



Department of Business Studies

# **The Effect of the Euro on Consumer Prices**

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## ABSTRACT

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The creation of the Economic and Monetary Union in Europe has had large impacts on the global political and economic arena.

One of the aspects that is of particular importance for the European consumer is the effect of the euro on the prices. If the introduction of a new currency has meant raised prices it is a matter of real significance that needs to be examined. The following research attempts to analyse the harmonized price indices in seven countries. The purpose is to clarify whether the introduction of the euro has had an impact on the price level in the Member States of the European Union. The indices are presented in diagrams to uncover any deviating change in the indices at the time of the changeover. The findings from the data analysis show that the promised price reductions have not yet occurred and for some categories of consumer products the euro has had an effect on the price level. An effect of the euro is defined as a change in the price level, either increase or decrease, caused by the introduction of the euro. Future members of a monetary union need to establish control mechanisms to prevent raised prices in connection with the introduction of a new currency.

**Keywords:** the European Union  
Monetary Union  
Euro  
Harmonised Indices of Consumer Prices

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# 1 INTRODUCTION

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*The introduction of the euro has had a radical impact on the everyday life of European citizens. There has been a lot of discussion on whether or not the euro has led to price rises. The euro has at the time of the writing been in use for more than two years and it should be possible to ascertain what really happened at the time when the new currency was introduced.*

*The European Union has no historical precedent and therefore no advice or guidelines can be obtained in former currency unions. This makes it even more important to have an open discussion and a critical evaluation of the introduction of the common currency to prepare new members on the undertaking to change their national currency. The purpose of the following research is to clarify whether the introduction of the euro has had any effect on the price level of consumer goods and services in the Member States.*

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## 1.1 Background

In January 2002 the euro was introduced. This was the third and last step towards a common market within the European Union. The advantages with one single currency were many. By price transparency the consumers would have greater opportunities to make price comparisons of services and goods within the Member States. This should result in a more conscious consumer who no longer would accept large price differences within the common market. This in turn should put pressure on companies to lower their prices or lower the cost of production. The prices were to converge.

Some time after the introduction of the euro critical voices could be heard throughout Europe. Especially in the Mediterranean countries this seemed to be the case. The promised reduction in price level did not become a reality in all countries. Rather the opposite was claimed.

In Sweden, which is not a full member of the Economic and Monetary Union (the EMU), the inhabitants received double messages. On the one hand, ordinary people in the euro-zone claimed that the prices of consumer goods and services had increased. On the other hand, trade and industry put forward reports and statistical evidence of the opposite.

Due to the referendum in Sweden on the 14<sup>th</sup> of September 2003 the debates on this topic were many. Each and every day new so called objective facts were presented from both sides on the matter. The opponents of the euro used the voice of the unsatisfied consumers as a heavy argument whilst the proponents used statistics showing price reductions. This caught our attention and arose our curiosity.

*What really happened?*

## **1.2 Research Problem**

The abandonment of a national currency and the introduction of a new currency will evidently have radical consequences in a country. Alongside a comprehensive transformation of fundamental institutions in society at large in order to adapt to the new currency, consumers also have to get accustomed to the new currency and its value in comparison to the old national currency. This mental adjustment to a new currency will undoubtedly take time.

The introduction of the euro also has a substantial value for the financial markets around the world. The euro is now, together with the US dollar and the yen, one of the large international currencies.

The proponents of the euro claim that a common currency within the European Union will put pressure on the prices, mainly because of an increased transparency of prices and the tightened competition that a further European integration will lead to. There are however more to the euro than this.

A membership in EMU has both advantages and disadvantages and these need to be carefully considered when a country decides whether to join or not. One of the conditions in order to make a correct decision is to have as substantial foundation as possible. In this context it is imperative to analyse whether the introduction of the euro has resulted in higher prices in the euro area or not. This is a question that is most relevant for the public and subsequently a matter that needs to be clarified to ascertain if it is a real problem.

The euro is now going on its third year and it is possible to look back to disclose and evaluate any consequences the euro might have had. With statistics covering a couple of years it should be possible to ascertain whether any changes in the price level of different products did occur at the time when the euro was introduced.

In May 2004, ten countries from Eastern Europe, the Baltics and the Mediterranean are scheduled to join the European Union. Their intentions are to implement the euro, which will enlarge the euro area even further. It is important to have an open discussion and a critical evaluation of the introduction of a common currency to prepare these countries on the undertaking to change their national currencies. If the euro did have an effect on the price level it is imperative to identify the causes and whether counter measures can be applied. It may also be of value to disclose if the outcome differed depending on different groups of products.



### **1.3 Purpose**

The aim of the following research is to clarify the effects of the introduction of the euro on the price level of consumer goods and services in the Member States of the EMU.

### **1.4 Limitations**

We have selected seven countries within the European Union to represent the sample in the research. Six of these have introduced the common currency and Sweden is used as a counterweight to the members in the monetary union. An average of all the 15 Member States has also been included.

The material used consists of secondary data provided by Eurostat. The data extend over a period of five years, August 1998 to August 2003, and consist of price indices for consumer goods and services.

### **1.5 Definitions**

*An effect of the euro*, also called *euro effect* or *changeover effect*, is defined as a change in the price level, either increase or decrease, caused by the introduction of the euro.

When we refer to *Member States*, we mean the Member States in the European Union, and not only members of the EMU.

*Real GDP* is defined as the output of final goods and services valued at prices prevailing in the base period (Findlay, Christopher et al, 1999, p G13).

## **1.6 Outline of the Dissertation**

- Chapter 1 In this chapter the research problem is described and the purpose of the dissertation is formulated. There is a short background, which introduces the reader to the subject. Limitations are presented to illustrate the coverage of the dissertation.
- Chapter 2 In this chapter the scientific approach, which is the basis of the research, is presented. The methodological choices of principle are described.
- Chapter 3 The theoretical framework is presented in this chapter. Different aspects of a currency union are described and possible effects for a country choosing to join a currency union are listed. The theoretical approach that gives the foundation of the research is presented.
- Chapter 4 In this chapter the practical choices of method are discussed, such as statistical material, time frame and sample of countries.
- Chapter 5 In this chapter the analysis of the data is carried out. The material is processed and compiled in diagrams. Each category of consumer goods and services is analysed separately and the development in each country is evaluated. The focus is on the turn of the year when the euro was introduced.
- Chapter 6 The conclusion of the research is presented in this chapter. The effects of the euro are discussed. A discussion of the categories of consumer goods and services where the euro had an effect is also carried out.

Chapter 7 In this chapter advice to future members of a currency union is given.

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## 2 METHODOLOGY

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*The research is based upon an inductive approach because of the unique features of the European Union. It is more appropriate to analyse data and afterwards reflect on what theoretical themes the data are suggesting due to lack of prior knowledge.*

*There are many factors that can influence the price level besides from a potential euro effect. Validity and reliability problems are discussed below.*

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### 2.1 Scientific approach

Positivists adhere to the foundationalist ontology and are concerned with establishing causal relationships between different phenomena, thus developing explanatory and predictive models. The foundationalist ontology is based upon the presumption that the world exists independently of our knowledge of it. In epistemological terms this means that we are able to establish the real world through empirical observations. Positivism has its origin in natural science and its ambition is to establish regular relationships between different phenomena (Saunders et al., 2000, p 85). Positivists claim that there is a possibility of one uniform science consisting of both nature and society.

Positivists tend to prefer quantitative analysis and want to produce ‘objective’ and generalisable findings. The use of statistics therefore has an important role for those using a positivistic approach to science. Positivists also claim that science is objective, e.g. the scientist can offer value free findings about the world (Ibid.).

### **2.1.1 Inductive approach**

This research will be based upon an inductive approach to the extent that data will be collected and compiled and a theory will be developed as a result of the data analysis (Ibid. p 87). The inductive approach is usually not seen as compatible with positivism but will however be appropriate for this research. Deductive theory is more appropriate or suitable where the literature on the subject is extensive and fully detailed. In such cases it will be easier to define a theoretical framework and formulate hypothesis (Ibid. p 91).

Transforming twelve national currencies into one single currency is a unique phenomenon in the contemporary world. The fact that this never has occurred before inevitably leads to a lack of prior knowledge. There exist very little literature on this subject and it excites much debate. As a direct consequence of this it is more appropriate to analyse data and afterwards reflect on what theoretical themes the data are suggesting (Ibid.). Formulating a hypothesis will prove difficult without sufficient understanding of the subject matter. With a deductive approach, a theory will be developed and thereafter be subjected to rigorous testing (Ibid. p 87). As mentioned above, due to the absence of theories on the topic, this would prove difficult to accomplish.

One disadvantage with the inductive approach is the problem of testing. Since the theory is developed after the analysis of data there will be no opportunities to test the theory. Perhaps most importantly, the theory is not capable of being falsified. Traditional positivism applied the principles of verification. Later, this concept was replaced by the principle of falsifiability.

However, to relate positivism with deductive science is ultimately only a way of labelling different approaches to science and not a general principle to be ruthlessly followed (Ibid.). In the end, it is the scientist's choice to make.

## **2.2 Insecurity by Estimating the Euro Effect**

In practice it is not possible for price index compilers to exactly estimate any possible impact of the changeover. Moreover, there is no way to ascertain what the inflation would have been if the introduction of the euro had not taken place. There are many factors - regular, irregular, random and systematic ones – that may overlap with a potential changeover effect, and there are a large number of potential changeover effects, which may increase each other or cancel each other out. Furthermore, as the time period is extended beyond the changeover, more price data becomes available for analysis but there is also more opportunity for other effects not related to the introduction of the euro to influence the analysis.

What can be done though is to focus at the exact time when the euro was introduced, January 2002, and compare this with the equivalent month both prior and following years. What then can be seen are deviating changes in the consumer price indices for some groups of products. Such changes are in this research called to be an effect of the introduction of the euro.

### **2.2.1 Validity**

Since the foundation of the study is secondary data, it is important to be aware of the consistency of the data with the purpose of the research. The Harmonised Indices of Consumer Prices (HICP) is used for assessment of inflation and convergence of the prices in the European Union, and is thus the appropriate material for this type of research. The statistics gives a solid foundation for several questions on studies of prices, price developments and price levels. The products included should cover the entire private consumption of services and goods. The indices are based on a weighted basket of consumer goods and services adjusted to the pattern of consumption in the countries.

One of the risks with data interpretation is to make false assumptions (Saunders et al, 2000, p 103). To have more extensive time-series would increase the probability of discovering deviating behaviour than the five years included in this research. Nevertheless, the most interesting changes for our objectives are included. These are the changes in the price level some months before the introduction of the euro and some months after.

There are risks involved when comparing different countries' indices with each other. When the countries included do not have the same currency, there could be an effect of fluctuation in the exchange rate. Since Sweden has not joined the third step, the Swedish prices have been converted to the euro. This means that when the Swedish Krona increases in value, the converted price expressed in the euro will be lower.

The indices do not take into account how the economic situation in a country is. Factors, such as economic development, unemployment rate and disposable income may influence the price level.

The economic development in 2001 in the euro-area has not met the expectations (*The EU economy: 2001 review*, 2001, p 23). The economic growth can be measured by the increase in real Gross Domestic Product (GDP). The GDP growth declined from 3.4 percent in 2000 to 1.5 percent in 2001 according to the Commission (*The EU economy: 2002 review*, 2002, p 25). In year 2002 the slow down became even more apparent, and the real GDP growth did not reach more than 0.8 percent.

The unemployment rate within the euro area rose from 8.0 percent in mid-2001 to 8.4 percent in October 2002. (*The EU economy:2002 review*, 2001, p 22).

The macro economic factor will not be further elaborated. There are multiple factors, which will have an impact on the price level, but it would be too time consuming to examine their influences on the price level.

The theoretical framework will inevitably shape and influence the results and conclusions. It is important to be aware of and pay attention to the criteria of intersubjectivity. If these criteria are fulfilled, the scientific production should be reconstructed with the same result and conclusion (Lundquist, 1993, p 52).

The reader should understand how and why the scientist has proceeded the way he or she has. By doing so, it is possible to evaluate the research process (Ibid.). The data have been analysed and interpreted carefully so that another scientist with the same presumptions could repeat the research and the research would still yield the same result.

### **2.2.2 Reliability**

Since the present study is based upon pure technical data and has no ‘human’ involvement (e.g. interviews etc.), some threats regarding the reliability are automatically avoided such as subject and observer bias. On the other hand, we rely strongly on material that we have not ourselves collected or compiled. This inevitably leads to insecurity regarding the material, such as lack of control and knowledge about the collection procedures. Still, Eurostat is an acknowledged organisation and publishes economic indicators for the whole euro-zone and we have no reasons not to rely on its competence.

The data is presented in diagrams covering one year, June 2001 to June 2002, with one exception. The category clothing is presented in a diagram showing the development from May 2001 to May 2002 due to seasonal changes that otherwise not would be as apparent. The diagrams have to a large extent the same values on the Y-axis to get a homogeneous picture of the development. The risk would otherwise arise that some categories would appear to have larger changes than they actually have.

The Member States implemented monitoring mechanisms with the purpose to prevent covertly raised prices. Unfortunately, problems to achieve access to the countries’ strategies make it impossible to evaluate these and estimate their presumed effects on the price level.



In February 1998 Eurostat reported on HICPs establishment, especially on its reliability and compliance with the comparability requirements. These indices have been accepted by both the Commission and the European Monetary Institute (EMI) as providing satisfactory measures for the assessment of convergence. The initial HICPs were in most cases used as a common denominator of the national Consumer Price Index (CPI). Since then the coverage has been extended to almost all of consumer's expenditures. In particular the difficult areas of health, education and social protection services, where there are major institutional differences between the Member States and which were not fully covered in the initial HICP, are nowadays largely covered since December 1999 with an effect taking places in the index for January 2000. These, and geographic coverage (such as rural/urban areas), and population coverage are included according to agreed definition to ensure comparability despite major institutional differences. Tariff prices such as electricity and telephone are therefore also included.

In order to keep HICP in step and up-to-date, new products are also included. There are still countries though, that do not update neither new nor old goods regularly, but all Member States have plans to improve this process. It should not be assumed if a price is missing that it is equal to the last observed price. In order to measure pure price changes, the prices included in the HICPs also need to be adjusted for changes in quality.

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## 3 THEORETICAL FRAMEWORK

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*The idea of a currency union is not a new concept. A country may have a lot to gain by joining a currency union. During the latest centuries numerous currency unions have existed, there are many on-going unions and we have most certainly not seen the last.*

*A potential effect of the introduction of a common currency on the prices is often neglected in the literature on currency unions. The theoretical approach therefore consists of different explanations to why price rises could occur in connection with the introduction of a common currency.*

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### 3.1 Optimum Currency Areas

In 1961, Robert Mundell presented a theory of optimum currency areas that has had a large impact in the world of economics. Mundell is Professor of Economics at Columbia University in New York and has won the Nobel Prize in economic science on his work of optimum currency areas. Much of recent work on the subject is still greatly influenced by his model. He defined a currency area as a zone of fixed exchange rate (Mundell, Robert A, 1968, p 177). It is important to point out that this is not the same as a common currency area where the countries involved go one step further and adopt a common currency. It is, however, generally acknowledged that the undesirable characteristics for an optimum currency area are consequently also no desirable characteristics for a common currency area.

There are two broad approaches in contemporary literature on whether two or more countries should form a currency area. Usually this concept is expanded to also include common currency areas in accordance with the reasoning above regarding differences between common currency areas and optimum currency areas.

The first approach pertains to under which conditions countries should adopt a common currency (or rigidly fixed exchange rates). The second approach evaluates costs and benefits of a common currency area. The potential direct effect of a changeover on the prices is generally ignored in the literature. This aspect is imperative and should not be neglected since an eventual price rise may have considerable consequences on the average expenditures for a consumer.

Mundell's framework of the optimal currency area implies that gains from a common currency are proportional to the size of international transactions.

### **3.2 Effects of Currency Unions**

There are several advantages as well as a few disadvantages for a country to take into consideration when deciding whether to join a currency union. Much research has been done on the subject of currency unions and numerous articles have been written on possible consequences for a country joining such a union. Below, some scientists' contribution to the discussion on the subject at hand will be presented.

According to Andrew K. Rose the trade between members of currency unions is much higher than trade between equivalent countries with their own currencies. It is important to differentiate between political unions and currency unions. Political unions mean sovereign states with a single currency but also a common legislation, same political environment and culture etc. A currency union is described as sovereign states that have delegated monetary policy to an international or foreign authority but retained sovereignty in other demands (Engel, Charles & Rose, Andrew K., 2001). Currency unions overall eliminate the risk of future changes in the exchange rates, as well as the transaction costs which in turn should facilitate export and import. This implies that after joining the EMU, countries are able to engage in trade more

frequently with each other than had they been merely members of the European Union.

Another important aspect of a more intense economic contact with the rest of the world is that innovations and the adoption of new ideas will accelerate. Currency unions might lead to greater specialisation, which means better technological and managerial know-how and improved productivity. Specialisation may take place within a given sector, i.e. different countries producing different types of cars, or between sectors, i.e. one country producing cars and the other producing agriculture goods. This is also known as the principle of comparative advantages (Barro, Robert J. & Tenreyro, Silvana, 2002).

When a country becomes a member of a monetary union it gives up its independent monetary policy and a portion of its sovereignty. This political aspect may be the reason that several states decide not to join a monetary union. Member States can no longer control their money supply, inflation or interest rates and their foreign exchange rates, which may be seen as a threat to independency and autonomy.

Proponents for currency arrangements claim that in the long run the superior monetary stability promotes higher economic growth. When the national central bank ties its hands to the extent where it is unable to, in the future, expand the money supply even if it wants to, workers expect lower inflation. As a result, states will experience lower inflation for any given level of output, which would mean slower price development.

Richard Friberg, assistant professor in economics at the University in Stockholm, observed economic effects both in the short term and in the long term within currency unions.

An effect in the short term is that less expensive merchandise bought regularly, such as coffee and newspapers, tend to rise in price due to the fact that retailers round off to a convenient price. In the retail sector many prices are psychological. These price rises on these types of merchandise is just a

transfer effect, and should be weighed against long-term consequences (Höjer, Henrik, 2003, p 48-50).

In a long-term perspective some countries will get higher prices and some countries lower prices due to convergence (Ibid). Here the purchasing power plays an important role. This is shown by an example when comparing Greece, with a relatively small population, and Germany, with a greater population, the prices tend to be more in the price level of Germany since the total purchasing power is higher there. This supports the theory that Sweden will receive a lower price level after joining the EMU. In addition to the relatively high price level, Sweden constitutes a small economy within the currency union.

The literature on monetary unions needs to be carefully reviewed. The subject is to a large extent a political matter and the literature on monetary unions is therefore inevitably influenced by the scientist's political opinion. The proponents of a more integrated European Union will emphasise the advantages with a monetary union and the opponents will emphasise all the disadvantages and risks with a monetary union. It is therefore of particular importance to remain critical to the literature on the subject.

### **3.3 The European Union**

After the second world war voices were raised to make it more difficult to start further wars between the West European countries. The aim was to build a united organisation and to integrate the economies of the states.

The European Community (the EC) was formed after signing the Rome Act in 1957 and has since both expanded and intensified. The idea of a monetary cooperation was already on the agenda at the time but it was not until the Maastricht Treaty in 1991 the idea became reality.

Parallel to the discussions of a common currency, the European Union has had other co-operations. From 1979-1998, the Member States had a collaboration

called the European Monetary System (the EMS). The purpose was to stabilise the currencies of the Member States and to facilitate trade between the states.

Historically Europe has been divided into many national markets, which has made it possible to maintain great price differences between these markets. During the last decade several national legislations and rules have been repealed and replaced by EU legislation. Because of this, market integration has become more intense. As a consequence of the market integration the differences in the price levels in the Member States have decreased since the mid 90s, and after the changeover this trend has been even more obvious (Österberg, Gunnar, 2002, N.pag). This is most apparent in the producer stage where the market is homogenous and the customers are business people who need a more fixed price setting. In the consumer stage, where the products are less homogenous and some products are local, the price level will shift.

### **3.3.1 The Economic and Monetary Union**

The Economic and Monetary Union (the EMU) is part of the European Union. The main reason for a common currency is to strengthen the common market of the union. This should facilitate trade, investments and transfer of capital over the borders within the union and hopefully lead to increased economic growth. The process of the EMU has proceeded several years and is divided into three phases.

The first stage was initiated in June 1990 when all impediments of capital movements within the European Union were repealed and the Commission began to supervise the economic development in the Member States.

In January 1994 the second part of the EMU was initiated. National central banks were made independent to other institutes including governments and parliaments. The monetary policies in the different states were coordinated. Every six months the Commission monitored the states to ensure that they complied with the convergence criteria for entering the monetary union.

In January 1999 the last phase took place and the monetary union was formed. The national currencies were valued against the euro according to pre-determined exchange rates.

In January 2002 the notes and coins in euro were distributed to the 12 Member States that had decided to take part in all three steps. Denmark, Sweden and the United Kingdom have still not joined the third part of the EMU.

Since the introduction of the euro, several of the markets have experienced harmonisation of the prices within the Union. Even if an important aspect of the European Union is to make the prices within the union as equal as possible, it is not realistic to hope for a total convergence. In the future there will still be price differences. For some merchandise the difference will be greater depending on the art of the product and the level of competition. The most obvious reasons for a constant price difference in the Member States are the cost for physical transport, taxes, level of income and cost of labour (Ibid, p 6)

The cost of distributing merchandise in different states varies. Further factor to take into account are salaries and distance. In a country such as Sweden, which is 2000 kilometres long, it will cost more to transport from North to South than in a smaller country.

Every state has its own tax levels, which will affect the price level. The most relevant tax is the value-added tax. Where this is high, it may be one explanation to higher prices.

There is a connection between the price level and the GDP per capita in a state. The more people earn, the more they can afford to spend which will have an effect on the price level.

Except for the gross salary there is also payroll taxes to take into consideration.

There are some criteria, the so-called convergence criteria, which every state has to meet before becoming a member of the EMU. One of the criteria regards the prices in the Member States. Each Member State must have a high level of price stability. The inflation during the period prior to the examination

may not exceed the inflation level in the three Member States with the lowest inflation by more than 1.5 percent units (Art. 121(1) of the EC Treaty).

### **3.4 Theoretical approach**

The transformation of twelve national currencies into one single currency, the euro, has had several impacts on the Member States' public economy. One consequence of the introduction of the euro is said to be higher price level in the involved Member States. Difficulties with carrying out a comparative analysis of the price level between different states is due to the intricacies of isolating the assumed causes of the introduction of the euro. Is there a price-increase-effect that can only be explained by the introduction of the euro?

The most easy and simple way to distinguish a euro-related price raise from a "normal" price rise will be to study the monthly price development during year 2002. If the prices have increased in a way that is obviously deviating from previous years we need to look closer at this effect to discover potential causes of this.

Below we have formulated some reasons as to why the possibility of a price rise existed at the time when the euro was introduced. These reasons constitute the theoretical approach for the research and we will come back to these in the conclusion.

#### **3.4.1 Psychological pricing and decimal arithmetic**

A common thing in trade is the use of so called psychological prices. Consider a price of DM 4.99 compared to a price of DM 5.00. The actual price difference is only one pfennig but the psychological difference is much greater. Some customers will consider the product to cost DM 4.00 rather than DM 5.00, which in this case would be more correct. According to Kotler, this type of pricing approach considers the psychology of the price and not simply the economics. The price is used to say something about the product (Kotler et



al, 1999, p.727). The equivalent price for the product above in euro would be 2.55 euro, which is a price a retailer would avoid to use (1 DM = 0.51129 €). The probability that the retailer would use a price at 2.99 euro is more likely which means a real price increase of 44 cents. This might not seem that much but imagine the price difference regarding more expensive products. Such pricing strategies could mean potentially quite large changes in the relative prices of different goods, acting to distort the pattern of production and consumption. For some goods it would be possible to correct for any price change by making compensating changes to quantities.

### **3.4.2 'Introduction costs'**

The introduction of the euro is inevitably connected with one isolated cost. This could for example be the cost of changing cash registers or new systems of price marking. There is also a certain cost of dual pricing which is a strategy to which the euro-countries applied the last couple of months before the euro came into use and some months after. The retailer will then compensate for such costs by an increase of the price (Temperton, 1998). Increased prices could however also be a result of non-euro related costs. Changes in prices and taxes are for example almost always adjusted at the beginning of the year and since this coincided with the introduction of the euro, for the consumer it may seem to be a consequence of the euro.

### **3.4.3 Local markets**

There is a greater risk for price-raises where there are strong actors in small markets than in markets characterized by strong competition. The same problem may occur in local markets with a high demand in relation to the supply. Tourism in Southern Europe has experienced that the prices have increased due to the high demand during the tourist season.

#### **3.4.4 Rough estimations**

Rough estimations of a price in euro compared to the old price in the national currency can be misleading. Consumers in Europe could easily misunderstand a price by doing rough estimations and therefore apprehend a price as being excessive (Ibid.). The conversion could be further complicated by the fact that some states, e.g. Italy, has had very high denomination.

#### **3.4.5 Differences in initial price-levels**

States with an initial low price level have experienced a higher increase in the price level than states with an initial high price level as a result when the national price levels converge.

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## 4 METHOD

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*As the European integration became more developed, a need arose for available comparable statistics. The material used consists of harmonized data provided by the European statistical organisation covering consumer price indices from seven countries over five years.*

*Twelve categories of consumer goods will be analysed to discover any deviating changes at the time when the new currency was introduced.*

*The analysis is comparative and focuses on the price level both before and after the introduction of the euro. The objects of the research are a sample of the Member States.*

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### 4.1 Sample

The data consist of the harmonized indices of consumer prices (HICP) for seven countries and the average for all fifteen Member States of the European Union. The aim with the selection was to get a representative sample of all the Member States. The optimal situation would evidently be to have all fifteen Member States included but the research would then be too extensive and out of reach for us.

Twelve states have become part of the third phase in the EMU and now have the euro as their currency. We have based our research on six of these, i.e. half of the countries. These countries are Finland, Germany, France, Greece, Netherlands and Italy. The purpose with the selection is to get a solid representative sample of the states within the European Union.

Sweden is also included due to the fact that the country has not implemented the euro and can therefore be used as a counterweight to the euro-zone. To make a comparison between Sweden and the other states will facilitate an attempt to isolate an eventual euro effect.

Germany and France are selected because they are two of the largest economies in the European Union. In Netherlands and Finland the population has been rather satisfied with the euro and no loud complaints have been heard. Greece and Italy represent the Mediterranean area. These are countries with high levels of tourism known to be cheap and differ therefore from the rest of the sample. One average for the whole European Union is also included to get an overview of the average development.

## **4.2 Time frame**

Limitations regarding the time frame had to be made due to time-constraints. The indices stretch from August 1998 to August 2003. These values should be proved to be sufficient to be able to discover any deviating trend at the time of the introduction of the euro. With the possibility to go back as far as to 1998, the ability to compare year to year is improved and facilitates comparisons. We have decided to put the focal point of our analysis at the period June 2001 to June 2002. By doing so, we can easily evaluate what happened to the price level six months prior to the change of the currency and six months after.

The primary focus is the development between December 2001 and January 2002 when the euro notes and coins became available. If there was a price rise as a cause of the changeover, the probability that this would happen at the exact time when the prices were changed is greatest.

The indices show the development for twelve categories of consumer goods and services. The reason behind this choice is to a great extent the reasons underlying the choice regarding the time frame, which are time constraints. To include categories of producer goods and services would be too extensive within the framework of this thesis. To divide the consumer goods and services in twelve categories is not a choice made by us. This division is standard procedure in all Member States and therefore, by practical means, also one that we apply.

The development in the price level of consumer goods and services is prioritised because of personal preferences; we are ourselves European consumers and thus interested of this particular subject.

### **4.3 Secondary Data**

The secondary data consist of harmonized consumer price indices with values from August 1998 to August 2003. A longitudinal study is the most appropriate given the purpose of the research. The data used has been provided by the European statistical organisation, Eurostat.

Because the aim of this research is to conduct a comparative analysis, we are strongly dependent on comparable data being available. This need is getting more complex since it regards an international comparative research. The task of the statistical organisation Eurostat is to provide comparable data.

To conduct a survey of our own that would fit our purpose would be impossible given the resources we have. Time constraints e.g. mean that secondary data provide the only possibility of undertaking longitudinal studies such as this. The organisation from which the data have been collected is Eurostat.

The task of Eurostat is to process and publish comparable statistical information at a European level. It is worth mentioning that it is not Eurostat who collects the data. The statistical authority in each Member State carries out the collection process. The role of Eurostat is to consolidate this data and to ensure comparability by using a harmonized methodology. As Eurostat puts it, there is a clear need of comparable data because ‘apples have to be compared with apples – not with pears’ ([www.eurostat.com](http://www.eurostat.com)).

### **4.3.1 Harmonized Indices of Consumer Prices**

The Harmonized Indices of Consumer Prices (HICP) is produced and published on a common reference base. The base year is 1996 (=100).

HICP is produced in each Member State, using a harmonized methodology developed by European price statisticians led by Eurostat. It is the main measure of price stability in the euro-zone. The HICP is used for the assessment of inflation and convergence of the prices in the European Union - it is not to be understood as a cost of living index. HICP should cover all households and also include expenditures by foreign visitors (European Commission, 2000, n.Pag.).

The coverage of the HICP is goods and services, which are included in household final monetary consumption expenditure. The classification is made according to categories and sub-categories of the Classification of Individual Consumption by Purpose to the needs of HICP (the COICOP). In this dissertation only the categories will be analysed, no sub-categories.

The prices in the HICP is the price actually paid at the time of purchase, including taxes less subsidies after deduction for discount for bulk or off-peak purchases, excluding service charges and interest for credit arrangement and interest for delayed payment (Ibid, n.Pag.).

The HICP may be described as a Laspeyres-type 'consumer inflation' or 'pure price' index measuring average price change on the basis of the changed expenditure of maintaining the consumption pattern of households and the composition of the consumer population in the base or reference period. 'Pure' means that, strictly speaking, it is only the changes in prices that are reflected in the measure between the current and the base or reference period (Ibid, n.Pag.).

### 4.3.2 Statistical processing

Statistical data can be both processed and presented in several ways. The data are here presented in diagrams extended over a period of one year, June 2001 to June 2002. The motivations behind this choice are many. First of all, the euro was introduced in January 2002 and therefore this month must be included. It comes naturally for us to put this month in the centre in the research and as a consequence diagrams show the indices six months prior the introduction and six months after. Second, the reasons as to why the diagrams extend over one year are strictly visual and pedagogic. The diagrams would be too complicated and too ambiguous if more data than for one year was included. If less data were included than covering one year some of the relevance would be lost. Certain patterns would not be discovered.

Another way to present that statistics may have been to set a hypothesis for each state and category, but since the analysis includes eight states and 13 categories, this would mean 104 hypotheses. To reduce the number of hypotheses an average may instead have been calculated, but then the development of the price level in each country would not have been apparent. To calculate a median-value, measures of dispersion or standard deviation was not an option, since this requires that we have an average value within a specific period of time or a difference between two values that we want to compare. This would mean making a decision on either a yearly basis, which would exclude the isolated effect of the changeover, or comparing only each turns of years, which exclude the short run effect taking place in the months after the introduction of the euro.

In the analytical chapter (Chapter 5) only percent units are mentioned and there is a reason to this as well. The purpose of the research is to clarify whether the euro had an effect on the prices or not. Because of this, the need to exactly estimate any effect does not exist. It is not the precise percentage change that is relevant, only the detection of a potential euro-effect.

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## 5 DATA ANALYSIS

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*The secondary data from Eurostat consisting of the harmonized consumer price indices are presented here. Diagrams are used to provide a good overview of the development during one year. The focus is mainly on the changes between December 2001 and January 2002 to be able to isolate a presumed effect of the introduction of the euro. The subcategories of consumer goods are dealt with in one subchapter each.*

*The changes in the indices are always referred to as a change in percent units.*

*The data show that the euro has had effects on the price level for some categories of consumer goods. These effects are only negative, thus the expected decreased prices cannot yet be seen.*

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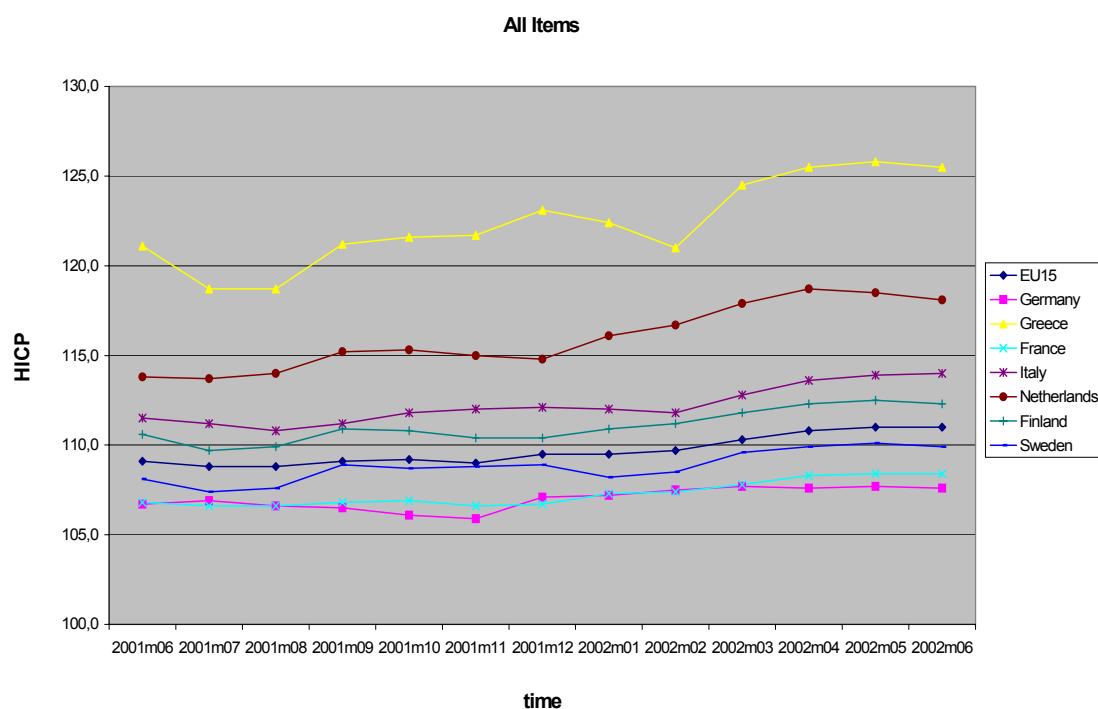
### 5.1 All Items

Fascinating to notice in diagram 5.1 below, showing the HICP for all consumer goods and services, is that Sweden is the only country with an apparent decrease in the index between December 2001 and January 2002. All the countries that started using euro notes and coins in January 2002 experienced a direct increase in the price level during January, Greece excluded.

The graph of **EU15** shows the average development for the 15 Member States. Interesting to notice is that at the turn of every year the index declines, although not by any large values. At the time when the euro was introduced, the index did not change at all. Following year at the turn of the year, the index declines again.



Diagram 5.1 All Items



Source: Eurostat

The graph of **Greece** declines by 0.7 percent units at this time but this decline is nevertheless smaller than the decreases during the same time the two previous years. From December 1999 to January 2000, the index falls by 1.5 percent units and from December 2000 to January 2001 the index falls by 2.1 percent units.

The graph takes off with a value of 121.1 percent units and reaches a final stage of 125.5 percent units, which is an increase of 4.4 percent units. The previous year, the index has an increase of 5.2 percent units and the following year it has an increase of 4.5 percent units.

While the other graphs have a steady upward trend, the graph of Greece is more irregular. This irregularity is, however, due to seasonal variations and is not something unique for the period shown above in the diagram. In fact, the graph of Greece has nearly identical seasonal trends every year included in our research but reaches higher values every year. The graph has two troughs every year and two peaks. The lowest value in the whole period is reached in July and from there it goes up until December when it turns downward and

reaches the second trough in February. The second peak in the diagram is in May, which also is the all time highest value of the entire period.

The consumer price index of **Germany** has had an overall increase of 0.9 percent units during the total period. Between December 2001 and January 2002 there is an insignificant rise of 0.1 percent units. However, the month before the HICP increased by 1.2 percent units. On the other hand, this kind of development is seen every year. Between November and December year 2000 the index increases by 1.1 percent units and between November and December 2002 the index goes up by 1.2 percent units. Thus, the rise one month before the introduction of the euro cannot be seen as an exceptional event.

The total increase of the period in the diagram of 0.9 is slightly smaller than compared to other years. June 1999 to June 2000 the total increase is 1.3 percent units and following year has an increase of 2.6 percent units. Between June 2002 and June 2003 the total raise in the index is 1.0 percent unit.

**France** is one of the countries that has an increase in the harmonized consumer price indices during January 2002. The graph increases by 0.5 percent units between December and January. The three preceding years, the index has always decreased during January with an average of 0.3 percent units. Maybe this pattern of a decline at the turn of the year is broken because from December 2002 to January 2003 the index keeps increasing, this time by 0.3 percent units. Although these are not any large changes, it is still interesting to notice that a new pattern takes form after the euro becomes the new currency.

The overall increase during the period in the diagram is 1.6 percent units; the graph has an initial point of departure of 106.8 and ends at 108.4. France is actually one of the countries included in the research that has had an auspicious development in the consumer price indices. The total rise from June 1999 to June 2003 is not more than 7.9 percent units. The only country with a more favourable development in the indices is Germany with a total increase of 5.8 percent units from June 1999 to June 2003.

Between June 1999 and June 2003, **Italy** has had a total increase in the consumer price index of 11.8 percent units. This increase is practically equally distributed between the years. The period above is, however, the one with the lowest increase of them all, not more than 2.5 percent units.

At the turn of the year 2001/2002, the graph has a small decrease of 0.1 percent units. This is, by all means, no significant change but worth mentioning since the year before and the year after the graph decreases by 0.3 percent units. In fact, the decrease continues in February these three years. A comparison with this difference included shows an even larger difference of 0.5 percent units between the year of the introduction of the euro and both the previous and following year.

Speculations can thus be made whether the total increase of the period above in the diagram would have been even smaller if the lira would still be in use.

The **Netherlands** is the country, among those included, that has the largest change between December 2001 and January 2002. The increase is 1.3 percent units this month and the graph continues to increase until April where it stabilizes at a value of approximately 118. At the turn of the previous year, a similar change is noticeable with an increase of 1.5 percent units. Actually, the graph previous year looks pretty much the same as this one; the aggregated increase is 5.5 percent units compared to the year in the diagram with a total increase of 4.3 percent units. Looking at the data of the Netherlands shows a pattern where the indices increase starting in January 2001 and continues to increase until April 2002 where it stabilizes for eight months and then advances up again. It could therefore be argued that retailers have secretly raised the prices long before the euro was introduced and continued to do so a couple of months after. As the consumers become more familiar with the new currency they also become more aware of the actual worth of the new notes and coins.

The Netherlands is, together with Greece, one of the two countries that have had the most aggressive development in the consumer price indices during the last three years.

**Finland** experienced an increase in the consumer price indices of 0.5 percent units when the euro was introduced. This is not a large change but previous years the indices decrease at the turn of the year. One year after the euro was introduced, the index increases again at the turn of the year, this time by 0.2 percent units. The total increase of the period in the diagram is 1.7 percent units. This change is only half the values compared to the increases the two previous years. Finland has in principle developed analogous with the graph of EU15. The overall increase from June 1999 to June 2003 in Finland is 9.4 percent units, which is slightly more than the increase of 8.6 percent units for EU15. In other words, the graph of Finland has no deviant development.

The graph of **Sweden** declines by 0.7 percent units at the turn of the year. Sweden has actually had a decline in the index for all items at the turn of the year except for last year. The decline from December 2001 to January 2002 is however the largest and following year this trend is interrupted and the index increases by 0.3 percent units.

During the whole period the index increased by 1.8 percent units, which is almost the same as the total rise for EU15 of 1.9 percent units.

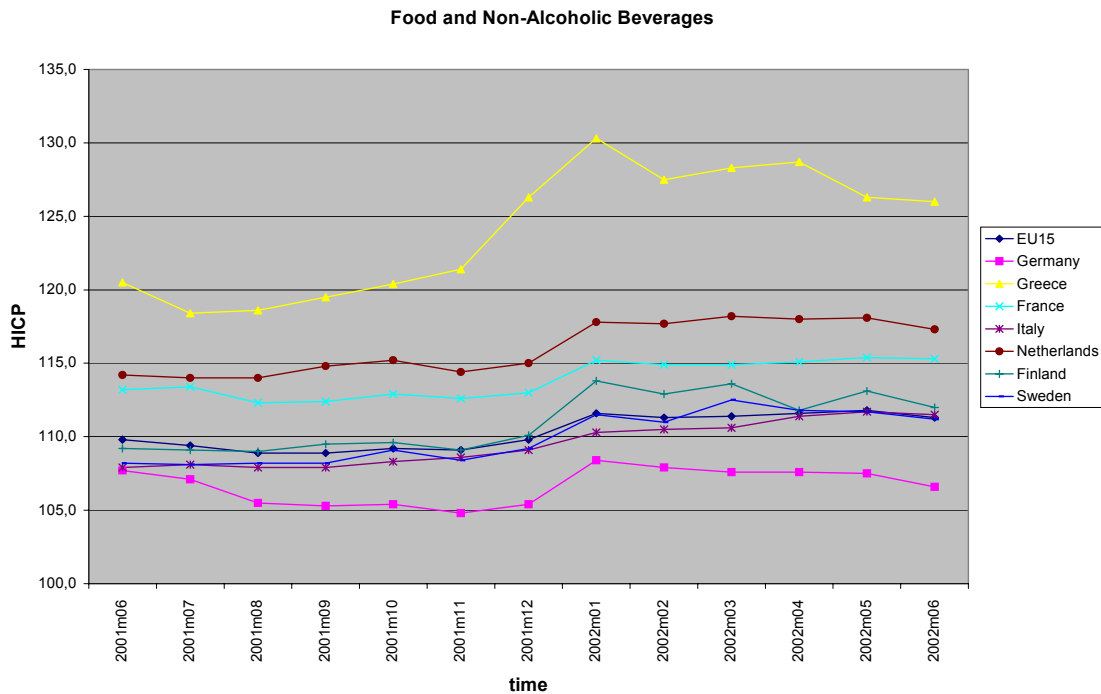
The only country that has had a decrease in the harmonized index for consumer goods is Sweden. This is remarkable because Sweden is the only country included in this research that did not implement the euro in January 2002. This could indicate that the introduction of a common currency did result in higher price levels for consumer goods and that the complaints around Europe are justified.

Although there are not any large changes during this period compared to the rest of the periods included in the research there are some disturbing developments unique for this period. To discover any mediating development in the price level for consumer goods one has to look at the different product groups, which will show if there is any consumer goods index that has either increased or decreased as an effect of the euro and that cannot be seen in the index for all items.

## 5.2 Food and Non-Alcoholic Beverages

The main critical arguments in the debates regarding the effects of the euro on the price level have been directed at the prices for food and non-alcoholic beverages. As shown below in diagram 5.2 this criticism is justified. However, to claim that this is strictly an effect of the euro can be difficult to prove.

Diagram 5.2 Food and Non-Alcoholic Beverages



Source: Eurostat

For all the countries included in this research, as for the total 15 European Member States, a rise in the index is explicit in the diagram. The fact that also Sweden has experienced a rise implies that this could be a result of ordinary price rises at the beginning of a new year.

An increase of approximately one percent unit is a general occurrence for all Member States at the turn of a year but the data from our years of focus (1998-2003) shows that for some countries the increase has been larger for the

turn of the year 2001/2002 than compared to other years. The average increase for all countries included is 2.7 percent units, which is clearly larger than other years.

Between December 2001 and January 2002 **Greece** has an increase in the harmonized consumer price index of 4 percent units while at the turn of the year 2000/2001 the increase for the index of food and non-alcoholic beverages was only 1 percent unit. Including the index value of November 2001 would mean almost a 9 percent units increase. The following year the increase was back at the 'normal' stage at the turn of the year with 1.2 percent units. The increase of 4 percent units in one month is obviously a discrepancy of the standard pattern and can be explained as a direct effect of the euro. Fortunately, the index declined in summer 2002, but nevertheless the graph stabilized at a higher level.

**Finland** experiences an increase of 3.7 percent units at the critical time but one year earlier the increase was only 1.7 percent units and at the turn of the year the following year the increase was 1.6 percent units. However, Finland follows the same pattern as Greece; the index declines later in autumn.

**Germany** has an increase of 3 percent units, which clearly deviates from previous years. Between December 2000 and January 2001 the increase was not more than 1.6 percent units and the year before that, 1 percent unit. This increase can be declared as a euro effect, even if the comparison on a June-to-June basis shows a drop in the HICP.

The data for **EU15** gives further proof of a euro effect in the price level for food and non-alcoholic beverages. The average for the member states is an increase of almost 2 percent units while the three earlier years the average increase at the beginning of a year has never been more than 1 percent unit. Even if the increase is not great, it is still twice as much as previous years.

**Sweden** and the **Netherlands** have also had noticeably increases in the indices at the turn of the year, something that is not evident for other years. **Italy** on the other hand is the only country that has had an even development

during the years and has not had any deviating values since the euro was introduced.

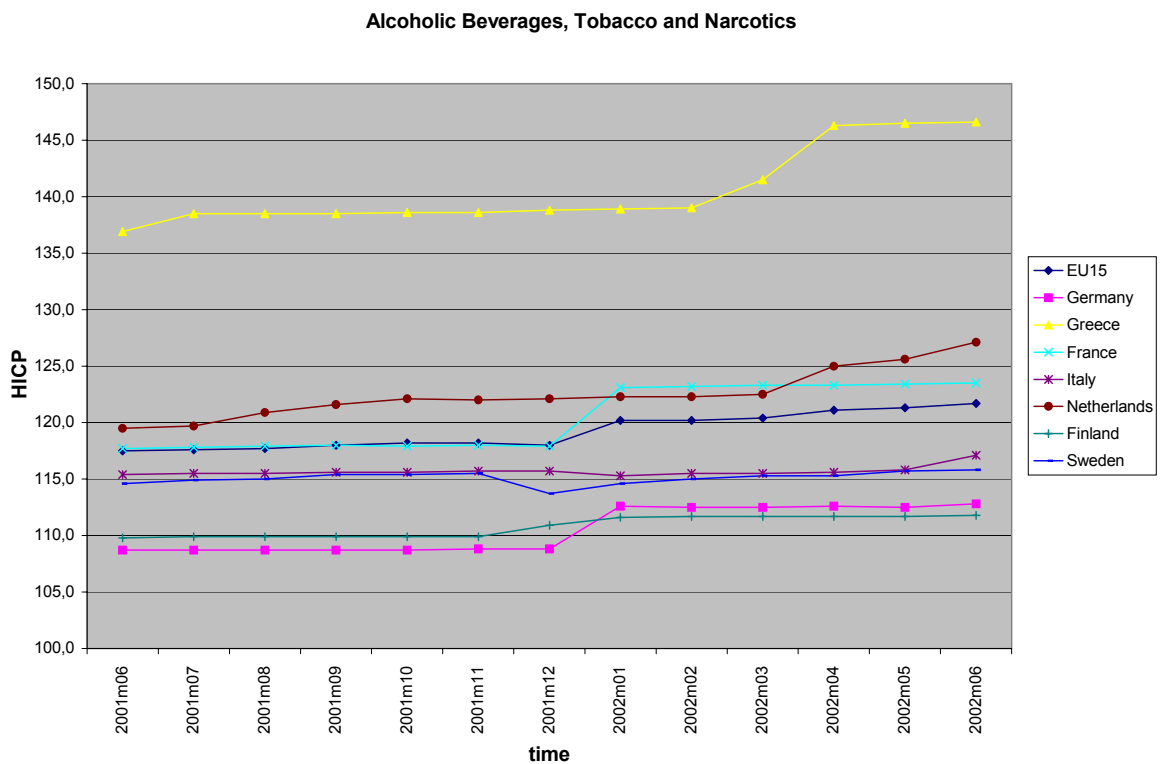
One conclusion of the discussion above is that although the increases in most European countries have been modest there are exceptions. The inhabitants in countries like Germany, Finland and Greece have every right to raise their voices and object against more expensive food since the introduction of the euro.

There are effects one can discover in the diagram. It is obvious that all countries at the time of the introduction of the euro have experienced an immediate rise in the price level for food and non-alcoholic beverages. The fact that also Sweden has had an increase in the index at the turn of the year might mean that not the entire rises in the indices should be blamed on the euro, only a part of the increase.

### 5.3 Alcoholic Beverages, Tobacco and Narcotics

There exist no overwhelming differences in the harmonized consumer price index between the Member States regarding alcoholic beverages, tobacco and narcotics. Greece is the only exception with a relative high price index for these goods.

Diagram 5.3 Alcoholic Beverages, Tobacco and Narcotics



Source: Eurostat

At the introduction of the euro there is no change in the HICP for **Greece**, instead the rise in the price level appears from February to April 2002, which widens the gap even further between these countries. The reason for this rise occurring that late could be a seasonal effect. The high season in Greece begins in spring.

Greece has had three large increases in the index during our time-series; two of these occur before the introduction of the euro. These three raises are rather similar so it is not possible to declare the rise in the index during year 2002 to



be an effect of the euro. Except for the three changes the graph is stable over time.

For **France** there is a clear leap in January with an increase of 5.2 percent units, which could be an effect of the introduction of the euro. The graph of France stabilizes at the higher level and stays at that level until January 2003 when the increase is as much as 6.3 percent units. Previous turns of years one cannot witness such increases, the highest change was not more than 2.5 percent units.

**Germany** shows the same pattern as France. Looking back at the data for the three previous years for Germany there has been an increase of maximum 0.1 percent units at the turn of a year but when the euro was introduced the increase is 3.8 percent units, a clearly deviating value. The graph does not change during year 2002 but one year after the introduction the price level once again increased by a substantial value.

In **Italy** the price level actually decreased between December 2001 and January 2002, but still the index has increased with 9.0 percent units from the currency change to August 2003.

This trend is also evident in the graph for all the **15 European Member States** which shows an average rise between December 2001 and January 2002 of 2.2 percent units compared to 0.8 previous year.

The consumer price indices for **Sweden** and **Finland** also increase at the turn of the year but there is clearly no large effect. The data reveals the same behaviour every turns of year for both countries.

For **the Netherlands** the harmonized consumer price index does not change at the introduction of the new currency, instead there is an increase from March to June 2002 by 4.6 percent units, which could be interpreted as a euro effect since none of the other years does the index show any rise this great.

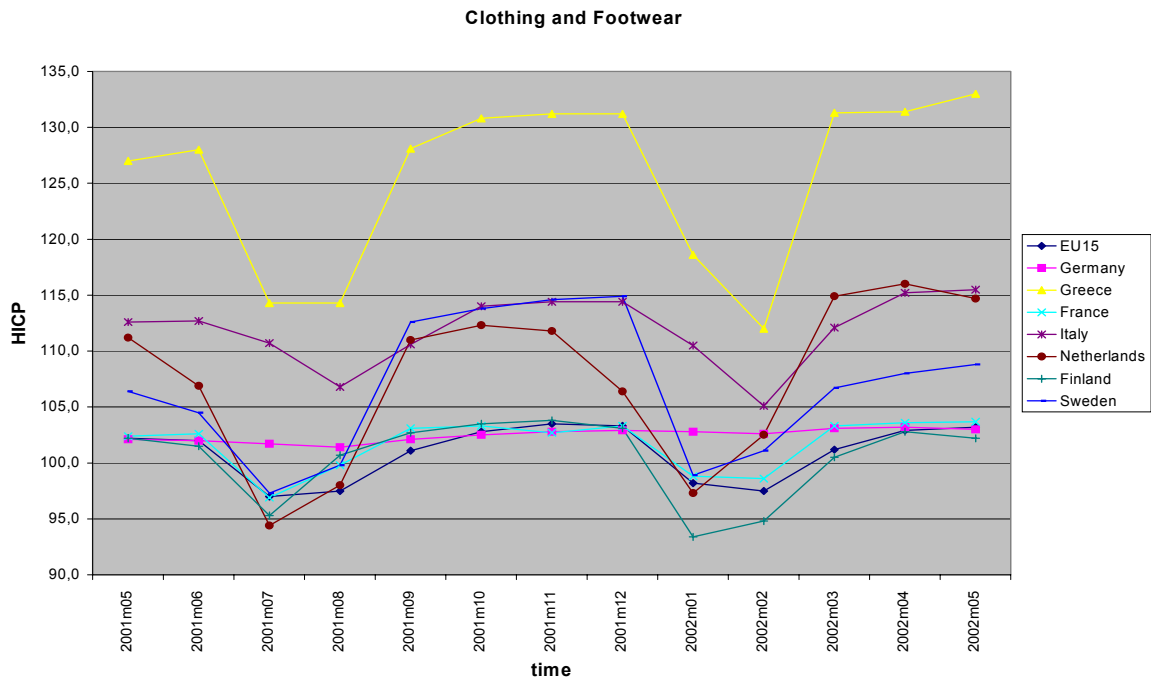
It would be possible to claim that the indices of France and Germany show a euro-effect because of the abnormal development in the price level. The increase in the price level since the introduction of the euro until August 2003 is as high as 14.1 percent units for France and for Germany it is 10.2 percent units. But the increase in January 2003 makes it complicated to isolate this as an effect of the euro.

Overall, it is difficult to claim that the indices have developed in a way that deviates from previous years and following year. Some of the graphs have increased at the turn of the year 2001/2002 but this have in most cases happened before or happens again following year. The total increase for the period is also not deviating to any large extent.

#### **5.4 Clothing and Footwear**

This diagram does not look like any of the other diagrams. When it comes to clothing, there are huge seasonal differences. As one can see from the graphs, in all countries except for Germany, the price dropped tremendously in July and also in December and January. The reason for this is the winter sale alternatively summer sale. In this category the weight of the analysis will not be on the time of the euro introduction nor on a June-to-June basis, instead the comparison will be focusing on the period between the months of May every year. The reason for this is that for some countries the graphs have already started their down turn in June and the result would then be misleading.

Diagram 5.4 Clothing and Footwear



Source: Eurostat

All the countries experienced a larger increase in the harmonized indices for clothing in the period where the euro was introduced compared to other years, except for Greece that had the largest increase May 2002 to May 2003.

The appearance of the graph for **Germany** is totally different compared to the other countries. The reason for this is that Germany has no tradition of summer or winter sale. This makes it possible to see what happened at the time of the euro introduction. The graph is flat for the whole of the period, including the turn of the year. The index decreased by only 0.1 the month after the euro was introduced. For the periods May-to-May the index has never changed more than approximately 1 percent unit every year. Thus, no deviating pattern can be discovered in connection with the period when the euro was introduced.

In the **Netherlands** the graph moves from 111.2 in May 2001 up to 114.7 in May 2002, which is an increase by 3.5 percent units. Previous years the increase was never that great, and from May 1999 to May 2000 the index even

declines. This can be motivated as an euro effect; the consequences of the introduction of the euro was a significant rise in the price level for clothing but one year later these prices have decreased and stabilized at a normal level. Interesting is to look what happened with the consumer price index during the following period May 2002 to May 2003. Here the index declines by almost 3 percent units.

The index of **Greece** increases with a total amount of 6 percent units in the diagram above. This is twice as much as the raise following year and therefore an implication of a euro effect.

**Italy** and **Finland** have had an even development over the years. The graph of **Sweden** differs every year with 1 or 2 percent units so the increase by 2.4 percent units this period can be regarded to be a normal change. It could be argued that **France** also has had changes in the period above that not is comparable to other periods. However, the difference of this period compared to the other periods is not as large as for Greece or the Netherlands. So although there is a difference it could be regarded as a normal change as for Sweden or that the introduction of the euro has had some negligible effect on the price level.

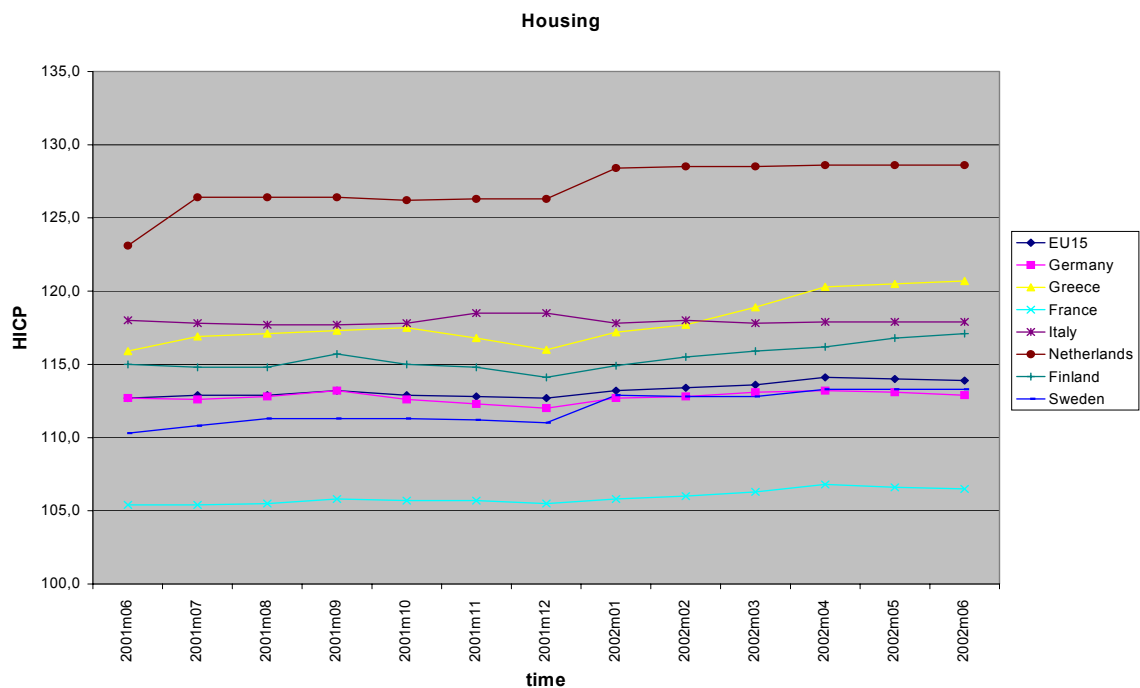
The average increase in the **Member States** of the European Union was not more than 1.0 percent units. This does not sound like any big increase for EU15 but compared to the two previous periods where the index actually has declined or stand still, it could be an indication of a euro effect.

This category is hard to interpret due to the seasonal changes but there have nevertheless been increases at the time of the introduction of the euro that has not been evident before. The indices of Greece and the Netherlands have both risen more this period than the other periods included in the research. Sweden is one of the countries that not have had any deviating behaviour this period, which further indicates that the introduction of the new currency has had implications on the price level.

## 5.5 Housing

There are no large changes in this diagram. If there is a price rise at the beginning of the year this could be explained by the fact that usually the rent and interest of the house loans rise in January. For all countries except Italy, there has been a rise at the time of the euro introduction.

Diagram 5.5 Housing



Source: Eurostat

**France, Italy and Germany** have technically not had any changes during the period above which can be said for practically all the countries. The graph of **EU15** confirms this. The total rise for EU15 was not more than 1.2 percent units. The graph of **Finland** has also no deviating values.

Sweden and the Netherlands are the only countries where the indices increase evidently at the turn of the year. **Sweden** has had an irregular curve previous year and at the turn of the following year the index has an even larger increase. The **Netherlands** has the same development every year; the graph is almost unchanged during the year but between December and January there is

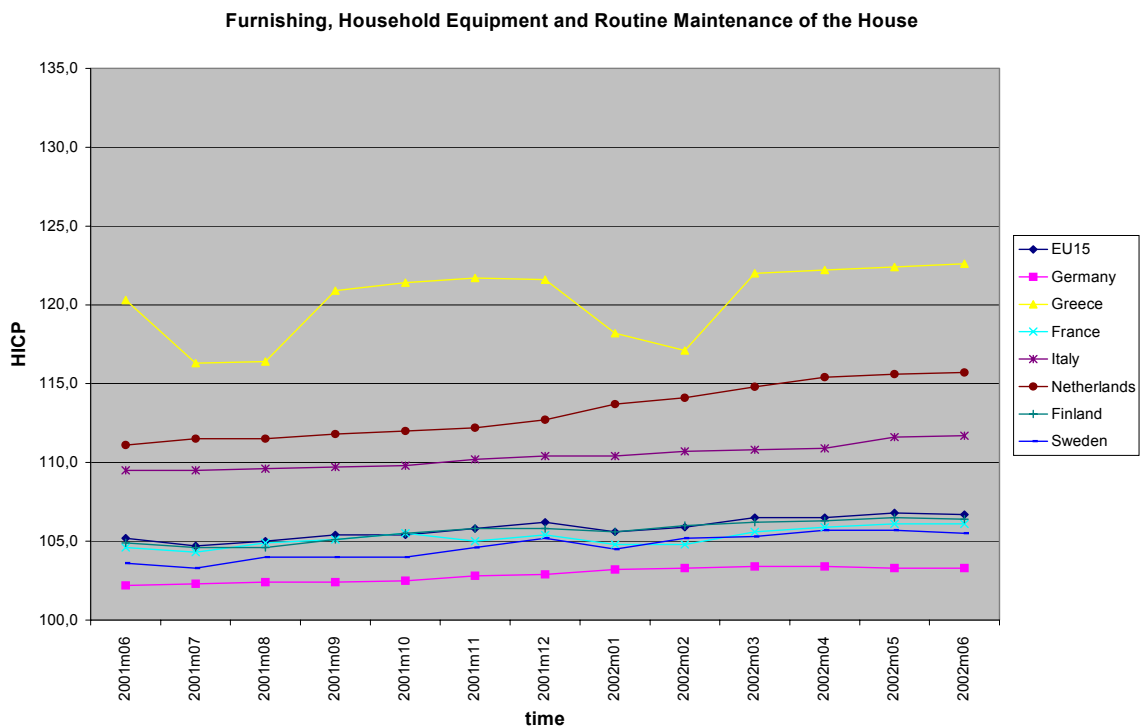
always an increase as for June and July every year. When the euro was introduced, the rise in the index was the smallest ever. The data for the turns of the years 2000/2001 and 1999/2000 show a difference in the indices of 4.9 and 3.9 percent units respectively. The size of the rise in the index can be explained as an effect of the euro since without the euro the rise could have been even larger. This could be further confirmed by comparing the developments on a yearly basis. December 1999 to December 2000 the increase was 7.3 percent units. The first year euro notes and coins were used the increase was only 5.3 percent units. It is hard, though, to predict what could have been, without the introduction of a new currency.

No deviating values can be found in the indices for the category 'housing', except for the Netherlands. The normal pattern for all countries included in the research is a small increase at the beginning of a new year, this year no exception. The increase in the price level of the Netherlands is the smallest ever which could imply an effect of the euro but since this is the only country that had deviating values the year when the euro was introduced, it is hard to draw any conclusions from this.

## **5.6 Furnishing, household equipment and routine maintenance of the house**

This category has been object to a lot of discussion throughout Europe. Especially white goods have been said to fall in price, due to improved technology and increased competition. According to this diagram below, this has not been the case in any of the chosen countries during this one-year period, but there has not been any major increase in the price level either. Since this category has many sub-categories, it could be the case that white goods have decreased in price level and other sub-categories have increased. Unfortunately we do not have the HICP for the sub-categories so our analysis will be based on the category as a whole.

Diagram 5.6 Furnishing, Household Equipment and Routine Maintenance of the House



Source: Eurostat

At the time of the change of the currency it was only **the Netherlands** and **Germany** that had an increase in the indices. Netherlands had a raise in the index with 1.0 percent unit and **Germany** 0.3 percent units. In Netherlands this occurred both the year before and the year after.

As seen in the graph for **Greece**, there was a major decline at 4.5 percent units from December 2001 until February 2002, but in March the price level was back to the original level. Comparing this period to others, the HICP for Greece shows the same pattern every year. In December and in June each year the index declines, which is a clear evidence of a season sale.

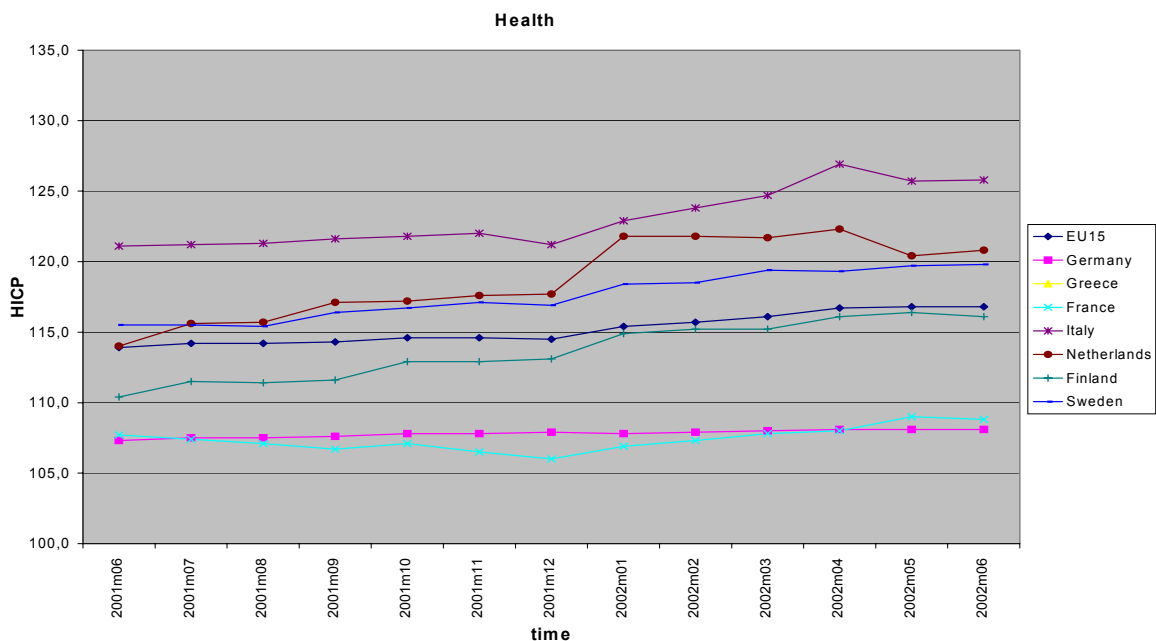
**EU15**, **France** and **Sweden** have had a decline for all years in January compared to December. The most thinkable explanation for this would be the sale many stores have after Christmas trying to sell out the stocks from last year to make room for new furnishing and technology.

For this category there are no evidence of a euro-effect, neither on a price rise nor a price decline. The indices have developed in a consistent manner over the years with only small changes, Greece excluded. When it comes to white goods the prices have always fallen after a technology has become obsolete.

## 5.7 Health

In this diagram the price level in all the countries, except for Germany, did increase from December 2001 to January 2002, but the increases varied between the countries.

Diagram 5.7 Health



Source: Eurostat

For the chosen countries, **the Netherlands** clearly had the largest increase with 4.1 percent units during the turn of the year. The high index rate was persistent until April to then decline by more than 2 percent units. The two previous turns of year also show a raise in the index, but none of the increases have been that prominent, which also is the case for the turn of the year



2002/2003. This implies that the euro could have caused this irregularity. Looking at the period June-to-June, there is a rise in the price level from 114.0 to 120.8, which amounts to almost 7 percent units. However, the period before had an increase by 7.3 percent units.

The average of the **15 Member States** was during this one-year period not even a 3 percent unit increase, but it is still more when compared to prior periods.

**Finland** also had an increase in the index for this category from 110.4 in June 2001 to 116.1 one year later. Half of the increase occurred before the introduction of the euro and the other half after, so here it is difficult to say if the euro did affect the level of the price. The two periods before, the indices did not increase more than 2.6 percent units each year. When compared to the next coming period, which had an increase of 4 percent units, the increase during the period in this diagram could to some extent be blamed on the euro.

The graph for **Sweden** has the same trend for all years included in the data. There is always an increase at the turn of a year. There was a rise of the price level during the one-year period with more than 4.4 percent units. One year before Sweden experienced an increase in the index with 6.9 percent units.

The only country that had a very small increase during this one year was **Germany**, with not more than 0.8 percent units.

**France** had a declining graph at the end of the year 2001, but after the introduction of the euro the graph started to go up and in six months the index had changed by almost 3 percent units. The data from the time prior to this period do not show nearly any price raise at all. This could implicate that the euro has had an effect on the price level but it could also be an effect of something else. Since no remarkable increase or decrease took place between December 2001 and January 2002 it can be assumed that the euro did not have any effect.

After the introduction of the new currency, **Italy** had an immediate rise in the index, which reached its peak in April. This increase is remarkable since the graph has been almost flat during previous periods. There is however another deviating occurrence at the turn of the year 2000/2001 when the index dropped by 3.7 percent units. The explanations for this could be a tax reduction or a health reform.

There are no data available for **Greece** in this category.

In this category there have been countries that have had an effect of the euro. In both Italy and France the increases were not very prominent but compared to how the graphs have developed prior the change of the currency, this rise could be interpreted to be caused by the euro. In the Netherlands there has been a history of a fast increasing index. There is no evidence of a long-term euro effect but the rise at the turn of the year can be blamed on the euro. In the case of Finland it is not clear that it was the euro that caused the increase in this period but it would be rash to exclude the possibility.

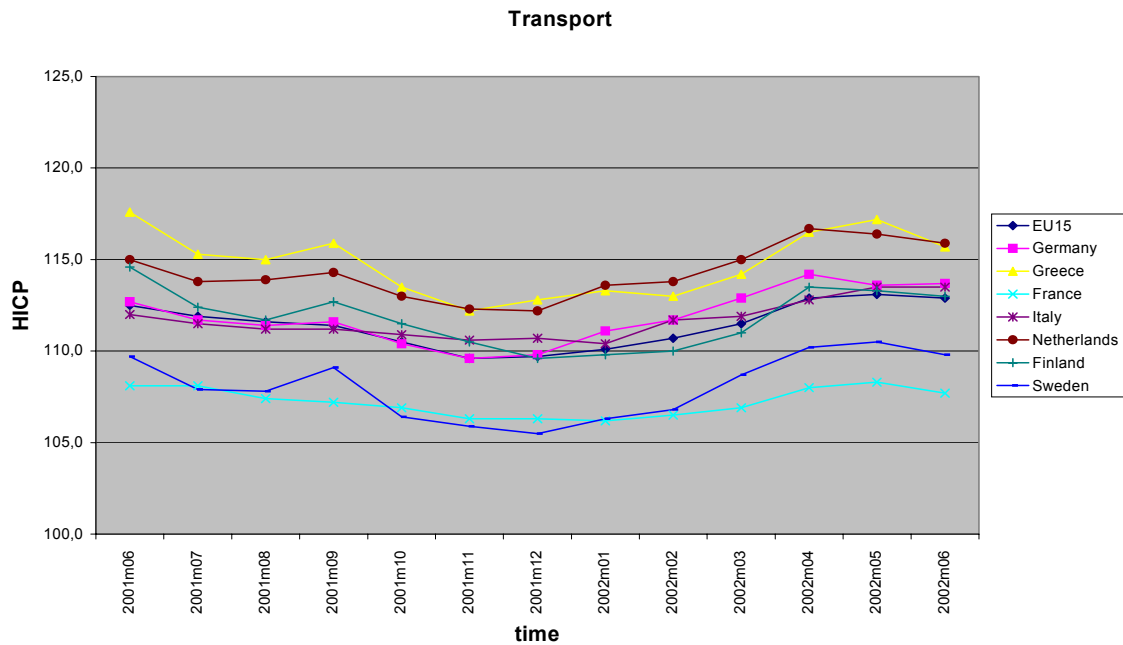
In all of the countries the increases were of a short-termed character.

## **5.8 Transport**

The transport sector has similarities with the clothing sector as far as regarding seasonal effects, although the differences are not as radical. The standard trend is cyclic. The indices reach higher values during autumn and spring and have lower values in the summer and winter months. One consequence of this seasonal trend is that it makes it difficult to gather if the euro has had any effect on the consumer price indices for the transport sector.

What happened between January 2001 and December 2002 will then for our purpose be less interesting than compared to the differences during the period as a whole. This makes it possible to discover any changes with the seasonal variations more or less excluded.

Diagram 5.8 Transport



Source: Eurostat

One thing one can establish from this diagram is that all the graphs have almost the same point of departure as they have terminal point. **Sweden** has a change of 0.1 percent units and the graph showing the value of **all the Member States** has a difference of 0.4 between June 2001 and June 2002. The index of **the Netherlands** increases by 0.9 percent units during the period in the diagram. **Greece** experiences a decline by almost 2 percent units. The graphs of **Finland** and **France** have also declined by 1.6 and 0.4 percent units respectively. The largest increases were in **Italy** and **Germany**, but as mentioned above, the changes are not great and of any real significance. Next period though, the changes are larger and the only country where a decline in the index occurred again was Finland.

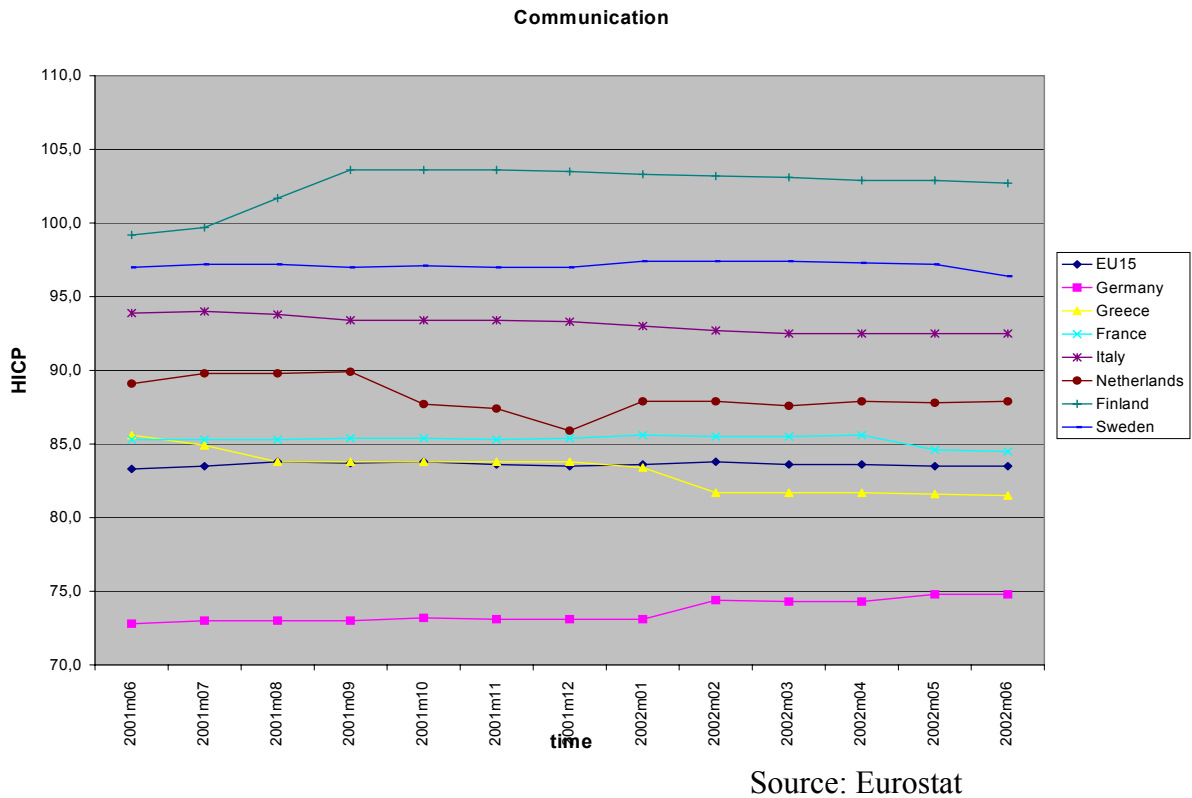
There is no obvious effect of the introduction of the new currency. This kind of cyclic trend appears every year and there are no large differences in the seasonal trends previous years. Nonetheless, if one look at the following period, it is worth mentioning that the cyclic trend is no more as explicit. If

the standard trend means that a downturn follows the high values in summer then this trend has been interrupted. The indices for the period between June 2002 and June 2003 do not decline as they use to do, rather they stabilize at a higher level and the cyclic trend is almost no more visible. This could imply that the euro has had an effect on the price level for goods and services within the transport sector. Although not an obvious effect, the trend has nevertheless reached higher values since the introduction of the euro.

## **5.9 Communication**

Communication is one of the categories where it has been said that the prices have fallen, and proponents for the euro have used this category to prove that the merchandise are less expensive after the introduction of a common currency. The reasons for this are the same reasons as for the category of furnishing and white goods. The technological improvements make the production of these goods less costly and the short life cycles for technology products make the products obsolete after just a short time. Because of the extensive use of cell-phones today, there is a huge market that attracts many actors. The increased competition results in lower prices.

Diagram 5.9 Communication



Looking at this diagram, the majority of the countries have had a negative development of the price level on a June-to-June basis. The exceptions are Finland and Germany and surprisingly EU15.

For **Finland**, we assume that the increase has no connection to the euro, since the raise was from July to September in year 2001. After the changeover the index has only declined.

In **Germany** the situation was different. Looking back on the data starting in June 1999, the index has constantly decreased until January 2002. Here a small increase did occur in the index of 1.3 percent units, which do not seem much but compared to other countries where the indices have dropped, the increase in Germany can be a cause of the euro.

This may also be the explanation for the increase in the index for **the Netherlands** with a jump at the turn of the year with 2 percent units, to then

stabilize again. The graph of the Netherlands has a cyclic trend; in December it reaches its lowest value to then turn upwards in January.

Despite that almost all countries show a declining graph in this period, **EU15** does not. The increase is almost unnoticeable though; only 0.2 percent units change from June 2001 to June 2002.

The graphs of **Sweden**, **Italy** and **France** are all flat and this trend continues in the next period. **Greece** experienced a decrease from December until February of nearly 2 percent units. From June to August the same year, an equal development is visible though, so if this is an effect of the euro is hard to say.

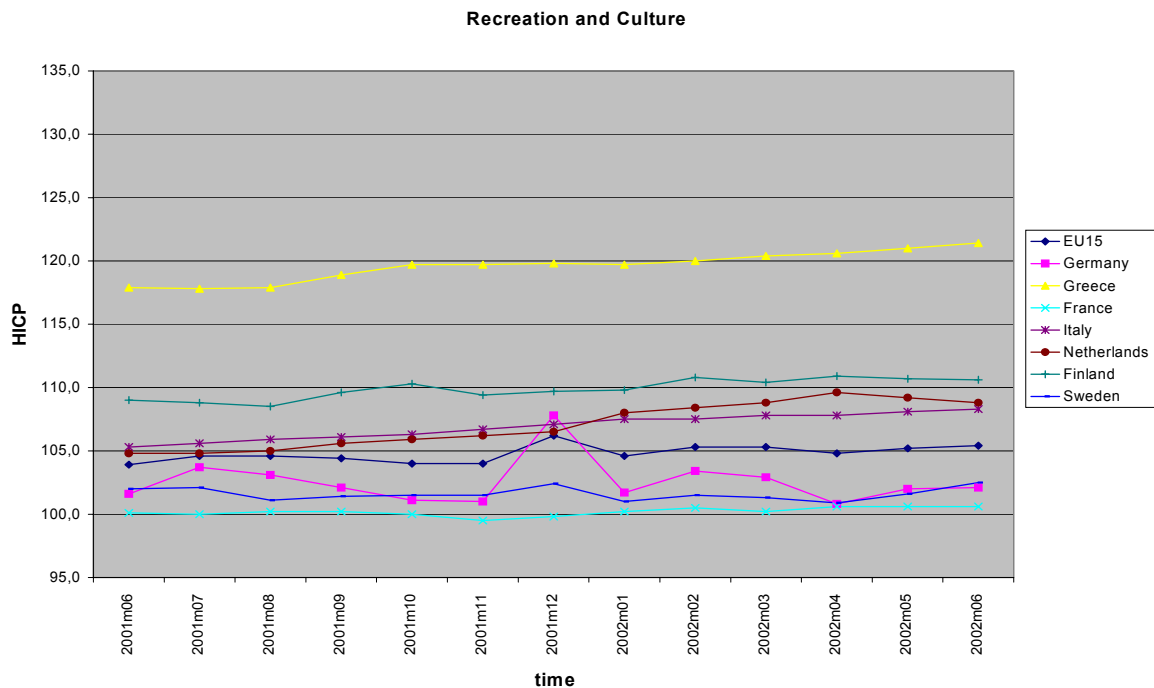
From the time of the euro introduction, the Netherlands has had a price rise from 85.9 in December 2001 to 92.3 in August 2003 and Germany had during the same period an increase with almost 2 percent units. In the rest of the analysed countries the HICP have decreased and for the EU15 the index is the same in August 2003 as in December 2001.

There has been a declining development in the price level for communication products and apart from the trend of short life cycles for technology products, the competition has increased and resulted in lower price levels. Since this has been evident for quite some time now it is difficult to motivate the decreases as effects of the euro. However, the integration of the European markets has most possible had something to do with this development.

## 5.10 Recreation and Culture

In this diagram there have been no major fluctuations in the price level. Making an analysis on a June-to-June basis, most countries do not show any large changes.

Diagram 5.10 Recreation and Culture



Source: Eurostat

The only country where the graph differs from the others is **Germany**. In December 2001 it makes a huge step with almost 7 percent units to then return to the initial level in January 2002 again. When comparing December 2001 to the month December previous years the data reveals the same behaviour each year.

The graphs for **Sweden** and **EU15** also tend to increase in December and then decline in January, although not as prominent as for Germany. Except for this there are no unusual behaviour in the period for these countries.

**The Netherlands** went from 104.8 to 108.8, which at first sight can be seen as an effect of the euro, but when looking back on the previous period the increase reached 4.6 percent units. The period from June 2002 to June 2003 did amount for an increase of only 0.7 percent units. This could be taken as a proof that the euro had a declining effect of the price level, but when comparing the data for June 1999 to June 2000, there had been a decrease of almost 3 percent units. This kind of irregularity makes it difficult to discover any deviating values due to the euro.

The index for **France** does not differ at all during this period and according to the data the index was the same in June 2003 as it was the same month four years earlier.

In **Italy** the harmonized index changed with 3 percent units during the June-to-June period. Compared to the previous period, the total change was 1.5 percent units and the next coming period the change was 1.4 percent units.

In Germany, Sweden and EU15 there must be a reason for the falling HICP in January every year. One can speculate if it has to do with the fact that many tickets for shows and theatres tend to rise in price between Christmas and New Year. These three declining graphs can therefore not be interpreted as a euro-effect.

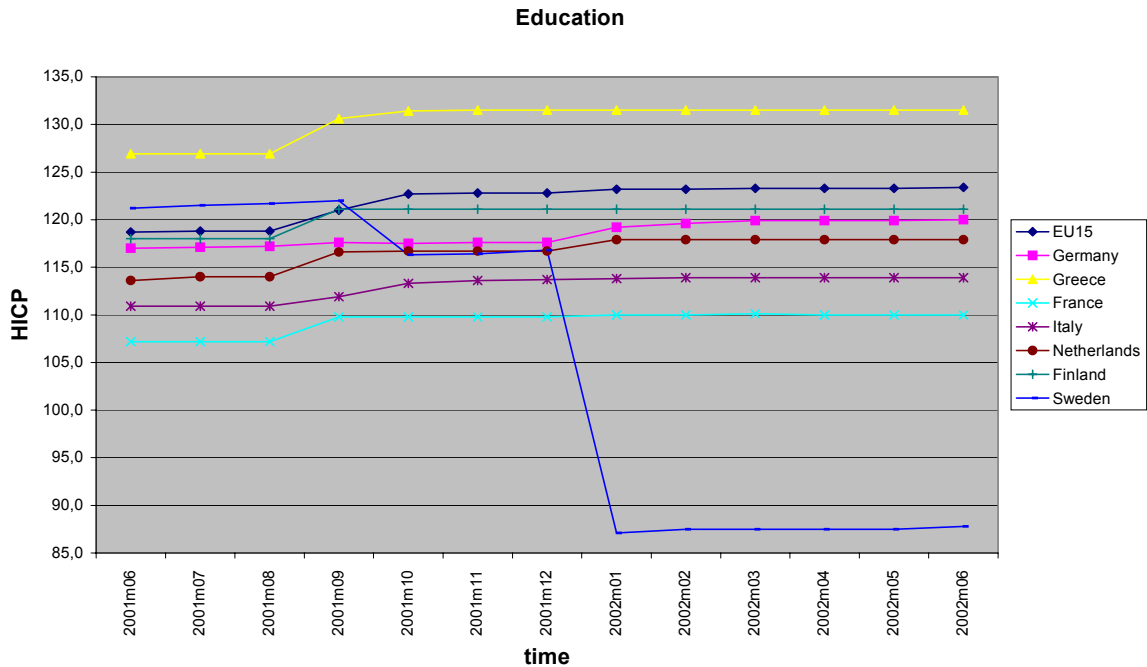
The rest of the countries, **Finland** and **Greece**, do not differ much.

In Italy there was a larger increase this period compared to other periods, but the reason is unclear. It would be rather safe to say that in this category there has not been any euro effect, neither positive nor negative.



## 5.11 Education

Diagram 5.11 Education



Source: Eurostat

When it comes to the category education, there have not been many changes during this June-to-June period. The trend shows the same behaviour each year, which for most of the countries mean a rise in August. There is one exception though. **Sweden's** graph clearly deviates from the other graphs. In September there was a major jump from 122.0 down to 116.3 in October. At the turn of the year the graph went almost vertical from 116.8 to 87.1, which is an enormous drop of 19.5 percent units. Despite this major drop in the price level in Sweden the graph of EU15 does not reflect this development. The graph of **EU15** does have a small increase at the turn of the year and if the value of Sweden is included in this index, as it should be, this would consequently mean that in some other country or countries there has or have been substantial price raises equal to the rise in Sweden.

**Germany** is one of the exceptions for the countries within the EMU. The graph made a jump at the turn of the year with 1.6 percent units. Looking back to the turns of year back to 1998, there have been no such increases.

The **Netherlands** also had a slightly up going trend from December 2001 to January 2002, apart from the usual increase in August, and the data show no such raises any of the other years, neither prior nor after the change of the currency.

**Greece, France and Finland** have every year an increase between August and September whereas the graph of **Italy** continues to increase during a two-month period, from August to October.

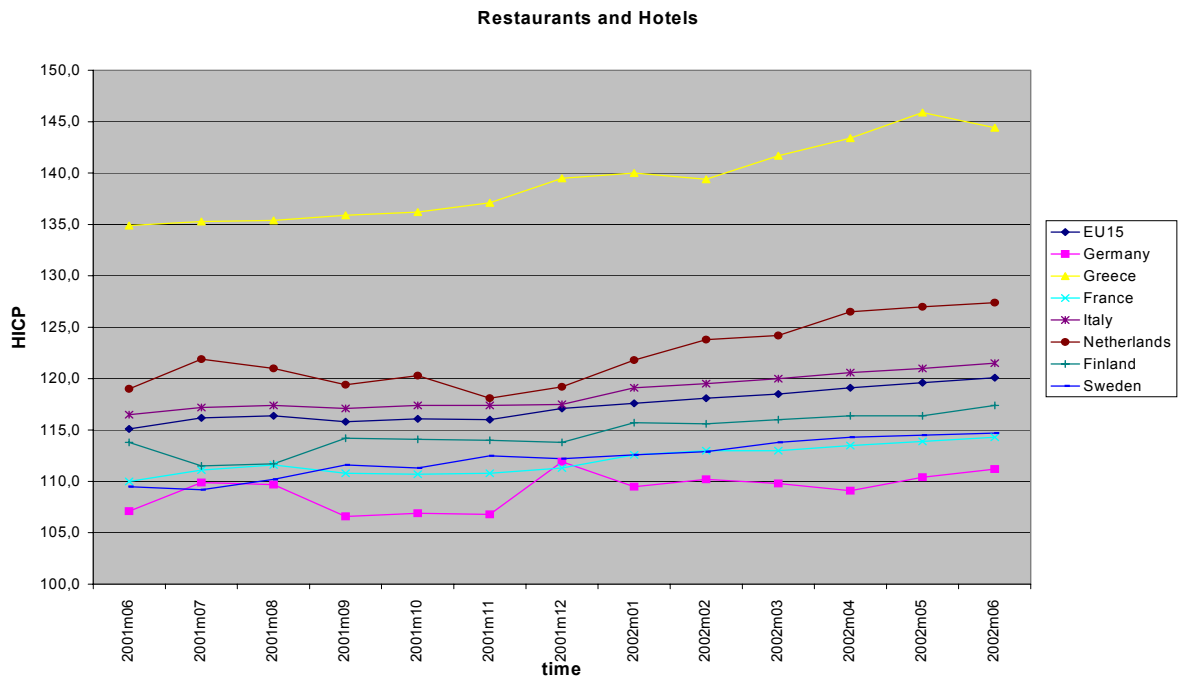
Even though the increases in the indices for Germany and the Netherlands are very small, the conclusion can be drawn that the euro had an effect on the price level. For the rest of the countries there are no changes at all at the turn of the year. Instead the increase occurred in August, which can be explained by the fact that the school year starts then. This development has no connection to the euro introduction.

In this category Sweden cannot be used as a counterpart, since the look of its graph is of a distinctive character.

## 5.12 Restaurants and Hotels

Many Swedes coming home from vacations abroad have all had complaints regarding the prices in restaurants and hotels around Europe. That this criticism is partly justified can be observed in the diagram below.

Diagram 5.12 Restaurants and Hotels



Source: Eurostat

From November 2001 to December 2002 the graph of **Germany** raises 5.1 percent units, which clearly constitute a substantial increase. However, in January 2002 the index decreases with half of this value. The remarkable thing is that this raise in the price level also occurred the year before as well as the following year. The thing that separates this year's increase from the other two is that the index has always decreased with almost the entire value the other two periods and this period is does not. That this period's development stands out as unique for the years included in the research is also evident in the development of the total period; the total increase was never this large.

As we have noted from the other product groups, **Greece** is the country that has had the most aggressive development in the indices for consumer goods, so also here. The total increase in the period above is the largest ever for our time-series, almost 10 percent units. Typically for Greece, the changes come shortly before the summer season begins and nothing much happens at the turn of the year.

**France, Finland and Italy** have all had small increases in the indices at the turn of the year, but not more than 2 percent units. This pattern is visible only for the period in the diagram. The total increase from June 2001 to June 2002 is also larger than other periods for these three countries.

The graph of the **Netherlands** had the largest increase in the price level for restaurants and hotels at the time when the euro was introduced. The graph continues to go up with rather large steps until July 2002. The total rise in the index for the period is 8.4 percent units. The previous period the total increase was also large but not as large as this one.

**Sweden** had the smallest increase of only 0.4 percent units at the turn of the year of the countries included. This can be regarded as a normal change for Sweden when compared to other years.

The overall change for the period is however the largest ever for Sweden. The index increases by as much as 5.2 percent units. This is comparable with the index for **EU15**. The corresponding increase for EU15 is 5 percent units, which indicates that the price level for all Member States have had increases during the period. At the turn of the year the graph only increases with 0.5 percent units, but as mentioned earlier the countries included in the research are slightly above the average of the 15 Member States regarding price developments.

All the countries have had an aggressive price development in the category restaurants and hotels, especially the Netherlands and Greece. This can strongly be motivated as a cause of the introduction of the euro in view of the fact that this is a separate occurrence and cannot be seen for other periods.

The fact that Sweden has had a very modest increase during the same time further indicates that the large increases are concentrated to the Member States that introduced the common currency.

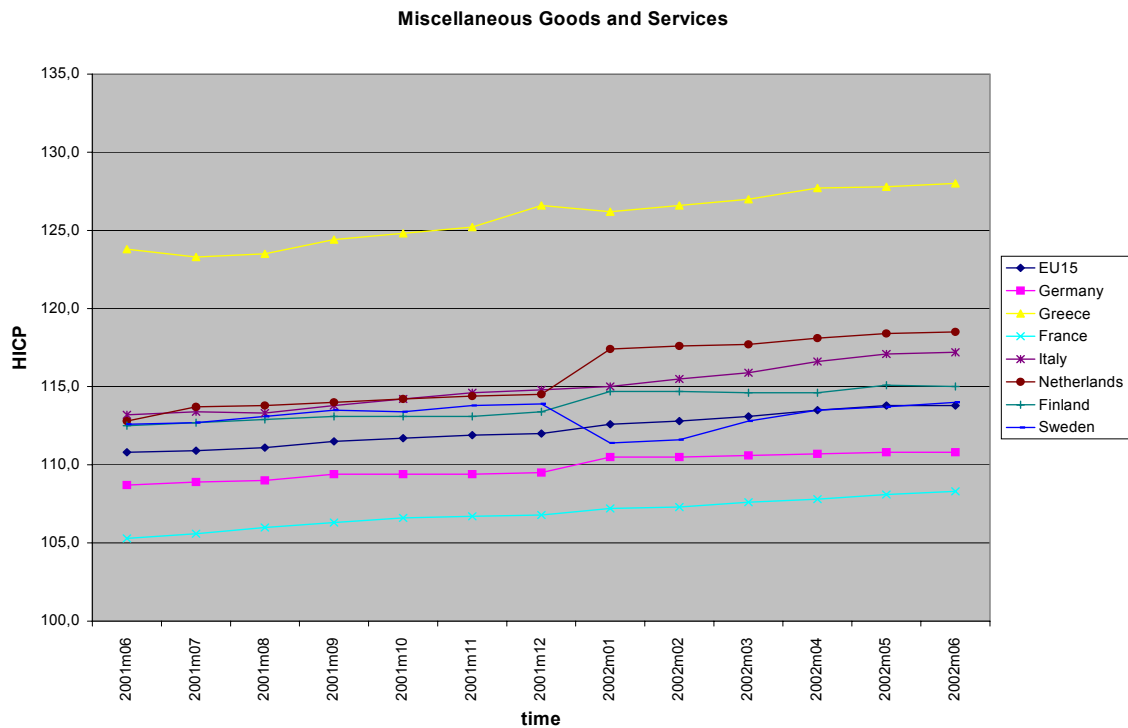
In addition it is important to mention that it is obvious that the countries included in the research have all had increases larger than the average increases in all the Member States.

### **5.13 Miscellaneous Services and Goods**

In this category, hairdressers are included. A large part of the discussion of price raises has been caused by the fact that it has gotten more expensive to use this service. Even representatives of the European Union have declared that their studies show an abnormal price increase for hairdressers. Unfortunately, we cannot see the development for this single service in the diagram, since our analysis will be on the category as a whole. Surprisingly, this raise is very modest and differs from the picture painted by both proponents and opponents of the EMU.

The explanation to this is most likely that one or many of the other sub-categories have declined and taken away the effects of this price raise in the indices.

Diagram 5.13 Miscellaneous Goods and Services



Source: Eurostat

A quick glance at these graphs shows that all the countries included in the research have had a rise in the price level at the turn of the year except for Sweden and Greece.

**Sweden** is the only country that had an obvious decrease at the turn of the year. **Greece** also had a decline in the price level at the critical point of the introduction of the new currency but only with a value of 0.4 percent units. This has been the trend for all the years included in the research.

The only country, which had a considerable rise in the index at the introduction of the euro, was **the Netherlands**. This could appear to be an effect of the euro, but compared to both the period prior to this one as well as the period to come one can see that this behaviour is repeated. On a June-to-June basis the increase reached 5.7, which is not a huge difference compared to the previous period when the increase was 4.7.

The graphs for **Finland** and **Germany** tend to rise somewhat more between December 2001 and January 2002, but also here this is the common trend for the other periods.

In **France** and **Italy** the graphs show no signs of a euro effect and neither does the graph for **EU15**.

All the countries have experienced increases during the period but the changes are so small and do not deviate from previous periods that they cannot be seen as causes of the euro.

The conclusion must be that the complaints for this category do not seem to be justified. But it should be stressed that there can still be large changes, both increases and decreases, in the price level for the different sub-categories that cancel each other out.





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## 6 CONCLUSIONS

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*Although the estimates of a euro effect are small if compared to the overall inflation rate, changeover effects are clearly observable. Particularly prominent are the effects in the indices for the categories of food and non-alcoholic beverages, clothing and restaurants. The promised price reductions are not yet visible. The government in a state wishing to join the monetary union needs to establish a monitoring mechanism to prevent price rises. If the introduction of the euro is not implemented under strict surveillance the risk exists that retailers will take the opportunity to raise the prices of goods and services.*

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### 6.1 Effects of the Changeover in the Member States

Some countries have been more fortunate in the sense that they have not been exposed to any radical changes in the price level, but there are unfortunately also countries that have not managed to control the price level for some consumer goods.

The average development of the **15 Member States** confirm the conclusions that can be drawn from the countries included in this research. The consumer indices show deviating changes for the categories food and non-alcoholic beverages, clothing and restaurants and hotels. The introduction of the euro has in other words had an effect on the price level for some categories of consumer goods and services. These changes are also evident in the indices representing each country. It is in these categories the euro has had effects on the price level.

**Greece** has previously been known for being one of the states within the European Union with a low price level. As one of the goals with the monetary

union is to achieve price convergence, it is almost inevitable that Greece will approach the price levels of the rest of the Member States and not the other way around; that the price levels in the other countries will approach the Greece price level. Since the base year 1996 the price level in Greece has accelerated which is obvious in the diagrams (see Chapter 5). Greece has in almost all the diagrams higher index values.

The introduction of the euro has had effects on the price levels for food and non-alcoholic beverages, clothing and restaurants in Greece. These categories all have deviating values in the indices.

**Germany** is one of the countries where the inhabitants, after the introduction of the euro, have had complaints about the price level rise for consumer goods. According to the indices the complaints may to a certain degree be justified. In the category food and non-alcoholic beverages there was an evident increase of the price level by the turn of the year 2002, but the prices fell after only one month and continued to fall the rest of the year.

The categories alcoholic beverages, tobacco and narcotics and restaurants and hotels have also experienced a rise due to the changeover. The high price level remains for these two categories.

The price level for communication has several years had a tradition to decline, and due to the introduction of the euro this trend was broken.

In the **Netherlands** there was a short-term effect of the euro in the price level for clothing. This effect was however later eliminated and the index does not stabilize at any higher level. The price levels for food and non-alcoholic beverages and restaurants have also been raised at the time when the common currency was introduced. These have stabilized and not shown any tendency to decline again.

**Italy** is the second of the countries included in the analysis, which historically had a low overall price level. The consumer indices in Italy have however not developed consistently with the indices in Greece. In fact, the price level in Italy has been rather stable. Where the other countries have experienced rises

in the price level for food and non-alcoholic beverages, clothing and restaurants and hotels, Italy has not. The restaurant prices have been raised but not to any large extent. Italy seems to be one of the countries that have managed to avoid price rises due to the introduction of the euro. Apart from a small change in the index for restaurants, there has also been an increase in the index for recreational products.

In **Finland** many of the analysed countries have had an increase at the turn of the critical year when the euro was introduced, but not all changes can be blamed on the euro. Many merchandise prices have a tendency to rise at every turn of year. This is for example the case for health and miscellaneous goods and services.

As in the other countries the price level for the category of food and non-alcoholic beverages increased clearly, but it must be admitted that the prices did decline later in the year 2002. Hotels and restaurants also had a slight increase in the price level.

**France** has been spared from rises in the price level in connection to the changeover. There have been small rises in the categories food and non-alcoholic beverages and restaurants and hotels. France has also had a euro effect in the category alcoholic beverages. There have been increases in other categories as well but these cannot be ascribed the changeover.

The country that has not joined the currency union, **Sweden**, has not had any essential changes in the consumer price indices the year of the changeover. This implies that the introduction of a common currency has had effects on the price level. The only category where Sweden has experienced a deviating rise in the price level is food and non-alcoholic beverages. This rise is however smaller than for the countries that introduced the euro.

### **6.1.1 The Categories in HICP**

After processing the data material, it is clear that the promised price reduction did not occur. The only category where the price level clearly has declined is communication, but this is not due to the new currency. This trend has proceeded for several years and is due to tightened competition and improved technical know-how. The abandonment of trade barriers within the common market has most likely been one of the causes for this.

In all the analysed countries, there have been rises in the price level for some of the categories. Most prominent is the food and non-alcoholic beverages category, where the price level has increased rather radically by the time of the changeover. In some countries the indices stabilized at a higher level but in Germany, Finland and Greece the price levels declined again and by autumn the same year the euro effect was to a large extent erased.

The category restaurants and hotels have also experienced a faster price development after the introduction of the euro. Tourists visiting another country will face these prices and in countries such as Greece and Italy where the large proportion of the GNP comes from tourism, this will have consequences. When the prices in this category increase, the tourists will choose other destinations for their holidays. This has for example been the result in Greece. Other categories that have experienced higher price levels are alcoholic beverages, tobacco and narcotics and clothing.

Important to be aware of is that all categories have many sub-categories included. There may be products within every category that have experienced a rise or decline in the price level that will not be apparent in the HICP. For example, the price of hairdresser services has been said to raise, even though the diagram where this is included shows no effects of the changeover.

## 6.2 Overall Conclusion

It is difficult to generalize from the findings of the research. There has not been one development discovered that can be said to have happened in all countries as a result of the introduction of the euro. It would be easy to say that countries with an initial low price level have experienced price level rises when the prices in the Member States converge. This would, however, not be the truth. Greece has experienced rises but not Italy. The opposite has not happened either; that the prices in countries with an initial high price level have experienced decreased prices as a consequence of the convergence.

It would also be easy to say that the prices for one category of consumer goods have risen as a consequence of the euro, but this is not the truth. There are three groups of consumer products where the euro has had an effect on the price level but these rises are not visible in the indices for all of the countries. For the category food and non-alcoholic beverages, however, it could be claimed that all the countries that introduced the euro have had an effect in form of raised prices.

Further, it would be convenient to claim that countries, which had a more 'inconvenient' exchange rate to the euro, like for example Italy and Greece, have had larger increases in the price level than countries where it was easier for the inhabitants to do more accurate rough estimations of the new price in euro. The underlying reason for this would be that the retailers had greater opportunity to secretly raise the prices without the consumer noticing. This is however not true. As mentioned before, Italy has managed to avoid excessive price rises whereas Germany failed to do so.

What can be said, though, is that for some categories, depending on what country one looks at, there have been rises in the price level. Overall, the categories where there have been changes are food and non-alcoholic beverages, clothing and restaurants and hotels. By applying the theoretical framework we can see how these explanations are confirmed. It is especially in these three categories where retailers have the greatest opportunity to set their own prices and therefore can follow the principle of psychological

pricing. As a consequence of this the prices will inevitably be raised due to decimal arithmetic (assumed that no retailer decides to set a lower price). In addition to this, the one-time cost associated with the changeover, is most likely to be compensated for in these types of businesses.

The category of communication has had declining values in the indices. This has been going on for a couple of years and hence no effect of the euro. In fact, the promised price reduction has not yet taken place in the European countries. When all countries joined the EMU and introduced a common currency this was to result in increased price transparency, which in turn would lead to diminishing differences in price levels between the countries and it would not be possible to set excessive prices. This can today not be seen by making a comparison of price index compilers. The consumer indices in Europe continue to rise.

As mentioned before the idea of a currency union is not something new, and there are many examples of former and also of on-going unions. There are successful unions such as the USA, the UK and the Latin Monetary Union, but many unions did fail. There are many mistakes, which can be learnt from, and many theories about how an optimal currency area looks, which can be analysed. None of these theories could be applied to this dissertation, since the EMU is unique in at least modern time. Other currency unions have adopted an already existing currency whereas the euro was developed for this very purpose.

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## **7 ADVICE TO FUTURE MEMBERS OF A CURRENCY UNION**

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*If the implementation of a new currency is not carried out under strict surveillance, the risk arises that retailers will take the opportunity to raise the prices at the time of the changeover. Our suggestion to future members of a currency union is to implement monitoring mechanisms safeguarding the interests of the consumers. The introduction of the euro in new members of the EMU will however probably proceed smoother because of second mover-advantages.*

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### **7.1 The Implications of Raised Food Prices in Society**

The euro has had effects on the price level for different categories of consumer goods and services; both in form of rises that have persisted over time and rises of short-term character. Although the price rises have not had any large effects in each state's aggregated inflation they should not be neglected.

Ever since the euro was introduced the debates in media around Europe have mainly been focused on food prices. As can be seen in the data analysis in Chapter 5, this is the group of consumer goods that have had the most deviating trend in the consumer price indices. It is evident that the introduction of the common currency has had effects on the price level for food.

Food constitutes a large proportion of the expenditures for a family. Especially for families with low incomes the price for food amounts to sometimes the largest expenditure. When the price level on food has been raised this affects the already exposed low-income earners the most. A person

with an income above average will barely notice the raised prices for food compared to his or hers other expenditures. At the same time though, the low-income person is the one that has the most to gain from a currency union in the long term if everything works out as expected. The advantages with a currency union for the nation will also mean positive consequences for the individual. Increased trade, a strong currency, a larger home market and tightened competition will lead to a better standard of living in the long run. Even if the advantages with a currency union are many and to join a currency union appears to be the right mode of action for a state it has to be carefully considered and planned. If the introduction of the euro is not implemented under strict surveillance the risk arises that retailers will take the opportunity to raise the prices of consumer goods and services. The psychological price in the new currency will inevitably become a more expensive price as a consequence of decimal arithmetic. To avoid this, the government in a state that wishes to introduce a new currency needs to supervise the implementation under strict regulations. By doing this, raised prices can be avoided and the changeover will go even smoother.

## **7.2 Second Mover-Advantages**

States that wish to join the EMU will have so called second-mover advantages that will become helpful when changing the currency. The experiences and lessons learned from the introduction in January 2002 will help the governments in new Member States of the EMU to avoid mistakes and make the changeover more efficient. One of the things that will ease the changeover process is that the euro will then have become accepted and recognised as the large currency in Europe. The inhabitants in new Member States of the EMU will probably already have been in contact with the euro.

Countries with a tradition of strong consumer groups will most likely have further advantages than countries without this tradition. Where the consumer groups are strong actors, these will protect their members and not allow any unjustified price rises. In countries with no such organisations the



governments will have to create organisations that safeguard the interest of the consumers. This may be very costly, both in terms of time and money, and there will be some amount of time before these organisations will work properly and efficiently.

All countries in the euro-area have had a period where both their national currencies and the euro have been valid. In addition to this, a couple of months before the euro notes and coins were available the prices were stated in both currencies. The purpose with this procedure was to awake the awareness of the inhabitants and prepare them for the value of the new currency. This can be highly recommended to new members of the EMU, and most likely, even necessary. It takes time to learn to use and calculate with a new currency. Everyone who has been abroad and has been faced with an unfamiliar currency is aware of this fact.

That retailers around Europe have taken the opportunity to raise the prices while the consumers were still confused implies that the above is not enough to prevent price rises. The government in a new Member State of the EMU needs a clearly worded strategy to prevent this.

It is too early to predict what effects the new currency will have on the price level for countries joining the EMU in a long-term perspective. Many price rises that have occurred the past two years in the Member States may have happened even without the euro. One of the main ideas with the EMU was to try to get the prices to converge. This will result in a more rapid price development in low-price countries such as Portugal, Greece and Italy and hopefully diminish the development in countries with a higher price level, such as the Nordic countries. The convergence of prices will mean that the price level in each country will meet somewhere between the highest price level and the lowest price level. This may imply that a country such as Sweden would have advantages of joining the EMU in the aspect of prices.

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[www.europa.eu.int](http://www.europa.eu.int)

[www.scb.se](http://www.scb.se)

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## APPENDIX

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Harmonized indices of consumer prices (HICP)

Monthly Data (index, annual and monthly rate of change)

COICOP

### All items

time	2003m09	2003m08	2003m07	2003m06	2003m05	2003m04	2003m03
geo							
eu15	113,4	113,1	112,8	112,9	112,9	113,0	112,8
Germany	108,8	109,0	108,9	108,6	108,4	108,7	109,0
Greece	:	127,3	127,3	130,0	130,2	129,6	129,3
France	111,2	110,7	110,4	110,5	110,3	110,4	110,6
Italy	117,7	116,8	117,2	117,3	117,2	117,0	116,1
Netherlands	:	120,8	120,5	120,7	121,2	121,3	121,2
Finland	113,8	113,2	113,0	113,6	113,7	113,8	113,9
Sweden	112,7	111,8	111,9	112,1	112,3	112,4	112,8

time	2003m02	2003m01	2002m12	2002m11	2002m10	2002m09	2002m08
geo							
eu15	112,2	111,7	111,9	111,4	111,5	111,2	110,9
Germany	108,8	108,2	108,3	107,1	107,5	107,6	107,8
Greece	126,1	126,4	127,4	126,5	126,4	125,8	123,2
France	110,1	109,3	109,0	108,8	108,9	108,7	108,5
Italy	114,7	115,2	115,5	115,2	114,9	114,3	113,7
Netherlands	120,1	119,2	118,5	118,7	119,3	119,4	118,2
Finland	113,5	112,5	112,3	112,3	112,7	112,4	111,9
Sweden	112,1	111,0	110,7	110,3	110,6	110,2	109,4

time	2002m07	2002m06	2002m05	2002m04	2002m03	2002m02	2002m01
geo							
eu15	110,8	111,0	111,0	110,8	110,3	109,7	109,5
Germany	108,0	107,6	107,7	107,6	107,7	107,5	107,2
Greece	123,0	125,5	125,8	125,5	124,5	121,0	122,4
France	108,3	108,4	108,4	108,3	107,8	107,4	107,3
Italy	113,9	114,0	113,9	113,6	112,8	111,8	112,0
Netherlands	118,0	118,1	118,5	118,7	117,9	116,7	116,1
Finland	111,9	112,3	112,5	112,3	111,8	111,2	110,9
Sweden	109,3	109,9	110,1	109,9	109,6	108,5	108,2

	time	2001m12	2001m11	2001m10	2001m09	2001m08	2001m07	2001m06
geo								
eu15		109,5	109,0	109,2	109,1	108,8	108,8	109,1
Germany		107,1	105,9	106,1	106,5	106,6	106,9	106,7
Greece		123,1	121,7	121,6	121,2	118,7	118,7	121,1
France		106,7	106,6	106,9	106,8	106,6	106,6	106,8
Italy		112,1	112,0	111,8	111,2	110,8	111,2	111,5
Netherlands		114,8	115,0	115,3	115,2	114,0	113,7	113,8
Finland		110,4	110,4	110,8	110,9	109,9	109,7	110,6
Sweden		108,9	108,8	108,7	108,9	107,6	107,4	108,1

	time	2001m05	2001m04	2001m03	2001m02	2001m01	2000m12	2000m11
geo								
eu15		109,0	108,5	107,8	107,2	106,9	107,5	107,1
Germany		106,5	106,0	105,6	105,6	104,9	105,6	104,5
Greece		121,2	120,6	119,3	116,6	116,8	118,9	118,3
France		106,8	106,1	105,5	105,0	104,7	105,2	105,2
Italy		111,2	110,8	110,0	108,9	109,5	109,7	109,6
Netherlands		114,2	113,9	113,0	111,7	110,7	109,2	109,7
Finland		110,5	109,5	109,0	108,5	107,8	107,9	108,1
Sweden		108,3	107,5	106,4	105,6	105,2	105,5	105,7

	time	2000m10	2000m09	2000m08	2000m07	2000m06	2000m05	2000m04
geo								
eu15		106,9	106,9	106,3	106,2	106,3	106,0	105,8
Germany		104,4	104,6	104,3	104,6	104,1	103,6	103,7
Greece		117,8	116,5	114,1	113,9	115,9	116,6	116,3
France		105,0	105,1	104,5	104,3	104,5	104,2	104,0
Italy		109,2	108,9	108,6	108,6	108,4	108,1	107,7
Netherlands		109,8	109,4	108,4	108,0	108,3	108,3	108,0
Finland		108,2	108,1	107,0	106,9	107,4	107,0	106,5
Sweden		105,6	105,4	104,5	104,4	105,0	105,0	104,4

	time	2000m03	2000m02	2000m01	1999m12	1999m11	1999m10	1999m09
geo								
eu15		105,7	105,3	104,9	105,1	104,8	104,6	104,6
Germany		103,8	103,8	103,6	103,4	103,0	102,9	103,0
Greece		115,6	112,7	113,2	114,7	113,7	113,5	113,1
France		104,0	103,5	103,3	103,4	102,9	102,8	102,7
Italy		107,7	107,3	106,9	106,7	106,5	106,3	106,1
Netherlands		107,6	106,4	105,8	106,1	106,6	106,4	106,3
Finland		106,3	105,6	104,8	104,9	104,6	104,6	104,5
Sweden		104,6	104,0	103,5	104,1	103,8	104,2	104,0

	time	1999m08	1999m07	1999m06	1999m05	1999m04	1999m03	1999m02
geo								
eu15		104,4	104,3	104,3	104,3	104,2	103,8	103,4
Germany		103,3	103,3	102,8	102,7	102,7	102,3	102,1
Greece		110,9	111,0	113,4	113,6	113,9	112,5	109,8
France		102,5	102,3	102,6	102,6	102,6	102,3	102,0
Italy		105,8	105,8	105,5	105,5	105,2	105,0	104,8
Netherlands		105,8	105,1	105,7	106,2	106,2	105,9	104,8
Finland		104,0	103,9	104,2	104,2	103,9	103,0	102,8
Sweden		103,1	103,1	103,6	103,7	103,4	103,2	102,6

	time	1999m01	1998m12	1998m11	1998m10	1998m09	1998m08
geo							
eu15		103,2	103,4	103,3	103,3	103,3	103,2
Germany		101,9	102,0	102,0	102,0	102,2	102,6
Greece		110,6	112,1	111,5	111,6	111,6	109,4
France		101,6	102,0	101,9	102,0	102,1	102,0
Italy		104,6	104,5	104,4	104,3	104,1	104,1
Netherlands		104,1	104,1	104,5	104,5	104,2	103,2
Finland		102,4	102,6	102,7	103,0	103,1	102,7
Sweden		102,5	102,9	103,0	103,2	102,9	102,3

## Food and non-alcoholic beverages

	time 2003m09	2003m08	2003m07	2003m06	2003m05	2003m04	2003m03
geo							
eu15	114,1	113,4	113,5	113,7	113,5	113,1	112,8
Germany	105,7	105,2	106,3	106,9	106,6	106,5	106,3
Greece	:	131,2	132,8	136,9	138,8	135,7	134,1
France	118,5	117,5	117,7	118,2	117,2	117,2	116,8
Italy	115,8	115,1	114,8	114,7	114,3	113,7	113,3
Netherlands	:	119,9	119,4	119,7	119,3	119,5	118,9
Finland	112,2	111,1	112,3	112,4	112,2	113,1	113,1
Sweden	112,8	112,4	112,1	111,5	111,4	112,2	112,6

	time 2003m02	2003m01	2002m12	2002m11	2002m10	2002m09	2002m08
geo							
eu15	112,4	112,0	111,2	110,9	110,9	110,9	110,7
Germany	105,9	105,4	104,2	103,9	104,3	104,7	104,9
Greece	132,2	129,2	128,0	126,9	126,1	124,9	124,3
France	116,2	115,7	114,6	114,4	114,4	114,1	113,9
Italy	113,0	113,0	112,6	112,2	111,8	111,3	111,1
Netherlands	117,7	117,2	116,5	115,7	116,7	118,4	116,9
Finland	113,1	112,1	110,5	109,8	110,0	110,0	110,6
Sweden	111,8	110,8	109,9	109,6	111,0	111,1	111,5

	time 2002m07	2002m06	2002m05	2002m04	2002m03	2002m02	2002m01
geo							
eu15	111,1	111,3	111,8	111,6	111,4	111,3	111,6
Germany	105,9	106,6	107,5	107,6	107,6	107,9	108,4
Greece	123,9	126,0	126,3	128,7	128,3	127,5	130,3
France	114,6	115,3	115,4	115,1	114,9	114,9	115,2
Italy	111,2	111,5	111,7	111,4	110,6	110,5	110,3
Netherlands	117,7	117,3	118,1	118,0	118,2	117,7	117,8
Finland	112,6	112,0	113,1	111,8	113,6	112,9	113,8
Sweden	111,3	111,2	111,7	111,8	112,5	111,0	111,5

	time 2001m12	2001m11	2001m10	2001m09	2001m08	2001m07	2001m06
geo							
eu15	109,8	109,1	109,2	108,9	108,9	109,4	109,8
Germany	105,4	104,8	105,4	105,3	105,5	107,1	107,7
Greece	126,3	121,4	120,4	119,5	118,6	118,4	120,5
France	113,0	112,6	112,9	112,4	112,3	113,4	113,2
Italy	109,1	108,6	108,3	107,9	107,9	108,1	107,9
Netherlands	115,0	114,4	115,2	114,8	114,0	114,0	114,2
Finland	110,1	109,1	109,6	109,5	109,0	109,1	109,2



Sweden	109,2	108,4	109,1	108,2	108,2	108,1	108,2
time	2001m05	2001m04	2001m03	2001m02	2001m01	2000m12	2000m11
geo							
eu15	109,6	108,0	107,1	106,1	105,7	104,7	104,2
Germany	107,3	105,5	103,8	102,9	102,5	100,9	100,2
Greece	121,9	119,7	118,5	117,2	115,8	114,8	113,5
France	113,2	111,1	109,9	108,5	108,1	107,3	107,2
Italy	107,5	106,9	106,3	106,0	105,2	104,7	103,9
Netherlands	114,9	114,0	112,1	109,8	109,2	107,9	107,6
Finland	109,0	106,9	106,9	106,3	106,2	104,5	104,3
Sweden	108,6	106,9	105,7	104,6	104,0	103,9	103,5

time	2000m10	2000m09	2000m08	2000m07	2000m06	2000m05	2000m04
geo							
eu15	103,7	103,5	103,5	103,6	103,7	103,7	103,3
Germany	99,7	99,8	100,2	101,1	101,5	101,5	101,1
Greece	112,8	112,2	111,9	111,0	112,2	116,2	116,7
France	106,4	106,0	105,7	105,9	106,1	106,1	105,6
Italy	103,7	103,4	103,2	103,3	103,5	103,4	103,2
Netherlands	106,9	106,1	106,1	105,5	105,9	106,0	105,5
Finland	103,9	104,0	103,7	104,0	104,2	104,2	103,8
Sweden	103,7	103,9	104,2	104,2	104,5	104,6	104,0

time	2000m03	2000m02	2000m01	1999m12	1999m11	1999m10	1999m09
geo							
eu15	102,9	103,1	102,8	102,4	102,1	101,8	101,6
Germany	100,6	101,4	100,7	99,7	99,5	99,3	99,6
Greece	115,7	115,0	113,4	112,4	111,8	111,4	110,6
France	104,7	104,8	104,4	104,1	103,7	103,1	102,5
Italy	102,7	102,4	102,1	101,8	101,6	101,4	101,2
Netherlands	104,8	104,4	105,2	104,8	104,7	104,1	104,1
Finland	103,8	103,8	102,4	101,8	101,6	102,2	102,0
Sweden	104,0	103,9	103,0	103,1	103,3	103,4	103,2

time	1999m08	1999m07	1999m06	1999m05	1999m04	1999m03	1999m02
geo							
eu15	101,6	102,1	102,9	103,4	103,3	103,2	103,1
Germany	100,1	101,1	102,0	102,6	102,6	102,3	102,4
Greece	107,2	108,0	111,6	113,6	112,9	112,7	112,4
France	102,4	103,3	104,1	104,3	104,0	103,9	103,7
Italy	101,2	101,5	102,0	102,2	102,2	101,9	101,8
Netherlands	104,2	104,0	105,3	106,1	106,1	106,6	106,1
Finland	102,1	103,3	104,1	104,3	103,2	102,8	103,4
Sweden	103,6	103,6	104,8	104,6	104,1	104,1	103,8

time	1999m01	1998m12	1998m11	1998m10	1998m09	1998m08
geo						
eu15	103,1	102,5	102,1	101,9	102,2	102,4
Germany	102,4	101,6	101,3	101,1	101,6	102,1
Greece	112,2	110,1	109,2	108,3	108,4	106,9
France	103,8	103,2	103,1	102,8	103,4	103,8
Italy	101,7	101,3	101,1	101,0	100,8	100,7
Netherlands	105,7	105,1	104,3	103,5	103,6	103,3
Finland	103,2	102,0	102,1	102,7	103,4	103,9
Sweden	103,7	102,2	102,2	102,1	102,1	103,4

### Alcoholic beverages, tobacco and narcotics

time	2003m09	2003m08	2003m07	2003m06	2003m05	2003m04	2003m03
geo							
eu15	127,8	127,7	127,5	127,3	127,1	126,9	125,9
Germany	119,2	119,0	119,1	118,9	118,9	118,8	118,9
Greece	:	151,1	147,6	147,5	147,5	147,5	147,4
France	132,1	132,0	131,9	131,9	131,7	131,5	131,5
Italy	126,9	126,9	126,8	126,6	126,4	126,2	119,6
Netherlands	:	131,1	131,4	131,3	130,1	129,4	129,4
Finland	113,2	113,1	113,1	113,1	113,3	113,0	113,0
Sweden	118,0	118,0	118,0	117,9	117,8	117,3	116,8

time	2003m02	2003m01	2002m12	2002m11	2002m10	2002m09	2002m08
geo							
eu15	125,8	125,0	122,4	122,4	122,3	122,3	122,1
Germany	118,8	118,0	113,4	113,4	113,2	113,3	113,2
Greece	147,3	147,1	146,9	146,9	146,7	146,7	146,7
France	131,4	130,1	123,8	123,8	123,7	123,7	123,6
Italy	119,6	119,4	119,3	118,3	118,3	118,2	118,0
Netherlands	128,7	128,4	126,9	127,2	127,2	127,1	127,1
Finland	112,9	112,5	111,8	111,9	111,9	111,9	111,8
Sweden	116,7	116,6	116,6	116,4	116,3	116,3	116,1

time	2002m07	2002m06	2002m05	2002m04	2002m03	2002m02	2002m01
geo							
eu15	121,9	121,7	121,3	121,1	120,4	120,2	120,2
Germany	113,0	112,8	112,5	112,6	112,5	112,5	112,6
Greece	146,6	146,6	146,5	146,3	141,5	139,0	138,9
France	123,4	123,5	123,4	123,3	123,3	123,2	123,1
Italy	117,2	117,1	115,8	115,6	115,5	115,5	115,3
Netherlands	127,2	127,1	125,6	125,0	122,5	122,3	122,3
Finland	111,8	111,8	111,7	111,7	111,7	111,7	111,6

Sweden	116,1	115,8	115,7	115,3	115,3	115,0	114,6
time	2001m12	2001m11	2001m10	2001m09	2001m08	2001m07	2001m06
geo							
eu15	118,0	118,2	118,2	118,0	117,7	117,6	117,5
Germany	108,8	108,8	108,7	108,7	108,7	108,7	108,7
Greece	138,8	138,6	138,6	138,5	138,5	138,5	136,9
France	117,9	118,0	117,9	118,0	117,9	117,8	117,7
Italy	115,7	115,7	115,6	115,6	115,5	115,5	115,4
Netherlands	122,1	122,0	122,1	121,6	120,9	119,7	119,5
Finland	110,9	109,9	109,9	109,9	109,9	109,9	109,8
Sweden	113,7	115,5	115,4	115,4	115,0	114,9	114,6

time	2001m05	2001m04	2001m03	2001m02	2001m01	2000m12	2000m11
geo							
eu15	117,3	117,2	116,7	116,4	115,7	114,9	115,0
Germany	108,6	108,5	108,5	108,5	107,8	107,7	107,6
Greece	131,4	131,4	131,3	131,3	131,1	131,1	131,2
France	117,7	117,7	117,6	117,5	116,7	114,1	114,2
Italy	115,3	115,2	111,9	111,8	111,7	111,7	111,9
Netherlands	119,6	119,3	119,2	118,8	115,9	114,3	114,2
Finland	109,8	109,7	109,7	109,6	109,5	108,4	108,4
Sweden	114,5	114,3	114,3	114,2	114,3	114,0	114,0

time	2000m10	2000m09	2000m08	2000m07	2000m06	2000m05	2000m04
geo							
eu15	114,7	114,5	114,3	114,1	114,1	113,9	113,8
Germany	106,7	106,7	106,6	106,5	106,5	106,5	106,4
Greece	131,1	125,0	124,6	124,6	124,5	124,5	124,4
France	114,1	114,1	114,1	114,0	113,9	113,9	113,9
Italy	111,9	111,8	111,8	111,8	111,7	111,7	111,6
Netherlands	114,1	113,3	112,9	112,9	112,7	111,3	111,2
Finland	108,4	108,3	108,2	108,2	108,0	108,0	107,1
Sweden	113,9	113,8	113,5	113,4	113,1	112,9	112,7

time	2000m03	2000m02	2000m01	1999m12	1999m11	1999m10	1999m09
geo							
eu15	113,1	113,0	112,8	112,0	112,0	112,0	111,4
Germany	106,5	106,5	106,6	106,6	106,7	106,6	104,7
Greece	124,2	124,1	124,1	124,0	124,1	124,1	123,5
France	114,0	113,9	113,7	111,0	111,0	110,9	110,9
Italy	111,6	111,5	111,5	111,5	111,5	111,5	111,5
Netherlands	111,3	111,1	110,8	110,5	110,5	110,4	110,4
Finland	107,1	107,0	106,4	105,7	105,7	105,7	105,7
Sweden	112,5	112,5	112,5	112,0	111,9	111,9	111,8

time	1999m08	1999m07	1999m06	1999m05	1999m04	1999m03	1999m02
geo							
eu15	111,4	111,2	110,9	110,7	110,5	110,3	109,7
Germany	104,7	104,7	104,7	104,7	104,7	104,7	104,7
Greece	122,8	122,8	122,8	122,8	122,8	122,7	120,8
France	111,0	110,9	110,8	110,7	110,6	110,5	110,3
Italy	111,4	111,4	109,6	109,6	109,5	109,5	109,4
Netherlands	110,4	109,0	108,9	108,9	108,8	108,8	108,6
Finland	105,4	105,4	105,4	105,4	105,2	104,1	104,1
Sweden	111,4	111,5	111,4	111,2	110,9	110,9	110,8

time	1999m01	1998m12	1998m11	1998m10	1998m09	1998m08
geo						
eu15	109,5	108,4	108,1	108,2	108,0	107,9
Germany	104,7	104,7	104,9	104,8	104,7	104,7
Greece	118,9	118,0	118,0	118,0	118,0	118,0
France	110,0	107,5	107,5	107,4	107,2	107,1
Italy	109,3	109,3	109,2	109,2	109,2	109,1
Netherlands	108,5	108,2	108,2	108,0	106,1	106,1
Finland	103,9	103,4	103,4	103,4	103,5	103,4
Sweden	110,8	110,2	110,2	110,2	110,1	110,1

## Clothing and footwear

time	2003m09	2003m08	2003m07	2003m06	2003m05	2003m04	2003m03
geo							
eu15	102,0	97,8	97,7	103,1	103,9	103,5	101,6
Germany	102,3	100,4	100,7	101,7	102,1	102,4	102,7
Greece	:	118,8	119,7	135,8	135,7	134,1	134,0
France	103,9	98,7	96,0	103,2	103,3	103,3	103,5
Italy	116,5	111,0	116,0	119,2	119,2	118,7	114,8
Netherlands	:	97,6	94,2	103,9	111,8	112,0	112,2
Finland	100,5	96,0	91,7	100,1	101,8	102,0	100,7
Sweden	110,1	98,7	98,9	105,2	109,7	108,9	107,1

time	2003m02	2003m01	2002m12	2002m11	2002m10	2002m09	2002m08
geo							
eu15	97,4	97,6	103,8	104,4	103,5	101,8	97,8
Germany	102,1	101,6	102,4	102,9	103,1	102,9	101,9
Greece	113,5	121,8	134,9	134,9	134,7	132,2	117,8
France	100,8	96,4	104,0	103,7	103,9	103,8	99,6
Italy	104,9	111,7	118,1	117,8	117,0	114,5	109,4
Netherlands	99,1	94,7	105,8	113,1	114,5	113,9	101,8
Finland	95,4	92,7	102,9	103,0	102,7	100,4	95,3
Sweden	101,2	99,9	113,4	113,8	113,4	110,5	101,0

time	2002m07	2002m06	2002m05	2002m04	2002m03	2002m02	2002m01
geo							
eu15	97,7	102,8	103,2	102,9	101,2	97,5	98,2
Germany	102,0	102,8	103,0	103,2	103,1	102,6	102,8
Greece	117,8	133,2	133,0	131,4	131,3	112,0	118,6
France	98,1	103,9	103,7	103,6	103,3	98,6	98,8
Italy	113,3	115,6	115,5	115,2	112,1	105,1	110,5
Netherlands	97,2	110,4	114,7	116,0	114,9	102,5	97,3
Finland	92,1	100,1	102,2	102,8	100,5	94,8	93,4
Sweden	99,2	106,8	108,8	108,0	106,7	101,1	98,9

time	2001m12	2001m11	2001m10	2001m09	2001m08	2001m07	2001m06
geo							
eu15	103,3	103,5	102,8	101,1	97,5	97,0	102,0
Germany	102,9	102,8	102,5	102,1	101,4	101,7	102,0
Greece	131,2	131,2	130,8	128,1	114,3	114,3	128,0
France	103,3	102,7	103,3	103,1	99,8	96,9	102,6
Italy	114,4	114,4	114,0	110,6	106,8	110,7	112,7
Netherlands	106,4	111,8	112,3	111,0	98,0	94,4	106,9
Finland	103,1	103,8	103,5	102,7	100,7	95,3	101,5
Sweden	114,9	114,6	113,8	112,6	99,8	97,3	104,5

time	2001m05	2001m04	2001m03	2001m02	2001m01	2000m12	2000m11
geo							
eu15	102,2	101,8	100,5	96,3	97,2	102,3	102,7
Germany	102,1	101,9	101,7	101,2	101,4	101,6	101,6
Greece	127,0	126,6	126,6	108,2	113,1	126,5	126,5
France	102,4	102,5	102,2	97,6	97,5	102,3	102,1
Italy	112,6	112,1	108,4	100,5	108,9	111,4	111,2
Netherlands	111,2	111,3	110,0	97,4	90,9	101,2	108,2
Finland	102,2	102,3	100,5	94,2	93,4	100,8	101,8
Sweden	106,4	106,3	103,0	95,0	94,0	107,9	108,4

time	2000m10	2000m09	2000m08	2000m07	2000m06	2000m05	2000m04
geo							
eu15	102,4	101,9	99,5	98,1	102,0	102,2	102,2
Germany	101,5	101,2	100,4	100,8	101,1	101,2	101,3
Greece	126,1	123,5	111,6	111,6	123,5	122,5	122,3
France	102,4	102,5	99,4	95,7	102,2	102,0	102,1
Italy	110,8	109,9	109,6	109,6	109,6	109,5	109,4
Netherlands	109,3	108,7	96,6	92,7	105,6	110,3	110,6
Finland	101,6	101,3	100,0	95,6	101,2	101,6	101,1
Sweden	108,9	107,2	99,6	98,4	102,8	105,4	104,0

time	2000m03	2000m02	2000m01	1999m12	1999m11	1999m10	1999m09
geo							
eu15	101,8	99,6	98,9	102,6	102,9	102,7	102,5
Germany	101,2	101,0	101,2	101,4	101,4	101,3	101,2
Greece	122,2	107,1	110,6	122,2	122,2	122,0	120,7
France	101,7	96,5	98,5	102,0	101,9	102,0	101,9
Italy	109,0	108,8	108,7	108,7	108,5	108,2	107,6
Netherlands	109,1	96,7	90,6	101,7	108,5	108,6	109,4
Finland	99,6	94,3	92,1	101,3	101,8	101,2	101,2
Sweden	101,4	95,8	95,8	107,8	108,1	110,0	107,5

time	1999m08	1999m07	1999m06	1999m05	1999m04	1999m03	1999m02
geo							
eu15	100,5	99,6	102,3	102,5	102,3	102,0	100,1
Germany	100,8	100,9	101,1	101,2	101,1	101,1	100,9
Greece	110,5	110,5	121,9	120,4	120,3	120,3	106,0
France	99,4	96,0	101,9	101,9	101,9	101,8	98,5
Italy	107,4	107,3	107,3	107,1	107,0	106,7	106,5
Netherlands	101,2	94,9	105,0	111,0	111,5	110,4	97,8
Finland	99,1	95,4	100,9	101,1	101,0	98,8	93,8
Sweden	95,9	96,5	102,0	103,1	103,4	101,2	94,9

time	1999m01	1998m12	1998m11	1998m10	1998m09	1998m08
geo						
eu15	99,4	102,8	103,0	102,7	102,4	100,1
Germany	101,0	101,3	101,3	101,0	100,9	100,6
Greece	109,1	120,3	120,2	120,0	116,9	106,3
France	95,2	101,9	101,6	101,9	101,9	99,1
Italy	106,4	106,4	106,3	106,0	105,4	105,2
Netherlands	91,1	102,1	108,6	109,7	109,1	95,0
Finland	92,6	100,7	100,9	100,7	100,2	97,7
Sweden	95,2	106,7	107,2	107,9	105,7	95,3

## Housing, water, electricity, gas and other fuels

	time 2003m09	2003m08	2003m07	2003m06	2003m05	2003m04	2003m03
geo							
eu15	117,4	117,3	117,1	116,7	116,6	116,8	117,3
Germany	115,2	115,1	114,9	114,7	114,6	114,8	115,5
Greece	:	125,2	125,0	124,9	124,6	124,3	128,6
France	110,3	110,1	109,8	109,2	109,2	109,3	110,2
Italy	122,9	122,7	122,7	122,5	122,6	122,9	122,3
Netherlands	:	137,1	137,1	134,2	134,2	134,1	134,0
Finland	122,0	122,1	122,0	121,8	121,2	120,8	121,6
Sweden	123,0	122,6	122,9	122,9	123,3	123,4	123,9

	time 2003m02	2003m01	2002m12	2002m11	2002m10	2002m09	2002m08
geo							
eu15	116,8	116,1	115,0	114,7	114,9	114,6	114,4
Germany	115,1	114,6	113,3	113,0	113,4	113,3	113,0
Greece	127,1	124,9	123,3	121,4	122,2	122,0	121,7
France	109,7	109,0	108,3	107,9	107,8	107,5	107,0
Italy	121,7	121,1	119,8	119,7	119,7	119,0	118,7
Netherlands	133,9	133,8	131,6	131,6	131,5	131,2	131,2
Finland	120,8	119,1	118,2	117,7	118,3	117,9	117,4
Sweden	123,9	121,1	115,4	114,5	114,0	113,7	113,5

	time 2002m07	2002m06	2002m05	2002m04	2002m03	2002m02	2002m01
geo							
eu15	114,3	113,9	114,0	114,1	113,6	113,4	113,2
Germany	113,0	112,9	113,1	113,2	113,1	112,8	112,7
Greece	121,0	120,7	120,5	120,3	118,9	117,7	117,2
France	106,7	106,5	106,6	106,8	106,3	106,0	105,8
Italy	118,6	117,9	117,9	117,9	117,8	118,0	117,8
Netherlands	131,1	128,6	128,6	128,6	128,5	128,5	128,4
Finland	117,2	117,1	116,8	116,2	115,9	115,5	114,9
Sweden	113,5	113,3	113,3	113,3	112,8	112,8	112,9

	time 2001m12	2001m11	2001m10	2001m09	2001m08	2001m07	2001m06
geo							
eu15	112,7	112,8	112,9	113,2	112,9	112,9	112,7
Germany	112,0	112,3	112,6	113,2	112,8	112,6	112,7
Greece	116,0	116,8	117,5	117,3	117,1	116,9	115,9
France	105,5	105,7	105,7	105,8	105,5	105,4	105,4
Italy	118,5	118,5	117,8	117,7	117,7	117,8	118,0
Netherlands	126,3	126,3	126,2	126,4	126,4	126,4	123,1
Finland	114,1	114,8	115,0	115,7	114,8	114,8	115,0

Sweden	111,0	111,2	111,3	111,3	111,3	110,8	110,3
time	2001m05	2001m04	2001m03	2001m02	2001m01	2000m12	2000m11
geo							
eu15	112,4	112,2	111,8	111,7	111,4	111,3	111,4
Germany	112,3	112,1	111,8	111,8	111,4	110,9	111,0
Greece	115,7	115,6	115,5	115,7	114,3	118,5	120,5
France	105,2	104,5	104,4	104,4	104,2	105,4	105,7
Italy	117,8	118,6	118,5	118,5	118,4	117,9	118,0
Netherlands	123,0	123,0	124,0	123,9	123,9	119,0	119,0
Finland	113,7	112,4	112,3	112,7	111,3	112,4	113,2
Sweden	109,9	109,4	108,3	108,2	107,8	106,1	106,1

time	2000m10	2000m09	2000m08	2000m07	2000m06	2000m05	2000m04
geo							
eu15	111,0	110,9	109,4	109,1	108,6	108,4	108,0
Germany	110,8	110,7	109,0	108,6	108,2	108,0	107,5
Greece	117,2	112,5	111,8	111,6	111,3	111,0	110,8
France	104,9	105,4	104,2	103,7	103,5	103,3	102,9
Italy	116,9	116,9	115,2	115,0	114,0	113,9	112,7
Netherlands	118,9	118,7	118,6	118,6	116,0	115,9	115,9
Finland	113,3	113,5	111,4	110,8	110,5	110,1	108,7
Sweden	105,7	105,3	104,7	104,5	104,4	104,2	104,3

time	2000m03	2000m02	2000m01	1999m12	1999m11	1999m10	1999m09
geo							
eu15	108,1	107,6	107,3	106,8	106,3	106,1	106,2
Germany	107,4	107,0	106,6	106,1	105,7	105,6	105,9
Greece	111,6	110,7	109,5	108,5	108,5	107,2	107,1
France	103,2	102,9	102,5	102,7	102,2	102,1	102,5
Italy	112,5	111,6	111,2	110,8	110,3	109,6	109,3
Netherlands	115,9	115,5	115,5	111,6	111,7	111,5	111,5
Finland	109,1	108,9	108,0	108,0	107,6	107,2	107,4
Sweden	104,6	104,6	104,5	103,9	103,7	103,9	104,0

time	1999m08	1999m07	1999m06	1999m05	1999m04	1999m03	1999m02
geo							
eu15	106,0	105,8	105,3	105,3	105,3	104,4	104,1
Germany	105,8	105,6	105,2	105,2	105,2	103,7	103,3
Greece	106,9	106,8	106,5	106,3	106,0	104,8	103,6
France	102,3	102,0	101,7	101,7	102,2	101,9	101,6
Italy	108,2	108,0	107,4	107,4	107,1	106,5	106,5
Netherlands	111,5	111,5	110,3	110,3	110,2	110,3	110,3
Finland	106,9	106,8	106,3	106,0	105,4	105,2	104,9
Sweden	103,9	103,8	103,7	103,7	103,4	104,1	104,2



time	1999m01	1998m12	1998m11	1998m10	1998m09	1998m08
geo						
eu15	104,1	104,1	104,1	104,2	104,0	104,0
Germany	103,3	103,2	103,3	103,4	103,5	103,5
Greece	103,7	104,6	104,6	105,9	107,1	107,0
France	101,6	102,0	102,0	102,1	101,9	101,8
Italy	106,3	106,8	106,7	106,6	106,1	106,3
Netherlands	110,3	108,6	108,6	108,6	108,5	108,4
Finland	104,5	104,0	104,3	104,8	104,9	104,2
Sweden	104,2	104,3	104,4	104,5	104,6	104,7

### **Furnishings, household equipment and routine maintenance of the house**

time	2003m09	2003m08	2003m07	2003m06	2003m05	2003m04	2003m03
geo							
eu15	108,0	107,5	107,4	107,8	107,9	107,5	107,5
Germany	103,6	103,6	103,7	103,7	103,7	103,7	103,6
Greece	:	120,4	120,3	124,7	124,6	124,1	123,8
France	108,2	107,8	107,3	107,2	107,3	107,2	106,9
Italy	114,1	113,8	113,8	113,8	113,7	113,1	113,0
Netherlands	:	117,4	117,5	117,8	117,9	117,6	117,6
Finland	107,2	107,0	106,5	107,0	107,1	107,0	106,3
Sweden	107,3	107,0	106,8	107,0	107,2	107,6	107,1

time	2003m02	2003m01	2002m12	2002m11	2002m10	2002m09	2002m08
geo							
eu15	107,0	106,7	107,4	107,1	106,9	106,9	106,4
Germany	103,6	103,5	103,4	103,4	103,3	103,3	103,2
Greece	119,6	120,3	123,3	123,1	123,1	122,7	117,9
France	106,4	105,8	106,5	106,3	106,8	106,4	106,2
Italy	112,7	112,6	112,7	112,7	111,9	111,8	111,6
Netherlands	117,4	116,9	116,2	116,1	116,0	115,9	115,8
Finland	106,0	106,3	106,8	107,0	107,0	106,6	106,2
Sweden	107,1	105,8	106,5	106,6	106,4	105,8	105,9

time	2002m07	2002m06	2002m05	2002m04	2002m03	2002m02	2002m01
geo							
eu15	106,3	106,7	106,8	106,5	106,5	105,9	105,6
Germany	103,2	103,3	103,3	103,4	103,4	103,3	103,2
Greece	117,9	122,6	122,4	122,2	122,0	117,1	118,2
France	105,8	106,1	106,1	105,9	105,6	104,8	104,8
Italy	111,7	111,7	111,6	110,9	110,8	110,7	110,4
Netherlands	115,8	115,7	115,6	115,4	114,8	114,1	113,7
Finland	106,0	106,4	106,5	106,3	106,2	106,0	105,6

Sweden	105,1	105,5	105,7	105,7	105,3	105,2	104,5
time	2001m12	2001m11	2001m10	2001m09	2001m08	2001m07	2001m06
geo							
eu15	106,2	105,8	105,4	105,4	105,0	104,7	105,2
Germany	102,9	102,8	102,5	102,4	102,4	102,3	102,2
Greece	121,6	121,7	121,4	120,9	116,4	116,3	120,3
France	105,4	105,0	105,5	105,1	104,9	104,3	104,6
Italy	110,4	110,2	109,8	109,7	109,6	109,5	109,5
Netherlands	112,7	112,2	112,0	111,8	111,5	111,5	111,1
Finland	105,8	105,8	105,5	105,1	104,6	104,6	104,9
Sweden	105,2	104,6	104,0	104,0	104,0	103,3	103,6

time	2001m05	2001m04	2001m03	2001m02	2001m01	2000m12	2000m11
geo							
eu15	105,1	104,8	104,6	104,1	103,6	104,3	104,0
Germany	102,2	102,0	101,9	101,7	101,5	101,4	101,4
Greece	120,2	120,0	119,6	115,3	115,8	119,3	119,1
France	104,6	104,4	103,9	103,0	102,8	103,1	102,9
Italy	109,5	109,1	108,9	108,7	108,3	108,3	108,2
Netherlands	110,7	110,6	110,3	110,0	109,1	107,1	107,0
Finland	104,9	104,4	104,1	103,9	103,7	103,5	103,4
Sweden	103,5	102,8	102,7	102,1	101,4	101,7	101,6

time	2000m10	2000m09	2000m08	2000m07	2000m06	2000m05	2000m04
geo							
eu15	103,7	103,7	103,3	103,0	103,4	103,5	103,4
Germany	101,4	101,3	101,3	101,3	101,3	101,3	101,5
Greece	118,7	118,4	113,4	113,2	117,7	117,3	117,0
France	103,3	103,0	102,7	102,3	102,5	102,5	102,4
Italy	107,8	107,6	107,5	107,4	107,3	107,3	106,8
Netherlands	106,7	106,2	105,7	105,7	105,3	105,3	104,9
Finland	102,9	102,5	102,2	102,1	102,4	102,5	102,1
Sweden	101,4	101,4	101,2	100,3	100,9	100,7	100,4

time	2000m03	2000m02	2000m01	1999m12	1999m11	1999m10	1999m09
geo							
eu15	103,3	102,8	102,6	103,5	103,2	102,9	103,0
Germany	101,4	101,4	101,3	101,3	101,3	101,4	101,4
Greece	116,7	111,7	112,5	116,4	116,6	116,7	116,5
France	102,3	101,4	101,5	101,9	101,8	102,3	102,1
Italy	106,7	106,7	106,0	106,0	106,0	105,5	105,4
Netherlands	104,6	104,3	104,3	104,2	104,2	104,0	103,9
Finland	102,3	102,2	102,2	102,2	102,3	102,4	102,2
Sweden	100,2	100,8	100,2	100,9	100,7	100,8	100,7

time	1999m08	1999m07	1999m06	1999m05	1999m04	1999m03	1999m02
geo							
eu15	102,7	102,5	103,0	103,0	102,7	102,9	102,5
Germany	101,4	101,4	101,4	101,4	101,3	101,3	101,3
Greece	111,8	111,8	116,5	116,1	115,5	115,4	110,4
France	102,2	101,8	102,3	102,3	102,1	101,9	101,6
Italy	105,4	105,3	105,3	105,2	105,0	105,0	104,9
Netherlands	104,1	104,0	104,0	103,8	103,6	103,5	103,1
Finland	101,7	101,5	101,8	101,8	101,9	101,5	101,3
Sweden	100,4	100,5	100,5	100,4	100,4	100,3	100,3

time	1999m01	1998m12	1998m11	1998m10	1998m09	1998m08
geo						
eu15	102,0	103,1	102,7	102,3	102,3	102,1
Germany	101,2	101,3	101,3	101,2	101,2	101,2
Greece	111,3	115,1	115,2	115,2	114,9	110,2
France	101,2	101,6	101,6	102,0	101,8	101,7
Italy	104,7	104,7	104,7	104,2	104,1	104,1
Netherlands	102,8	102,0	101,9	101,9	101,7	101,3
Finland	101,1	101,1	101,1	101,1	101,0	100,6
Sweden	99,8	100,2	100,3	100,3	100,6	100,1

## Health

time	2003m09	2003m08	2003m07	2003m06	2003m05	2003m04	2003m03
geo							
eu15	119,9	119,9	119,8	119,7	119,7	119,2	119,1
Germany	108,6	108,5	108,4	108,4	108,4	108,4	108,5
Greece	:	:	:	:	:	:	:
France	111,9	112,3	112,8	112,9	112,8	111,3	111,5
Italy	130,8	130,7	130,4	130,3	130,3	130,1	129,6
Netherlands	:	125,7	125,7	125,7	126,0	125,1	125,2
Finland	121,5	120,3	119,5	120,3	120,7	120,3	119,1
Sweden	123,2	123,2	123,2	123,0	122,7	123,1	122,9

time	2003m02	2003m01	2002m12	2002m11	2002m10	2002m09	2002m08
geo							
eu15	118,8	118,6	118,1	117,8	117,5	117,4	117,4
Germany	108,4	108,4	108,2	108,2	108,0	108,2	108,1
Greece	:	:	:	:	:	:	:
France	110,8	110,6	110,2	109,9	109,2	108,7	109,7
Italy	129,2	129,1	128,9	128,0	127,4	127,3	127,0
Netherlands	125,4	123,5	122,2	121,7	121,9	121,3	121,3
Finland	119,2	118,1	117,8	119,4	119,4	117,7	117,5

Sweden	122,7	122,2	120,7	120,4	120,4	120,4	119,3
time	2002m07	2002m06	2002m05	2002m04	2002m03	2002m02	2002m01
geo							
eu15	117,2	116,8	116,8	116,7	116,1	115,7	115,4
Germany	108,0	108,1	108,1	108,1	108,0	107,9	107,8
Greece	:	:	:	:	:	:	:
France	109,6	108,8	109,0	108,0	107,8	107,3	106,9
Italy	126,8	125,8	125,7	126,9	124,7	123,8	122,9
Netherlands	120,6	120,8	120,4	122,3	121,7	121,8	121,8
Finland	116,4	116,1	116,4	116,1	115,2	115,2	114,9
Sweden	119,0	119,8	119,7	119,3	119,4	118,5	118,4

time	2001m12	2001m11	2001m10	2001m09	2001m08	2001m07	2001m06
geo							
eu15	114,5	114,6	114,6	114,3	114,2	114,2	113,9
Germany	107,9	107,8	107,8	107,6	107,5	107,5	107,3
Greece	:	:	:	:	:	:	:
France	106,0	106,5	107,1	106,7	107,1	107,4	107,7
Italy	121,2	122,0	121,8	121,6	121,3	121,2	121,1
Netherlands	117,7	117,6	117,2	117,1	115,7	115,6	114,0
Finland	113,1	112,9	112,9	111,6	111,4	111,5	110,4
Sweden	116,9	117,1	116,7	116,4	115,4	115,5	115,5

time	2001m05	2001m04	2001m03	2001m02	2001m01	2000m12	2000m11
geo							
eu15	113,7	113,5	113,1	113,0	112,9	112,9	112,8
Germany	107,3	107,2	107,0	106,9	106,8	106,5	106,4
Greece	:	:	:	88,1	88,0	87,7	87,5
France	107,7	107,6	107,5	107,8	108,1	108,0	107,4
Italy	121,0	120,9	120,7	120,5	120,0	123,7	123,7
Netherlands	111,0	110,8	110,6	110,5	110,5	107,3	107,2
Finland	110,3	110,2	110,6	110,4	110,2	109,8	109,9
Sweden	115,4	114,9	113,3	112,2	111,9	111,0	110,7

time	2000m10	2000m09	2000m08	2000m07	2000m06	2000m05	2000m04
geo							
eu15	112,8	112,4	112,4	112,4	112,1	112,0	111,8
Germany	106,4	106,2	106,2	106,2	106,1	106,0	105,9
Greece	87,3	87,3	86,9	86,7	86,6	86,4	86,2
France	107,7	106,9	107,5	107,7	107,5	107,5	107,3
Italy	123,6	123,4	123,2	123,1	122,5	122,4	122,1
Netherlands	107,1	107,1	107,1	107,1	106,7	106,5	106,5
Finland	110,0	109,0	108,9	108,8	107,8	107,8	107,8
Sweden	110,7	110,5	110,2	110,0	109,6	109,6	109,0

time	2000m03	2000m02	2000m01	1999m12	1999m11	1999m10	1999m09
geo							
eu15	111,4	111,3	111,1	110,9	110,8	110,4	110,5
Germany	105,7	105,7	105,6	105,6	105,5	105,5	105,5
Greece	86,0	85,8	85,7	85,5	85,5	85,4	85,4
France	107,0	107,0	107,0	107,1	106,9	106,6	106,8
Italy	121,2	120,9	120,3	120,2	119,8	119,6	119,6
Netherlands	106,3	106,3	106,3	104,3	104,5	104,4	104,4
Finland	107,5	107,4	107,5	105,7	105,7	105,4	105,6
Sweden	108,6	108,2	108,1	106,3	106,3	106,2	106,2

time	1999m08	1999m07	1999m06	1999m05	1999m04	1999m03	1999m02
geo							
eu15	110,3	110,2	109,8	109,9	109,5	109,4	109,3
Germany	105,4	105,4	105,2	105,2	105,0	105,0	105,0
Greece	85,4	85,4	85,2	85,2	85,1	85,1	85,0
France	106,4	106,2	106,1	106,1	105,9	105,9	105,7
Italy	119,6	119,6	118,9	118,9	118,4	118,4	118,4
Netherlands	104,3	103,7	103,8	103,8	103,5	103,4	103,0
Finland	105,6	106,2	106,4	106,3	105,7	105,2	105,2
Sweden	106,1	106,3	106,2	105,2	105,2	104,3	104,3

time	1999m01	1998m12	1998m11	1998m10	1998m09	1998m08
geo						
eu15	109,2	108,5	108,4	108,4	108,2	108,1
Germany	105,0	104,8	104,8	104,8	104,7	104,6
Greece	85,0	83,1	83,1	83,1	83,1	83,0
France	105,6	105,0	104,9	104,7	104,4	104,2
Italy	118,3	116,9	116,9	116,9	116,7	116,7
Netherlands	102,8	102,6	102,6	102,4	102,5	102,4
Finland	105,0	104,0	104,0	104,1	103,9	103,9
Sweden	103,9	103,8	103,0	103,3	103,3	103,3

## Transport

time	2003m09	2003m08	2003m07	2003m06	2003m05	2003m04	2003m03
geo							
eu15	115,9	116,3	115,6	114,8	114,8	115,6	116,1
Germany	116,0	116,6	115,9	115,5	114,9	116,0	116,8
Greece	:	120,2	119,4	118,3	117,9	119,4	119,7
France	111,1	111,1	110,8	109,6	109,9	110,7	111,6
Italy	117,0	117,0	115,9	115,4	115,7	115,8	116,2
Netherlands	:	119,8	119,3	118,6	118,2	119,1	120,0
Finland	112,4	112,9	112,4	112,4	112,5	113,3	114,0

Sweden	111,0	112,4	111,9	111,1	110,5	111,0	113,3
time	2003m02	2003m01	2002m12	2002m11	2002m10	2002m09	2002m08
geo							
eu15	115,5	114,6	113,5	113,0	113,7	113,5	113,8
Germany	116,7	115,7	113,6	113,3	114,6	114,3	114,0
Greece	120,0	119,3	117,7	116,1	116,7	116,4	116,1
France	111,2	110,1	109,1	109,0	109,4	109,0	109,2
Italy	115,4	114,7	114,0	114,3	113,9	113,8	114,4
Netherlands	120,1	119,0	116,4	115,6	116,9	117,4	116,9
Finland	114,3	113,2	112,4	113,3	113,6	113,7	113,2
Sweden	113,0	111,2	109,6	109,1	110,8	111,0	110,1

time	2002m07	2002m06	2002m05	2002m04	2002m03	2002m02	2002m01
geo							
eu15	113,4	112,9	113,1	112,9	111,5	110,7	110,1
Germany	113,8	113,7	113,6	114,2	112,9	111,7	111,1
Greece	115,7	115,7	117,2	116,5	114,2	113,0	113,3
France	108,7	107,7	108,3	108,0	106,9	106,5	106,2
Italy	113,7	113,5	113,5	112,8	111,9	111,7	110,4
Netherlands	116,4	115,9	116,4	116,7	115,0	113,8	113,6
Finland	113,2	113,0	113,3	113,5	111,0	110,0	109,8
Sweden	110,0	109,8	110,5	110,2	108,7	106,8	106,3

time	2001m12	2001m11	2001m10	2001m09	2001m08	2001m07	2001m06
geo							
eu15	109,7	109,6	110,5	111,4	111,6	111,9	112,5
Germany	109,8	109,6	110,4	111,6	111,4	111,7	112,7
Greece	112,8	112,2	113,5	115,9	115,0	115,3	117,6
France	106,3	106,3	106,9	107,2	107,4	108,1	108,1
Italy	110,7	110,6	110,9	111,2	111,2	111,5	112,0
Netherlands	112,2	112,3	113,0	114,3	113,9	113,8	115,0
Finland	109,6	110,5	111,5	112,7	111,7	112,4	114,6
Sweden	105,5	105,9	106,4	109,1	107,8	107,9	109,7

time	2001m05	2001m04	2001m03	2001m02	2001m01	2000m12	2000m11
geo							
eu15	112,6	111,4	110,3	110,4	109,6	110,5	111,2
Germany	113,3	112,0	111,0	111,0	109,1	110,1	110,7
Greece	119,7	117,9	114,3	114,4	112,8	113,9	115,7
France	108,3	107,2	106,2	106,4	105,9	107,5	108,0
Italy	111,8	110,6	110,4	110,3	109,9	110,5	111,0
Netherlands	116,4	115,3	113,6	114,0	113,3	110,9	112,6
Finland	115,1	112,5	111,0	111,0	109,8	110,1	111,2
Sweden	111,3	109,2	107,4	108,2	107,4	106,3	108,4

time	2000m10	2000m09	2000m08	2000m07	2000m06	2000m05	2000m04
geo							
eu15	111,0	111,4	110,5	111,0	110,8	109,2	108,9
Germany	110,4	111,2	110,0	110,5	110,3	107,9	108,1
Greece	116,1	115,8	114,3	115,3	115,8	113,4	112,3
France	107,7	108,3	107,0	107,7	107,0	105,9	105,7
Italy	110,5	110,3	110,1	110,2	109,8	108,7	108,0
Netherlands	113,2	113,1	111,9	112,0	112,4	110,7	108,9
Finland	112,0	112,9	111,3	112,5	113,0	110,3	109,5
Sweden	108,8	109,2	108,0	108,6	109,2	108,2	105,9

time	2000m03	2000m02	2000m01	1999m12	1999m11	1999m10	1999m09
geo							
eu15	109,0	108,0	107,4	107,0	106,3	106,4	106,0
Germany	109,0	107,7	107,7	106,8	105,9	106,2	105,7
Greece	111,2	108,6	107,7	108,1	106,2	105,7	106,1
France	106,0	105,4	105,0	104,6	103,3	103,3	103,0
Italy	108,4	107,5	106,9	107,0	106,6	106,6	106,1
Netherlands	109,7	108,6	107,0	106,5	106,2	105,5	105,5
Finland	110,3	108,1	107,3	107,2	106,6	106,1	106,1
Sweden	107,7	106,0	104,8	104,5	103,3	103,8	103,9

time	1999m08	1999m07	1999m06	1999m05	1999m04	1999m03	1999m02
geo							
eu15	106,0	105,4	104,7	104,4	104,4	103,0	102,5
Germany	105,5	104,7	103,9	102,8	103,5	101,3	101,1
Greece	108,7	108,3	107,4	107,3	107,4	104,5	104,0
France	102,8	102,5	101,7	101,6	101,4	100,7	100,6
Italy	105,8	105,4	104,8	104,8	104,1	103,4	103,3
Netherlands	105,5	104,7	103,6	103,5	103,3	102,3	101,8
Finland	106,1	105,0	104,5	104,4	104,1	101,3	101,2
Sweden	103,9	103,5	102,8	102,6	102,1	101,3	100,5

time	1999m01	1998m12	1998m11	1998m10	1998m09	1998m08
geo						
eu15	102,4	102,2	102,6	102,8	103,0	103,2
Germany	101,1	101,2	101,6	101,7	101,7	102,0
Greece	104,5	104,7	106,4	107,7	109,4	110,3
France	100,4	100,4	100,5	100,6	100,9	101,2
Italy	102,6	102,6	102,8	102,7	103,1	103,2
Netherlands	101,8	100,6	101,2	101,4	101,3	101,4
Finland	101,0	101,5	101,8	101,8	102,2	102,7
Sweden	100,8	100,6	101,2	101,4	101,0	101,3

## Communications

	time	2003m09	2003m08	2003m07	2003m06	2003m05	2003m04	2003m03
geo								
eu15		83,5	83,3	83,3	83,1	83,3	83,3	83,2
Germany		75,7	74,7	74,8	74,8	74,8	74,8	74,6
Greece		:	76,8	76,8	76,8	76,8	76,8	76,8
France		85,2	85,7	85,3	84,6	84,1	83,9	84,1
Italy		91,0	91,2	91,4	91,4	92,0	92,0	92,2
Netherlands		:	92,3	92,1	91,5	91,3	91,9	90,9
Finland		98,1	98,3	98,6	98,2	99,7	99,3	100,3
Sweden		94,5	94,2	94,1	94,6	95,5	95,5	95,6

	time	2003m02	2003m01	2002m12	2002m11	2002m10	2002m09	2002m08
geo								
eu15		83,2	83,2	83,2	83,4	83,7	83,6	83,6
Germany		74,6	74,3	74,5	74,4	74,6	74,6	74,6
Greece		78,6	78,9	77,8	80,0	80,0	80,0	80,0
France		84,0	84,0	85,0	85,2	85,2	85,3	85,4
Italy		92,2	92,3	92,3	92,3	92,4	92,5	92,5
Netherlands		90,2	90,1	89,3	90,8	90,7	88,8	89,0
Finland		100,4	101,2	98,7	98,8	101,8	103,1	103,5
Sweden		95,8	96,4	95,6	95,6	95,7	95,8	95,9

	time	2002m07	2002m06	2002m05	2002m04	2002m03	2002m02	2002m01
geo								
eu15		83,6	83,5	83,5	83,6	83,6	83,8	83,6
Germany		75,0	74,8	74,8	74,3	74,3	74,4	73,1
Greece		80,0	81,5	81,6	81,7	81,7	81,7	83,4
France		84,9	84,5	84,6	85,6	85,5	85,5	85,6
Italy		92,5	92,5	92,5	92,5	92,5	92,7	93,0
Netherlands		87,9	87,9	87,8	87,9	87,6	87,9	87,9
Finland		103,7	102,7	102,9	102,9	103,1	103,2	103,3
Sweden		96,0	96,4	97,2	97,3	97,4	97,4	97,4

	time	2001m12	2001m11	2001m10	2001m09	2001m08	2001m07	2001m06
geo								
eu15		83,5	83,6	83,8	83,7	83,8	83,5	83,3
Germany		73,1	73,1	73,2	73,0	73,0	73,0	72,8
Greece		83,8	83,8	83,8	83,8	83,8	84,9	85,6
France		85,4	85,3	85,4	85,4	85,3	85,3	85,3
Italy		93,3	93,4	93,4	93,4	93,8	94,0	93,9
Netherlands		85,9	87,4	87,7	89,9	89,8	89,8	89,1
Finland		103,5	103,6	103,6	103,6	101,7	99,7	99,2



Sweden	97,0	97,0	97,1	97,0	97,2	97,2	97,0
time	2001m05	2001m04	2001m03	2001m02	2001m01	2000m12	2000m11
geo							
eu15	83,4	83,5	83,5	84,0	84,4	84,9	85,2
Germany	72,9	73,0	73,0	74,2	74,3	74,2	74,2
Greece	85,2	85,2	85,2	84,9	84,9	84,9	84,9
France	85,3	85,5	85,6	85,9	86,7	86,9	87,8
Italy	93,9	94,1	94,2	94,3	94,5	95,0	95,1
Netherlands	89,1	89,4	88,1	88,2	88,2	87,7	89,1
Finland	101,4	100,7	100,4	100,5	100,7	100,9	101,2
Sweden	97,0	96,6	96,6	92,9	93,1	92,9	93,2

time	2000m10	2000m09	2000m08	2000m07	2000m06	2000m05	2000m04
geo							
eu15	85,2	85,7	86,1	86,7	87,0	87,7	88,5
Germany	74,2	74,5	74,7	76,0	76,5	78,2	80,1
Greece	84,9	84,9	84,9	84,6	84,6	85,9	86,8
France	87,7	88,1	88,7	88,8	88,8	88,8	89,1
Italy	95,0	95,0	96,3	96,0	96,0	96,0	96,0
Netherlands	89,1	90,6	90,6	90,3	91,3	91,3	91,3
Finland	101,3	101,4	98,7	95,6	94,0	97,6	99,0
Sweden	92,6	91,7	91,5	94,4	95,5	95,4	95,7

time	2000m03	2000m02	2000m01	1999m12	1999m11	1999m10	1999m09
geo							
eu15	89,7	90,7	92,3	92,4	92,5	93,0	93,3
Germany	81,0	83,1	86,5	86,5	86,5	86,6	86,7
Greece	87,8	87,8	91,7	93,7	96,5	97,8	97,8
France	93,5	93,5	93,5	93,6	93,6	94,0	94,1
Italy	96,3	97,2	97,2	97,3	97,7	99,1	99,1
Netherlands	92,1	92,1	92,1	92,0	93,7	94,7	94,5
Finland	98,5	98,6	98,4	98,1	98,3	98,5	98,5
Sweden	96,1	99,4	100,4	100,6	100,8	101,6	102,3

time	1999m08	1999m07	1999m06	1999m05	1999m04	1999m03	1999m02
geo							
eu15	93,5	93,6	93,9	94,4	94,8	95,3	94,9
Germany	86,7	86,8	86,8	87,7	87,9	89,2	88,2
Greece	101,4	101,4	101,4	101,4	101,4	101,4	104,0
France	94,1	94,1	94,2	94,6	94,7	94,7	93,9
Italy	99,1	99,6	99,6	100,0	100,7	100,8	100,2
Netherlands	95,1	94,5	97,8	98,5	98,5	98,6	98,5
Finland	97,1	95,4	96,5	98,9	98,8	99,1	99,3
Sweden	102,6	102,8	102,9	103,8	104,2	106,1	106,1

time	1999m01	1998m12	1998m11	1998m10	1998m09	1998m08
geo						
eu15	95,0	97,3	97,5	97,8	97,9	98,1
Germany	88,7	95,4	95,5	95,5	96,2	96,8
Greece	104,0	106,4	106,4	106,4	106,4	106,3
France	93,9	94,0	94,0	94,0	94,0	94,0
Italy	100,3	101,5	101,5	101,5	101,5	101,5
Netherlands	98,5	101,1	102,7	102,8	102,0	102,0
Finland	99,6	98,6	99,3	99,7	99,1	94,4
Sweden	105,1	104,5	104,0	105,2	103,2	103,6

## Recreation and culture

time	2003m09	2003m08	2003m07	2003m06	2003m05	2003m04	2003m03
geo							
eu15	105,5	105,8	105,6	105,3	105,2	105,6	105,7
Germany	102,2	103,5	102,9	101,5	100,8	101,6	102,1
Greece	:	124,5	124,3	124,3	124,2	124,1	123,6
France	99,9	99,5	99,8	100,1	100,0	99,9	100,2
Italy	110,4	110,2	110,2	110,1	109,9	109,6	109,8
Netherlands	:	108,7	109,3	109,3	110,3	110,2	110,2
Finland	111,9	111,5	111,6	111,9	112,1	112,2	111,6
Sweden	101,9	101,2	102,6	102,3	101,2	101,4	102,0

time	2003m02	2003m01	2002m12	2002m11	2002m10	2002m09	2002m08
geo							
eu15	106,0	105,2	107,1	105,2	105,4	105,7	106,0
Germany	102,8	101,2	107,2	100,7	101,4	102,5	103,6
Greece	123,4	123,3	123,3	123,1	123,0	122,6	122,0
France	100,6	100,0	100,3	100,2	100,2	100,4	100,4
Italy	109,7	109,7	109,4	109,3	109,0	108,9	108,8
Netherlands	111,1	110,6	109,4	109,3	109,2	108,9	108,2
Finland	111,6	110,7	110,9	110,4	111,1	110,6	110,5
Sweden	101,9	102,0	103,0	102,1	102,2	101,4	101,3

time	2002m07	2002m06	2002m05	2002m04	2002m03	2002m02	2002m01
geo							
eu15	106,1	105,4	105,2	104,8	105,3	105,3	104,6
Germany	104,5	102,1	102,0	100,8	102,9	103,4	101,7
Greece	122,0	121,4	121,0	120,6	120,4	120,0	119,7
France	100,5	100,6	100,6	100,6	100,2	100,5	100,2
Italy	108,7	108,3	108,1	107,8	107,8	107,5	107,5
Netherlands	108,6	108,8	109,2	109,6	108,8	108,4	108,0
Finland	110,8	110,6	110,7	110,9	110,4	110,8	109,8

Sweden	102,9	102,5	101,6	100,9	101,3	101,5	101,0
time	2001m12	2001m11	2001m10	2001m09	2001m08	2001m07	2001m06
geo							
eu15	106,2	104,0	104,0	104,4	104,6	104,6	103,9
Germany	107,8	101,0	101,1	102,1	103,1	103,7	101,6
Greece	119,8	119,7	119,7	118,9	117,9	117,8	117,9
France	99,8	99,5	100,0	100,2	100,2	100,0	100,1
Italy	107,1	106,7	106,3	106,1	105,9	105,6	105,3
Netherlands	106,5	106,2	105,9	105,6	105,0	104,8	104,8
Finland	109,7	109,4	110,3	109,6	108,5	108,8	109,0
Sweden	102,4	101,5	101,5	101,4	101,1	102,1	102,0

time	2001m05	2001m04	2001m03	2001m02	2001m01	2000m12	2000m11
geo							
eu15	103,6	103,6	103,3	103,6	103,0	104,5	102,2
Germany	101,0	101,5	101,6	102,5	101,0	106,9	100,3
Greece	117,8	117,8	117,7	117,7	116,8	115,9	115,2
France	100,1	100,1	99,6	99,9	99,6	99,6	99,4
Italy	105,2	105,0	104,9	104,9	105,0	104,6	104,6
Netherlands	105,1	105,2	103,6	103,4	103,1	101,6	101,2
Finland	108,6	109,1	107,9	107,3	106,1	106,6	105,8
Sweden	101,0	100,8	100,6	100,7	101,3	100,8	100,3

time	2000m10	2000m09	2000m08	2000m07	2000m06	2000m05	2000m04
geo							
eu15	102,4	102,7	103,1	103,1	102,3	101,9	102,3
Germany	100,7	101,9	102,8	103,6	101,7	100,6	101,8
Greece	114,9	114,9	113,2	113,0	114,4	114,2	114,2
France	99,5	99,5	99,6	99,7	99,6	99,6	99,5
Italy	104,2	104,0	104,0	103,8	103,8	103,5	103,5
Netherlands	100,7	100,2	100,1	100,0	100,2	100,3	100,4
Finland	106,5	105,3	104,8	105,4	104,8	104,4	104,7
Sweden	99,8	99,1	98,9	98,5	99,2	100,1	99,9

time	2000m03	2000m02	2000m01	1999m12	1999m11	1999m10	1999m09
geo							
eu15	102,1	102,5	102,1	103,0	102,5	102,2	102,6
Germany	101,7	102,7	102,0	103,7	103,0	101,6	103,1
Greece	114,3	113,5	114,1	114,5	114,2	114,3	114,3
France	99,5	100,0	99,6	99,8	99,3	99,7	99,6
Italy	103,4	103,5	103,4	103,4	103,4	103,3	103,3
Netherlands	99,3	99,8	99,7	103,5	103,2	103,1	102,7
Finland	103,7	103,4	102,5	103,7	102,2	102,9	102,5
Sweden	100,1	100,2	99,4	99,3	98,6	99,0	98,9

	time	1999m08	1999m07	1999m06	1999m05	1999m04	1999m03	1999m02
geo								
eu15		103,1	103,3	102,3	102,1	102,0	102,6	102,8
Germany		104,4	105,1	102,2	101,7	101,3	103,7	104,1
Greece		112,7	112,8	114,3	114,1	113,9	114,0	112,6
France		99,8	100,1	100,1	100,2	100,5	100,1	100,5
Italy		103,4	103,3	103,2	103,2	103,2	103,3	103,1
Netherlands		103,0	102,9	103,1	103,1	103,1	102,7	102,9
Finland		101,6	102,3	102,3	101,8	102,5	102,6	102,5
Sweden		98,5	99,3	99,0	99,2	99,1	98,6	98,8

	time	1999m01	1998m12	1998m11	1998m10	1998m09	1998m08
geo							
eu15		102,1	102,3	102,0	102,2	102,4	102,8
Germany		102,4	102,8	102,4	102,3	103,4	104,4
Greece		110,9	114,1	113,9	113,8	113,4	112,3
France		100,0	100,5	100,1	100,5	100,2	100,1
Italy		103,2	103,0	102,9	102,9	102,6	102,7
Netherlands		102,8	102,2	101,8	101,7	101,4	101,8
Finland		101,8	102,6	101,9	103,0	102,3	101,6
Sweden		98,6	98,3	97,7	98,5	98,2	97,4

## Education

	time	2003m09	2003m08	2003m07	2003m06	2003m05	2003m04	2003m03
geo								
eu15		131,8	129,8	129,8	129,7	129,7	129,7	129,5
Germany		123,4	123,2	123,3	122,8	122,8	122,7	122,4
Greece		:	137,5	137,4	137,4	137,4	137,4	137,4
France		115,8	113,2	113,2	113,1	113,1	113,1	113,1
Italy		119,0	117,6	117,6	117,5	117,5	117,5	117,4
Netherlands		:	123,3	123,3	123,4	123,4	123,4	123,1
Finland		135,0	127,8	127,8	127,8	127,8	127,8	127,8
Sweden		85,7	84,9	86,6	86,4	86,3	86,3	82,2

	time	2003m02	2003m01	2002m12	2002m11	2002m10	2002m09	2002m08
geo								
eu15		129,4	129,2	128,9	128,9	128,7	125,7	123,5
Germany		121,5	121,4	121,1	121,1	121,1	121,0	120,6
Greece		137,4	137,4	137,4	137,4	137,3	137,0	131,5
France		113,0	112,9	112,8	112,8	112,8	112,7	110,0
Italy		117,5	117,3	117,3	117,3	117,2	115,7	113,9
Netherlands		123,1	123,1	123,1	123,1	123,1	123,2	118,2
Finland		127,8	127,8	127,8	127,8	127,8	121,9	121,1

Sweden	82,1	80,4	88,9	88,7	88,5	88,7	88,0
time	2002m07	2002m06	2002m05	2002m04	2002m03	2002m02	2002m01
geo							
eu15	123,4	123,4	123,3	123,3	123,3	123,2	123,2
Germany	120,1	120,0	119,9	119,9	119,9	119,6	119,2
Greece	131,5	131,5	131,5	131,5	131,5	131,5	131,5
France	110,0	110,0	110,0	110,0	110,1	110,0	110,0
Italy	113,9	113,9	113,9	113,9	113,9	113,9	113,8
Netherlands	118,2	117,9	117,9	117,9	117,9	117,9	117,9
Finland	121,1	121,1	121,1	121,1	121,1	121,1	121,1
Sweden	87,8	87,8	87,5	87,5	87,5	87,5	87,1

time	2001m12	2001m11	2001m10	2001m09	2001m08	2001m07	2001m06
geo							
eu15	122,8	122,8	122,7	121,0	118,8	118,8	118,7
Germany	117,6	117,6	117,5	117,6	117,2	117,1	117,0
Greece	131,5	131,5	131,4	130,6	126,9	126,9	126,9
France	109,8	109,8	109,8	109,8	107,2	107,2	107,2
Italy	113,7	113,6	113,3	111,9	110,9	110,9	110,9
Netherlands	116,7	116,7	116,7	116,6	114,0	114,0	113,6
Finland	121,1	121,1	121,1	121,1	118,0	118,0	118,0
Sweden	116,8	116,4	116,3	122,0	121,7	121,5	121,2

time	2001m05	2001m04	2001m03	2001m02	2001m01	2000m12	2000m11
geo							
eu15	118,7	118,6	118,6	118,6	118,6	118,4	118,4
Germany	117,0	116,9	117,0	117,0	116,9	116,5	116,5
Greece	126,9	126,9	126,9	126,9	126,9	126,9	126,9
France	107,2	107,2	107,2	107,2	107,2	107,0	107,0
Italy	110,8	110,8	110,8	110,8	110,6	110,6	110,6
Netherlands	113,6	113,6	113,6	113,6	113,6	113,4	113,4
Finland	118,0	118,0	118,0	118,0	118,0	118,0	118,0
Sweden	121,1	120,9	120,9	120,8	119,6	118,5	118,2

time	2000m10	2000m09	2000m08	2000m07	2000m06	2000m05	2000m04
geo							
eu15	118,2	117,2	114,7	114,5	114,5	114,5	114,5
Germany	116,3	116,3	115,8	115,2	115,2	115,2	115,5
Greece	126,9	126,5	122,2	122,2	122,2	122,2	122,2
France	107,0	106,7	104,9	104,9	104,9	104,9	104,9
Italy	110,4	108,2	107,4	107,4	107,4	107,4	107,2
Netherlands	113,4	113,6	110,5	110,5	110,5	110,5	110,4
Finland	118,0	118,0	113,9	113,9	113,9	113,9	113,9
Sweden	118,0	118,4	117,7	117,3	117,3	117,2	117,5

	time	2000m03	2000m02	2000m01	1999m12	1999m11	1999m10	1999m09
geo								
eu15		114,5	114,4	114,2	114,0	114,0	113,2	113,1
Germany		115,5	115,4	115,1	114,9	114,9	113,7	113,7
Greece		122,2	122,2	122,2	122,3	122,2	121,9	121,2
France		105,0	104,9	104,9	104,8	104,9	104,8	104,9
Italy		107,2	107,2	107,0	107,0	107,0	105,3	105,3
Netherlands		110,3	110,3	110,3	110,3	110,3	110,3	110,0
Finland		113,0	113,0	112,9	112,9	112,9	112,9	112,9
Sweden		117,5	117,4	114,0	113,8	113,8	113,8	113,8

	time	1999m08	1999m07	1999m06	1999m05	1999m04	1999m03	1999m02
geo								
eu15		110,6	110,5	110,5	110,4	110,4	110,4	110,4
Germany		113,0	112,9	112,7	112,7	112,7	112,7	112,7
Greece		118,0	118,0	118,0	118,0	118,0	118,0	118,0
France		103,4	103,4	103,4	103,4	103,4	103,4	103,4
Italy		105,3	105,2	105,2	105,2	105,3	105,3	105,3
Netherlands		108,2	108,1	107,0	107,0	107,0	107,0	107,0
Finland		112,4	112,4	112,4	112,4	112,4	112,4	112,4
Sweden		109,7	109,7	109,7	109,7	109,7	109,7	109,7

	time	1999m01	1998m12	1998m11	1998m10	1998m09	1998m08
geo							
eu15		109,9	109,9	109,9	109,5	109,3	106,6
Germany		110,2	109,4	109,4	109,4	108,7	108,1
Greece		118,0	118,0	118,0	117,8	117,6	112,9
France		103,4	103,3	103,3	103,3	103,4	101,7
Italy		105,0	105,0	105,0	103,8	103,8	103,8
Netherlands		107,0	107,1	107,1	107,1	106,9	105,4
Finland		112,4	112,4	112,4	112,4	112,4	109,5
Sweden		109,2	109,2	109,2	109,2	109,2	101,0

## Restaurants and hotels

	time	2003m09	2003m08	2003m07	2003m06	2003m05	2003m04	2003m03
geo								
eu15		124,6	125,4	124,8	123,9	123,3	123,1	122,5
Germany		111,3	114,5	114,5	111,9	110,7	111,0	110,8
Greece		:	151,8	151,3	151,0	150,5	150,7	148,1
France		118,3	118,4	118,0	117,3	116,8	116,6	116,3
Italy		127,6	128,1	127,3	126,6	125,9	125,3	124,9
Netherlands		:	130,6	130,5	129,2	128,9	128,8	127,5
Finland		121,0	120,7	120,5	120,3	120,2	119,9	119,7
Sweden		118,6	118,1	116,7	117,4	117,2	117,2	116,9

time	2003m02	2003m01	2002m12	2002m11	2002m10	2002m09	2002m08
geo							
eu15	122,2	121,8	122,1	120,9	121,0	120,8	121,6
Germany	111,2	110,8	115,4	110,4	110,5	110,3	113,5
Greece	147,6	148,9	148,5	145,8	146,1	146,1	144,8
France	116,0	115,6	115,1	114,8	114,9	115,1	116,4
Italy	124,2	124,0	123,3	123,1	123,1	122,7	122,4
Netherlands	127,5	126,6	126,2	125,0	127,4	127,3	129,8
Finland	119,8	119,3	118,5	118,3	118,2	118,0	117,6
Sweden	116,5	116,2	115,6	115,8	115,8	115,6	114,9

time	2002m07	2002m06	2002m05	2002m04	2002m03	2002m02	2002m01
geo							
eu15	121,2	120,1	119,6	119,1	118,5	118,1	117,6
Germany	113,9	111,2	110,4	109,1	109,8	110,2	109,5
Greece	144,7	144,4	145,9	143,4	141,7	139,4	140,0
France	115,6	114,3	113,9	113,5	113,0	113,0	112,6
Italy	122,1	121,5	121,0	120,6	120,0	119,5	119,1
Netherlands	130,0	127,4	127,0	126,5	124,2	123,8	121,8
Finland	117,4	117,4	116,4	116,4	116,0	115,6	115,7
Sweden	113,7	114,7	114,5	114,3	113,8	112,9	112,6

time	2001m12	2001m11	2001m10	2001m09	2001m08	2001m07	2001m06
geo							
eu15	117,1	116,0	116,1	115,8	116,4	116,2	115,1
Germany	111,9	106,8	106,9	106,6	109,7	109,9	107,1
Greece	139,5	137,1	136,2	135,9	135,4	135,3	134,9
France	111,3	110,8	110,7	110,8	111,6	111,1	110,0
Italy	117,5	117,4	117,4	117,1	117,4	117,2	116,5
Netherlands	119,2	118,1	120,3	119,4	121,0	121,9	119,0
Finland	113,8	114,0	114,1	114,2	111,7	111,5	113,8
Sweden	112,2	112,5	111,3	111,6	110,2	109,2	109,5

time	2001m05	2001m04	2001m03	2001m02	2001m01	2000m12	2000m11
geo							
eu15	114,6	114,3	113,6	113,4	112,9	113,1	111,8
Germany	105,8	105,7	105,6	106,0	105,2	109,3	104,1
Greece	134,7	135,8	131,6	131,4	134,9	134,3	128,8
France	109,5	109,2	108,7	108,7	108,2	107,7	107,4
Italy	116,1	115,7	115,0	114,5	113,8	113,0	112,8
Netherlands	118,5	117,8	115,2	114,7	113,6	112,1	110,9
Finland	113,9	114,0	113,6	113,2	112,8	111,8	111,7
Sweden	109,3	109,1	108,6	108,4	108,1	107,9	107,6

time	2000m10	2000m09	2000m08	2000m07	2000m06	2000m05	2000m04
geo							
eu15	111,9	111,7	112,4	112,1	111,1	110,6	110,4
Germany	104,6	104,3	107,6	107,8	104,8	103,7	104,4
Greece	129,1	128,8	128,5	128,0	127,6	130,2	128,4
France	107,5	107,8	108,7	108,4	107,4	107,0	106,9
Italy	112,8	112,6	112,5	112,4	112,0	111,5	111,3
Netherlands	112,8	112,3	114,3	114,8	111,6	111,4	110,9
Finland	111,7	111,3	108,5	108,7	111,4	111,5	111,3
Sweden	107,0	107,1	106,5	106,0	106,9	106,4	106,3

time	2000m03	2000m02	2000m01	1999m12	1999m11	1999m10	1999m09
geo							
eu15	109,8	109,8	109,3	108,9	108,5	108,6	108,5
Germany	104,1	104,7	103,6	103,5	102,9	103,9	104,0
Greece	125,0	124,7	128,8	128,3	123,5	123,7	123,7
France	106,5	106,6	106,0	105,8	105,5	105,5	105,7
Italy	111,0	110,6	110,0	109,3	109,4	109,3	108,9
Netherlands	109,4	108,8	108,0	108,1	107,6	108,6	108,0
Finland	110,1	109,9	109,7	108,5	108,2	108,1	107,8
Sweden	105,9	105,9	105,7	105,4	105,4	105,9	105,8

time	1999m08	1999m07	1999m06	1999m05	1999m04	1999m03	1999m02
geo							
eu15	109,0	108,7	108,0	107,8	107,7	107,0	106,9
Germany	106,5	106,0	104,2	103,7	103,1	102,5	102,7
Greece	123,3	123,1	121,9	121,8	125,6	119,3	118,2
France	106,4	106,2	105,4	105,0	105,1	104,7	104,6
Italy	108,8	108,6	108,3	108,1	107,8	107,6	107,4
Netherlands	109,4	109,4	107,7	107,5	107,1	105,9	106,1
Finland	107,3	107,2	107,4	107,5	107,3	106,4	106,4
Sweden	104,8	103,3	105,3	105,5	104,9	104,4	104,7

time	1999m01	1998m12	1998m11	1998m10	1998m09	1998m08
geo						
eu15	106,5	106,2	105,8	106,0	105,9	106,2
Germany	102,1	102,1	101,8	102,7	102,8	104,9
Greece	122,4	121,2	116,3	116,6	116,2	116,0
France	104,2	103,9	103,8	103,9	104,0	104,5
Italy	106,8	106,5	106,4	106,3	106,3	106,0
Netherlands	105,3	104,8	103,9	105,3	104,1	105,2
Finland	106,2	105,9	105,8	105,6	105,4	104,6
Sweden	104,0	103,4	103,5	103,4	103,1	102,2



## Miscellaneous goods and services

	time 2003m09	2003m08	2003m07	2003m06	2003m05	2003m04	2003m03
geo							
eu15	117,3	116,9	116,7	116,7	116,5	116,4	116,1
Germany	113,3	112,8	112,7	112,7	112,7	112,4	112,3
Greece	:	130,1	130,1	131,2	131,0	131,1	130,4
France	111,7	111,4	111,2	111,2	110,9	110,9	110,5
Italy	121,8	121,1	121,4	121,6	121,5	121,2	120,9
Netherlands	:	123,1	123,0	122,8	122,8	122,7	122,7
Finland	117,6	117,4	117,3	117,5	117,7	117,2	117,4
Sweden	114,9	114,8	114,9	114,4	114,4	114,2	113,7

	time 2003m02	2003m01	2002m12	2002m11	2002m10	2002m09	2002m08
geo							
eu15	115,8	115,5	115,1	114,9	114,8	114,4	114,1
Germany	112,3	112,2	111,2	111,2	111,2	111,3	111,2
Greece	129,0	129,3	129,8	129,0	129,0	128,6	127,2
France	110,1	109,7	109,6	109,4	109,3	109,2	108,9
Italy	120,3	119,9	119,2	119,1	118,5	118,3	117,4
Netherlands	122,6	122,4	119,0	119,0	118,9	118,8	118,7
Finland	117,4	116,8	115,4	115,3	115,2	115,5	115,3
Sweden	113,6	113,2	113,1	113,0	112,6	112,1	111,9

	time 2002m07	2002m06	2002m05	2002m04	2002m03	2002m02	2002m01
geo							
eu15	113,9	113,8	113,8	113,5	113,1	112,8	112,6
Germany	111,2	110,8	110,8	110,7	110,6	110,5	110,5
Greece	126,9	128,0	127,8	127,7	127,0	126,6	126,2
France	108,6	108,3	108,1	107,8	107,6	107,3	107,2
Italy	117,4	117,2	117,1	116,6	115,9	115,5	115,0
Netherlands	118,8	118,5	118,4	118,1	117,7	117,6	117,4
Finland	114,9	115,0	115,1	114,6	114,6	114,7	114,7
Sweden	111,8	114,0	113,7	113,5	112,8	111,6	111,4

	time 2001m12	2001m11	2001m10	2001m09	2001m08	2001m07	2001m06
geo							
eu15	112,0	111,9	111,7	111,5	111,1	110,9	110,8
Germany	109,5	109,4	109,4	109,4	109,0	108,9	108,7
Greece	126,6	125,2	124,8	124,4	123,5	123,3	123,8
France	106,8	106,7	106,6	106,3	106,0	105,6	105,3
Italy	114,8	114,6	114,2	113,8	113,3	113,4	113,2
Netherlands	114,5	114,4	114,2	114,0	113,8	113,7	112,8
Finland	113,4	113,1	113,1	113,1	112,9	112,7	112,5

Sweden	113,9	113,8	113,4	113,5	113,1	112,7	112,6
time	2001m05	2001m04	2001m03	2001m02	2001m01	2000m12	2000m11
geo							
eu15	110,6	110,4	109,8	109,6	109,2	108,5	108,3
Germany	108,6	108,4	108,3	108,1	107,9	106,7	106,6
Greece	123,8	125,0	123,3	123,1	123,4	123,8	121,0
France	105,1	105,1	104,9	104,5	104,1	103,7	103,7
Italy	113,0	112,6	111,1	110,5	110,5	109,6	109,6
Netherlands	112,7	112,5	112,4	112,3	111,9	109,5	109,3
Finland	112,6	112,3	111,9	111,7	111,1	109,6	109,5
Sweden	112,6	112,2	111,8	111,7	111,1	110,1	109,7

time	2000m10	2000m09	2000m08	2000m07	2000m06	2000m05	2000m04
geo							
eu15	108,2	107,8	107,6	107,4	107,2	107,1	107,0
Germany	106,6	105,9	105,6	105,4	105,2	105,2	105,1
Greece	121,1	120,9	119,6	119,5	119,9	119,6	120,4
France	103,6	103,5	103,2	103,1	103,0	102,9	102,7
Italy	109,3	109,1	109,0	108,9	108,7	108,5	108,3
Netherlands	109,1	108,7	108,5	108,3	108,1	108,1	108,0
Finland	109,4	109,3	109,1	109,0	108,9	108,9	108,6
Sweden	109,5	109,2	109,2	109,0	108,9	108,6	108,6

time	2000m03	2000m02	2000m01	1999m12	1999m11	1999m10	1999m09
geo							
eu15	106,9	106,6	106,5	106,0	106,0	105,8	105,5
Germany	104,6	104,6	104,5	103,8	103,7	103,3	103,0
Greece	118,8	118,0	118,5	120,3	117,7	117,6	117,6
France	102,7	102,3	102,2	101,9	101,8	101,7	101,6
Italy	109,1	108,9	108,2	107,9	107,9	107,5	107,1
Netherlands	107,8	107,8	107,9	106,6	106,7	106,2	105,9
Finland	108,1	107,9	107,7	105,9	105,7	105,9	105,5
Sweden	108,3	108,3	108,2	107,5	107,3	107,0	107,3

time	1999m08	1999m07	1999m06	1999m05	1999m04	1999m03	1999m02
geo							
eu15	105,4	105,3	105,1	105,1	104,8	104,6	104,4
Germany	103,0	103,0	102,9	102,9	102,7	102,6	102,4
Greece	116,7	116,4	117,2	116,9	118,5	116,6	115,8
France	101,5	101,4	101,5	101,6	101,5	101,5	101,2
Italy	106,8	106,6	106,1	106,0	105,4	105,2	105,1
Netherlands	105,8	105,6	105,5	105,3	105,3	105,1	105,0
Finland	105,6	105,0	104,4	104,3	104,3	104,1	104,1
Sweden	107,0	106,8	106,7	106,9	106,6	105,4	105,2

	time	1999m01	1998m12	1998m11	1998m10	1998m09	1998m08
geo							
eu15		104,2	104,0	103,9	103,7	103,6	103,6
Germany		102,1	101,9	101,9	101,8	101,6	101,4
Greece		116,2	118,8	117,0	116,1	116,1	115,1
France		101,1	101,2	101,2	101,1	101,2	101,5
Italy		104,8	104,5	104,5	104,3	104,2	104,3
Netherlands		104,8	103,7	103,5	103,4	103,2	103,0
Finland		103,7	103,0	103,1	102,8	103,0	103,0
Sweden		104,8	104,7	104,6	104,5	104,3	104,0