

## Final report: Monthly indicator for household consumption in retail trade

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001	2009-04-29	The report's layout
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## 1 Summary

The project's aim is to develop monthly indicators dealing with the development of household consumption in retail trade.

Two different models have been used to investigate alternatives. The first model has the calculation been done by activity. This means that only the percentage of the activity's turnover devoted to private consumption is considered in the calculation of total retail trade. This means that only the percentage of the activity's turnover devoted to private consumption is considered in the calculation of total retail trade. The activity percentage for private consumption and other consumption is based on information from the *Survey on assortments of retail trade for 2002*. The deflation of the private consumption has been done with a retail trade price index for each activity.

In the other model the calculation was performed on products in a similar way to that of National Accounts' (NA) household consumption matrix. In this calculation the percentages from the *Survey on assortments of retail trade from 2002* per product in each activity were used. These percentages have been multiplied by the activity turnover on a monthly basis. The turnover has then been totalled per product for total retail trade. The deflation has then occurred by using the commodity price indexes from COICOP index. Chapters 5.1.1 and 5.1.2 make a basic review of the results from these calculations.

Statistics Sweden recommends Proposal 1, which means calculating the Retail Trade Index for private consumption where the recalculation to private consumption is done for an activity and then deflated using the appropriate retail trade price index. The reasoning for Statistics Sweden's recommendation of this model is as follows:

- The calculation model is simpler than the one wherein the recalculation to private consumption is done at the product level. The calculation performed at the product level makes it more difficult to form an overview.
- The retail trade index for total sales is developed by activity and because this calculation will be tightly connected to the Retail Trade Index it is logical to conduct calculations and deflations by activity.
- This proposal has lower running costs. The annual costs are estimated to SEK 100 000. Regardless of the method selected, one comes to virtually equivalent results.

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If the necessary resources stipulated for the proposal are allocated then the following form of publication is proposed:

- Statistics are developed for total retail trade except for petrol stations
- The statistics start production as of the August or September publication of the Retail Trade Index.
- Data is calculated in current prices, current calendar-adjusted prices, constant prices, constant calendar-adjusted prices, seasonally adjusted values and as trends.
- Data is published in the press release together with the retail trade index for total sales. The press release contains data in current prices, constant prices, constant calendar-adjusted prices as well as seasonally adjusted values in a separate table at the end of the press release. The press release on the Retail Trade Index is reviewed together with the Swedish Research Institute of Trade.
- Data is also made public through Statistics Sweden's databases in tables of one's own design.
- The new statistics are published with a time series from 2000 onwards.

## 2 Introduction

### 2.1 Introduction

To provide better forecasts of GDP and household consumption, The Swedish national bank tasked Statistics Sweden with developing a model for household consumption in retail trade. The National bank is not interested in that household consumption shall be calculated in the same way the consumption of retail trade goods is calculated in National Accounts (NA). The National bank also has no need of analysing household consumption in retail trade at by activity. The indicator will be reported in current, constant and constant calculated calendar adjusted prices and as a seasonally adjusted series in constant and calendar adjusted prices. The monthly indicator for household consumption in retail trade will be published together with the Retail Trade Index.

### 2.2 Purpose

The purpose of the project is to develop a method to measure household consumption in retail trade.

### 2.3 Participants

The project group consisted of Daniel Lennartsson (project manager) and Daniel Wester, who worked in the Unit for structure of the business sector.

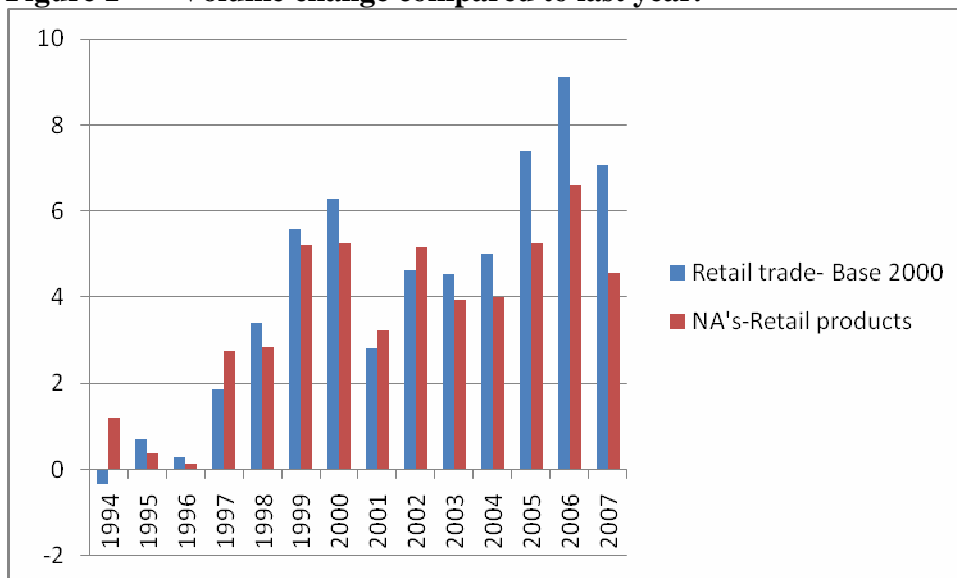
References persons in the project have been Christina Nyman at the Swedish National bank and Caroline Flodberg and Ylva Petersson who work in National Accounts.

### 3 Background

#### 3.1 Retail Trade Index - "Implicit weighting"

The Retail Trade Index is calculated forward to the reference year 2007 by using "implicit weighting"<sup>1</sup> and using 2000 as the base year. National Accounts (NA) are the absolute largest user, and as The Swedish National bank expressed strong desires that turnover statistics shall have the indexing method as is used in the calculations of NA, Industrial Production Index (IPI), Foreign Trade Index and the Service Production Index, in other words a chain index with constant price base. The reason why The National bank wanting Statistics Sweden to change indexing method was that there huge differences between the Retail Trade Index and NA's development of retail trade goods (see Appendix 1 for which goods are regarded as retail trade goods in NA). This is illustrated in Figure 1 below. As can be seen in the Figure, the difference between the Retail Trade Index and NA's development of retail trade goods increased more as one moved away from the base year 2000.

**Figure 1** Volume change compared to last year.

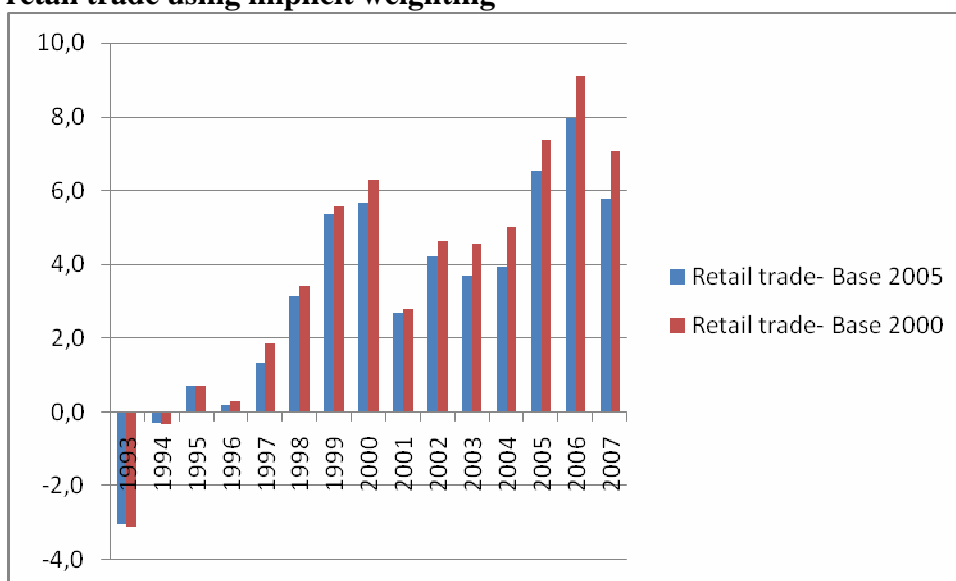


According to Short-Term Statistics (STS) - the ordinance that turnover statistics abides, the base years are to be changed every fifth year. The base year should end in zero of five and the base year shall be changed three calendar years after the end of the new base year. This means that turnover statistics will have 2005 as a base year as of reference year 2008 and onwards. Figure 2 shows the change in volume for total retail trade before and after the change in the base year. The volume development of the industrial aggregate is changed when using the implicit weighting method. The reason for this is that the internal volume weights for

<sup>1</sup> Final Report on the Implementation of a Chain Index and Constant Price Calculation in Turnover Statistics, Daniel Lennartsson

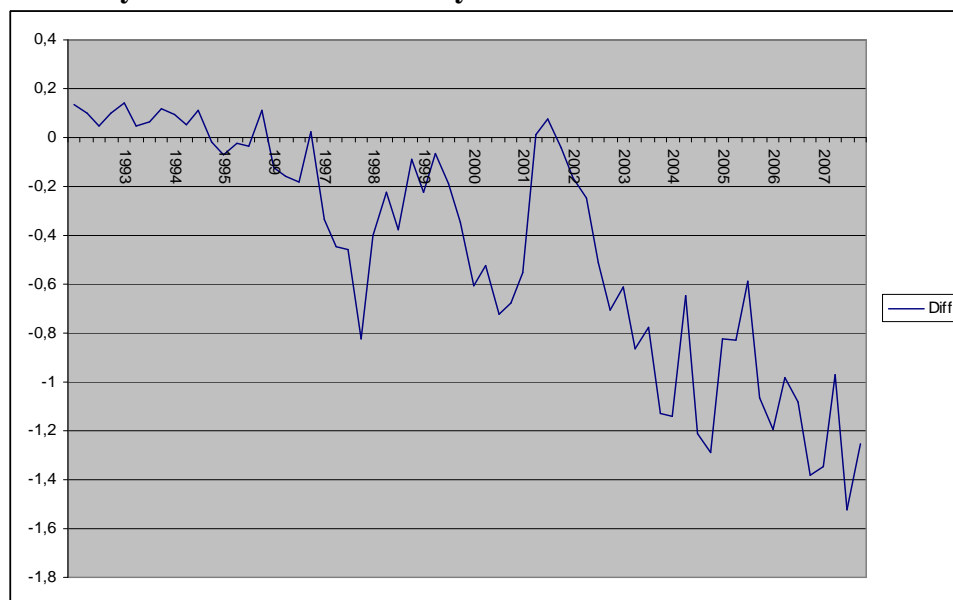
individual industries changes when the base year is changed. This means that the component activity weights for an aggregate are changed when changing the base year. This is unfortunate, because the larger users such as Riksbanken, National Institute of Economic Research, Swedish Retail Institute and NA among others who regard the development rate for the total retail trade with great importance. NA's quarterly calculations are based on current prices.

**Figure 2 Change in volume after two different base years for total retail trade using implicit weighting**



In figure 3 one can see the differences between the development rates for total retail trade when calculating an implicit index with two different base years. The difference between base 2000 and base 2005 was on average 1 percentage point from 2004 to 2007. Thus, the implicit index with base year 2000 reaches a higher development rate than the implicit index with base year 2005.

**Figure 3 Difference between changes in volume for total retail trade for base year 2005=100 and base year 2000=100**



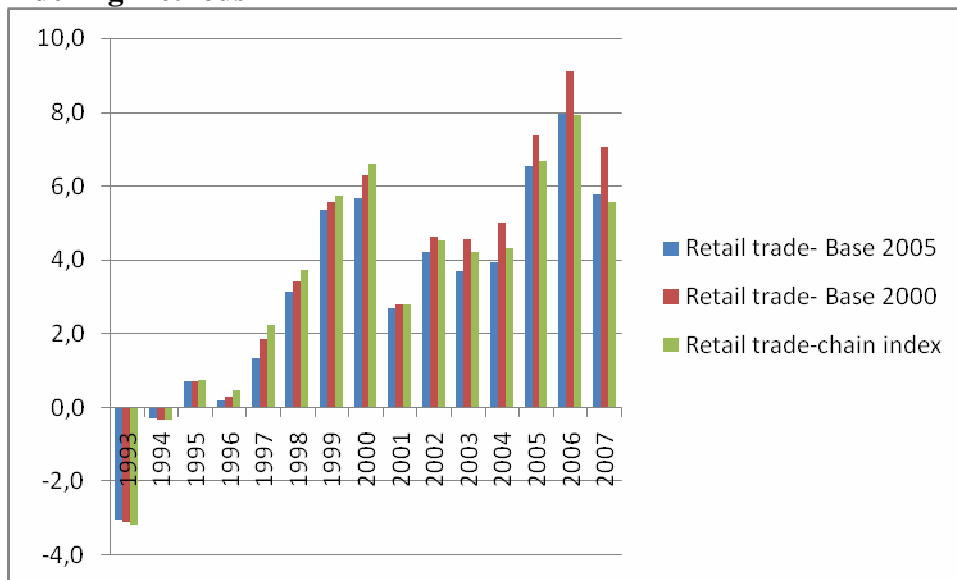
### 3.2 Retail Trade Index- Chain Index

The Retail Trade Index is calculated from the reference year 2009 with the Chain Index, using the previous year as a constant price base. The transition to the Chain Index is described in the report "Final Report on the Implementation of Chain Index and Constant Price Calculation (Lennartsson)". A comprehensive description is also included here. The larger users regard it as important that the volume development for the industrial aggregate does not change when changing reference years (base year for the implicit index). When changing reference year in calculating the Chain Index the volume development rate does not change for different industrial aggregates, which does happen with the implicit index. One disadvantage with the Chain Index is turnover in constant prices expressed in SEK cannot be totalled from specific industries to the aggregated level. However, today there is marginal use of turnover information in constant prices. Another disadvantage with totalled Chain Index is that all volume development rates for parts can be lower or higher than the industrial aggregate. NA, The National Bank and the Research Institute of Trade have expressed strong desires for turnover statistics to have the same indexing method used in the calculation of NA, IPI, Foreign Trade Statistics and the Service Production Index, that is to say a Chain Index with constant price base.

Figure 4 shows the development rate for the three different calculation methods. One should observe in Figure 4 that the Chain Index generates roughly the same development rate as the implicit method around their respective base years. The reason for this is that at that time the individual industries' weights are roughly the same in both the Chain Index and the Implicit Index.

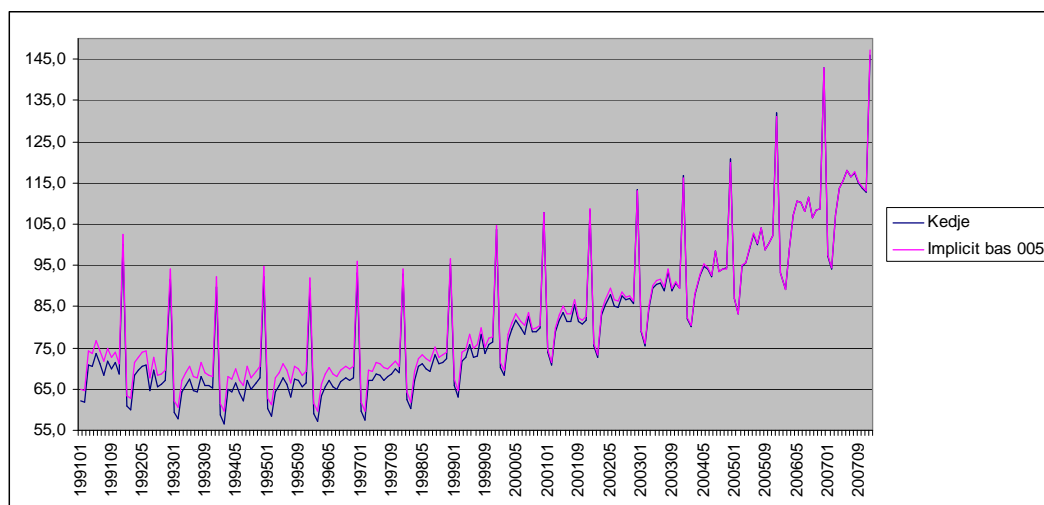


**Figure 4 Change in volume for total retail trade using different indexing methods**



In Figure 5 the volume index is compared, in part calculated by the Chain Index and in part by the implicit index with 2005 as the base year. The volume index in principle has a completely comparable pattern. From 2004 to 2007 the indexes follow one another perfectly. In total however one can see that the total development for the Chain Index during the entire study period has been approximately two percentage points higher.

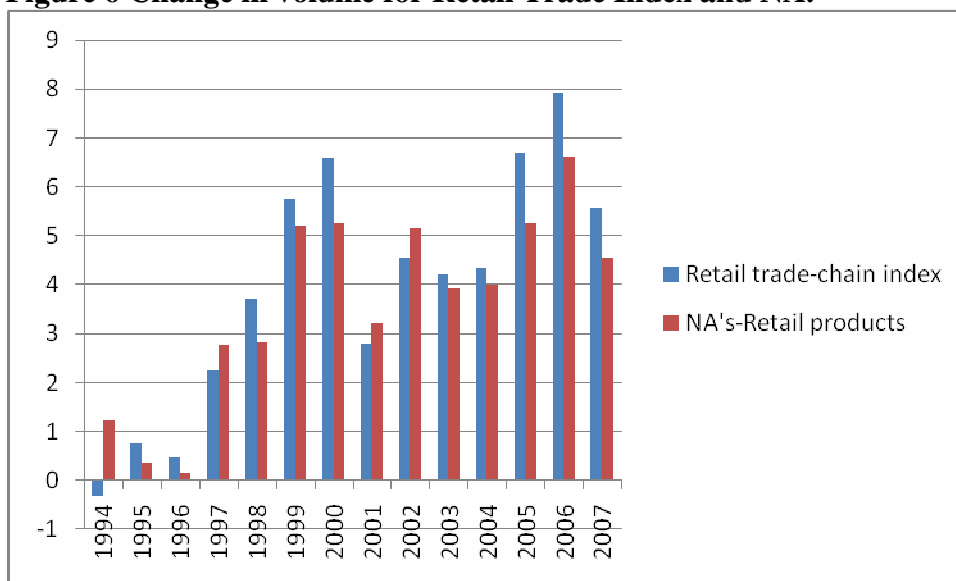
**Figure 5 Volume index for total retail trade with two different indexing methods**



### 3.3 Retail Trade Index compared to NA

How good is the Retail Trade Index calculated with the Chain Index at predicting NA developments of retail trade goods? Figure 6 notes the differences between the Retail Trade Index and NA's development of retail trade goods.

**Figure 6 Change in volume for Retail Trade Index and NA.**



In Figure 6 one can see that there are still differences between the Retail Trade Index and NA's development of retail trade goods. How do these differences arise?

- The Retail Trade Index aims to measure the total sales in retail trade and not only that part concerned with private consumption.
- NA use the development rate from the Retail Trade Index to make estimates about the goods levels with reference to household consumption. A more detailed description of NA's calculation model is made in Chapter 4.
- Retail Trade Index performs deflation by industrial while NA perform deflation by goods.

NA's calculation of households' Quarterly household consumption consists in total of 155 goods and service groups sorted by final purpose in accordance with COICOP. Goods and services are divided into 12 main groups. Food and beverages (01), Alcohol and tobacco (02), Clothing and shoes (03), Housing and electricity (04), Furniture and household articles (05), Health and medical care (06), Transport (07), Communication (08), Leisure and entertainment (09), Education (10), Hotel, café and restaurants (11), Other goods and services (12). Aside from these 12, there are also the undistributed consumption items for Swedish consumption abroad (15) as well as Visitors consumption in Sweden (16).

To calculate households' consumption in the retail trade today, one mainly uses turnover statistics. The calculation of household consumption is conducted in something called the household consumption matrix. This matrix is a part of another matrix. Examples of the matrix are made in Table 1 below.

**Table 1 Example of household consumption matrix, SEK thousands**

	SNI 52111 Warehouse & wholesale market trade, mostly foodstuffs	SNI 52112 Trade in food with large variety, mostly food	SNI 52470 Specialised boutique trade in books
Fruit, berries and nuts	1 955 188	9 694 049	4 319
Vegetables and potato products	2 887 103	13 206 690	1 144
Books	307 305	427 662	2 710 046
Newspapers	372 773	2 811 098	163 903

The household consumption matrix is based on *Survey on assortments in retail trade* but also on other industrial surveys in business. The household consumption matrix consists of industrial groups in total. This report discusses only those industrial groups affecting retail trade. The Survey on assortments in retail trade has been conducted annually since 2005. This survey offers a total image of how retail trade sales are distributed by goods in different industries. The survey also divides the sales of household consumption and other consumption. NA has used the Survey on assortments from 2002 since 2002 and up to 2008. In connection with the general revision during 2009, NA will implement the Survey on assortments for 2007. For a more detailed description of the Survey on assortments in retail trade see the Statistical Report, Retail Trade, which is available on the Statistics Sweden website.

NA make projections about the value of goods based on the industrial development in the Retail Trade Index at the industrial sector level. NA then take the total value of goods and perform a deflation using different commodity price indexes according to COICOP. In connection with NA's development of annual statistics, more

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detailed reviews and information from the annual surveys, such as food statistics, are entered into the model.

Turnover statistics are the main source to 65 of the 155 final purposes and thereby form the basis for approximately 30 percent of the quarterly total household consumption. This includes both the service industries and the trade industries. The final purposes to which the turnover statistics are the main source are as follows: clothing and shoes, furniture and household articles, leisure and entertainment and hotels, cafés and restaurants. A large number of expenditure items have combined quarterly sources. VAT statistics nowadays have a delay of one quarter such that those expenditure items with VAT statistics as a source are estimated via turnover statistics and Service Production Index for the given activity in the first quarter calculation. This applies primarily to the consumption of services but also to the consumption of food as estimated quarterly using turnover statistics, and then revising same with VAT statistics on subsequent quarterly calculations.<sup>2</sup>

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<sup>2</sup> Monthly indicator for household consumption, Flodberg

## 4 Households' consumption in retail trade

### 4.1 Selection of method

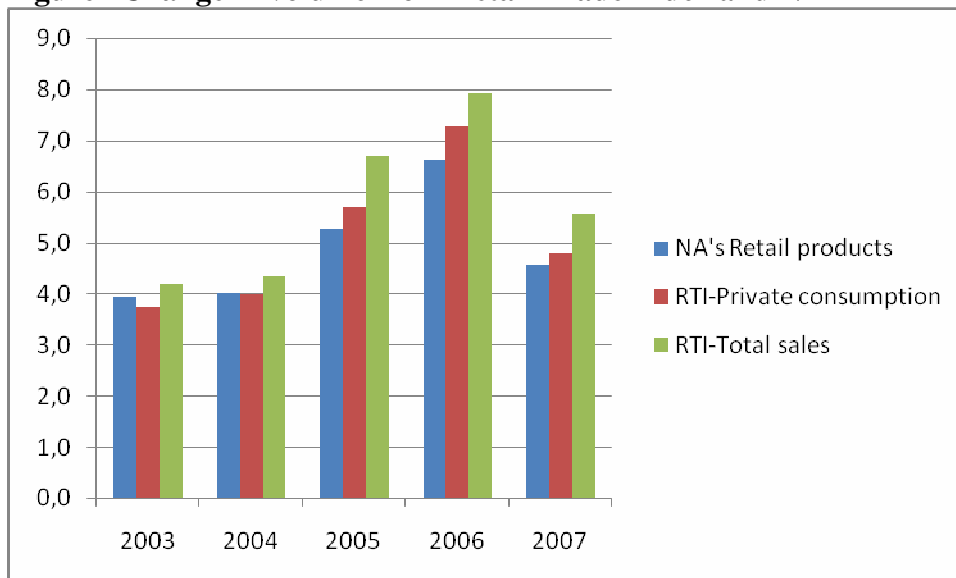
The calculations of households' consumption in retail trade is based on two models.

The first has calculations by activity. Thus, it is only the percentage of the given activity's turnover that goes to private consumption, which is taken up in the calculation of total retail trade. For example, approximately only 20 percent of the building and hardware retail activity's total turnover has been taken up in the calculation of total retail trade. The industrial percentage attributable to private consumption and other consumption is based on information from the *Survey on assortments on retail trade from 2002*. Deflation of the private consumption is done with *Retail Trade Price Index* for each activity.

The other model the calculation was done on a type of goods in a corresponding way to that of NA's calculation of the household consumption matrix. In this calculation the percentages from the *Survey on assortments in retail trades from 2002* are used per commodity in each activity. These percentages have been multiplied by the activity turnover on a monthly basis. The turnover was then totalled per commodity to derive total retail trade. Deflation then occurs by using commodity price indexes in accordance with COICOP. Chapters 4.1.1 and 4.1.2 make a basic review of the results from these calculations.

#### 4.1.1 Calculations by activity

In Figure 7 results for total sales of the Retail Trade Index, the Retail Trade Index for private consumption and NA's development of retail trade can be seen. What can be seen in the figure is that the Retail Trade Index for private consumption had approached the results of NA's corresponding calculations. The difference between NA and the total sales for the Retail Trade Index was near to 1-1.5 percentage points for the years 2005 to 2007. Should one study the corresponding difference between NA and the Retail Trade Index for private consumption, then these differences are less than 0.6 percentage points for each year.

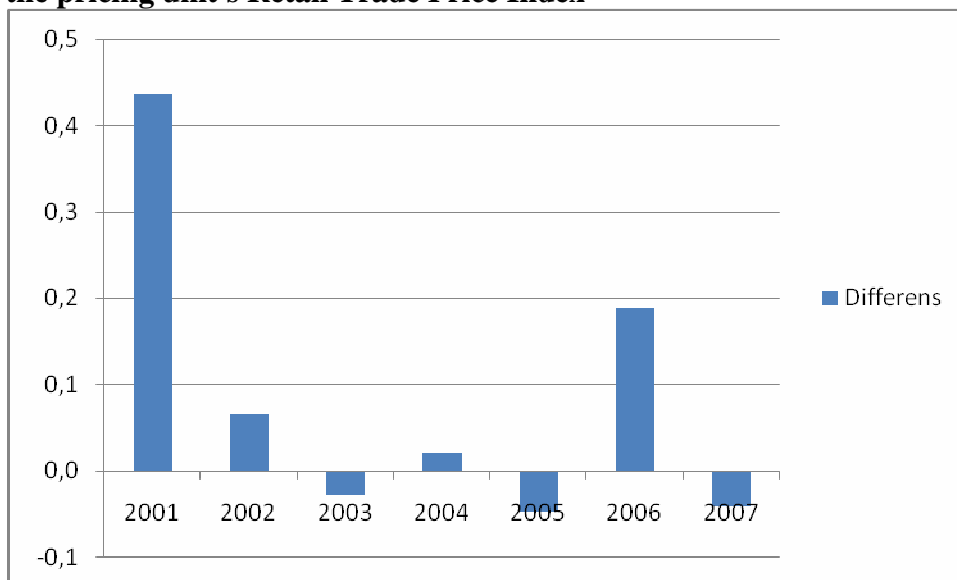
**Figure7 Change in volume from Retail Trade Index and NA**

Why are there differences between NA and the Retail Trade Index for private consumption?

- NA conduct calculations in current and constant prices of commodities while the Retail Trade Index performs the calculation by activity
- For the apothecary trade, Swedish Alcohol Retail Monopoly, tobacco and food NA have had another source in the Retail Trade Index for its calculations. For the apothecary trade, Swedish Alcohol Retail Monopoly, and tobacco NA use information from their own data collection. For food NA use food VAT figures on a quarterly basis and food sales statistics on an annual basis. NA also assume an unchanged volume development on a quarterly basis for three goods categories (see Appendix 1).
- NA conduct follow-ups between the production and usage sides of the economy. This can lead to revisions made for the projected consumption.
- NA conduct annual follow-ups where sources other than those used on a quarterly basis are considered in the calculations. This makes it difficult to make historical comparisons.

Deflation by industrial Retail Trade Index for private consumption is done by the pricing unit's Retail Trade Price Index. The Retail Trade Price Index updates its weights annually. A study of the differences among deflation methods by using one's own projected Retail Trade Price Index and the pricing unit's Retail Trade Price Index is shown in Figure 8.

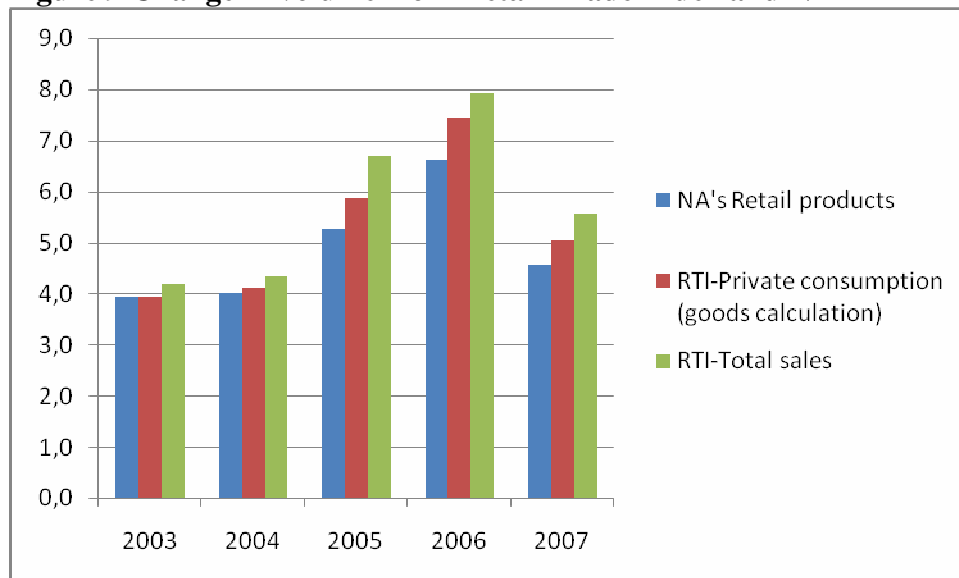
**Figure 8 The difference in change in volume for the Retail Trade Index for private consumption with one's own Retail Trade Price Index and the pricing unit's Retail Trade Price Index**



The differences among the calculations are small and deviate at the most between 0.4 percentage points in 2004. For five years the difference was less than 0.1 percentage point. These differences may be regarded as small and judged to be not of the greatest urgency to use some other Retail Trade Price Index than the one developed by the pricing unit.

#### 4.1.2 Calculation by goods

Figure 9 shows results of the Retail Trade Index for total sales, the Retail Trade Index for private consumption calculated by goods and NA's development of retail trade goods. As shown in the Figure, the Retail Trade Index for private consumption approaches the corresponding calculation results from NA. The difference between the NA and Retail Trade Index for the total sales was 1 to 1.5 percentage points for the years 2005 - 2007. If the corresponding difference between NA and Retail Trade Index for private consumption were studied, these differences would be less than 0.6 percentage points a year.

**Figure 9 Change in volume from Retail Trade Index and NA**

Why is there any difference between the Retail Trade Index for private consumption and NA?

- The apothecary trade, Swedish Alcohol Retail Monopoly, tobacco and food trade(s) report to NA by a source other than that for the Retail Trade Index calculations. The apothecary trade, Swedish Alcohol Retail Monopoly and tobacco provide figures for their respective retail sales directly to NA. Food retail reaches NA from the quarterly VAT for food sales as well as annual food sales statistics. NA also assume a quarterly unchanged volume development for three classes of goods (see Appendix 1).
- NA conduct follow-ups between the production and the usage sides of the economy. This can lead to corrections of consumption projections.
- NA conduct annual follow-ups where sources other than those used from the quarterly basis are considered in the calculations. This makes it difficult to make historical comparisons.

How would it look to lay estimations of the Retail Trade Index for private consumption based on calculations by goods and calculations by activity beside one another? Figure 10 makes such a comparison.



**Figure 10 Difference in change in volume for the Retail Trade Index for private consumption with a different method and NA's method**

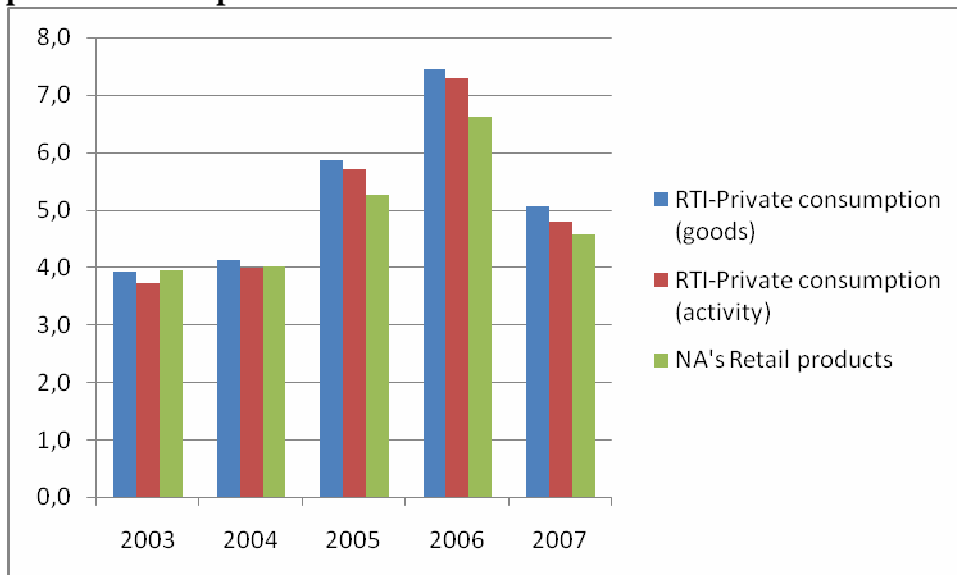


Figure 10 shows that there are very small differences between the Retail trade Index for private consumption, whether calculated by goods or by activity. However, the industrial calculations from years 2005-2007 lie closer to the NA's development estimates. Section 5.2 goes into greater detail about the analysis of the this method..

## 4.2 More in-depth analysis

### 4.2.1 Quarterly comparisons

Figure 11 shows the quarterly change in volume for the Retail Trade Index for private consumption calculated by activity and NA's development of retail goods. The figure below shows that there are only small differences between the Retail Trade Index for private consumption by activity and NA's corresponding calculations.

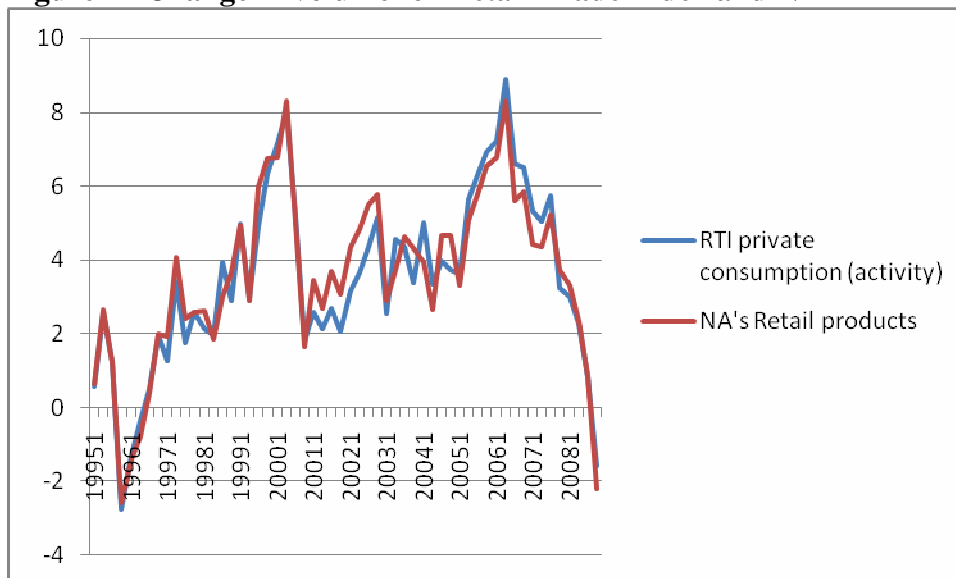
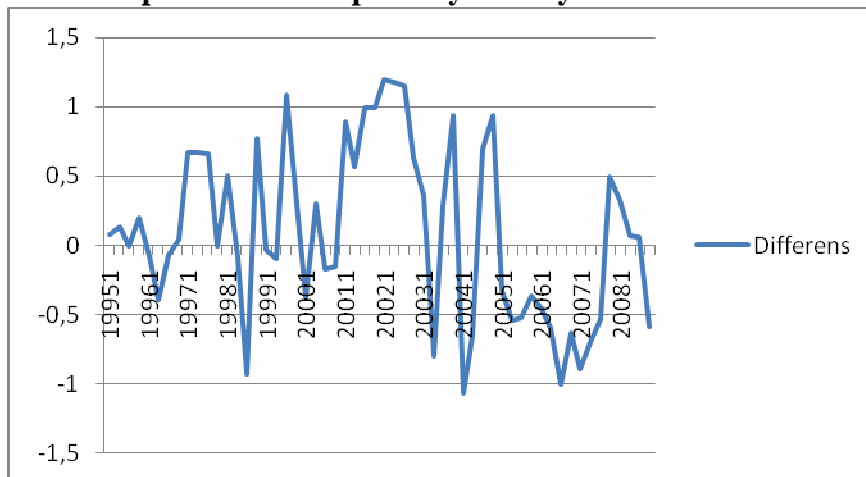
**Figure 11 Change in volume for Retail Trade Index and NA**

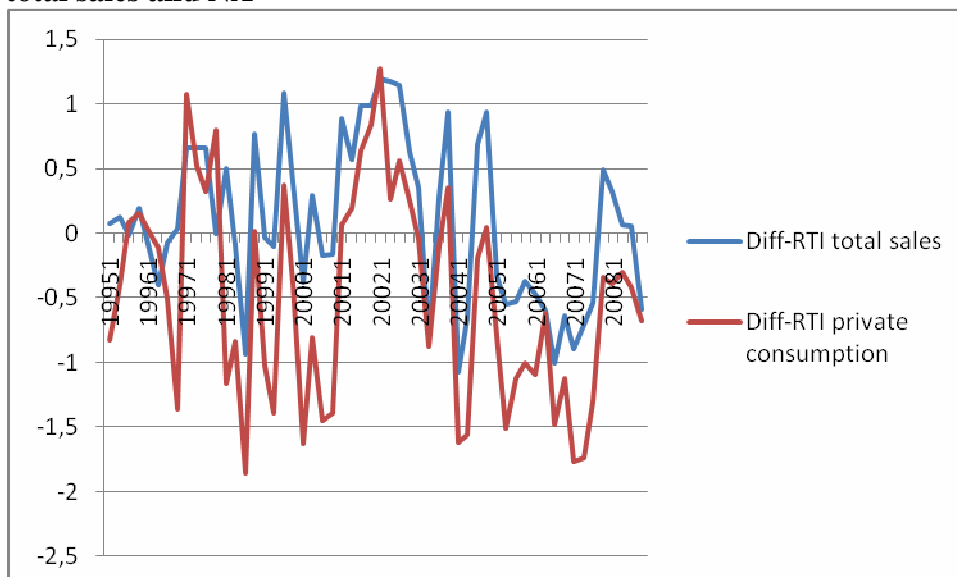
Figure 12 shows the differences between the Retail Trade Index for private consumption by activity and NA estimates for each quarter. A positive difference means that NA provide a more positive development than that of the Retail Trade Index for private consumption by activity. The differences between the Retail Trade Index for private consumption by activity and NA would seem to be relatively systematic through upturns and downturns of the business cycle. During the business cycle downturn from 2001 to 2002 there was a positive difference for nine quarters in a row. The corresponding systematic difference can be seen in the business cycle upturn from 2005-2007 when the difference was negative for eleven straight quarters. Both of these observations can indicate that the NA follow-up work has raised and lowered the private consumption more or less than what the Retail Trade Index for private consumption would seem to indicate. The difference between NA and the Retail Trade Index for private consumption by activity is never larger than one percentage point.

**Figure 12 The difference for change in volume for the Retail Trade Index for private consumption by activity and NA**



How had this pattern appeared if the Retail Trade Index for total sales had been considered in the analysis? This is shown in Figure 13.

**Figure 13 The difference for change in volume for the Retail Trade Index for private consumption by activity, the Retail Trade Index for total sales and NA**



As seen in the comparison, the differences between NA and the Retail Trade Index for total sales are greater than the difference between the Retail Trade Index for private consumption by activity and NA. This is most evident during times when the business cycle is in an upturn, as in the end of the 1990s and the period 2005-2007.

Figure 14 shows the change in quarterly current prices for the Retail Trade Index for private consumption by activity and NA. As shown in the Figure, there are small differences between the Retail Trade Index for private consumption by activity and NA's corresponding calculations.

**Figure 14 Change in current prices for the Retail Trade Index for private consumption by activity and NA.**

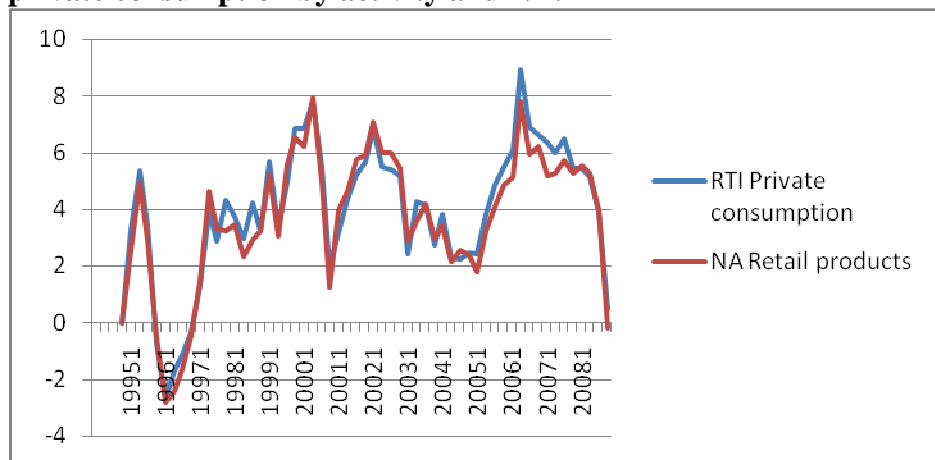
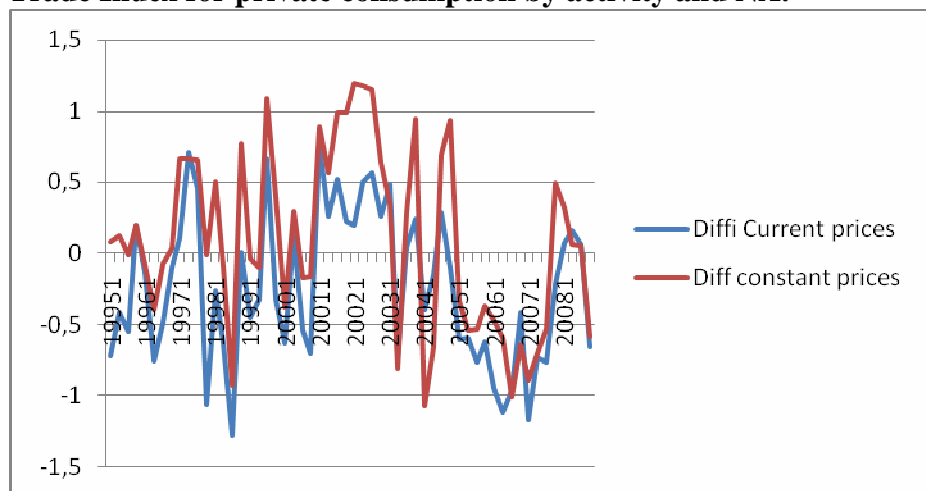


Figure 15 shows the differences between the Retail Trade Index for private consumption by activity and NA for each quarter in current and constant prices. A positive difference means that NA have come to more positive development than the Retail Trade Index for private consumption by activity. As seen in the Figure, the differences follow one another's development. However, for certain goods the differences between the two difference measurements become more noticeable such as in follow period of 2001-03.

**Figure 15 Differences in current and constant prices for the Retail Trade Index for private consumption by activity and NA.**



### 4.3 Selection of a household consumption matrix

NA have changed the household consumption matrix two times during period 1994-2008. From 1994-2001 NA used Survey on assortments for retail trade from 1997 and during the period of 2002-2008 NA used data from the Survey for assortments for retail trade from 2002. The calculations performed up to now have used the household consumption matrix from 2002 for all periods. In this section the differences between calculations using one and the same matrix for the whole period are studied and a calculation following NA's matrix replacement. This means that the matrix from 1997 is used for the period 1994-2001 and the matrix from 2002 is used for the period 2002-2008.

**Figure 16 Change in volume due to change in matrix**

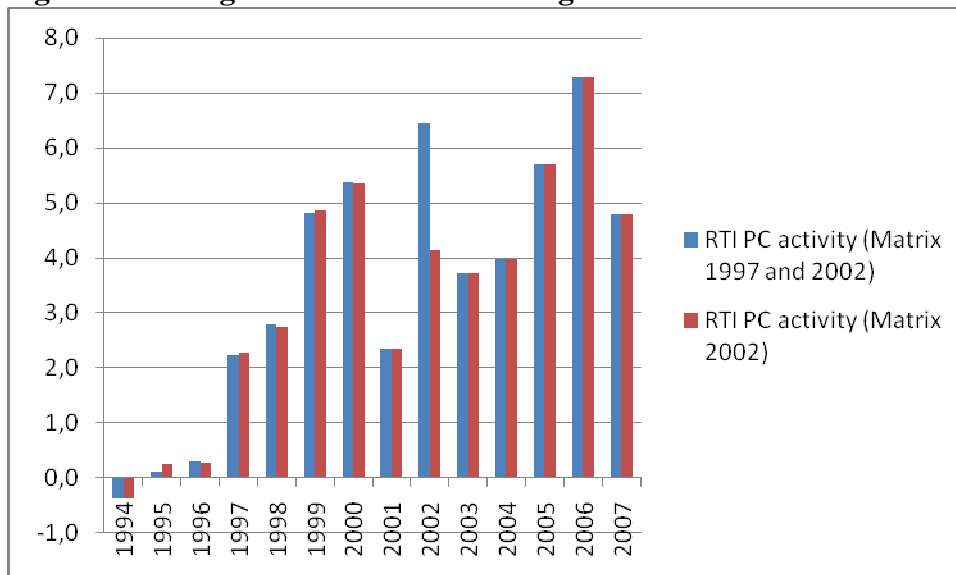


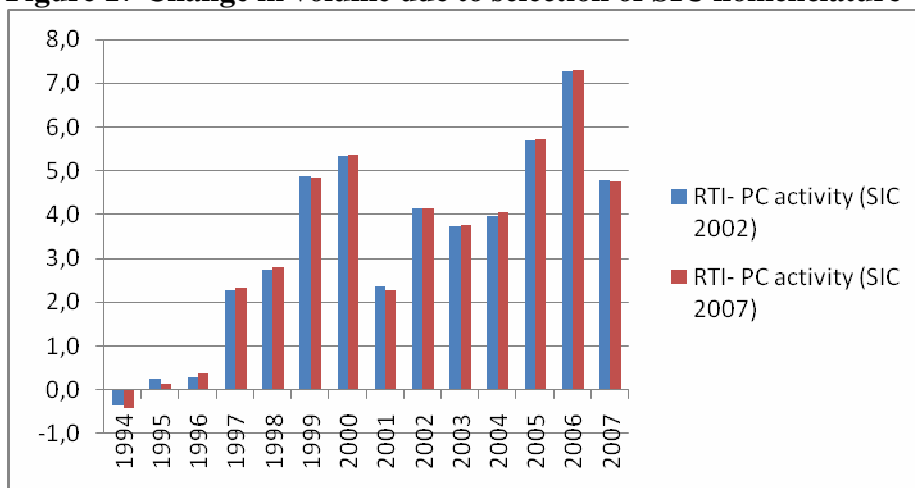
Figure 16 shows those only very small differences among changes in volume due to selection of different matrices. The only year where there was a big difference was 2002. In that year the Retail Trade Index for private consumption by activity (matrix 2002) resulted in a development of 4.1 percent while the Retail Trade Index for private consumption by activity (matrices 1997 and 2002) resulted in a development of 6.3 percent. In that year, NA's development for retail trade goods was right in the middle at 5.2 percent. After further discussion with NA it became clear that 2002 was an especially "messy" year for calculations as regards private consumption. The comparison does still illuminate the difficulties that results from changing matrices.

#### 4.4 SIC - the reorganisation

The Retail Trade Index is reported in accordance with the Swedish Industrial Classification (SIC), which is also adapted to the European industrial classification system. A new version of SIC, namely SIC 2007, has been introduced as of the January reporting period of 2009. A result of the revision is that all codes for industrial sector classification have also been changed. The changes in the new SIC version were done based on the need to adapt to the world at large. Retail trade includes the gas station industrial sector while the repair of household appliances is left out. Starting **January 2009**, the Retail Trade Index is only published in accordance with SIC 2007. Historical time series back to 1991 have been made available at the same point in time. As regards NA deliveries of retail trade indexes, these will use the older nomenclature up to the autumn 2011. This difference must in some way be dealt with if the retail trade index for private consumption is to be published. The results reported in sections 4.1 to 4.3 are based on the older Swedish Industrial Classification (SIC) 2002.

For Retail Trade, there is almost a one to one correspondence between the old and the new SIC versions. One can say that a renumeration has occurred. For example, SIC (2002) has 52111 Warehousing and storage is now called SIC (2007) 47111 as Department stores and the like with food, beverages or tobacco predominating. There is one example where a change has taken place and it applies to toy retail where computer game boutiques are moved to retail trade with computers. Figure 17 shows the differences in calculating the Retail Trade Index for private consumption between the old and the new SIC.

**Figure 17 Change in volume due to selection of SIC nomenclature**



As seen in the Figure there are in principle no differences in change in volume due to selection of SIC nomenclature. It is evident from this comparison that the Retail Trade Index for private consumption is calculated using the newer SIC while NA conduct their calculations based on the retail trade information in the older SIC poses no problem. However, it should be pointed out that Petrol Stations SIC 47.3 are re

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numeration included in the calculation according to the newer SIC, nor is it published in the Swedish Retail Trade Index for total sales.

#### **4.5 Apoteket AB (apothecary trade)**

As was named earlier, NA have their own data collection for private consumption of prescription medicines and non-prescription medicines. Of the total sales in the apothecary trade, approximately 18 percent of sales were to the private consumption while the remaining income was government subsidies. Because the apothecary trade (Apoteket AB) has no problems submitting information for sales to private consumers, this collection can be done in relation to the data collection conducted for the monthly Retail Trade Index.

## 5 Cost estimates

This section provides cost estimates in part for starting up and in part for the running costs for maintaining production. The costs for creating another indicator are strongly dependent on the method one finally chooses to use to create it.

Table 2: Proposal 1 calculate Retail Trade Index for private consumption by activity

	Start-up cost	Annual running cost
<b>Method</b>	SEK 400 000:- (this project)	
<b>IT competence</b>	-	SEK 20 000:-
<b>Expert competence</b>	-	SEK 80 000:-
<b>Price index</b>	-	-
<b>Increased statistics collection</b>	-	-
<b>Total:</b>	-	SEK 100 000:-

Table 3: Proposal 2 calculate Retail Trade Index for private consumption by goods

	Start-up cost	Annual running cost
<b>Method</b>	SEK 400 000:- (this project)	
<b>IT competence</b>	SEK 100 000:-	SEK 20 000:-
<b>Expert competence</b>	-	SEK 160 000:-
<b>Price index</b>	SEK 100 000:-	SEK 50 000:-
<b>Increased statistics collection</b>	-	-
<b>Total:</b>	SEK 200 000:-	SEK 230 000:-

### 5.1.1 Start-up costs

Should one choose proposal 1 then there will be no start-up cost because the program code is already in place in relation to this project. On the other hand, if one chooses proposal 2 then a certain program code must be added so that it will be easy to review and to read in new deflators. Proposal 2 also requires an exacting review for the selection of deflators. The cost for this is estimated to SEK 200 000.



## 5.1.2 Production running costs

### Proposal 1

IT competence - The total cost for the running maintenance of IT operations has been estimated to approximately 30 hours or approximately SEK 20 000 annually. The costs are due to the running program maintenance of existing program codes and the annual input of "other" information and private consumption.

Expert competence - The number of work hours devoted to making the production, including some simple macro proofreading, designing figures and tables and writing press releases. This is estimated to approximately 8 hours per month and twelve times a year, which is approximately 100 hours or SEK 80 000.

### Proposal 2

IT competence - The total cost for running maintenance of IT operations has been estimated to approximately 30 hours or approximately SEK 20 000 annually. The costs are due to the running program maintenance of existing program codes and the annual input of "other" information and private consumption.

Expert competence - The number of work hours devoted to making the production, including some simple macro proofreading, designing figures and tables and writing press releases. This is estimated to approximately 16 hours per month and twelve times a year, which is approximately 200 hours or SEK 160 000. The reason we regard the running cost for this part being greater is the calculation is done by goods and not by activity and it thus becomes more complicated to analyse results that do not coincide with the Retail Trade Index for total sales.

Price index: The number of work hours is calculated to six per month and approximately 70 hours annually. The cost for this is approximately SEK 50 000. The reason for this cost arising is that the commodity price indexes must be reviewed. This cost does not arise in proposal 1 because there we make use of a Retail Trade Price Index that has been reviewed with reference for use in the Retail Trade Index for total sales.

## 6 Conclusions and suggestions

Retail trade sales account for approximately 35 percent of the private consumption, which in turn accounts for approximately 50 percent of GDP. A good monthly indicator for household consumption in retail trade should be of great benefit to society.

Statistics Sweden endorses proposal 1 which is to say that calculation of the Retail Trade Index for private consumption will be done by activity and deflated using the Retail Trade Price Index. The reason for Statistics Sweden endorsing this model is as follows:

- The calculation model is simpler than the one where re-calculation into private consumption is done on the level of goods. Calculations done on the goods' level make it more difficult to gain an overview.
- The Retail Trade Index for total sales is developed by activity. Because this calculation shall be closely associated with the Retail Trade Index, it is logical to conduct calculations and deflation by activity.
- This proposal has lower running costs. The annual cost is estimated to SEK 100 000.
- Regardless of the selection of method, the results are largely the same.

If the necessary resources according to this proposal can be allocated, then the following publication form is suggested:

- Statistics are developed for total retail trade excl. of petrol stations
- Statistics start to be produced as of the August or September publication of the Retail Trade Index.
- This is calculated in current prices, current calendar adjusted prices, constant prices, constant calendar adjusted prices, seasonally adjusted values and as trends
- Data is published in press releases together with the Retail Trade Index for total sales. Press releases contain data in current prices, constant prices, constant calendar adjusted prices, and seasonally adjusted values in a separate table at the end of the press release. The Retail Trade Index press release is reviewed together with the Swedish Research Institute of Trade.
- Data is also made public in the form of their own tables in Sweden's Statistical databases.
- The new statistics will be published with a time series from 2000 and onwards.

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## 7 References

SCB, Caroline Flodberg, Final report: Monthly Indicator for Household Consumption

SCB, Daniel Lennartsson, Final report on Implementation of Chain Index and Constant Price Calculation in Turnover Statistics

These titles are presently only available in Swedish.

## Appendix 1 NA's retail trade goods

COICOP Code	Designation	Sources for private consumption in current prices	Deflator
111	Bread and grain products	Retail Trade Index, VAT statistics	CPI
112	Meat	Retail Trade Index, VAT statistics	CPI
113	Fish	Retail Trade Index, VAT statistics	CPI
114	Milk, cheese and eggs	Retail Trade Index, VAT statistics	CPI
115	Butter, margarine	Retail Trade Index, VAT statistics	CPI
116	Fruit	Retail Trade Index, VAT statistics	CPI
117	Vegetables	Retail Trade Index, VAT statistics	CPI
118	Sugar, jam, confectionaries	Retail Trade Index, VAT statistics	CPI
119	Salt, spices, sauces, and other food	Retail Trade Index, VAT statistics	CPI
121	Coffee, tea, cocoa	Retail Trade Index, VAT statistics	CPI
122	Carbonated beverage, juice	Retail Trade Index, VAT statistics	CPI
2111	Sprits, Swedish Alcohol Retail Monopoly	Swedish Alcohol Retail Monopoly	CPI
2121	Wine, Swedish Alcohol Retail Monopoly	Swedish Alcohol Retail Monopoly	CPI
21311	Strong Beer (Class III), Swedish Alcohol Retail Monopoly	Swedish Alcohol Retail Monopoly	CPI
2132	Beer classes I & I	Retail Trade Index, VAT statistics	CPI
220	Tobacco, cigarettes,	Swedish Match questionnaire, Information from SORAD	CPI, Prices SORAD
311	Material for clothing	Retail Trade Index	CPI
312	Clothing accessories	Retail Trade Index	CPI
313	Other clothing accessories	Retail Trade Index	CPI
321	Shoes and other shoe accessories	Retail Trade Index	CPI
431	Goods for minor maintenance	Retail Trade Index	CPI
511	Furniture, lighting	Retail Trade Index	CPI
512	Carpets, incl. matting	Retail Trade Index	CPI
520	Household textiles	Retail Trade Index	CPI
531	Major household appliances	Retail Trade Index	CPI
532	Minor electrical household appliances	Retail Trade Index	CPI
540	Kitchenware, glassware, porcelain	Retail Trade Index	CPI
551	Major motorised tools	Retail Trade Index	CPI
552	Minor tools	Retail Trade Index	CPI
561	Chemical & technological appliances	Retail Trade Index	CPI
6111	Prescription medicines	Apoteket	CPI

6112	Non-prescription medicines	Apoteket	CPI
612	Health Care Products	Retail Trade Index	CPI
613	Eye glasses, contact lenses	Retail Trade Index	CPI
713	Bicycles	Retail Trade Index	CPI
8121	Telephone, fax machines	Retail Trade Index	CPI
8122	Mobile Telephone	MTB projection for mobile phones sold, distributed over entire year	CPI
911	Equipment for reception and play back	Retail Trade Index	CPI
912	Photographic equipment	Retail Trade Index	CPI
913	IT equipment, PC,	Retail Trade Index	CPI
914	Goods that emit sounds	Retail Trade Index	CPI
9212	Boats	Retail Trade Index	CPI
9213	Boat motors, boat accessories	Retail Trade Index	CPI
9215	Major leisure appliances	Retail Trade Index	CPI
922	Musical instruments	Retail Trade Index	CPI
931	Toys, games, hobby	Retail Trade Index	CPI
932	Minor sporting and leisure accessories	Retail Trade Index	CPI
933	Flowers, horticultural plants	Retail Trade Index	CPI
9341	Pets, equipment	Retail Trade Index	CPI
9342	Medicine, vitamins	Assumptions about unchanged volume	
951	Books, excl. stamps	Retail Trade Index	CPI
9521	Daily newspapers	Assumptions about unchanged volume	
9522	Magazines	Retail Trade Index	CPI
953	Diverse printed materials	Retail Trade Index	CPI
954	Writing material	Retail Trade Index	CPI
1212	Electrical appliances	Retail Trade Index	CPI
1213	Other goods	Retail Trade Index	CPI
12311	Jewelry, watches	Retail Trade Index	CPI
1232	Other personal goods	Retail Trade Index	CPI