Skatteverket

Report

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The development of the tax gap in Sweden 2007-12.

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Preface

In 2013, the Swedish government assigned the Swedish Tax Agency to

- produce a new tax gap map
- quantify the tax gap
- describe how the gap had changed between 2007 and 2012.

This report presents the outcome of the investigation giving a picture of what currently can be said about the tax gap and its development. The report has been produced by a working group at the Swedish Tax Agency's analysis unit.

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Summary

Assignment and definitions

In 2013, the Swedish government gave the Swedish Tax Agency (STA) the following assignment:

> *"In 2007, the Tax Agency produced a map of the tax gap. The Tax Agency is hereby instructed to produce a new map of the tax gap. The tax gap is to be quantified and the change in the tax gap between 2007-2012 is to be described. A report regarding the assignment is to be delivered no later than 31 December 2013."*

Analyses of the "tax gap" within the STA are based on the following definition:

> *"The tax gap is the difference between the tax that would have been determined if all taxpayers had reported all their activities and transactions correctly and the tax determined in practice following the STA's control procedures."*

In this publication, the outcome of the assignment is reported.

Method and scope

For various reasons, it is not possible to produce a new map of the tax gap or to quantify the gap using the same methods as for "Tax Gap Map for Sweden" (STA report 2008:1). The main reason is that the kind of audit data that formed an important input for the previous analysis is not available for recent years. Currently, audits are conducted on selections with a more pronounced risk-profile making it more difficult to calculate the total tax gap. Furthermore, audits have reduced in numbers and, at the same time, become more detailed. Mapping and estimating the tax gap is complicated and not an exact science, since part of the tax gap is concealed and undetectable. This is an experience we share internationally with several other tax administrations. Hence, it has not been possible to quantify the tax gap, only to make an assessment, with a high degree of uncertainty, of the change in the tax gap between 2007 and 2012.

The STA has used the following methods to attempt to describe the change in the tax gap between 2007 and 2012.

The first method used is a Tax Information Map, showing the extent to which the STA has access to information with which to establish and control taxes, over and above the information that the taxpayers themselves submit for assessment. The Tax Information Map only covers settled taxes. Based on the Tax Information Map, the average level of

information per SEK in tax revenue for the period 2007-2011 is calculated. This measure shows the degree to which the tax revenues were settled and controlled using information from sources other than the taxpayers themselves. It gives a picture of how the risk of a tax gap has developed over time.

The second method is based on national accounts data and applied by the Statistics Sweden National Accounts (NA). They have made two calculations using "top-down methods", capturing discrepancies between the national accounts production estimates, including the hidden economy, and official reports from businesses.

The third method is based on the STA's questionnaires capturing businesses' and private individuals' perceptions of the occurrence of tax evasion and unreported labour. The survey results from the Swedish research company Demoskop on the attitude of the public to certain issues relating to tax evasion are also used.

Finally, results from the following assessments within more limited areas are used:

- Calculations based on results from random investigations within the STA of tax returns from private individuals.
- External estimations of the tax gap for alcohol and tobacco excise duties, based on the difference between registered and unregistered consumption.
- STA assessments of the impact of new legislation on the tax gap.
- Compilations of information from international exchange of information.

Results and conclusions

Based on the data presented in this report, the STA ultimately draws the following three conclusions:

1. The results in this report suggest that the tax gap has decreased between 2007 and 2012.
2. The more information the STA has on the taxation basis from sources other than the taxpayers themselves, the smaller the scope for errors.
3. In order to estimate the auditable tax gap, a greater number of general random investigations is required.

The tax gap has probably decreased

This report describes various investigations made on the tax gap. The results from these investigations do not enable us to calculate the size of the tax gap. However, based on the material presented in the report an assessment is made of the direction in which the tax gap appears to be heading.

Surveys

The STA conducts annual surveys using questionnaires targeted at both citizens and businesses. The surveys are comprehensive in the sense that they cover the beliefs and perceptions of all taxpayers. However, since everyone does not respond there is some uncertainty regarding the representativeness of the answers for the entire population. However, it is reasonable to assume that the error due to nonresponses is roughly the same over time. Comparisons of the results between different years should therefore reveal actual trends in attitudes and perceptions. The Swedish research company Demoskop's surveys also illustrate attitudes of the public to various issues related to tax evasion such as not reporting all of one's labour income, hiring unreported labour and submitting inaccurate information to the STA.

The results show that citizens and businesses perceive a reduction in the incidence of tax evasion and unreported labour during the period 2007 to 2012. The results also show that the public's norms in respect of unreported labour and tax evasion have changed favourably over the same period.

One interpretation of the positive trends in the survey results over the period studied is that the tax gap has decreased. However, the extent to which changes in perceptions and values reflect a reduced occurrence of unreported labour and tax evasion is uncertain.

Top-down measurements

The top-down measurements, based on the National Accounts (NA), refer to hidden value added in production and unreported income resulting from this. The estimations of hidden income for 2007-2011 are lower than those previously carried out with corresponding methods for the 1970s, 1980s and 1990s. This therefore suggests a long-term downward trend. However, current estimations for 2007-2011 indicate no obvious changes. The estimations therefore indicate that there has been no change in the tax gap for this period, but there is a great deal of uncertainty in these calculations.

There is also uncertainty regarding the *level* of the point estimates. In NA, regular revisions are conducted. During the autumn and winter of 2013/2014, when introducing calculations in accordance with the revised manual ENS2010, the NA will be conducting a review of calculation methods. On such occasions, calculations for previous years are also revised.

Random controls

The random controls that have been used to quantify the tax gap relating to the taxation of individuals provide information within limited areas. In general, however, these investigations have not been repeated. Therefore they cannot be used for assessments of changes over time. However, regarding the item 'deductions for other expenditure' in the taxation of employment income, investigations have been conducted for three different years. The results for 2007 and 2008 show that errors related to these deductions was halved. The reduction coincides with a rule change concerning the deductable part of the

costs. Previously, only costs above SEK 1,000 could be deducted. From 2008, the limit was raised to SEK 5,000.

Deductions for dual residence has also been investigated twice, in 2006 and 2010, showing no sign of a change in the tax gap. Several investigations of tax returns concerning the sale of private housing have been conducted, but the amount of the tax gap was only possible to estimate in the 2012 investigation. The deduction for asset management costs was investigated in 2007 and 2008 showing no differences in the level of the tax gap.

The accuracy of the information from random checks is relatively good. However, only one investigation has been repeated over time. Therefore they do not provide much information on the overall development of the tax gap.

Alcohol and tobacco

According to estimations made by the Centre for Social Research on Alcohol and Drugs the missing tax revenues resulting from the illegal importing of unregistered alcohol has fallen from SEK 6.8 billion in 2007 to SEK 5.4 billion in 2012. This represents a reduction of approximately 20 per cent indicating that the tax gap relating to taxation of alcohol has reduced.

In addition, this report describes two independent, external estimations of unregistered cigarette consumption in Sweden for 2012. Neither of them say anything, however, about the development of the tax gap over time, in respect of tobacco.

Changes in legislation

During the period 2007-2013, STA has conducted various types of surveys of the effects of changes in legislation that have been considered significant in terms of the tax gap. This concerns the requirement for staff registers in restaurants and hair dressers, certified cash registers in the cash industry and reduced VAT for restaurant and catering services.

According to the impact assessment of the staff register requirement the new legislation resulted in a significant increase in reported wages in tax returns submitted by hairdressers and restaurants. The results also suggest that the effect increased gradually over the first two years following the introduction of the requirement.

The impact assessment of the requirement for certified cash registers in the cash industry showed that it had a substantial immediate impact on registered income. However, there were some indications that the effect declines over time. Assessing how much of the initial impact that remains is difficult. However, a graphic analysis of the data suggests that at least part of the impact is permanent.

The impact assessment of the reduced VAT for restaurant and catering services does not support the hypothesis that the reduced level of taxation as such had an impact on tax evasion within the industry. Possibly, this result could be due to the assessment capturing

only short term effects of the reform. The assessment does show, however, that a more uniform VAT structure reduces the scope for both intentional and unintentional misreporting. The data used in the calculation of this effect was relatively limited, but the results suggest that the more homogeneous tax structure produced a substantial reduction in the tax gap within the restaurant industry.

Overall, the impact assessments indicate that the changes in legislation mentioned above have contributed to a reduction of the tax gap in certain industries. These impact assessments are selective inasmuch as they refer only to changes in legislation that, at least in part, have aimed to reduce the tax gap. Over the period studied, other changes in legislation have been put forward that have not been analysed but which may have affected the tax gap in the opposite direction, e.g., the abolition of mandatory auditing.

The Tax Information Map

The Tax Information Map shows that for approximately 60 per cent of total settled taxes, the STA has access to sufficient third party information to be able to settle the tax without any additional information from the tax payer. Third party information consists mainly of statements of income from employers and banks. For a further 30 per cent of total taxes settled, the STA has some information over and above what is provided by the taxpayers themselves, reducing the scope for tax errors and evasion by facilitating control. The information is not comprehensive enough, however, to allow the STA to settle the tax without additional input from the taxpayer. This applies, for example, to information from certified cash registers and applications for tax credits for domestic services and repairs[1]. For the remaining 10 per cent of total taxes settled, the STA has virtually no other sources of information other than the taxpayers themselves.

A comparison over time shows that STAs access to information for the control and establishment of tax (from sources other than the taxpayers themselves) has increased between 2006 and 2011. The increase is due to the introduction of staff registers, cash registers, tax credits for domestic services and repairs and the introduction of a property charge. At the same time, there are factors pulling in the opposite direction. Primarily, taxes for which access to third party information is more limited account for a larger share of all taxes. All in all, the changes in access to information over time are minor, but they indicate that the risk of a tax gap has reduced over the period.

International exchange of information

Sweden has a number of international agreements regarding automatic exchange of information. Through these, the STA obtains an increasing amount of information from other countries. Thanks to the EU's Savings Directive, the number of countries that automatically send information to Sweden has increased from 22 countries in 2007 to 32 countries in 2012. In 2012, over 602,000 pieces of information were received from other countries. Sweden has also negotiated information exchange agreements with many

[1] The latter refers to the tax credits for ROT' (renovation, construction or home improvement work) and 'RUT' (household services).

countries that were previously considered tax havens. In 2012 there were 40 agreements, 21 of which had entered into force. As a result of these information exchange agreements, a large number of self-corrections have been received. From 2009 to 2012, a total of SEK 1,029 million has been generated through these corrections. Without the new information exchange regime, this additional tax revenue would probably not have been reported. It can be assumed that the STAs increased access to information has led to a greater awareness of the risk of detection. Thereby it is likely to have had a preventative effect reducing the tax gap. The magnitude of this effect is, however, difficult to assess.

Overall assessment

There are many incidents and changes in the world around us that are likely to have affected the tax gap during the period 2007 to 2012 but knowledge is lacking. This applies e.g., to developments of international evasion. Nor do we know how various changes in the tax legislation during this period have affected the tax gap. If the top-down measurements were perfect we could rely on the results they produce, but since NA themselves explain that their calculations are uncertain, they do not provide any definite answers.

Due to the nature of the results provided in this report, it is not possible to tell with any certainty how the tax gap has changed. However, a combined assessment of the trends found in the surveys, the impact assessments, the Tax Information Map and the international exchange of information suggest that the tax gap, as a percentage of GDP, has decreased between 2007 and 2012.

With more third party information the taxation basis becomes more accurate

The Tax Information Map described in this report focuses on a factor that is important for the risk of a tax gap, namely access to information from sources other than the taxpayers themselves. The more comprehensive the information available to the STA, the smaller the scope for errors in the tax assessment. When the assessment is based purely on information provided by the taxpayer, the risk of error is much greater. Hence, access to tax information from other sources has significance in terms of the certainty with which taxes and charges can be established. The conclusion is therefore that with more third party information the smaller the scope for errors.

Quantification of the tax gap requires other ways of working and other methods

The data produced from random controls currently employed does not provide the information required in order to estimate the size of the tax gap. In recent years, the tax administrations in Denmark, the United Kingdom and the Netherlands have started control programmes in relatively large random selections making it possible to measure the extent of the auditable tax gap. A similar programme in Sweden would help to develop the STAs activities and, at same time, provide data with which the extent of the auditable tax gap could be calculated.

One of the STA's long-term goals is to minimise the tax gap. Currently there is no direct measurement of the tax gap or of how it develops over time. The tax gap consists partly of errors that can be mapped using normal auditing methods, and partly of other items that cannot be detected using such methods. Estimations of the auditable tax gap based on general programmes using random samples, such as the Danish programme, would provide better information regarding the size and development of the tax gap. It would also provide data for use in the development of measures to counteract the tax gap. Moreover, the estimations would, to a certain degree, provide data that could be used to assess how well the STA is succeeding in its efforts to minimise the tax gap.

In addition to increased use of spot checks, the STA also needs to continue to analyse how different legislative and other changes affect the tax gap. Methods needs to be refined and uncertainties reduced. Monitoring the development of the tax gap is a never-ending task, since tax gaps arise in a complex and ever-changing interplay between many different factors.

1 The assignment

In 2013, the Swedish government gave the Swedish Tax Agency (STA) the following assignment:

> *"In 2007, the Tax Agency produced a map of the tax gap. The Tax Agency is hereby instructed to produce a new map of the tax gap. The tax gap is to be quantified and the change in the tax gap between 2007-2012 is to be described. A report regarding the assignment is to be delivered no later than 31 December 2013."*

In this publication, the outcome of the assignment is reported.

The STA's overriding goal is to "…*ensure the financing of the public sector and to contribute to a well-functioning society for citizens and industry alike, and to counteract criminality*". In addition, there is a more specific goal aimed at the tax gap: "*Taxes and fees shall be settled so that the difference between the settled and the theoretically accurate tax (the tax gap) becomes as small as possible.*"

In relation to the specific goal STA reports back to the government what measures it has taken to reduce the tax gap and in what way they are expected to affect the tax gap. This feedback will not be described in this report but can be found in the STAs annual report.

1.1 The 2007 Tax Gap Map

In order to understand what is meant by a *new* map of the tax gap, it is first necessary to understand what is contained in the *old* map, "Tax Gap Map for Sweden" (STA Report 2008:1[2].

On its own initiative, the STA produced a map of the tax gap in 2007. The aim was to create an all-embracing and educational representation of the tax gap and its component parts. The map provided the STA with knowledge regarding the distribution of tax gap between various areas and groups of taxpayers. It has served its purpose and helped in the planning of the STAs activities, including the development of risk-based control activities and in prioritising of resources. It still serves these purposes well. However, to be able to remedy the tax gap in an effective manner, detailed analyses are required within more specific areas than those described in the tax gap map.

The STA's experience from the 2007 map is that it is of great value to develop indicators that can be used in assessments of how the tax gap is developing. Estimations of the tax gap should only be made in areas with good access to data. To highlight those parts of the tax gap that are more hidden to the STA, external sources should be used and random audits should be supplemented with top-down measurements. More information regarding the methods that were used in the calculations of the 2007 tax gap can be found in Appendix 1.

[2] SKV 2008:1 Skattefelskarta för Sverige

2 Method and scope

This section briefly describes the work behind this report and the methods used.

2.1 Set up

To produce a *new* tax gap map, knowledge of the *previous "*Tax Gap Map for Sweden" (STA report 2008:1) from 2007, was required. For this reason, a thorough review was done of the content and methods used in the previous report. Furthermore, an inventory was taken of the data and methods that would be accessible for the production of a new tax gap map. To broaden the perspective and find new inspiration, work done in other countries on measuring tax gaps was also studied.

From this comprehensive background work, it became obvious that the kind of data used in the calculations of large parts of the tax gap in the previous report is no longer accessible. More specifically, for recent years audit data of the kind used in 2007 is not available in the STA. Audits are currently conducted on selections with more pronounced risk profiles, making it more difficult to calculate the tax gap on the total. Furthermore, audits have decreased in number and become more detailed. Bearing in mind the uncertainty of the methods used in the previous calculation and the change in the access to data, the STA does not consider it possible to produce a new tax gap map of the kind produced for 2007 or to estimate the tax gap. The data does, however, allow an assessment of the change in the tax gap between 2007 and 2012, even if this, too, can only be done with a considerable degree of uncertainty. The assessment is based on a balanced appraisal of both macro and micro-calculations of the development of various parts of the tax gap. These are complemented with the results from questionnaire surveys. In addition, a "*Tax Information Map"* has been developed and calculated showing the extent to which the STA has access to information with which to establish and control respective taxes, over and above the information that taxpayers themselves submit for assessment. More information regarding this map, its definitions and structure, can be found in section 5.

2.2 Method

Any statement made about the development of the tax gap is fraught with major uncertainty and therefore requires the combination of several methods. There are two different types of methods used for the purposes of calculation. The first consists of calculations of the total tax gap from a macroeconomic perspective (top-down). This involves, for example, comparing the National Accounts statistics on the total production of goods and services in the country with the incomes reported to the STA. The other consists of attempts to estimate the tax gap using micro data or results from more limited areas (bottom-up).

To reduce the risk of drawing false conclusions regarding the development of the tax gap, several methods and different data sources have been used. The STA's internal information and measurements have been supplemented with external measurements.

2.2.1 Top-down calculations

Two top-down methods applied by the National Accounts (NA) at Statistics Sweden are described in section 6. This describes:

- the development of the VAT discrepancy based on comparisons of theoretically calculated VAT based on national accounts information and actual audited VAT
- the development of hidden incomes through comparison of household incomes according to national accounts data and the actual audited incomes according to the income statistics.

Even if the *direction* of the tax gap points the same way as the NA's measurements, the absolute levels of the discrepancies resulting from the top-down measurements should still be interpreted with caution. The uncertainty in the point estimates of these measures is always considerable. The NA conducts regular revisions of the national accounts data. In the autumn and winter of 2013/2014, there will be a review of, for example, calculation methods and estimations in accordance with the revised manual ENS2010 will be introduced. On such occasions, calculations for previous years are also revised. This will, amongst other things, affect the results of the calculations of the VAT discrepancy.

In section 6, the STA's questionnaire surveys of citizens and businesses are also summarised. The surveys capture their perception of the incidence of tax evasion and unreported labour. Since everyone does not respond to the questionnaires it is uncertain whether the answers are representative for the entire population. It is, however, reasonable to assume that shortcomings of this kind are roughly the same over time. Comparisons of survey results over time are therefore likely to identify existing trends.

2.2.2 Random checks

The STA's random investigations of tax returns aims on the one hand to correct errors made in the returns and other information submitted and, on the other, to investigate how the tax system works. Depending on the purpose of the random checks, it can be difficult to use the information retrospectively to calculate the tax gap in the field investigated. Since 2005, the main purpose of spot checks of individuals has been only to measure error frequency. Despite this, the STA has identified a few investigations where the results can be used to quantify parts of the tax gap. See section 6.

2.2.3 Other calculations

A calculation of the tax gap for alcohol and tobacco has also been carried out. In this case, consumption information from external parties has been used and compared with data on national sales. The tax gap has then been calculated based on the difference. Since there are several sources showing different levels of consumption, the calculated tax gap is expressed as an interval. See section 6. The results from various analyses of the impact of a number of legislative changes on the tax gap are also described in section 6. The analysis primarily concern staff registers, the requirement for cash registers in the cash industry and reduced

VAT on restaurant services. With regard to the international arena, some statistics on the international exchange of information are presented.

2.3 Limitations

This analysis is primarily limited by the formulation of the government assignment. The time period to be described is 2007-2012, and the report is to be submitted no later than 31 December 2013. Hence, the work is also limited to calculations that can be conducted using existing data.

The calculations for the Tax Information Map have been limited to data for the period 2007-2011 since data for 2012 was not available in the time given.

Tax gaps due to international evasion have not been studied explicitly, even though it has previously been acknowledged that gaps within this area are likely to be substantial. The STA has a relatively high level of knowledge regarding the nature of gaps in the international field, but finding data that would make it possible to quantify the gap is particularly difficult since it generally concerns activities and/or persons located overseas. It is, for example, even more difficult in the international field to assess the number of persons involved in a certain type of tax gap.

2.4 Problems

A general problem in the calculation of the tax gap is access to data. As mentioned above, the STA currently has no data from extensive spot checks that can be used to quantify the tax gap. In addition, this kind of analyses is by nature prone with a large degree of uncertainty. This is clearly pointed out by for example the National Accounts, providing part of the calculations. The fact that the national accounts data will be revised in 2014 underlines this feature further.

The surveys used in the analysis describe how individuals and businesses perceive the incidence of tax evasion and unreported labour in the world around them. These investigations say nothing about how people actually behave, they merely describe their perceptions. There is therefore uncertainty regarding the extent to which trends in people's perceptions of tax evasion and unreported labour correspond to actual changes in the tax gap.

In the overall assessment of the direction of tax gap changes since 2007, the different investigations described in the report are summarized. In doing so, one can easily be led to believe that the investigations reported highlight all areas within the tax system, which they do not.

3 Measuring the tax gap

This section describes other measurements of the tax gap that have been conducted over the years, both nationally and internationally.

3.1 Swedish tax gap measurements

3.1.1 The 2007 Tax Gap Map

The "Tax Gap Map for Sweden" from 2007 was the latest measurement of the tax gap in Sweden. In the introduction, the methods used for the calculation of the tax gap in the 2007 investigation were presented. Making some allowance for the major uncertainties in the calculations, the tax gap was estimated at SEK 133 billion. This corresponded to 5 per cent of the GDP, or approximately 10 per cent of settled tax. In the 2007 map, the tax gap was divided up into three main categories, based on the character of the tax gap: unreported labour, international and other national. The tax gap was also divided up into groups of taxpayers and by type of tax. The map or its constituent parts have not subsequently been updated.

3.1.2 Older measurements

There are several older measurements that are not described in this report.

- Skattefel och skattefusk – en värdering av skattekontrollen 1992–1997. RSV rapport 1998:3 [Tax gap and tax fraud – an assessment of the fiscal control 1992-1997. RSV report 1998:3]
- Oroliga skattebaser. Riskområden för skattefel med internationell anknytning. RSV Rapport 2002:2 [Unruly tax bases. Risk areas for tax gaps with international connections. RSV Report 2002:2]
- A number of internal STA analyses of tax gaps in limited areas, e.g. the sale of shares and travel to and from work.

In 2006, the STA published a comprehensive study of unreported labour. This study was of great use in the production of the 2007 tax gap map for Sweden:

- Svartköp och svartjobb i Sverige. Del 1: Undersökningsresultat. Rapport 2006:4. [Purchasing and Performing Undeclared Work in Sweden. Part 1: Results from Various Studies. STA Report 2006:4B]

3.1.3 The Swedish Tax Agency's annual report

In accordance with government requirements of annual reporting, the STA reports what measures it has taken to reduce the tax gap and in what way they are expected to affect the tax gap. The description of how the measures are expected to affect the tax gap is based on a model of the tax gap developed by the STA (described in section 4). The model helps to systematically compile information describing the development of various factors affecting the tax gap. A background report provides indications of how factors that are of decisive significance to the STA strategy to combat the tax gap have changed over time.

3.2 International tax gap measurements

In conjunction with this assignment, the STA has studied how the tax gap is measured in the United Kingdom and Denmark, and how the measurements are used to develop the activities of tax administrations. Some information on tax gap calculations in the Netherlands has also been obtained.

3.2.1 General description of the measurements in both countries

In both the United Kingdom and Denmark, tax administrations conduct recurrent measurements of the tax gap. The background to the measurements in the UK is that increasing VAT fraud was detected, and the difference between the theoretical VAT (according to the National Accounts) and the actual VAT was increasing. Calculations of the tax gap have been conducted since 2004. HMRC first published measures of the overall tax gap in 2009. For excise duties and VAT, the calculations go back even further. The Danish tax administration, SKAT, has conducted measurements using random audits since 2006. HMRC updates its measurements (including retrospective recalculations) every year, and SKAT every other year. The measurements in the UK aim to place a quantitative value on all tax gaps, including the hidden economy. An annual update is produced and published to be used by a number of different stakeholders.

The measurements in Denmark are directed at that part of the tax gap that can be found in normal audits of tax returns. The results of SKAT's measurements are also published. The UK's and Denmark's measurements have been compiled in Table 1 in order to see more clearly what they include.

The approaches employed to measure the tax gap vary. In both the UK and Denmark the tax gap is measured using programmes for random audits. The audits reveal underreporting, using normal audit methods. Furthermore, in the UK, elements of top-down methods are employed to identify the hidden economy

Table 1. Tax gap measurements in the United Kingdom and Denmark

Characteristics	United Kingdom	Denmark
Start year	2004	2006
Frequency	Annual measurements	Every other year
Resource consumption	Difficult to measure	150 staff years every other year
Updates of historical series	Yes	No
Methods	Bottom-up Top-down Illustrative measures	Bottom-up
Extent of recurrent measurements at the tax administration		
General characteristic of the coverage	Covers, in principal, all tax apart from local property tax. Also hidden economy/non-filers	Auditable tax gaps amongst filers using normal audit methods
Direct tax – wage-earners	Random audits + uplift factor	Random audits
Direct tax – self-employed	Random audits + uplift factor	Random audits
Direct tax – small and medium-sized	Random audits + uplift factor	Random audits
Large companies	Illustrative estimates based on the assumption of parallelism with the companies in the random mapping	Not included in the estimations
VAT	Top-down: VAT discrepancy based on NA Bottom-up: Random selection	VAT connected with the companies in the random audits
Excise duties	Estimations based on consumption investigations conducted by the UK National Statistics	Not included in the estimations
Hidden economy	Illustrative estimates	Not included in SKAT's random programme but information provided by the Rockwool Foundation's interview investigations

3.2.2 The Netherlands' random programme

Since 2007, the Netherlands also use an annual random programme to map its tax gap[3]. It encompasses individuals and small and medium-sized businesses. In 2014 a programme focussing on large companies will be initiated. In addition, national accounts data are used for top-down measurements of the VAT gap. The Dutch NA does, however, also recognise major shortcomings in the data used in these calculations.

[3] Goslinga, S; Fiscalis, Workshop VAT gap, the Netherlands'. Personal communication 11/11/2013.

4 Definitions and models

In this section, the STA definition of the tax gap is described, followed by a short presentation of a theoretical model of the tax gap developed within the STA.

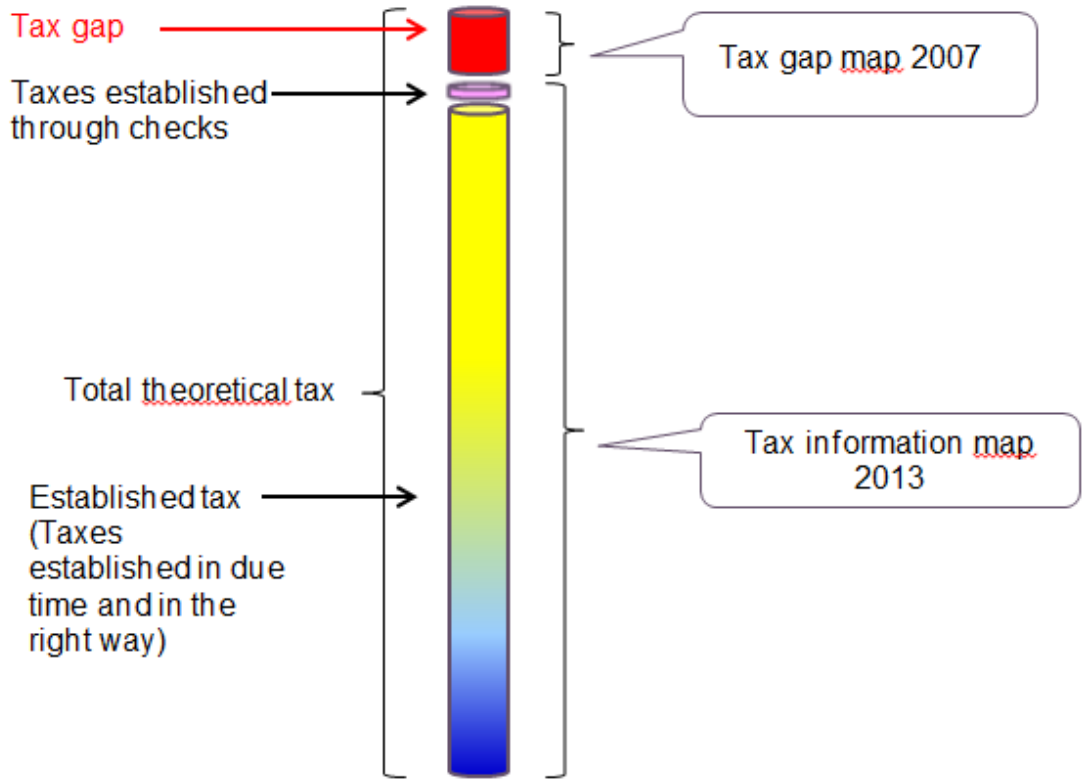
4.1 The tax gap concept

> *"The tax gap is the difference between the tax that would have been determined if all taxpayers had reported all their activities and transactions correctly and the tax determined following the STA's control procedures."*

The STA's definition of the tax gap above includes both intentional and unintentional errors. An error in the tax return can occur for various reasons. Complicated tax rules or ignorance of the rules that apply can lead to mistakes and errors. Such errors are usually characterised as *unintentional*. Errors can also occur *intentionally*, i.e., with the intention of reducing the tax liability. For example, a deduction can be claimed for an amount that is higher than the actual cost incurred, or the tax payer may fail to report an income they have received.

In order to illustrate the relationship between total tax, tax compliance and the tax gap, the STA has, since the 1990s, used the bar chart below. Put simply, the "tax bar" shows the approximate proportions of taxes settled correctly and on time (blue-yellow), taxes settled as a result of the STA's control initiatives (purple) and the tax gap (red = taxes not settled at all). The 2007 map of the tax gap shows only the top of the bar (the tax gap). The Tax Information Map presented in this report (see section 5) focus only on taxes settled, including taxes settled after control initiatives. The shifting colours (blue-yellow) in the lower part of the bar, corresponding to taxes settled correctly and on time, illustrates the various information levels in the Tax Information Map.

Figure 1. Tax bar



4.2 The tax gap model

The tax gap is determined through a complex interplay between various factors. In research and elsewhere, there are many different views on what makes taxpayers declare and pay their taxes, and on why some do not. A number of factors affecting compliance are highlighted in the literature. Examples of such factors are: the complexity of the rules, the risk of detection, penalty charges, the use of tax revenue, the fairness of the tax system, the degree of corruption in society, the extent of social capital and how the taxpayer is treated by the tax authority. The majority of studies focus on the significance of one or a few factors at a time, keeping the influence from other possible factors constant. However, there is still a need for an overall model of taxpayers' behaviour.

To illustrate the complexity of the determination of the tax gap and enable systematic and structured analyses of its changes over time, the STA has developed a theoretical model, the tax gap model (Figure 2). Although the aim of this report is only to capture the changes in the tax gap, not to explain its causes, it can be useful to give a short presentation of the model. In particular, it helps understanding the significance of the Tax Information Map.

Figure 2. Tax gap model

The tax gap is determined by two types of factors in the model: those that the STA influence to a large extent through its various activities and those that are determined primarily by conditions and events in the world around us, outside the control of the STA. All in all, there are five determining factors (tax gap factors) of significance for the development of the tax gap, exerting influence from two angels (two levels):

- The Citizen Perspective (the macro level) focuses on the citizens' view of the tax system. This perspective contains the following tax gap factors:
  - *Social trust*
  - *Motivation*

- The Taxpayer Perspective (micro level) focuses on the taxpayers' view of the tax system. This perspective contains the following tax gap factors:
  - *Scope for errors*
  - *Conditions for doing the right thing*
  - *Perceived risk of detection*

From the Citizen Perspective, the tax gap is affected by the citizens/taxpayers' trust in, and valuations of, social institutions. Citizens and businesses have a mutual interest in the efficient functioning of society. The quality of the institutions of society therefore affects the motivation to comply. Good relationships with other social institutions also help the STA in its work to counteract tax evasion.

The Taxpayer Perspective identifies the individual taxpayer's ability and propensity to comply. This is affected by measures taken by the STA that directly affect the individual taxpayer via their Conditions for doing the right thing, Scope for errors, and Perceived risk of detection.

Access to information regarding taxation from other sources than the tax payer influences compliance and is linked to the following three tax gap factors within the Taxpayer Perspective:

- If the STA has comprehensive information regarding the taxation basis there is little Scope for errors.
- The more information the STA has access to when checking tax returns, the more efficiently can controls be executed, and the stronger the incentive for the taxpayer to submit a correct taxation basis (Perceived risk of detection).
- The more information that can be pre-printed by the STA on tax returns, the easier it is for the taxpayer to do the right thing from the start (Conditions for doing the right thing).

The tax gap model does not show us how to measure the tax gap but provides a structure for the systematic compilation of information that can be used to assess how various measures taken by the STA can help reducing the tax gap.

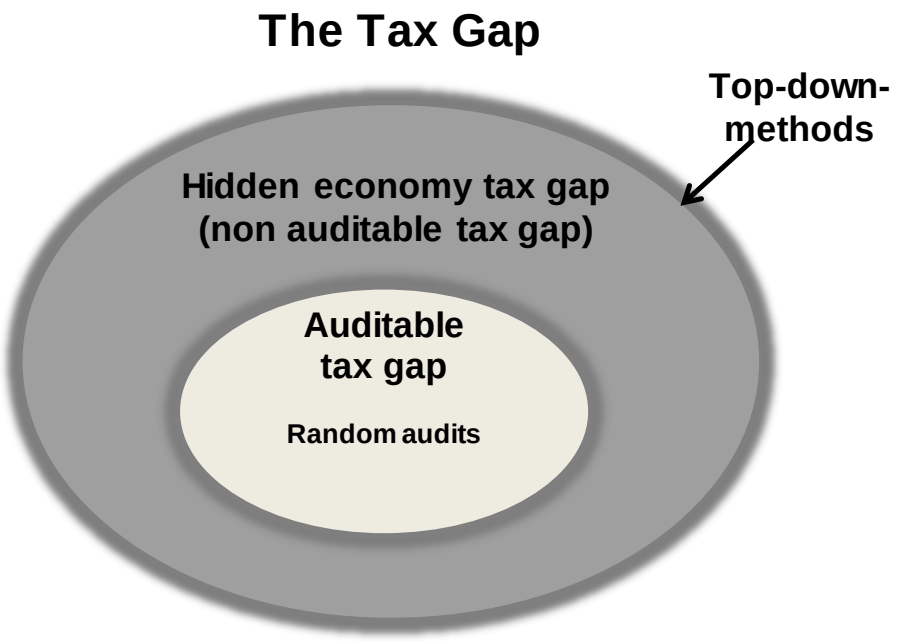
4.3 Auditable and hidden economy tax gaps

Calculating the tax gap is in no way a simple task. Major parts of the tax gap are hidden. In order to quantify the gap, various methods can be used. The choice of methods determines the direction from which the tax gap will be captured (bottom-up or top-down). One way to try to capture the tax gap is to use random checks, which is a bottom-up method. A weakness in this method is, however, that the tax gap associated with the hidden economy cannot be identified via these controls. It only captures the so called auditable part of the tax gap.

The auditable tax gap is that part of the tax gap that is possible to detect with control methods available to the STA. What is regarded as "auditable" is also, to a certain degree, dependent on the competence possessed by the staff conducting the audits. The results from random audits may be used both in developing the operations of the STA and to measure the tax gap. In both occasions it is important that the audits are conducted and documented in a uniform manner.

In addition to the auditable tax gap there is a hidden economy tax gap that cannot be detected with the audit methods currently available. To capture this part of the tax gap, other methods, in the form of top-down measurements and questionnaire surveys, are required.Figure **3** below shows a schematic diagram of the different parts of the tax gap that the various methods can reveal.

Figure 3. Schematic diagram of the tax gap and different measurement methods



When conducted in a uniform manner and in sufficient numbers, random audits provide knowledge which can be used both to measure and identify the auditable tax gap, or parts of the gap, and to improve the measures taken to counteract the tax gap. On the other hand, top-down methods pictures, at least in principle, the scope of the entire tax gap, both the auditable and the hidden economy part. Hence, it can serve as a general reconciliation of bottom-up methods. However, top-down methods do not provide any details on where the gap emerges and are therefore of less practical use in the development of the operations of the STA.

5 The Tax Information Map

This section describes the general purpose and structure of the Tax Information Map. In section 6 the results from the calculation of the map are reported.

5.1 The Tax Agency's access to information is important

One approach to the question of the significance that the various factors have for taxpayers' compliance, and the risk of tax gaps, is to isolate factors that are most likely to be significant and that can be identified on objective grounds. One such factor is the degree to which the Tax Agency has access to information to settle and check respective taxes, over and above the information submitted by taxpayers themselves.

Access to such information, defined here as *tax information*, affects compliance and the risk of tax gaps via the following three mechanisms:

- If the STA has comprehensive information regarding the taxation basis there is little scope for errors from the tax payer.
- With comprehensive tax information the Tax Agency can check tax returns efficiently, with a direct effect on the tax gap
- With more efficient checks taxpayer's incentives to file tax returns correctly increases.

5.2 The Tax Information Map

The more reliable information the Tax Agency has access to regarding the taxation basis, the smaller the scope for errors and the easier it is for the taxpayer to make a correct tax return. The Tax Information Map shows the extent to which the Tax Agency has access to tax information, i.e. information with which to settle taxes and check tax returns, over and above the information submitted by taxpayers themselves. To provide a basis for the Tax Information Map the various taxes are categorised depending on the extent to which there is access to information regarding the basis for taxation from sources other than the taxpayers themselves. From this categorisation, the average level of information per SEK in tax revenue is calculated, showing the degree to which taxes were settled and checked using information from sources other than the taxpayers themselves.

The Tax Information Map only covers settled taxes, not the theoretical tax[4] (i.e. the tax gap is not included). However, it adds to the overall picture by showing how the risk of a tax gap varies between different parts of the tax system and how it has developed over time (see section 6).

[4] The theoretical tax is the tax that would have been determined if all taxpayers had reported all their activities and transactions correctly. In other words, the tax gap is the difference between the theoretical tax and the settled tax.

5.2.1 The Tax Information Map systematises the tax information

In the Tax Information Map, the different taxes are categorised into eight different information levels, according to the principle: the more information the STA has access to, the higher the information level (Table 2).

This is achieved by asking, for each part of the tax system, whether it fulfils the criteria set for each information level, starting at the highest level (information level 8). The highest level covers taxes where tax information is sufficient to settle the tax with more or less full certainty. If a tax does not fit the criteria one moves on to the next level. If a tax does not fit the criteria of any information level above level one it is allocated to the lowest level (information level 1). Taxes on this level are settled solely on taxpayer's own reporting and there is no general measure providing the STA with tax information for check purposes.

In some cases, different parts of the tax returns are separated and categorised in different information levels. This happens where there is a major difference in information access between various parts of the tax return. For example, with regard to income tax on employment income from services the STA has access to detailed tax information on revenues, but not on deductions.

The exact principles for the categorisation of different taxes can be found in Appendix 2.

Table 2. The Tax Information Map's eight information levels

	Information level	
Sufficient information to establish a correct taxation basis	**8**	Sufficient informationavailable to establish a taxation base w here risk of errors is non existent
	7	Sufficient information available to establish a tax base but a risk of error exists, implying that checks of the information provider may be needed
Not sufficient information to establish a correct taxation basis	**6**	Information available to establish part of the taxation basis
	5	Short-term checks* can be conducted and an information system exists at the source of taxation
	4	Short-term checks* can be conducted and there is a tax chain
	3	Short-term checks* can be conducted
	2	Information systems exist at the source of taxation
	1	Taxation is based entirely on the tax-payer's ow n reporting

*With short-term checks means checks that can be conducted for a shorter time period than one year, ie monthly or quarterly checks

In the two highest information levels (7 and 8), the STA has sufficient tax information to establish a correct taxation basis without any information being submitted by the taxpayers themselves. For these taxes, there is comprehensive information from third parties that can be pre-printed on the tax return. In contrast, the taxes in the lower information levels (1-6), the Tax Agency does not have sufficient tax information to establish a correct taxation basis.

Table 3. Taxes included in the Tax Information Map

Information level	Taxes, categories in the tax information map	Taxation basis or part of taxes
8	Real estate tax/charge	Local real estate charge
	Energy tax	Nuclear pow er tax
7	Income tax on emplyment	Wages, social benefits and pensions
	General exemptions	Private savings for pensions
	Social security contributions	Employer's social security contributions
		General pension contribution
	Tax on income from capital, surplus	Capital gain w here there is an income statement w ith sufficient information to establish tax
	Tax on income from capital,deficit	Capital loss w here there is an income statement w ith sufficient information to establish tax
	Other excise duties	Tax on premiums on third party liability insurances
		Special premium tax
6	Tax on income from capital, surplus	Capital gain w here there is information that taxation should take place
	Tax on income from capital,deficit	Capital loss w here there is information that taxation should take place
	Real estate tax/charge	State real estate tax
5	VAT	Short period of taxation (month or quarter) for businesses subject to information system (cash registers, staff registers, tax credits for domestics services and repairs)
4	VAT	Short period of taxation (month or quarter)
3	Energy taxes	Energy tax (general energy tax, carbon dioxide tax and sulphur tax)
	Alcohol and tobacco taxes	Alcohol tax
		Tobacco tax
	Other excise duties	Repayment of excise duties (energy tax, alcohol tax etc.)
2	Income tax on personal business	Income tax on personal businesses subject to information system (cash registers, staff register, tax credits for domestic services and repairs)
	Social security contributions	Social security contributions for self employed subject to information system (cash registers, staff register, tax credits for domestic services and repairs)
	Company profit tax	Company profit tax for companies subject to information system (cash registers, staff register, tax credits for domestic services and repairs)
	VAT	Annaulreporting for businesses w hich are subject to information system (cash registers, staff register, tax credits for domestic services and repairs)
1	Income tax on employment	Deductions from income from employment
	Income tax on personal business	Income tax on personal businesses
	General exemptions	Deduction of deficit in business
	Social security contributions	Social security contributions for self employed
		General pension contribution
		Special tax on pension costs
	Tax on income from capital, surplus	Income from interest or or dividend w here income statement does not exist
		Capital gain w here income statement does not exist
		Tax on pension- and capital insurance fund earnings
		Positive interest adjustment for self-employed
	Tax on income from capital,deficit	Interest on debts w here income statement does not exist
		Capital loss w here income statement does not exist
		Negative interest adjustment for self-employed
	Income tax for companies	Income tax for companies and other legal entities
	VAT	Annual reporting

This information must therefore be submitted by the taxpayers themselves. For taxes in the information levels 2-6 there is a certain amount of tax information that enables the STA to assess whether the information submitted by the taxpayer is reasonable or need to be checked further. Since tax information facilitating checks constitutes an important

component in control activities of the STA, it is itself an incentive for the taxpayers to submit correct information for the assessment of their taxes. Hence, it does to some extent reduce the risk of a tax gap. Table 3 above shows the information level for the respective taxes in the Tax Information Map.

5.2.2 What can be deduced from the Tax Information Map?

Statutory information

The Tax Information Map displays the extent to which the STA has access to information from sources other than the taxpayers themselves for the settlement and checks of various taxes. In order to ensure that the categorisation of the different parts of the tax system is stable and definite, it only takes account of information that is available to the STA on a statutory basis. Information that the STA receives following the request of an individual taxpayer, or through voluntary agreements with e.g., trade associations is not included[5].

Not all changes in the information system are captured by the Tax Information Map

The categorisation of information levels is based on set criteria. However, some changes in the information systems affecting the STA's access to, or need for, check information are not identified by the set criteria. For example changes in tax forms, technical developments incurring changes in the information, both in terms of content and form, or minor legislative changes that affect the access to, or need for, information.

The external structure cannot be seen

The Tax Information Map shows the statutory information that exists for the establishment and check of tax. Depending on the situation in the rest of the world, the conditions can still vary, even if the statutory information is the same. A clear example of this is the alcohol tax. Prior to Sweden's entry into the EU, there was a state monopoly on both wholesale and retail sale of alcohol. This changed upon entry into the EU, when the wholesale monopoly ceased and was replaced by over a thousand operators, the majority of which were small businesses. This meant that instead of establishing alcohol tax for one single taxpayer the STA had to establish this tax for over a thousand taxpayers. While the conditions for settling and checking the tax for each taxpayer were more or less the same the total alcohol tax is now collected from many more taxpayers. Hence, a greater amount of information has to be handled, requiring significantly greater resources to settle the total tax. In other words, there has been a change in structure that has made it more difficult to establish the total alcohol tax. This kind of external changes in structure of the tax levied, affecting the risk of tax gaps, is not captured by the Tax Information Map.

The theoretical, real tax

As previously mentioned, it is the settled tax that is categorised in the Tax Information Map. Ideally, the tax gap should be added to the settled tax providing a picture of the distribution

[5] One information source that is not mentioned in the Tax Information Map is the information that the STA acquires automatically from other countries by virtue of EU Directive 2003/48/EC (the Savings Directive), EU Directive 77/799/EEC concerning mutual assistance by the competent authorities of the Member States in the field of direct taxation. The reason this is not taken into consideration is that there are certain identification problems with the handling of this information, implying that it cannot be used in the STA's regular control systems. This information is instead used in specific control initiatives. This in turn means that the information is not included in the database that is used for the production of the Tax Information Map.

of the total theoretical tax across information levels. This is not possible however since we haven't been able to calculate the tax gap in this analysis.

Areas where there is scope for errors

For the areas where access to reliable information is scarce, the scope for errors is greater. At the same time the conditions for the taxpayers to do the right thing and the perceived risk of detection are less. The risk of tax gaps is therefore higher in these areas. Still, major parts of the taxes are settled without tax gaps in these areas as well, either because the economic profits that would result from the tax avoidance are too small, or because the costs in the event of detection would be too high. In part, tax is payed in these areas too, due to the major resources that are invested in manual checks and information campaigns. Another explanation is that high standards and morals, with regard to tax, make people compliant. However, the Tax Information Map shows the areas where it is important for the Tax Agency to monitor developments and be ready to adopt measures to retain taxpayers' compliance and, when necessary, improve it.

6 Results of the tax gap 2006-2012

This section presents the results from the various analysis used to assess the development of the tax gap 2006-2012. First, changes in the tax information are presented using the Tax Information Map. This is followed by top-down calculations of the tax gap, the results from the STA's surveys and random investigations, a calculation of the tax gap in respect of alcohol and tobacco, analysis of the effects of various reforms on the tax gap and, finally, a description of international collaboration.

6.1 The Tax Information Map

In the Tax Information Map the total tax revenues are categorised according to the type of tax and according to the STA's access to tax information for the establishment and check of the tax, over and above the information reported by the taxpayers themselves. The map has eight information levels. The more comprehensive information the STA has access to with respect to each part of the tax system, the higher the information level. This section presents the total tax revenues for 2006 to 2011, in accordance with the structure of the Tax Information Map.

Table 4 shows the Tax Information Map for the income year 2011. The amounts refer to settled tax in SEK billions.

Table 4. Tax Information Map for the income year 2011, settled tax in SEK billions

Information level	Income tax on employ-ment	Income tax on personal business	General exemptions	Social security contributions	Tax on income from capital, surplus	Tax on income from capital, deficit	Real estate tax/charge	Income tax for companies	VAT	Energy tax	Alcohol and tobacco tax	Other excise duties	Excise duties, repayment	All taxes, net	All taxes, gross*
8							14,8			3,9				18,7	18,7
7	388,7		-2,2	498,5	18,2	-30,9						4,0		876,2	942,4
6					51,3	-7,4	12,7							56,6	71,4
5									60,8					60,8	60,8
4									210,6					210,6	210,6
3										72,5	23,2	2,7	-6,0	92,4	104,4
2		1,7		3,4				10,2	1,3					16,6	16,6
1	-3,3	7,3	-0,1	41,9	15,1	-1,3		92,5	6,0					158,2	167,5
Total, net	385,4	8,9	-2,3	543,8	84,6	-39,6	27,5	102,8	278,7	76,4	23,2	6,7	-6,0	1 490,1	
Total, gross*	392,0	8,9	2,3	543,8	84,6	39,6	27,5	102,8	278,7	76,4	23,2	6,7	6,0		1 592,4

*** 'Gross' refers to the absolute value of various items, positive and negative, included in the calculation of the tax.**

In some parts of the map, the amount is negative. In those parts of the tax system were access to information differs in respect of revenues and deductions both items are included separately at different information levels, with deductions represented by negative numbers. To be able to make relevant comparisons, there are two different totals. One is the net total (revenues minus deductions), the other a gross total (sum of the absolute values). The net total is relevant for analyses of the actual tax incomes. The gross total is relevant for analyses of the STA's access to tax information for the establishment and check of tax.

The Tax Information map shows that the total tax revenues for 2011 amount to SEK 1,490 billion and that the gross total amounts to SEK 1,592 billion. Furthermore, it shows that there is a major difference in access to information between different taxes, but that for a large part of the total tax, the provision of tax information is good.

The Tax Information Map below shows the distribution of total taxes across information levels in relative terms (Table 5). For approximately 60 per cent of the gross sum, access to information is such that there should be little or no scope for errors. These taxes can, in general, be settled by the STA without taxpayers having to submit any supplementary information. For 30 per cent, the STA has access to different kinds of supplementary information with which to assess the validity of the information submitted by the taxpayer. For the remaining 10 per cent of the tax, there is by and large no tax information from other sources than the taxpayers themselves. In these cases, the tax is settled entirely on information provided by the taxpayer. Tax Information Maps for each year in 2006 – 2011 can be found in Appendix 3.

Table 5. Tax Information Map for the income year 2011, the distribution of tax revenues per information level in percent of total revenues

Information level	Income tax on employment	Income tax on personal business	General exemptions	Social security contributions	Tax on income from capital, surplus	Tax on income from capital, deficit	Real estate tax/charge	Income tax for companies	VAT	Energy tax	Alcohol and tobacco tax	Other excise duties	Excise duties, repayment	All taxes
8							53,8			5,1				1,2
7	99,2		96,4	91,7	21,5	78,0						59,7		59,2
6					60,7	18,8	46,2							4,5
5									21,8					3,8
4									75,6					13,2
3										94,9	100,0	40,3	100,0	6,6
2		18,9		0,6				10,0	0,5					1,0
1	0,8	81,1	3,6	7,7	17,8	3,2		90,0	2,2					10,5
All information levels	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0

The Tax Information Map and the tax gap

The Tax Information Map does provide a measure of the extent of the tax gap. It shows the degree to which the tax revenues can be settled and checked using information from sources other than the taxpayers themselves. Hence, it gives us a picture of the risk of a tax gap in various parts of the tax system and how it has developed over time. A comparison between the tax gap map produced in 2007, picturing the tax gap of the income year 2006, and the Tax Information Map for the same year, illustrates the connection between the tax gap and the average level of tax information.

In Table 7, information on the 2006 tax gap is included in the Tax Information Map for the same year. The uppermost row of the map shows the tax gap as a proportion of the total theoretical tax (relative tax gap). The row beneath this shows the percentage of the

theoretical tax that is settled as a result of the STA check procedures. Then follows, for each information level, the percentage of the various taxes that is settled at the respective levels. The bottom row shows the average information level for settled taxes.

Table 6. The Tax Information Map for 2006 including the tax gap showing the distribution of total theoretical tax across information levels in relative terms

Tax gap/ information level	Income tax on employ-ment and general exemption	Tax on income from capital	Income tax on personal business and companies	Social security contributi ons	VAT	Excise duties	Real estate tax/charge	Total
Tax gap	5%	11%	22%	6%	13%	4%	4%	9%
Tax established by means of checks	0,1%	2%	2%	0,3%	1%	..	0,5%	1%
8						3%		0,2%
7	94%	39%		86%		1%		57%
6		34%					96%	4%
5								
4					83%			14%
3						92%		6%
2								
1	1%	14%	76%	7%	3%			10%
Average information level for established tax	6,93	5,63	1,00	6,12	3,33	3,04	6,00	5,05

Comparing the relative tax gap and the average information level reveals a pronounced correlation between the two. For taxes where the average information level is 6 or higher, the relative tax gap for the type of tax in question is low, between 4 and 6 per cent of the total tax. For taxes where the average information level is 3 or lower, the tax gap is high - 13 per cent for VAT and 22 per cent for tax on business income. Tax on capital and excise duties deviate somewhat from this pattern. The correlation between the relative tax gap and the average information level for all taxes is however clear and amounts to -0.74.

6.1.1 Average information level

In the previous paragraph it was stated that access to tax information is very high for approximately 60 per cent of the total tax. This is because employers are obliged to deliver information to the STA, i.e. third party information, on the taxation basis for tax on employment income and social security contributions constituting a large proportion of total tax revenues.

The "*average information level*" is an overall measure of the extent to which taxes can be settled on information from other sources than the tax payers themselves. Table 7 below shows the average information level per tax, on a descending scale. The property tax/charge has the highest average information level at 7.08. Corporation tax has the lowest average information level at 1.10, closely followed by tax on business income at 1.19. The average information level of all taxes is 5.55.

Table 7. Average information level per tax, 2011

	Average information level, 2011	
	Current information	*Without income statements for wage incomes*
Property tax/charge	**7.08**	*7.08*
Tax on employment income	**6.95**	***1.00***
General deductions	**6.78**	*6.78*
Capital deductions	**6.62**	*6.62*
Social security contributions	**6.51**	***1.01***
Other excise duties	**5.39**	*5.39*
Capital income	**5.32**	*5.32*
VAT	**4.14**	*4.14*
Energy tax	**3.25**	*3.25*
Alcohol and tobacco duty	**3.00**	*3.00*
Repayment of excise duties	**3.00**	*3.00*
Tax on business income	**1.19**	*1.19*
Corporation tax	**1.10**	*1.10*
All taxes	**5.55**	***2.21***

To illustrate the importance of income statements from employers providing third party information on employment income, the average information level has been calculated for a hypothetical situation with no such income statements (see table 6, the column in italics). Without income statements for wage-earners, the information level for tax on employment would fall from 6.95 to 1.00. Similarly, the information level for social security contributions would fall from 6.51 to 1.01. The average information level for all taxes would fall from 5.55 to 2.21.[6]

6.1.2 Changes in access to information during the period 2006 to 2011

A relevant question at this juncture is how the general level of tax information has developed over the period studied. Diagram 1 below shows the development of the

[6] The average information level refers to settled tax. The ideal scenario would have been to calculate the average information level for the theoretical, real tax. This would have led to the average information level being lower, since the information we currently have available to us suggests that the tax gap is relatively high for taxes where the information level is lower.

distribution of total tax revenue between information levels during the period 2006 to 2011 in relative terms.

Diagram 1. Distribution of total tax revenue across information levels 2006-2011 in percent of total tax

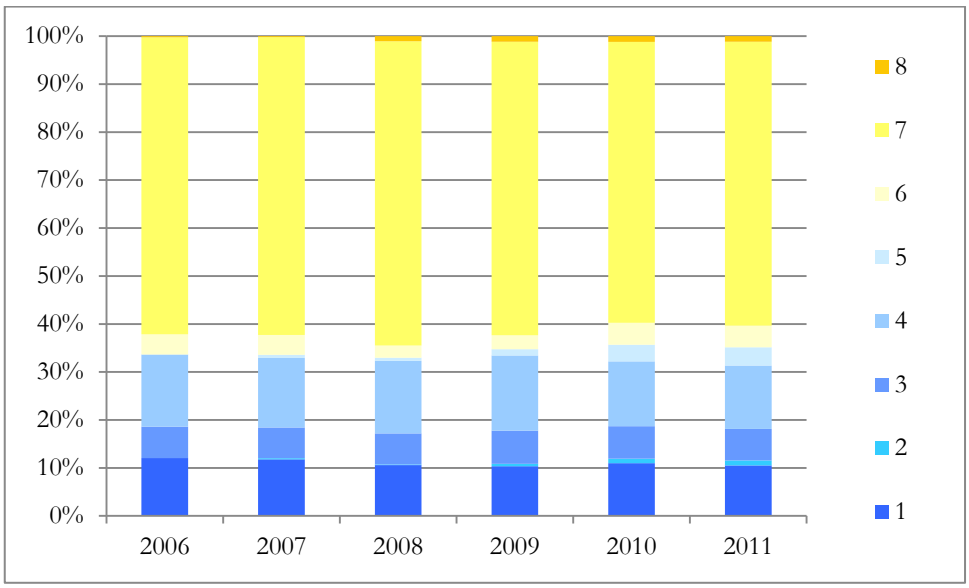


Table 8. The change in the distribution of tax revenues between 2006 and 2011 (income years) in SEK billions

Information level	Income tax on employment	Income tax on personal business	General exemptions	Social security contributions	Tax on income from capital, surplus	Tax on income from capital, deficit	Real estate tax/fee	Income tax for companies	VAT	Energy tax	Alcohol and tobacco tax	Other excise duties	Excise duties, repayment	All taxes, net	All taxes, gross
8							+14,8			+0,8				+15,6	+15,6
7	-23,4		+1,2	+70,7	-2,8	-11,2						+2,7		+37,2	+37,2
6					+17,1	-6,3	-12,3							-1,6	-1,6
5									+60,8					+60,8	+60,8
4									-4,3					-4,3	-4,3
3										+5,3	+4,0	-0,8	-2,2	+6,2	+6,2
2		+1,7		+3,4				+10,2	+1,3					+16,6	+16,6
1	+1,4	-3,1		+5,5	+0,7	-0,8		-6,7	-0,6					-3,6	-3,6
Total, net	-22,1	-1,5	+1,3	+79,6	+14,9	-18,3	+2,5	+3,6	+57,2	+6,1	+4,0	+1,9	-2,2	+127,0	
Total, gross*	-24,8	-1,5	-1,3	+79,6	+14,9	+18,3	+2,5	+3,6	+57,2	+6,1	+4,0	+1,9	+2,2		+162,8

Table 8 shows the change in tax revenues per tax and information level between 2006 and 2011. During this period there have been a number of changes in the composition of total tax revenue. Taxes on the whole have increased by SEK 127 billion. Expressed as a gross sum, the increase amounts to SEK 162.8 billion. Revenue from some taxes have increased

whilst that of others have decreased. For example, VAT has increased whilst tax on income from employment has decreased. Since the average information level of these two taxes differs this affect the average information level of the total tax. In addition to this type of changes there have been changes in the information system shifting parts of the different taxes between tax information levels.

Hence, it is useful to distinguish between two different types of changes in the Tax Information Map and the average level of information. The first is changes in the *composition* of the taxes due to e.g. changing tax rates or changes in the relative importance of the different tax bases. The second is changes in the *structure of the tax information*. These two fundamental factors are described in more detail below.

6.1.3 Changes in the composition of the taxes

The composition of taxes may change for a number of reasons. One reason might be that the tax rates change in a way that affects the size of the various taxes as a proportion of total tax. Another reason might be that the relative size of the various tax bases change. An example of the latter is that capital income tends to increase its share of the tax base in a boom scenario when capital yields increase and capital gains are realised. Changes in the tax bases can also arise from changes in the composition of the taxpayers, such as changes in the number of tax payers with income from employment in relation to those with income from self-employment.

6.1.4 Changes in the structure of the tax information

Changes in the structure of tax information occur when there is a change in the STA's statutory access to or need for tax information to settle and check taxes. Such changes in the information structure affect the Tax Information Map by shifting part or whole of the revenue (or deductions) from a particular tax between information levels.

The following changes of this kind have occurred in the period studied:

- the introduction of staff registers in 2007
- the replacement of the property tax by the property charge in 2008
- the introduction of tax credits for domestic services and repairs[7] in 2009
- the introduction of certified cash registers in 2010.

It should be noted that changes in the structure of tax information can either stem from statutory changes improving the STA's access to information or from changes in the tax rules reducing the requirement for information. Examples of the former are staff registers, cash registers and tax credits for domestic services and repairs, all of which provide the STA with better information for risk assessment and checks. The introduction of the property charge is an example of the latter, where the information required from taxpayers themselves to settle the tax correctly was reduced. Through the shift from property tax to property charge it became largely flat-rate. Hence, for the majority of properties the tax could be settled more or less without correct information from the taxpayer on the

[7] Refers to tax credits for ROT' (renovation, construction or home improvement work) and 'RUT' (household services).

characteristics of the property. In terms of the Tax Information Map this implied that most of the revenues shifted to a higher information level.

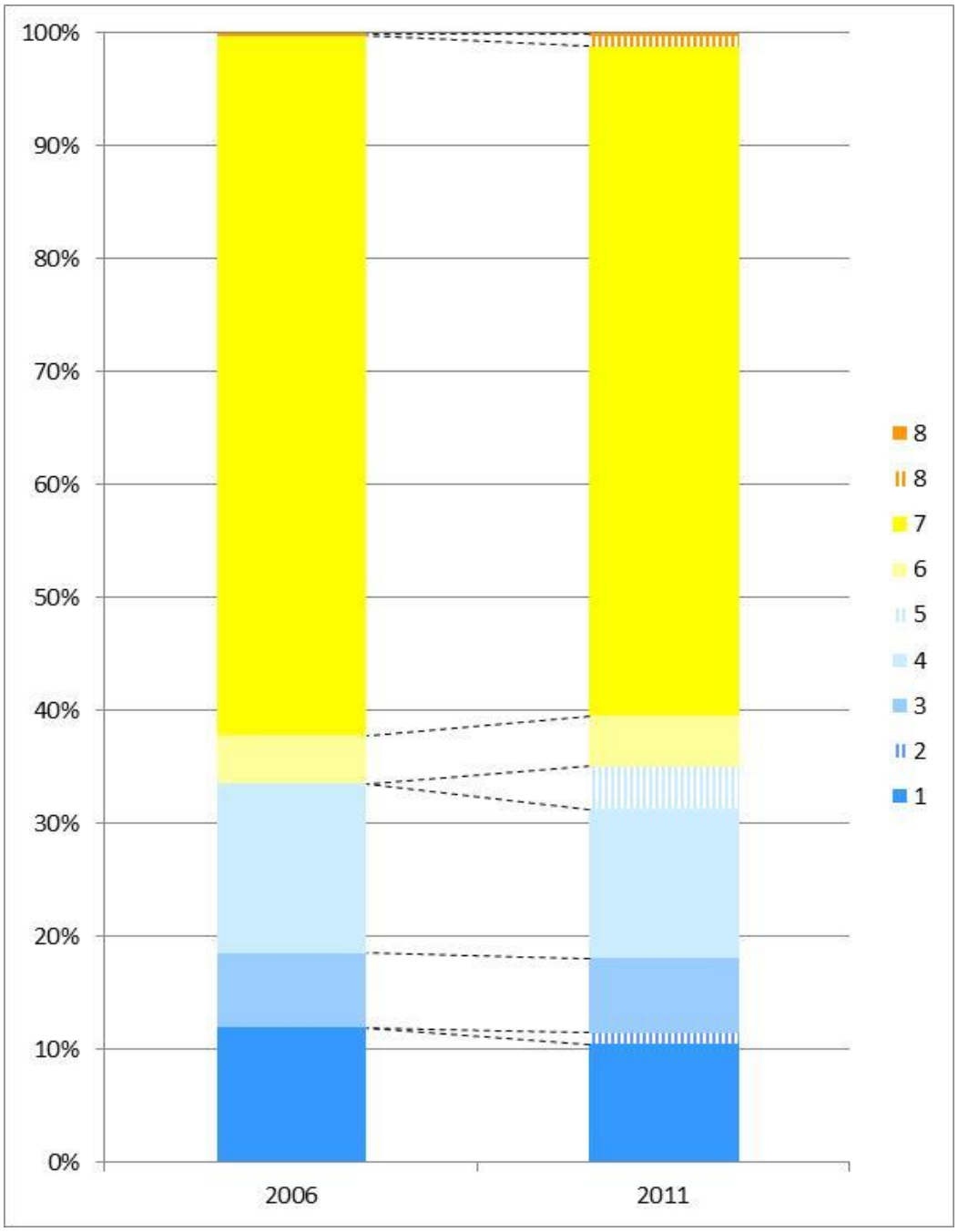
The impact of these changes on the Tax Information Map is marked in Table 8 with arrows and striped sections. Comparing the 2011 figures with the 2006 figures the effects are as follows:

- SEK 14.8 billion of property tax/charges can be found at information level 8 instead of level 6, as a result of the introduction of the property charge.
- SEK 60.8 billion of VAT can be found at information level 5 instead of level 4, as a result of the introduction of staff registers, certified cash registers and tax credits for domestic services and repairs.
- SEK 16.6 billion of income tax and charges can be found at information level 2 instead of level 1, as a result of the introduction of staff registers, certified cash registers and tax credits for domestic services and repairs.

Three of the reforms, staff registers, certified cash registers and tax credits for domestic services and repairs are mentioned twice because they affect taxes and charges at different information levels. The increase in tax information affects the distribution of revenue from both VAT, income tax and social security contributions. The revenues stemming from businesses that report VAT for periods under one year (monthly or quarterly), are shifted from information level 4 to 5. Revenues from income tax, social security contributions and VAT from businesses with annual reporting are shifted from information level 1 to 2.

Diagram 2 below shows the changes in the distribution of tax revenue between information levels in the Tax Information Map, separating the changes due to changes in the composition of the taxes from changes in the tax information structure. The changes due to changes in the information structure are shown in the striped sections.

Diagram 2. The change in the distribution of tax revenue across information levels between 2006 and 2011 (income years)



Taken together, the various changes in the composition of tax revenue have resulted in a slight reduction in the share of total tax in the two highest information levels (7 and 8), from 62 per cent to 60 per cent. This reduction has however been counteracted by the change in the tax information structure incurred through the introduction of the property charge, reducing the information requirement for properties that were previously subject to property

tax. In the Tax Information Map, this implies that part of the property tax/charge shifts from information level 6 to level 8.

The share of total tax revenue in the lowest information level (1) has also decreased, from approximately 12 per cent to approximately 10 per cent. Consequently, there has been an increase in the share of total tax revenue found in the intermediate information levels. In addition, in this part of the map, the introduction of staff registers, certified cash registers and tax credits for domestic services and repairs has also led to the addition of two completely new information levels (2 and 5).

Apparently, there have been several changes that have affected the distribution of tax revenues between information levels. Some have led to an increase in the average information level while others have reduced the average. Furthermore, they stem from both changes in the composition of the taxes and changes in the information structure.

6.1.5 Separating the impact of the two kind of changes on the average information level

To illustrate the importance of the two kinds of changes their impact on *average information level* can be separated. Table 9 below shows the average information levels in 2006 and 2011. The table shows that the average information level increased by 0.024, from 5.524 to 5.548. The change is then divided into two parts, one that has been caused by changes in the composition of the taxes and the other due to changes in the information structure.

Of the overall change, 0.067 was due to changes in the information structure. In other words, this is the effect of the four statutory changes described above: the introduction of staff registers, certified cash registers and tax credits for domestic services and repairs and the shift from property tax to property charge.

The effect of the changes in the composition of the taxes is negative and amounts to -0.043. Hence, the changes in tax rates and tax bases changed the composition of taxes in favour of taxes with a lower level of tax information.

Table 9. Average information level, 2006 and 2011

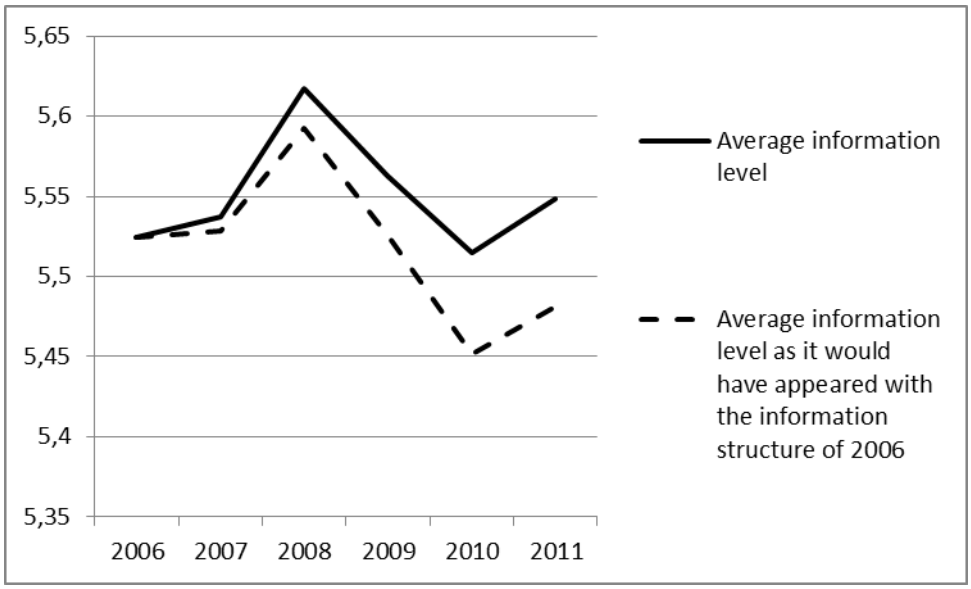
	Average information level
2011	5,548
2006	5,524
Change	0,024
due to changes in the information structure	0,067
due to changes in the composition of taxes	-0,043

Diagram 3 shows the annual change in the average information level between 2006 and 2011. The solid line shows the total change and the dashed line shows the change as it

would have appeared if staff registers, cash registers, tax credits for domestic services and repairs and the property charge had not been introduced, i.e., if the tax for the respective year had been settled using the 2006 information structure. The greater the distance between the solid and the dashed lines, the greater the impact of changes in the information structure on the average information level.

We can see that the average information level increased between 2006 and 2008. This was mainly caused by changes in the composition of total tax. However, the introduction of staff registers in 2007 and the property charge in 2008 also contributed to this development. In subsequent years, 2009 and 2010, the average information level fell substantially. To a large extent, this was probably caused by the introduction of earned income tax credits affecting the composition of the total tax in favour of taxes at lower information levels. The changes in the composition of the tax was, however, counteracted to some extent by the implementation in 2009 and 2010 of the cash register requirement and tax credits for domestic services and repairs. Between 2010 and 2011, the average information level increased and subsequently remained above its 2006 level.

Diagram 3. Changes in the average information level, 2006-2011



6.2 Top-down measurements based on the national accounts

This section gives a summary of the results from previously published measurements using top-down methods. The information on the VAT discrepancy and hidden incomes in the household sector for recent years has been produced by Statistics Sweden.

6.2.1 General information regarding top-down measurements in Sweden

The STA and the National Accounts (NA) have, in some respects, similar tasks. The NA measures production, including ”hidden production”. The task of the STA is, essentially, to ensure that incomes generated in the production process as renumeration to the production factors, i.e. work and capital, are taxed. The discrepancies that exist between the NA's calculations and incomes and taxes established by the STA are therefore of interest to both parties:

- To the NA, the discrepancies are a link in the chain of achieving full coverage and ensure quality, i.e. to reconcile and maintain consistency in their calculations of the GDP over time.
- To the STA, the discrepancies can provide an indication of how well the agency is succeeding in establishing the correct taxation basis, and information regarding the development of the tax gap.

Two top-down methods for discrepancy calculations have been used in Sweden. The first is the ”*VAT discrepancy*” (VAT-gap) where a theoretically ”correct” VAT is calculated based on information regarding the final use of various products in the national accounts. This theoretically calculated VAT is then compared with the actual VAT paid. Another method, which has been popular in various investigations over the years, calculates *”hidden incomes in the household sector”*. Officially published calculations using this method cover the period 1970-2002.

The National Accounts at Statistics Sweden conduct continuous calculations of both the VAT discrepancy and of hidden incomes in the household sector. The calculations have been updated in conjunction with an ongoing revision of the calculations of the national accounts that will be published in September 2014. Information for 1993 and later will then be altered. The major changes concern the period 2007 and onwards.

In the following, the results of previously presented calculations of the discrepancies published in various contexts are described and also preliminary information from the new calculations that are conducted by the NA over the autumn and winter of 2013/2014.

6.2.2 General information on the national accounts

The national accounts are, as the name would suggest, accounts for a nation. Statistics Sweden (SCB) is responsible for the national accounts. They summarise and describe the economic activities and developments in Sweden, covering the production of goods and services, their use and income generation.

The gross domestic product (GDP) is the total sum of the value added of all goods and services produced in the country in one year and used for consumption, investments and export. GDP should also include hidden production sold on the market. When talking about GDP, one normally refers to ”GDP at market prices”, i.e., the price that purchasers pay for the product, including excise duties and VAT.

The Swedish national accounts are based on a UN recommendation for national accounts (SNA 93) which is the result of a cooperation between the following major international organisations: the UN, OECD, EU, IMF and the World Bank. For the EU states there is an application of SNA 93 known as ENS 95 (the European system of integrated national and regional accounts). The National Accounts are required to provide comprehensive coverage of economic operators and transactions, implying that the hidden economy should also be covered. Therefore, additions must be made to statistics obtained from official reporting such as, for example, company accounts.

GDP can be measured in three different ways, using different approaches:

1. *The production approach*, i.e., the value of final output in the economy less inputs used in the production process. Thus the value-added at each stage of production is calculated and aggregated. This is known as gross value added (GVA), which is further adjusted for taxes and subsidies on products to create an estimate of GDP at market price. Since there is no real market price for production in the public sector production in this sector is valued at production costs.
2. *The expenditure approach* i.e., the value of total expenditure on goods and services produced in the domestic economy during a given period, excluding intermediate goods and services. The expenditure approach reflects the value of spending by corporations, consumers, overseas purchasers and government on goods and services, i.e. the total of products used for consumption, investments and exports, minus imports.
3. *The income approach* i.e., the incomes earned by individuals (for example, wages) and corporations (for example, profits) directly from the production of outputs (goods and services).

If there were no hidden activities and the statistics were otherwise comprehensive and error-free the three ways of measuring should result in the same level of GDP. However, in reality this is not the case since some activities and incomes are hidden.

The main approach to calculating GDP in Sweden is to compile the best information possible on production and expenditures within the economy. All kinds of information is used by the National Accounts in order to produce a GDP measure as comprehensive as possible. Hence, material produced by the STA in various audits, analyses and investigations are used to a large extent. The discrepancies that occur in the national accounts are analysed and remedied as far as possible. Following this, there is a balancing procedure using a supply and use system containing 400 product groups. In areas where the National Accounts can substantiate that the hidden economy is significant, explicit additions are made to account for this in the industry in question.

The third approach to measuring GDP is based on incomes generated from production. Wages of employees and incomes reported by the self-employed do not sum up to the level of GDP as measured from the expenditure side. To reach the level of the expenditure

measure, hidden incomes need to be added. Hence, the difference between the expenditure side and reported incomes provides a picture of hidden incomes *in total*.

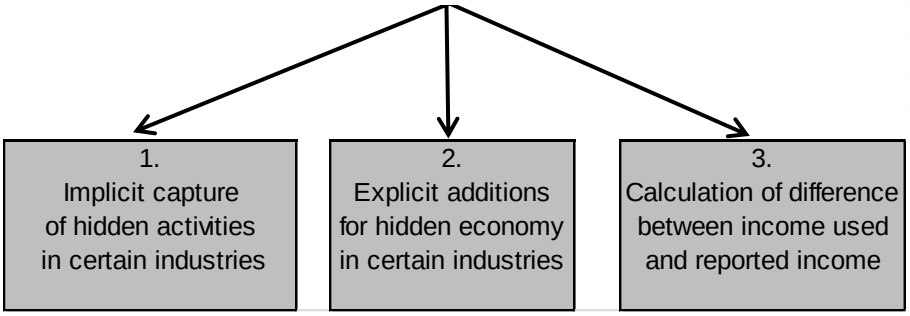
Naturally, the national accounts need to be reviewed every now and again. Primary statistics are revised and methods and sources are developed and adapted to changes in EU recommendations and requirements. The majority of calculation areas are reviewed with the objective of further improving the quality of the Swedish national accounts and to make sure that they are up to date. Since the time series perspective is important the calculations must give a correct picture of both the level and the development over time. For this reason, needs for revisions arise quite frequently. To avoid breaks in time series when there is new information between major revisions, links are produced that enables users to get the correct development over time in accordance with new or revised statistics. When major revisions are called for they are conducted for longer periods. Such revisions are conducted on an irregular basis. They may be motivated by various reasons, such as new sources becoming available, new classifications and altered applications of ENS. A revision of the Swedish national accounts will be conducted in 2014 due to altered applications of ENS. In this revision one will look at both identified shortcomings in the statistics and new, internationally established definitions of what is to be included according to ENS 2010 (the European system of integrated national and regional accounts).

In the calculations currently conducted by Statistics Sweden, in conjunction with the introduction of the revised regulation, ENS 2010, the results from various studies by the STA of underreported income from work etc. are taken into account.

6.2.3 Methods for bringing about full coverage

By their very nature, hidden production and income from unreported labour are not to be found in statistics based on official reporting such as income tax returns etc. For the majority of industries, the NA's production calculations are based on Statistics Sweden's Business Statistics. It consists of information from the STA registers complemented with information gathered by Statistics Sweden for the major companies. The Business Statistics thus provides a picture of the level of value added by production, employees' wages and incomes of the self-employed in the official part of the economy. The national accounts should, however, reflect all economic activity. To ensure that hidden productive activities are included the NA use the following three methods (Figure 4):

Figure 4. Methods for achieving full coverage in the National Accounts



With these additions, measures of the GDP from the production approach should correspond with the level found in the measures of GDP from the expenditure side. The three types of additions are described below.

Method 1. Implicit capture of hidden activities in certain industries
In certain industries production is assessed using methods that indirectly also encompass values of hidden production. When calculating production for agriculture, forestry, fishing and construction activities, the NA use other sources than the Business Statistics. Production in agriculture is calculated using information on the use of various types of agricultural products. Production of standing forest is calculated using a model where growth is estimated using sample areas where volume growth is calculated in cubic metres and multiplied by a price for standing timber. Construction activity is calculated from the user's side as the total of investments and repairs of buildings and facilities. The latter is, among other things, based on information collected by Statistics Sweden using a questionnaire issued to a selection of businesses and to municipalities concerning housing construction. Using methods like these a significant part of the hidden activity is likely to be included implicitly.

Method 2. Explicit additions for hidden economy in certain industries
Explicit additions for hidden economy are made where there is some kind of documentation on which such additions can be based. For example, some additions are based on results from the STA's mapping of unreported labour[8] and Statistics Sweden's own investigations of household expenditures (the household budget surveys).

Table 10 below shows the explicit additions to the production value that were made in 2011. In this particular year they amounted to over SEK 100 billion, i.e. 4.2 per cent of the value added of the business sector, and 2.9 per cent of the GDP.

[8] SKV 2006:4B. Purchasing and Performing Undeclared Work in Sweden.

Table 10. Explicit additions for hidden economy in 2011

Activity	Value added			Of which underreported wages
	Reported	Hidden	Total	
A01-03 Agriculture, forestry and fishing	48,414	3,970	52,384	4,391
B05-09 Extraction of minerals	28,037	93	28,130	0
C10-33 Manufacturing	496,498	4,757	501,255	2,907
D35 Provision of electricity, gas, heating and refrigeration	87,238	0	87,238	0
E36-39 Provision of water; sewage treatment, waste management and sanitation	19,249	1,152	20,401	0
F41-43 Construction	132,791	24,471	157,262	4,355
G45-47 Trade: motor vehicle and motorcycle repair	341,711	8,669	350,380	9,745
H49-53 Transport and warehousing	137,671	11,121	148,792	2,515
I 55-56 Hotels and restaurants	39,559	5,389	44,948	3,264
J58-63 Information and communication	156,129	6,399	162,528	1,948
K64-66 Finance and insurance	125,524	355	125,879	48
L68 Real estate	277,273	4,745	282,018	676
M69-75 Activities within law, economy, science and technology	169,522	7,659	177,181	977
N77-82 Rental, property services, travel services and other support services	104,655	3,432	108,087	2,666
P85 Education	28,561	2,371	30,932	232
Q86-88 Care and healthcare: social services	78,652	3,502	82,154	3,045
R90-93 Culture, entertainment and leisure	16,541	3,739	20,280	547
S94-96 Other services	16,826	8,472	25,298	1,942
T97-98 Domestic gainful employment; domestic production of various goods and services for own use	742	408	1,150	408
Value added at basic price in the business sector	**2,305,593**	**100,704**	**2,406,297**	**39,666**
Value added at basic price in public authorities			597,848	
Value added at basic price in non-profit institutions serving households (NPISH)			43,807	
Total of value added at basic price			**3,047,952**	
GDP at market price			**3,480,543**	
Hidden value added as a proportion of:				
Value added at basic price in the business sector			**4.20 %**	
Value added at basic price in the entire economy			**3.30 %**	
GDP at market price			**2.90 %**	

The explicit addition for construction activities refers largely to work on residential properties. The addition for the hairdressing industry is explicitly calculated as the difference between the level indicated by household expenditure surveys and the production values for the hairdressing industry found in the Business Statistics. For other industries the additions are based on analyses of the STA's investigations of unreported labour. However, to quantify hidden production values from these investigations is difficult. Therefore, the additions applied are also based on analyses of the supply and use tables.

Method 3. Calculating the difference between incomes used and reported incomes
The SEK 100 billion in hidden production value estimated from the calculations of the production and expenditure approaches is distributed amongst various components. Table 11 gives a general picture of how this is done. As mentioned above, GDP calculated from the expenditure side can be assumed to capture parts of the hidden sector. GDP from the income side should, in principal, conform to GDP from the expenditure side. However, when adding up the known components, there is a "shortfall" of SEK 39 billion (as can be seen in Table 11 below) which is associated with the household sector.

Underreported mixed income amounting to SEK 39 billion and calculated as a residual consists of

- incomes from *registered personal businesses* (i.e. sole traders) that are under-reported or wrongly reported as other costs
- incomes in *unregistered personal businesses* (including moonlighting); a person with no employer is considered by the NA as a sole proprietor even if the person only works a couple of hours).

From Table 11 it is clear that underreported wages and underreported mixed earned income depend on one another. If underreported wages are underestimated, then underreported mixed income is overestimated. For instance, if underreported wages had been estimated to SEK 50 billion instead of SEK 40 billion, the residual underreported mixed earned income would have been SEK 29 billion instead of SEK 39 billion.

Table 11. Calculation of underreported operating surplus and mixed income for 2011, in SEK billions

A	**GDP at market prices (from the expenditure's side)**	**3,481**
	Subcomponents:	
	Consumption of fixed capital	458
	Production taxes	655
	Deducting subsidies	-62
	Declared wages	1,384
	Underreported wages (explicit additions)	**40**
	Collective fees	413
B	*Subtotal*	*2,888*
C = A minus B	**Residual = "Operating surplus, net, total of all sectors"**	**593**
	of which:	
	Operating surplus, companies	441
	Operating surplus, public sector	-5
	Operating surplus, owner-occupied housing	66
D	*Subtotal*	*502*
E = C minus D	**Remaining residual = "mixed income"**	**91**
	operating surplus for personal businesses	
	Of which	
F	* declared income (according to taxation, corrected to equate to NA concepts)	52
G = E minus F	*** unreported mixed income**	**39**
	Total underreporting of hidden income	**78**

6.2.4 The VAT discrepancy - method and results of measurements conducted at different times

Most of the VAT revenues come from final consumption expenditure in the household sector. Since there are three different VAT rates, revenues are not only affected by the level of consumption but also by the composition of final consumption expenditure in the household sector. In addition, the VAT tax base consists of intermediate consumption and investments in businesses that are not liable to VAT and therefore cannot deduct VAT payed on inputs.

The tax gap for VAT can be expressed as the difference between a theoretically calculated VAT based on a correctly reported turnover and the VAT actually charged. The discrepancy between the theoretical VAT and the actual VAT is usually described as the VAT gap or the VAT discrepancy. For the final result it is crucial that the estimation of the theoretical VAT (net) is reasonable.

The advantages of calculating the VAT discrepancy by trying to assess the theoretical VAT is that,

- it does not rely on administrative sources
- it provides a relatively good measure of *the trend* over time (although the level is sensitive to specifications)
- it captures items that might be missed using a bottom-up method.

The disadvantages are that the method

- cannot be broken down by type of tax evasion or and subsector
- is subject to regular revisions of the levels.

In general, calculations of the VAT discrepancy have been based on a method used in measurements done for the European Commission. It starts out from the final use, in the form of final consumption expenditure in the household sector, etc. This means that VAT payments that are deductible or reimbursed should not be included; only VAT stemming from final use, i.e., VAT that is not deductible.

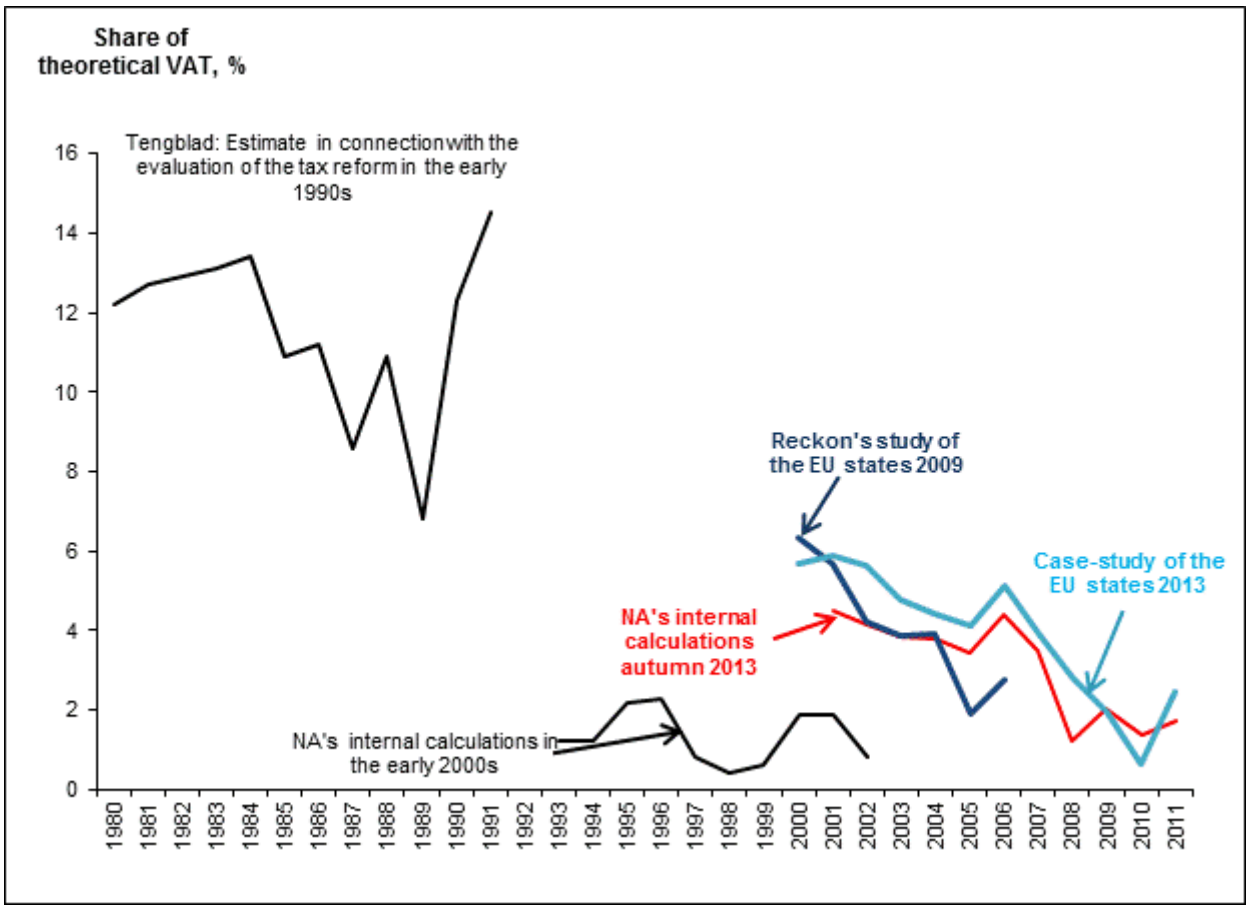
The following areas provide a net contribution to the total VAT base:

- household final consumption expenditure
- intermediate consumption that does not entail a right to deduction or reimbursement
- fixed gross investments that do not entail a right to deduction or reimbursement

In the ongoing work with the national accounts, the VAT discrepancy is calculated to be included in calculations of production (which is to be valued inclusive of product taxes). It is also used as a form of internal control to make sure that the data used in production calculations yield reasonable results. When the VAT discrepancy is calculated to measure incorrectly reported VAT complicated calculations are required to capture the effects of differentiated VAT rates for different products, i.e., that some businesses are exempt from VAT/qualified for VAT exemption, etc. The calculations are sensitive to specification errors. Minor specification errors can have major significance for the calculated discrepancy. The discrepancy is based on a comparison of two aggregates. Therefore, this method cannot be used to determine what the components of the VAT discrepancy.

The national accounts are constantly being developed. Revisions of the GDP calculations can also be of significance for the level at which the VAT discrepancy ends up, and historically calculated differences can change.

Diagram 4. Different estimates of the VAT discrepancy for Sweden. Percent of theoretical VAT



Calculations of the VAT discrepancy in Sweden have been presented on a couple of occasions. Some calculations have been initiated nationally others have been initiated by the EU for all EU states. Diagram 4 above shows that the calculation results are somewhat scattered. This may to a certain extent reflect the fact that the purpose of the calculations has varied. The most recent calculations end up at similar levels and follow a similar trend. However, the level of the discrepancy differs considerably between some of the calculations conducted at different occasions but for overlapping periods. For example, the results for 2001 range from 2 to 6 percent of theoretical VAT. In the following, the different calculations presented in the diagram are commented.

1980-1991: Sweden. The evaluation of the tax reform in the early 1990s

In conjunction with the evaluation of the major tax reform in the early 1990s, Åke

Tengblad[9] calculated the VAT discrepancy for the period 1980–1991[10]. In the calculations, Tengblad used the product flow (approximately 300 different types of products) from production and import to various usages, to calculate the theoretical VAT. His calculations showed a significant VAT discrepancy over the period (11.6 per cent on average). However, the discrepancy is very sensitive to specifications. According to Tengblad, one source of error that may have contributed to the high level, was that the calculations might not correctly account for the effects of reduced VAT rates. Since his calculations were done, the national accounts have been revised and the methods for discrepancy calculations have been developed. If the calculations for the 1980s were to be revised today, the results might not be the same.

1993–2002: NA internal calculations

As mentioned above, the VAT discrepancy is calculated as part of the ongoing work on the national accounts. Changes in the discrepancy over the years are used for quality assurance of the national accounts calculations. Should the discrepancy suddenly increase, this is taken as a warning flag. At the start of the 2000s, the STA gained access to internal calculations of the VAT discrepancy from the National Accounts for the period 1993–2002.[11] The discrepancy is significantly smaller in these calculations than in Tengblad's calculations for previous years. For the period in question they were, on average, just 1.3 per cent of the theoretically calculated VAT.

2000-2006: The EU states - Reckon's study

Generating knowledge about the VAT gap in member states is a major concern in the EU. An important part of the EU's budget consists of a VAT-based fee. The greater the total VAT gap in the member states, the higher the charge in percent of the VAT base. Moreover, if the gap differs between countries the effective rate is higher for some countries than for others. Serious attention is also paid to the negative consequences of tax evasion on economic development and competition in the internal market. In order to improve knowledge of the conditions in the different countries, the EU Commission commissioned an English consultancy firm (Reckon LLP) to calculate the VAT gap in the member states.

The study covers the period 2000-2006. The figures for 2006 are estimates since output data was missing (for all countries except Luxembourg). In certain parts of the calculations, Reckon have made general (not country-specific) assumptions (i.e., the percentage of deductible VAT within the financial sector). These general assumptions may have affected the extent of the member states' VAT discrepancy in different ways.

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[9] Former Head of Statistics for the National Accounts

[10] Tengblad, Å. (1994). *Beräkning av svart ekonomi och skatteundandragandet i Sverige 1980–1991 [Calculation of the black economy and tax evasion in Sweden 1980-1991]*. Århundradets skattereform, Uppföljning av skattereformen 1990–1991, del II. Norstedts Tryckeri AB. Formerly, Åke Tengblad was Head of the National Accounts at Statistics Sweden.

[11] SKV 2008:1. *Skattefelskarta för Sverige [Tax Gap Map for Sweden]*.

According to Reckon's calculations, Sweden had in 2006 a VAT discrepancy of 3 per cent[12]. This value was amongst the lowest in the EU. But also Denmark, Spain, Finland, Ireland, Luxembourg, the Netherlands, Portugal and Slovenia had estimated VAT discrepancies of between 1 and 5 per cent. Countries with the largest VAT discrepancy included Greece, Hungary, Italy, Latvia, Lithuania and Slovakia (between 22 and 30 per cent).

Reckon's study shows that the VAT discrepancy in Sweden decreased during the period, from 6 per cent in 2000 to 3 per cent in 2006. In this we joined the group of countries with a steady downward trend during this period: Belgium, Denmark, Ireland, the Netherlands, Poland, Slovenia and Spain. Several countries have had a moderately stable VAT discrepancy (varying within a narrow range). This applies to Finland, France, the United Kingdom, Germany and Austria. For a few countries, the VAT discrepancy actually increased during the period (Greece, Lithuania and Hungary).

Revised 2000–2006 and new computation for 2007–2010: The EU states – CASE-study

In the autumn of 2012 the EU Commission ordered a new study to quantify and analyse the VAT discrepancy in EU member states. The new study, which was published in September 2013, has been led by the Polish research institute CASE (Center for Social and Economic Research). The aim of the EU's new study is to better understand the latest trend within VAT fraud by updating the calculations for 2000-2006 and producing new estimations of the VAT gap for the period 2007-2011.

The method used in the new study is, in principal, the same as that used in the previous Reckon study, but the data has been obtained from other sources and the computations have been better adapted to the conditions in the respective country (e.g., more specific assumptions for financial companies).[13]

In the previous Reckon study, the final year for computations was 2006. Sweden's VAT discrepancy during this year was calculated to approximately 3 per cent of the theoretical VAT. In the CASE computation, the discrepancy for the same year is 5 per cent. The difference arises firstly because the actual VAT revenues have been revised, secondly because certain general revisions have been made to the composition of consumption. Moreover, the VAT calculation for financial companies has been better adapted to country-specific conditions in the new computation.

In the new computations, Sweden has the lowest VAT discrepancy of the 26 EU states included in the study. Sweden's average for the period 2010-2011 lies at around 4 per cent, with a steady downward trend.

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[12] Reckon LLP Report 2009-09-21. *Study to quantify and analyse the VAT gap in the EU-25 Member States*. London

[13] One new source is the World Input-Output Database (WOID) which contains harmonised information for 50 countries, including the EU states. Within the database, usage is divided up into 59 product groups which are used in the calculations of the theoretical VAT. WOID covers up to and including 2009. For 2010–2011, information found in EUROSTAT has been used to project WOID's information.

1993-2011: Sweden – NA's internal calculations, autumn and winter 2013/2014

The most recent calculation of the discrepancy done by the NA is based on data from the autumn and winter of 2013–2014. Currently it encompasses the years 2008-2011. During spring 2014, the period 1993 - 2007 will also be updated. More details on the computation can be found in Appendix 4.

As with the CASE study, the internal calculations of the NA indicate a clear reduction in the discrepancy from 2008. This reduction actually occurred already in 2007, but can only be captured from 2008 because of difficulties in correcting the actual VAT for the periodisation effects that arose in the construction industry with the introduction of reversed VAT-charge on construction services. For the years 2001 - 2006, the discrepancy averages approximately SEK 10 billion, or approximately 4 per cent of the theoretical VAT. For the years 2008-2011, the discrepancy averages approximately SEK 5 billion, or approximately 1.5 per cent of the theoretical VAT.

In September 2014, the NA will publish a review of calculation methods, etc., in conjunction with the introduction of the revised manual ENS 2010. At such reviews, the calculations are generally revised for longer time periods. Hence, the revision will affect the results of the calculations of the VAT discrepancy for the years described here.

6.2.5 Hidden incomes in the household sector – method and results of measurements conducted at different times

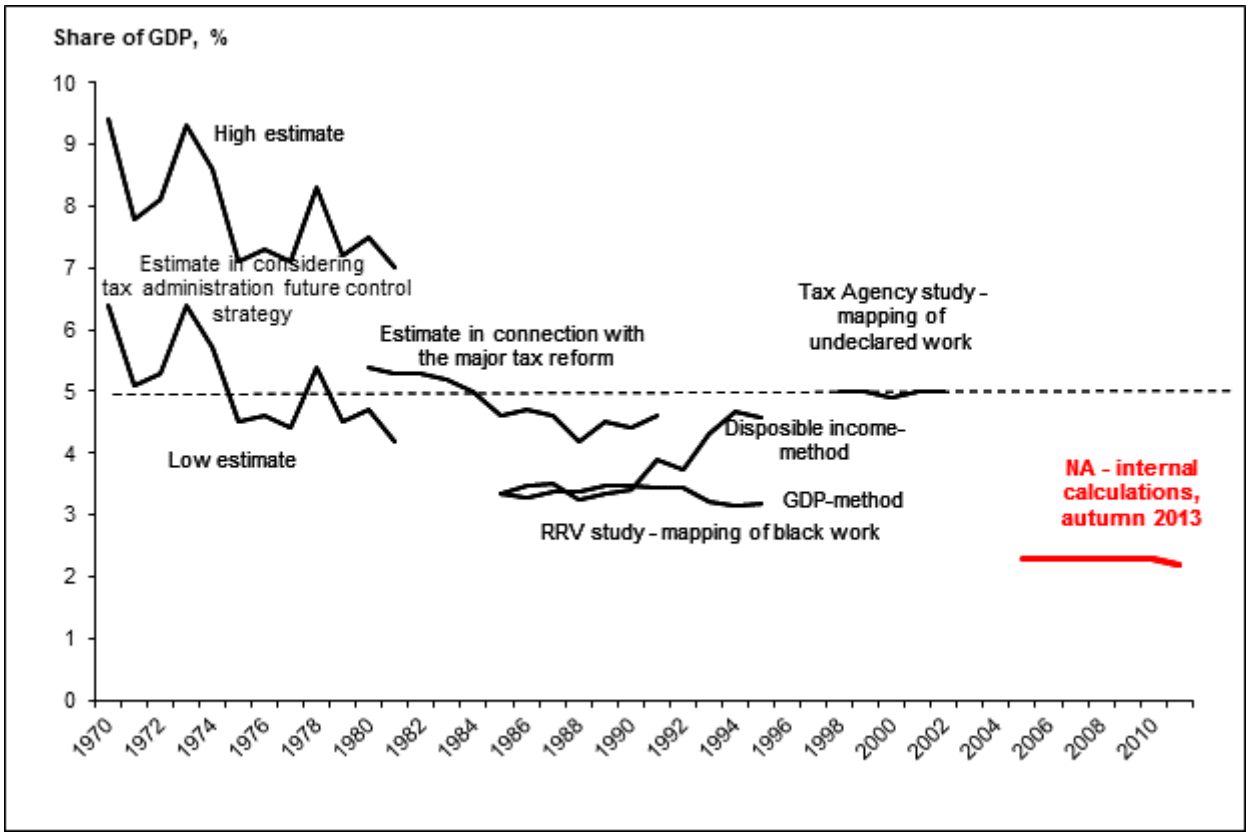
Calculations of hidden incomes, based on national accounts data for the household sector has been conducted on four separate occasions in Sweden. With the exception of certain years, the calculations cover the period 1970–2002. In the autumn of 2013, Statistics Sweden conducted new calculations for the STA for the years 2005 - 2011. The method used compares national accounts data on households' use of disposable income for consumption and saving (including the hidden incomes) with what is actually reported in income tax returns and corporate accounting. As was mentioned earlier, various measures are taken by the National Accounts to ensure that data on usage reflect the "true" level. After certain corrections handling differences in definitions and delimitations, the difference between these two data series gives a rough estimate of unreported income.

The discrepancy captures both hidden incomes derived from false accounting (e.g., that private costs are recorded as company costs) and incomes kept entirely outside the accounting. Moreover, it covers both payments to employees (unreported wages) and non-reported mixed earned income for personal businesses[14].

[14] The term "mixed earned income" in the national accounts refers to a combination of wages and capital income for personal businesses.

The results of the measurements of hidden income from work in the household sector are summarised in Diagram 5**Fel! Ogiltig självreferens i bokmärke.**, expressed as percentage of GDP.[15] The different calculations presented in the diagram are commented below.

Diagram 5. Estimates of hidden income in the household sector, based on national accounts and the income statistics. Percent of GDP.



Previous computations for the period 1970–2002

The first calculation using the described method was conducted in 1984 in conjunction with considerations concerning the future control strategy of the STA.[16] It covered the period 1970-1981. A second calculation, covering the years 1980-1991, was conducted in 1993 by Åke Tengblad in conjunction with the evaluation of the 1990/91 tax reform.[17] In 1998,

[15] The percentage of GDP is the value that can be found in the respective publication. No later revisions of the GDP, etc., have been observed.

[16] RSV 1984:5, Hansson, I. *Sveriges svarta sektor. Beräkning av skatteundandragandet i Sverige. [Sweden's hidden sectors. Calculation of tax evasion in Sweden.*]

[17] Tengblad, Å. (1994). *Beräkning av svart ekonomi och skatteundandragandet i Sverige 1980–1991 [Calculation of the hidden economy and tax evasion in Sweden 1980-1991]*. Århundradets skattereform, Uppföljning av skattereformen 1990–1991, del II. Norstedts Tryckeri AB.

Tengblad carried out new calculations to serve the Swedish National Audit Office's mapping of the hidden economy.[18] Covering the period 1985–1992 it partly overlapped with the previous computation. This time two different methods were used to address the uncertainty of the calculations. Using the disposable income method, the previous calculation was revised producing lower estimates than before. In addition, calculations using the "GDP method" based on GDP measured from the income side were done. For the first part of the period, the two methods produced similar estimates but for the latter part they diverged. In conjunction with the STA mapping of unreported labour done in 2005, the measures were updated by Statistics Sweden using the disposable income method to include the years 1998–2002.[19] The results from all these computations covering three decades show a relatively stable – or possibly slightly decreasing – picture of hidden incomes in the household sector over the years, expressed as a percentage of GDP.

2005-2011: NA's internal calculations, autumn 2013

The most recent estimate, the NA's internal calculations, is based on the disposable income method. Table 12 below illustrates the extent of hidden earned incomes for 2005–2011, according to NA's calculations done in autumn 2013. Hidden factor income is the sum of "Non-reported wages" and " Non-reported mixed earned income".

Table 12. Hidden earned income in the household sector according to NA's calculations from autumn 2013

Year	Non-reported wages, in SEK billions	Non-reported mixed earned income, business proprietors, in SEK billions	Total hidden income, SEK billions	Proportion of GDP, per cent
2005	35.4	27.8	63.2	2.3%
2006	36.3	32.4	68.7	2.3%
2007	36.8	34.5	71.3	2.3%
2008	37.1	35.6	72.7	2.3%
2009	37.8	34.3	72.1	2.3%
2010	38.7	36.8	75.4	2.3%
2011	39.7	38.5	78.2	2.2%

These calculations indicate that hidden earned incomes amount to 2-3 per cent of GDP. The calculations indicate that the hidden incomes in recent years are lower than in the calculations conducted for the 1970s, 80s and 90s.

In computations conducted in connection with the mapping of unreported labour, and in the calculations carried out by Statistics Sweden in autumn 2013, a special scheme was used for comparison of household incomes in accordance with NA's concept and the income

[18] RRV 1998:28, Tengblad, Å. *Beräkningar över den svarta ekonomin i Sverige (Calculations of the hidden economy in Sweden)* Svart arbete 2: Omfattning, bilaga 1.

[19] SKV 2006:4. *Svartköp och svartjobb i Sverige [Purchasing and Performing Undeclared Work in Sweden]*.

statistics. The scheme was developed in connection with a review of the economic statistics conducted in the early 2000s.[20] In the scheme, a detailed comparison is made of household disposable income according to the national accounts and the income statistics. The general definition of the concept of ”disposable income” is the same in the different branches of statistics, i.e., disposable income is the sum of factor incomes and positive transfers with deductions for negative transfers. However, when going into practical details, there are differences in classifications, in how different components are calculated and in the sources used in the calculations. The NA's concept include hidden incomes generated in conjunction with production, whilst the income statistics are based on register data on information reported. Corrections are also made for certain differences in definitions and delimitations between the income statistics and NA's concept. Additions for non-reported incomes and illegal activities occur both as wage incomes, and as mixed earned incomes (income from own business activity).

6.3 Questionnaire surveys of the Swedish Tax Agency

This section reports the results from the STA questionnaire surveys on perceptions among citizens and businesses of the prevalence of tax evasion and unreported labour. In the surveys, the terms “svartarbete” (Eng. black labour), “arbeta svart” (Eng. working black) and “svarta löner” (Eng. black wages) are used to refer to unreported labour and labour income since these are the terms used in ordinary language. Therefore, in this section, when referring to the survey the literal translations “black labour”, “working black”, “black wages” etc. are used.

6.3.1 Citizen and business perceptions of the prevalence of tax evasion and black labour

Major surveys among citizens and businesses have been conducted at various intervals by the STA. Among other things, questions are asked to capture perceptions of the prevalence of tax evasion and unreported labour. The most recent surveys directed to citizens were conducted in 2006 and 2012 while those directed to businesses were conducted in 2007 and 2013.[21] The developments in the responses to questions about tax evasion are described below. There is a clear trend in the responses which might indicate a decrease in the tax gap. However, the extent to which responses to this type of questions reflect actual changes in the tax gap is uncertain. Moreover, everyone does not respond to the questionnaires. This also contributes to the uncertainty of the results.

The questions in the surveys are formulated as statements to which the respondent agrees or disagrees, on a five digit scale. There is also an option to respond with ”no opinion”. The results are shown below in a bar chart. In order to make the results clearer, two response alternatives are merged into those that “agree” with the statement and represented by the red part of the bars. Similarly, the two response alternatives at the other end of the scale are merged into those that ”disagree” represented by the green part of the bars. The

[20] SOU 2002:73. *Förbättrad statistik om hushållens inkomster.* Justitiedepartementet.
[21] SKV 2012:1. *Medborgarnas synpunkter på skattesystemet, skattefusket och Skatteverkets kontroll [Citizens' views of the tax system, tax evasion and Skatteverket's control].*
SKV 2013:3. *Företagens synpunkter på skattesystemet, skattefusket och Skatteverkets kontroll [Businesses' viewa of the tax system, tax evasion and Skatteverket's control.*

intermediate response alternative are those that ”neither agree nor disagree”, depicted in yellow. In order to clarify the trend among those stating an opinion, the percentages in this section are reported as percentages of those who stated an opinion. In addition, the percentage responding ”no opinion” is also reported in the diagrams.

The mean value of the answers for those expressing an opinion is reported under the bar charts. It can be seen as a summary measure of all the respondents expressing an opinion. However, it is important to bear in mind that the survey results, by their very definition, are concerned with ordinal data, i.e., the appraisal scale is ranked but there is no predetermined distance between the values. To test the statistical significance of differences between years, statistical tests have been conducted on the mean value using a significance level of 5 percent.

While the older surveys were conducted on a random selection of 3,000 individuals and businesses respectively, the 2012 and 2013 investigations used a selection of 5,000 individuals/businesses. The response rate is between 50 and 55 percent in all of the citizen surveys as well as in the business surveys conducted in 2007 and 2013. In the surveys of businesses conducted in 2002-2005, the response rate was between 40 and 45 percent.

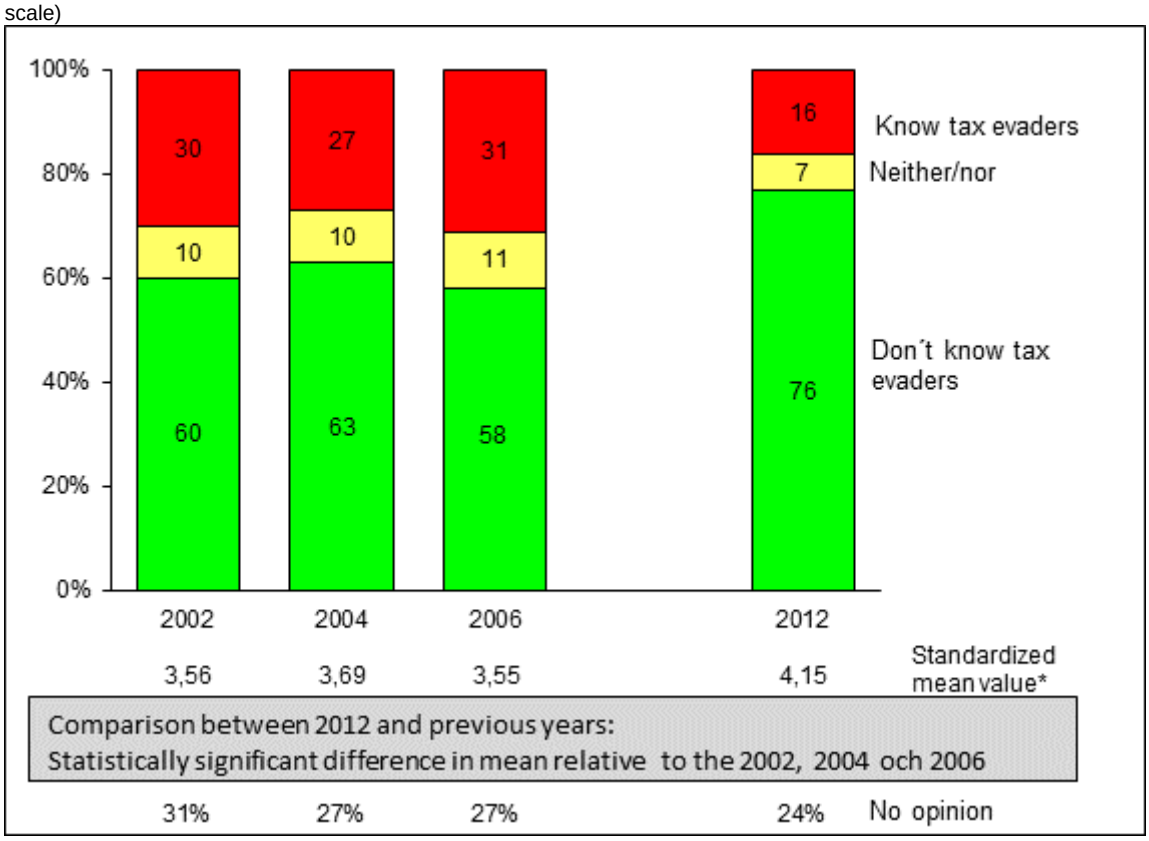
It is reasonable to assume that the error due to nonresponse is roughly the same in each survey. Comparisons over time should therefore not be greatly affected by nonresponse. The trends are also very clear.

Results, surveys directed to citizens

Three questions were put to the citizens on whether they personally knew people who evade tax, work black or hire black labour (Diagram 6–8). Between 2002 and 2006, there was a slight increase in the percentage who knew people who evade tax, work black or hire black labour. But between 2006 and 2012, this trend had reversed. In 2012, the percentage who knew people who evade tax, work black or hire black labour was considerably smaller than in 2006.

Diagram 6. Citizens: ”I personally know people that evade tax”. 2002-2012.

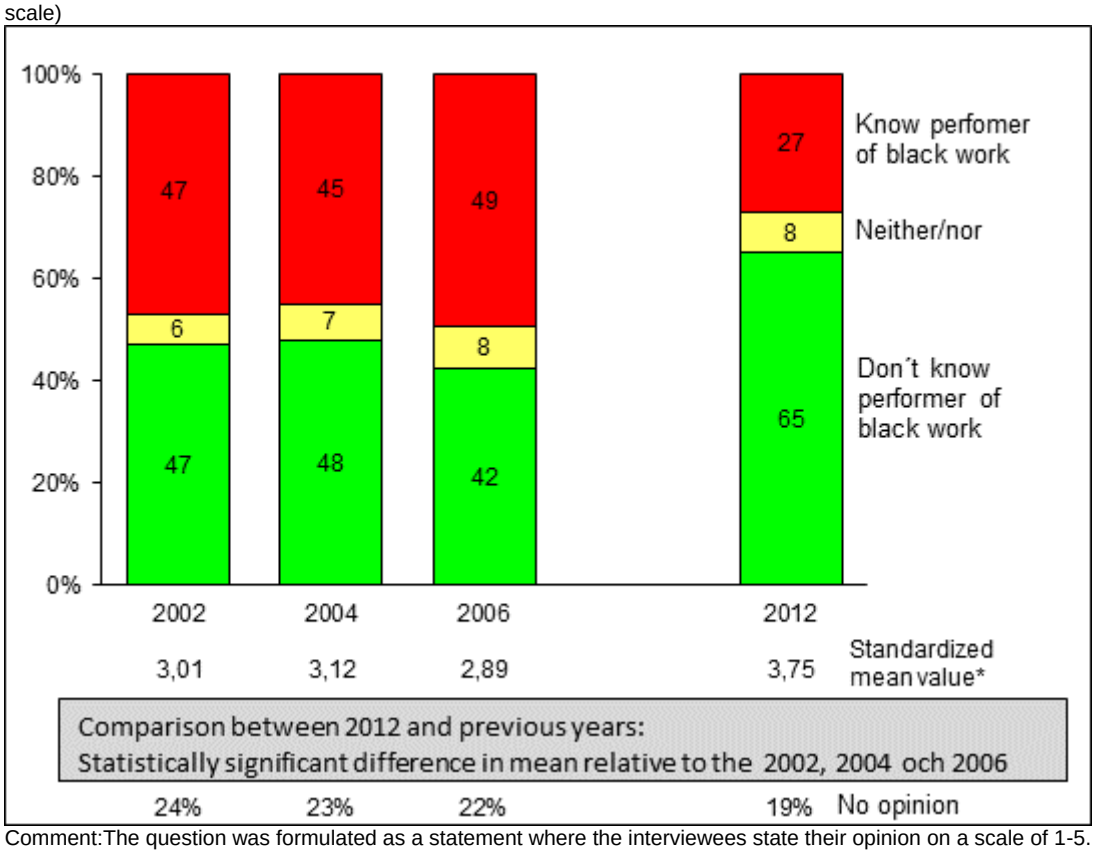
The numbers in the bars are the percentages of the respondents expressing an opinion (responded 1-5 on the 5 point scale)



Comment: The question was formulated as a statement where the interviewees state their opinion on a scale of 1-5. (1=Strongly disagree; 5= Strongly agree).
* A high standardized mean value implies that the prevalance of tax evasion is perceived to be low.

Diagram 7. Citizens: ”I know someone who has performed ’black work’ in the past year”. 2002-2012.

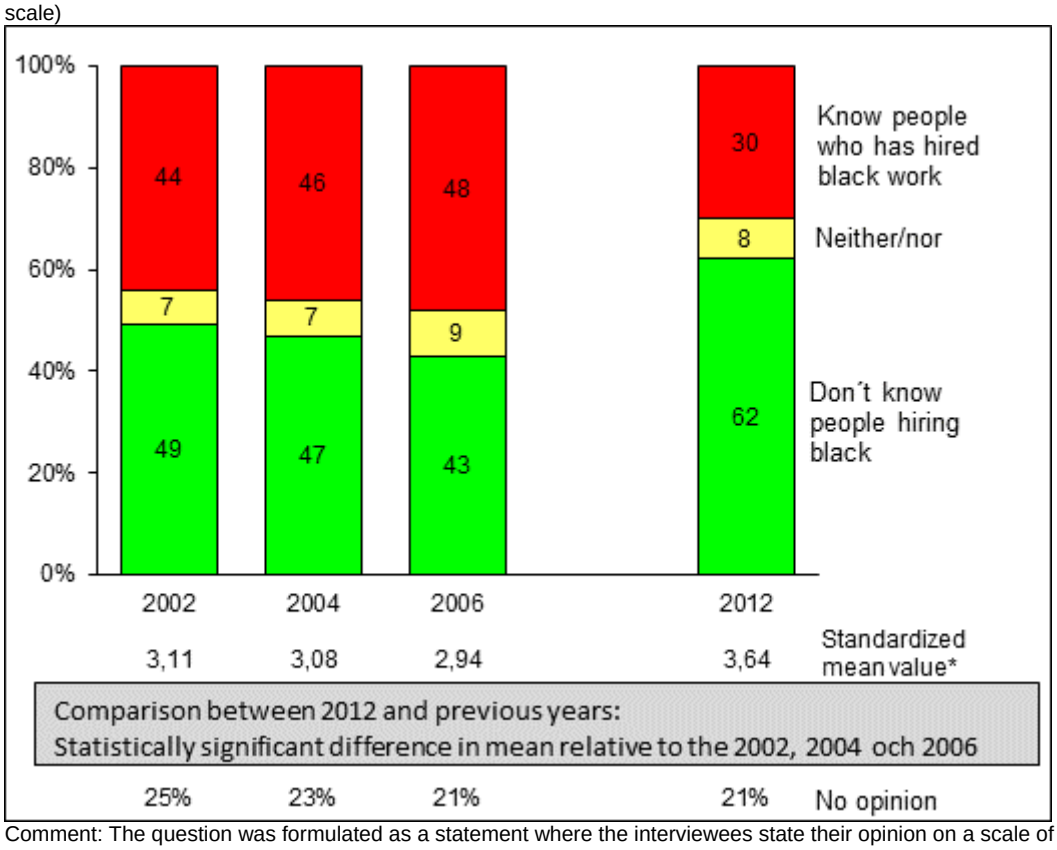
The numbers in the bars are the percentages of the respondents expressing an opinion (responded 1-5 on the 5 point scale)



Comment:The question was formulated as a statement where the interviewees state their opinion on a scale of 1-5. (1=Strongly disagree; 5= Strongly agree).
* A high standardized mean value implies that the prevalance of tax evasion is perceived to be low.

Diagram 8. Citizens: ”I know someone who has hired ’black labour’ in the last year”. 2002-2012.

The numbers in the bars are the percentages of the respondents expressing an opinion (responded 1-5 on the 5 point scale)



Comment: The question was formulated as a statement where the interviewees state their opinion on a scale of 1-5. (1=Strongly disagree; 5= Strongly agree).
* A high standardized mean value implies that the prevalance of tax evasion is perceived to be low.

Results, surveys directed at businesses

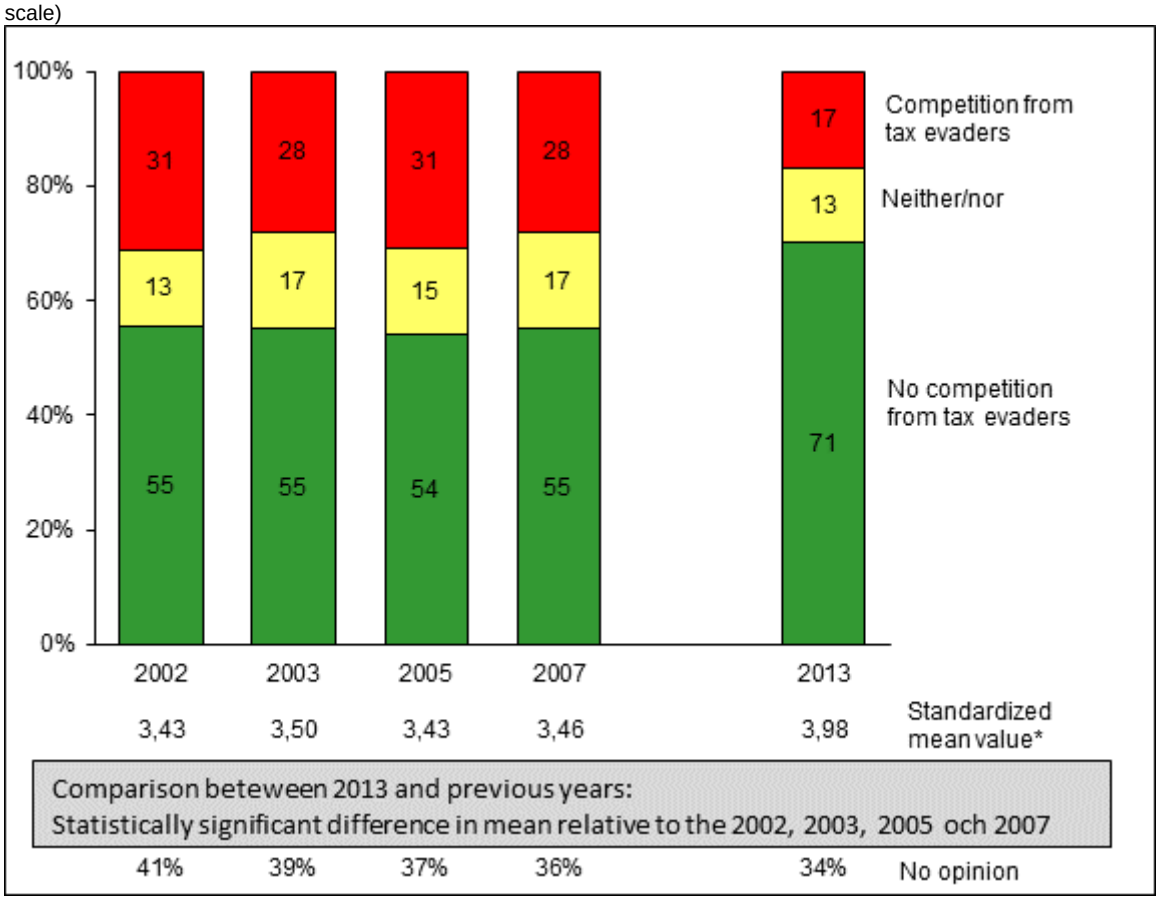
Awareness among companies of tax evasion in their own industry and its development over time can provide an indication of the development of the tax gap. The probability of a business evading tax can be assumed to be greater if competition from businesses that evade tax is perceived as considerable. This could affect the profitability and the survival of the business in question.

In the surveys conducted during the 2000s, businesses were asked two questions on their awareness of tax evasion. One question was related to their exposure to competition from companies that evade tax. The other focused on whether they personally knew companies that evade tax.

Diagram 9 below shows the percentage that agreed with the statement *”Our company is heavily exposed to competition from companies within the industry that evade tax”* . Between 2002 and 2007 it did not change much but between 2007 and 2013 it fell from 28 to 17 percent while the percentage that did not agree increased from 55 to 71 percent.

Diagram 9. Businesses: ”Our company is heavily exposed to competition from companies within the industry that evade tax”. 2002-2013.

The numbers in the bars are the percentages of the respondents expressing an opinion (responded 1-5 on the 5 point scale)

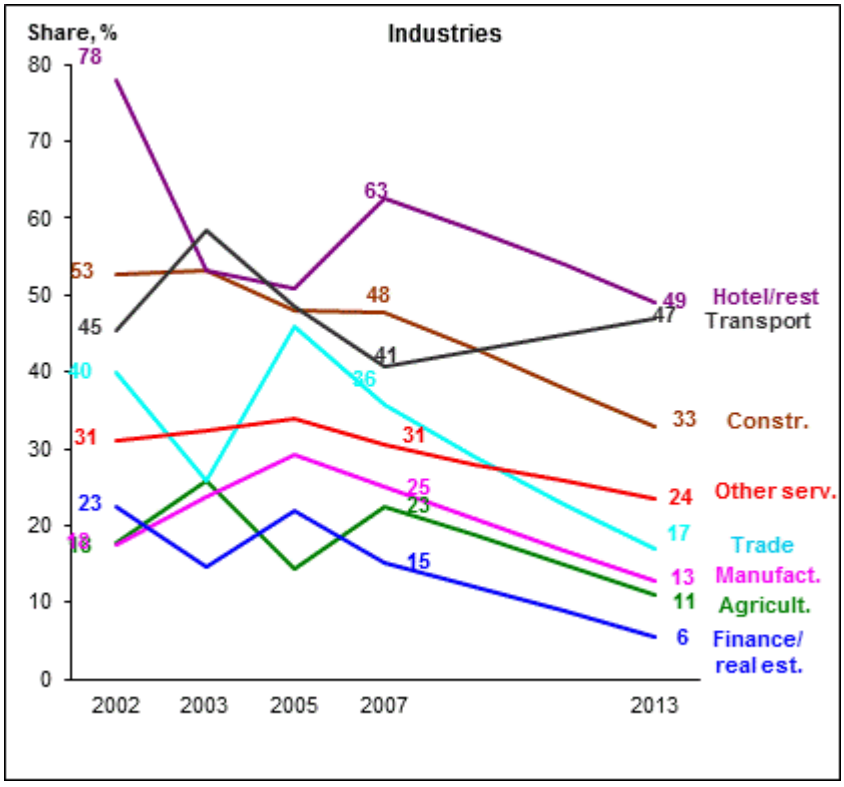


Comment: The question was formulated as a statement where the interviewees state their opinion on a scale of 1-5. (1=Strongly disagree; 5= Strongly agree).
* A high standardized mean value implies that the prevalance of tax evasion is perceived to be low.

For agriculture, manufacturing, construction, trade and finance/real estate sectors etc., the improvement between 2007 and 2013 is statistically significant. For hotel/restaurants and other services the mean value also improves, but the change is not statistically significant. The transport sector shows varying results over the years (Diagram 10).

Comparing the results from different industries in the 2013 survey, a higher percentage agree to the statement that they are exposed to competition from tax evading companies in the hotel/restaurant, transport and construction sectors than in other industries. Similar results are found in previous investigations.

Diagram 10. Businesses: Percentage of businesses that agree to the statement that they are heavily exposed to competition from companies within the industry that evade tax. Development in industries over time.

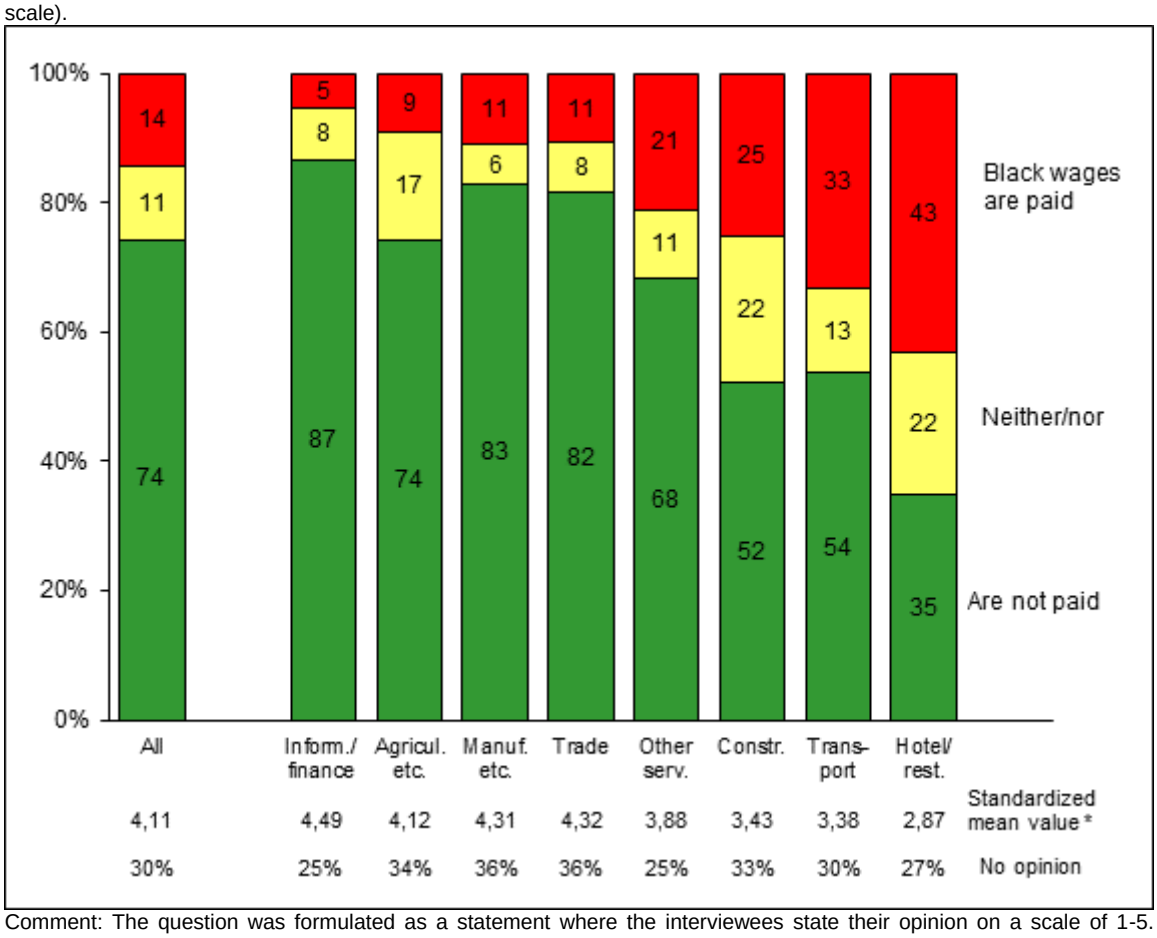


Comment: The proportion for the various industries is given as a percentage of the respondents in the industry in question expressing an opinion.

In the 2013 survey, businesses were also faced with the statement *"Black wages are paid in our industry"* (Diagram 11). Since the question had not been asked in previous surveys, the results cannot be compared over time. However, the results adds to the picture provided by the question above. The percentage agreeing to the statement that black wages are paid in their industry is higher for the hotel/restaurant, transport and construction industries than for others, i.e., the same pattern as for the question on competition from companies within the industry that evade tax.

Diagram 11. Businesses: ”Black wages are paid in our industry”. 2013

The numbers in the bars are the percentages of the respondents expressing an opinion (responded 1-5 on the 5 point scale).

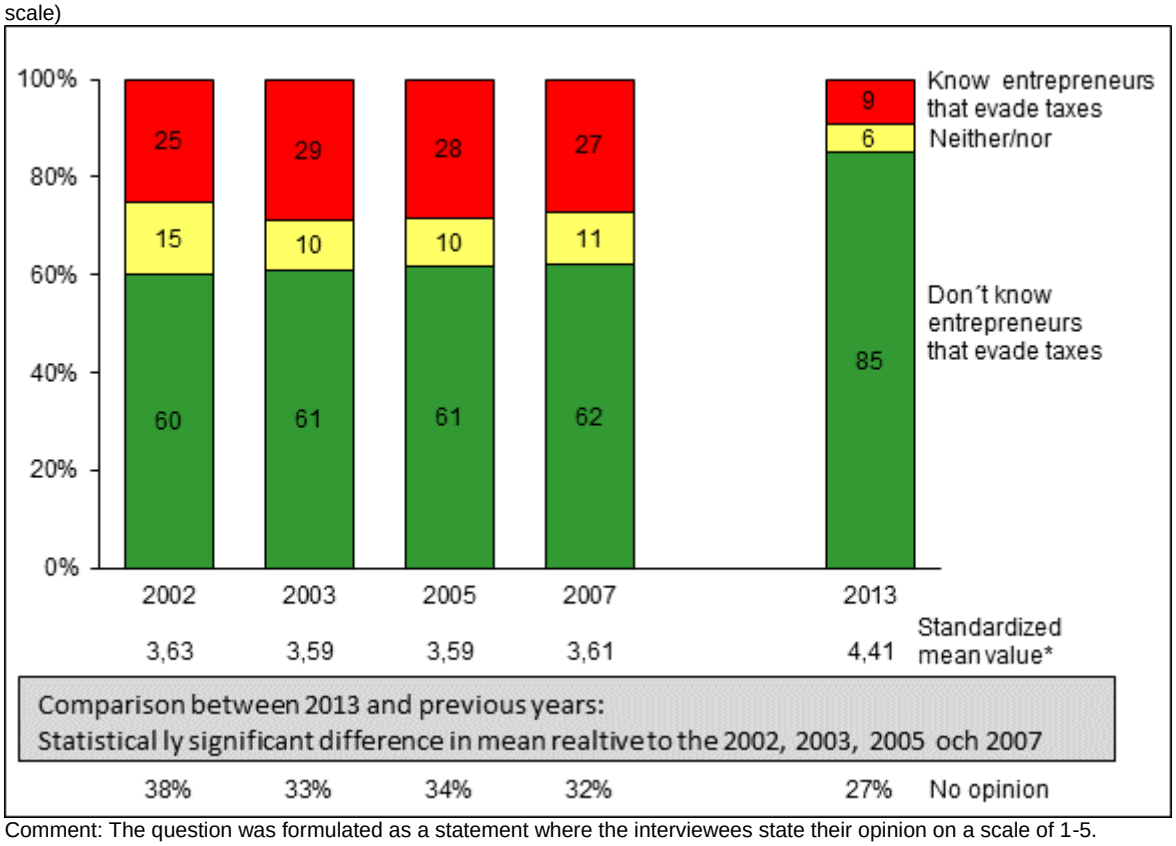


Comment: The question was formulated as a statement where the interviewees state their opinion on a scale of 1-5. (1=Strongly disagree; 5= Strongly agree).
* A high standardized mean value implies that the prevalance of tax evasion is perceived to be low.

The statement *”I personally know entrepreneurs who evade tax”* (Diagram 12) has been included in the business surveys over the whole period. Unlike the question on exposure to competition, this is not explicitly targeted at the respondent's own industry. The percentage agreeing with the statement is, on the whole, unchanged between 2002 and 2007, but falls between 2007 and 2013.

Diagram 12. ”I personally know entrepreneurs who evade tax”. 2002-2013.

The numbers in the bars are the percentages of the respondents expressing an opinion (responded 1-5 on the 5 point scale)



Comment: The question was formulated as a statement where the interviewees state their opinion on a scale of 1-5. (1=Strongly disagree; 5= Strongly agree).
* A high standardized mean value implies that the prevalance of tax evasion is perceived to be low.

6.3.2 The Demoskop Panel point to improved norms in respect of black labour

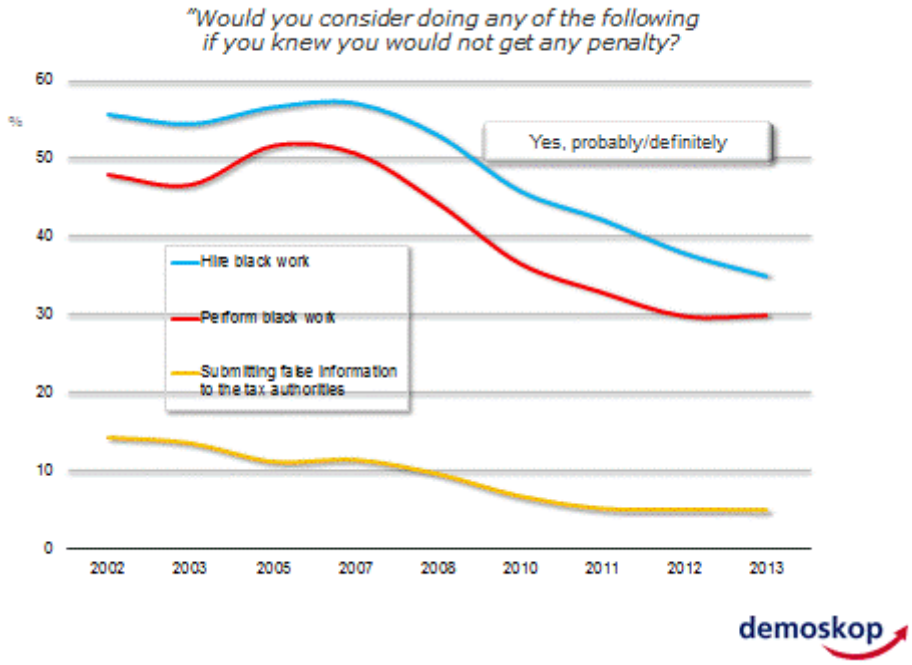
Within the scope of the ”Demoskop Panel” the research company Demoskop has, on nine occasions during the 2000s, asked citizens three questions connected to peoples' norms on hiring black labour, working black and submitting false information to the tax authorities.

- Would you consider hiring black labour if you knew there would be no penalty?
- Would you consider working black if you knew there would be no penalty?
- Would you consider submitting false information to the tax authorities if you knew there would be no penalty?

The most recent survey was conducted in the spring of 2013. During the period 2002–2007 there was an increase in the proportion stating that they might consider *hiring black labour* and *working black*. After this, the trend has reversed but the changes since 2012 are minor. With

regard to the inclination to *submit false information to the tax authorities*, there is a clear declining trend since 2002 (Diagram 13).

Diagram 13. The Demoskop Panel on purchasing black services and working black



The responses to the Demoskop Panel's questions indicate that the respondent's attitude to working black, hire black labour and submitting false information to the tax authoritiy has improved since 2007. It is positive in itself that norms on compliance seem to be improving. However, the extent to which the change in values reflect change in behaviour is not clear.

6.4 The STA random investigations

The STA carries out a number of nationally coordinated control initiatives on a continuous basis. A number of random investigations are also conducted every year. The aim of these activities is partly to find errors in tax returns and other submitted information worth investigating, and partly to look at how well the tax system works. The nationally coordinated initiatives are largely based on selections of tax returns deemed to have a high probability of being incorrect. As the name suggests, the random investigations are based on a random selection from a defined group of tax payers or tax returns.

6.4.1 Ordinary control actions

In the evaluation of the regional tax agencies' control activities conducted at the end of the 1990s, deficiencies in direction, management and monitoring were highlighted.[22] To overcome these deficiencies, nationally coordinated action plans were introduced in the early 2000s. Over time, systems and structures for risk assessment and business intelligence have been developed with the aim of identifying risks in the collection of taxes at early stages as well as the need for new knowledge to improve the accuracy of selections for control.

For the purposes of the current study, all nationally coordinated actions that have been considered to be specifically geared towards the STA long-term goal to minimise the tax gap have been studied. For their control activities, all these actions use national selections of tax returns and other submitted information that is considered to have a high probability of being false. This implies that the selections cannot be attributed to a distinct and clearly defined target population. In other words, the individual tax subjects in risk-based selections only represent themselves. Therefore, the results do not provide a basis for calculating the tax gap in the total population of tax payers.

6.4.2 Random investigations

During the period 2005–2012, a total of 76 random investigations were carried out (Table 13). Nearly half of these were conducted to produce fundamental monitoring information for the so called Guppi-system in accordance with an internal report on information needed for monitoring and direction of control activities[23].

Table 13. Number of random investigations per year

Investigation	2005	2006	2007	2008	2009	2010	2011	2012	Total
Initiated for the Guppi-system	12	12	9	2	-	-	-	-	35
Other	1	1	5	8	8	6	5	7	41
Total	13	13	14	10	8	6	5	7	76

The internal report stated that the entire tax gap cannot be measured but that parts of the tax gap and changes within it can be measured, and that the extent of the tax gap can only be quantified through regular, recurrent evaluations. According to the report, experiences from random selections indicate that the knowledge and ability of the executing officer are of major significance to the outcome. The investigations should therefore be concentrated on a specific issue and involve a small number of officers. According to the report, random selections should be used only to measure error frequencies, since calculations of the size of the tax gap requires significantly greater selections since many more factors need to be taken into account. The overall assessment of the report was that extending selections over and above what was required to measure the error frequency was not justified.

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[22] RSV 1998:3. *Skattefel och skattefusk. En utvärdering av skattekontrollen 1992–1997 [Tax gap and tax fraud – an assessment of compliance checks 1992-1997.]*.

[23] SKV 2004:9. *Grundläggande uppföljningsinformation [Fundamental monitoring information]*.

In accordance with the positions taken following the report, the random investigations performed since 2005 have primarily been designed to measure the frequency of errors, not the size of the tax gap. This applies also for most of the investigations done for other purposes than the Guppi-system.

6.4.3 Tax gaps for individuals according to random selections 2006-2012

As just described, the main purpose of the random investigations conducted since 2005 has been to measure error frequency. However, the design of some of the investigations concerning tax returns for individuals is such that the results can be used to estimate the extent of the total tax gap in specific areas. These investigations concern the assessment years 2006 – 2012. They cover the majority of the tax items in income tax returns for individuals that are based mainly on information provided by the taxpayers themselves, i.e., where information from third parties is not available or at least not to the extent that the tax can be settled without the taxpayer providing additional information. The items investigated consist of four deductions related to employment income, capital income from sales of private housing and deductions for asset management costs. The main items in individual's income tax returns where tax is settled largely on information provided by taxpayers themselves but where we do not have adequate information to estimate the total amount of the tax gap are related to profits from the sale of securities other than funds, and returns on capital holdings abroad. The estimated tax gap, based on the latest random investigations for each area, is presented in the compilation in Table 14.

Table 14. Estimated tax gap on items in the income tax returns where information has to be provided by taxpayers themselves. Controls based on random selections, 2006–2012.

	Year of assessment	Errors in claimed amount		Assumed marginal rate of tax	Estimated tax gap, in SEK millions
		Percentage of total amounts claimed	Amount (net[1]) scaled up to national level, in SEK millions		
Deductions related to employment income					
Travel to and from work	2006	20%	2,705	35%	947
Business travel	2007	26%	136	35%	48
Dual residence	2010	30%	633	35%	222
Other expenditure	2008	82%[2]	422	35%	148
Total		*23%*	*c. 3,900*		*c. 1,360*
Capital incomes					
Sales of private housing	2012	10% of cost deductions	4,085	22%	899
Asset management costs	2008	46%	210	30%	63

1) Some have claimed deductions that are too large and some too little. The stated error is the net of these changes.

2) The error percentage applies for the part of the deduction that exceeds the reimbursement of expenses received, according to the statement of income.

Comment In cases where an area has been investigated several times during the period, the value given in the compilation applies to the most recent investigation.

Deductions related to income from employment

For the assessment year 2012, settled deductions from employment income amounted to approximately SEK 18 billion. All of the various deductions related to employment income are covered by at least one of the investigations conducted between 2006 and 2010. The net value of the errors amount to 23 percent of the total value of the initially claimed amounts producing an estimated total tax gap of nearly SEK 1.4 billion.

To assess the change in the tax gap we need data for more than one year in the period studied. This is only available for two of the items, *dual residence* and *other expenditure.* On *dual residence* there is data for both 2006 and 2010 showing no change in the tax gap related to this item. For the item *other expenditure*, there is data for 2006, 2007 and 2008. The tax gap was roughly the same in 2006 and 2007. For 2008, however, the investigations suggest that the amount of the gap was halved, from approximately SEK 290 million to approximately SEK 150 million. This coincides with a change in the tax rules, whereby the limit for this type of deductions was raised from SEK 1,000 to SEK 5,000. Hence, the relative gap (i.e., the gap expressed as a percentage of claimed deductions) for 2008 remains at the same level.

Capital income of individuals

Capital incomes of individuals is the net of income from interest, dividends, interest expenses, capital gains and losses and management costs. With regard to income from

interest, dividends and interest expenses the STA generally has access to third party information. For those parts of capital income taxation where information has to be supplied by taxpayers themselves, we have data to calculate the tax gap on two items: asset management costs and the sale of private housing. The sale of private housing account for roughly two thirds of capital gains of individuals. The remaining third is gains from the sale of securities, where the availability of third party information is mixed. A third of the gains from security sales is covered by income statements. On the remaining two thirds there is third party information on sales prices, but information on purchase prices has to be provided by the taxpayer.

The *sale of private housing* has been investigated on several occasions, but only data from the 2012 investigation allows us to estimate the extent of the tax gap. The 2012 investigation focused on expense deductions, including costs of improvement. The data indicate that incorrect expense deductions amount to SEK 4 billion or 10 per cent of total deductions. This corresponds to a tax gap of approximately SEK 900 million.

The *deduction for asset management costs* was investigated in 2007 and 2008. Based on the 2008 investigation, the tax gap is estimated to SEK 63 million. There is nothing to suggest that the tax gap changed between the two years.

To sum up, in their current design ordinary control actions random investigations provide only limited information regarding the size of the tax gap.

6.5 Alcohol and tobacco

Alcohol and tobacco are taxed with an excise duty for the specific good and, like the majority of all consumer goods, with a general value added tax (VAT). The excise duty is included in the value on which the VAT is calculated.

Estimations of the tax gap for alcohol are based on information on consumption from the ”Monitor project”[24] run by the Centre for Social Research on Alcohol and Drugs (SoRAD)[25]. The information regarding traveller’s import of alcohol and smuggled alcohol has, however, been obtained from the Swedish Council for Information on Alcohol and Other Drugs (CAN)[26] which assumed responsibility for the Monitor project in 2013. Illicit production of alcohol constitutes only around two per cent of alcohol consumption, converted to 100 per cent pure alcohol[27]. Regarding travellers’ import of alcohol, information is available on spirits, wine and fortified wine, export (strong) beer and cider, and for smuggling there is information regarding spirits, wine (total), export (strong) beer and cider (from 2011). To calculate the excise duty and VAT, the average selling price at

[24] Leifman, H et al. (2012). *Alkoholkonsumtionen i Sverige 2011 [Alcohol consumption in Sweden, 2011]*. Centre for Social Research on Alcohol and Drugs (SoRAD), Stockholm University, Stockholm.
[25] The Centre for Social Research on Alcohol and Drugs (SoRAD) is an interdisciplinary research centre with the task of initiating and conducting social science research within the field of alcohol and drugs. Its activities commenced in 1999 and the centre is based at the Faculty of Social Sciences at Stockholm University. Centre for Social Research on Alcohol and Drugs (SoRAD). Stockholm University, Stockholm. [Website quoted: 19/04/2013, www.sorad.su.se.]
[26] Leifman, H and Trolldal, B; The Swedish Council for Information on Alcohol and Other Drugs (CAN) , Stockholm. Personal communication 09/10/2013.
[27] Leifman, H et al. (2012).

Systembolaget (the Swedish alcohol monopoly) has been used. For spirits, the alcohol content has been assumed to 38 per cent in the calculation, corresponding to the average alcohol content of spirits sold by Systembolaget. Hence, the calculations are based on the assumption that consumers would have made the same alcohol purchases at Systembolaget, had they not brought alcohol back when travelling or smuggled it.

The tax gap for tobacco described in this report only represents the tax gap for cigarettes. Cigarettes represent the vast majority of registered tobacco consumption in Sweden. The excise duty for registered, legally sold, cigarettes accounted for 68 per cent of the total excise duty (net) for tobacco in 2012, whilst 'snus' (Swedish moist snuff) accounted for 19 per cent. Within the Monitor project, the information regarding unregistered consumption of 'snus' is based "on responses from very few people, which is why there is great uncertainty about this estimate"[28].

Two alternative estimations are reported in respect of the tax gap for cigarettes: one based on the Monitor project[29,30] and one from HUI Research[31,32]. At the request of the government, SoRAD surveyed total consumption of alcohol and tobacco in Sweden during the period 2000–2012. The survey was based on a calculation model using statistics on registered, legal sales of such products in Sweden. To this was added calculations of consumption of unregistered alcohol and tobacco (including travellers' import, smuggling, home production and internet purchases) estimated on information from interview surveys. The interviews are conducted every month via telephone and encompass a random selection of 1,500 persons aged 16-80. Since 2011, people who only have a mobile phone are also included. This should make the selection more representative, especially amongst younger people.[33]

HUI Research is commissioned by Svenska Tobaksleverantörsföreningen (the Swedish tobacco manufacturers' trade association) and Philip Morris, to conduct annual investigations to calculate the size of the market for unregistered cigarettes in Sweden. Svenska Tobaksleverantörsföreningen consists of Japan Tobacco International Sweden and British American Tobacco Sweden. In order to estimate the size of the market for unregistered cigarettes in Sweden in 2012,[34] HUI Research conducted three investigations over the course of the year:

- A study based on 10,000 cigarette packets picked up from the ground in 29 large and medium-size cities. By identifying the country of origin and the language of the warning text on each packet, the size of the market for unregistered cigarettes was estimated.

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[28] Sohlberg, T. (2012). *Tal om tobak 2012 [Tobacco figures 2012]* . Centre for Social Research on Alcohol and Drugs (SoRAD), Stockholm University, Stockholm.
[29] Sohlberg, T. (2012).
[30] Sohlberg, T; Centre for Social Research on Alcohol and Drugs (SoRAD), Stockholm University, Stockholm. Personal communication 11/10/2013.
[31] HUI (Swedish Institute of Retail) and TUI (Swedish Institute of Tourism) merged in 2010 to become HUI Research AB.
[32] Arnberg, J et al. (2012). *The market for untaxed cigarettes in Sweden*. En undersökning av marknaden för oregistrerade cigaretter i Sverige 2012 – sponsrad av Svenska Tobaksleverantörsföreningen och Philip Morris. HUI Research AB, Stockholm.
[33] Centre for Social Research on Alcohol and Drugs (SoRAD). Stockholm University, Stockholm. [Website quoted: 19/04/2013, www.sorad.su.se.]
[34] Arnberg, J et al. (2012).

- A study using staff from Securitas, dressed in plain clothes, to visit shops and kiosks in 13 cities to ask for cheap cigarettes. The purpose was to identify the cigarette brands most often sold at low price, and which can therefore be suspected of not being taxed (”cheap whites” or ”illicit whites”[35]). Since the aim was to identify as many brands as possible that were sold as ”cheap whites” they were asked to visit shops they thought might sell cheap cigarettes. If a packet of cigarettes was sold for less than SEK 40, then the brand was noted. The results from this investigation were then used to identify the market for ”cheap whites”, based on the assumption that a packet of cigarettes cannot be sold at less than SEK 40 if all costs, including taxes, are to be covered.
- A study based on a consumer survey where the research company Ipsos was engaged to interview smokers. They were asked about their attitude to buying cheap cigarettes and whether they had themselves bought cigarettes for less than SEK 40. This survey complements the other two investigations by providing further information on the market for unregistered cigarettes.

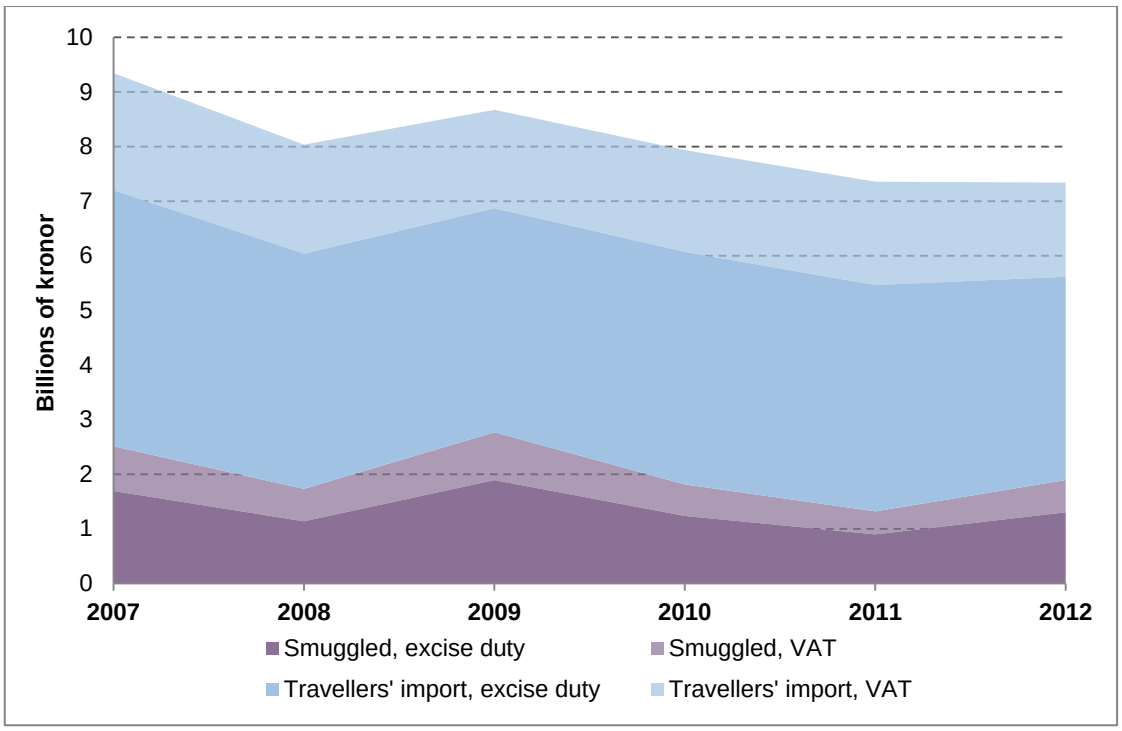
6.5.1 Alcohol

SoRAD and CAN have made minor adjustments of their estimations of alcohol consumption in recent years. The changes consist of an adjustment of the assumptions made on underreporting of alcohol purchases in the interview investigations. The adjustments are based on the results from a new methodological analysis. In brief, the revision imply that the upward adjustments of travellers' imports and smuggling of spirits and beer are slightly higher than before, whilst adjustments of travellers' imports and smuggling of wine are no longer made. This new calculation method leads to a somewhat higher estimate of total alcohol consumption compared with the previous method. The new calculation model has only been applied for the period 2009-2012, i.e., for the years that the methodological analysis was based on. The statistics have not been adjusted further back in time since it is uncertain whether the results are applicable to previous years. For instance, the nonresponse rate was previously considerably lower in the interview surveys. Adjustments of the data from previous years, based on the current situation, therefore runs the risk of providing a false picture.

As far as the consumption of unregistered alcohol is concerned, the Monitor project cannot differentiate between legal and illegal import of alcohol by travellers. If all alcohol imported by travellers is assumed to be legal, implying that tax evasion only occurs through smuggled alcohol, the missing excise duty and VAT, i.e. the tax gap, can be estimated to SEK 1,9 billion, based on the Monitor project. At the other end, if all alcohol brought into the country is assumed to be illegal the tax gap amounts to SEK 7.3 billion (Diagram 14). Hence, the tax gap from consumption of unregistered, illegal alcohol can be assumed to lie somewhere between these two values.

[35] Cigarettes manufactured to be smuggled and sold illegally in another market in a country other than that in which they were manufactured. Production usually occurs outside of the EU and tax is often not paid in the country of manufacture. In Sweden, the cigarettes are often sold with Swedish warning text, at a price that is so low that they must be unregistered, and the price stated on the packet is often higher than the price that the packet is actually sold for.

Diagram 14. Excise duty and VAT for consumption of alcohol brought into the country and smuggled, unregistered alcohol, in SEK billions.



Looking at the development over time, the loss of tax revenue from travellers' import of unregistered alcohol has fallen from SEK 6.8 billion in 2007 to SEK 5.4 billion in 2012. This corresponds to a reduction of approximately 20 per cent. To what extent this corresponds to a reduction in illegal imports is not possible to assess. Missing tax revenues resulting from smuggled alcohol is estimated at SEK 1.9 billion for 2012, but varies for the period 2007-2012 between SEK 1.3 billion and SEK 2.8 billion.

6.5.2 Tobacco

Consumption of unregistered cigarettes in 2012 is estimated, by HUI Research, to between 691 million and 911 million cigarettes. With an average retail price of SEK 50 for a packet of 19 cigarettes[36], this corresponds to a loss of revenue of between SEK 1.4 billion and SEK 1,8 billion. The Monitor project estimates the consumption of unregistered cigarettes in 2012 at 327 million cigarettes legally brought into the country and 37 million smuggled cigarettes. Using the same price assumptions as HUI Research, the loss of tax revenue can be estimated at SEK 638 million, if all unregistered cigarette consumption is included, and to SEK 72 million if only smuggled cigarettes are included. There is, in other words, a noticeable difference in the size of the tax gap between the two investigations. Hence, available investigations does not allow an assessment of the development of the tax gap in this area over time.

[36] Arnberg, J et al. (2012).

6.6 Changes in legislation

This section presents calculations of the effect of various legislative changes implemented during the period, on the tax gap.

6.6.1 Staff registers

The requirement on companies in certain industries to use staff registers came into effect 1 January 2007[37]. The proposal was initially restricted to restaurants and hairdressers. Since 1 April 2013, the requirement also applies to launderettes.[38] The new regulations imply that the companies in question are obliged to register information on a daily basis on individuals working for the company including the exact time that each person start and finish work. The reform also authorised the STA to use a new control instrument – check visits.

The effect on tax avoidance

The aim of the new regulations was to reduce tax evasion by making it more difficult to use unregistered labour in the industries concerned. In 2009 an evaluation of the effects of the new regulations on tax evasion was conducted.[39] The evaluation's point of departure was that the requirement for staff registers and the new control options might be expected to affect the perceived risk of detection in the companies concerned. Thereby it was expected to have a positive impact on companies' inclination to report wages. The evaluation investigated whether there was an increase in reported wages that could not be explained by changes in other factors occurring at the same time.

The evaluation investigated both the initial effect of the new rules during the months following their introduction, and the long-term effects, a couple of years later. This was done using a number of different methods. The uncertainty of the calculations was significant for each of the methods used. However, with regard to the restaurant sector, the different methods produced consistent results. Therefore, the conclusion was that the requirement for staff registers had had a significant effect on wage reporting in this industry. The results also suggested that the effect had increased gradually over the first two years following the introduction of the requirement. All in all, the investigation assessed that the long-term effect on reported wages in the industry was an increase of between 5 and 11 per cent, i.e. between 3,000 and 6,000 annual work units.[40] Based on certain assumptions regarding average monthly wage and current tax rates this corresponds to a reduction in the tax gap of between SEK 400 million and SEK 700 million. For the hairdressing sector, the uncertainty in the estimations was considerably greater, and only a third of the first year's effect remained during the second year. Therefore, the investigation could not establish any long-term effect of the reform within this sector.

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[37] The law (2006:575) on particular tax control in certain industries was introduced via Govt. Bill. 2005/06:169 *Effektivare skattekontroll m.m.[More effective tax controls, etc.]* Since 1 January 2012, the regulations regarding staff registers have been incorporated into the Tax Procedure Act (2011:1244). As a result, the law (2006:575) on particular tax control in certain industries has ceased to apply. The regulations have, essentially, been transferred over to the Tax Procedure Act without changes.

[38] Govt. Bill 2012/13:34 and law 2013:27, which entered into force on 1 April 2013.

[39] Ds 2009:43. *Attendance registers and control visits*. Ministry of Finance.

[40] Ds 2009:43, p. 242. Ministry of Finance.

6.6.2 The requirement for cash registers

The requirement for cash registers in the cash trading industry took effect on 1 January 2010[41]. The requirements imply that firms selling goods or services for payment in cash must have a certified cash register and report the cash register to the STA. The legislation contains certain exemptions, such as for businesses where cash sales is minimal[42], market-place trading, taxi businesses etc.[43] In addition to this, individual firms can be granted an exemption if reliable information for tax control is secured by other means or if it can be deemed unreasonable to exert the requirement.

The provisions also involved an obligation to produce and offer the customer a receipt. Moreover, the STA was given the right to employ two new control instruments: supervision and check visits.

The effect on tax avoidance

The overriding aim of the legislation was to protect serious businesses from unfair competition by making it more difficult to avoid tax within cash trading. An evaluation of the effects[44] of the new regulations was recently published. It investigated the extent to which the reform had contributed to reduced tax evasion. The point of departure of the evaluation was that businesses that had previously neglected to register parts of their sales would cease to do so entirely or partially after having reported their possession of a certified cash register to the STA. Accordingly, following the firms reporting of a cash register to the STA one would expect an increase in reported incomes, over and above what could be explained by changes in other factors. The results confirmed this hypothesis, showing that reported turnover increased by around 5 per cent on average for all firms in the month after they had reported their possession of a cash register to the STA.

In order to examine whether the measured effect was robust, and whether the increase in incomes was in fact *caused* by the reporting of cash registers, and not the reverse, a number of sensitivity analyses were conducted. The results indicated that the measured initial effect was indeed caused by the cash register reform and that it corresponded to previously unreported incomes being reported. However, certain patterns in the data suggest that the effect declines over time. A formal statistical analysis could not be used to assess how much of the initial increase in reported incomes remains in the long term. However, from a graphic analysis of the data the STA's assessment was that at least 1 per cent of the increase in reported incomes remains in the long term. In terms of tax revenues, the initial effect is estimated at around SEK 15 billion per year, whilst the permanent effect was assessed to at least SEK 3 billion per year in increased revenues from VAT, income tax and social security contributions.

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[41] The Act (2007:592) on cash registers, etc., entered into force on 1 January 2008 but its obligations did not start to apply until 1 January 2010. Since 1 January 2012, regulations regarding this can be found in the Tax Procedure Act (2011:1244).

[42] The limit is set in terms of so called price base sums (PBS) and is set to 4 PBS. Currently this corresponds to SEK 177 600.

[43] With effect from 1 January 2014, the requirement will also apply to market-place traders.

[44] SKV 2013:2. *Krav på kassaregister [The requirement for cash registers.]*.

6.6.3 Reduced VAT for restaurants and catering

On 1 January 2012, VAT on restaurant and catering services was reduced from 25 to 12 per cent. The aim was, in the first instance, to create jobs for young people and other groups with high unemployment and weak connections to the labour market. The simplification of rules and lower compliance costs for businesses were other important reasons for the reform. To reduce tax evasion was not an explicit aim, but in connection with the reform the government assigned the STA to monitor the effects on tax evasion. The results are found in a report submitted to the government in January 2014.

Two aspects of the VAT reduction are distinguished in the impact assessment. One is the reduction in the overall *level* of the taxation and the other the increased *degree of uniformity* in the tax structure.

The effect of the lower level

Looking at the impact of the lower level of taxation none of the analyses conducted provide evidence of less tax evasion following the reform. It should be stressed, however, that the analyses only identify relatively short-term effects. Hence, to the extent that effects on tax evasion occurs only in the longer term this would not be captured by the analyses. It is also possible that the reduction in VAT affects tax evasion via other, slightly more complex mechanisms, rather than through increases in the propensity to report income in individual firms. In particular, it could well be that the VAT reduction does not affect tax evasion in individual firms but via the state of competition. With a lower VAT rate, the competitive advantage of less serious restaurants' is reduced compared to that of more serious businesses. Hence, less serious businesses might leave the industry to a larger extent. If this is the case, the total amount of tax evasion in the industry should fall, even if changes in behaviour among existing restaurants are slight. This kind of structural effects are, however, not captured in the study.

The effect of a more uniform VAT structure in the restaurant industry

A more uniform VAT structure reduces the scope for both intentional and unintentional misreporting. Prior to the VAT reduction, meals served in the restaurant were taxed with the normal 25 per cent tax rate, whilst take-away was taxed as foodstuffs, at a rate of 12 per cent. By reporting some of the restaurant services as take-away, the businesses were able to evade just over half of the VAT.

Prior to the reform, restaurant and catering businesses reported 33 per cent of their total turnover, or 45 per cent of the turnover of food, at 12 per cent VAT. This was considered to be an unreasonably high percentage, both by industry representatives and by STA officers with experience of control activities in the restaurant industry. To investigate this further, a questionnaire survey was used directed to a random selection of approximately 400 restaurants. Among other things they were asked about the share of take-away food in total sales. Based on the responses to this question, take-away food was estimated to account for about 26 per cent of total sales. Allowing for the fact that the basis for this estimate was relatively limited, it implies that tax evasion of this kind amounted to around SEK 700 million, prior to the reform. In other words, the reform reduced tax evasion by the same amount.

6.7 International exchange of information

In the following, a short description is given of the significance of increased international collaboration regarding access to information on taxpayers' incomes in other countries.

Automatic exchange of information concerning incomes abroad

Through various international agreements on automatic exchange of information[45], Sweden receives an increasing amount of information from other countries. The exchange of information occurs mainly by virtue of the EU's "Savings Directive"[46], the EU's Directive concerning mutual assistance[47] and tax agreements entered into bilaterally. As far as the EU's Savings Directive is concerned, the number of countries that automatically send information to Sweden has increased from 22 in 2007 to 32 in 2012. The amount of information has increased from 86,412 items of information in 2007 to 102,527 in 2012. The number of countries that provide information automatically due to the EU's Directive concerning mutual assistance, tax agreements or other agreements on the exchange of information has increased from 24 countries in 2010 to 29 in 2012. In 2012, a total of over 602,000 items of information were submitted to Sweden from other countries.

There has however been a decline in the number of items of information automatically submitted in 2012, relative to 2011. This decline in the number of items of information is probably explained by the low interest rates following the financial crises. As a consequence, a number of people receive no interest at all on their savings.

Self-corrections

Sweden, together with other Scandinavian countries, has negotiated a number of Tax Information Exchange Agreements with countries or jurisdictions that have previously been considered tax havens. At the start of 2013 there were 40 such signed agreements, 21 of which had already entered into force.

The STA has received an increasing number of self-corrections as a result of the new information exchange agreements. A total of over 3,000 persons have requested self-corrections from January 2010 up to December 2012, and the corrections are estimated to have generated tax revenues of approximately SEK 1,029 million - revenue that, without this information exchange agreement, would probably not have been reported. The self-corrections probably indicate a preventive effect of the information exchange, but it is difficult to assess the magnitude of this effect.

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[45] Automatic implies that information is exchanged without a special request being made by the STA.

[46] Council Directive 2003/48/EC of 3 June 2003 on taxation of savings income in the form of interest payments.

[47] Council Directive 77/799/EEC of 19 December 1977 concerning mutual assistance by the competent authorities of the Member States in the field of direct taxation

7 Conclusions and comments

Based on the analysis presented in this report, the STA draws the following three conclusions:

1. The results presented in this report suggest that the tax gap has decreased.
2. The more information that the STA has on the basis for taxation from sources other than the taxpayers themselves, the smaller the scope for errors.
3. In order to estimate the auditable tax gap, a greater number of random investigations is required.

7.1 The tax gap has probably decreased

For various reasons, it is not possible to produce a new map of the tax gap or to quantify the gap using the same methods as for "Tax Gap Map for Sweden" (STA report 2008:1). The reason is that the kind of audit data that formed an important input for the previous analysis is not available for recent years. Currently, audits are conducted on selections with a more pronounced risk-profile making it more difficult to calculate the tax gap on the total. Furthermore, the audits have reduced in number and, at the same time, become more detailed. The information presented in this report does however allow an assessment of the change in the tax gap between 2007 and 2012, even if it is done with considerable uncertainty.

The STA questionnaire surveys directed to citizens and businesses are considered to be the broadest investigations as they cover the perceptions of all taxpayers. The results show that the public and businesses perceive a reduction in the prevalence of tax evasion and unreported labour in the period 2007 to 2012. The results also show that citizens' standards concerning unreported labour and tax evasion have changed in a positive direction over the same period.

These positive trends suggest that the tax gap has decreased during this period. However, the extent to which these changes in perceptions and values reflect a reduced incidence of unreported labour and tax evasion is uncertain.

The top-down measurements done by the National Accounts indicate that hidden production and hidden incomes during 2007–2011 are lower than in the calculations with equivalent methods that were previously conducted for the 1970s, 80s and 90s. This suggests a long-term downward trend. However, current calculations for 2007-2011 indicate no obvious changes. This suggests that for the period studied the tax gap, as a percentage of the GDP, has not changed, but there is major uncertainty in the calculations.

There is also uncertainty regarding the *level* of the estimates. The national accounts are revised at different intervals and during the autumn and winter of 2013-14, calculation methods, etc., will be reviewed and calculations in accordance with the revised manual ENS2010 will be introduced. On occasions such as this, calculations for previous years are

also revised. Among other things, this will affect the results of the calculations of the VAT discrepancy.

The reliability of the data from the random controls is relatively high, but only one investigation shows a change in the tax gap, namely the investigation concerning 'deductions for other expenditure' in the taxation of employment income. For this item, the results indicate that the tax gap was halved between 2007 and 2008. This coincides with a change in the tax rules, whereby the limit for this type of deductions was raised from SEK 1,000 to SEK 5,000. The data from the other investigations either indicate no change in the tax gap or do not allow comparisons over time.

The calculations in respect of alcohol and tobacco are also uncertain but the investigations indicate a reduction in the tax gap in respect of alcohol tax. No conclusions can be drawn in respect of the direction of the development of the tax gap for tobacco, based on the information available.

Looking at selected changes in the tax legislation, impact assessments conducted and published in separate reports by the STA, indicate, to varying degrees, a reduction of the tax gap. The changes in legislation that have been studied are: the staff register requirement, the requirement of cash registers and reduced VAT for restaurants and catering businesses. These impact assessments are selective in as much as they refer to changes in legislation that, to various different degrees, have aimed to reduce the tax gap.

There are many changes and incidents in the world around us that might have affected the tax gap during the period studied but where information on these effects is lacking. This applies, for example, to developments concerning international evasion. Neither do we know how legislative changes other than those reported above, such as the abolition of mandatory auditing, have affected the tax gap.

The Tax Information Map shows a slight increase between 2007 and 2011 in access to tax information for the establishment and control of tax. This indicates that the risk of a tax gap has decreased.

The nature of the results provided in this report does not allow us to conclude with any certainty in what direction the tax gap has changed over time. If the NA top-down measurements were perfect we could have relied on the results they provide. However, since the NA themselves state that the uncertainty of the calculations is significant, we have, in this report, chosen to include also results from other investigations. The survey results indicate clear positive trends, but it is uncertain to what extent these trends say anything about compliance and, consequently, about the development of the actual tax gap. The impact assessments show positive effects, but they only refer to limited parts of the tax gap. The Tax Information Map shows a slight reduction in the risk of a tax gap. An overall assessment of the results presented in this report suggests that the tax gap, expressed as a percentage of the GDP, has decreased between 2007 and 2012, although an allowance is made for the fact that not all of the investigations highlight all parts of the tax system.

7.2 More information leads to more accurate taxation basis

The Tax Information Map described in this report focuses on a factor that is important to the risk of a tax gap, namely access to information from sources other than the taxpayers themselves. The more comprehensive the information at STA's disposal from other sources than the taxpayer, the smaller the scope for taxation errors. If the assessment is based purely on information provided by the taxpayer, the risk of error is much greater. Access to tax information has significance in terms of the certainty with which taxes and charges can be established correctly. The conclusion is therefore that the more information provided to the STA on the taxation basis from sources other than the taxpayers themselves, the smaller the scope for errors.

7.3 Quantification of the tax gap requires other ways of working and other methods

The data currently available from controls in random selections does not provide the information required to estimate the size of the tax gap. In recent years, tax administrations in Denmark, the United Kingdom and the Netherlands have started control programmes in random selections making it possible to measure the extent of the auditable tax gap. A similar programme in Sweden would help both to develop the STA's activities and provide data with which to calculate the extent of the auditable tax gap. Such a programme requires resources. Hence, it must be valued on the basis of the benefits it would provide. Some of the possible uses of knowledge generated from a random control programme are described below.

One of the STA's long-term goals is to minimise the tax gap. There is currently no direct measurement of the tax gap and its development over time. The tax gap consists partly of errors that can be detected using available audit methods in tax controls, and partly of other items that cannot be detected through audits. Estimations of the auditable tax gap based on the type of general control programme in random selections found in, for example, Denmark, would provide better information on the level and development of the tax gap. The estimations would also to some extent provide data which could be used to assess how well the STA is succeeding in its efforts to minimise the tax gap.

A general random control programme would also provide a better overview of the composition of the tax gap. This would make it easier to systematically assess the importance of different parts of the tax gap and thus provide a better basis for prioritising initiatives, developments of tax rules and procedures.

Access to more representative information would also facilitate the identification and evaluation of tax gap risks and also help assessing their relative importance. The lack of information makes the prioritising of initiatives more difficult. A programme with random controls would not remove the need for more detailed analyses, but would facilitate the comparison of various risks.

In addition to increased use of random controls, the STA needs to continue analysing how legislative and other changes affect the tax gap. Methods need to be refined and

uncertainties reduced. Monitoring the development of the tax gap is a never ending task, since tax gaps arise in a complex and ever changing interplay between many different factors.

8 Appendices

Appendix 1 Methods used for calculations of the tax gap in 2007

The various constituents of the tax gap in the tax gap map 2007 were estimated using many different sources and with data going back several years, adjusted to give an average annual tax gap for 2007. The map is not a snapshot of the *true* tax gap in 2007, but instead shows *the STA knowledge regarding the tax gap at the time*. The tax gap map is not therefore a suitable tool with which to measure changes in the tax gap over time.

In order to measure changes in the tax gap we would need snapshots of the tax gap from at least two different time points, calculated in the same way and from the same kind of data, e.g., extensive random checks. The results of the methods used to calculate the tax gap in 2007 are uncertain in many ways.

For example, when the tax gap map was produced there were no random historical checks to refer back to. The option at hand was to use eight years of audit statistics (approximately 23,000 selected audits concerning income tax) in order to estimate the gap in respect of unreported labour. Through stratification of the audit results by industry and company size, an attempt was made to neutralise the effect of dealing with selected audits. It is currently not possible to update this calculation since the content of the audit register has changed in recent years. The number of audits has also become significantly fewer as the focus has shifted towards more complicated investigations and selections for control have been are risk based to a greater extent than before.

The alternative to a new calculation

To meet the government's requirements on the STA annual report with regard to the tax gap the STA started, at the end of 2012, to develop indicators which, in a long-term and systematic manner, will help to describe the impact of measures taken by the STA to minimise the tax gap. This work will hopefully be of benefit for the appraisals done by both the STA and others of initiatives taken to increase compliance and minimise the tax gap. The aim is to find indicators that can be continuously monitored over a long period of time.

Appendix 2 Principles for categorising the information level of taxes

To categorise the information level of different parts of the tax system the questionnaire below is used. The first questionnaire helps to determine whether the tax in question is to be reported in its entirety at a certain information level or whether it should be divided up into parts and reported at separate information levels. These parts can be either positive or negative. Examples of negative parts are deductions that are reported separately. In the second questionnaire, the information level of respective tax or tax part is determined.

Questionnaire 1 – Deciding on a division of the taxation basis

<table>
<tr><td colspan="4">Is there a right to a reduction from the tax or the tax base?</td><td></td></tr>
<tr><td rowspan="5">No ▼</td><td colspan="3">Yes▼</td><td></td></tr>
<tr><td colspan="3">Are the deductions largely decided on principles other those regulated in the tax laws (generally accepted accounting principles, etc.)?</td><td></td></tr>
<tr><td rowspan="3">Yes▼</td><td colspan="2">No▼</td><td></td></tr>
<tr><td colspan="2">Do the systems provide information about the income but not the deduction?</td><td></td></tr>
<tr><td>No▼</td><td>Yes►</td><td>The tax is divided up into different information levels</td></tr>
<tr><td colspan="4">Are certain groups of taxpayers within the type of tax covered by specific control systems?</td><td></td></tr>
<tr><td colspan="3" rowspan="2">No►</td><td>Yes►</td><td>The tax is divided up into different information levels</td></tr>
<tr><td></td><td>The tax is not divided up into different information levels</td></tr>
</table>

Questionnaire 2 – Determining the information level of the tax

<table>
<tr><th colspan="4">Questions for categorisation</th><th>Information level</th></tr>
<tr><td colspan="4">Is the available information sufficient for the establishment of the tax?</td><td></td></tr>
<tr><td colspan="2">No▼</td><td colspan="2">Yes▼</td><td></td></tr>
<tr><td colspan="2" rowspan="3">Is there any information confirming that tax assessment is to occur?</td><td colspan="2">Is the risk of errors in the data largely non-existent?</td><td></td></tr>
<tr><td>No▼</td><td>Yes ►</td><td>8</td></tr>
<tr><td colspan="2">Control of the data is required►</td><td>7</td></tr>
<tr><td>No▼</td><td colspan="3">Yes►</td><td>6</td></tr>
<tr><td colspan="4">Can short-term controls be conducted?</td><td></td></tr>
<tr><td>No▼</td><td colspan="3">Yes▼</td><td></td></tr>
<tr><td rowspan="5"></td><td colspan="3">Are there information systems at the source of taxation (i.e., staff registers, cash register, ROT and RUT or other specific tax control systems)?</td><td></td></tr>
<tr><td>No▼</td><td colspan="2">Yes►</td><td>5</td></tr>
<tr><td colspan="3">Is there a chain of taxation?</td><td></td></tr>
<tr><td>No▼</td><td colspan="2">Yes►</td><td>4</td></tr>
<tr><td colspan="3">Short-term controls can be conducted without specific system support►</td><td>3</td></tr>
<tr><td colspan="4">Are there information systems at the source of taxation (i.e., staff registers, cash register, ROT and RUT or other specific tax control systems)?</td><td></td></tr>
<tr><td>No▼</td><td colspan="3">Yes►</td><td>2</td></tr>
<tr><td colspan="4">Assessment is based entirely on the taxpayer's own reporting►</td><td>1</td></tr>
</table>

Description of the respective information level

Information level	Definition	Examples of taxes and information systems
8	Sufficient information to establish the taxation basis where risk of errors are non	Register based taxes, such as real estate charges, and taxes based on information that is publicly available, e.g. nuclear power tax
7	Sufficient information to establish the taxation basis but a risk of error exists, which means that checks of the information provider may be needed	Taxes based on information from third parties (income statement) or taxes which can be reconciled to such taxes, e.g. wages, interest and social security contributions. For the vast majority income statements are reliable. There are several reasons for this, e.g. that most employers are commited to comply, that the income statement is the basis for benefits of the employee (for example general pensions and social benefits), that employers know that it is effective to conduct audits of the system (compared to a system were every single tax payer had to state their own income), which has a preventive effect.
6	Information to establish part of the taxation basis	Taxes for which the tax agency receives a signal that taxation should take place. To determine the correct tax requires that the tax payer calculates and submits a basis for taxation, e.g. sales of shares and real estate.
5	Short-term checks* can be conducted and an information system exists at source of taxation	Checks can be done close to the event underlying the taxation and it exists an information system which supports the checks. Examples of such systems are cash registers, staff ledge, tax reductions for household services and house repairs
4	Short-term checks* can be conducted and there is a tax chain	Checks can be done close to the event triggering taxation and there is a taxation chain
3	Short-term checks* can be conducted	Checks can be done close to the event triggering the taxation
2	Information systems exist at the source of taxation	There are information systems which supports the checks. Examples of such systems are cash registers, staff registers, tax credits for domestic services and repairs
1	Taxation is based entirely on the tax-payer's own reporting	There are no information systems

*Short-term checks are checks that can be conducted on shorter taxation periods than one year, i.e. per month or quarter

Appendix 3 Tax Information Maps, 2006 to 2011

Tax Information Map for the income year 2011, SEK billions

Information level	Income tax on employ-ment	Income tax on personal business	General exemptions	Social security contributions	Tax on income from capital, surplus	Tax on income from capital, deficit	Real estate tax/charge	Income tax for companies	VAT	Energy tax	Alcohol and tobacco tax	Other excise duties	Excise duties, repayment	All taxes, net	All taxes, gross*
8							14,8			3,9				18,7	18,7
7	388,7		-2,2	498,5	18,2	-30,9						4,0		876,2	942,4
6					51,3	-7,4	12,7							56,6	71,4
5									60,8					60,8	60,8
4									210,6					210,6	210,6
3										72,5	23,2	2,7	-6,0	92,4	104,4
2		1,7		3,4				10,2	1,3					16,6	16,6
1	-3,3	7,3	-0,1	41,9	15,1	-1,3		92,5	6,0					158,2	167,5
Total, net	385,4	8,9	-2,3	543,8	84,6	-39,6	27,5	102,8	278,7	76,4	23,2	6,7	-6,0	1 490,1	
Total, gross*	392,0	8,9	2,3	543,8	84,6	39,6	27,5	102,8	278,7	76,4	23,2	6,7	6,0		1 592,4

*** 'Gross' refers to the absolute value of various items, positive and negative, included in the calculation of the tax**

Tax Information Map for the income year 2011, relative distribution

Information level	Income tax on employ-ment	Income tax on personal business	General exemptions	Social security contributions	Tax on income from capital, surplus	Tax on income from capital, deficit	Real estate tax/charge	Income tax for companies	VAT	Energy tax	Alcohol and tobacco tax	Other excise duties	Excise duties, repayment	All taxes
8							53,8			5,1				1,2
7	99,2		96,4	91,7	21,5	78,0						59,7		59,2
6					60,7	18,8	46,2							4,5
5									21,8					3,8
4									75,6					13,2
3										94,9	100,0	40,3	100,0	6,6
2		18,9		0,6				10,0	0,5					1,0
1	0,8	81,1	3,6	7,7	17,8	3,2		90,0	2,2					10,5
All information levels	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0

Tax Information Map for the income year 2010, SEK billions

Information level	Income tax on employ-ment	Income tax on personal business	General exemptions	Social security contributions	Tax on income from capital, surplus	Tax on income from capital, deficit	Real estate tax/charge	Income tax for companies	VAT	Energy tax	Alcohol and tobacco tax	Other excise duties	Excise duties, repayment	All taxes, net	All taxes, gross
8							14,5			4,0				18,5	18,5
7	385,0		-2,2	474,1	14,3	-21,8						3,8		853,2	901,3
6					52,2	-6,2	11,9							58,0	70,3
5									53,4					53,4	53,4
4									208,2					208,2	208,2
3										72,5	23,2	2,5	-5,8	92,3	104,0
2		1,6		3,2				8,6	1,3					14,7	14,7
1	-3,2	7,2	-0,1	38,4	15,1	-1,4		98,0	5,7					159,6	169,0
Total, net	381,8	8,7	-2,3	515,7	81,6	-29,4	26,4	106,6	268,6	76,5	23,2	6,3	-5,8	1 458,0	
Total, gross*	388,2	8,7	2,3	515,7	81,6	29,4	26,4	106,6	268,6	76,5	23,2	6,3	5,8		1 539,4

Tax Information Map for the income year 2010, relative distribution

Information level	Income tax on employ-ment	Income tax on personal business	General exemptions	Social security contributions	Tax on income from capital, surplus	Tax on income from capital, deficit	Real estate tax/charge	Income tax for companies	VAT	Energy tax	Alcohol and tobacco tax	Other excise duties	Excise duties, repayment	All taxes
8							54,9			5,2				1,2
7	99,2		96,2	91,9	17,5	74,2						60,1		58,5
6					64,0	21,0	45,1							4,6
5									19,9					3,5
4									77,5					13,5
3									0,0	94,8	100,0	39,9	100,0	6,8
2		17,8		0,6				8,1	0,5					1,0
1	0,8	82,2	3,8	7,4	18,5	4,8		91,9	2,1					11,0
All information levels	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0

Tax Information Map for the income year 2009, SEK billions

Information level	Income tax on employment	Income tax on personal business	General exemptions	Social security contributions	Tax on income from capital, surplus	Tax on income from capital, deficit	Real estate tax/charge	Income tax for companies	VAT	Energy tax	Alcohol and tobacco tax	Other excise duties	Excise duties, repayment	All taxes, net	All taxes, gross
8							14,1			3,3				17,4	17,4
7	384,1		-2,2	461,4	30,3	-29,2						4,2		848,6	911,4
6					29,1	-2,8	11,3							37,5	43,1
5									19,7					19,7	19,7
4									233,3					233,3	233,3
3										71,8	22,7	2,7	-5,8	91,4	103,0
2		0,9		2,0				3,9	0,8					7,6	7,6
1	-3,3	7,6	-0,1	39,4	14,9	-1,0		82,6	5,3					145,5	154,3
Total, net	380,8	8,5	-2,3	502,9	74,3	-32,9	25,3	86,5	259,1	75,2	22,7	6,9	-5,8	1 401,1	
Total, gross*	387,4	8,5	2,3	502,9	74,3	32,9	25,3	86,5	259,1	75,2	22,7	6,9	5,8		1 489,9

Tax Information Map for the income year 2009, relative distribution

Information level	Income tax on employment	Income tax on personal business	General exemptions	Social security contributions	Tax on income from capital, surplus	Tax on income from capital, deficit	Real estate tax/charge	Income tax for companies	VAT	Energy tax	Alcohol and tobacco tax	Other excise duties	Excise duties, repayment	All taxes
8							55,6			4,4				1,2
7	99,1		95,9	91,8	40,8	88,6						61,0		61,2
6					39,1	8,5	44,4							2,9
5									7,6					1,3
4									90,0					15,7
3										95,6	100,0	39,0	100,0	6,9
2		10,7		0,4				4,5	0,3					0,5
1	0,9	89,3	4,1	7,8	20,1	2,9		95,5	2,0					10,4
All information levels	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0

Tax Information Map for the income year 2008, SEK billions

Information level	Income tax on employ-ment	Income tax on personal business	General exemptions	Social security contributions	Tax on income from capital, surplus	Tax on income from capital, deficit	Real estate tax/charge	Income tax for companies	VAT	Energy tax	Alcohol and tobacco tax	Other excise duties	Excise duties, repayment	All taxes, net	All taxes, gross
8							12,5			3,9				16,4	16,4
7	406,7		-2,4	477,8	42,2	-41,3						4,4		887,4	974,8
6					26,4	-1,1	11,5							36,8	39,0
5									10,4					10,4	10,4
4									232,1					232,1	232,1
3										69,6	21,6	3,2	-5,1	89,2	99,4
2		0,3		0,8				0,8	0,3					2,2	2,2
1	-3,9	9,3	-0,1	41,1	18,4	-1,0		82,2	6,8					152,9	162,9
Total, net	402,7	9,7	-2,5	519,7	87,0	-43,3	24,0	83,0	249,6	73,5	21,6	7,6	-5,1	1 427,5	
Total, gross*	410,6	9,7	2,5	519,7	87,0	43,3	24,0	83,0	249,6	73,5	21,6	7,6	5,1		1 537,2

Tax Information Map for the income year 2008, relative distribution

Information level	Income tax on employ-ment	Income tax on personal business	General exemptions	Social security contributions	Tax on income from capital, surplus	Tax on income from capital, deficit	Real estate tax/charge	Income tax for companies	VAT	Energy tax	Alcohol and tobacco tax	Other excise duties	Excise duties, repayment	All taxes
8							52,0			5,4				1,1
7	99,0		95,7	91,9	48,5	95,3						58,3		63,4
6					30,3	2,5	48,0							2,5
5									4,2					0,7
4									93,0					15,1
3										94,6	100,0	41,7	100,0	6,5
2		3,4		0,1				1,0	0,1					0,1
1	1,0	96,6	4,3	7,9	21,2	2,2		95,0	2,7					10,6
All information levels	100,0	100,0	100,0	100,0	100,0	100,0	100,0	96,0	100,0	100,0	100,0	100,0	100,0	100,0

Tax Information Map for the income year 2007, SEK billions

Information level	Income tax on employ-ment	Income tax on personal business	General exemptions	Social security contributions	Tax on income from capital, surplus	Tax on income from capital, deficit	Real estate tax/charge	Income tax for companies	VAT	Energy tax	Alcohol and tobacco tax	Other excise duties	Excise duties, repayment	All taxes, net	All taxes, gross
8										3,2				3,2	3,2
7	396,3		-3,2	454,9	52,1	-31,9						2,3		870,4	940,7
6					36,4	-0,6	25,9							61,6	62,8
5									9,9					9,9	9,9
4									219,4					219,4	219,4
3										68,1	20,6	3,5	-5,0	87,2	97,1
2		0,3		0,7				2,5	0,3					3,8	3,8
1	-3,9	9,6	-0,1	39,1	16,1	-0,8		102,2	6,9					169,1	178,6
Total, net	392,4	9,9	-3,3	494,7	104,6	-33,3	25,9	104,6	236,6	71,3	20,6	5,8	-5,0	1 424,7	
Total, gross*	400,1	9,9	3,3	494,7	104,6	33,3	25,9	104,6	236,6	71,3	20,6	5,8	5,0		1 515,6

Tax Information Map for the income year 2007, relative distribution

Information level	Income tax on employ-ment	Income tax on personal business	General exemptions	Social security contributions	Tax on income from capital, surplus	Tax on income from capital, deficit	Real estate tax/charge	Income tax for companies	VAT	Energy tax	Alcohol and tobacco tax	Other excise duties	Excise duties, repayment	All taxes
8										4,5				0,2
7	99,0		96,9	92,0	49,8	95,8						39,3		62,1
6					34,8	1,8	100,0							4,1
5									4,2					0,7
4									92,8					14,5
3										95,5	100,0	60,7	100,0	6,4
2		3,4		0,1				2,8	0,1					0,2
1	1,0	96,6	3,1	7,9	15,4	2,3		118,1	2,9					11,8
All information levels	100,0	100,0	100,0	100,0	100,0	100,0	100,0	120,9	100,0	100,0	100,0	100,0	100,0	100,0

Tax Information Map for the income year 2006, SEK billions

Information level	Income tax on employ-ment	Income tax on personal business	General exemptions	Social security contributions	Tax on income from capital, surplus	Tax on income from capital, deficit	Real estate tax/charge	Income tax for companies	VAT	Energy tax	Alcohol and tobacco tax	Other excise duties	Excise duties, repayment	All taxes, net	All taxes, gross
8										3,1				3,1	3,1
7	412,1		-3,5	427,8	21,0	-19,7						1,2		839,0	885,3
6					34,3	-1,1	25,0							58,2	60,4
5														0,0	0,0
4									214,8					214,8	214,8
3										67,3	19,2	3,5	-3,8	86,2	93,8
2														0,0	0,0
1	-4,7	10,4	-0,1	36,4	14,4	-0,4		99,2	6,6					161,8	172,2
Total, net	407,5	10,4	-3,6	464,2	69,6	-21,2	25,0	99,2	221,5	70,4	19,2	4,7	-3,8	1 363,1	
Total, gross*	416,8	10,4	3,6	464,2	69,6	21,2	25,0	99,2	221,5	70,4	19,2	4,7	3,8		1 429,6

Tax Information Map for the income year 2006, relative distribution

Information level	Income tax on employ-ment	Income tax on personal business	General exemptions	Social security contributions	Tax on income from capital, surplus	Tax on income from capital, deficit	Real estate tax/charge	Income tax for companies	VAT	Energy tax	Alcohol and tobacco tax	Other excise duties	Excise duties, repayment	All taxes
8										4,4				0,2
7	98,9		96,8	92,2	30,2	92,8						26,1		61,9
6					49,2	5,2	100,0							4,2
5														0,0
4									97,0					15,0
3										95,6	100,0	73,9	100,0	6,6
2														0,0
1	1,1	100,0	3,2	7,8	20,6	2,0		100,0	3,0					12,0
All information levels	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0

Appendix 4 Further details regarding NA's computation of the VAT discrepancy conducted in the autumn of 2013

The National Accounts' ”VAT discrepancy” forms part of the evaluation of the GDP at market price. The measurements from the production side are to be valued inclusive of VAT and other product taxes.

The ”theoretical VAT” is what would be paid if all turnover was correctly reported according to the law. The VAT discrepancy is the difference between the theoretical VAT and the actual VAT that is paid. The VAT discrepancy is the difference between two aggregates and provides no data with which to divide up the discrepancy by industry.

The theoretical VAT is computed by Statistics Sweden's national accounts, based on the VAT rate for various products and users. The VAT actually paid that is used for comparative purposes is based on government collection.

The principles for the calculations

VAT is paid at each stage of the production and distribution chain for goods or services. The party liable to tax pays VAT on the turnover that occurs at that stage of the production, and have the right to deductions for the VAT that is imposed by or paid to suppliers at previous stages (input VAT). At every stage therefore, the business pays VAT on its own added value (VAT on added value = output VAT minus input VAT). This is where the term Value Added Tax comes from. The total of all VAT imposed at all stages is passed onto the final consumer. The NA's computations of the theoretical VAT focus on the final user of the products since the VAT on the full processing value is part of the price that the final user pays.

There are three types of VAT that are addressed in the NA's computation of the theoretical VAT in final use:

Tax-liable products

Full VAT is paid by the final user. This applies to nearly all goods and services sold to private consumers (the household sector) in the Swedish market. The VAT rate is either 25, 12 or 6 per cent, depending on the product group.

Exemptions from tax liability

VAT is not paid upon sale to the final user, but the producer selling the product in the final stage is not allowed to deduct the input VAT from previous stages. This means that the price that the final user pays is affected by the VAT that the producers paid in previous stages, and that there is hidden VAT in the price of goods and services that are exempt from tax liability. This applies to e.g., the purchase and hiring of property, certain public services and to banking, finance and insurance services.

Qualified exemptions from tax liability

VAT is not paid at the final stage, and input VAT from previous stages is reimbursed. This means that the price to the consumer is not affected by VAT. Qualified exemption from VAT only applies to a few products, i.e., prescription of medicine and aviation fuel.

In the national accounts, production is divided up into around 400 product groups. The theoretical VAT is computed with current VAT rates for various product groups and final uses. 'Final user' refers to those who do not deduct input VAT. For every one of the 400 product groups, supply must balance with use. Supply consists of supply of products, in the form of production within the country and imports. Use of the products includes consumption within households, the public sector, products that are invested or exported and changes in inventories.

In the NA's calculations from the expenditure side, the products are valued at purchase price, i.e., the market price paid by the final user. In the calculations from the production side, production is valued as a first step at basic price. The basic price corresponds to the part of the price that stays with the producer, i.e., the price exclusive of product taxes (VAT and any excise duties) plus product subsidies. In order to achieve consensus with the valuation at market price from the expenditure side, an addition for trading margins and a theoretical VAT (based on the VAT rate that applies for the product group) is calculated for each product, measured in basic price from the production side.

NA's calculations are based on the turnover in various sub-sectors with information on level for the respective year taken from a statistical source named 'Företagens ekonomi' (FEK), which consists of questionnaires and income tax return material for companies (including standardized accounting statements for companies given to the STA). In addition to a questionnaire issued to the 500 largest companies, NA also conducts an investigation on a selection of companies based on the standardized accounting statements and asks the companies to divide their production into different products. This provides various development figures for different products within the same industry.

Results of the calculations, autumn 2013

NA's calculations indicate a clear reduction in the VAT-discrepancy since 2008. This reduction actually occurred back in 2007, but was ”hidden” by the fact that it was not possible to correct the actual VAT for the periodization effect that arose in the construction industry in connection with the introduction of the reversed VAT-charge on construction services. In the calculations for the years 2001-2006, the discrepancy averages were approximately SEK 10 billion, or approximately 4 per cent of the theoretical VAT. In the calculations for the years 2008 - 2011, the discrepancy averages were approximately SEK 5 billion, or 1.5 per cent of the theoretical VAT.

During the autumn and winter of 2013/-2014, NA will be conducting a review of calculation methods, etc., and introduce calculations in accordance with the revised manual ENS2010. In such reviews, the calculations are revised for longer periods of time. This will affect the results of the calculations of the VAT discrepancy.

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