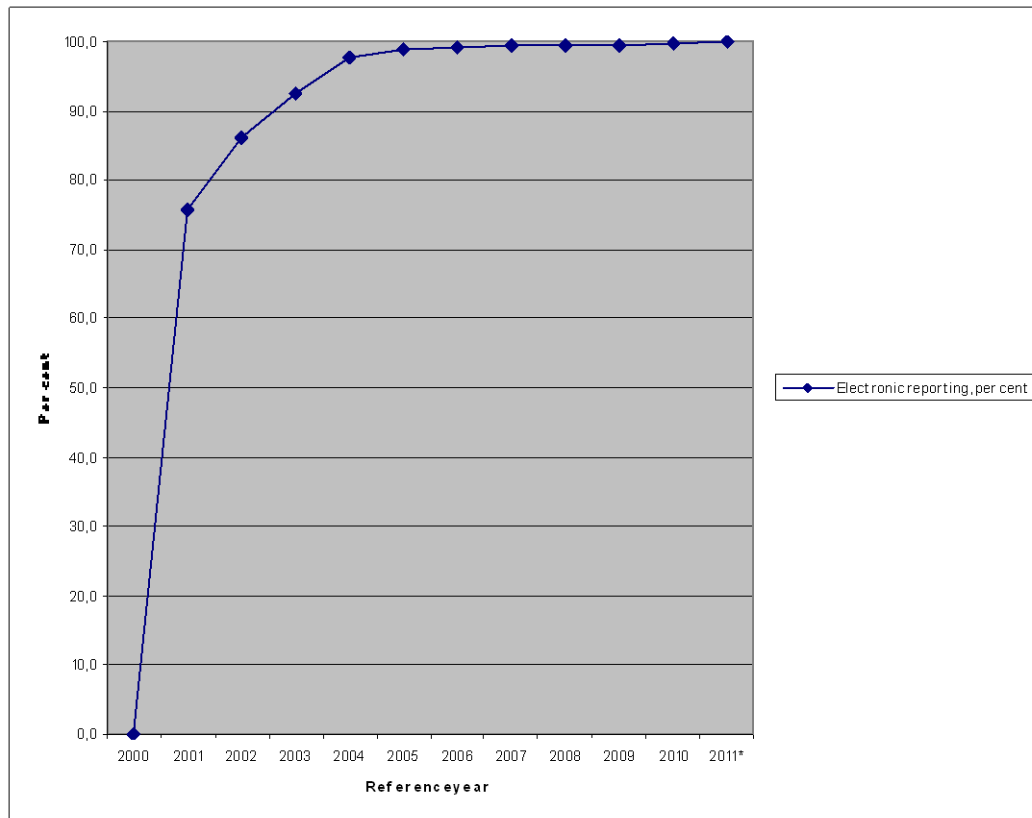
Figure 3.1 and 3.2 show how the number of annual accounts reported electronically and manual registration, has developed from 2000-2010/2011.

**Figure 3.1. Number of annual accounts in the NO-base. 2000-2011**



Source: SSB, the NO-base

**Figure 3.2. Number of annual accounts reported electronically. Per cent of total in the NO-base. 2000-2011**



*Source: SSB. 2011 figure is preliminary*

Both figures show that businesses, at the time of introducing electronic reporting, were ready for this solution. From 2001 to 2005 the number of electronically reported annual accounts raised from 60.000 to almost 350.000. Since 2005 the growth has of natural reasons been much lower.

### **3.3 Advantages of electronic reporting of annual accounts**

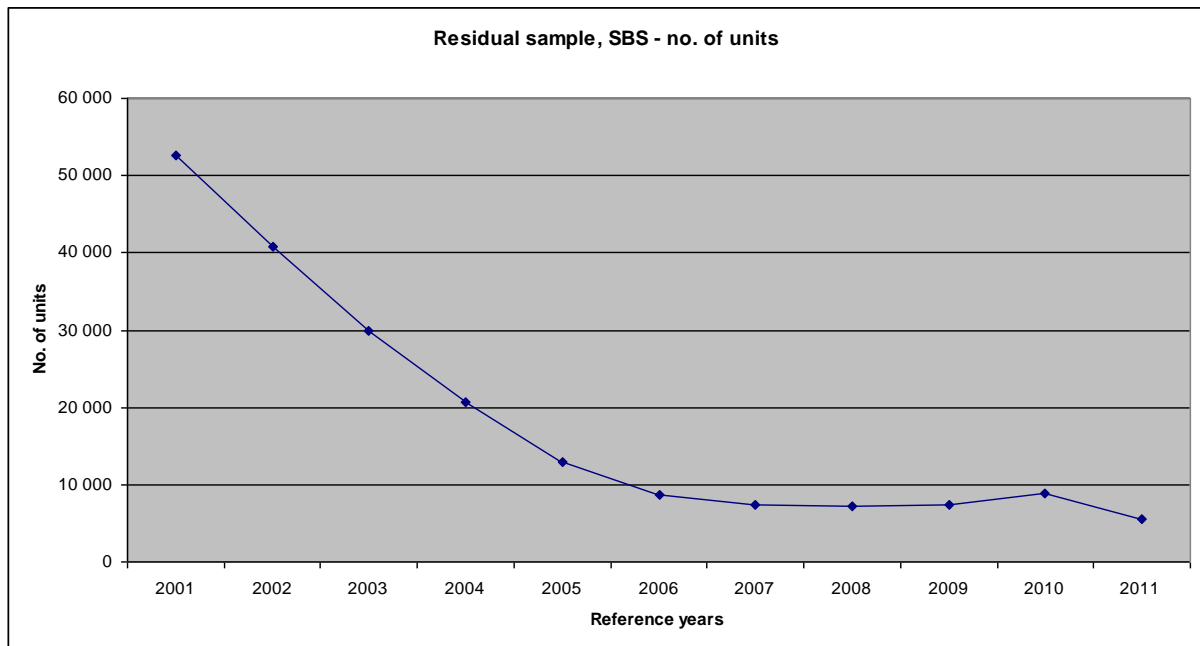
There are several advantages for both the respondents and SSB in connection with electronic reporting of annual accounts.

- The businesses only have to report to the tax authorities, which passes on the annual accounts to SSB. It should be added that businesses sending paper versions has to send the annual account to both institutions.
- The amount of manually registered annual accounts in SSB has decreased from 22.000 to less than 2000. The released resources were used to manage the new tasks in connection with IDUN (e.g. support service). but also increase supporting other divisions in SSB by editing data

- The quality of accounting statistics (e.g. SBS) increased due to information from a higher rate of businesses in the population.

An example of the positive impact electronic reporting of annual accounts have had can be viewed in the figure 3.3.

**Figure 3.3. Development of residual sample, SBS. 2001-2011**



*Source: SSB, business register*

The residual sample in the SBS survey consists of units about which SSB has no administrative sources to collect turnover information from. This information has to be collected through a questionnaire. From 2001 to 2011 this sample has been reduced from 53 000 units to approximately 5 000 units, due to access to information from electronically reported annual accounts. The response burden has been reduced by a total of approximately 7 man years (15 minutes pr. Unit) comparing 2001 with 2011. In comparison, the total response burden for the business environment due to surveys from SSB was 86 man years in 2011

## 4. Future plans

### 4.1 History - Altinn

The future is also the past. SSB has now started the process of transferring questionnaires from the IDUN portal to a new portal, Altinn II. Altinn has already been an operative portal for many years both in SSB and within other Norwegian public institutions.

In the late 90 ties tax authorities, The Brønøysund Register Centre and SSB were developing – separately – electronic report solutions for the business environment. The Altin project was established to coordinate the activities, where the main goal was to develop a common portal for electronic reporting for the businesses. SSB’s own portal, IDUN was already operative from 2002-2003, but the intention was to integrate it with Altinn. In 2003, the Altinn portal was introduced, The Brønøysund Register Centre being formally responsible for the management. In 2006 the project Altinn II was launched, the intension being to technically develop the portal one step further, especially focusing on dialogue between the user and the public institutions. Still at this time SSB faced problems integrating the Altinn portal with IDUN. The purpose of integration was that users should get access to questionnaires from the IDUN portal directly from Altinn, lowering the perceived responseburden. SSB faced challenges also in the years between 2006-2010 making this possible, but had some statistics where electronic reporting through Altinn was offered (e.g.wage statistics).

**Figure 4.1. Electronic reporting, divided by portal.**

	2010	2011
Altinn	16	18
IDUN	70	68
Other	14	14

*Source: Annual report 2011, SSB*

Finally, in 2011 SSB started the work transferring all surveys from IDUN to Altinn II. This is a project which probably will not be finished before 2014/2015.

## 4.2 Advantages by using Altinn

### Transferring all surveys to the Altinn II portal will include several advantages

- The Brønøysund Register Centre is responsible for running and managing Altinn. SSB will save resources within these fields. Today, SSB has to cover all costs in connection with running and managing IDUN. In the future, departments using the Altinn platform cover yearly fixed costs. In addition, variable costs occur depending on the scope of each departments training for the use of Altinn, development/maintenance of services in the system and establishment and running of integration between Altinn and the departments IT systems.
- IDUN is not a tool for developing questionnaires (chapter 2). Altinn uses Microsoft Info Path for designing, which gives better possibilities for creating user friendly questionnaire designs (Microsoft InfoPath is a tool especially for this use).
- For the respondent it is possible to transfer data directly from its own systems and “avoid” manual registration in the questionnaires. SSB has to produce a scheme for each survey which can receive such data, but response burden will be reduced.
- Altinn II includes more functionality than IDUN. Possibility to send messages to respondents, respondents can send data to several departments from the same questionnaire and respondents can also get access to certain data in the institutions registers. The respondent will also have to access data from previous surveys, where it has participated.
- When SSB has implemented Altinn, businesses will have one common portal for sending electronic information to the public institutions. It should be expected that this would especially reduce response burden for accounting offices being reporting economic data for a several businesses

SSB will also in the future continue cutting number of surveys, where paper questionnaire is automatically included and replace this by the possibility for ordering a paper version by phone.

## 5. Summary

- SSB developed an own portal for electronic reporting – IDUN – from 2000 to 2003. In 2004 all businesses were offered electronic reporting
- IDUN is not a tool for questionnaire designing. Interactive communication with respondent is not possible. IDUN includes possibilities for increasing data quality through controls in questionnaire
- Cutting out paper questionnaires in the first letter to the respondents had a significant positive impact on the degree of electronic reporting
- Questionnaires are now transferred from IDUN to Altinn II. Altinn II is a common portal for the businesses for reporting to public institutions. Altinn II includes possibilities for interactive communication and transferring data directly from the respondents own system.
- Electronic reporting of annual accounts started in 2001, lowering response burden for businesses using this way of reporting.
- Introduction of IDUN and electronic reporting of annual accounts saved resources concerning manual registration but also introduced new tasks.
- There has been close cooperation between tax authorities, SSB and The Brønøysund Register Centre, developing electronic report solutions for businesses.