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OUTLOOK FOR THE PORTUGUESE ECONOMY: 2005-2006

1. INTRODUCTION

The projections for the Portuguese economy presented in this article are an updated version of those prepared by Banco de Portugal within the Eurosystem's June 2005 forecast exercise. The results for the euro area, which were published by the European Central Bank (ECB) in early June,(1) used the information available up to mid-May. The version presented in this article is strongly influenced by the economic indicators that became available since then, showing the disappointing performance of the Portuguese economy during the first few months of 2005, and by the impact of a set of fiscal policy measures included in the Stability and Growth Programme (SGP), intended to correct the Portuguese public finance imbalances. In addition, the current projection also reflects the update of the technical assumptions regarding oil prices and exchange rate developments based on information available in early June.

The current projection foresees a decline in real gross domestic product (GDP) growth from 1.1 per cent in 2004 to 0.5 per cent in 2005, followed by 1.2 per cent growth in 2006. This forecast for 2005 is largely influenced by the decelerating pattern of economic activity recorded in the second half of 2004, which, according to the latest data, seems to

(1) See the *Monthly Bulletin* of the ECB (June 2005).

Table 1

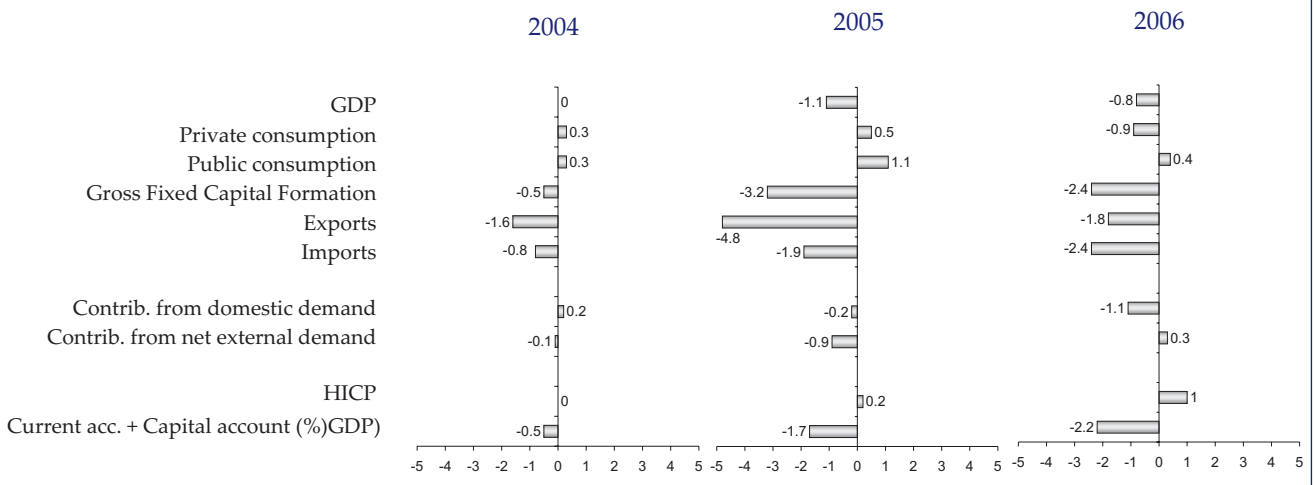
PROJECTIONS OF BANCO DE PORTUGAL

Rate of change in percentage

	2004	current projections		Memo: BE Dec.2004		
		2005	2006	2004	2005	2006
Private consumption	2.5	2.0	1.3	2.2	1.5	2.2
Public consumption	0.9	1.1	0.3	0.6	0.0	-0.1
Gross fixed capital formation	1.3	-1.5	0.9	1.8	1.7	3.3
Domestic demand	2.1	0.9	1.1	1.9	1.2	2.0
Exports	5.2	2.7	6.8	6.8	7.5	8.6
Overall demand	2.8	1.3	2.4	3.0	2.6	3.6
Imports	7.4	3.3	5.1	8.2	5.2	7.5
GDP	1.1	0.5	1.2	1.1	1.6	2.0
Current account + Capital account (%GDP)	-5.9	-7.0	-7.6	-5.4	-5.3	-5.4
Harmonized Index of Consumer Prices	2.5	2.3	3.0	2.5	2.1	2.0

Nota: Projections corresponding to the central scenario are shown for each variable (considered to be the most likely value of that variable, depending on the set of assumptions in question). As described in Section 4 of this article, probability distributions assigned to the possible values of the variable may be asymmetrical. Therefore, the probability of observing a value below the central scenario may be different from the probability of observing a value above the central scenario.

Chart 1
DIFFERENCE AGAINST THE CENTRAL SCENARIO OF THE DECEMBER 2004 PROJECTIONS
In percentage points



have extended into the first half of 2005. Despite the decline in the real GDP growth rate in annual average terms, the current scenario envisages a rebound in economic activity in the second half of the year (see the box entitled "Quarterly profile of GDP in Portugal ").

The projected evolution for 2005 encompasses a deceleration in domestic demand, mainly reflecting the behaviour of investment and, to a lesser extent, of private consumption, supplemented by a less negative contribution from net exports. Nonetheless, the latter continues to reflect a significant loss of the Portuguese exports market shares in 2005 and an increase in the degree of imports penetration in national markets, similarly to what happened in 2004. In 2006, economic activity is expected to pick up slightly, essentially reflecting a rise in the growth rate of exports and a slight acceleration in corporate investment.

With regard to inflation, the current scenario projects a decrease in the annual average rate of change in HICP to 2.3 per cent in 2005 (2.5 per cent in 2004), followed by an increase to 3.0 per cent in 2006. These annual projections include an accelerating profile in prices from the values recorded in the first few months of 2005 (the year-on-year rate of change stood at 1.8 per cent in May), reflecting, mainly, the increase in indirect taxes and an higher growth in import prices, namely of non-energy goods, and the unwinding of the effects related with the appreciation of the euro exchange rate in previous years.

The current projections represent a downward revision of economic growth in comparison with the December 2004 issue of the *Economic Bulletin* (see Chart 1). These revisions (-1.1 and -0.8 percentage points (p.p.) in 2005 and 2006, respectively) reflect, firstly, the use of less favourable assumptions for the external environment of the Portuguese economy, namely a downward revision of the growth prospects for the main markets of destination of exports and a rise in oil prices. Secondly, the latest information on the evolution of the Portuguese economy was an important factor for the downward revision of the projected growth, especially for 2005. One must emphasize the incipient growth in exports and investment since the second half of 2004, the continuation of high import growth, in spite of the deceleration in overall demand, and the marked rise in the unemployment rate in the first quarter of 2005. Finally, the effects associated with the implementation of a set of fiscal policy measures included in SGP also contributed to the downward revision of the projected economic growth, in particular for 2006, and to the upward revision of the inflation projections in comparison with the December 2004 issue of the Economic Bulletin. As has always been stressed, the short-term impacts of the fiscal consolidation measures are of a restrictive nature; the positive effects stemming from the decline of fiscal deficit

and from the stabilisation of the public debt to GDP ratio will only become evident in the medium term.

The rebound in economic activity in the Portuguese economy since 2003 has been slower and more irregular than in previous downturns, reflecting the imbalances accumulated in the past, especially the increase in the private sector indebtedness and the imbalances in the public sector accounts, which have been contributed to both stagnant housing investment and the need to restrain public expenditure. More recently, the Portuguese economy has been facing competitive difficulties at the international level, related to the growing integration into the world economy of some eastern European and Asian countries, which have an export structure that is particularly competitive with the current specialisation of the Portuguese economy(2). These developments, which were apparent in 2004, imply that the Portuguese exports growth will remain bellow that of the main markets of destination in 2005, although some market share gains are expected to occur in 2006 due to the foreseeable increase in exports in the automobile sector.

Hence, given the significant Portuguese export market share losses, namely in the second half of 2004, and the incorporation of a set of measures announced in the SGP, the current projections for 2005 and 2006 correspond to the materialisation of risks towards lower growth, identified in previous projection scenarios. However, the current central scenario does not envisage a return to the adjustment path of the external imbalance, interrupted in 2003. Amidst a limited slowdown in domestic demand, low exports growth and the continuation of the oil price at high levels, the current scenario foresees a further widening of the trade deficit in 2005 (notwithstanding the maintenance of lower activity growth than that projected for the euro area), followed by a slight decline in 2006, which nevertheless is not likely to offset the expected decrease in transfers from the European Union. The current scenario envisages an increase in the borrowing requirements of the Portuguese economy, which reflects a widening of the combined current and capital account deficit from 5.9 per cent of GDP in 2004 to 7.6 per cent in 2006.

(2) See the box entitled "Exchange rate of the euro and price competitiveness of Portuguese exports" in the 2004 *Annual Report* of Banco de Portugal.

2. ASSUMPTIONS UNDERLYING THE PROJECTIONS

The current projections relies on a set of technical assumptions, among which are worth mentioning the assumptions of constant short-term interest rates and exchange rates at the levels recorded in early June and of commodity price developments in line with prices in futures markets. This exercise also assumes a path for the external demand for Portugal, on the basis of a number of common assumptions for developments in non-euro area economies and projections for euro area economies elaborated by each national central bank within the Eurosystem's June 2005 forecast exercise. In addition to the mentioned technical assumptions, the projection exercise relies also on a set of specific assumptions for Portugal, in particular conditioning factors regarding developments in public finance.

2.1. Interest rates and exchange rates

The technical assumption for short-term interest rates (3-month money market interest rate) corresponds to their maintenance at the levels recorded in early June throughout the forecast horizon. Regarding the long-term interest rates, they are assumed to evolve in line with expectations implied in financial markets, which translates into a decline in these rates in 2005 and a slight rise next year. As far as exchange rates are concerned, the assumption herein considered also corresponds to their maintenance over the projection horizon, implying a slight appreciation of the euro in 2005, both in effective terms and vis-à-vis the US dollar (USD), reflecting the profile recorded throughout 2004. This technical assumption implies a slight depreciation in 2006.

2.2. International prices

Assumptions for international commodity prices are based on expectations implied in the respective futures markets. This assumption for the oil price implies an increase in annual average prices in 2005 and 2006 to around USD 52 and 53 per barrel respectively (USD 38.3 per barrel in

2004). This profile encompasses a slightly downward path for these prices throughout the next year. Futures markets point to a deceleration in the international prices of non-energy commodities in both 2005 and 2006, after the strong increase in 2004.

Regarding the Eurosystem's projections for the euro area inflation, they are conditioned on a number of factors. Among these, stress should be placed on: oil price developments in 2005, which significantly contribute to the increase in the energy component of the HICP; moderate growth in nominal compensation per employee and a slight recovery in productivity growth that together determine the maintenance of the growth rate in unit labour costs in 2005 and 2006 at levels close to those recorded in 2004; a lower contribution from administered prices and indirect taxes to inflation in comparison to previous years.

Against this background, the Eurosystem's projections foresees a growth rate of the HICP in the euro area as a whole between 1.8 and 2.2 per cent in 2005 and in the range of 0.9 to 2.1 per cent in 2006[3].

2.3. Economic activity abroad and external demand

The Eurosystem's forecast exercise is based on a set of assumptions for growth in economic activity and imports of goods and services for the countries outside the euro area. The projections elaborated for each country by the respective national central bank, based on this common external environment background, ensure consistency of the aggregate flows of the trade of goods and services between the euro area countries.

The growth assumptions in countries outside the euro area point to continued strong economic activity growth over the projection horizon (4.8 per cent in 2005 and 4.6 per cent in 2006), although at a more moderate pace than in 2004 (5.7 per cent). It is worth mentioning that the available information for the United States (US) economy points to a slight deceleration in activity in the first months of 2005, after the strong growth observed in the second half of 2004. Despite this slowdown, the US economy is expected to continue to grow robustly over the projection horizon, benefiting, on the one hand, from strong profits in the corporate sector and favourable financing conditions for investment and, on the other, from the gradual improvement in labour market conditions which will contribute to the increase in personal income and to consumption growth. In what concerns Asian countries, with the exception of Japan, they are expected to grow above the global average, supported by developments in domestic demand, particularly in private consumption. However, some slowdown in economic activity is expected after the strong growth rates seen in the recent past. As regards the new European Union countries, the Eurosystem's projections indicate that economic activity will continue to increase at a strong pace, in spite of the slowdown recorded in some countries in the first quarter of 2005. Therefore, and despite the less favourable international environment than in 2004, euro area's external demand should continue to grow significantly in 2005 (8.3 per cent) and 2006 (7.3 per cent), albeit more moderately than in 2004 (10.0 per cent).

The Eurosystem's June projections expects a pick-up in economic activity growth in the euro area over the projection horizon, after the slowdown in the second half of 2004, which may have been partly conditioned by the lagged effect of the euro appreciation and the rise in oil prices. For 2005 and 2006, GDP growth is expected to range between 1.1 and 1.7 per cent and between 1.5 and 2.5 per cent respectively, as against 1.8 per cent in 2004. These developments in economic activity are likely to determine a growth rate of imports of goods and services between 2.6 and 6.0 per cent in 2005 (6.1 per cent in 2004) and between 4.4 and 7.8 per cent in 2006. Hence, according to developments expected for economic activity in Portugal's major trading partners, the external demand relevant for the Portuguese economy is projected to slowdown from 7.1 per cent to 5.7 per cent in 2005, subsequently accelerating to 6.3 per cent in 2006.

2.4. Specific assumptions for Portugal

In addition to the common assumptions mentioned in the previous sections, the current projections also rely on a set of specific assumptions for

(3) The expected slowdown for 2006 is partly explained by the statistical treatment of the health care reform in the Netherlands (the estimated impact of which on the euro area HICP is -0.2 p.p.).

the Portuguese economy, of which are worth stressing those related to developments in public finance variables.

The estimate for public consumption in 2005 basically assumes that the behaviour of its components will be identical to that recorded in 2004. Therefore, the number of civil servants is assumed to stabilize, in addition to a moderate growth in intermediate consumption and in social transfers in kind in real terms. For 2006, the public consumption projection is based on the assumption of a slight reduction in the number of civil servants, in line with the rationalisation of human resources in the general government, as envisaged by the Government in the SGP. Public investment excluding proceeds from real estate sales is considered to virtually stabilise, in real terms, in 2005. In fact, the foreseeable reduction in transfers from the European Union recorded on an accrual basis is likely to be offset by the recovery in public investment not co-financed by the European Union, as assumed in the SGP. In 2006, although the latter is expected to continue, the strong decline in transfers from the European Union in the last year of implementation of the Third Community Support Framework will translate into a decrease in public investment in real terms.

As to indirect taxation, in addition to the increases already observed in the standard VAT rate from 19 to 21 per cent and in the tax on oil products, the current projection envisages a further rise in the tax on oil products and a rise in the tobacco tax in early 2006, in line with the measures set out in the SGP.

3. THE PORTUGUESE ECONOMY: 2005-2006

3.1.Economic activity

According to the current projection's central scenario, real GDP is expected to increase 0.5 per cent in 2005, following an estimated growth of 1.1 per cent in 2004. These developments in economic activity reflect an intra-annual profile marked by a deceleration over the second half of 2004, which according to the latest information seems to have been extended into the first half of 2005. Thus, the current projection for this year incorporates a rebound in economic activity, which nevertheless will probably only take place in the second half of the year[4]. The projection for 2006 points to 1.2 per cent growth in economic activity.

The deceleration in economic activity in 2005 reflects the reduction in the contribution of domestic demand to GDP growth (see Chart 2), following the slight deceleration in private consumption and a fall in corporate investment. In turn, net external demand is likely to have a less negative contribution in the current year in comparison with last year, as a reflection of a significantly stronger slowdown in imports than that projected for exports. The latter will, once more, grow less than the external demand relevant for the Portuguese economy. Import developments not only reflect the slowdown in overall demand, but also the unwinding of the effects of the euro appreciation in recent years and a reversal of the irregular behaviour of imports in 2004.

Lower import growth and more favourable developments in exports projected for the second half of 2005 will allow for some increase in the GDP growth rate in 2006. The contribution of domestic demand for GDP growth in 2006 is roughly the same as that projected for 2005. However, it reflects different developments in the various components, in particular: the deceleration in private consumption, in line with the developments assumed for disposable income, and in public consumption. In addition, some acceleration in investment is also being expected, essentially accounted for by corporate investment.

The comparison of the profile of the rebound in economic activity now forecasted with that recorded in the wake of the 1993 recession puts in evidence the weakness of the current rebound (Chart 3). This pattern of development and the composition of expenditure reflect, inter alia, the conditioning factors emerging from the imbalances that have been accumulating in the Portuguese economy, particularly concerning the level of private sector indebtedness and public sector accounts. Therefore, the current financial situation of households will tend to restrain the maintenance of recourse to credit for house purchase at the same pace, after the strong growth recorded in the second half of the 1990s, translating into stagnant housing investment over the projection horizon. In turn, the current budgetary position and the need to correct the

(4) See the box entitled "Quarterly profile of GDP in Portugal".

Chart 2
BREAKDOWN OF GDP GROWTH
Contribution to the rate of change, in percentage points

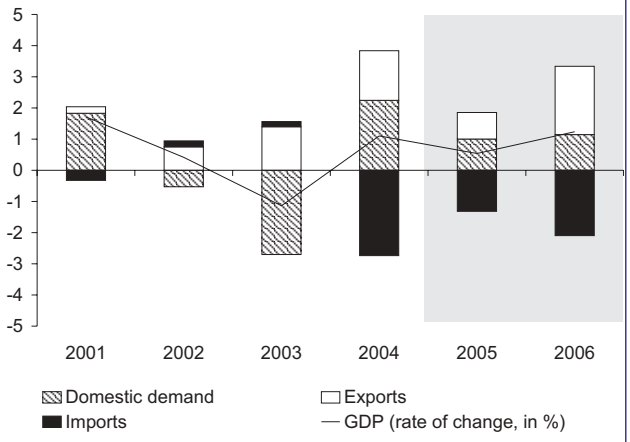
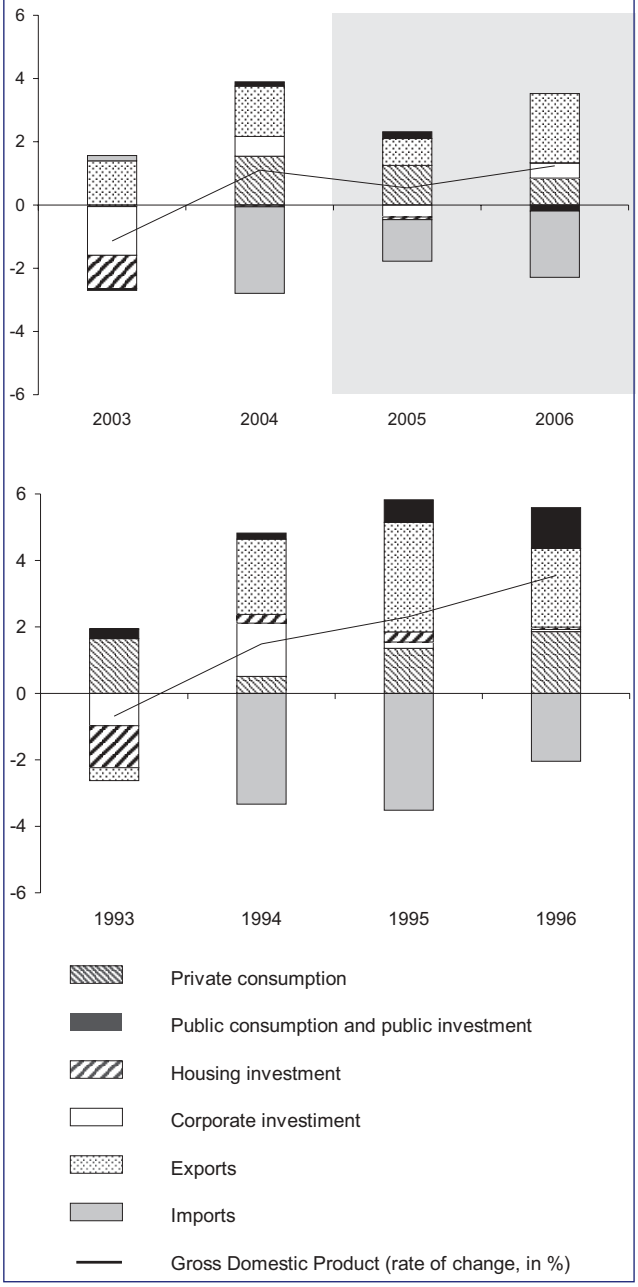


Chart 3
BREAKDOWN OF GDP GROWTH DURING AND AFTER THE 1993 AND 2003 RECESSIONS
Contribution to the rate of change, in percentage points

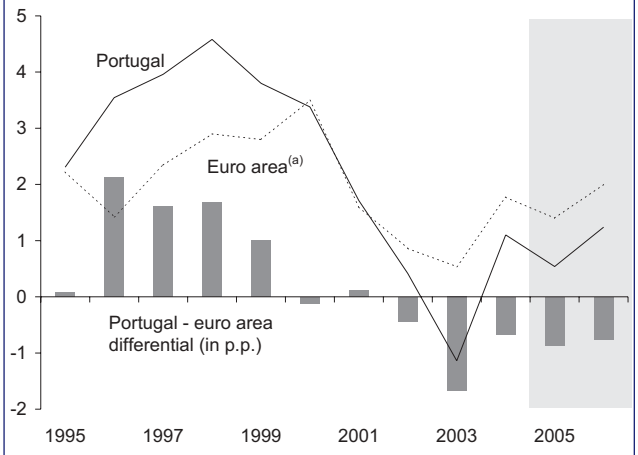


imbalance in public accounts will restrain public consumption and investment, preventing their contributions to the rebound in economic activity from being similar to those seen in the wake of the 1993 recession and the persistency of which turned out unsustainable. Hence, the increase in investment - a variable that tends to lead the recovery period of the business cycle - is likely to be moderated by developments in housing and public investment, and its rebound will essentially rely on the behaviour of corporate investment. However, the latter, as a reflection of general economic conditions, will also tend not to pick up very markedly in the current macroeconomic scenario.

In addition, net exports will probably continue to have a negative or virtually nil contribution to real GDP growth over the projection horizon, in contrast to the situation following the previous recession. This largely reflects the impact of the emergence of new players in the world economy and the consequent increase in competition, both at the level of international trade and at attracting foreign direct investment, strengthened by the impact of the real appreciation recorded over the past few years. Although the growth rate of external demand is similar to the period following the 1993 recession, the contribution of exports to the rebound in economic activity over the projection horizon is now significantly lower than the one witnessed in that period, when market share gains were recorded, associated with the completion of important export-oriented foreign direct investment projects.

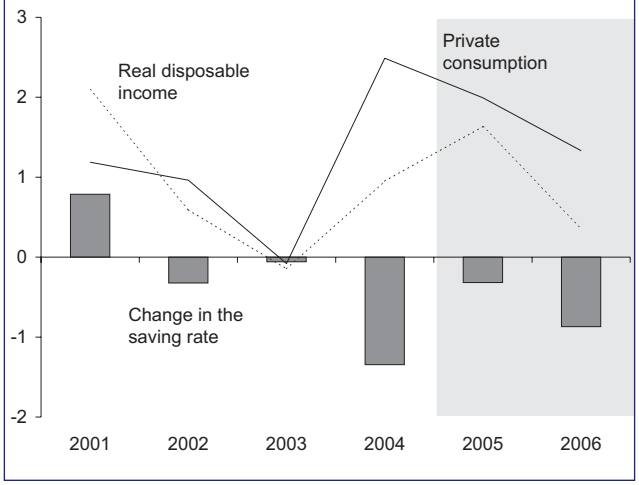
Taking as a reference the midpoints of the projection ranges for economic growth in the euro area released by the in early June, the pick-up projected for economic activity in Portugal implies an unfa-

Chart 4
GROSS DOMESTIC PRODUCT
Rate of change, in percentage



Note:
(a) For the euro area in 2005 and 2006, the figures were taken from the midpoints of the projection ranges published in the *Monthly Bulletin* of the ECB (June 2005).

Chart 5
CONSUMPTION AND REAL DISPOSABLE INCOME
Rate of change, in percentage



vourable growth differential for Portugal of 0.7 percentage points in 2004, which is likely to remain slightly above this level until the end of the projection horizon (see Chart 4). Hence, the real convergence process will probably be strongly constrained by the imbalances that have accumulated over the past few years, which translated into a loss of competitiveness of the Portuguese economy.

3.2. Private consumption, disposable income and saving of households

Private consumption recorded a strong increase in 2004, thereby interrupting the endogenous adjustment process of the household expenditure and leading to a decline in the saving ratio from the levels recorded in the 2001-2003 period. In fact, after three years of moderate growth, private consumption increased by 2.5 per cent in 2004, largely surpassing the growth in real disposable income, and therefore leading to a reduction in the household savings rate of around 1.5 p.p. in 2004 (see Chart 5), notwithstanding the overall high indebtedness position of households. The growing diversification of the types of bank credit contracts and the extension of the residual maturity of loans motivated by the increasing competition between credit institutions may have released additional resources that seem to have been channelled to consumption. On the other hand, the perception during 2004 that the fiscal consolidation effort could be less intense than initially assumed may have contributed to add a further stimulus to private consumption.

According to the central scenario of the current projections, private consumption will resume a growth pace more in line with developments in real household disposable income in 2005. Thus, the growth rate of private consumption in the current year is projected to be close to 2.0 per cent. However, this growth rate is still higher than that of real disposable income (1.6 per cent), thereby determining a further reduction, albeit moderate, in the household saving ratio in the current year.

In 2006 private consumption is projected to decelerate further, to 1.3 per cent, although financing conditions remain favourable given the technical assumption of a constant interest rate at the levels recorded in early June. Real household disposable income is likely to increase by only 0.4 per cent, reflecting the impact of the ending of tax benefits envisaged in the State Budget in 2005, as well as the effect of tax measures included in the SGP, dampening stronger developments in real disposable income. However, the impact of these measures on disposable income will probably not be fully passed to consumption, owing to the usual behaviour of consumers towards favouring a gradual ad-

justment of their expenditure levels. In addition, part of the negative effects on household disposable income will mostly affect households with a higher income level and lower liquidity restraints. Hence, they may have a limited impact on private consumption, given the lower marginal propensity to consumption of this household group. In accordance, the current projection envisages a reduction of the household saving ratio to 9.2 per cent at the end of the forecast horizon, reaching its lowest level since 1999.

3.3. Gross fixed capital formation

Following a significant decline(5) in 2002 and 2003, gross fixed capital formation (GFCF) increased 1.3 per cent in real terms in 2004. The projections presented in this Economic Bulletin foresees a further fall, albeit moderate, in GFCF in 2005 (-1.5 per cent), followed by a 0.9 per cent increase in 2006.

The evolution projected for this expenditure component is essentially influenced by a series of factors that would certainly have a moderating effect on investment, with an impact on the current stage of the business cycle of the Portuguese economy. On the one hand, public investment has been falling successively since 2002 and will probably continue to recede throughout the forecast horizon - reflecting the need to correct the current fiscal imbalances and the possible reduction in capital transfers from the European Union (see Chart 6).

On the other hand, housing investment is likely to decrease further in 2005 and to record a virtually nil change in 2006, notwithstanding the maintenance of favourable financing conditions. Despite this development pattern, the current scenario envisages an increase in household indebtedness over the projection horizon in order to meet that housing investment. In this scenario, loans to households will still grow substantially, although following a decelerating path, after the strong growth witnessed in the second half of the 1990s, in a context of a sharp decline in interest rates.

The accumulation of imbalances of both household indebtedness and public finances seem to have constrained significantly the growth rates in

Chart 6
BREAKDOWN OF INVESTMENT GROWTH
Contribution to the rate of change, in percentage points

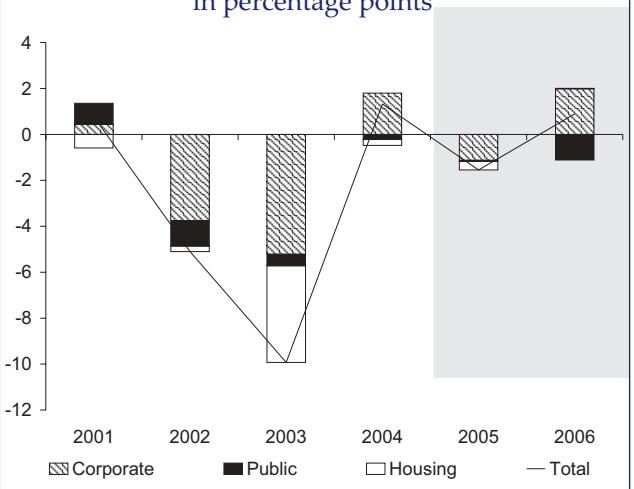
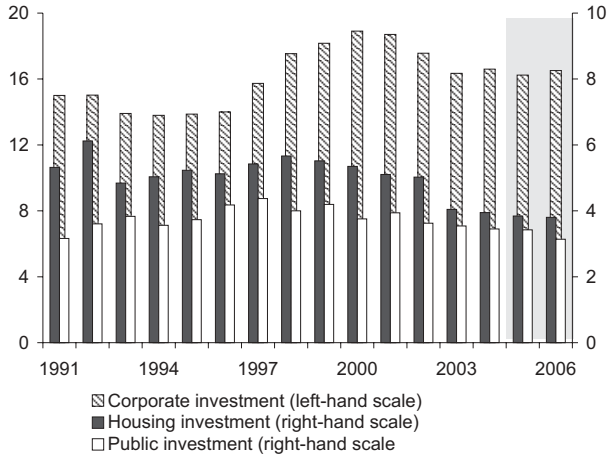


Chart 7
BREAKDOWN OF INVESTMENT BY INSTITUTIONAL SECTOR
As a percentage of GDP

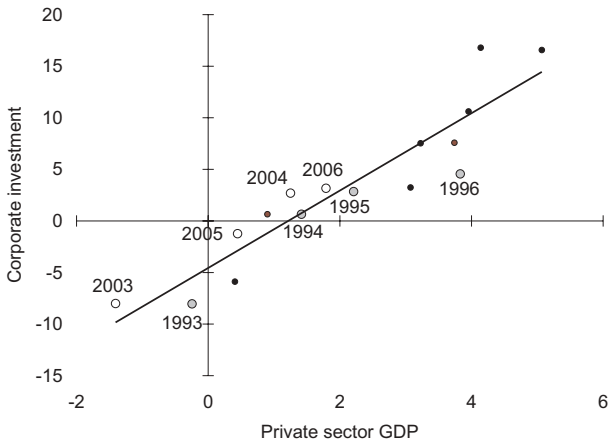


public investment and housing investment. These features are apparent in the analysis of the share of these components in GDP, which show that in 2004 both recorded their lowest level in the past 14 years (Chart 7). The current scenario does not envisage any reversal in this recent trend, given that the imbalances previously referred to will persist, thereby not enabling these components to play a more active role in the recovery of the economic activity.

Regarding corporate investment, the current projection points to a slight fall in 2005, followed by positive growth in 2006 - by around 3.5 per cent

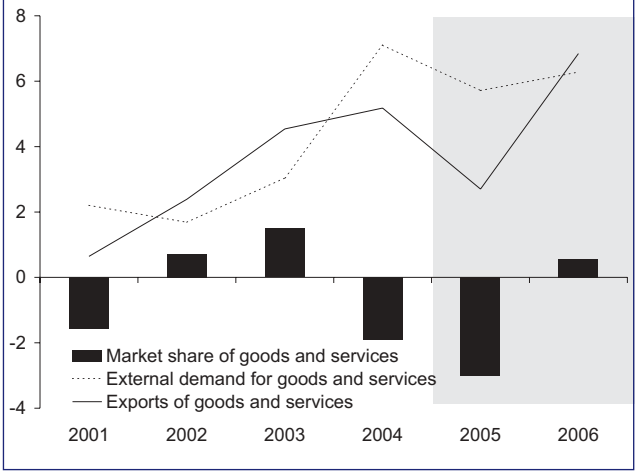
(5) In the 2002-2003 period, GFCF recorded a cumulative decrease of 15 per cent.

Chart 8
CORPORATE INVESTMENT AND PRIVATE GDP(a)
Annual rate of change (1991-2006), in percentage



Note:
(a) Private sector GDP corresponds to GDP excluding consumption and investment expenditure of the public sector.

Chart 9
EXPORTS, EXTERNAL DEMAND AND MARKET SHARES
Rate of change, in percentage



- reflecting the usual pro-cyclical behaviour of this GFCF component (Chart 8). Therefore, despite the expected pick up, corporate investment will accelerate more moderately than in the past, as a reflection of the weak rebound in economic activity envisaged in the current scenario.

3.4. Exports and imports

Portuguese exports are expected to grow moderately in comparison with external demand, leading to a market share loss in 2005 and a marginal recovery in 2006. Following a 5.2 per cent increase in 2004, the export growth is likely to slow down to 2.7 per cent in 2005, accelerating to 6.8 per cent in 2006 (see Chart 9).

The significant market share losses of Portuguese exports in the second half of 2004 and in the first quarter of 2005[6] seems to be related to a significant deterioration in the competitiveness of Portuguese exports, particularly due to adverse developments in domestic unit labour costs, reinforced by the pattern of specialisation of Portuguese exports, which renders them particularly vulnerable in a context of increased international competition and appreciation of the euro.

The current scenario incorporates a further market share loss of Portuguese exports in 2005, although not as sharp as those witnessed in the second half of 2004 and in the first quarter of 2005, and a marginal recovery in 2006. The slowdown in exports during the recent period, along with the deceleration in external demand, leads to an anticipated strong slowdown in exports of goods in 2005 (see Chart 9). In 2006, the faster pace of growth in exports benefits not only from the slight acceleration in the external demand relevant for the Portuguese economy, but is expected to be also significantly influenced by specific factors related to both the increase in exports from the automobile sector and the improved performance of tourism exports. In 2005 these will be negatively affected by the base effect related to the European Football Championship that was held in Portugal last year.

Exports of services are particularly sensitive to developments in the international economic situation and therefore the slowdown in world economic activity is likely to induce some deceleration in 2005. In addition, the trend in exports of services will be affected by the fading out of the impact of the European Football Championship, which benefited exports of services in 2004 (when they in-

(6) According to preliminary figures from the Quarterly National Accounts of INE (National Statistical Institute), exports of goods and services in the first quarter of 2005 seem to have increased by 2.0 per cent in year on year terms.

Chart 10
MARKET SHARES AND PROFIT MARGIN OF THE EXPORT SECTOR
Rate of change, in percentage

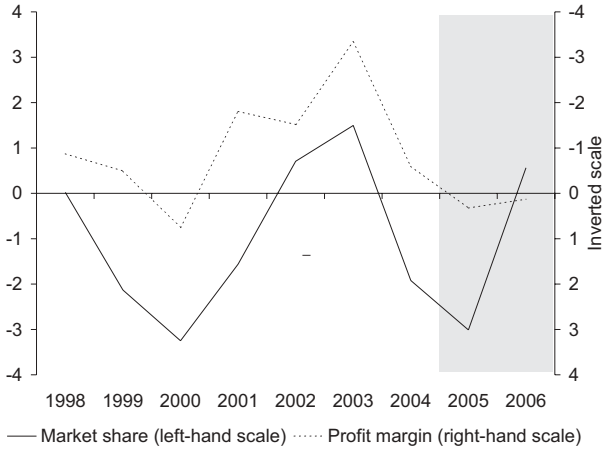
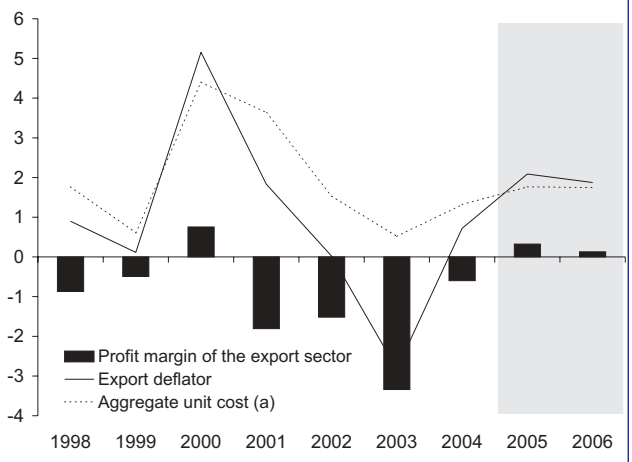


Chart 11
UNIT PROFIT MARGIN IN THE EXPORT SECTOR
Rate of change, in percentage



Note:
(a) The aggregate unit cost corresponds to an aggregation of unit labour costs in the private sector and the import deflator of goods (excluding energy), where the corresponding weights reflect the import content of exports of goods and services.

creased 8.3 per cent), possibly contributing to a more marked slowdown in 2005 (when a 2.4 per cent increase is foreseen). In 2006, exports of services are projected grow more strongly, reflecting a pattern more in line with external demand growth.

Following the market share gains recorded in 2002 and 2003 and the loss in 2004, particularly in the second half of the year, as already mentioned, the current projection envisages the continuation of market share losses in 2005. The gains in share appear to have been associated with a significant squeeze in profit margins in the export sector, which will probably not be repeated until the end of the current projection horizon (see Chart 10). Therefore, developments in unit labour costs may translate more directly into an increase in the export sector's aggregate unit costs, which will inevitably lead to a deterioration in the competitiveness of Portuguese exports (Chart 11).

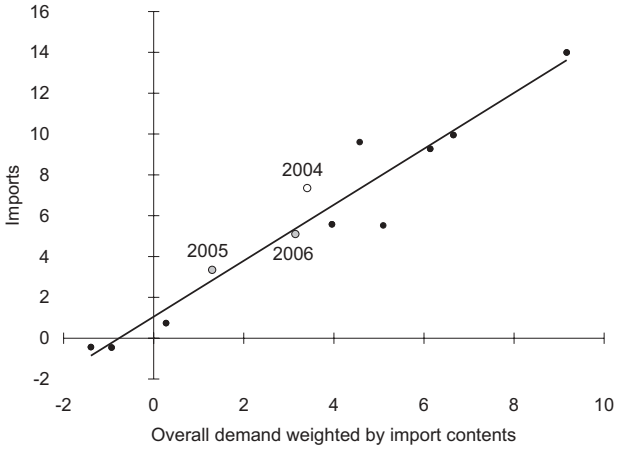
The current projection for imports of goods and services essentially reflects the expected profile for the various components of overall demand weighted by their respective import contents. Imports of goods and services are likely to slowdown by approximately 4.0 p.p. in 2005, reflecting not only the slowdown in overall demand, but also the unwinding of the effects arising from the appreciation of the euro in recent years and the reversal of the irregular behaviour recorded in 2004. In 2006, imports of goods and services are expected to accelerate somewhat, accompanying the rebound in economic activity and particularly in exports of goods and in corporate investment, which have significant import content.

The behaviour of imports of goods and services in 2004 seems to have been to a large extent related to both high growth in expenditure components with larger import content (namely durable consumer goods, corporate investment and exports of goods) and the appreciation of the euro, which may have favoured the reorientation of demand towards imported goods at lower prices as against domestically produced goods. The progressive fading out of the impact of the appreciation of the euro and the reversal of some irregular behaviour of imports in 2004 will tend to favour their return to a behaviour similar to that recorded in the recent past (see Chart 12).

3.5. Current and capital accounts

According to the central scenario of the current projection, the net external borrowing requirements of the Portuguese economy, measured by the combined current and capital account deficit, are likely to increase in 2005, as occurred in 2004.

Chart 12
IMPORTS AND OVERALL DEMAND WEIGHTED BY IMPORT CONTENTS
Annual rate of change (1995-2006), in percentage



This constitutes a widening of the external imbalance of the Portuguese economy, showing that the endogenous adjustment process was interrupted in 2004, will probably not be resumed during the current projection's horizon (see Chart 13).

The increase in the net external borrowing requirements of the Portuguese economy to 7.0 per cent of GDP in 2005 (5.9 per cent of GDP in 2004) reflects not only the effects of the rise in the oil price, but also the growth differential between real exports and real imports. These factors will lead to a deterioration in the goods and services account balance of about 1.3 percentage points of GDP.

In 2006 the net external borrowing requirements of the Portuguese economy are projected to increase by 0.6 percentage points of GDP. This evolution essentially reflects the fall in public transfers (both current and capital), since the goods and services account deficit is likely to stay roughly at the level recorded in 2005. The profile of transfers follows the expected developments of transfers from the European Union within the scope of the Third Community Support Framework.

The increase in the net external borrowing requirements from 5.9 per cent in 2004 to 7.6 per cent of GDP in 2006 reflects on the other hand, an increase in the net borrowing requirements of the private sector which encompasses a reduction in the financing capacity of households and a rise in corporate borrowing requirements.

Chart 13
CURRENT AND CAPITAL ACCOUNT
As a percentage of GDP

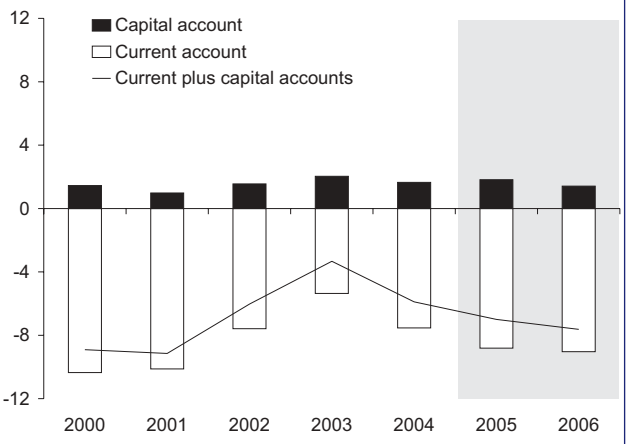
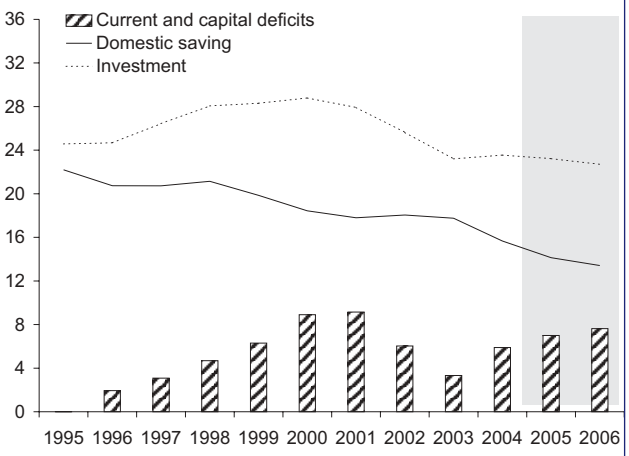


Chart 14
INVESTMENT, DOMESTIC SAVING AND CURRENT AND CAPITAL ACCOUNT DEFICIT
As a percentage of GDP

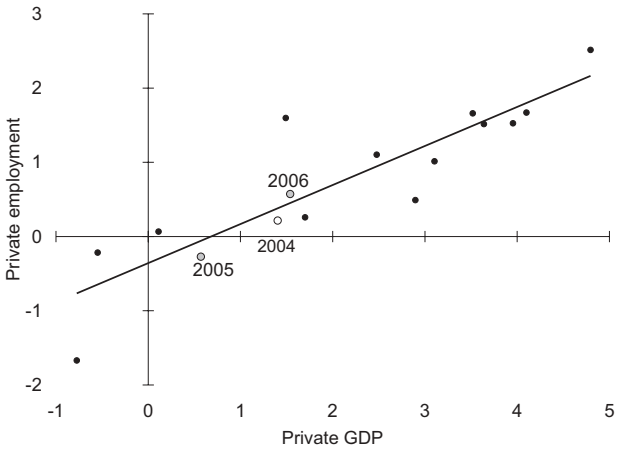


The current and capital account deficit currently projected is significantly larger than that recorded at the same stage of the previous business cycle (Chart 14). This deterioration in the borrowing requirements of the Portuguese economy reflects essentially a fall in domestic saving as a percentage of GDP, since the investment rate is marginally lower than that recorded at the time. This change in the saving level will reflect the growing financial integration related with the participation of Portugal in the euro area, which eases the financing of the high external deficit, especially in a period of historically very low interest rates.

3.6. Employment and unemployment

The central scenario foresees a reduction in employment in 2005 (-0.2 per cent), reflecting the slowdown of the growth of economic activity that started in the second half of 2004. In 2006, employment is expected to increase by around 0.4 per cent, in line with the rebound in economic activity, which is expected to take place in the second half of the current year and is likely to last until the end of the current projection horizon. However, underlying this forecast is a more marked profile for development of employment in the private sector, since a nil growth rate of employment in the public sector is assumed in 2005 and a reduction in 2006. The profile of employment in the private sector, in line with the economic activity in this sector (Chart 15) will imply a further rise in the unemployment rate in 2005,(7) followed by a stabilisation in 2006. This profile is based on the historical evidence of a constant non-accelerating inflation rate of unemployment () for the Portuguese economy,(8) and therefore are not without risks, in the sense that the unemployment rate may follow a more adverse path over the projection horizon, as may be envisaged in the recent increase in long-term unemployment (see Section 4).

Chart 15
PRIVATE EMPLOYMENT *VS* PRIVATE GDP (a)
Annual rate of change (1991-2006), in percentage



Note:
(a) Private sector GDP corresponds to GDP excluding consumption and investment expenditure of the public sector. Employment in the private sector was derived by excluding the number of public sector employees from total employment in the economy.

3.7. Inflation

The central scenario envisages a reduction in the annual average rate of change in HICP to 2.3 per cent in 2005 (2.5 per cent in 2004), followed by an increase to 3.0 per cent in 2006 (Table 1). In comparison to the midpoint of the forecast ranges for the euro area of the Eurosystem's June exercise, the inflation differential is expected to decline to 0.3 percentage points in 2005 (0.4 percentage points in 2004), widening to 1.5 percentage points in 2006 (Chart 16). In contrast to developments expected for Portugal, the projections point to a reduction in the euro area inflation rate in 2006(9). Inflation projections for 2005 and 2006 in Portugal are largely conditioned by the impacts that the rise in indirect taxes considered in this forecast exercise will have on consumer prices.

With regard to the rise in the standard VAT rate from 19 to 21 per cent, the effect on the annual average inflation rate is estimated to be 0.3 and 0.4 percentage points in 2005 and 2006, respectively. This estimate of the impact of the VAT increase assumes that the tax raise will be passed on to final consumer prices between July and September 2005, and this will be broadly based across all goods and services subject to the standard VAT rate(10); furthermore, no changes are expected in profit margins(11). The other indirect taxes, namely the tax on oil products and the tobacco tax, are likely to increase above inflation in line with the measures included in the SGP.

(7) According to the latest data from the Unemployment Survey of INE, the unemployment rate reached 7.5 per cent of the labour force in the first quarter of 2005.

(8) The empirical evidence is documented in Dias, Esteves and Félix (2004), "Revisiting the NAIRU estimates for the Portuguese economy", in the *Economic Bulletin* of Banco de Portugal (June 2004) .

(9) This is partially accounted for by the effect of the statistical treatment of the current proposals for the health care reform in the Netherlands, which may contribute to a reduction of 0.2 percentage points in the euro area inflation rate in 2006. For further details, see the *Monthly Bulletin* of the ECB (June 2005).

(10) The gradual impact of the rise in VAT solely reflects the INE's methodology which consists of collecting prices for some of the items affected by this tax rise on a quarterly basis.

Chart 16
INFLATION IN PORTUGAL AND IN THE EURO AREA
Rate of change, in percentage

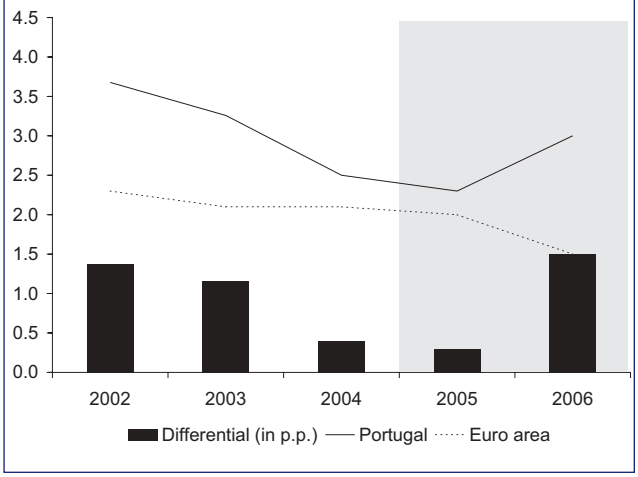
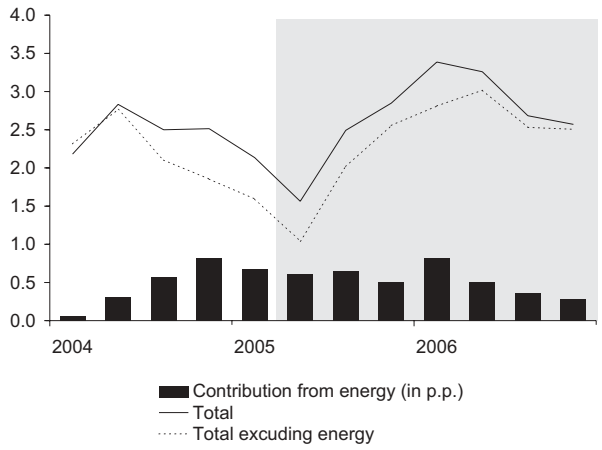


Chart 17
INFLATION AND CONTRIBUTION FROM ENERGY
Year-on-year rates of change, in percentage (quarterly data)



On average terms, the slight deceleration in consumer prices in the ongoing year, solely determined by the non-energy component, is to a large extent conditioned by developments already observed in the first five months of the year, which more than offset the acceleration in prices envisaged in the current central scenario for the second half of the year (Chart 17). The inflation rate is expected to reach a peak, in year-on-year terms, in the first quarter of 2006, reflecting the combination of various factors, among which the adjustment of transport prices - assumed to take place once more in the first quarter of the year instead of the second quarter as in 2005 - and the further rise in indirect taxes (tax on oil products and tobacco tax) in 2006 announced in the SGP.

The current projection for inflation includes a sharp accelerating profile in the non-energy component of consumer prices until the end of the first half of 2006. From then on, there will be a fading out of the effects of the recent increase in the standard VAT rate in terms of year-on-year rates of change in HICP excluding energy. Nevertheless, even excluding the effects associated with the changes in indirect taxation, the HICP excluding energy is projected to accelerate somewhat, essentially as a reflection of the modest increase in imported inflation, portraying not only the gradual unwinding effects associated with the appreciation of the euro, but also the increase in some export prices of euro area supplier countries in 2005.

With regard to energy prices, despite the assumed reduction in the oil price in international markets until the end of the projection horizon, in line with the prices of this commodity in the futures market, the contribution of the energy component to the year-on-year rate of change in the HICP is not expected to decline sharply, due to the rise in the tax on oil products in June this year and also the one expected for early 2006.

It should also be noted that consumer price changes in June and July 2005 will additionally be marked by the reversal of the effects recorded in the same period in 2004, associated with the European Football Championship, particularly in the prices of some services that are more sensitive to demand by non-residents.

(11) In 2002, when the last rise in the standard VAT rate took place, from 17 to 19 per cent, with effect from June 2002 onwards, the actual impact on final prices was smaller than initially estimated. Not only was there a non-homogeneous and non-integral dissemination across goods and services, but also the pass-through seems to have also been slower than expected. The assumptions incorporated in the current projections thus appear to be an upper-bound for the impact of the rise in the standard VAT rate, which poses a downward risk to the projection (see Section 4).

4. UNCERTAINTY AND RISK ANALYSIS

The central scenario of the current projections of Banco de Portugal is based on technical assumptions presented in Section 2. The eventual non-materialisation of these assumptions, as well as the existence of specific factors that may directly affect the macroeconomic variables that are being forecasted, are essential elements to analyse the uncertainty and risks underlying the current central scenario, namely on the economic activity and on the inflation rate projections[12].

A quantified analysis of the uncertainty and risks contained in the central scenario implies the identification of risk factors that may have a visible impact on the current projections. Regarding the technical assumptions, four risks were considered: (i) the short-term interest rates may evolve in line with the expectations prevailing in futures markets, rising gradually, instead of remaining at the same levels over the projection horizon; (ii) external demand for the Portuguese economy may grow more moderately than assumed; (iii) oil prices may stand at higher levels; and (iv) the euro exchange rate may record a depreciation against the figures assumed in the central scenario. Among the specific factors that directly affect the endogenous variables that are being projected, there is also a relatively wide range of factors that may have a significant effect on them. Therefore, there may be additional risks to those assumed for the technical assumptions: (v) a less marked slowdown in consumption during the course of 2005, which could lead to a higher adjustment of this variable in 2006; (vi) more adverse developments in the export market share than those considered in the central scenario; (vii) the possibility of a higher rate of import penetration; (vii) higher unemployment rates; (vii) the risk that the inflation rate will be lower then in the central scenario, due to a partial transmission of the increase in the standard VAT rate or to increased competition that leads to a reduction in retail profit margins.

Taken together, these factors produced a balance of risks, regarding GDP growth, on the downside, given that there is more than a 50 per cent probability of economic growth being lower than projected in the central scenario (56 and 62 per cent in 2005 and 2006, respectively). With regard to the inflation rate, the risks are balanced. Chart 18 illustrates these results.

4.1. Risk factors

As usual, the Eurosystem projection exercise incorporates the technical assumption of constant short-term interest rates over the projection horizon. However, expectations implied in futures markets point to a gradual rise in interest rates, of up to 0.5 p.p. until December 2006 (Chart 19). The materialisation of this risk would have several impacts, namely on consumption, investment and, in particular, on the service of debts indexed to short-term interest rates.

The second risk factor is related to the rate of growth of the external markets, which are relevant for the Portuguese exports. Given the Portuguese external trade structure, which is mainly based on transactions with euro area countries, the possibility that the euro area economic activity may be lower than expected will clearly affect the assumption regarding the external demand growth. This possibility is supported by the latest data available, which point to a significant slowdown in economic activity, particularly for some countries, increasing the risk that the recovery expected in the second half of the year may be lower than projected.

The third risk factor relates to the euro exchange rate. The assumption of a constant exchange rate over the forecasting horizon may not occur, namely if the recent depreciation trend against the main trading partners remains in place.

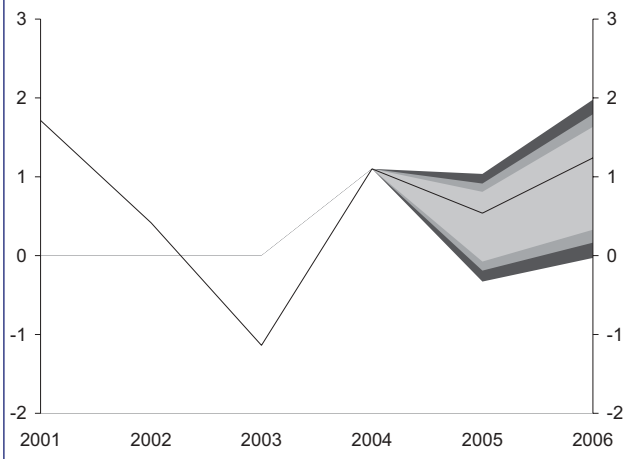
Regarding oil prices, which are also a risk factor for the current projections, it is possible that the recent rise in this commodity price may jeopardize the assumed trajectory included in the central scenario, which is slightly trending downwards.

Household consumption is a fifth risk factor. The available conjunctural data indicate that private consumption growth remains high, increasing the possibility that the slowdown in private con-

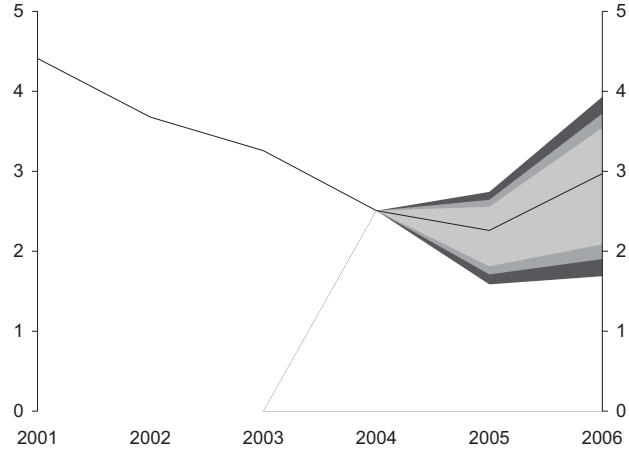
(12) For technical details see A. Novo and M. Pinheiro (2003), "Uncertainty and Risk Analysis of Macroeconomic Forecast: Fan Charts Revisited", Banco de Portugal, *Working Paper* No 19. A simplified explanation of this procedure is presented in P. Esteves and A. Novo, "Uncertainty and Risk Analysis: an Application to the Projections for the Portuguese Economy", published in the *Economic Bulletin* of Banco de Portugal (December 2003).

Chart 18
PROJECTION RANGES

GROSS DOMESTIC PRODUCT
Rate of change, in percentage



INFLATION RATE
Rate of change, in percentage



sumption will not be so high during the course of 2005 as implied in the current projection. Given the expected growth of disposable income, the materialisation of these higher levels of consumption in 2005 would probably lead to a stronger reduction in savings in 2005, which in the medium-term would not be sustainable, particularly given the indebtedness level of the Portuguese households. These developments would make the decline in the savings rate assumed for 2006 less plausible, leading to more moderate consumption growth in this year, in line with the projected developments for disposable income.

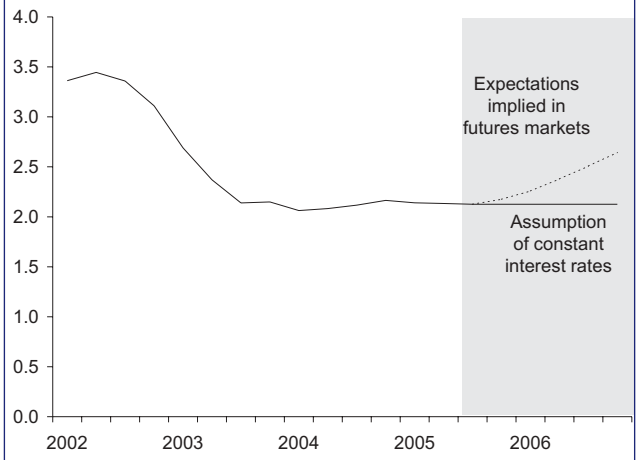
The current scenario assumes the maintenance of market share losses in 2005, although at a slower pace than in the second half of 2004 and in the first quarter of 2005, and a slight recovery in 2006. However, the effects related to the increase in international competition in the destination markets of the Portuguese exports may be more marked, namely due to a higher penetration of Chinese exports in euro area markets. Moreover, the assumed exports behaviour of the automobile sector in 2006 may be less favourable, which would imply lower export growth.

As previously mentioned, the central scenario assumes that the high import growth seen in 2004 will be corrected, due not only to the slowdown in overall demand, but also to the unwinding of the effects of the euro appreciation in previous years and the reversal of the irregular behaviour of imports in 2004. However, there is the risk that this correction may be excessive, in a context of growing international competition and of a shift of domestic demand towards imported goods with lower prices than those domestically produced.

The current projections for the unemployment rate are based on the empirical evidence for the natural unemployment rate, that points to a stable relationship between the cyclical component of output and developments in the unemployment rate. Given the change of regime related to the adoption of the euro, as well as to the growing integration of Eastern European and Asian countries in world trade, which may trigger the reorganisation process of the Portuguese productive structure of tradable goods, the stable relationship between output and unemployment may change, which could probably lead to a higher unemployment rate over the projection horizon. The recent increase in long-term unemployment, which in 2004 grew more than in the same stage of the previous business cycle, signals this risk.

Finally, risks that may directly affect the inflation rate were also considered. It is plausible that the impact of higher taxes on final consumer prices

Chart 19
3-MONTH MONEY MARKET INTEREST RATE
In percentage



may be lower than anticipated in the central scenario, given in particular the modest growth that is being projected for domestic demand. Moreover, high competition levels in some sectors may lead to reductions in profit margins that are not being covered by the central scenario.

Table 2

SUBJECTIVE PROBABILITIES OF RISK FACTORS[a]

In percentage

	2005	2006
Conditioning variables:		
External demand	60	60
Oil price	45	40
Exchange rate	40	40
Endogenous variables:		
Private consumption	45	55
Exports	55	60
Imports	45	45
Employment	55	55
HICP	55	55

Note: Probability of the annual growth rate of each variable associated with risk factors standing below the rate considered in the central scenario.

4.2. Quantification of risk factors

Table 2 summarises the quantification of the risk factors. This quantification is based on the subjective probability attached to the non-materialisation of the technical assumptions or the projected macroeconomic variables. A figure below (above) 50 per cent indicates that the growth rate of the variable concerned has lower (higher) probability of being below the growth rate anticipated in the central scenario, which means that risks would be on the upside (downside). In the case of short-term interest rates, this probability is calculated implicitly, assuming that their expected value will coincide with the expectations implied in futures markets.

Table 3 presents the main results of this risk assessment, where the probabilities of a lower value than anticipated by the central scenario take into account not only the direct effects resulting from the risks defined for the variable, but also indirect effects resulting from the assumed risks concerning the exogenous variables.

Regarding the economic activity, the risks of falling short of the central scenario over the projection horizon are higher than the risks of economic activity being above the central scenario, particularly in 2006. While in 2005 these risks will mainly come from the effects on exports, namely due to the possibility of a more unfavourable external environment (lower external demand), in 2006 these risks cover all expenditure components.

Table 3

PROBABILITY OF A LOWER OUTCOME THAN PROJECTED IN THE CENTRAL SCENARIO

In percentage

	2005	2006
GDP	56	62
Private consumption	48	63
GFCF	52	58
Exports	63	65
Imports	50	62
HICP	51	52

Regarding the inflation rate, the risks are balanced. In both years, the possibility that the impact associated with the increase in taxes will not fully feed into consumer prices are being compensated by the effects coming from a possible depreciation of the euro exchange rate and higher oil prices.

5. CONCLUSION

The current projection of Banco de Portugal envisages a moderate pick-up of the Portuguese economy from the second half of 2005 onwards, following the deceleration seen since the second quarter of 2004. This reversal of the recent profile of the Portuguese economy is essentially based on a more favourable contribution from external trade. The central scenario envisages developments in exports more in line with growth in international markets, assuming that developments in market shares will not be as unfavourable as those registered since the second half of 2004. In the same vein, a correction of the high growth rate of imports observed in 2004 is being projected, accounted for not only by the slowdown in overall demand, but also by the unwinding of the effects of the appreciation of the euro in previous years and the reversal of the irregular behaviour of imports.

In spite of this contribution, the rebound in economic activity will continue to be conditioned by the developments in domestic demand, which will likely accelerate only marginally in 2006. On the one hand, the high household indebtedness level will not enable a rapid expansion of consumption expenditure and especially of housing investment. On the other hand, the current imbalances in the public sector make it necessary to restrain public consumption and investment. In addition to the necessary public expenditure restraint, the effects of a set of measures included in the SGP, affecting developments in real disposable income, are expected to contribute to moderate consumption growth, especially in 2006.

As regards the inflation rate, the current scenario points to a reversal of the downward trend observed in the first half of 2005, mainly due to the effects of rises in indirect taxation set out in the SGP (VAT, taxes on oil products and tobacco tax). Nevertheless, it also reflects some acceleration in import prices, in line with the expected international price developments and the unwinding of the effects related with the appreciation of the euro exchange rate in previous years.

In comparison with previous projections, the current scenario envisages a downward revision of the growth pace of economic activity and upward revisions of the outlook for consumer price developments. These revisions correspond, to a large extent, to the materialisation of the risks identified in previous scenarios, namely: (i) a more adverse external environment, reflected in a significant rise in the oil price and a downward revision in the external demand relevant for the Portuguese economy; (ii) a higher impact of the increasing international competition, in both the Portuguese export markets and in the domestic market; (iii) the effects on inflation and real disposable income of the adoption of fiscal policy measures aiming to reduce imbalances in the public sector.

The degree of uncertainty associated with the current projection scenario is particularly high, especially because it is based on favourable developments in the contribution of net exports to economic activity. This contribution is traditionally characterised by a high volatility, especially when affected, as was recently the case, by features that are difficult to quantify, such as increasing international competition and effects stemming from the rise in the oil price in the major Portuguese export markets. Moreover, in addition to the direct effects considered in the current projection, the recently announced fiscal policy measures may influence economic agents' expectations and, thus, affect developments in economic activity from the second half of 2005 onwards.

The balance of risks translates into a probability of over 50 per cent that GDP growth outcome will stay below the central scenario in 2005 and 2006. A weaker growth in the international economy, especially in the European economies, would inevitably imply more adverse developments in external demand. These, together with the maintenance of the current competitiveness difficulties experienced by Portuguese companies at the level of both export markets and imports competition, would lead to a contribution from external trade to economic activity growth below the central scenario projection. This situation would tend to foster an increase in the unemployment rate over the projection horizon, with repercussions on the contribution of do-

mestic demand to the rebound in economic activity. Finally, the current central scenario is based on the constant short-term interest rate assumption, however, if these interest rates were to increase, they would nonetheless contribute to further moderation in domestic demand, given the current indebtedness level of Portuguese households and the generalised indexation of bank rates to money market interest rates.

The risks to inflation prospects are balanced. If the risk of lower economic activity growth materialise, the pass-through of the recent rise in the standard VAT rate to consumer prices would possibly not be complete, being partially absorbed by a decrease in profit margins over the projection horizon. These effects are likely to be offset by the increasing pressures on prices stemming from both more unfavourable developments in oil prices and a depreciation of the euro exchange rate vis-à-vis the central scenario assumption.

Box 1: QUARTERLY PROFILE OF GDP IN PORTUGAL

The projections for 2005 are strongly conditioned by the slowdown of economic activity in the second half of 2004, which is likely to have extended into the first half of this year. The current central projections foresee GDP growth of 0.5 per cent in 2005, which, in spite of reflecting a deceleration as against the previous year (1.1 per cent growth), encompasses an accelerating profile of the year-on-year rate of change of economic activity in the second half of 2005.

The recovery of economic activity in Portugal following the 2003 recession has been considerably slower and more irregular than that observed after the previous recession episodes. The year-on-year rate of change in GDP declined continuously between the second half of 2004 and the first quarter of 2005, which can be only partly explained by the unwinding of temporary effects that favoured economic activity growth in the second quarter of 2004, namely the hosting of the European Football Championship. According to preliminary data published by the National Statistical Institute (INE), the year-on-year rate of change in GDP was 0.7 and 1.8 per cent in the first two quarters of 2004 respectively, having subsequently declined continuously up to the first quarter of 2005 (see Chart 1.1).

This profile was entirely related to developments in external demand, since the pace of growth of domestic demand remained fairly stable over 2004, following the negative growth rates in the 2003 recession (Chart 1.2.). Exports, on the other hand, decelerated significantly from the second quarter of 2004 onwards, and, in spite of their high import content, did not prevent the persistence of high import growth rates.

The monthly coincident indicator of Banco de Portugal, which is available up to May, suggests that the decelerating trend in activity has extended into the second quarter, when the year-on-year rate of change in GDP will be affected by the base effect related with the higher growth observed in the corresponding period of the previous year.

Taking into account the results of the Quarterly National Accounts for the first quarter of the year and preliminary indications for the second quarter, it is possible to assess the intra-annual pattern implied in the current projections for 2005. However, this assessment should be interpreted with caution given that, in addition to the

Chart 1.1
QUARTERLY NATIONAL ACCOUNTS OF INE AND COINCIDENT INDICATOR OF BANCO DE PORTUGAL

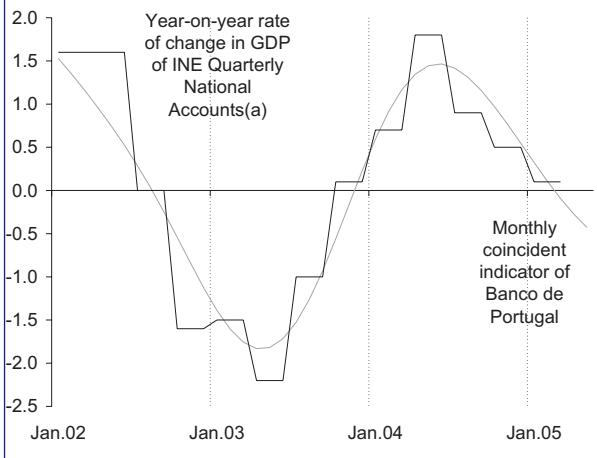
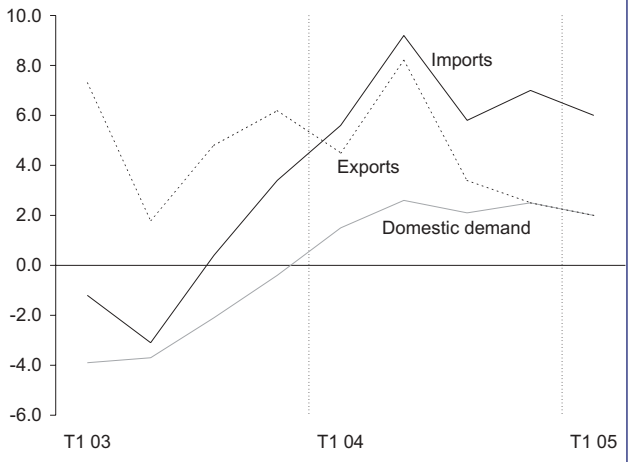


Chart 1.2
QUARTERLY NATIONAL ACCOUNTS OF INE
Year-on-year rate of change, in percentage



Note:
(a) In this chart, use was made of the corresponding quarterly value of the year-on-year rate of change in GDP for the three months of each quarter.

existence of methodological differences underlying the elaboration of Quarterly National Accounts and estimates for Annual National Accounts, the quarterly figures are subject to revisions[1].

Assuming that growth will be close to zero in the first half of 2005, the current central scenario implies a recovery in terms of the year-on-year rate of change in GDP to figures close to 1 per cent in the second half of the year.

The unwinding of the base effect related with the developments in economic activity in the second quarter of 2004 and a more favourable contribution from external trade than in the second half of 2004, namely export growth more in line with developments in external demand, as well as a partial reversal of the significant import growth, may lead to the fulfilment of the acceleration in economic activity in the second half of 2005 implied in the current central scenario. The importance of these base effects is illustrated by the fact that developments in GDP were particularly adverse in the second half of 2004, expressed in negative quarter-on-quarter rates of change in the third and fourth quarters (-0.9 and -0.2 per cent, respectively). Therefore, even assuming that economic activity will remain virtually unchanged in the third and fourth quarters of 2005 (i.e. quarter-on-quarter rates of change in GDP equal to zero) this implies an increase in the year-on-year rate of change in the second half of the year by almost 1.0 percentage points in comparison with the second quarter.

The projection of such a marked accelerating profile is particularly vulnerable to uncertainties, especially when it is based on short-term developments in variables as volatile as exports and imports. Another factor of uncertainty is related to the fiscal policy measures recently announced, which may influence expectations of economic agents and therefore affect the evolution of economic activity in the second half of 2005, in addition to the direct effects anticipated in the current projection.

(1) *For details on these revisions, see the article entitled "The Quarterly National Accounts in Real Time", by Catarina José, published in the June 2004 issue of the Economic Bulletin of Banco de Portugal*

Articles

NOTE ON THE PAPERS RELEASED WITH THIS ECONOMIC BULLETIN

The papers released with this issue of the Economic Bulletin are a selection from a larger set of papers that were written thanks to the participation of the Banco de Portugal in the Inflation Persistence Network (IPN). The IPN is a research network created in January 2003 in the context of the Eurosystem aiming at investigating the patterns, the determinants and the implications for monetary policy stemming from price stickiness and inflation persistence.

The research carried out in the context of the IPN has implied a thorough analysis of micro as well as of aggregate data. At the micro level, the behaviour of prices of both consumer and producer goods defined at the outlet and firm level were investigated. This type of research was made possible thanks to the cooperation of the National Institutes of Statistics of the countries involved in the network, which made available the required information. At the micro level qualitative surveys were also conducted so as to identify the degree of price stickiness and its causes. Three out of the four papers presented in the current Bulletin summarise the main conclusions of the investigation carried out at Banco de Portugal on the above mentioned micro data.

At a more aggregate level, price indices defined for different levels of aggregation were investigated. The fourth paper presented in this Bulletin re-evaluates inflation persistence in the USA using GDP deflator.

Thanks to a good cooperation involving the European Central Bank and the National Central Banks of the Eurosystem, the IPN has allowed significant progress as regards the understanding of price dynamics in the euro area as well as its determinants. The final conclusions will only be released by the end of 2005, but some preliminary results were already presented and discussed in a conference organized by the European central bank held in Frankfurt, in December, 10 and 11, 2004. The papers presented and discussed at the conference are available at (http://www.ecb.int/events/conferences/html/inflationpersistence.en.html).

PRICE (IN) FLEXIBILITY IN PORTUGAL: EVIDENCE FROM MICRO PRICE DATA — PART I[1]*

*Mónica Costa Dias***
*Daniel A. Dias****
*Pedro Duarte Neves*****

1. INTRODUCTION

The degree of price flexibility is a major issue when assessing the impact of different kinds of shocks in the economy. As a matter of fact, the response of (real) output, inflation and employment in face of, for instance, a monetary shock highly depends on the speed at which economic agents react to shocks. If economic agents automatically reacted to any kind of shock then, the monetary policy would not have any effect. On the contrary, if economic agents take some time to react to shocks then, monetary policy will have some short run effect. Despite the vast theoretical literature on this subject, there are very few empirical works characterising the price setting behaviour of economic agents and, the existing ones have a very narrow ambit as they only focus in particular products or markets. In order to have a deeper knowledge of the price formation mechanisms in the Euro area, the European Central Bank jointly with the Euro area Central Banks have been conducting a joint research project called Inflation Persistence Network (IPN). In this project, among other things, researchers from each one of the participating countries, using the datasets underlying the Consumer Price Index (CPI) and Industrial Production Price Index (IPPI), study the price setting behaviour in their own country. These studies, the ones about consumer and producer prices, aim at characterizing the price setting mechanisms in the different countries. This characterization is mostly descriptive and it focus essentially on aspects like the frequency of price changes, the proportion of positive (negative) price changes and the magnitude of price changes. The corresponding analysis for Portugal is made in the paper "Stylised features of price setting behaviour in Portugal: 1992-2001" by Dias, Dias and Neves (2004)[2]. This article is divided in two parts and it is a summary of the just mentioned paper. In the first part of the article we present the main results regarding the Consumer prices, while in the second part we focus on the Producer prices and on the comparison of Consumer and Producer prices.

The rest of the text is organized as follows. Section 2 presents the main findings on consumer price setting behaviour. Conclusions are presented in section 3 and, finally, a brief description of the data is provided in the Annex.

* The opinions of this paper represent the views of the authors, and there are not necessarily those of the Banco de Portugal

** University College of London and Institute of Fiscal Studies.
*** Banco de Portugal.
**** ANACOM and Universidade Católica Portuguesa.

(1) We thank Nuno Alves, Carlos Robalo Marques, João Santos Silva, Maximiano Pinheiro, José Ferreira Machado, participants at various meetings of the Inflation Persistence Network of the Eurosystem. We are also grateful to Daniel Santos, Cristina Cabral, Cristina Fernandes and Humberto Pereira, from the *Instituto Nacional de Estatística*, for many helpful discussions concerning the methodological aspects of the datasets. The usual disclaimer applies.

(2) Banco de Portugal working paper n. 05-2004 and European Central Bank working paper n. 332.

2. SUMMARY OF THE FINDINGS ON CONSUMER PRICE SETTING

This section explores the CPI micro price dataset previously mentioned to identify the main stylised features of consumer price setting in the Portuguese economy over the period January 1997 to January 2001. In every possible case, a comparison with the U.S. and with the Euro area is established[3].

Fact 1 – On average, almost 1 in every 4 prices is changed in a month.

The first column of Table 1 reports monthly frequencies of price changes for all items taken together and split by major groups. The weighted frequency of price changes is 0.22. Thus, price changes affect, on average, almost a fourth of all prices in every month. Therefore, price changes in Portugal seem to occur more frequently than what has been found for the U.S. by Taylor (1999) and remarkably close to the results of Bils and Klenow (2004), who estimated an average frequency of price changes of 0.26. When compared to the Euro area, prices in Portugal change more often. Dhyne et al (2005) present an estimate of 0.15 for the Euro area.

Fact 2 – 50 per cent of the items in outlets display average price durations shorter than 8.5 months.

The fifth column of Table 1 presents the median average price duration for a given product sold in a given outlet. For all items taken together at a moment in time, 50 per cent of product prices last for less than 8.5 months. This value is considerably larger than the one obtained by Bils and Klenow (2004) for the U.S. — 4.5 months — but significantly smaller than the one obtained by Dhyne et al (2005) for the Euro area — 13 months.

Fact 3 – The frequency of price changes is considerably larger for food than for other items, mostly due to the behaviour of unprocessed food items, and the prices of goods change more frequently than the prices of services.

Even at a considerable aggregation level as the one displayed in Table 1, large differences in the price setting behaviour by type of product are evident. The most extreme result concerns unprocessed food, which exhibits a degree of price variability that clearly exceeds that observed for the

(3) It is important mentioning that all empirical results presented in this article use weights obtained from the Consumer Expenditure Survey. Such weights are expected to reflect the average consumption profile of Portuguese consumers.

Table 1

FREQUENCY OF PRICE CHANGES (MONTHLY FIGURES)

	Monthly frequency of price changes	Median frequency of price changes	Monthly frequency of positive price changes	Monthly frequency of negative price changes	Median duration (in months)	Number of observations	Weights
Total	0.220	0.117	0.136	0.084	8.5	1996529	1.000
By type of good							
Food	0.366	0.326	0.194	0.173	3.1	1290061	0.254
Unprocessed food	0.472	0.476	0.247	0.225	2.1	636834	0.139
Unprocessed food excluding perishables	0.382	0.370	0.210	0.172	2.7	413676	0.098
Processed food	0.239	0.188	0.129	0.109	5.3	653227	0.115
Non-food	0.207	0.126	0.141	0.066	7.9	521161	0.463
Non-durable	0.114	0.072	0.080	0.033	14.0	213204	0.093
Semi-Durables	0.277	0.189	0.128	0.150	5.3	108303	0.077
Durables	0.259	0.157	0.188	0.071	6.4	182245	0.200
Energy	0.131	0.143	0.111	0.020	7.0	17409	0.094
Services	0.110	0.067	0.076	0.035	15.0	185307	0.283
Administered price services	0.089	0.072	0.060	0.029	14.0	12327	0.064
Non-administered price services	0.116	0.063	0.080	0.036	16.0	172980	0.219

remaining components of the CPI: almost 50 per cent of items in this class are expected to register a price change at any given month. Such result does not hold for processed food items, suggesting that the behaviour of unprocessed food prices is likely to be driven by supply-side factors related with the seasonal nature of many unprocessed food items. Thus, prices for unprocessed food seem to respond in a flexible way to changes in market conditions.

The frequency of price changes is much smaller for all the other groups. At one extreme is the group of semi-durable items, mainly formed of clothing and footwear. These are items strongly affected by seasonal sales and promotions, thus explaining the relatively high frequency of price changes (almost once every three months). The most unexpected result in this table is that for durable items. It suggests that more than 1 in every 4 prices for durable items change in each month, clearly above the figure for non-durable items (just over 1 in every 10 prices) and nearly the same figure as that found for semi-durables. This result is strongly influenced by the behaviour of prices for new and used cars, amounting to more than 50 per cent of the consumer's expenses in durable goods. For them, homogeneity over time can hardly be ensured, as some product characteristics change very frequently. Their exclusion from the analysis reduces the monthly frequency of price changes for durable items to 9.4 per cent only, below the respective value for non-durables. Finally, the prices for services change at a low frequency (about once in every 10 months, on average). It is worth noting that, given the sample size being considered, all these differences are statistically significant.

The same pattern is displayed in the fifth column of Table 1. According to this measure, 50 per cent of the unprocessed food items have average price durations shorter than 2.1 months, while this goes up to 5.3 months for processed food, 7.9 months for non-food good items and 15 months for services.

Fact 4 – With the exception of food, positive are more frequent than negative price changes.

Columns 3 and 4 in Table 1 show the monthly frequency of price increases and price decreases for February 1997 to January 2001. The two figures are very close for food items, being split almost evenly. This is probably a consequence of the seasonal nature of many items in this class, for which rises and drops in prices are expected to be equally likely. In turn, non-food goods and services are significantly more likely to experience positive price changes, with more than two thirds of the changes being price increases. This is the expected pattern in an inflationary period and is systematically observed for all the more homogeneous classes distinguished in Table 1 apart from that of semi-durable items. The typical seasonal pattern of clothing and footwear, with a sales' period twice a year, may explain the evenly distribution of price changes between positive and negative for this class. Overall, and as one could expect in a context of positive inflation, price increases are more likely than price decreases. However, price increases only account for around 60 per cent of total price changes. This share is around 0.55 in the U.S. while it is 0.58 in the Euro area.

Fact 5 – Price increases and price decreases have, in general, the same order of magnitude. In this way, the observed positive inflation reflects the fact that price increases are more frequent than price decreases.

Table 2 displays the 25th, the 50th and the 75th percentiles of the distribution of the magnitudes of price changes conditional on their sign. These statistics do not show systematic differences between positive and negative price changes. That is, though more frequent, positive price changes are not generally larger in absolute value than negative price changes. The exception occurs for services, which clearly exhibit stronger positive changes, in particular when the prices are not administered.

It is also worth noting that price changes are, in general, sizeable, as shown in columns 1 to 6 in Table 2. Even the first (third) quartile of the conditional distributions of the magnitude of price increases (decreases) exhibits values typically above the average inflation rate for the corresponding period. Thus, size does seem to matter on the decision to change prices.

Fact 6 – There is a considerable degree of heterogeneity in price setting behaviour by product. This applies to the decisions to change prices but it is

Table 2

MAGNITUDES OF PRICE CHANGES (MONTHLY FIGURES)

	Magnitude of positive price changes			Magnitude of negative price changes		
	1st quartile	Median	3rd quartile	1st quartile	Median	3rd quartile
Total	0.044	0.081	0.154	-0.142	-0.075	-0.036
By type of good						
Food	0.048	0.085	0.153	-0.131	-0.077	-0.040
Unprocessed food	0.067	0.116	0.203	-0.169	-0.097	-0.057
Unprocessed food excluding perishables	0.059	0.093	0.149	-0.125	-0.077	-0.047
Processed food	0.041	0.068	0.111	-0.105	-0.062	-0.035
Non-food	0.039	0.058	0.135	-0.170	-0.085	-0.033
Non-durable	0.036	0.051	0.099	-0.118	-0.067	-0.031
Semi-Durables	0.082	0.184	0.356	-0.261	-0.166	-0.090
Durables	0.027	0.057	0.110	-0.117	-0.058	-0.024
Energy	0.041	0.042	0.050	-0.043	-0.024	-0.006
Services	0.067	0.101	0.168	-0.108	-0.063	-0.031
Administered price services	0.035	0.054	0.095	-0.190	-0.073	-0.022
Non-administered price services	0.069	0.108	0.168	-0.105	-0.063	-0.031

not so obvious with respect to the magnitude of the changes.

The frequency of price changes varies considerably among different consumption goods, even after controlling for the type of item. Chart 1 displays the distributions of the average monthly frequencies of price changes for items at the product level, for all items taken together and split by food and non-food goods and services. The distributions are more concentrated for non-food goods and services, but nevertheless exhibit considerable within-group heterogeneity. Some distributions show multi-modal patterns and all have long tails toward 1.

Chart 2 presents the distribution of the magnitudes of price change. This is done conditional on the occurrence of a price change (i.e., zeros were excluded). The graph presents the distribution of the median rates of price change by product and the distributions of the first and third quartiles. Though the distribution of the medians is quite concentrated around a small positive value, the distributions of the other two quartiles are much more disperse.

Fact 7 – Heterogeneous price setting behaviour is observed by type of outlet: the frequency of price changes increases with the size of the outlet.

Big outlets adjust more frequently their prices than small outlets do[4]. Table 3 presents clear evidence on this point. While the frequency of price changes is 0.522 for big outlets, for medium and small outlets, this figure falls to 0.347 and 0.203, respectively. There are several potential explanations for the heterogeneous behaviour observed by type of outlet. On the demand side, it could be related with a more aggressive competition among big outlets, imposing more frequent changes in prices. One possible indicator of the degree of competition between outlets is the proportion of promotional/sales prices, i.e., in a more competitive environment one would expect more promotions/sales. The proportion of promotions/sales for big, medium and small outlets is 0.040, 0.028 and 0.012, respectively. Alternatively, supply-side elements may play a key role in the explanation. The menu-costs hypothesis postulates the existence of costs associated with price changes arising, for example, from collecting information about the evolution of market prices and from re-labelling. Most important, fixed costs represent a potentially large share of the total costs associated with a price

(4) Large, medium and small outlets were considered separately, corresponding to hypermarkets, supermarkets and classical stores, respectively.

Chart 1
DISTRIBUTION OF THE FREQUENCY OF PRICE CHANGES BY TYPE OF OUTLET (MONTHLY FIGURES)

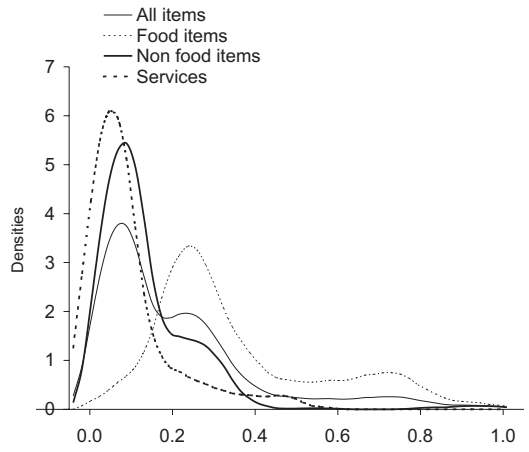
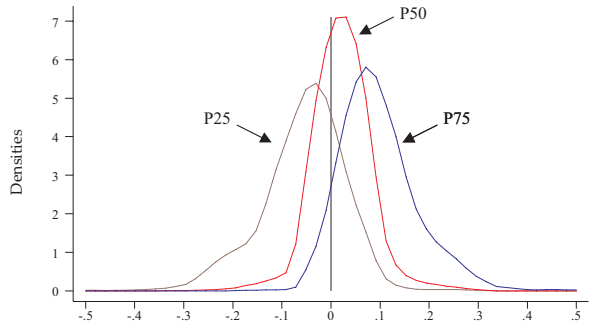


Chart 2
MAGNITUDE OF PRICE CHANGES FOR ALL ITEMS. CONDITIONAL DISTRIBUTIONS OF PERCENTILES 25.50 AND 75 (MONTHLY FIGURES)



change[5]. Thus, differences in price setting behaviour are expected to depend on the outlet size with the fixed costs becoming more negligible as the volume of sales increase.

Fact 8 – There is strong seasonality in the price setting scheme for non-food items, particularly with respect to services. Seasonal factors also affect the magnitude of price changes for non-food items.

A strong seasonal price setting pattern is displayed for services in panel C of Chart 3, with pronounced peaks in the frequency of price changes occurring every first quarter of the year. Non-food goods (panel B) display a less marked but still strong pattern while no obvious seasonality is observed for food items (panel A).

Such systematic behaviour may reflect changes in costs or in the demand that occur systematically at the start of the year and to which sellers are quick to adjust. Alternatively, it can reflect some time-dependent pattern. The typical change in regulated prices and wage rates occurring in January suggests that such seasonal pattern may be a response to changing economic conditions.

Chart 4 displays the distribution of the rate of price changes conditional on the occurrence of a change. This is done separately for each quarter of the year, considering the several years in the sample together by using the homologous quarters[6].120

(5) Moreover, economies of scale in the price setting activity are also expected.

Table 3

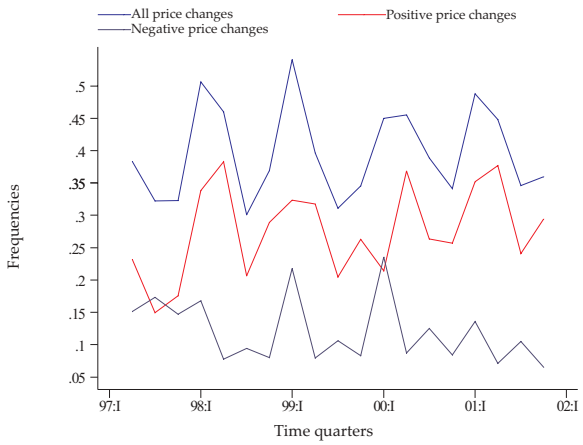
FREQUENCY OF PRICE CHANGES BY TYPE OF OUTLET (MONTHLY FIGURES)

	Monthly frequency of price changes	Median frequency of price changes	Monthly frequency of positive price changes	Monthly frequency of negative price changes	Median duration (in months)
Type of outlet					
Big outlets	0.522	0.500	0.277	0.245	2.0
Medium outlets.	0.347	0.292	0.189	0.159	3.4
Small outlets	0.203	0.146	0.126	0.077	6.9

Chart 3
FREQUENCY OF PRICE CHANGES OVER TIME BY TYPE O F GOOD (QUARTERLY FIGURES)

A – Food items

B– Non-food items



C – Services

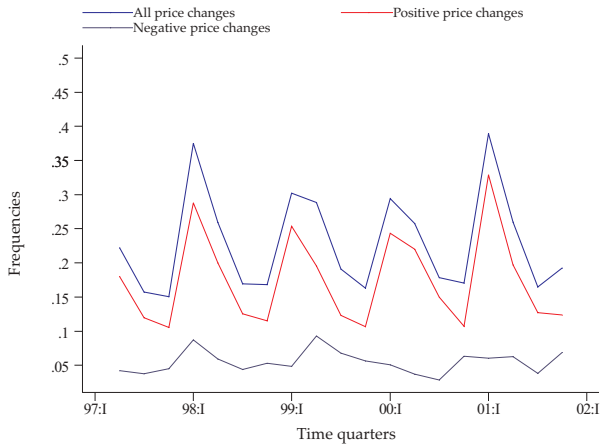
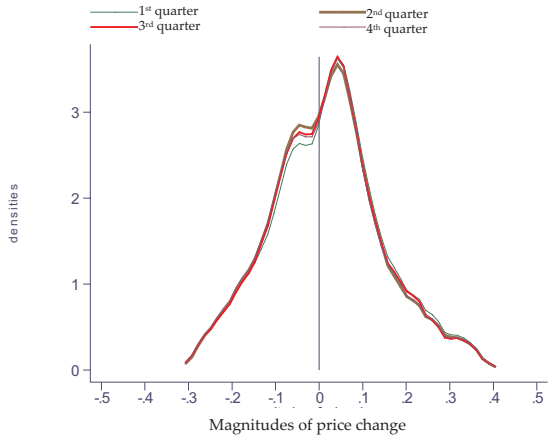
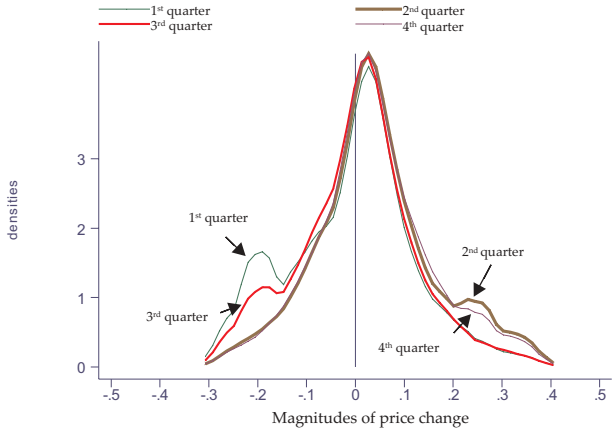


Chart 4
DISTRIBUTION OF THE RATES OF PRICE CHANGES. BY TYPE OF GOOD (QUARTERLY FIGURES)

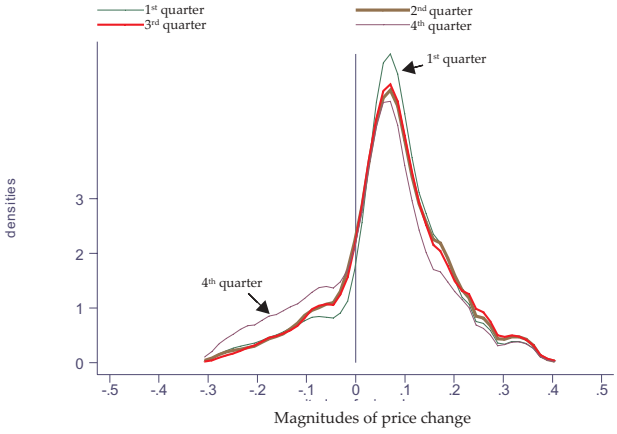
A – Food items



B – Non-food items



C – Services



Moreover, we also distinguish between different types of items. Food items exhibit undistinguishable distributions by quarter, suggesting that seasonality is not a main issue. On the contrary,

non-food goods do show strong differences between, on the one hand, the first and the third quarters and, on the other hand, the second and the fourth. More specifically, the distributions for the first and the third quarters have more mass on negative values, probably a consequence of the occurrence of sales and promotions in that period. The second and the fourth quarters exhibit the opposite pattern, as a consequence of the updates of prices after the sales season. Panel C presents the case for services. All quarters display identical patterns except for the last quarter of the year, where a much stronger tendency for significant price cuts is observed.

3. CONCLUDING REMARKS

In this part of the article we have presented the main stylised features of Consumer price setting behaviour in Portugal during the period 1997-2001. The most important findings can be summarised as follows:

a) The monthly frequency of price changes is slightly below 0.25 meaning that, on average, almost 1 in every 4 prices is changed in a month.
b) This remarkably high frequency of price changes is, however, strongly influenced by the behaviour of unprocessed food.
c) Fifty percent of the products have at least an average price duration of 8.5 months.
d) Goods experience more frequent price changes than services.
e) There is strong seasonality in price setting.
f) Price increases are more frequent than price decreases, as they account for around 60 per cent of total changes, but of equivalent magnitudes.
g) In general, price changes are sizeable, at least having in mind the levels of inflation observed in the Portuguese economy over the sample period.
h) The frequency of price changes increases with the size of the outlet.

In the second part of this article we will continue the analysis of price setting behaviour in Portugal by studying the Producer price setting behaviour and by comparing the price setting practices of retailers and producers.

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(6) The analysis of each quarter in each year separately was also performed. However, homologous quarters in different years exhibit undistinguishable distributions for the rate of price changes. Therefore, we opted for considering them together.

DATA ANNEX

The dataset used in this analysis covers a 6-year period from 1997 to 2002 and it comprises information on prices at the outlet and product level, covering outlets nationwide. The basic observation is that of a price of an item in a particular outlet at a given point in time. In order to avoid potential "contamination" resulting from any atypical behaviour during the euro cash changeover and also to have a balanced sample we have only used information from January 1997 to January 2001. This dataset has around 2,000,000 observations up to January 2001, collected in approximately 13,000 outlets relative to 780 different items. It is important saying that brands and packages may vary across stores but within stores they are kept constant as far as possible. Thus, prices for the same items across stores are not comparable but they are within stores. Apart from prices, product code and outlet code, the dataset also includes information on date, geographical location of the outlet in seven possible regions (NUT II classification), type of outlet allowing for a distinction between hypermarkets, supermarkets, classical stores, discount stores, market and other, a dummy variable for perishable food products and (incomplete information on) the weights of the items in the typical consumer bundle at a fairly disaggregated level (product*NUTII). As the CPI records are under statistical secrecy, it is impossible to know the specific goods and services that are collected in the survey[1]. For the sake of comparability and for the interest of the information per se, we use a breakdown of the CPI by the nature of the items, in particular, Food, Non-Food and Services and within each type of item we have still divided Food products in Processed and Unprocessed Food, Non-Food goods in Energy, Durable, Semi-Durable and Non-Durable and finally Services in Administered Price Services and Non-Administered Price Services. The periodicity of data collection is product-dependent, varying between monthly, quarterly and yearly information[2]. This means that some outlets are visited every month while others are only visited once a year. The yearly, quarterly and monthly observations represent 4%, 58% and 38% of the consumer bundle, respectively. Food items are surveyed monthly while most of the non-food and services items are surveyed quarterly. At the other extreme, education, books and some services are only reported annually. Moreover, some of the non-food items, mostly non-durables, are also reported on monthly basis. It is important saying that, with the exception of those products whose prices are collected yearly, all other products are observed every month. In dealing with such diversity, we need to standardise the time unit for comparison purposes. We start by excluding items observed on a yearly basis, as this information is too poor for the purpose of studying the price setting behaviour. More importantly, quarterly observations are used to estimate monthly figures. Although the dataset has information on promotions/sales (2.2% of observed prices are flagged as being sales or promotions) we have opted to study the actual prices faced by the consumer as these reflect the actual characteristics of the market. Missings can occur either because the product is out-of-stock or the outlet is temporarily (or permanently) closed. In such case, a price is reported and it is an estimate of what the non-observed price would be had it changed at the average rate of change observed in the remaining outlets. This procedure is applied for up to 3 consecutive periods. At the end of this time, the store is replaced if it remains closed or the item is replaced by the most popular alternative within category and store, if it remains out-of-stock. Although an unbiased procedure for the purpose of estimating the aggregate rate of inflation, this latter method is likely to introduce an upward bias when the data is used to estimate the probability of a price change. However, there is information about when the missings occur. This information was used to exclude missing observations from the analysis (about 10% of the observa-

(1) The most detailed product code is composed of eight digits. The first five identify the class, group, subgroup and sub-subgroup; the last three identify the specific good or service chosen for the sample. To guarantee statistical secrecy, the key provided by INE only enables the identification at the first five-digits.

(2) INE (1992) describes the main features concerning sample definition, selection and size.

tions). As it is obvious, the just presented characteristics of the dataset create some difficulties and force some discussable methodological options. As the objective of this article is not discussing techniques or methods but instead presenting results, we remise the interested reader to the methodological section of the paper "Stylised features of price setting behaviour in Portugal: 1992-2001" for a detailed description of such options.

PRICE (IN) FLEXIBILITY IN PORTUGAL: EVIDENCE FROM MICRO PRICE DATA–PART II[1]*

*Mónica Costa Dias***
*Daniel A. Dias****
*Pedro Duarte Neves****

1. INTRODUCTION

In the first part of this article we have focused on the behaviour of consumer prices in Portugal during the period January 1997 to January 2001. In the second part, and with the same motivation as before — having a better understanding of price setting patterns in Portugal —, we will look at producer prices in a similar way. For this analysis we use a micro price dataset built by the Instituto Nacional de Estatística (INE) to compute the Industrial Production Price Index (IPPI). In addition to the analysis of producer prices, we compare consumer and producer price setting features. To do so, and because the consumer and producer baskets of products do not have the same composition, we have had to transform the original datasets in order to make them as comparable as possible. As far as we are aware, it is the first time that a comparison with such a broad coverage is made.

The rest of the text is organized as follows. Section 2 presents the main stylised facts about producer price setting practices. Section 3 compares the behaviour of consumer and producer prices. Section 4 presents the conclusions and, finally, a description of the datasets is made in the Annex.

2. SUMMARY OF FINDINGS ON PRODUCER PRICES

This section explores the IPPI micro price dataset previously mentioned to identify the main stylised features of producer price setting in the Portuguese economy over the sample period. Contrarily to what was made in the analysis of consumer prices, we do not compare the results for Portugal with the U.S. or with the Euro area. The reason for this is that there are no equivalent studies for these two economies[2].

Fact 1 — In the manufacturing industry, almost 1 in every 4 prices is changed, on average, in a given month.

The first column of Table 1 shows the frequencies of price changes for the total of the sample as well as for the specific sectors analysed. The average frequency of price changes in the manufacturing industry, over the sample period, is 0.23. This figure is remarkably close to the corresponding result for consumer prices. However, as it will be-

* The opinions of this paper represent the views of the authors, and there are not necessarily those of the Banco de Portugal

** University College of London and Institute of Fiscal Studies.
*** Banco de Portugal.
**** ANACOM and *Universidade Católica Portuguesa*.

(1) We thank Nuno Alves, Carlos Robalo Marques, João Santos Silva, Maximiano Pinheiro, José Ferreira Machado, participants at various meetings of the Inflation Persistence Network of the Eurosystem. We are also grateful to Daniel Santos, Cristina Cabral, Cristina Fernandes and Humberto Pereira, from the *Instituto Nacional de Estatística*, for many helpful discussions concerning the methodological aspects of the datasets. The usual disclaimer applies.

(2) It is important mentioning that all empirical results presented in this section use weights. Such weights are expected to reflect the importance in terms of Gross Added Value of each industry.

Table 1

FREQUENCY OF PRICE CHANGES (MONTHLY FIGURES)

	Monthly frequency of price changes	Median frequency of price changes	Monthly frequency of positive price changes	Monthly frequency of negative price changes	Median duration (in months)	Number of observations	Weights
Total	0.231	0.083	0.136	0.095	12.0	718269	1.000
Total excluding energy	0.143	0.069	0.086	0.057	14.4	717693	0.833
By type of good							
Intermediate goods	0.116	0.056	0.069	0.047	18.0	337495	0.422
Consumer goods	0.171	0.069	0.103	0.068	14.4	380198	0.411
Energy	0.665	0.681	0.382	0.283	1.5	576	0.167

come clear in section 3, this is more a statistical coincidence than an evidence of similar price setting practices at the producer and consumer levels. Another interesting result is the one displayed in the fifth column of Table 1, i.e., the median average duration of a price. Despite the relatively high average frequency of price changes, the median average price duration is 12 months which is a figure much higher than the one suggested by the frequency of price changes.

Fact 2 — There is a considerable degree of heterogeneity in producer price setting behaviour by product. On one extreme case — the energy sector — a price change is expected in each and every month; on the other extreme, intermediate goods only change prices once every nine months.

As in the case of prices at the consumer level, a notable heterogeneity of producer price behaviour practices emerges from the data. The energy sector constitutes a very extreme situation, as price changes occur in almost 70 per cent of the occasions. This is likely to reflect the extremely high volatility in the international prices for crude oil, suggesting a very flexible price setting pattern responding to changes in the marginal costs of production. However, the administered nature of the prices for energy during the sample period, at the consumer level, prevented this volatility in producer prices to be transmitted to consumer prices. The high frequency of price changes observed in the energy sector affects significantly the frequency of price changes in the manufacturing industry as a whole, as it accounts for around one sixth of the total. Indeed, the average frequency of price changes registered in the manufacturing industry excluding energy is reduced to just over 14 per cent, while the median average price duration increases to 14 months. Relatively to the consumer goods and intermediate goods sectors, we see that prices for consumption goods change more frequently than those for intermediate goods, as indicated by the frequency of price changes (0.17 and 0.12, respectively) and median average price duration (of about just over 1 and 1.5 years, respectively). Two different explanations may account for these differences. On the one hand, consumption goods are in a more advanced production stage and, in this way, more likely to accumulate shocks that affect the production cost. In addition, the argument of 'customer anger' put forward by Rotemberg (2004) justifies a smaller frequency of price changes in intermediate goods — where more information between parties exists — than in final goods.

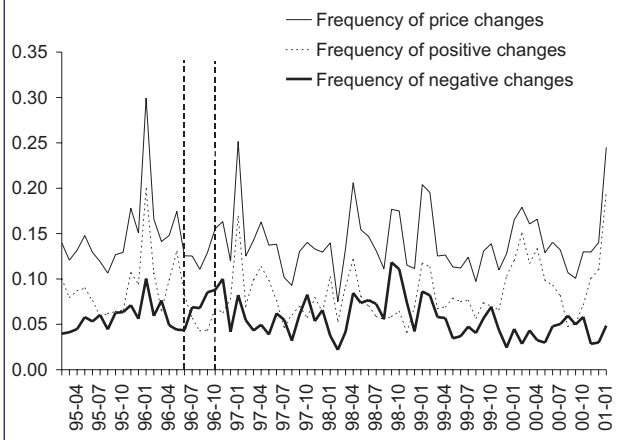
Fact 3 — Strong seasonal patterns are observed for industrial prices, as price changes are concentrated in January.

Chart 1 displays the frequency of price changes for industrial goods by type of industry. Almost every January registers a peak in the frequency of price changes. This seasonal feature is more apparent in price increases than in price decreases, and in consumer goods than in intermediate goods.

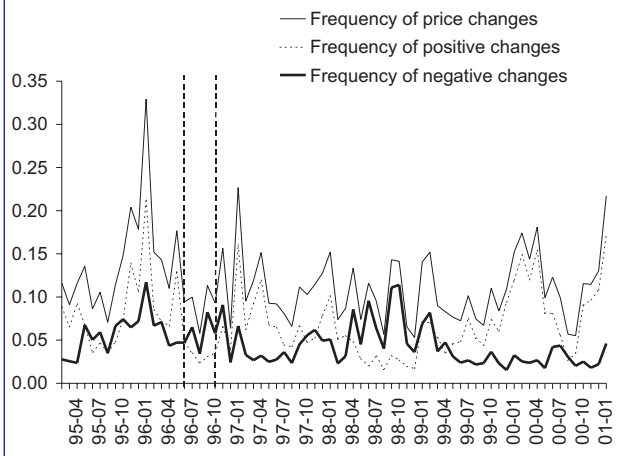
Chart 1[(a)]

FREQUENCIES OF PRICE CHANGES OVER TIME (MONTHLY FIGURES)

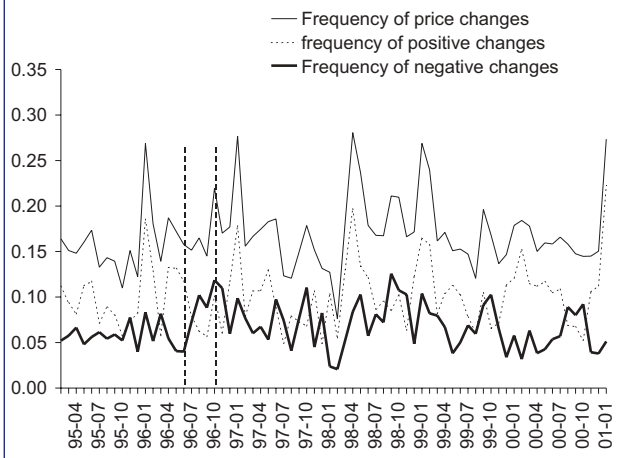
A – All items excluding energy



B – Intermediate goods



C – Consumer goods



Nota: The vertical dashed lines signal the two VAT rate changes that occurred during the analysed period.

Fact 4—Price increases are more likely than price decreases, as one could expect in a context of positive inflation. However, on average, price increases only account for around 60 per cent of total price changes.

In Table 1 it is shown the frequency of price increases and price decreases. In a context of a moderate, but positive, rate of inflation, price increases are more frequent than price decreases. However, only 60 per cent of the price changes correspond to price increases. These proportions hold for consumption, intermediate and, this time, for energy as well. In this way, producer price setting practices over the sample period were characterized by relatively frequent price decreases.

Fact 5—The mean magnitude of price increases is very similar to the magnitude of price decreases; in this way, the observed positive inflation reflects the fact that price increases are more frequent than price decreases, as described in the previous fact.

Table 2 shows some descriptive statistics of the empirical distribution of the magnitude of price increases and price decreases. The first interesting result is that price changes are usually sizeable. For instance, in the manufacturing industry (excluding energy) both the median price increase and the median price decrease amounted, in absolute terms, to 3.8 per cent; the third quartile of the distribution of price increases was 6.8 per cent (7.5 per cent in the case of consumption goods and 6.3 per cent in the case of intermediate goods); the first quartile of negative price changes was -8.5 per cent (-8.7 per cent in the case of consumption goods and -8.2 per cent in the case of intermediate goods).

A second interesting feature of the results is that the magnitude of price increases is broadly similar to the magnitude of price decreases. In this way, the positive inflation observed in producer prices is more a result of the larger frequency of price increases, vis-à-vis the one of price decreases, than a result of larger price increases than price decreases.

Table 2

MAGNITUDES OF PRICE CHANGES (MONTHLY FIGURES)

	Magnitude of positive price changes			Magnitude of negative price changes		
	1st quartile	Median	3rd quartile	1st quartile	Median	3rd quartile
Total	0.022	0.046	0.091	-0.098	-0.048	-0.018
Total excluding energy	0.019	0.038	0.068	-0.085	-0.038	-0.015
By type of good						
Intermediate goods	0.019	0.036	0.063	-0.082	-0.038	-0.015
Consumer goods	0.020	0.039	0.075	-0.087	-0.038	-0.014
Energy	0.071	0.107	0.167	-0.132	-0.091	-0.062

3. THE COMMON SAMPLE: COMPARING CONSUMER AND PRODUCER PRICE SETTING PRACTICES

In this section we present the results of the comparison between the consumer and the producer price setting practices:

Fact 1—Consumer prices change more frequently than producer prices.

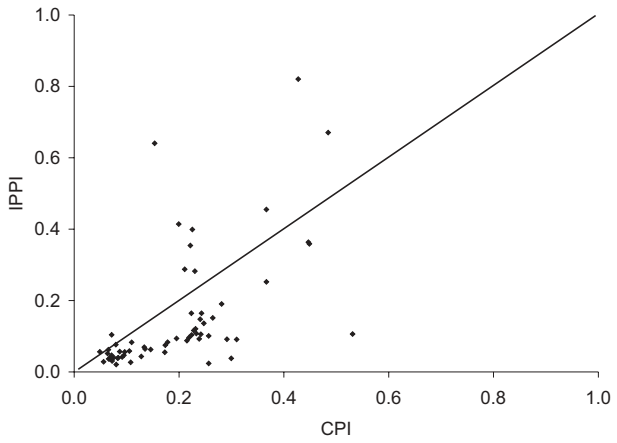
Chart 2 plots the frequency of consumer and producer price changes for each of the comparable categories of items. The diagonal line is the geometric space where equal frequencies would be positioned. Most of the observations are concentrated below the diagonal line, indicating that prices at the retailer level do change more frequently than prices at the producer level. It is also important to point out that points above the diagonal tend to correspond to food industries (like meat products) or to goods for which consumer prices were regulated over the sample period (energy)(3).

Fact 2—Consumer price increases (decreases) are more frequent than producer price increases (decreases).

Chart 3 presents the frequency of price increases (decreases) at the retailer and producer level. Panel A displays positive price changes and panel B presents negative price changes. The same pattern is observed for both: price changes are always more frequent at the retailing level, independently of the sign.

Chart 2

CPI VS IPPI – FREQUENCY OF PRICE CHANGES AT THE CONSUMER AND INDUSTRY LEVEL (MONTHLY FIGURES)



Fact 3—More sizeable price changes are found for the CPI than for the IPPI, regardless of the sign of the change.

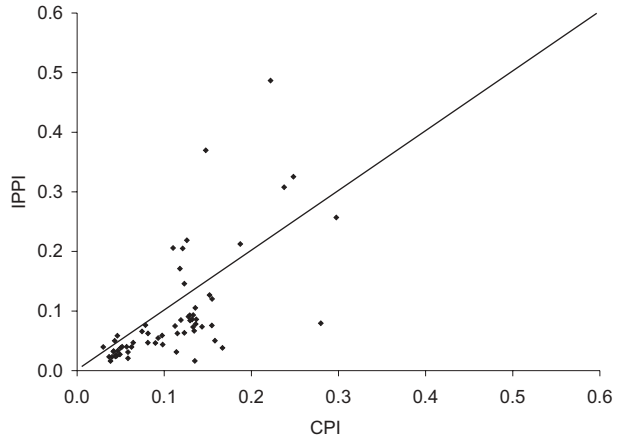
Chart 4 plots the median rates of price change for positive and negative changes in panel A and B, respectively. Changes at the retail level are generally larger, independently of the direction of the change. Again, different definitions of price are not responsible for this result. Thus, we are left with either the "end of the road" argument or some differences in the elasticity of demand at the production and consumers levels.

(3) Nine out of the ten points above the diagonal correspond to food industries. The remaining point above the line is energy.

Chart 3

CPI VS IPPI – FREQUENCY OF PRICE CHANGES AT THE CONSUMER AND INDUSTRY LEVEL - POSITIVE AND NEGATIVE PRICE CHANGES. (MONTHLY FIGURES)

A – Positive price changes



B – Negative price changes

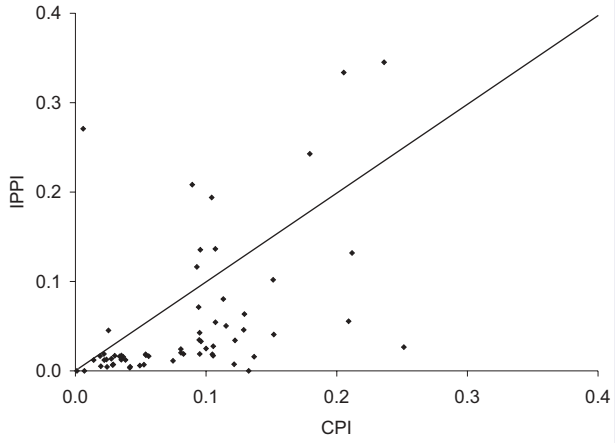
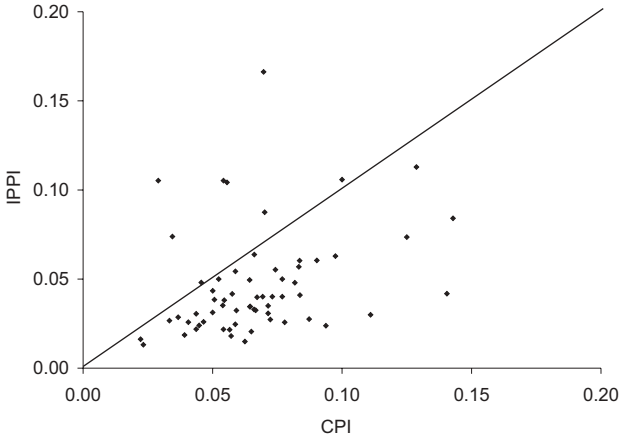


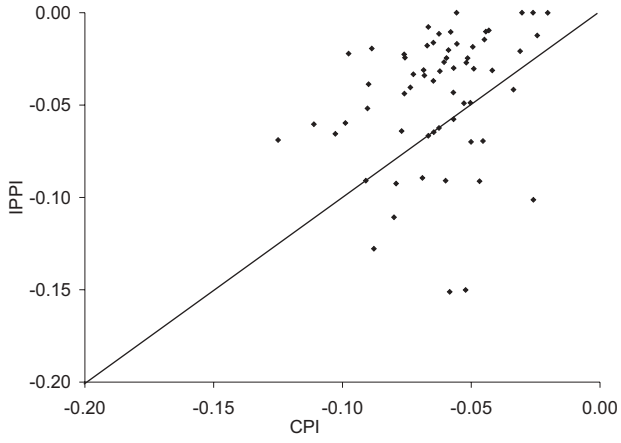
Chart 4

CPI VS IPPI – MEDIAN MAGNITUDES OF PRICE CHANGES IN CPI AND IPPI - POSITIVE AND NEGATIVE PRICE CHANGES. (MONTHLY FIGURES)

A – Positive price changes



B – Negative price changes



4. CONCLUDING REMARKS

In this part of the article we have identified the main stylised features of producer price setting behaviour in Portugal over the period 1995-2001. Additionally, we have established a comparison of consumer and producer price setting patterns. The main conclusions of this empirical research are the following:

a) The monthly frequency of price changes is slightly below 0.25 meaning that, on average, almost 1 in every 4 prices is changed in a month.

b) This remarkably high frequency of price changes is, however, strongly influenced by the behaviour of energy.

c) The median average price duration for producer prices is around 12 months.

d) Consumption goods experience more frequent price changes than intermediate goods and energy goods experience more frequent price changes than consumption goods.

e) There is strong seasonality in price setting.
f) Price increases are more frequent than price decreases, as they account for around 60 per cent of total changes, but of similar magnitudes.
g) In general, price changes are sizeable, at least having in mind the levels of inflation observed in the Portuguese economy over the sample period.
h) For comparable goods, consumer prices change more often than producer prices.
i) For comparable goods, when consumer prices change they change for bigger amounts than producer prices.

This study for Portugal and the corresponding studies for other countries are mostly descriptive and therefore do not allow rejecting or maintaining any of the many existing price setting theories. Nevertheless, and given the richness of the used datasets, the knowledge on this subject has increased tremendously and nowadays, Portugal, as well as the other Euro Area member countries, is one of the places in world for which there is more information about price setting practices.

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DATA ANNEX

A.1 IPPI DATASET

The IPPI dataset reports prices in industry for the following sectors: Mining and Quarrying, Manufacturing, Electricity, Gas, and Water Supply. This study, however, focus only on the Manufacturing industry, thus eliminating the information available for the other sectors. Data runs from January 1995 to August 2002 on a monthly basis. Each observation corresponds to the price of an item in a firm at a given moment in time. Items are classified using the Prodcom Nomenclature at the 12-digits level and are further characterised at a more disaggregated level, including brand. However, due to statistical secrecy we are only able to label the products at the 12-digits classification. Again, this is a longitudinal dataset, with the same firms and items being followed over time. The sample was designed having 1995 as the year of reference and covering firms that produce in part or totally for the domestic market. Up to January 2001, this survey covers 2,406 firms and 538 items(1).

The price collected by INE is defined as the list price of industrial production traded within the domestic market. More specifically, it corresponds to the gross figures presented in the table of prices for items produced by the firm. Any discounts or subsidies are not deducted and taxes are not added. The relevant price is that in force at the 15th of each month(2).

Missings may occur either because the item is discontinued, the firm closes temporarily or permanently, or it just does not reply in a given month. When this situation occurs, missing observation, INE uses the last reported price as an estimate of the missing one. This criterion is applied for up to 4 consecutive months, after which the item is dropped and replaced by a similar one. The occurrence of a missing is not signalled in the dataset. Thus, observable missings in the middle of a record are virtually inexistent. However, they are responsible for incomplete records, these being the ones not observed up to the end of the sampled period. In fact, only about 82 percent of the records ever started during the 1995-2000 period are still in the dataset in January 2001.

A.2 COMPARABILITY BETWEEN IPPI AND CPI

For comparison purposes, we have constructed subsets of the CPI and IPPI datasets with similar composition. These are the common samples. Matching was performed at the most detailed labelling information available for both CPI and IPPI. The comparison between consumer and producer price practices, through the use of the micro-datasets underlying the CPI and the IPPI, raises some comparability issues given the different methodological characteristics of these two indexes. We have identified five different sources of attrition: i) sample constitution, ii) VAT, iii) missing values, iv) sales and promotions and v) forced item substitution. Dias, Dias and Neves (2004) discuss the impact of these five sources of attrition on the comparison of results and, for each one of these, they propose a solution. As this discussion is somewhat lengthy and technical we have preferred to not include it in here and instead remise the interested reader to the original paper.

(1) INE (1997) describes the main features concerning sample definition, selection and size.

(2) Prices are collected by mail and, if necessary, a fax/telephone/postal insistence takes place at the 26th of the reference month.

PRICING BEHAVIOUR IN PORTUGAL: EVIDENCE FROM SURVEY DATA[1]*

*Fernando Martins***

This article analyses the results of a survey conducted by the Banco de Portugal between May and September 2004 on a sample of 1370 Portuguese firms with the main purpose of investigating their price setting behaviour and search for evidence of price stickiness in Portugal. The results point to the presence of a considerable degree of price persistence: most firms do not review or change their prices more than once a year time lags in price, adjustments were found to be significant, and slightly more than half of the firms follow time-dependent price reviewing, though only one-third stick to this practice after the occurrence of specific shocks. The existence of "implicit contracts" between firms and their customers is apparently the main reason for the rigidity observed in prices. Coordination failure, high fixed costs, constant marginal costs, explicit contracts and procyclical elasticity of demand are other valid explanations.

1. INTRODUCTION

In economic literature it is now widely agreed that the way monetary policy is conducted can influence the level of economic activity. The central assumption to obtain real effects from monetary policy is that prices are not fully flexible, remaining fixed for at least very short periods. Price stickiness affects the responsiveness of inflation and output to changes in interest rates. In this context, a better understanding about its degree and sources is critical for the design of optimal monetary policy. This has motivated a renewed interest on this field of research.

In this article, price stickiness in Portugal is investigated on the basis of qualitative data coming from a survey conducted by the Banco de Portugal between May and September 2004. The sample covered 1370 Portuguese firms, mostly from man-

* The opinions expressed in this article are those of the author and not necessarily those of the Banco de Portugal.

** Banco de Portugal Economic Research Department and *Universidade Lusíada* de Lisboa.

(1) This article was developed in the context of the Eurosystem's Inflation Persistence Network (IPN). I am extremely grateful to Pedro Neves who was the main responsible for setting up the project underlying this article. I would also like to thank the participants of the IPN as well as my colleagues from the Research Department Carlos Robalo Marques, Daniel Dias, Isabel Horta Correia, João Santos Silva, Mário Centeno, Nuno Alves, Pedro Portugal and José Machado for their very helpful comments and suggestions. Special thanks also goes to Leonardo Gonçalves from *Universidade Lusíada* de Lisboa for his magnificent research assistance. I am also indebted to Fátima Teodoro, Pedro Luís, Maria Lucena Vieira and Fernanda Carvalho for their computing support in several stages of the project and also to Guilherme Pinto and António Garcia from the Statistics Department for sharing their experience with other surveys conducted by the Banco de Portugal. Finally, I would like to express my gratitude to all the firms that participated in the survey.

ufacturing. Firms were asked about a number of features of their pricing behaviour such as the frequencies of price reviews and price changes, the speed and magnitude of price adjustments as well as the reasons that led them to change their prices infrequently. The methodology was similar to that proposed by Blinder *et al* (1998), who were the first to implement the large-scale interview method to test different theories of price stickiness. Hall *et al* (2000) for the UK and Apel *et al* (2001) for Sweden followed a similar approach. More recently, in the context of the Eurosystem's Inflation Persistence Network, a number of national studies following identical methodology were undertaken for several euro area countries. This is the case of Fabiani *et al* (2004) for Italy, Loupias and Ricart (2004) for France, Kwapil *et al* (2005) for Austria, Aucremanne and Druant (2005) for Belgium and Hoeberichts and Stokman (2004) for the Netherlands. No similar study has ever been conducted for Portugal.

The main advantage of using a survey is that one can ask firms directly about a number of aspects of their pricing behaviour such as the motivations underlying the asymmetries observed in price changes or the reasons why they decide to adjust prices infrequently. This cannot be carried out on the basis of quantitative data coming for instance from the analysis of individual price indices. Another important strength of survey analysis is that it allows to split the process of price determination into its two main components (the "price reviewing stage" and the "price changing stage") and to study them separately, something that it is also impossible with quantitative data where we only have available the final outcome of this process. Finally, survey data also provides a crosscheck of the evidence stemming from the quantitative data.

The main disadvantage of this approach is the need to assume that firms' responses describe what they actually do in practice. Besides that, we have to be aware that responses may be sensitive to various factors, such as the wording of questions and the economic environment in which they are answered[(2)]. Finally, one-off surveys do not have a time dimension, which makes impossible to investigate how different variables evolve over time.

This article is structured as follows. Section 2 describes some characteristics of the market where firms operate with special emphasis on the degree of competition and customer relationships. Section 3 presents evidence of price stickiness on the basis of a number of measures such as the frequency of price reviews and price changes, the speed of price reaction to shocks or the fraction of firms following time-dependent and state-dependent pricing rules. The main theories of price stickiness are examined in section 4. Finally, section 5 presents some concluding remarks. The methodological issues involving the sample selection and the survey design are presented in the Box annexed.

2. MAIN MARKET CHARACTERISTICS

Firms' price-setting behaviour is affected by the characteristics of the market where they operate. Among those characteristics is the location of their main market (domestic or foreign), the degree of competition they face and the kind of relationship they have with their customers. In this section, we analyse these characteristics.

2.1. Main product and main market

The survey focused on firms' main product, either a good or a service, referred to as the product with the highest turnover in 2003, as a way of avoiding the potential problem of firms considering different products and price strategies in their answers. This could have been a very restrictive limitation to the survey if firms' main product was not representative of their total turnover. Fortunately, this was not the case. Indeed, the main product accounted on average by slightly more than 80 percent of total turnover (Chart 1). This high percentage was broadly expected since our sample excluded a number of sectors where a

(2) For instance, in 2003, the reference year in the survey, Portugal went into recession. According to information released by the Banco de Portugal in its 2005 Annual Report, GDP declined by 1.1 percent, reflecting a rather negative contribution of domestic demand. Gross Fixed Capital Formation went down by 9.9 percent while Private Consumption declined by 0.1 percent. Both consumer and business confidence indicators reached very low levels. This unfavourable economic environment could have had some influence on firms' answers to the survey.

Chart 1
SHARE OF MAIN PRODUCT IN TOTAL TURNOVER
(Question 2)

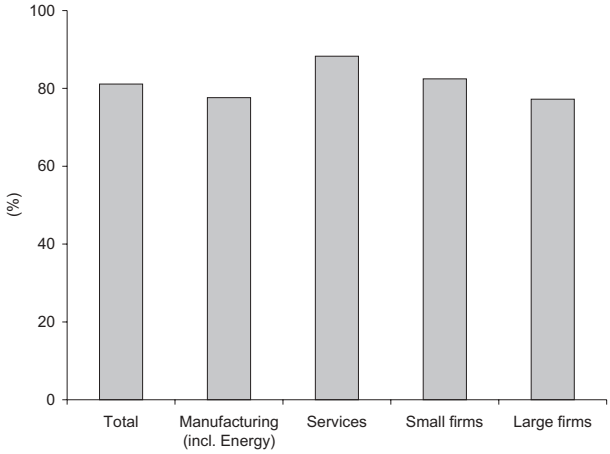


Chart 3
SHARE OF EXPORTS IN TOTAL TURNOVER
(Question 4)

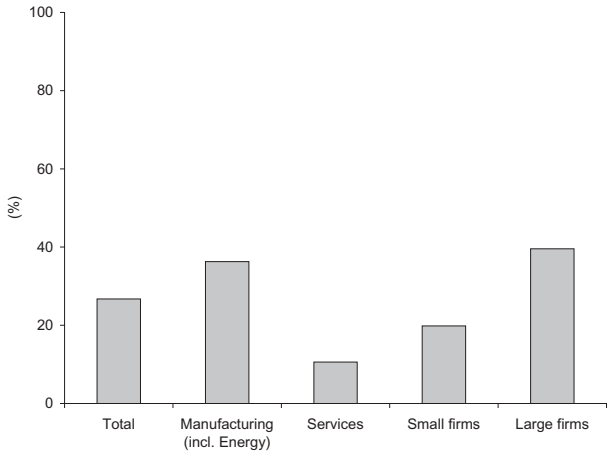


Chart 2
MAIN MARKET
(Question 3)

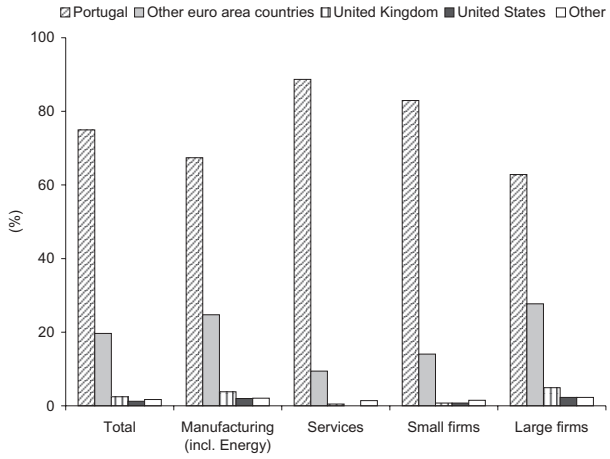
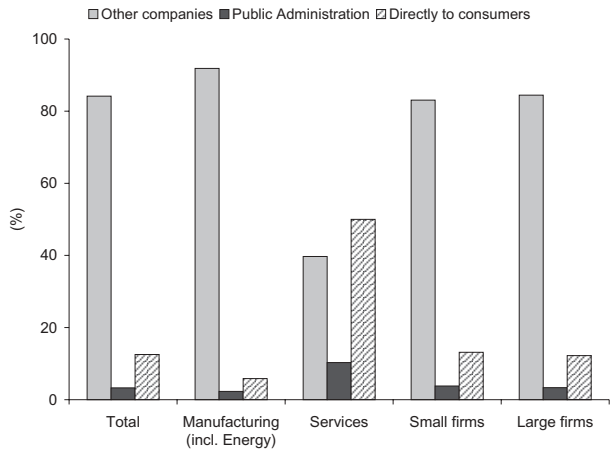


Chart 4
MAIN DESTINATION OF SALES
(Question 5)



main product was considered to be difficult to identify. Analysing results by sector and firm size, the figures are higher in services and for smaller firms[3].

Regarding firms' main market, the domestic market was referred to as the main one by about 75 percent of the firms (Chart 2). As expected, this share was higher in services and for smaller firms. The location of firms' main market is important because price-setting strategies might be different in domestic and foreign markets.

The higher degree of openness found in manufacturing and among larger firms was consistent with the results obtained when exporting-firms were asked about the percentage of their turnover that was due to exports (Chart 3). As expected, this percentage was higher in manufacturing and for larger firms.

Reflecting the larger share of manufacturing in our sample, most firms (84 percent) sell their main product to other firms, while only 13 percent sell it directly to consumers (Chart 4). This suggests that

(3) The results presented in this article for the total population of firms are weighted in order to correct for possible biases in the response structure as well as to account for the differences in firms' size. For a technical description of the weighting procedure used in this article, see Martins (2005).

Chart 5
TYPE OF RELATIONSHIP WITH CUSTOMERS
(Question 8)

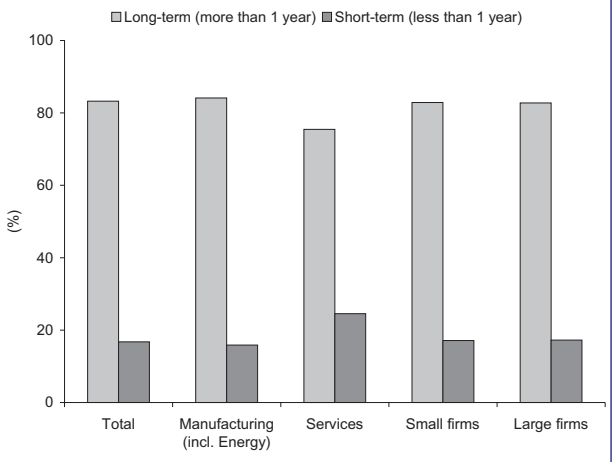
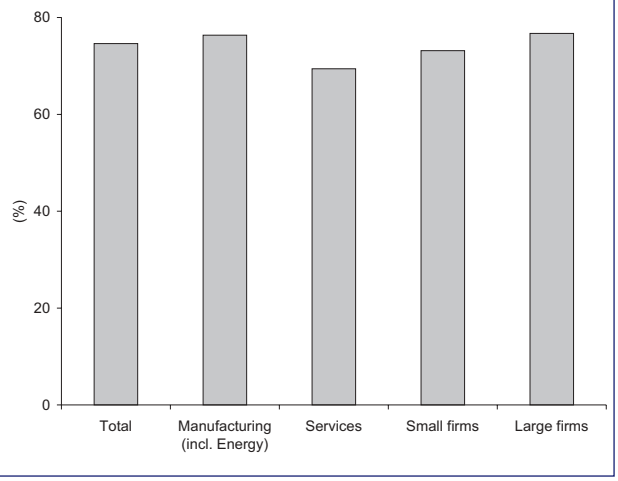


Chart 6
SHARE OF SALES TO LONG-TERM CUSTOMERS IN TOTAL TURNOVER
(Question 9)



the type of price-setting behaviour under analysis refers predominantly to producer prices.

2.2. Relationship with customers

The kind of relationship that firms have with their customers, i.e. whether it is long-standing or only occasional, can have a bear on their price strategies. Hall *et al* (1997) show that firms with longer standing relationships with customers tend to review prices less frequently. The reasoning behind this behaviour might be that the presence of a significant number of longer-term customers could act as a kind of implicit contract leading firms to stabilize their prices. Results reveal that 83 percent of firms have a long-term relationship with their customers (Chart 5)[4]. This figure is higher in manufacturing (84 percent) than in services (75 percent). Firms also reported that their sales to longer-term customers represented the bulk of their total sales (75 percent). This share is higher in manufacturing and for larger firms (Chart 6).

2.3. Degree of competition

The degree of competition that firms face is another important variable affecting price-setting decisions. The survey contains a number of questions that try to capture the degree of competition faced by firms. For instance, in questions 6 and 7 firms were asked about the number of competitors they have in the Portuguese market and about their market share. Even though the sample coverage has a bias towards larger firms, in general firms seem to have a limited market power: 56 percent of firms have more than 20 competitors in their main market and 53 percent have a market share of less than 5 percent (Charts 7 and 8). As expected, the degree of competition is somewhat weaker for larger firms irrespective of which of the two proxies is used.

This finding was congruent with the evidence coming from the question on the elasticity of demand. When firms were asked about what would happen to the quantities they sold if they decided to increase the price of their main product by 10 percent, 67 percent responded that the quantities would fall by more than 10 percent (Chart 9). Even though most of the firms seem to have limited market power they still possess some degree of autonomy on their price. Indeed, 67 percent of firms considered themselves as mainly price setters (Chart 10).

3. MEASURING PRICE STICKINESS

(4) For firms that sell their main product mostly to consumers this share is significantly lower (65 percent).

Chart 7
NUMBER OF COMPETITORS IN PORTUGAL
(Question 6)

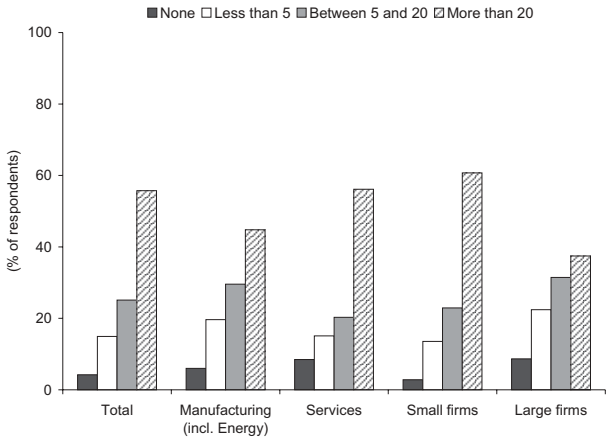


Chart 8
MARKET SHARE OF THE MAIN PRODUCT IN PORTUGAL
(Question 7)

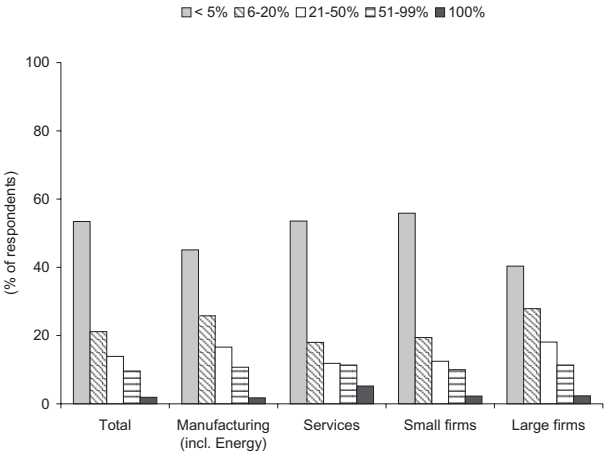


Chart 9
ELASTICITY OF DEMAND
(Question 22; fall in quantities sold if prices increase by 10%)

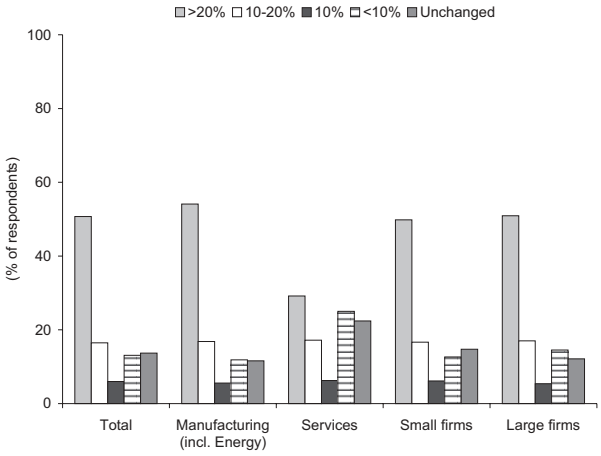
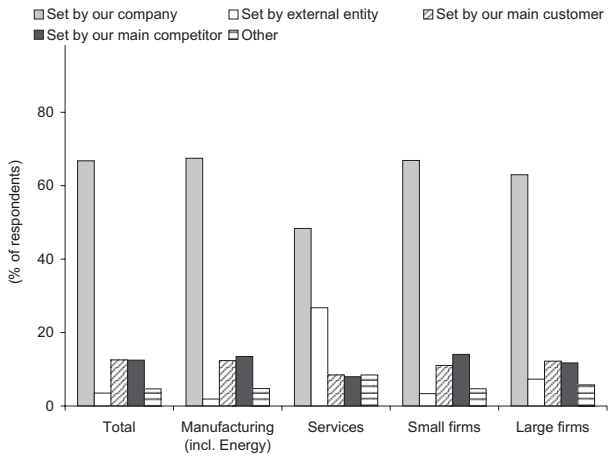


Chart 10
DEGREE OF PRICE-SETTING AUTONOMY
(Question 16; who sets firm's price)



3.1. Time-dependent and state-dependent pricing rules

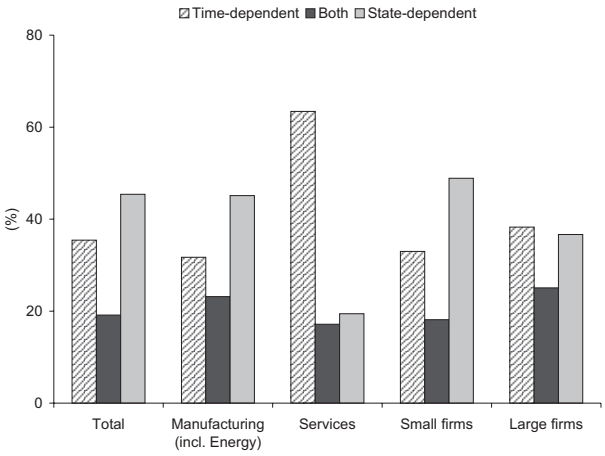
In the literature there are traditionally two approaches for modelling price setting behaviour: the time-dependent rules and the state-dependent rules. Under time-dependent rules, prices are reviewed at discrete time intervals, which are independent of the state of the economy and can be either fixed as in Taylor (1980) or stochastic as in Calvo (1983). As opposed to time-dependent rules, in state-dependent rules the timing of price reviews is endogenous and firms decide to review their prices only when there is a sufficiently large shift in market conditions.

Even though both theories have implicit the presence of a certain degree of price stickiness, presumably more in time-dependent rules, they have different policy implications. Under time-dependent rules, prices are reviewed at discrete time intervals whose length usually depends on the inflation rate: when inflation is high, firms' relative prices are falling quickly and, in order to avoid a fall in profits, they tend to review prices

more frequently (i.e. prices become less sticky). In this context and other things being equal, a monetary shock in a high inflation environment is likely to have a smaller and a less persistent impact on economic activity. Under state-dependent rules, the level of inflation is downgraded in terms of importance and what matters the most is the nature and size of shocks affecting market conditions.

To test the relative importance of both rules, firms were asked whether their prices were reviewed at a well-defined frequency or in response to market conditions(5). The survey also included a "hybrid option" in order to consider those situations where firms review their prices at a specific frequency as a rule, for instance at the end of every year, but they may also conduct additional reviews in response to particular events. Results show that under normal circumstances 55 percent of firms follow time-dependent rules. However, in the event of specific shocks, 19 percent of firms change to state-dependent price reviewing (Chart 11). This is in line with the results reported by Fabiani *et al* (2005), who found that in the euro area the percentage of firms following pure time-dependent rules is 33 percent. Results also point to the presence of important differences across sectors: in services, time-dependent rules have a clear dominance as opposed to manufacturing where the bulk of firms follow state-dependent rules.

Chart 11
PRICE-ADJUSTMENT STRATEGIES
(Question 18)



3.2. Backward-looking and forward-looking price-setting behaviour

One unsettled issue in macroeconomic theory is whether inflation should be modelled primarily as a backward-looking variable, as in the so-called traditional expectations-augmented Philips Curve, or as a forward-looking variable, as in the New Keynesian Philips Curve (NKPC). Under the traditional formulation of the Philips Curve inflation is related to its own lagged values as well as to some cyclical measure. In contrast, the NKPC paradigm puts the emphasis on the forward-looking nature of inflation. The main point of this debate lies in the short run behaviour of inflation and its implications for monetary policy [see, for instance, Galí *et al* (2001)]. In NKPC models, it is possible for a monetary authority to reduce inflation without any cost in terms of employment and output as long as inflation expectations evolve in line with inflation itself(6). In addition, at the empirical level, even though the NKPC is generally considered as more appealing given its forward-looking nature, the traditional formulation does a better job in portraying the evidence coming from the data. Galí and Gertler (1999) argue that the difficulty of the NKPC to fit the data results from the use of detrended GDP or other similar measures to proxy the output gap. Against this background, they propose the use of the real marginal cost. This choice seems to be supported by the empirical results both for the US and the euro area [see Galí *et al* (2001)]. The unsettled nature of this issue has led some authors to prefer hybrid versions of the Philips Curve that also include backward-looking or rule of thumb terms [see, Fuhrer (1997)].

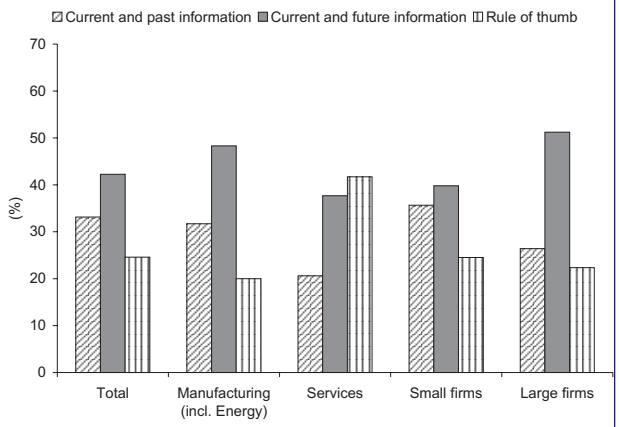
In the context of survey analysis, one can try to test which of the two paradigms seem to describe better the way firms usually formulate their pricing decisions by asking them directly about the information set they take into account when review-

(5) While price reviews can be made at regular time intervals this is not typically the case for price changes. In principle, a price change comes after a price review but prices do not necessarily change every time a price review takes place. For this reason, it makes more sense to formulate this question in terms of price reviews than in terms of price changes.

(6) See, for instance, Roberts (1997).

ing their prices. According to the evidence, an important share of firms (42 percent) review their prices taking into account a wide range information, which includes expectation about future economic developments (Chart 12). However, a large fraction of firms build price decisions without looking to economic projections. About one-quarter of firms simple adopt a rule-of-thumb behaviour based for instance on the overall consumer price index or on wage growth. Results also indicate that larger firms are more forward-looking. This is also true for manufacturing. This is important evidence since departures from fully optimising behaviour could be an additional source of price stickiness.

Chart 12
INFORMATION SET USED IN PRICE REVIEWS
(Question 21)



3.3. The frequency of price reviews and the frequency of price changes

Those firms that follow time-dependent rules, either strictly or only when there are no large shifts in market conditions, were asked to mention the normal frequency of their price reviews. If the costs incurred by firms to collect the relevant information to assess whether the current price is out of line were negligible one would expect firms to conduct price reviews very frequently. However, results show that only a small fraction of firms (5.1 percent) review their prices more than once a month. This indicates that price reviews are probably not costless. For instance, firms may fear that the possible gains resulting from reviewing prices for instance every day or every week could not be large enough when compared to the costs they have to bear(7). Indeed, the size of these costs seems to be such that 47 percent of firms adopting time-dependent rules review their prices no more than once a year (Chart 13). Comparing results across sectors, the evidence shows that price reviews seem to be more frequent in manufacturing than in services.

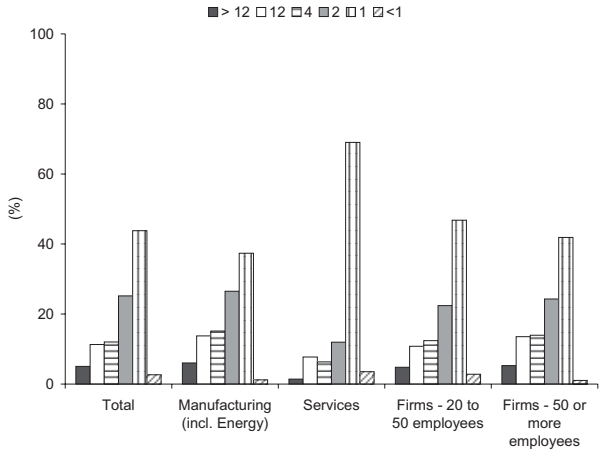
Having analysed the frequency of price reviews the next step was to ask firms how often they actually change their prices. Comparing results for firms that responded both to the question on price reviews and the question on price changes, the evidence shows that, as expected, price changes are less frequent than price reviews: about three quarters of firms responding to the survey reported that they change their prices no more than once a year (Chart 14). These results are in line with the findings of Fabiani *et al* (2005) for the euro area, Blinder *et al* (1998) for the US, Hall *et al* (1997) for the UK and Apel *et al* (2001) for Sweden. As in price reviews, the frequency of price changes seems to be higher in manufacturing than in services. In addition, firms that sell their product mostly to other firms, which is our best proxy for the behaviour of producer prices, seem to change their prices on average more frequently than those that sell their product mostly to final consumers (Charts 15 and 16).

3.4. The direction and magnitude of price changes

One important objective of survey analysis is to investigate to what extent the evidence stemming from quantitative data is supported (or not) by the qualitative data coming from the survey. Dias *et al* (2004) pioneered the study of price setting behaviour in Portugal using the micro-datasets underlying the consumer and producer price indices in the period 1992-2001. In their paper, they conclude *inter alia* that price increases only account for around 60 percent of total price changes and that the magnitude of price increases is broadly similar

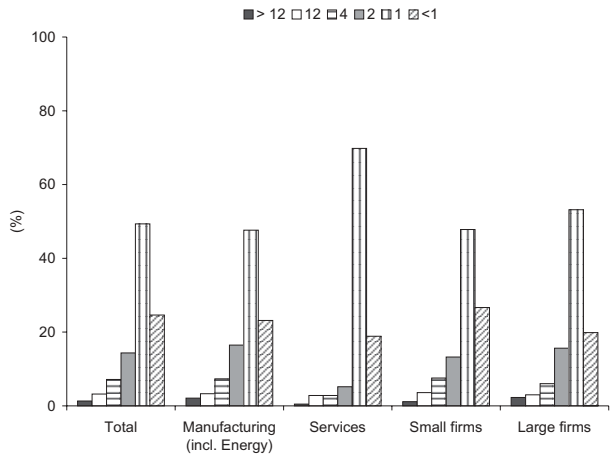
(7) One alternative explanation for the low frequency of price reviews found in data could be attributed to the fact that some firms may consider that it may not make sense for them to review their prices more often simply because the frequency of arrival of new relevant information is also low.

Chart 13
FREQUENCY OF PRICE REVIEWS
(Question 19; number of times in a year)



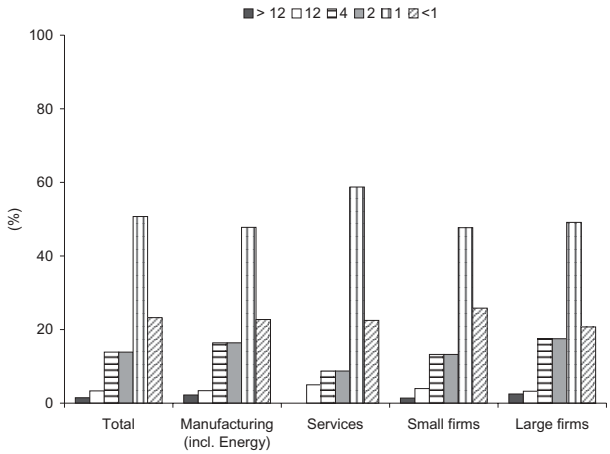
Note: Average frequency: Total=4.0; Manuf.=4.6; Manuf.+Energy=4.6; Serv.=2.5; Firms(20-50)=3.9; Firms(>50)=4.4.
The median is equal to 2 in all cases.

Chart 14
FREQUENCY OF PRICE CHANGES
(Question 20; number of times in a year)



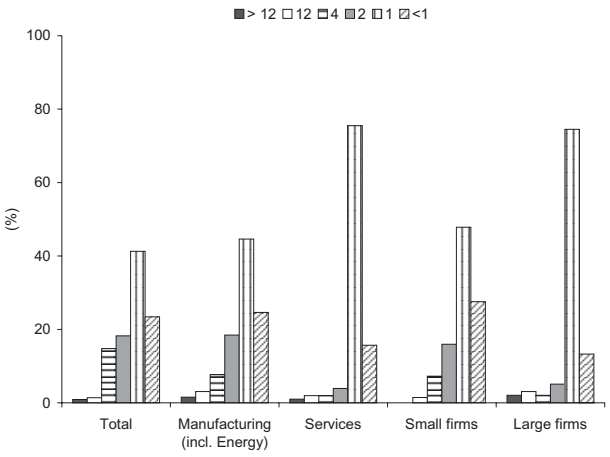
Note: Average frequency: Total=1.9; Manuf.=2.1; Manuf.+Energy=2.1; Serv.=1.5; Firms(20-50)=1.9; Firms(>50)=2.1.
The median is equal to 1 in all cases.

Chart 15
FREQUENCY OF PRICE CHANGES IN PRODUCER PRICES
(Question 20; considering only firms that sell their product mostly to other firms; number of times in a year)



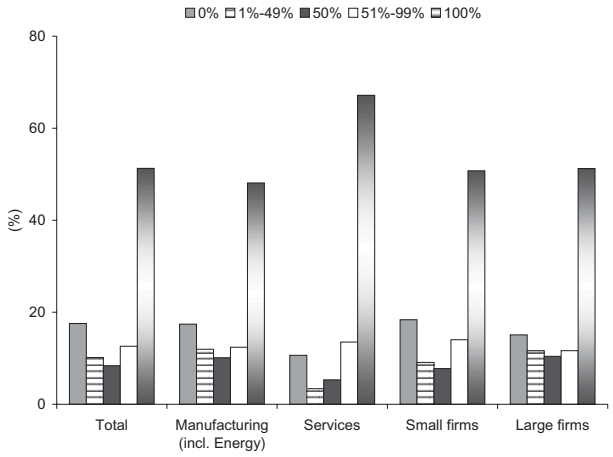
Note: Average frequency: Total=2.1; Manuf.=2.2; Manuf.+Energy=2.2; Serv.=1.7; Firms(20-50)=2.0; Firms(>50)=2.2.

Chart 16
FREQUENCY OF PRICE CHANGES IN CONSUMER PRICES
(Question 20; considering only firms that sell their product mostly to final consumers; number of times in a year)



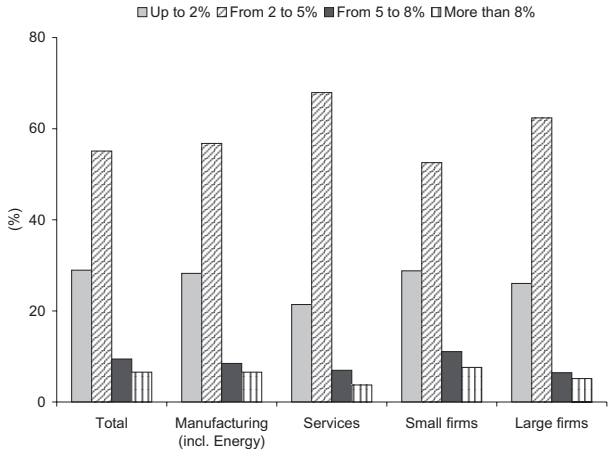
Note: Average frequency: Total=1.7; Manuf.=2.0; Manuf.+Energy=2.0; Serv.=1.5; Firms(20-50)=1.4; Firms(>50)=1.9.

Chart 17
PERCENTAGE OF PRICE INCREASES IN THE MOST RECENT PRICE CHANGES
(Question 14)



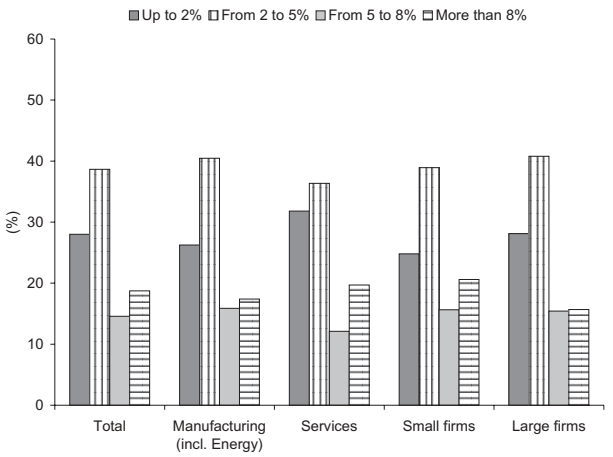
Note: Average percentage: Total=67.5; Manuf.=65.5; Manuf.+Energy=65.5; Serv.=80.1; Firms(20-50)=67.4; Firms(>50)=68.1.

Chart 18
AVERAGE MAGNITUDE OF THE MOST RECENT PRICE INCREASES
(Question 15)



Note: Median percentage: Total=3.1; Manuf.+Energy=3.2; Serv.=3.3; Firms(20-50)=3.2; Firms(>50)=3.2.

Chart 19
AVERAGE MAGNITUDE OF THE MOST RECENT PRICE DECREASES
(Question 15)



Note: Median percentage: Total=3.7; Manuf.+Energy=3.8; Serv.=3.5; Firms(20-50)=3.9; Firms(>50)=3.6.

to the magnitude of price decreases. These two findings are common to both consumer and price indices. Their results also show that consumer prices seem to change more frequently than producer prices, something that is valid both for price increases and price decreases. Survey data confirm that price increases are more frequent than price decreases — about one half of firms did not report any price decrease[8]. Price increases account for almost 70 percent of total changes (Chart 17), i.e. higher than the 60 percent share found in the quantitative data but in line with the result obtained by Loupias and Ricart (2004) for France. Except for the case of services, where this share is particularly high, there is no evidence of strong downward rigidity.

Looking at the magnitude of price changes, survey results also revealed that the absolute magnitude of price decreases is on average higher than that of price increases (3.7 percent against 3.1 percent, respectively). Differences across sectors were not significant but smaller firms seem to be more aggressive in terms of the magnitudes of their price changes (Charts 18 and 19). The positive inflation witnessed at the aggregate level is apparently the result of a higher frequency of price increases and not of differences in magnitude between price increases and price decreases.

(8) The results of both studies should be compared with some prudence. The analysis in Dias *et al* was conducted on the basis of monthly data covering the period 1992-2001, while in this survey firms were asked about their last price changes in general.

Table 1

PERCENTAGE OF FIRMS THAT DO NOT CHANGE THEIR PRICES IN THE FIRST YEAR AFTER A SHOCK

(Question 25; option 6)

	Total	Manufacturing	Services	Small firms	Large firms
Positive demand shock	35.8	33.0	52.9	35.8	35.8
Positive cost shock	9.7	8.0	20.2	9.7	9.7
Negative demand shock	28.1	25.2	45.5	30.3	26.7
Negative cost shock	21.5	18.0	42.6	22.8	20.6

Chart 20

SPEED OF PRICE RESPONSE TO A POSITIVE DEMAND SHOCK

(Question 25.1; number of days)

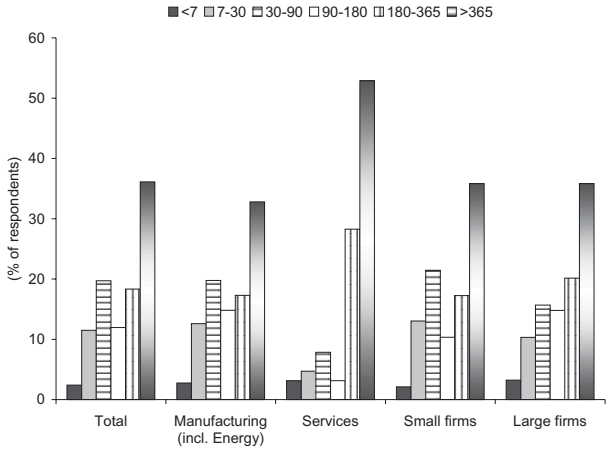


Chart 21

SPEED OF PRICE RESPONSE TO A POSITIVE COST SHOCK

(Question 25.2; number of days)

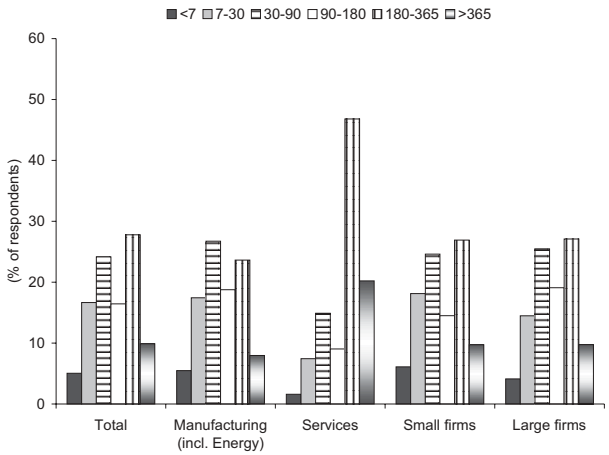


Chart 22

SPEED OF PRICE RESPONSE TO A NEGATIVE DEMAND SHOCK

(Question 25.3; number of days)

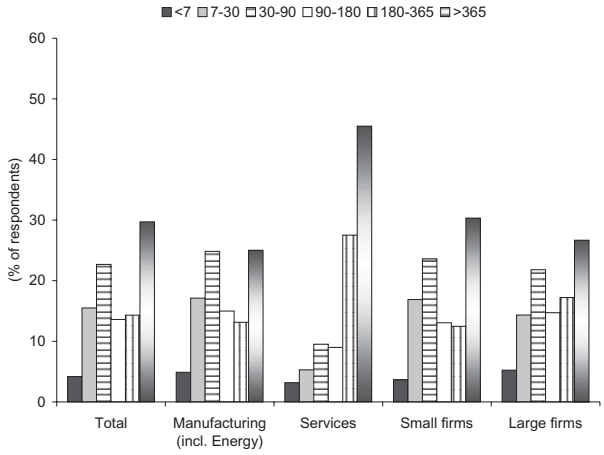


Chart 23

SPEED OF PRICE RESPONSE TO A NEGATIVE COST SHOCK

(Question 25.4; number of days)

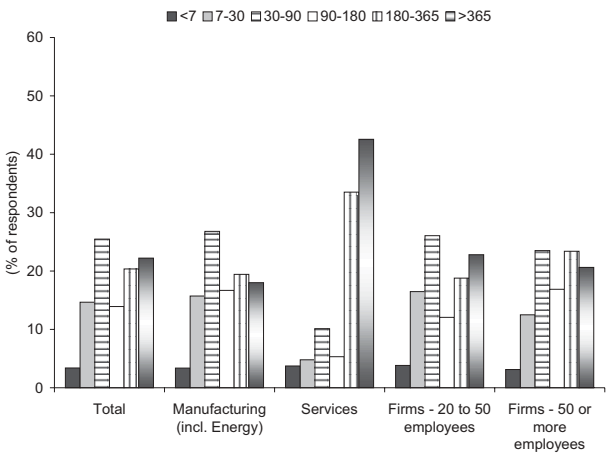


Table 2

THEORIES OF PRICE STICKINESS

(Question 26; mean scores unless otherwise stated)

Questions	Theories	Total:		Memo:			
		Mean scores	*P-value*	Manufacturing	Services	Small firms	Large firms
26.7	Implicit contrats	3.14	0.00	3.17	3.01	3.17	3.12
26.1	Co-ordination failure	2.84	0.36	2.87	2.69	2.81	2.86
26.9	High fixed costs	2.80	0.00	2.81	2.79	2.85	2.78
26.11	Constant marginal costs	2.70	0.09	2.70	2.67	2.82	2.62
26.4	Explicit costs	2.63	0.54	2.60	2.81	2.55	2.68
26.12	Procyclical elasticity of demand	2.61	0.00	2.63	2.49	2.79	2.49
26.2	Temporary shock	2.46	0.63	2.49	2.15	2.46	2.44
26.3	Time lags in price adjustments	2.45	0.00	2.46	2.47	2.41	2.49
26.1	Judging quality by price	2.28	0.00	2.30	2.16	2.35	2.23
26.6	Menu costs	1.89	0.00	1.89	1.90	1.90	1.89
26.5	Pricing thresholds	1.78	0.05	1.76	1.92	1.77	1.79
26.8	Costly information	1.70	-	1.71	1.66	1.74	1.68

3.5. The speed of price changes

The analysis of the frequencies of price changes provides an important indication of the degree of price stickiness. However, as Blinder *et al* (1998) pointed out this may not be sufficient to conclude for the presence of price stickiness: infrequent price changes maybe the result of infrequent cost and demand shocks. Against this background and to complement the analysis of frequencies, in the survey firms were asked to report the time that on average elapses between a significant shock (positive or negative) to either demand or costs and the corresponding price change. The respondents had 6 options available: 1-less than one week; 2-from one week to one month; 3-from 1 month to 3 months; 4-from 3 to 6 months; 5-from 6 months to 1 year; 6 - the price remain unchanged. Regarding this last option, we have to interpret firms' answers as referring to the short-run rigidity in response to a shock they consider as permanent. If for instance firms interpreted a "significant rise in costs" as a permanent rise in costs then any answer that do not include a change in prices would make no sense. Thus, option 6 must be understood as telling us the proportion of firms that maintain their prices in the first year after the occurrence of a given shock.

Table 1 reports the percentage of firms that maintain their prices in the first year after a shock. There is no evidence that prices move faster upwards than downwards. However, firms seem to respond faster to cost shocks, in particular when they are positive, than to demand shocks. Only 10 percent of firms maintain their prices unchanged in the first year after a positive cost shock, while the fraction of firms holding their prices constant in response to a positive demand shock is 36 percent. Moreover, the speed of price adjustment seems to be considerably higher in manufacturing than in services. Charts 20 to 23 corroborate these facts by showing the speed of price responses to different types of shocks. The percentage of firms that do not adjust their prices during the first six months after a shock occurs lies between 38 percent, for positive cost shocks, and 55 percent, for positive demand shocks. For services, these figures are significantly higher (67 and 81 percent, respectively).

4. THE MAIN THEORIES OF PRICE STICKINESS

The process of adjusting prices is normally divided in two stages: the "price reviewing stage" and the "price changing stage". Under the first, firms estimate an "optimal" price using all the information they considered relevant. Having done this, firms are then able to check whether the deviation of their current price from the optimal price is significantly enough to warrant a price change.

Sources of price stickiness may be present at both stages. Results from last section suggested that firms review their prices at discrete intervals and not continuously, which points to the presence of some kind of stickiness at this first stage. Once the price review has been made, firms decide whether they want to change their price or not. Results also show that they change their prices less frequently than they review them. This could happen either because the evidence coming from the price review does not support the need for a price change or because once firms decide to incur the informational costs of reviewing their prices, they recognise that there are extra costs associated with a price change that could possible outweigh their benefits. In this section, it is analysed the possible origin of these costs.

The method adopted is similar to that of Blinder *et al* (1998), who were the first to implement the large-scale interview method to test different theories of price stickiness. In the survey we asked firms the following question: "Firms sometimes decide to postpone price changes or to change their price only slightly. This is generally due to various factors. Some of them are listed below. Please indicate their importance in your company." The list contained 12 theories of price stickiness, all explained in a language that could be broadly understandable[9]. The respondents were asked to indicate their degree of agreement with the chain of reasoning underlying each option in a scale ranging from 1 ("unimportant") to 4 ("very important"). The theories were not mutually exclusive: firms could, and they did it in many cases, agree with several of them.

Table 2 ranks the theories by mean scores. In addition, it also shows the p-value corresponding to the test of the hypothesis that each theory's mean score is significantly different from the theory ranked just bellow. Results of this test show that only in three cases the differences in scores are not statistically different at the 10 percent level.

Results suggest that the presence of "implicit contracts" between firms and their customers is apparently the most important explanation for infrequent price adjustments. This theory was formulated as "the preference of customers for stable prices (a reason why) changing prices frequently could threaten customer relations". The mean score attached to this theory is surprisingly high given the traditional magnitude of mean, scores in similar studies, which in a comparable scale do not normally exceed 3. The "coordination failure" and the "high fixed costs" theories are the next two theories in the ranking, with similar (non-statistically different) mean ranks. The first theory refers to the fact that it may not be in a firm's interest to change their price if their main competitors do not change their prices, while the second refers to the constraint that the presence of high fixed costs puts on firm's decision to reduce its price.

"Constant marginal costs", "Explicit contracts" and "Procyclical elasticity of demand" complete the group of theories with mean scores exceeding the neutral value of 2.5. If costs are an important determinant in firms' pricing decisions and if marginal costs do not change by much, there are no reasons to change prices frequently. This is the main assumption behind the theory of constant marginal costs. The existence of explicit (written) contracts implies that prices can only change when the contracts are renegotiated. Finally, if firms' elasticity of demand is procyclical (i.e. their mark-up is countercyclical) their demand curve becomes less elastic as it shifts down, which means that when demand decreases firms lose firstly their "less loyal" customers and retain those that are less sensitive to price, implying that the price can be kept basically unchanged.

Below the top group of theories, there is a group with mean scores between 2 and 2.5 that may be considered as having limited relevance for explaining the inertia observed in prices. There are three theories in this group: "time lag in price ad-

(9) A detailed description of these theories can be found in Blinder *et al* (1998) or Hall *et al* (2000).

justments", "temporary shocks" and "judging quality by price". Under the first, firms recognise that there are lags in price adjustments, coming for instance from bureaucratic delays in the decision of changing prices, while the second refers to the fact that firms may decide not to change their price in response to a shock if they considered it as having a temporary nature. Finally, some firms may feel reluctant to decrease their price for fear that their customers will think their product has declined in quality. This "quality signal" might be relevant in some market segments such as luxury goods.

The last three theories in the ranking ("menu costs", "pricing threshold" and "costly information") do not seem to be good explanations for price stickiness. The theory of menu costs, which is cited frequently in textbooks as an important explanation for price rigidity, obtained a relatively modest mean score. Apparently, physical menu costs, i.e. the amount of resources needed to implement a price change, are not so important in deterring firms from adjusting their prices more regularly. Some firms may want to quote their prices according to certain thresholds (for example, pricing at 4.99 euros instead of 5 euros) if they believe that increasing their prices above these thresholds will lead to a disproportionately fall in demand. This "pricing threshold" theory implies that demand curve is not continuous and firms may delay a price adjustment until new events justify a change to the next price threshold. Finally, the theory labelled as "costly information" focuses on the costs of collecting the relevant information to decide whether the current price is right or not. These costs typically occur in the price reviewing stage. The costly information theory received the worst rank in the contest of theories, which seems to suggest that the main sources of price stickiness are not in the first but in the second stage of price setting.

To conclude, it worth to mention that when analysing the different theories of price rigidity an important distinction should be made between those referring predominantly to nominal rigidity and those referring to real rigidity. Nominal rigidity relates to the costs that firms have to bear to adjust their nominal prices (relabelling, new price lists, change contract conditions, ...). "Menu costs", "Explicit contracts", "Time lags in price adjustment" or "Pricing thresholds" are theories of nominal rigidity. However, most of the remaining explanations set forth in the literature are theories of real rigidity. They attempt to explain why firms have a low incentive to change their relative prices even when the costs of adjusting their nominal prices are small. This low incentive is related to the sensitivity of firms' profits to shocks: the less sensitive their profits are to shocks the less likely it is they will change prices. This means that nominal rigidity is an increasing function of real rigidity. Ball and Romer (1990) show that real rigidities play a key role in explaining nominal rigidity and the real effects of nominal shocks.

5. CONCLUDING REMARKS

In this article, price stickiness in Portugal was analysed based on qualitative data coming from a survey conducted by the Banco de Portugal between May and September 2004. Price stickiness was assessed on the basis of five measures: the share of firms following time-dependent pricing rules *vis-à-vis* the share of firms following state-dependent pricing rules; the frequency of price reviews; the frequency of price changes; the share of firms that take into account expectations about future economic developments when reviewing their prices; and the speed of price response following cost or demand shocks. The results point to the presence of a considerable degree of price stickiness: most firms do not review or change their prices more than once a year; time lags in price adjustments were found to be significant; slightly more than half of the firms follow time-dependent price reviewing, though only one-third stick to this practice after the occurrence of specific shocks; and, finally, more than a half of firms build their price decisions taking into account only historic data.

Results also show that price stickiness seems to be higher in services than in manufacturing (all the five measures point in the same direction). This a stylized fact also identified for the euro as a whole [see Fabiani *et al* (2005)]. The higher degree of price persistence observed in services could reflect its higher labour share. Indeed, there is some evidence [see Alvarez *et al* (2005)] that higher shares of labour input imply lower frequencies of price changes.

Another important finding is that prices seem to go down more frequently than which is normally assumed: slightly more than 30 percent of price changes are price decreases. Moreover, the absolute size of price decreases is even larger than the magnitude of price increases.

Finally, the existence of "implicit contracts" between firms and their customers is apparently the main reason for the rigidity observed in prices. Coordination failure, high fixed costs, constant marginal costs, explicit contracts and procyclical elasticity of demand are other valid explanations.

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METHODOLOGICAL ISSUES

SAMPLE DESIGN

The survey was conducted by the Banco de Portugal between May and September 2004 on a sample covering Manufacturing (NACE - classification of economic activities - 15 to 37, excluding 30); Energy (NACE 40 and 41); Transport, Storage and Communication (NACE 60 to 64); Education (NACE 80); and Healthcare excluding social work (NACE 85, excluding 853). This implied that a total of 31 two-digit sectors were covered. Some sectors such as construction or retailing were not included mostly because of the difficulty in identifying a main product. A total of 2491 firms were contacted to participate in the survey[1].

The Banco de Portugal Central Balance-Sheet Database (Central de Balanços, CB) was the primary source for firm collection. Given the dominance of smaller firms in Portugal, a pure random selection of firms would run the risk of an overrepresentation of these firms. To overcome this problem, it was decided to select firms using stratified random sampling. The whole population of firms for the above-mentioned sectors was split into two groups according to the number of employees: one group containing firms with 20 or more employees but less than 50, and another group including firms with 50 or more employees. It was decided that 40 percent of firms would be drawn from the first group while the remaining 60 percent would be drawn from the second. A crosstabulation of these two groups with the selected sector breakdown gave rise to 62 mutually exclusive strata.

The selection of firms in each stratum was made by stages. The relative frequency of each stratum in the Ministry of Employment Personnel Database (Quadros de Pessoal, QP) - the best proxy of the population of Portuguese firms - was used as a benchmark to determine the number of firms to be drawn from the CB 2002. After doing this, firms were drawn randomly from each stratum. For those strata where the number of available firms in the CB 2002 was less than the benchmark, it was used successively the CB 2001, the CB 2000 and finally the QP 2000 databases until the sample was fully completed. At the end, the sample included 2099 firms from Manufacturing, 10 from Energy and 382 from Services. These firms accounted for about 20 percent of total employment in Portugal.

SURVEY DESIGN AND IMPLEMENTATION

The survey was organised in six sections containing a total of 31 questions (an English version of the survey is shown in annex). For the sake of comparability, a large share of these questions was taken from other similar surveys. This opportunity was also seized to ask firms about other aspects of their price-setting behaviour. This was the case of questions on the evidence of price discrimination in foreign markets or on the evidence of wage-adjustment synchronisation. It was made an attempt to phrase the questions as much as possible in non-technical language that can be understood by a non-economist.

After the sample had been selected and a first draft of the survey had been designed, in the end of May a pilot survey was carried out on a sample of 20 firms. This provided a very useful mechanism for an ex-ante assessment of firms' reaction to the survey. Following the analysis of responses and after contacting some of the surveyed firms by phone, a number of questions were either reformulated or even eliminated in order to make the survey shorter and simpler. The pilot survey was also very helpful in terms of choosing the best way to contact firms.

In July 2004, a revised version of the survey was sent by traditional mail for the whole sample of firms. It was accompanied by a cover letter signed by both the Director and the Deputy Director of the Research Department making clear inter alia that the survey was to be answered by someone well informed about firms' price setting

(1) The total number of firms sampled was 2500 but the survey was only sent to 2491, because the remaining firms had either merged or ceased to exist. In addition, firms that participated in the pilot survey were not included in the final sample because the questionnaire they received had some considerable differences vis-à-vis the final draft.

(firms' top managers in most cases). Firms were allowed to answer within fifteen working days either by traditional mail or through a specially created website[2].

A reminder was sent to those firms that had not responded by middle-August. At the end, 1370 valid questionnaires were received[3]. A response rate of 55 percent was rather pleasant given that for most firms it was the first time they were facing such kind of survey and some of the questions were not particularly easy to respond.

(2) A help desk was created to support firms, either by phone, fax or email.

(3) The number of firms that sent their questionnaires was a slightly higher but some questionnaires had to be eliminated because some inconsistencies were identified. For instance, 87 firms answered in question 6 that they had no competitors in their main market, but 3 of them claimed in question 16 that their price was set by their main competitor.

Banco de Portugal
Research Department
Av. Almirante Reis, 71-6º
1150-012 Lisboa
Contact Person: Fernando Martins; Phone: 00351-213130015; E-mail: estudos@bportugal.pt

SURVEY ON PRICE-SETTING BEHAVIOUR

The questions concern the **main product** sold by your company (either a good or a service). You can choose, for instance, the product with the highest turnover in 2003 or any other product that you considered as a reference of your main activity. The answers should be referred to this product and, unless otherwise stated, they should be also referred to 2003. The Banco de Portugal guarantees the strict **confidentiality** of your answers, which will be only used for economic research. The Banco de Portugal is very grateful for your collaboration.

Company name: _____
Company economic classification (5-digit code): _____ Fiscal Number: _____
Person that answers the survey: _____
Phone Number: _____ E-*mail*: _____ Date: _____

General Information

1. What is your main product? _____

2. The percentage that your main product represents in the total turnover is about:

2.1. ____ %

3. What is your main market (*choose only one option)*?

3.1. Portugal ..... ☐
3.2. Other euro area countries[(1)] ..... ☐
3.3. United Kingdom ..... ☐
3.4. United States ..... ☐
3.5. Other countries ..... ☐

4. If you sell your product abroad, what percentage of your turnover is due to exports?

4.1. ____ %

4.2. I don't wish to answer or I don't have enough information to do so..... ☐

5. What is the main destination of your sales (*choose only one option*)?

5.1. Wholesalers ..... ☐
5.2. Retailers..... ☐
5.3. Companies of your own group ..... ☐
5.4. Other companies (private and public) ..... ☐
5.5. Public Administration (State, Municipalities,...)..... ☐
5.6. Directly to consumers (via your own stores or through catalogues or Internet)..... ☐
5.7. Others channels, please specify _____ ☐

6. In the Portuguese market, how many competitors do you have?

6.1. We don't have any main competitor ..... ☐
6.2. Less than 5 ..... ☐
6.3. Between 5 and 20 ..... ☐
6.4. More than 20 ..... ☐

7. What is the market share of your main product in Portugal (*choose only one option*)?

7.1. Less than 5% ..... ☐
7.2. 6%-20% ..... ☐
7.3. 21%-50%..... ☐
7.4. 51%-99%..... ☐
7.5. 100%..... ☐

8. The kind of relationship that you have with your customers is essentially (*choose only one option*):

8.1. Long-term (more than 1 year) ..... ☐
8.2. Short-term (less than 1 year) ..... ☐

9. The percentage of your sales that goes to long-term customers is approximately ____ %

(1) Germany, Spain, Greece, Italy, Luxembourg, Netherlands, Belgium, Ireland, Finland, France and Austria.

10. What is the importance of the following factors for the competitiveness of your product? *[Use the following options: 1-unimportant; 2-of minor importance; 3-important; 4-very important; 0- I can't evaluate]*

		1	2	3	4	0
10.1.	The price					
10.2.	The quality					
10.3.	The degree your product is different from your competitors					
10.4.	The delivery period					
10.5.	The presence of a long-term relationship					
10.6.	The after-sales service					
10.7.	Other factors, please specify _____					

General information on price setting

11. The price of your main product (*choose only one option*):

11.1. Is the same for all customers
11.2. Depends on the quantity sold but according to a uniform price list
11.3. Is decided case by case.

12. Is there any particular month (or months) where the price of your main product is most likely changed?

12.1. No.
12.2. Yes. Which?

J	F	M	A	M	J	J	A	S	O	N	D

13. How many times did the price of your main product change in 2002 and 2003?

	2002	2003
Number of times		

14. Taking as a reference, for instance, the last changes in price (increases or reductions), indicate (approximately) the percentage of them that implied a price increase (suggestion: consider for instance the last ten price changes %

15. Taking as a reference, for instance, the same price changes considered in the last question, indicate the most frequent size of your price changes:

	Up to 2%	From 2 to 5%	From 5 to 8%	More than 8%
For price increases [choose only one option]				
For price reductions [choose only one option]				

16. Which of the following situations describes better the way your price is normally set (choose only one option):

16.1. The price is set by our company.
16.2. The price is set by an external entity (Government, regulatory body,)
16.3. The price is set by our main customer(s)
16.4. The price is set by our main competitor(s)
16.5. Other, please specify _____

17. Does your company usually sets formal contracts that fix the price for a stated period?

17.1. No
Yes. The percentage that these contracts represent in total sales is
17.2. Less than 10%
17.3. 11-25%
17.4. 26-50%
17.5. 51-90%
17.6. Almost all (>90%)

18. The price in your company is reviewed, without necessarily being changed (choose only one option):

18.1. At a well-defined frequency (annually, quarterly...) (*If yes, go to question 19*)
18.2. Generally at a defined frequency, but sometimes also in reaction to market conditions (changes in the price of raw materials or in demand conditions) (*If yes, go to question 19*)
18.3. Without any defined frequency, being reviewed in reaction to market conditions (changes in the price of raw materials or in demand conditions) (*If yes, go to question 20*)
18.4. None of these cases applies to my company (*If yes, go to question 20*)

19. [Answer to this question if you chose options 18.1 or 18.2 in the previous question]. At what frequency the price in your company is normally reviewed, without necessarily being changed? (Consider a price review as an assessment of all information relevant for price determination)

19.1. Daily
19.2. Once a week .....
19.3. Once a month .....
19.4. Quarterly
19.5. Two times a year .....
19.6. Once a year .....
19.7. Less than once a year .....

20. On average, at what frequency is the price actually changed?

20.1. Daily
20.2. Once a week .....
20.3. Once a month .....
20.4. Quarterly
20.5. Two times a year .....
20.6. Once a year .....
20.7. Less than once a year .....

21. Which information do you most take into account when calculating the price of your main product (choose only one option)?

21.1. Information regarding the current and past behaviour of all variables relevant for profit maximization (demand, costs, the price of main competitors,) .....
21.2. Information regarding the recent behaviour of all variables relevant for profit maximization as well as their future prospects . .....
21.3. We basically apply an indexation rule over one or more variables relevant for profit maximization (e.g. consumer price inflation, wage growth,) ....

22. Keeping everything else constant, including the price of your competitors, if you decide to increase the price of your main product for instance by 10% by what percentage do you think the quantities sold by your company would fall?

22.1. More than 20% .....
22.2. Between 10 and 20% .....
22.3. About 10% .....
22.4. Less than 10% .....
22.5. Quantities remain unchanged .....

Reasons for changing prices

23. What is the importance of the factors listed below in terms of a price increase decision? [*Use the following options: 1-unimportant; 2-of minor importance; 3-important; 4-very important; 0-I can't evaluate*]

	1	2	3	4	0
23.1. An increase in the price of raw materials					
23.2. An increase in wage costs (including taxes)					
23.3. An increase in demand					
23.4. An increase in our competitors' price.....					
23.5. An increase in financing costs					
23.6. Other, please specify					

24. What is the importance of the factors listed below in terms of a price decrease decision? [*Use the following options: 1-unimportant; 2-of minor importance; 3-important; 4-very important; 0- I can't evaluate*]

	1	2	3	4	0
24.1. A decrease in the price of raw materials					
24.2. A decrease in wage costs (including taxes)					
24.3. A decrease in demand					
24.4. A decrease in our competitors' price.....					
24.5. A decrease in financing costs					
24.6. Other, please specify _____					

25. Companies sometimes differ in the speed that their prices respond to changes in demand and costs: [*Use the following options: 1 - Less than 1 week; 2 - From 1 week to 1 month; 3 - From 1 to 3 months; 4 - From 3 to 6 months; 5 - From 6 months to 1 year; 6 - The price remains unchanged*]

	1	2	3	4	5	6
25.1. After a significant increase in demand, how much time on average elapses before you raise your prices?						
25.2. After a significant increase in production costs, how much time on average elapses before you raise your prices?						
25.3. After a significant fall in demand, how much time on average elapses before you reduce your prices?						
25.4. After a significant decline in production costs, how much time on average elapses costs before you reduce your prices?.....						

Reasons to postpone price changes

26. Companies sometimes decide to postpone price changes or to change their price only slightly. This is generally due to various factors. Some of them are listed below. Please indicate their importance in your company. [*Use the following options: 1-unimportant; 2-of minor importance; 3-important; 4-very important; 0- I can't evaluate*]

		1	2	3	4	0
26.1.	The risk that our competitors do not change their prices					
26.2.	The fact that the next price adjustment can only occur after a certain period of time					
26.3.	The risk that we subsequently have to readjust our prices in the opposite direction					
26.4.	The existence of written contracts specifying that prices can only be changed when the contract is renegotiated					
26.5.	The preference for maintaining prices at a certain psychological threshold (ex. 199 euros)					
26.6.	The costs implied by price changes (ex. changing price lists)					
26.7.	The preference of our customers for stable prices. Changing prices frequently could threaten customer relations.					
26.8.	The costs involved in collecting the relevant information for price decisions.					
26.9.	An important part of our costs is fixed hampering price decreases when, for instance, market conditions are less favourable.					
26.10.	There is a risk that customers may interpret a reduction in price as a reduction in quality					
26.11.	The variable costs in our company do not change by much with market conditions, making our price quite stable					
26.12.	Our type of customers changes over the business cycle. During a recession we lose the least loyal customers and retain the most loyal ones. As the latter are less sensitive to price changes, the price can be kept basically unchanged during a recession.					

27. Some products are characterised by having a short duration (sometimes less than 1 year). This is the case for instance of those products that change collections seasonally, such as clothing or footwear, or products that change their models regularly, such as house appliances or computers. For some of these products the price may be kept unchanged during the (relatively short) lifetime of each collection or model. Is this situation valid for your main product?

27.1. Yes ☐

27.2. No ☐

Information regarding price behaviour in international markets

(*only to be filled out by companies operating in international markets*)

28. What is the importance of the following factors in discriminating your price between markets? [*Use the following options: 1-unimportant; 2-of minor importance; 3-important; 4-very important; 0- I can't evaluate*]

		1	2	3	4	0
28.1.	Exchange rate changes					
28.2.	The country tax system					
28.3.	Structural market conditions (tastes, standard of living, ..)					
28.4.	Cyclical fluctuations in country demand					
28.5.	Market rules					
28.6.	Transportation costs					
28.7.	Other factors, please specify					

29. If a significant share of your sales (at least 20 percent) goes to one single country outside the euro area, if the euro appreciates by 5 percent vis-à-vis the currency of that country how would you change the price in that market of your main product (choose only one option)?

29.1. The price would increase more than 5% ☐

29.2. The price would increase less than 5% ☐

29.3. The price would increase by 5% ☐

29.4. The price would remain basically unchanged ☐

Information on wage setting

30. On average, at what frequency wages are normally changed in your company?

30.1. More than 2 times a year ☐

30.2. Twice a year ☐

30.3. Once a year ☐

30.4. Less than once a year ☐

31. Is there any particular month (or months) where the wages are most likely changed?

31.1. No. ☐

31.2. Yes. Which one? ☐

J	F	M	A	M	J	J	A	S	O	N	D
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

INFLATION PERSISTENCE: FACTS OR ARTEFACTS?*

*Carlos Robalo Marques***

1. INTRODUCTION

Understanding the patterns and determinants of inflation persistence is very important for policymakers, because inflation persistence has immediate consequences in the conducting of monetary policy. For instance, the appropriate response to shocks depends on the degree to which their effect on inflation is persistent. Furthermore, the horizon at which monetary policy should aim for price stability depends on the persistence of inflation: with less persistence, inflation can be stabilised in a shorter time following a shock. Accordingly, the degree of inflation persistence is an important factor determining the medium-term orientation of monetary policy.

This paper is a contribution to a recently growing literature which discusses and measures inflation persistence in the context of a simple univariate time-series representation of inflation. The paper discusses the definition of persistence and its implications for the process of persistence evaluation. The need for a proper treatment of the mean of inflation is emphasised, especially the idea that it should be seen as exogenous to the model and allowed to vary over time. The paper also suggests a new measure of persistence which is based on the correspondence between persistence and mean reversion. This new measure has the advantage that it does not require specifying and estimating a model for the inflation process.

This new methodology, including the use of the new measure of persistence, is applied to inflation in the U.S.. It is shown that the evidence on inflation persistence dramatically changes with the assumption on the mean of inflation. In particular, the widespread accepted wisdom that inflation has been more persistent in the sixties and seventies than in the last twenty years is only obtained for the special case of a constant mean, which however, appears to be a counterfactual assumption.

The rest of the paper is organised as follows. Section 2 discusses some issues concerning the definition and measurement of inflation persistence and makes the case for a time varying mean. Section 3 suggests an alternative, simple and intuitive measure of inflation persistence that explores the relationship between mean reversion and persistence. Section 4 re-evaluates the evidence on inflation persistence for the U.S. allowing for a time varying mean and section 5 concludes.

2. DEFINING AND MEASURING INFLATION PERSISTENCE: SOME METHODOLOGICAL ISSUES

For the purpose of this paper we define persistence as the "speed with which inflation converges to equilibrium after a shock". Such a definition of persistence is similar to alternative definitions available in the literature (see, for instance, Willis

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** Economic Research Department.

(2003) or Pivetta and Reis (2003)) but has the advantage of stressing two important ideas: the idea of speed and the idea of equilibrium. If the speed of convergence to the equilibrium after a shock is low we say that inflation is persistent while if the speed is high we say that inflation is not persistent.

One important point when computing inflation persistence regards whether one should assume that the equilibrium level of inflation is exogenous or endogenous to the hypothesised shock to inflation. In the context of a univariate time-series representation of inflation, inflation persistence is computed under the assumption that shocks (to the model) do not affect the mean of the series, so that the long run level of inflation or the central bank inflation target must be seen as exogenous to the shocks(1). Thus, in this framework, evaluating inflation persistence amounts to find an answer to the following question: how slowly does inflation converge to the exogenous central bank inflation target, in response to a shock?

A second important point worth stressing that follows from the definition of persistence is the fact that any estimate of persistence must be seen as conditional on the assumed long-run inflation path. As we shall see below, there is a trade-off between persistence and the degree of flexibility of the assumed long run equilibrium level of inflation: for a given series, we obtain the maximum level of persistence under the assumption of a constant mean, but we can make persistence to converge to zero if we allow enough flexibility to enter into our measure of the long run level of inflation. Thus, it is important to bear in mind that any given estimate of persistence crucially depends on the specific long run level of inflation assumed in its computation and that, as a consequence, the reliability of such estimate ultimately depends on how realistic the assumed long run inflation path is.

The literature has to some extent recognized the liaison between persistence and the way the mean of the series is treated, and has tried to deal with the problem by identifying some structural breaks in the mean of the series using statistical tests (see, for instance, Burdekin and Syklos (1999), Bleaney (2001), Levin and Piger, (2004), O'Reilly and Whelan (2004)). Usually such papers start by investigating persistence assuming a constant mean and then, proceed by testing for a break (or breaks) in that mean level. The general conclusion is that persistence is significantly reduced once breaks in the mean are accounted for. A major limitation of such an approach is that it restricts the mean to be a "constant function" or a "piecewise constant function" so that there would always remain the question of whether the estimated degree of persistence is a real feature of the data or rather a spurious result brought about by these two simple assumptions for the mean. Moreover, it can be argued that we cannot rely exclusively on statistical tests to decide how realistic from an economic point of view is our estimated mean.

As an alternative approach we suggest allowing for the possibility of a time varying mean computed outside the estimated model. At least for some European countries, during the convergence period, that took place in the eighties and the nineties, allowing for the possibility of a time varying mean appears clearly a more realistic alternative (to account for a time varying central bank inflation target) than simply allowing for some discrete breaks in the mean. As we shall see below, this has significant implications for the degree of estimated persistence.

The existence of a time varying mean may be the result of the fact that central banks sometimes change their decision rules or allow inflation to drift. The adoption of new decision rules may be justified in the context of models in which the central bank and private agents are assumed not to know the equilibrium population moments and thus use adaptive methods to learn about the world in which they live (see, for instance, Cogley 2002). As an alternative explanation one may also think of central banks allowing inflation to drift, because of economic or political constraints(2).

(1) We notice that in the context of the univariate time series representation of inflation, the mean of inflation is the level for which inflation converges after a shock, so that the mean of the series plays the role of the long run equilibrium level of inflation. Moreover, if we assume that in the long run, inflation is determined by monetary policy we can see the long run level of inflation as corresponding to the central bank (implicit or explicit) inflation target. Thus, in what follows the expressions "long run level of inflation", "central bank inflation target" and "mean of inflation" are used interchangeably.

Bellow, in section 4, we compute persistence conditional on different hypotheses for a time varying mean, which include simple linear trends and the HP filter. Such an exercise allows us to show that, as expected, the estimates of persistence crucially depend on the underlying assumed mean.

3. AN ALTERNATIVE MEASURE OF PERSISTENCE

In this section we suggest a new simple and intuitive measure of persistence, which explores the relationship between persistence and mean reversion. We start by highlighting the relationship between persistence and mean reversion, as it allows a deeper understanding of what persistence implies in terms of the time path for any given stationary time series and helps us to better understand the intuition behind the alternative measure of persistence suggested below.

Let us assume that inflation follows a stationary autoregressive process of order p (AR(p)), which we write as:

$$y_t = \alpha + \sum_{j=1}^{p} \beta_j y_{t-j} + \varepsilon_t \qquad (3.1)$$

and reparameterise as:

$$\Delta y_t = \sum_{j=1}^{p-1} \delta_j \Delta y_{t-j} + (\rho - 1)[y_{t-1} - \mu] + \varepsilon_t \qquad 3.2)$$

where

$$\rho = \sum_{j=1}^{p} \beta_j \qquad (3.3)$$

$$\delta_j = -\sum_{i=1+j}^{p} \beta_i \qquad (3.4)$$

$$\mu = \frac{\alpha}{1-\rho} \qquad (3.5)$$

In the context of this model, persistence is defined as the speed with which inflation converges to its mean, after a shock in the disturbance term, ε_t . To compute inflation persistence several scalar measures have been proposed in the literature. These include the "sum of the autoregressive coefficients" ρ, as defined in (3.3), but also other measures such as the "spectrum at zero frequency", the "largest autoregressive root" and the "half-life"(3).

Let us now assume that y_t is a stationary process with $0 < \rho < 1$. One identifying characteristic of any stationary process is that it must exhibit mean-reversion. In equation (3.2) the presence of mean reversion is reflected in the term $(\rho - 1)[y_{t-1} - \mu]$. This implies that if in period (t-1) the series y is above (below) the mean, the deviation $[y_{t-1} - \mu]$ will contribute as a "driving force" to a negative (positive) change of the series in the following period, through the coefficient $(\rho - 1)$, thus bringing it closer to the mean. Of course mean reversion is stronger the larger (in absolute terms) the coefficient $\lambda = (\rho - 1)$. Once we measure persistence by ρ and mean reversion by $\lambda = (\rho - 1)$ we conclude that mean reversion and persistence are inversely related: high persistence implies low mean reversion and vice-versa.

This correspondence between persistence and mean reversion allows us to carry out a simple preliminary evaluation of persistence by visual inspection of two different series: in a graph with two stationary series the one exhibiting the lowest mean reversion, that is the one that crosses the mean less frequently, is the one exhibiting more persistence.

We may now introduce a new measure of persistence, which we denote by γ, and define as the unconditional probability of a given stationary process not crossing its mean in period t, or equivalently as 1 minus the probability of mean reversion of the process. A natural estimator of γ is given by

$$\hat{\gamma} = 1 - \frac{n}{T} \qquad (3.6)$$

where n stands for the number of times the series crosses the mean during a time interval with T+1 observations.

(2) During the seventies and the eighties, balance of payments constraints in some countries were sometimes seen as more important than negative consequences emerging from an inflationary environment, so that exchange rate policies were implemented to correct external imbalances even though at the expense of higher future inflation. In the context of our approach similar situations are seen as implying a time varying long run level of inflation consistent with a time varying (implicit) central bank inflation target.

(3) For the definition of these measures of persistence and a detailed discussion of their major limitations, see Andrews and Chen (1994) and Marques (2004).

Intuitively, the use of γ as a measure of persistence may be justified as a simple implication following directly from the very definition of persistence. If a persistent series is the one which converges slowly to its equilibrium level (i.e., the mean) after a shock, then such a series, by definition, must exhibit a low level of mean reversion, i.e., must cross its mean only infrequently. Similarly, a non-persistent series must revert to its mean very frequently. And γ simply measures how infrequently a given time series crosses its mean. From an economic and political point of view it is obviously important for the central bank to know how frequently inflation reverts to the mean, i.e., the inflation target.

We note that γ, by definition, and $\hat{\gamma}$ by construction, are always between zero and one. However, it can be shown(4) that for a symmetric zero mean white noise process we have $E[\hat{\gamma}] = 0.5$, so that values of $\hat{\gamma}$ close to 0.5 signal the absence of any significant persistence (white noise behaviour) while figures significantly above 0.5 signal significant persistence. On the other hand, figures below 0.5 signal negative long-run autocorrelation.

Note that, in contrast to ρ, which requires the data generating process (DGP) to follow a pure autoregressive process, γ is defined independently of the specific underlying DGP. In this sense γ as a measure of persistence is broader in scope than ρ. To see that let us take the simplest case of an Arma(1,1) process:

$$y_t = \rho y_{t-1} + \varepsilon + \theta \varepsilon_{t-1} \tag{3.7}$$

In model (3.7) the parameter ρ (the sum of autoregressive coefficients) is no longer the parameter of interest as it ceases to measure persistence of the y_t series. The solution, in empirical terms, implies using a finite order autoregressive process to approximate the true Arma model, but this is likely to introduce additional biases into the analysis, especially if the approximation is not good. In strong contrast, γ as a measure of persistence, is defined irrespective of the underlying DGP. Moreover, its estimator $\hat{\gamma}$ also has the advantage of not requiring the researcher to specify and estimate a model for the inflation process. For this reason it is immune to potential model misspecifications and given its non-parametric nature is expected to be robust against outliers in the data(5).

We now suggest a simple way of testing for changes in persistence when γ is used as a measure of persistence. Let us assume that the series y_t is generated by a stationary process and define the series x_t as being equal to 1 if the series y_t crosses its mean in period t, and equal to zero otherwise. Now we have $\hat{\gamma} = 1 - \bar{x}$ so that $\hat{\gamma}$ can be computed by regressing x_t on a constant, i.e., by estimating the model $x_t = \alpha + v_t$ by OLS, from which we get $\hat{\alpha} = \bar{x} = 1 - \hat{\gamma}$. Now suppose we are investigating persistence for the period $t = 1,2,...T$ and we want to test whether there is a change in persistence occurring in period $t = s$, such that persistence for the sub-period $t = 1,2,...s-1$ differs from persistence for the sub-period $t = s, s+1,...T$. We may estimate the model

$$x_t = \alpha_1 + \alpha_2 d_t + u_t \tag{3.8}$$

where d_t is a dummy variable which is zero before the date of the break ($t < s$) and equals 1 thereafter ($t \geq s$). In (3.8) we have $\alpha_1 = 1 - \gamma_1$ and $\alpha_2 = \gamma_1 - \gamma_2$ where γ_1 and γ_2 are the measures of persistence in the first and second sub-period, respectively. Thus, testing whether persistence has changed from the first to the second sub-period amounts to test whether α_2 is significantly different from zero in (3.8). Of course, in general the residuals u_t will be autocorrelated, so that the test of the statistical significance of α_2 must be computed based on an autocorrelation consistent estimator for the standard deviation of $\hat{\alpha}_2$.

4. PERSISTENCE AND MEAN REVERSION: RE-EVALUATING INFLATION PERSISTENCE IN THE UNITED STATES

There seems to be a widely accepted view in the literature that inflation has been more persistent during the sixties and seventies than thereafter. For instance, Levin and Piger (2004) write,

(4) See Marques (2004)

(5) In a companion paper Dias and Marques (2005) show that in fact $\hat{\gamma}$, for the class of stationary autoregressive processes, is an estimator with better properties than the OLS estimator of ρ, namely as regards unbiasedness and robustness against outliers.

"there is widespread agreement that inflation persistence was very high over the period extending from 1965 to the disinflation of the early 1980s. However, there is substantial debate regarding whether inflation persistence continued to be high since the early 1980s, or has declined"(6).

In this section we investigate this claim by re-evaluating inflation persistence for the U.S.. We compare the estimates of persistence for the two major sub-periods (the sixties and seventies on the one side, and the eighties and the nineties on the other) that are obtained using first a constant mean for inflation and then some alternative time varying means. As measures of persistence we use ρ, the "sum of the autoregressive coefficients", and γ, the "unconditional probability of the process not crossing its mean", introduced in the previous section. Estimates of γ are obtained using equation (3.6) while estimates of ρ, are obtained by estimating equation (A.2) in the Appendix.

Chart No.1 displays quarterly inflation in the U.S. as from 1960q2 to 2002q4 using GDP deflator. This series has been analysed among others by Taylor (2000), Cogley and Sargent (2001), Pivetta and Reis (2003) and Levin and Piger (2004). Let us start by focussing on the mean of inflation. Simple visual inspection of Chart No.1 suggests that we can basically distinguish three distinct periods. The first period, during which inflation exhibits a clear upward trend, stretches from the beginning of the sample until roughly the end of 1980.

The second period is composed of a very pronounced downward trend that took place during roughly 1981 and 1982. Finally, a third period from 1983 onwards, in which inflation seems not to have exhibited a clear increasing or decreasing trend. Some authors further decompose this latter period into two sub-periods according to the two different average levels of inflation: the first starting in 1983 and ending in mid 1991, (which corresponds to a higher average inflation) and the second, starting in mid 1991 to the end of the sample (with a lower average inflation rate).

Chart No. 1 also displays the mean of inflation for each of these sub-periods, where two simple linear time trends during the first two sub-periods and a constant with a break in 1991q3, during the third sub-period, were used to proxy the mean of inflation. The lower panel of Chart No.1 displays the deviations from this mean.

Some of the analyses carried out for the U.S. as regards how the mean of inflation is treated, can be seen as special cases of Chart No.1. For instance, Taylor (2000) assumes two different sub-periods: the first covering the sixties and seventies and the second covering basically the second half of the eighties to the end of the sample period. For each sub-period, the mean of inflation is assumed constant. The upper panel of Chart No.2 displays inflation as well as the average of inflation for two different sub-periods: 1960q2-1981q4 and 1982q1-2002q4. The lower panel displays the deviations of the series from these two different means. It is the persistence of these series that is analysed in Taylor (2000), with minor differences due to slightly different dates for the cut-off of the series. The conclusion of Taylor (2000) is that persistence has been larger during the first part of the sample(7).

Using ρ as a measure of persistence we get an estimate of 0.92 for the period 1960q2-1981q4 and of 0.73 for the period 1982q1-2002q4 suggesting that persistence may have been higher for the first sub-period (see Table 1). Using γ as the measure of persistence we get 0.83 for the first sub-period and 0.80 for the second sub-period.

In formal terms we tested for a change in persistence using both γ and ρ as alternative measures of persistence. Tests on γ were performed as explained in section 3, by estimating equation (3.8) and computing autocorrelation consistent t-statistics for $\hat{\alpha}_2$. Tests on ρ were performed by estimating models (A.3) to (A.6), which are described in the Appendix.

If we stick to γ as the single measure of persistence one would conclude that there is not strong evidence of a significant change in persistence between the two periods (the t-statistic for $\hat{\alpha}_2$ in equation (3.8) is 0.36). The same conclusion is obtained if we use ρ as the measure persistence pro-

(6) In the same vein see Cogley and Sargent (2001), Willis (2003) and Guerrieri (2002). Against such a view see, however, Pivetta and Reis (2003) and Stock (2001), who argue that there is not enough evidence to conclude for a change in persistence.

(7) Specifically Taylor (2000) considers the periods 1960q2-1979q1 and 1982q1-1999q3, so that the years 1980 and 1981 are excluded from the analysis. The author obtains $\hat{\rho}$=0.94 for the first sub-period and $\hat{\rho}$=0.74 for the second.

Chart 1
QUARTER-ON-QUARTER U. S. INFLATION – GDP DEFLATOR

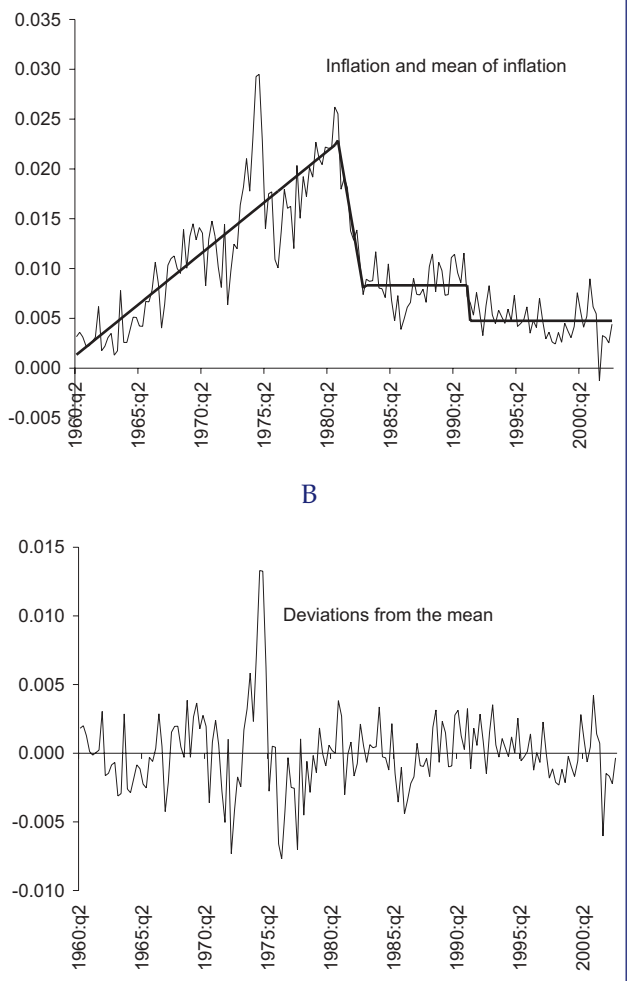
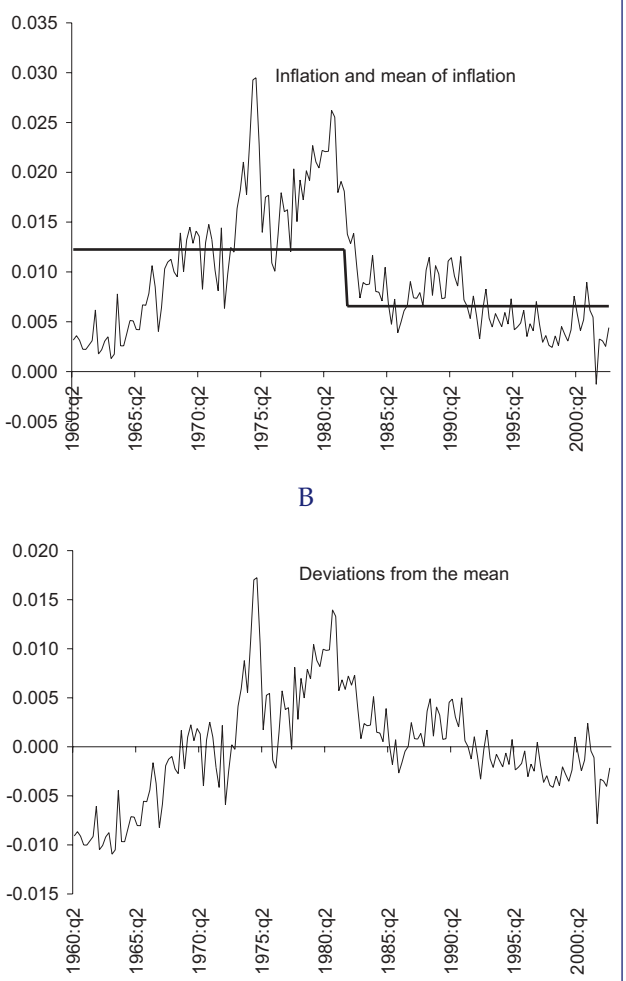


Chart 2
QUARTER-ON-QUARTER U. S. INFLATION – GDP DEFLATOR



vided we stick to models (A.3) and (A.5). However the conclusion, as far as ρ is concerned, is reversed if we rather retain the results of models (A.4) and (A.6). According to these models, which are not likely to suffer from over-parameterisation and thus allow more efficient inference than models (A.3) and (A.5), the null of equal ρs for the two sub-periods can be rejected.

Thus, under the assumption of a constant mean for each sub-period we conclude that inflation in the U.S. appears to have been highly persistent in the sixties and seventies and that there is some evidence (even though highly model dependent) that inflation persistence in the U.S has declined during the last twenty years or so.

The assumption of a constant mean for inflation during each sub-period emerges as the major limitation of the previous approach to persistence evaluation. Most likely, many econometricians would argue that during the first sub-period (1960-1981), rather than exhibiting mean reversion, the GDP inflation series in Chart No.2 is more likely to be a non-mean reverting process. In fact an ADF test for this period reveals that the null of a unit root cannot be rejected thus, casting strong doubts on the usefulness of measuring inflation persistence for the U.S. during this period, assuming a constant mean[8]. Of course, the above tests on the statistical significance for the difference in the estimated ρs and estimated γs are not valid if

(8) The ADF statistic is -1.53, so that the null of a unit root in inflation for the sub-period 1960q2-1981q4 cannot be rejected even for a 10% test.

Table 1

INFLATION PERSISTENCE IN THE U.S.

Period	Type of mean			
	Constant[a]	Two linear trends and a constant[b]	Two linear trends and two constants[c]	HP filter[d]
	Estimated ρ			
1960q2-2002q4	0.91	0.58	0.45	0.42
1960q2-1980q4	0.92(+)	0.45	0.45	0.41
1981q1-2002q4	0.73(*)	0.79	0.45	0.30
1960q2-1983q1		0.45	0.45	0.43
1983q2-2002q4		0.8	0.45	0.27
	Estimated γ			
1960q2-2002q4	0.81	0.70	0.63	0.60
1960q2-1980q4	0.83(+)	0.66	0.66	0.61
1981q1-2002q4	0.80(*)	0.74	0.60	0.59
1960q2-1983q1		0.64	0.64	0.64
1983q2-2002q4		0.77	0.62	0.56

Note:
(a) Case of Chart No.2; (b) Case of Chart No.3; (c) Case of Chart No.1; (d) Case of Chart No.4;
(+) Refers to the period 1960q2-1981q4; (*) Refers to the period 1982q1-2002q4;

the series of the deviations from the mean is non-stationary.

To see how things can change let us now assume that the mean of inflation during the first two sub-periods (1960q2-1980q4 and 1981q1-1983q1) may be approximated by two linear time trends as in Chart No.1. This new possibility is displayed in Chart No.3 (upper panel), which differs from Chart No.1 in that it assumes a constant mean with no break for the whole sub-period 1983q2-2002q4.

Now we have a different picture. If we look at the lower panel of Chart No.3 and think of persistence as the degree of mean reversion, we see that it is no longer so obvious that persistence for the period 1960-1980 has been higher than persistence in the period 1981- 2002. In fact, if anything, the results are now the other way round. First, for the whole period we now get an estimate for ρ of 0.58 and for γ of 0.70 suggesting the absence of any significant persistence. Second, we get estimates of persistence for the first sub-period, which are lower than the ones for the second sub-period, in contrast with the previous situation. In fact, for the sub-period 1960q2-1980q4 we now have ρ equal to 0.45 and γ equal to 0.66 while for the sub-period 1981q1-2002q4 we get ρ equal to 0.79 and γ equal to 0.74 (see Table 1). Thus, once we allow for a time varying mean for the period 1960-1983 (proxied by a time trend), we get inflation that, if anything, emerges as less persistent in the sixties and seventies than in eighties and nineties.

It is important to stress this result because it runs against the above-cited widely accepted idea that inflation in the U.S. has been more persistent in the sixties and seventies, than in the last twenty years. Put differently, the so-called widespread evidence claiming that inflation was more persistent in the sixties and seventies crucially depends on the implicit assumption of a time invariant inflation target for inflation in this period, which appears to be a counterfactual assumption. In fact, assuming a constant mean for inflation in the sixties and seventies implies that inflation becomes a unit root process around the central bank inflation target and this, in turn, has the undesirable consequence of implying that monetary policy would be unable to determine inflation in the medium to long run.

Of course this is not the end of the story since by looking at the inflation series we can think of many other reasonable possibilities to measure the mean of inflation. For instance, if we now also assume two different means for the sub-period 1983-2002, as in Levin and Piger (2004) we end up with the situation described in Chart No.1, with

Chart 3
QUARTER-ON-QUARTER U. S. INFLATION – GDP DEFLATOR

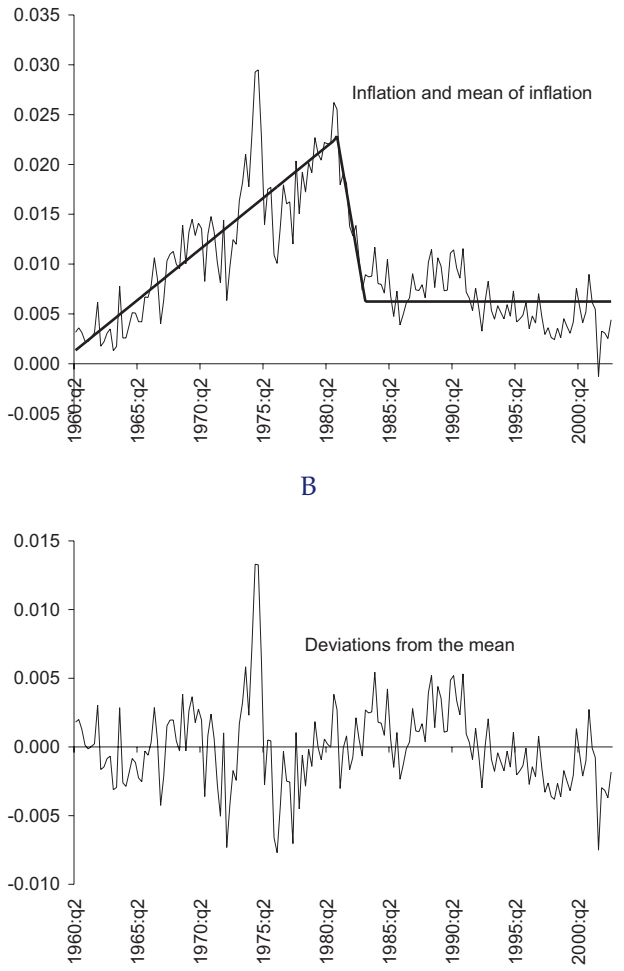
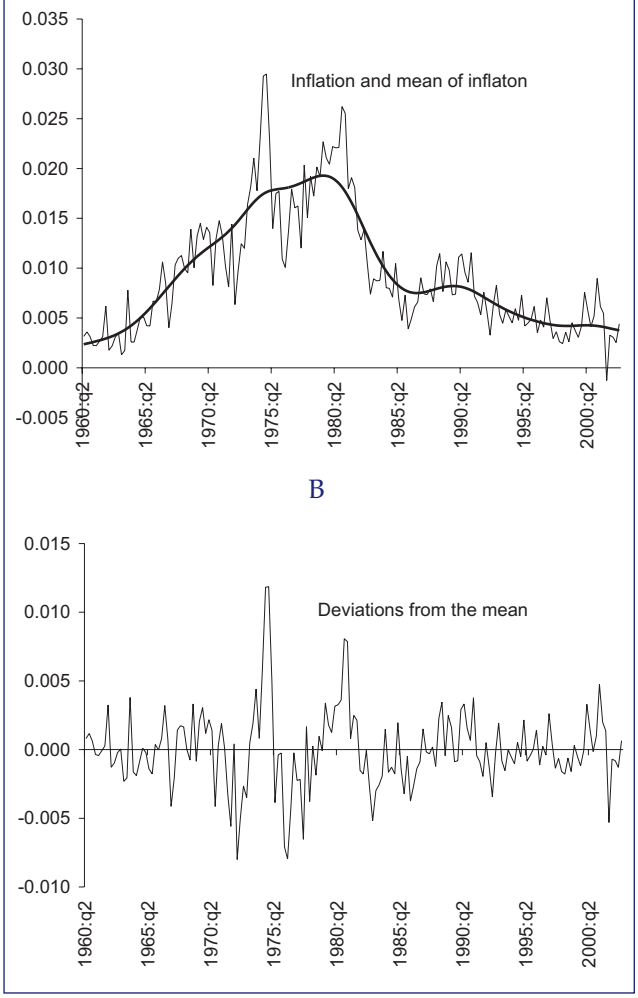


Chart 4
QUARTER-ON-QUARTER U. S. INFLATION – GDP DEFLATOR



the deviations from the mean depicted in the corresponding lower panel. Now again we have a different picture as we get estimates for ρ which display an impressive constancy. From table 1 we that for the all the sub-periods considered we get an estimate of ρ equal to 0.45 and thus the idea we get from the analysis of Chart No.2 is that the persistent process has now evaporated. This conclusion is confirmed by the estimates for γ (which vary between 0.60 and 0.66)(9).

The previous approach may be criticised on the grounds that, from an economic point of view, a linear time trend for the period 1960-1980, does not constitute a sensible proxy for the central bank inflation target. A less subjective solution (in the sense that it is not defined after looking at the data) can be obtained by entertaining the possibility of a pure time varying mean and see what happens to inflation persistence under such circumstances. A reasonable alternative is the well-known HP filter. Using the HP filter to proxy the mean of inflation may be justified as a simple device which ensures that the deviations of inflation from its mean are stationary. And of the deviations of inflation from its mean is a minimum requirement for an inflation persistence evaluation exercise to be worth carrying out. Such a situation is depicted in Chart No. 4.

Now we see that persistence under the assumption of an HP mean for inflation has basically vanished (we get an estimate for ρ of 0.42 and for γ of

(9) We note that $\hat{\gamma}$=0.60 is close to being not significantly different from 0.50 (zero persistence).

0.60). Moreover, once again, according to the tests performed, there seems to be no strong evidence of a difference in persistence for the two periods under analysis, i.e., there seems to be no change in inflation persistence through time.

Summing up, this section shows that the evidence on inflation persistence dramatically changes with the assumption on the mean of inflation. In particular, the evidence on whether inflation persistence was higher in the sixties and seventies than in the two last decades or whether inflation is persistent at all, ultimately hinges on the type of mean assumed when computing persistence. This section considers some statistical measures for the mean of inflation but, of course, other alternatives could have been entertained. However, the real issue is that the reliability of any estimate of inflation persistence ultimately depends on how realistic the assumed long run inflation path is.

5. CONCLUSIONS

This paper is a contribution to the literature on measures of inflation persistence in the context of a simple univariate time-series representation of inflation. The paper discusses the definition of persistence and its implications for the process of persistence evaluation. The need for a proper treatment of the mean of inflation is emphasised, especially the idea that it should be allowed to vary over time to account for monetary policy regime shifts.

The paper suggests a new measure of persistence which is based on the correspondence between persistence and mean reversion. Such a measure is broader in scope than the widely used "sum of the autoregressive coefficients", and has the advantage of not requiring specifying and estimating a model for inflation. Moreover, an estimator for the new measure is suggested which, by construction, is immune to potential model misspecifications and that, given its non-parametric nature, is expected to be robust against outliers in the data.

We use this methodology to re-evaluate the evidence on inflation persistence in the U.S., allowing for a time varying mean and using the new measure of persistence. We conclude that the evidence on inflation persistence dramatically changes with the assumption on the mean of inflation. In particular, the widespread accepted wisdom that inflation in the U.S. has been more persistent in the sixties and seventies than in the last twenty years only obtains for the special case of a constant mean, which however, appears to be a counterfactual assumption.

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APPENDIX – TESTING FOR CHANGES IN PERSISTENCE WHEN USING ρ AS A MEASURE OF PERSISTENCE

To test for a change in persistence we assume the general autoregressive model

$$z_t = \sum_{j=1}^{p} \beta_j z_{t-j} + \varepsilon_t \qquad \text{(A.1)}$$

reparameterised as

$$z_t = \sum_{j=1}^{p-1} \delta_j \Delta z_{t-j} + \rho z_{t-1} + \varepsilon_t \qquad \text{(A.2)}$$

with

$$\rho = \sum_{j=1}^{p} \beta_j, \; \delta_j = -\sum_{i=1+j}^{p} \beta_i$$

where z_t is the series of deviations from the mean. The following four models were estimated:

$$z_t = \sum_{j=1}^{p-1} \delta_j \Delta z_{t-j} + \sum_{j=1}^{p-1} \phi_j d_t \cdot \Delta z_{t-j} + \\ + \rho_1 z_{t-1} + \rho_2 d_t \cdot z_{t-1} + \varepsilon_t \qquad \text{(A.3)}$$

$$z_t = \sum_{j=1}^{p-1} \delta_j \Delta z_{t-j} + \rho_1 z_{t-1} + \rho_2 d_t \cdot z_{t-1} + \varepsilon_t \qquad \text{(A.4)}$$

$$z_t = \sum_{j=1}^{p-1} \theta_j \Delta d_{t-j} + \sum_{j=1}^{p-1} \delta_j \Delta z_{t-j} + \\ + \sum_{j=1}^{p-1} \phi_j d_t \cdot \Delta z_{t-j} + \rho_1 z_{t-1} + \rho_2 d_t \cdot z_{t-1} + \varepsilon_t \qquad \text{(A.5)}$$

$$z_t = \sum_{j=0}^{p-1} \theta_j \Delta d_{t-j} + \sum_{j=1}^{p-1} \delta \Delta z_{t-1} + \\ + \rho_1 z_{t-1} + \rho_2 d_t \cdot z_{t-1} + \varepsilon_t \qquad \text{(A.6)}$$

where d_t is a dummy variable which is zero before the date of the break ($t < s$) and equals 1 thereafter ($t \geq s$) and Δd_t is a dummy variable which is one for the date of the break ($t = s$) and zero otherwise.

We note that while models (A.3) and (A.5) allow for the possibility of a break in every autoregressive coefficient, models (A.4) and (A.6) by assuming that $\phi_1 = \phi_2 = ... = \phi_{p-1} = 0$ basically impose that the change in the persistence parameter (the sum of the autoregressive parameters) stems solely from a change in the first autoregressive parameter, i.e., β_1. Even though this might appear a very restrictive assumption the fact is that models (A.3) and (A.5) turned out also to deliver too many insignificant ϕ_j coefficients suggesting that they might be over-parameterised thus, raising concerns about the power of the test.

Notice also that models (A.3) and (A.4) are misspecified. This misspecification comes from the fact that in models (A.3) and (A.4) data occurring before the break ($t = s$) are being used to estimate the parameters of the model, which is assumed to be valid only for the data after the break (i.e., $t \geq s$). Introducing the dummy variables Δd_{t-j} allows overcoming this problem because estimating model (A.5) or model (A.6) is basically equivalent to run two independent regressions in which due account is taken of fact that the second model should only be estimated using data generated after the break has taken place.

Whether it is relevant to account for this problem and estimate models (A.5) and (A.6) rather than models (A.3) and (A.4) is basically an empirical issue. In our case it turned out to be important as the conclusions for the test sometimes changed according to the type of model.

Quarterly series for the portuguese economy

QUARTERLY SERIES FOR THE PORTUGUESE ECONOMY: 1977-2004

This section releases an update of the quarterly series for the Portuguese economy published in the article "Quarterly series for the Portuguese economy: 1977-2003" in the June 2004 issue of the Economic Bulletin. The series now presented are based on the annual figures disclosed in the 2004 Annual Report of Banco de Portugal and on the quarterly indicators available in June.

The inclusion of a new year and the usual statistical revisions of the most recent data for both the annual series and the associated intra-annual indicators implied changes in the quarterly series. In some cases, these changes do not have effects only on the recent years, given the sensitivity of the parameters used in the quarterly interpolation procedure relative to end-of-sample figures. However, it should be noted that these revisions are in most cases minor, given that there are no remarkable changes in relation to the methodology that was described in detail in the article of the June 2004 issue of the Economic Bulletin. The only exceptions relate to durables consumption and tourism exports deflators. With respect to these deflators, the residual between the estimated figures and the associated quarterly indicator is now considered to be characterised by a first-order autoregressive process, due to the instability found in the second-order process that was previously assumed in general.

Quarterly series for the 1977-2004 period are presented in the following tables, with the same degree of detail as in the previous publication. An electronic version of the series is made accessible on the Banco de Portugal's website *(www.bportugal.pt\publish\bolecon\docs)*.

MAIN EXPENDITURE COMPONENTS

	1977				1978				1979			
	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4
Current prices (EUR million)												
Private consumption (residents)	528.7	564.0	597.5	619.7	649.7	675.5	717.5	765.4	791.2	836.2	897.1	981.3
Public consumption	119.9	122.2	127.0	134.2	144.0	153.6	163.0	172.1	181.0	192.1	205.7	221.9
GFCF	252.1	285.6	294.1	301.3	291.2	310.4	334.0	362.0	413.3	462.4	507.2	509.5
Change in inventories	34.7	34.7	34.7	34.7	54.7	54.6	45.8	28.3	-0.7	2.7	2.5	-1.1
Exports of goods and services	136.9	150.6	157.9	170.6	181.8	197.0	222.1	259.8	291.7	337.4	377.0	417.1
Goods	87.9	96.7	100.1	106.4	111.5	123.8	136.0	164.3	182.1	210.7	234.5	260.0
Services	49.0	53.9	57.9	64.3	70.3	73.2	86.1	95.4	109.6	126.7	142.5	157.1
Imports of goods and services	229.4	269.4	278.7	300.4	305.1	308.3	336.4	362.2	387.6	440.2	508.7	567.2
Goods	203.8	240.6	248.5	267.7	270.8	272.7	297.9	319.7	341.8	389.0	447.0	497.6
Services	25.6	28.8	30.2	32.8	34.3	35.6	38.5	42.5	45.7	51.2	61.7	69.6
GDP	843.0	887.8	932.5	960.0	1016.4	1082.7	1146.0	1225.3	1289.0	1390.6	1480.9	1561.4
Previous year prices (EUR million)												
Private consumption (residents)					600.0	598.6	606.3	614.3	722.1	730.9	743.2	756.1
Public consumption					129.2	131.1	133.1	135.2	164.5	167.6	171.1	175.0
GFCF					264.6	268.1	271.6	276.0	357.4	378.2	393.5	371.8
Change in inventories					54.3	54.1	45.4	28.0	3.2	-12.5	-11.9	5.2
Exports of goods and services					165.1	169.8	181.2	199.2	255.2	279.7	294.8	304.4
Goods					100.6	105.9	109.3	123.1	156.8	171.6	179.7	185.4
Services					64.5	63.9	71.9	76.0	98.5	108.1	115.1	119.0
Imports of goods and services					276.4	269.2	268.6	274.2	329.1	348.0	369.5	383.1
Goods					246.2	239.4	238.6	243.4	290.2	306.4	322.5	333.9
Services					30.2	29.8	30.0	30.8	38.9	41.6	47.0	49.2
GDP					936.9	952.6	969.1	978.5	1173.3	1195.8	1221.1	1229.5
Volume (base year 1995)												
Private consumption (residents)					6227.1	6212.6	6291.9	6375.4	6455.8	6534.4	6644.8	6760.5
Public consumption					1665.6	1690.1	1716.1	1743.3	1772.0	1805.0	1842.5	1884.3
GFCF					2439.0	2471.3	2503.6	2543.3	2742.3	2902.3	3019.2	2852.9
Exports of goods and services					1251.8	1287.5	1373.7	1510.3	1608.2	1762.2	1857.3	1918.2
Goods					698.3	735.0	758.9	855.1	891.7	975.9	1022.1	1054.9
Services					593.3	588.1	660.9	699.3	770.2	845.5	900.1	930.5
Imports of goods and services					1594.3	1553.2	1549.3	1581.8	1574.8	1665.4	1768.1	1833.0
Goods					1357.4	1320.1	1315.2	1341.9	1333.1	1407.7	1481.6	1534.0
Services					241.2	238.3	240.0	246.3	249.0	266.3	300.7	314.6
GDP					11222.4	11410.7	11607.7	11721.2	12063.0	12293.9	12554.6	12640.3
Deflator (1995=1)												
Private consumption (residents)					0.1043	0.1087	0.1140	0.1201	0.1226	0.1280	0.1350	0.1452
Public consumption					0.0865	0.0909	0.0950	0.0987	0.1022	0.1065	0.1117	0.1178
GFCF					0.1194	0.1256	0.1334	0.1423	0.1507	0.1593	0.1680	0.1786
Exports of goods and services					0.1453	0.1530	0.1617	0.1720	0.1814	0.1915	0.2030	0.2174
Goods					0.1597	0.1684	0.1792	0.1922	0.2042	0.2159	0.2294	0.2464
Services					0.1185	0.1244	0.1302	0.1365	0.1423	0.1498	0.1583	0.1688
Imports of goods and services					0.1913	0.1985	0.2172	0.2290	0.2461	0.2643	0.2877	0.3094
Goods					0.1995	0.2066	0.2265	0.2382	0.2564	0.2764	0.3017	0.3244
Services					0.1422	0.1494	0.1606	0.1727	0.1837	0.1922	0.2051	0.2213
GDP					0.0906	0.0949	0.0987	0.1045	0.1069	0.1131	0.1180	0.1235

MAIN EXPENDITURE COMPONENTS

	1980				1981				1982			
	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4
Current prices (EUR million)												
Private consumption (residents)	1055.4	1131.7	1191.6	1247.6	1321.5	1392.6	1479.7	1559.6	1629.0	1712.7	1775.7	1842.9
Public consumption	241.0	259.4	276.9	293.4	308.7	324.4	340.3	356.5	373.0	392.4	415.1	441.1
GFCF	511.3	519.4	538.1	591.7	673.8	733.1	787.4	798.1	843.7	870.4	894.2	912.5
Change in inventories	68.2	119.7	139.3	127.1	93.4	76.4	75.3	90.0	127.0	137.5	122.7	82.6
Exports of goods and services	453.2	470.6	482.6	489.1	503.4	532.3	546.7	558.0	576.5	602.1	681.4	719.5
Goods	285.9	292.9	294.6	296.5	303.2	318.3	329.9	341.0	360.9	385.2	451.6	477.6
Services	167.3	177.8	188.0	192.6	200.2	214.0	216.8	217.0	215.6	217.0	229.8	241.8
Imports of goods and services	628.2	684.4	729.0	774.6	815.0	931.9	943.9	955.4	1026.2	1101.6	1157.4	1149.6
Goods	542.9	593.9	627.9	664.9	697.4	805.9	817.6	822.9	896.3	964.6	1019.6	1007.3
Services	85.3	90.6	101.1	109.6	117.6	125.9	126.3	132.5	129.9	137.0	137.8	142.4
GDP	1700.9	1816.3	1899.4	1974.3	2085.7	2126.9	2285.5	2406.8	2523.0	2613.5	2731.7	2849.0
Previous year prices (EUR million)												
Private consumption (residents)	928.5	949.5	964.7	973.0	1178.3	1190.3	1195.2	1202.1	1466.2	1479.5	1482.3	1479.8
Public consumption	211.7	216.3	220.4	224.0	278.8	282.0	284.7	286.9	338.7	341.3	344.6	348.7
GFCF	445.4	421.9	428.7	450.4	593.7	613.7	645.6	649.5	770.8	756.0	749.2	736.9
Change in inventories	34.9	61.2	71.2	65.0	83.3	68.2	67.1	80.3	116.0	125.6	112.1	75.5
Exports of goods and services	391.2	392.9	390.9	380.4	460.4	466.0	465.2	463.5	526.9	532.3	556.5	583.9
Goods	245.2	242.9	238.8	230.1	279.1	279.9	284.6	288.8	333.0	344.2	369.8	393.1
Services	146.0	150.0	152.1	150.3	181.3	186.1	180.6	174.6	194.0	188.1	186.7	190.8
Imports of goods and services	546.8	560.9	577.6	583.7	724.8	732.8	755.8	773.6	972.8	976.3	961.8	955.0
Goods	472.5	484.2	495.8	500.6	622.8	629.4	654.4	670.8	853.6	857.3	848.7	842.7
Services	74.3	76.7	81.9	83.2	101.9	103.4	101.3	102.8	119.2	119.0	113.1	112.4
GDP	1465.0	1481.0	1498.2	1509.0	1869.7	1887.4	1902.1	1908.6	2245.8	2258.6	2282.9	2269.8
Volume (base year 1995)												
Private consumption (residents)	6990.9	7149.0	7263.2	7325.5	7317.3	7391.4	7422.3	7464.8	7542.1	7610.7	7624.9	7612.1
Public consumption	1930.7	1972.6	2010.0	2043.0	2071.6	2096.0	2116.0	2131.8	2143.3	2159.6	2180.7	2206.6
GFCF	2710.7	2567.8	2608.7	2740.8	2920.6	3018.9	3175.7	3194.9	3171.0	3110.2	3081.9	3031.6
Exports of goods and services	1964.4	1972.7	1962.8	1909.9	1896.9	1919.8	1916.7	1909.6	1881.6	1901.0	1987.1	2085.2
Goods	1090.2	1079.8	1061.6	1022.8	1015.1	1017.8	1035.0	1050.5	1061.1	1096.9	1178.4	1252.8
Services	938.8	964.6	978.2	966.6	961.3	986.8	957.8	926.0	876.4	850.1	843.6	862.3
Imports of goods and services	1965.0	2015.6	2075.9	2097.8	2098.6	2121.7	2188.4	2239.9	2307.5	2315.7	2281.3	2265.3
Goods	1623.5	1663.6	1703.4	1719.8	1720.2	1738.2	1807.5	1852.7	1932.7	1941.1	1921.7	1908.0
Services	367.9	379.8	405.6	412.1	412.8	418.6	410.4	416.2	393.5	392.7	373.2	371.0
GDP	12686.3	12825.0	12974.5	13067.3	13041.8	13164.7	13267.7	13312.6	13312.9	13388.2	13532.4	13455.0
Deflator (1995=1)												
Private consumption (residents)	0.1510	0.1583	0.1641	0.1703	0.1806	0.1884	0.1994	0.2089	0.2160	0.2250	0.2329	0.2421
Public consumption	0.1248	0.1315	0.1377	0.1436	0.1490	0.1547	0.1608	0.1673	0.1740	0.1817	0.1903	0.1999
GFCF	0.1886	0.2023	0.2063	0.2159	0.2307	0.2428	0.2479	0.2498	0.2661	0.2799	0.2902	0.3010
Exports of goods and services	0.2307	0.2386	0.2459	0.2561	0.2654	0.2773	0.2852	0.2922	0.3064	0.3167	0.3429	0.3450
Goods	0.2622	0.2712	0.2775	0.2899	0.2987	0.3127	0.3187	0.3246	0.3401	0.3511	0.3833	0.3813
Services	0.1782	0.1843	0.1922	0.1992	0.2082	0.2169	0.2264	0.2343	0.2461	0.2552	0.2724	0.2804
Imports of goods and services	0.3197	0.3396	0.3512	0.3692	0.3884	0.4392	0.4313	0.4265	0.4447	0.4757	0.5074	0.5075
Goods	0.3344	0.3570	0.3686	0.3866	0.4054	0.4637	0.4523	0.4442	0.4637	0.4969	0.5306	0.5279
Services	0.2318	0.2385	0.2492	0.2660	0.2848	0.3008	0.3078	0.3183	0.3301	0.3488	0.3692	0.3838
GDP	0.1341	0.1416	0.1464	0.1511	0.1599	0.1616	0.1723	0.1808	0.1895	0.1952	0.2019	0.2117

MAIN EXPENDITURE COMPONENTS

	1983				1984				1985			
	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4
Current prices (EUR million)												
Private consumption (residents)	1983.2	2089.8	2244.6	2410.6	2511.3	2664.0	2841.8	2905.1	3038.3	3149.2	3228.3	3376.0
Public consumption	470.8	499.6	527.0	552.7	576.4	604.7	638.0	676.8	721.7	766.7	811.8	857.2
GFCF	986.3	1051.2	1137.6	1125.2	1055.7	1153.5	1192.0	1282.3	1286.0	1314.2	1363.3	1446.4
Change in inventories	-28.3	29.5	56.6	52.8	-19.0	-9.3	-3.6	-2.0	27.6	26.5	15.7	-5.0
Exports of goods and services	799.8	883.7	1009.9	1113.2	1219.4	1336.2	1462.8	1567.5	1713.4	1781.6	1794.6	1858.0
Goods	530.8	597.9	687.7	762.7	840.6	918.4	1011.8	1082.5	1170.6	1230.3	1235.4	1269.8
Services	269.0	285.8	322.2	350.5	378.8	417.7	451.0	485.1	542.8	551.3	559.2	588.1
Imports of goods and services	1177.2	1227.5	1367.1	1486.4	1539.3	1622.8	1761.1	1829.3	1924.3	1945.0	1911.4	2009.3
Goods	1026.3	1072.1	1197.7	1306.2	1344.7	1419.2	1540.0	1594.3	1677.2	1687.2	1656.7	1740.1
Services	150.9	155.4	169.4	180.2	194.6	203.6	221.1	235.0	247.0	257.8	254.6	269.2
GDP	3034.6	3326.3	3608.6	3768.0	3804.4	4126.3	4369.9	4600.5	4862.8	5093.2	5302.3	5523.2
Previous year prices (EUR million)												
Private consumption (residents)	1740.9	1732.8	1726.8	1711.6	2153.4	2148.7	2156.3	2154.9	2713.7	2725.4	2734.0	2773.3
Public consumption	417.5	421.2	423.0	422.8	512.0	511.8	514.0	518.6	638.1	647.0	656.1	665.5
GFCF	879.8	889.3	881.5	804.0	936.1	972.7	951.1	961.8	1154.5	1147.5	1161.5	1185.3
Change in inventories	23.1	-24.1	-46.1	-43.0	-49.6	-24.2	-9.4	-5.2	-24.8	-23.9	-14.1	4.5
Exports of goods and services	727.9	747.7	774.8	802.7	1031.9	1080.0	1117.4	1152.8	1525.1	1534.4	1522.0	1546.1
Goods	491.3	509.4	528.5	550.2	703.7	733.4	762.0	785.4	1042.5	1062.8	1053.4	1067.6
Services	236.5	238.2	246.3	252.5	328.2	346.6	355.5	367.4	482.6	471.6	468.5	478.5
Imports of goods and services	1085.7	1045.8	1031.9	991.9	1263.8	1270.9	1307.8	1308.5	1736.8	1760.6	1756.3	1820.3
Goods	955.2	919.2	904.6	868.1	1095.8	1102.8	1132.4	1133.7	1515.2	1537.9	1540.4	1600.0
Services	130.5	126.7	127.3	123.8	168.0	168.1	175.4	174.8	221.6	222.7	215.8	220.3
GDP	2703.4	2721.1	2728.0	2706.2	3319.9	3418.2	3421.7	3474.4	4269.7	4269.7	4303.2	4354.4
Volume (base year 1995)												
Private consumption (residents)	7600.9	7565.9	7539.3	7473.3	7445.7	7429.6	7456.0	7450.9	7399.7	7431.6	7455.0	7562.3
Public consumption	2237.2	2257.4	2267.0	2266.0	2254.5	2253.6	2263.4	2283.9	2315.0	2347.1	2380.3	2414.5
GFCF	3097.2	3130.7	3103.4	2830.3	2647.3	2750.9	2690.0	2720.1	2664.2	2648.1	2680.5	2735.4
Exports of goods and services	2216.4	2276.8	2359.3	2444.3	2520.3	2637.7	2729.1	2815.4	2922.1	2939.8	2916.1	2962.3
Goods	1345.9	1395.5	1447.7	1507.3	1554.3	1619.9	1683.0	1734.7	1783.5	1818.2	1802.1	1826.3
Services	897.9	904.4	934.9	958.4	988.1	1043.5	1070.2	1106.0	1172.0	1145.2	1137.9	1162.1
Imports of goods and services	2244.8	2162.4	2133.7	2050.9	2065.1	2076.6	2136.9	2138.1	2164.9	2194.5	2189.1	2268.9
Goods	1892.8	1821.3	1792.5	1720.0	1720.7	1731.6	1778.1	1780.2	1801.0	1828.0	1831.0	1901.8
Services	365.0	354.3	356.2	346.5	364.2	364.3	380.2	379.0	385.9	387.8	375.8	383.6
GDP	13542.6	13631.7	13666.2	13556.9	13146.0	13535.1	13549.3	13757.7	13638.9	13639.0	13746.0	13909.5
Deflator (1995=1)												
Private consumption (residents)	0.2609	0.2762	0.2977	0.3226	0.3373	0.3586	0.3811	0.3899	0.4106	0.4238	0.4330	0.4464
Public consumption	0.2105	0.2213	0.2324	0.2439	0.2557	0.2683	0.2819	0.2964	0.3117	0.3266	0.3411	0.3550
GFCF	0.3184	0.3358	0.3666	0.3975	0.3988	0.4193	0.4431	0.4714	0.4827	0.4963	0.5086	0.5288
Exports of goods and services	0.3609	0.3881	0.4281	0.4554	0.4838	0.5066	0.5360	0.5568	0.5864	0.6060	0.6154	0.6272
Goods	0.3944	0.4284	0.4751	0.5060	0.5408	0.5670	0.6012	0.6240	0.6564	0.6767	0.6855	0.6953
Services	0.2996	0.3161	0.3446	0.3657	0.3834	0.4003	0.4214	0.4386	0.4632	0.4814	0.4914	0.5061
Imports of goods and services	0.5244	0.5677	0.6407	0.7248	0.7454	0.7815	0.8242	0.8556	0.8888	0.8863	0.8731	0.8856
Goods	0.5422	0.5886	0.6682	0.7594	0.7815	0.8196	0.8661	0.8956	0.9313	0.9230	0.9048	0.9150
Services	0.4135	0.4387	0.4757	0.5201	0.5344	0.5588	0.5816	0.6200	0.6401	0.6647	0.6775	0.7018
GDP	0.2241	0.2440	0.2641	0.2779	0.2894	0.3049	0.3225	0.3344	0.3565	0.3734	0.3857	0.3971

MAIN EXPENDITURE COMPONENTS

	1986				1987				1988			
	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4
Current prices (EUR million)												
Private consumption (residents)	3559.4	3786.4	3910.5	4096.7	4201.5	4427.8	4541.2	4727.6	5080.5	5346.6	5620.7	5952.1
Public consumption	902.6	944.6	982.6	1016.5	1046.1	1084.8	1133.3	1192.2	1262.3	1334.9	1409.8	1487.3
GFCF	1413.9	1543.8	1607.6	1761.6	1864.4	2029.0	2120.2	2303.6	2448.6	2618.4	2775.0	2874.3
Change in inventories	17.3	28.7	38.7	47.3	142.7	149.4	144.2	127.1	192.9	153.9	124.4	104.2
Exports of goods and services	1882.7	1969.6	2061.3	2196.0	2284.3	2449.5	2545.6	2667.0	2774.2	2808.3	3014.9	3206.4
Goods	1263.8	1333.8	1379.2	1471.5	1527.8	1613.5	1682.5	1768.2	1851.0	1912.2	2043.1	2151.9
Services	618.9	635.8	682.1	724.6	756.5	836.1	863.1	898.8	923.3	896.1	971.8	1054.5
Imports of goods and services	2001.0	2018.9	2082.3	2343.7	2505.3	2716.4	2969.4	3183.8	3441.5	3550.3	3874.4	3946.9
Goods	1748.4	1746.6	1808.3	2039.7	2192.7	2376.8	2610.7	2794.8	3028.5	3125.4	3419.4	3455.3
Services	252.6	272.3	274.0	304.0	312.6	339.6	358.7	389.0	413.0	424.8	455.0	491.6
GDP	5774.9	6254.2	6518.5	6774.4	7033.6	7424.0	7515.1	7833.7	8317.0	8711.9	9070.4	9677.4
Previous year prices (EUR million)												
Private consumption (residents)	3288.9	3397.8	3439.2	3530.8	3999.2	4123.6	4138.8	4205.7	4774.0	4877.3	4943.4	5071.4
Public consumption	817.9	827.9	836.1	842.6	980.4	990.4	1004.9	1023.9	1167.0	1193.1	1219.1	1245.0
GFCF	1342.5	1391.7	1438.0	1503.1	1773.8	1880.1	1956.3	2041.9	2308.1	2412.0	2445.7	2512.1
Change in inventories	45.8	75.8	102.1	124.9	179.3	187.7	181.2	159.8	170.9	136.3	110.2	92.3
Exports of goods and services	1828.4	1879.7	1952.3	2025.2	2193.4	2284.2	2308.3	2330.5	2562.0	2579.8	2715.1	2863.7
Goods	1247.3	1294.0	1333.2	1381.5	1472.7	1503.2	1520.3	1532.5	1700.4	1761.2	1849.4	1949.8
Services	581.1	585.7	619.1	643.7	720.7	780.9	788.0	798.0	861.7	818.6	865.7	913.9
Imports of goods and services	2094.4	2236.0	2375.5	2582.4	2468.5	2614.1	2756.5	2899.5	3268.1	3421.6	3535.6	3620.3
Goods	1848.8	1979.0	2117.8	2305.6	2167.4	2296.7	2426.8	2550.4	2871.5	3019.9	3113.2	3175.3
Services	245.5	257.0	257.7	276.8	301.1	317.4	329.7	349.1	396.6	401.8	422.4	445.0
GDP	5229.0	5336.9	5392.3	5444.2	6657.6	6851.8	6832.9	6862.3	7713.9	7776.9	7897.8	8164.3
Volume (base year 1995)												
Private consumption (residents)	7674.3	7928.6	8025.1	8238.8	8300.7	8559.0	8590.4	8729.3	9116.8	9314.1	9440.2	9684.8
Public consumption	2449.7	2479.7	2504.4	2523.8	2538.0	2563.9	2601.4	2650.6	2711.4	2772.0	2832.5	2892.7
GFCF	2662.2	2759.7	2851.6	2980.7	3155.3	3344.2	3479.8	3632.1	3777.4	3947.5	4002.6	4111.3
Exports of goods and services	3003.2	3087.5	3206.8	3326.4	3414.4	3555.6	3593.1	3627.8	3655.3	3680.7	3873.6	4085.7
Goods	1838.1	1907.0	1964.7	2035.8	2093.7	2137.1	2161.3	2178.7	2210.8	2289.9	2404.6	2535.1
Services	1197.0	1206.4	1275.3	1326.0	1355.2	1468.5	1481.8	1500.6	1491.4	1416.9	1498.3	1581.8
Imports of goods and services	2370.6	2530.9	2688.8	2923.0	3072.8	3254.0	3431.2	3609.2	3840.5	4020.9	4154.9	4254.4
Goods	2013.0	2154.7	2305.9	2510.4	2651.8	2809.9	2969.2	3120.3	3325.3	3497.1	3605.1	3677.1
Services	365.9	383.0	384.0	412.5	422.0	444.8	462.0	489.2	515.0	521.8	548.6	577.8
GDP	13822.3	14107.4	14253.8	14391.0	14874.3	15308.3	15265.9	15331.6	15729.9	15858.4	16104.9	16648.3
Deflator (1995=1)												
Private consumption (residents)	0.4638	0.4776	0.4873	0.4972	0.5062	0.5173	0.5286	0.5416	0.5573	0.5740	0.5954	0.6146
Public consumption	0.3685	0.3809	0.3924	0.4028	0.4121	0.4231	0.4356	0.4498	0.4656	0.4815	0.4977	0.5142
GFCF	0.5311	0.5594	0.5638	0.5910	0.5909	0.6067	0.6093	0.6342	0.6482	0.6633	0.6933	0.6991
Exports of goods and services	0.6269	0.6379	0.6428	0.6602	0.6690	0.6889	0.7085	0.7352	0.7590	0.7630	0.7783	0.7848
Goods	0.6875	0.6994	0.7020	0.7228	0.7297	0.7550	0.7784	0.8116	0.8372	0.8351	0.8497	0.8488
Services	0.5170	0.5270	0.5349	0.5465	0.5582	0.5693	0.5825	0.5990	0.6191	0.6325	0.6486	0.6666
Imports of goods and services	0.8441	0.7977	0.7744	0.8018	0.8153	0.8348	0.8654	0.8821	0.8961	0.8829	0.9325	0.9277
Goods	0.8686	0.8106	0.7842	0.8125	0.8269	0.8459	0.8793	0.8957	0.9107	0.8937	0.9485	0.9397
Services	0.6903	0.7108	0.7134	0.7369	0.7408	0.7634	0.7764	0.7953	0.8020	0.8142	0.8294	0.8508
GDP	0.4178	0.4433	0.4573	0.4707	0.4729	0.4850	0.4923	0.5110	0.5287	0.5494	0.5632	0.5813

MAIN EXPENDITURE COMPONENTS

	1989				1990				1991			
	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4
Current prices (EUR million)												
Private consumption (residents)	6044.8	6207.6	6466.6	6651.0	7015.7	7389.7	7768.6	8136.2	8549.9	8976.3	9348.8	9622.9
Public consumption	1567.3	1647.2	1726.6	1805.3	1882.7	1981.2	2102.4	2248.7	2422.3	2574.5	2702.1	2802.5
GFCF	2920.2	3000.6	3109.6	3241.4	3340.0	3468.4	3582.1	3687.1	3727.0	3809.7	3982.7	4101.2
Change in inventories	57.2	66.5	92.1	134.0	319.3	360.0	339.0	256.2	-99.8	-40.2	-15.6	-25.9
Exports of goods and services	3458.3	3574.6	3796.5	4043.7	4238.3	4386.9	4398.5	4499.9	4400.3	4525.0	4568.5	4585.1
Goods	2346.5	2461.0	2591.9	2744.5	2870.6	2946.7	2973.9	2952.7	2920.3	2912.7	2985.7	3030.9
Services	1111.8	1113.6	1204.6	1299.1	1367.6	1440.1	1424.6	1547.2	1480.0	1612.3	1582.8	1554.1
Imports of goods and services	4125.8	4203.3	4435.9	4638.3	5052.1	4979.0	5254.9	5513.3	5482.4	5537.9	5745.7	5773.2
Goods	3656.6	3673.4	3881.1	4073.4	4423.7	4339.6	4563.4	4824.1	4800.4	4806.5	4951.7	4986.2
Services	469.3	529.9	554.8	565.0	628.4	639.4	691.5	689.2	682.0	731.4	794.0	787.0
GDP	9921.9	10293.2	10755.5	11237.0	11744.0	12607.1	12935.6	13314.9	13517.3	14307.3	14840.8	15312.6
Previous year prices (EUR million)												
Private consumption (residents)	5620.4	5656.7	5747.3	5825.9	6633.7	6791.9	6962.6	7098.1	8027.8	8243.6	8425.5	8519.2
Public consumption	1447.4	1472.4	1492.9	1509.0	1732.5	1759.3	1799.8	1853.8	2209.0	2264.7	2298.5	2310.4
GFCF	2719.5	2750.3	2745.1	2819.8	3157.8	3241.4	3281.0	3361.3	3565.3	3598.3	3687.4	3757.9
Change in inventories	92.8	107.8	149.3	217.3	347.5	391.8	368.9	278.8	199.4	80.4	31.2	51.7
Exports of goods and services	3289.4	3342.8	3511.0	3683.3	4095.1	4195.9	4160.8	4215.0	4291.0	4416.0	4421.2	4458.4
Goods	2247.1	2323.0	2430.6	2536.2	2796.2	2859.7	2873.6	2859.0	2905.2	2934.1	2993.1	3067.0
Services	1042.3	1019.8	1080.4	1147.0	1298.8	1336.2	1287.2	1356.0	1385.8	1481.9	1428.1	1391.4
Imports of goods and services	3848.8	3942.7	4070.4	4236.9	4849.6	5011.4	5182.5	5255.0	5399.3	5558.4	5749.2	5899.1
Goods	3405.2	3452.8	3566.3	3731.0	4245.1	4404.1	4536.0	4619.9	4741.5	4860.7	4992.0	5148.5
Services	443.6	490.0	504.1	505.9	604.6	607.3	646.5	635.0	657.8	697.7	757.2	750.7
GDP	9320.6	9387.3	9575.2	9818.3	11116.9	11369.0	11390.5	11552.2	12893.2	13044.6	13114.5	13198.4
Volume (base year 1995)												
Private consumption (residents)	9594.6	9656.6	9811.2	9945.3	10199.6	10442.9	10705.4	10913.8	11193.2	11494.1	11747.7	11878.4
Public consumption	2952.7	3003.7	3045.6	3078.4	3102.3	3150.4	3222.8	3319.5	3440.5	3527.3	3580.0	3598.4
GFCF	4019.5	4064.9	4057.2	4167.7	4196.8	4307.9	4360.5	4467.3	4389.7	4430.3	4539.9	4626.7
Exports of goods and services	4262.3	4331.6	4549.5	4772.7	4933.0	5054.5	5012.1	5077.4	4916.2	5059.5	5065.4	5108.0
Goods	2665.6	2755.7	2883.3	3008.6	3118.6	3189.4	3204.8	3188.6	3142.0	3173.3	3237.0	3317.0
Services	1623.0	1588.0	1682.3	1786.1	1834.5	1887.3	1818.0	1915.3	1787.5	1911.6	1842.2	1794.8
Imports of goods and services	4227.6	4330.7	4471.0	4653.8	4927.6	5091.9	5265.8	5339.4	5354.0	5511.8	5700.9	5849.6
Goods	3686.4	3737.9	3860.8	4039.1	4256.2	4415.6	4547.9	4632.0	4663.3	4780.6	4909.7	5063.6
Services	537.7	593.9	611.1	613.3	672.2	675.2	718.8	706.1	688.6	730.4	792.6	785.8
GDP	16762.3	16882.3	17220.2	17657.4	18047.8	18457.1	18492.0	18754.4	18791.7	19012.4	19114.3	19236.6
Deflator (1995=1)												
Private consumption (residents)	0.6300	0.6428	0.6591	0.6688	0.6878	0.7076	0.7257	0.7455	0.7638	0.7810	0.7958	0.8101
Public consumption	0.5308	0.5484	0.5669	0.5864	0.6069	0.6289	0.6524	0.6774	0.7041	0.7299	0.7548	0.7788
GFCF	0.7265	0.7382	0.7664	0.7777	0.7958	0.8051	0.8215	0.8254	0.8490	0.8599	0.8773	0.8864
Exports of goods and services	0.8114	0.8252	0.8345	0.8472	0.8592	0.8679	0.8776	0.8863	0.8951	0.8944	0.9019	0.8976
Goods	0.8803	0.8930	0.8989	0.9122	0.9205	0.9239	0.9279	0.9260	0.9294	0.9179	0.9224	0.9137
Services	0.6850	0.7013	0.7160	0.7273	0.7455	0.7631	0.7836	0.8078	0.8280	0.8435	0.8592	0.8659
Imports of goods and services	0.9759	0.9706	0.9922	0.9967	1.0253	0.9778	0.9979	1.0326	1.0240	1.0047	1.0078	0.9869
Goods	0.9919	0.9827	1.0053	1.0085	1.0394	0.9828	1.0034	1.0415	1.0294	1.0054	1.0085	0.9847
Services	0.8727	0.8922	0.9079	0.9212	0.9348	0.9469	0.9620	0.9760	0.9904	1.0013	1.0018	1.0016
GDP	0.5919	0.6097	0.6246	0.6364	0.6507	0.6830	0.6995	0.7100	0.7193	0.7525	0.7764	0.7960

MAIN EXPENDITURE COMPONENTS

	1992				1993				1994			
	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4
Current prices (EUR million)												
Private consumption (residents)	9870.7	10298.8	10480.2	10724.4	10875.2	10978.1	11258.3	11492.1	11622.4	11908.1	12074.7	12329.4
Public consumption	2873.1	2942.6	3011.4	3079.9	3148.2	3211.0	3268.5	3320.7	3367.5	3422.3	3485.5	3557.0
GFCF	4341.5	4407.0	4459.6	4375.3	4177.0	4255.1	4040.4	4061.3	4150.6	4240.5	4217.6	4640.1
Change in inventories	-24.8	-50.0	-57.8	-48.2	-275.7	-87.1	-53.9	-175.9	135.9	200.8	219.8	193.1
Exports of goods and services	4699.5	4681.6	4587.6	4473.3	4460.1	4447.8	4811.0	4916.1	4949.4	5216.9	5391.6	5649.6
Goods	3139.4	3163.0	3100.5	3054.0	3055.3	3096.7	3278.8	3401.3	3533.3	3756.2	3985.4	4199.5
Services	1560.1	1518.6	1487.0	1419.3	1404.8	1351.2	1532.3	1514.8	1416.1	1460.6	1406.2	1450.1
Imports of goods and services	5940.8	5962.4	5973.5	5887.4	5882.8	5799.1	5952.5	6224.0	6325.8	6530.9	6823.5	7209.2
Goods	5164.3	5188.5	5155.6	5087.1	4938.9	4901.8	5033.2	5229.4	5480.7	5674.0	5980.7	6227.0
Services	776.6	773.9	817.9	800.3	943.9	897.3	919.3	994.6	845.2	856.9	842.8	982.2
GDP	15819.2	16317.7	16507.5	16717.3	16501.9	17005.7	17371.8	17390.3	17899.9	18457.7	18565.6	19159.9
Previous year prices (EUR million)												
Private consumption (residents)	9459.4	9616.7	9662.4	9799.4	10561.0	10534.8	10608.3	10614.2	11117.4	11232.5	11246.3	11337.1
Public consumption	2659.6	2651.5	2647.1	2646.2	2974.4	2982.1	2994.4	3011.3	3282.9	3304.1	3323.1	3340.1
GFCF	4230.7	4277.4	4283.5	4151.3	4117.9	4118.7	3879.3	3807.4	4029.4	4104.3	4090.6	4437.8
Change in inventories	60.1	121.4	140.3	117.0	59.2	18.7	11.6	37.8	76.5	113.0	123.7	108.7
Exports of goods and services	4684.8	4656.6	4620.0	4517.9	4470.7	4409.8	4636.6	4691.9	4808.5	4968.3	5127.3	5292.3
Goods	3156.0	3202.6	3201.7	3164.0	3094.3	3092.7	3173.9	3276.3	3452.3	3586.3	3800.5	3934.7
Services	1528.9	1454.1	1418.3	1353.9	1376.4	1317.1	1462.6	1415.6	1356.2	1382.0	1326.8	1357.7
Imports of goods and services	6099.2	6266.7	6389.0	6334.1	6023.7	5865.0	5856.5	6023.9	6134.2	6340.5	6658.7	6974.8
Goods	5314.4	5472.8	5541.7	5492.4	5064.3	4958.1	4955.3	5060.1	5313.0	5511.7	5833.0	6013.6
Services	784.7	793.9	847.3	841.7	959.4	906.9	901.3	963.7	821.2	828.8	825.7	961.2
GDP	14995.4	15057.0	14964.2	14897.7	16159.4	16199.1	16273.6	16138.7	17180.4	17381.7	17252.4	17541.3
Volume (base year 1995)												
Private consumption (residents)	12003.3	12203.0	12260.9	12434.8	12482.5	12451.5	12538.5	12545.4	12466.8	12596.0	12611.4	12713.3
Public consumption	3582.7	3571.8	3565.8	3564.7	3568.4	3577.7	3592.4	3612.7	3638.6	3662.0	3683.2	3702.0
GFCF	4871.5	4925.3	4932.3	4780.1	4568.9	4569.8	4304.1	4224.4	4305.6	4385.6	4371.0	4742.0
Exports of goods and services	5221.3	5189.9	5149.1	5035.2	4992.7	4924.7	5178.0	5239.8	5247.2	5421.7	5595.1	5775.2
Goods	3427.6	3478.2	3477.3	3436.3	3432.7	3430.9	3521.1	3634.6	3771.7	3918.2	4152.1	4298.7
Services	1800.5	1712.4	1670.2	1594.4	1558.7	1491.5	1656.3	1603.0	1474.5	1502.7	1442.7	1476.2
Imports of goods and services	6065.9	6232.6	6354.2	6299.5	6324.9	6158.3	6149.3	6325.0	6416.8	6632.6	6965.4	7296.1
Goods	5279.7	5437.1	5505.5	5456.5	5330.7	5218.9	5215.9	5326.3	5574.2	5782.7	6119.8	6309.3
Services	785.5	794.7	848.2	842.6	990.4	936.2	930.4	994.8	842.3	850.1	846.9	985.9
GDP	19696.7	19777.6	19655.7	19568.4	19456.6	19504.4	19594.2	19431.8	19625.8	19855.7	19708.0	20038.0
Deflator (1995=1)												
Private consumption (residents)	0.8223	0.8440	0.8548	0.8625	0.8712	0.8817	0.8979	0.9160	0.9323	0.9454	0.9574	0.9698
Public consumption	0.8019	0.8238	0.8445	0.8640	0.8822	0.8975	0.9098	0.9192	0.9255	0.9345	0.9463	0.9608
GFCF	0.8912	0.8948	0.9042	0.9153	0.9142	0.9311	0.9387	0.9614	0.9640	0.9669	0.9649	0.9785
Exports of goods and services	0.9001	0.9021	0.8910	0.8884	0.8933	0.9032	0.9291	0.9382	0.9432	0.9622	0.9636	0.9783
Goods	0.9159	0.9094	0.8916	0.8887	0.8901	0.9026	0.9312	0.9358	0.9368	0.9587	0.9599	0.9769
Services	0.8665	0.8868	0.8903	0.8902	0.9012	0.9059	0.9251	0.9449	0.9604	0.9720	0.9747	0.9823
Imports of goods and services	0.9794	0.9566	0.9401	0.9346	0.9301	0.9417	0.9680	0.9840	0.9858	0.9847	0.9796	0.9881
Goods	0.9781	0.9543	0.9364	0.9323	0.9265	0.9392	0.9650	0.9818	0.9832	0.9812	0.9773	0.9870
Services	0.9886	0.9737	0.9643	0.9499	0.9531	0.9585	0.9881	0.9997	1.0034	1.0079	0.9952	0.9962
GDP	0.8031	0.8251	0.8398	0.8543	0.8481	0.8719	0.8866	0.8949	0.9121	0.9296	0.9420	0.9562

MAIN EXPENDITURE COMPONENTS

	1995				1996				1997			
	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4
Current prices (EUR million)												
Private consumption (residents)	12548.2	12846.3	12849.2	12983.5	13340.2	13522.0	13860.8	13983.1	14244.8	14307.4	14693.3	14889.0
Public consumption	3636.9	3717.4	3798.6	3879.6	3958.7	4039.1	4123.0	4210.4	4299.9	4385.3	4468.7	4550.3
GFCF	4514.7	4641.9	4604.4	4696.4	4707.2	4868.4	5165.7	5381.7	5684.6	5866.1	6075.9	6144.7
Change in inventories	398.4	335.5	319.5	350.2	277.0	298.8	300.0	280.8	199.5	187.2	199.2	235.6
Exports of goods and services	6074.1	5991.5	6105.1	6436.8	6469.6	6515.7	6370.8	6552.0	6645.6	7133.3	7204.6	7612.2
Goods	4491.7	4397.1	4494.0	4828.8	4869.7	4932.7	4800.5	4913.7	4980.4	5367.8	5409.3	5790.1
Services	1582.4	1594.3	1611.1	1608.0	1600.0	1582.9	1570.3	1638.3	1665.2	1765.4	1795.3	1822.1
Imports of goods and services	7464.1	7544.3	7326.5	7566.3	7771.4	7842.1	8061.5	8319.4	8466.8	8775.7	9258.6	9512.0
Goods	6494.3	6586.1	6345.1	6582.1	6780.5	6828.0	7022.0	7280.3	7423.3	7706.9	8136.3	8360.8
Services	969.8	958.2	981.4	984.2	991.0	1014.1	1039.4	1039.1	1043.5	1068.8	1122.4	1151.2
GDP	19708.0	19988.3	20350.2	20780.2	20981.3	21401.8	21758.7	22088.5	22607.6	23103.6	23383.2	23919.8
Previous year prices (EUR million)												
Private consumption (residents)	12116.6	12280.5	12148.4	12187.9	13003.8	13077.5	13292.0	13355.9	13937.1	13984.8	14189.3	14313.1
Public consumption	3502.3	3523.5	3550.3	3582.8	3844.3	3877.5	3903.4	3922.0	4133.1	4153.8	4181.9	4217.4
GFCF	4430.3	4510.2	4460.6	4480.5	4596.4	4736.1	4998.9	5174.4	5542.0	5680.3	5808.8	5889.1
Change in inventories	160.6	135.3	128.8	141.2	226.1	243.8	244.8	229.1	188.5	176.9	188.2	222.6
Exports of goods and services	5899.3	5725.9	5849.2	6204.2	6520.6	6658.2	6660.3	6680.5	6656.3	7025.8	7028.1	7307.2
Goods	4352.9	4171.6	4284.4	4650.9	4925.8	5089.7	5117.6	5079.7	5019.8	5289.6	5253.1	5508.1
Services	1546.4	1554.3	1564.9	1553.3	1594.8	1568.5	1542.7	1600.8	1636.5	1736.2	1775.0	1799.1
Imports of goods and services	7342.6	7449.1	7233.2	7414.9	7638.6	7674.5	7989.2	8250.8	8373.4	8663.5	8902.7	9239.7
Goods	6371.5	6486.6	6253.2	6432.9	6660.6	6681.9	6974.7	7231.5	7352.5	7618.2	7810.8	8122.3
Services	971.1	962.5	980.0	982.0	978.1	992.6	1014.6	1019.3	1020.9	1045.3	1091.8	1117.4
GDP	18766.6	18726.2	18904.1	19181.7	20552.6	20918.6	21110.2	21111.0	22083.6	22358.0	22493.6	22709.7
Volume (base year 1995)												
Private consumption (residents)	12736.4	12909.7	12770.4	12810.8	13003.8	13077.5	13292.0	13355.9	13433.5	13479.5	13676.5	13795.9
Public consumption	3718.4	3740.9	3769.3	3803.8	3844.3	3877.5	3903.4	3922.0	3934.7	3954.4	3981.2	4015.0
GFCF	4573.6	4655.9	4604.5	4623.4	4596.4	4736.1	4998.9	5174.4	5372.0	5506.0	5630.6	5708.5
Exports of goods and services	6129.9	5950.1	6078.7	6448.7	6520.6	6658.2	6660.3	6680.5	6813.4	7191.6	7194.0	7479.7
Goods	4540.3	4351.2	4468.9	4851.2	4925.8	5089.7	5117.6	5079.7	5198.8	5478.2	5440.4	5704.5
Services	1589.6	1598.9	1609.8	1597.6	1594.8	1568.5	1542.7	1600.8	1614.8	1713.2	1751.6	1775.3
Imports of goods and services	7457.7	7566.3	7346.2	7531.1	7638.6	7674.5	7989.2	8250.8	8257.9	8544.0	8779.9	9112.2
Goods	6487.1	6604.3	6366.6	6549.6	6660.6	6681.9	6974.7	7231.5	7257.1	7519.3	7709.5	8016.9
Services	970.6	962.0	979.5	981.5	978.1	992.6	1014.6	1019.3	1001.1	1025.0	1070.7	1095.7
GDP	20098.9	20025.8	20196.2	20505.8	20552.6	20918.6	21110.2	21111.0	21433.6	21700.0	21831.6	22041.3
Deflator (1995=1)												
Private consumption (residents)	0.9852	0.9951	1.0062	1.0135	1.0259	1.0340	1.0428	1.0470	1.0604	1.0614	1.0743	1.0792
Public consumption	0.9781	0.9937	1.0078	1.0199	1.0297	1.0417	1.0563	1.0735	1.0928	1.1090	1.1225	1.1333
GFCF	0.9871	0.9970	1.0000	1.0158	1.0241	1.0279	1.0334	1.0401	1.0582	1.0654	1.0791	1.0764
Exports of goods and services	0.9909	1.0069	1.0043	0.9982	0.9922	0.9786	0.9565	0.9808	0.9754	0.9919	1.0015	1.0177
Goods	0.9893	1.0106	1.0056	0.9954	0.9886	0.9692	0.9380	0.9673	0.9580	0.9798	0.9943	1.0150
Services	0.9955	0.9971	1.0008	1.0066	1.0032	1.0092	1.0179	1.0234	1.0312	1.0305	1.0250	1.0263
Imports of goods and services	1.0009	0.9971	0.9973	1.0047	1.0174	1.0218	1.0090	1.0083	1.0253	1.0271	1.0545	1.0439
Goods	1.0011	0.9972	0.9966	1.0050	1.0180	1.0219	1.0068	1.0068	1.0229	1.0249	1.0554	1.0429
Services	0.9992	0.9960	1.0019	1.0028	1.0132	1.0217	1.0245	1.0194	1.0424	1.0427	1.0483	1.0506
GDP	0.9806	0.9981	1.0076	1.0134	1.0209	1.0231	1.0307	1.0463	1.0548	1.0647	1.0711	1.0852

MAIN EXPENDITURE COMPONENTS

	1998				1999				2000			
	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4
Current prices (EUR million)												
Private consumption (residents)	15163.8	15510.4	15879.9	16220.2	16565.9	16753.3	16979.7	17074.5	17563.5	17699.2	18109.9	18183.3
Public consumption	4628.7	4720.2	4826.3	4948.4	5087.6	5233.6	5386.6	5546.1	5711.6	5863.0	5999.9	6122.5
GFCF	6584.6	6722.2	6795.6	7023.0	7088.7	7232.2	7494.0	7647.6	8119.3	7964.0	8178.8	8157.7
Change in inventories	266.5	304.3	320.2	314.2	329.0	296.5	261.9	225.1	229.9	202.1	197.1	215.0
Exports of goods and services	7634.1	7881.4	7945.5	7824.4	7851.5	8102.5	8359.4	8693.7	9056.0	9052.0	9505.5	10028.9
Goods	5647.7	5867.7	5766.0	5733.0	5677.6	5836.7	6016.1	6286.8	6569.0	6511.9	6922.3	7275.8
Services	1986.4	2013.7	2179.5	2091.4	2173.9	2265.9	2343.3	2406.9	2486.9	2540.0	2583.1	2753.1
Imports of goods and services	9826.7	10207.7	10248.9	10268.3	10428.5	10708.8	11349.5	11692.8	12577.5	12172.2	12694.7	13166.7
Goods	8615.7	9012.9	9001.9	8957.8	9064.9	9330.9	9909.6	10251.3	11079.3	10589.6	11142.6	11610.8
Services	1211.0	1194.8	1247.0	1310.5	1363.5	1377.9	1439.9	1441.5	1498.2	1582.6	1552.1	1555.8
GDP	24451.0	24930.9	25518.7	26061.8	26494.2	26909.3	27132.0	27494.3	28102.9	28608.1	29296.5	29540.7
Previous year prices (EUR million)												
Private consumption (residents)	14899.1	15188.1	15396.6	15664.8	16366.1	16438.6	16534.6	16609.8	17258.1	17197.5	17339.8	17381.6
Public consumption	4520.5	4574.0	4634.8	4702.9	4955.1	5022.7	5080.4	5128.2	5438.8	5484.9	5537.5	5596.5
GFCF	6507.8	6551.3	6624.6	6812.2	7095.5	7113.0	7301.8	7346.9	7812.6	7535.0	7706.4	7523.2
Change in inventories	275.3	314.4	330.9	324.6	340.4	306.8	271.0	233.0	195.2	171.6	167.4	182.5
Exports of goods and services	7595.9	7718.4	7931.2	7760.5	8003.2	8138.7	8370.5	8456.8	8954.8	8675.0	8975.1	9191.1
Goods	5629.6	5757.9	5827.5	5744.3	5828.1	5893.6	6061.6	6100.2	6486.0	6182.0	6471.4	6571.3
Services	1966.3	1960.5	2103.7	2016.3	2175.1	2245.0	2308.9	2356.6	2468.8	2493.1	2503.7	2619.8
Imports of goods and services	9896.3	10243.5	10382.3	10531.0	10754.0	10876.2	11239.0	11444.2	12000.1	11429.9	11522.8	11691.6
Goods	8698.9	9073.7	9166.0	9250.3	9401.4	9521.3	9821.1	10033.3	10527.1	9888.8	10016.5	10198.8
Services	1197.4	1169.7	1216.3	1280.7	1352.6	1354.8	1417.9	1410.9	1473.1	1541.1	1506.3	1492.8
GDP	23902.3	24102.7	24535.7	24734.0	26006.4	26143.6	26319.3	26330.5	27659.4	27634.1	28203.3	28183.3
Volume (base year 1995)												
Private consumption (residents)	13938.2	14208.6	14403.7	14654.5	14914.1	14980.2	15067.6	15136.2	15394.5	15340.4	15467.3	15504.7
Public consumption	4056.1	4104.0	4158.6	4219.7	4285.2	4343.7	4393.6	4435.0	4467.3	4505.2	4548.4	4596.8
GFCF	6082.4	6123.0	6191.5	6366.8	6477.7	6493.7	6666.1	6707.2	6985.9	6737.6	6890.9	6727.0
Exports of goods and services	7617.9	7740.7	7954.2	7783.0	7954.8	8089.4	8319.8	8405.6	8890.3	8612.6	8910.5	9125.0
Goods	5701.3	5831.2	5901.7	5817.4	5888.2	5954.3	6124.0	6163.0	6571.1	6263.1	6556.3	6657.6
Services	1912.4	1906.8	2046.1	1961.0	2058.1	2124.3	2184.8	2229.9	2309.5	2332.2	2342.2	2450.8
Imports of goods and services	9533.8	9868.3	10002.0	10145.2	10488.2	10607.4	10961.2	11161.3	11739.0	11181.2	11272.1	11437.2
Goods	8389.6	8751.1	8840.1	8921.4	9220.2	9337.8	9631.8	9839.9	10383.2	9753.7	9879.6	10059.5
Services	1144.6	1118.2	1162.7	1224.3	1267.1	1269.2	1328.3	1321.7	1358.7	1421.4	1389.4	1376.9
GDP	22358.5	22545.9	22951.0	23136.4	23438.1	23561.7	23720.1	23730.2	24182.6	24160.4	24658.1	24640.6
Deflator (1995=1)												
Private consumption (residents)	1.0879	1.0916	1.1025	1.1068	1.1108	1.1184	1.1269	1.1281	1.1409	1.1538	1.1708	1.1728
Public consumption	1.1412	1.1501	1.1606	1.1727	1.1872	1.2049	1.2260	1.2505	1.2785	1.3014	1.3191	1.3319
GFCF	1.0826	1.0979	1.0976	1.1031	1.0943	1.1137	1.1242	1.1402	1.1622	1.1820	1.1869	1.2127
Exports of goods and services	1.0021	1.0182	0.9989	1.0053	0.9870	1.0016	1.0048	1.0343	1.0186	1.0510	1.0668	1.0991
Goods	0.9906	1.0063	0.9770	0.9855	0.9642	0.9802	0.9824	1.0201	0.9997	1.0397	1.0558	1.0929
Services	1.0387	1.0561	1.0652	1.0665	1.0563	1.0666	1.0725	1.0794	1.0768	1.0891	1.1029	1.1234
Imports of goods and services	1.0307	1.0344	1.0247	1.0121	0.9943	1.0096	1.0354	1.0476	1.0714	1.0886	1.1262	1.1512
Goods	1.0269	1.0299	1.0183	1.0041	0.9832	0.9993	1.0288	1.0418	1.0670	1.0857	1.1278	1.1542
Services	1.0580	1.0685	1.0726	1.0704	1.0761	1.0857	1.0840	1.0907	1.1026	1.1134	1.1171	1.1300
GDP	1.0936	1.1058	1.1119	1.1264	1.1304	1.1421	1.1438	1.1586	1.1621	1.1841	1.1881	1.1989

MAIN EXPENDITURE COMPONENTS

	2001				2002				2003			
	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4
Current prices (EUR million)												
Private consumption (residents)	18479.4	18827.8	18988.5	18934.1	19391.4	19575.1	19824.8	19765.2	19939.2	20081.0	20443.9	20522.3
Public consumption	6230.3	6340.9	6454.3	6570.5	6689.3	6781.7	6846.3	6880.9	6881.6	6901.4	6943.2	7009.4
GFCF	7975.4	8314.7	8410.3	8557.6	8224.8	8253.7	7942.8	7746.2	7425.2	7334.6	7366.2	7365.3
Change in inventories	215.5	240.5	252.5	251.6	228.4	208.4	181.6	147.8	187.3	160.0	186.4	266.5
Exports of goods and services	9713.1	9683.1	9368.0	9813.4	9448.3	10003.3	10032.9	10022.9	10028.3	9835.1	10038.1	10232.2
Goods	6993.8	6964.9	6658.7	6929.9	6679.7	7150.8	7067.3	7182.8	7209.2	7049.2	7154.8	7302.0
Services	2719.4	2718.3	2709.3	2883.6	2768.6	2852.5	2965.5	2840.0	2819.1	2785.9	2883.3	2930.2
Imports of goods and services	12830.0	13028.1	12803.8	12410.0	12268.2	12554.6	12645.5	12269.4	12194.5	11781.0	12358.5	12237.5
Goods	11282.8	11467.4	11292.7	10913.1	10729.8	10971.6	11097.8	10788.5	10707.8	10293.8	10844.6	10733.6
Services	1547.2	1560.7	1511.0	1497.0	1538.4	1582.9	1547.7	1480.8	1486.8	1487.2	1513.9	1503.8
GDP	29783.9	30378.8	30669.8	31717.2	31714.0	32267.7	32182.9	32293.6	32267.0	32531.1	32619.4	33158.2
Previous year prices (EUR million)												
Private consumption (residents)	17951.8	18172.8	18168.9	18115.0	19012.8	19026.4	19019.3	18895.9	19456.3	19572.1	19694.8	19770.0
Public consumption	6079.4	6136.9	6183.0	6217.9	6489.8	6507.8	6519.2	6524.1	6809.5	6813.1	6823.8	6841.5
GFCF	7876.9	8172.7	8286.1	8332.3	8196.5	8115.5	7780.3	7469.8	7307.0	7207.2	7291.2	7169.2
Change in inventories	210.6	234.9	246.6	245.8	250.5	228.6	199.2	162.2	108.2	92.4	107.7	154.0
Exports of goods and services	9648.7	9429.4	9222.3	9583.3	9603.7	10019.2	9985.0	9891.3	10280.1	10142.2	10408.9	10469.5
Goods	7018.8	6842.6	6670.8	6858.2	6828.5	7170.3	7068.0	7105.6	7501.2	7405.6	7569.1	7596.9
Services	2629.9	2586.8	2551.5	2725.1	2775.2	2848.9	2917.0	2785.7	2778.9	2736.6	2839.9	2872.6
Imports of goods and services	12667.4	12814.1	12798.1	12704.3	12664.4	12813.5	12871.1	12488.1	12198.7	12096.3	12617.2	12610.0
Goods	11161.7	11311.1	11342.2	11249.5	11130.8	11233.0	11320.8	11003.0	10715.9	10609.3	11091.6	11096.2
Services	1505.7	1503.0	1455.9	1454.8	1533.6	1580.5	1550.2	1485.2	1482.8	1486.9	1525.6	1513.8
GDP	29099.9	29332.5	29308.8	29790.0	30888.9	31084.1	30632.0	30455.1	31762.5	31730.8	31709.1	31794.2
Volume (base year 1995)												
Private consumption (residents)	15480.9	15671.5	15668.1	15621.6	15781.0	15792.3	15786.4	15683.9	15614.2	15707.1	15805.6	15866.0
Public consumption	4648.0	4692.0	4727.3	4753.9	4772.0	4785.3	4793.7	4797.3	4794.1	4796.6	4804.1	4816.6
GFCF	6643.0	6892.5	6988.1	7027.1	6789.9	6722.8	6445.1	6187.9	5939.2	5858.1	5926.3	5827.1
Exports of goods and services	9109.4	8902.4	8706.8	9047.7	8903.8	9289.1	9257.3	9170.5	9529.0	9401.2	9648.4	9704.6
Goods	6702.1	6533.9	6369.8	6548.7	6483.3	6807.8	6710.7	6746.4	7145.2	7054.2	7209.9	7236.5
Services	2394.3	2355.0	2322.9	2481.0	2403.5	2467.3	2526.3	2412.6	2385.7	2349.3	2438.0	2466.1
Imports of goods and services	11420.6	11552.8	11538.4	11453.8	11398.2	11532.4	11584.2	11239.6	11221.7	11127.5	11606.8	11600.2
Goods	10069.7	10204.4	10232.5	10148.9	10066.0	10158.4	10237.9	9950.4	9935.3	9836.5	10283.6	10288.0
Services	1349.4	1347.0	1304.8	1303.8	1330.3	1371.0	1344.7	1288.3	1286.2	1289.7	1323.3	1313.0
GDP	24590.3	24786.9	24766.9	25173.4	25033.2	25191.4	24825.0	24681.6	24659.4	24634.9	24618.0	24684.1
Deflator (1995=1)												
Private consumption (residents)	1.1937	1.2014	1.2119	1.2120	1.2288	1.2395	1.2558	1.2602	1.2770	1.2785	1.2935	1.2935
Public consumption	1.3404	1.3514	1.3653	1.3821	1.4018	1.4172	1.4282	1.4343	1.4354	1.4388	1.4453	1.4552
GFCF	1.2006	1.2063	1.2035	1.2178	1.2113	1.2277	1.2324	1.2518	1.2502	1.2521	1.2430	1.2640
Exports of goods and services	1.0663	1.0877	1.0759	1.0846	1.0611	1.0769	1.0838	1.0929	1.0524	1.0462	1.0404	1.0544
Goods	1.0435	1.0660	1.0454	1.0582	1.0303	1.0504	1.0531	1.0647	1.0090	0.9993	0.9924	1.0091
Services	1.1358	1.1542	1.1664	1.1623	1.1519	1.1561	1.1739	1.1772	1.1817	1.1858	1.1826	1.1882
Imports of goods and services	1.1234	1.1277	1.1097	1.0835	1.0763	1.0886	1.0916	1.0916	1.0867	1.0587	1.0648	1.0549
Goods	1.1205	1.1238	1.1036	1.0753	1.0659	1.0801	1.0840	1.0842	1.0778	1.0465	1.0545	1.0433
Services	1.1465	1.1586	1.1581	1.1482	1.1564	1.1546	1.1510	1.1495	1.1560	1.1531	1.1441	1.1453
GDP	1.2112	1.2256	1.2383	1.2599	1.2669	1.2809	1.2964	1.3084	1.3085	1.3205	1.3250	1.3433

MAIN EXPENDITURE COMPONENTS

	2004			
	T1	T2	T3	T4
Current prices (EUR million)				
Private consumption (residents)	20799.1	21223.9	21454.8	21580.4
Public consumption	7101.7	7186.6	7263.8	7333.2
GFCF	7484.4	7744.6	7737.7	7751.6
Change in inventories	241.8	288.3	300.8	279.3
Exports of goods and services	10330.8	10688.1	10670.5	10827.9
Goods	7269.6	7487.1	7562.1	7685.9
Services	3061.2	3201.1	3108.4	3142.0
Imports of goods and services	12592.9	13230.4	13573.6	13705.4
Goods	11069.9	11685.9	11958.2	12098.6
Services	1523.0	1544.5	1615.4	1606.8
GDP	33365.0	33901.1	33854.1	34067.0
Previous year prices (EUR million)				
Private consumption (residents)	20480.3	20791.9	20795.3	20934.6
Public consumption	6973.4	6991.7	7003.7	7009.1
GFCF	7417.8	7550.3	7525.5	7387.1
Change in inventories	236.4	281.8	294.0	273.0
Exports of goods and services	10499.4	10703.3	10528.2	10481.7
Goods	7464.4	7527.7	7454.6	7396.2
Services	3035.0	3175.6	3073.5	3085.6
Imports of goods and services	12694.1	13028.6	13179.5	13242.9
Goods	11174.6	11489.9	11561.3	11637.7
Services	1519.5	1538.7	1618.1	1605.2
GDP	32913.1	33290.4	32967.2	32842.8
Volume (base year 1995)				
Private consumption (residents)	15930.0	16172.4	16175.0	16283.4
Public consumption	4830.2	4842.9	4851.2	4855.0
GFCF	5923.6	6029.4	6009.6	5899.1
Exports of goods and services	10015.2	10209.8	10042.7	9998.4
Goods	7446.4	7509.5	7436.6	7378.3
Services	2562.0	2680.7	2594.6	2604.7
Imports of goods and services	11906.1	12219.8	12361.3	12420.7
Goods	10587.7	10886.5	10954.1	11026.5
Services	1321.8	1338.5	1407.6	1396.3
GDP	24852.3	25137.2	24893.2	24799.2
Deflator (1995=1)				
Private consumption (residents)	1.3057	1.3124	1.3264	1.3253
Public consumption	1.4703	1.4839	1.4973	1.5105
GFCF	1.2635	1.2845	1.2876	1.3140
Exports of goods and services	1.0315	1.0469	1.0625	1.0830
Goods	0.9763	0.9970	1.0169	1.0417
Services	1.1948	1.1941	1.1981	1.2063
Imports of goods and services	1.0577	1.0827	1.0981	1.1034
Goods	1.0456	1.0734	1.0917	1.0972
Services	1.1522	1.1539	1.1476	1.1507
GDP	1.3425	1.3486	1.3600	1.3737

PRIVATE CONSUMPTION (RESIDENTS)

	1977				1978				1979			
	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4
Current prices (EUR million)												
Private consumption	528.7	564.0	597.5	619.7	649.7	675.5	717.5	765.4	791.2	836.2	897.1	981.3
Durables	56.3	63.0	63.7	62.7	67.8	69.3	75.3	76.5	84.4	86.2	97.1	109.2
Non-durables	472.4	500.9	533.8	557.0	581.9	606.1	642.3	689.0	706.8	750.0	800.0	872.1
Previous year prices (EUR million)												
Private consumption					600.0	598.6	606.3	614.3	722.1	730.9	743.2	756.1
Durables					62.7	61.9	64.8	63.8	79.8	77.4	81.5	84.3
Non-durables					537.4	536.8	541.5	550.5	642.2	653.5	661.7	671.8
Volume (base year 1995)												
Private consumption					6227.1	6212.6	6291.9	6375.4	6455.8	6534.4	6644.8	6760.5
Durables					613.1	605.3	633.9	624.5	684.6	663.5	699.1	723.4
Non-durables					5627.4	5621.0	5670.5	5764.8	5782.6	5884.0	5957.7	6048.7
Deflator (1995=1)												
Private consumption					0.1043	0.1087	0.1140	0.1201	0.1226	0.1280	0.1350	0.1452
Durables					0.1105	0.1146	0.1187	0.1224	0.1233	0.1300	0.1388	0.1510
Non-durables					0.1034	0.1078	0.1133	0.1195	0.1222	0.1275	0.1343	0.1442

GROSS FIXED CAPITAL FORMATION

	1977				1978				1979			
	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4
Current prices (EUR million)												
Gross fixed capital formation	252.1	285.6	294.1	301.3	291.2	310.4	334.0	362.0	413.3	462.4	507.2	509.5
Machinery and equipment	52.5	69.1	74.6	81.2	79.3	86.9	89.6	86.4	90.2	100.7	113.8	119.6
Transport material	32.3	36.7	37.9	39.2	38.4	40.0	40.6	40.1	40.9	43.3	46.0	46.2
Construction	135.1	140.3	140.7	138.6	132.9	141.0	160.7	193.8	238.8	270.7	295.2	289.8
Others	32.2	39.6	40.9	42.3	40.6	42.5	43.1	41.7	43.5	47.6	52.3	53.8
Previous year prices (EUR million)												
Gross fixed capital formation					264.6	268.1	271.6	276.0	357.4	378.2	393.5	371.8
Machinery and equipment					71.8	75.9	74.5	68.5	80.4	86.8	92.5	89.8
Transport material					32.4	31.3	29.1	26.3	33.1	33.2	33.5	32.0
Construction					124.9	125.7	134.8	151.3	207.4	219.7	227.0	211.2
Others					35.5	35.3	33.2	29.9	36.4	38.5	40.4	38.8
Volume (base year 1995)												
Gross fixed capital formation					2439.0	2471.3	2503.6	2543.3	2742.3	2902.3	3019.2	2852.9
Machinery and equipment					439.5	464.3	456.0	418.9	418.0	451.1	480.8	466.7
Transport material					243.6	235.3	218.7	197.5	186.2	187.1	188.5	180.0
Construction					1525.7	1535.0	1647.1	1848.4	2164.2	2292.2	2368.7	2203.1
Others					336.2	334.2	314.3	283.2	275.1	290.6	305.2	293.2
Deflator (1995=1)												
Gross fixed capital formation					0.1194	0.1256	0.1334	0.1423	0.1507	0.1593	0.1680	0.1786
Machinery and equipment					0.1805	0.1872	0.1964	0.2062	0.2157	0.2233	0.2367	0.2563
Transport material					0.1575	0.1700	0.1858	0.2029	0.2195	0.2316	0.2438	0.2568
Construction					0.0871	0.0918	0.0976	0.1048	0.1103	0.1181	0.1246	0.1315
Others					0.1208	0.1272	0.1372	0.1473	0.1581	0.1639	0.1714	0.1836

PRIVATE CONSUMPTION (RESIDENTS))

	1980				1981				1982			
	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4
Current prices (EUR million)												
Private consumption	1055.4	1131.7	1191.6	1247.6	1321.5	1392.6	1479.7	1559.6	1629.0	1712.7	1775.7	1842.9
Durables	127.1	135.4	152.1	157.3	164.7	173.7	175.2	185.9	181.7	198.9	196.1	202.4
Non-durables	928.3	996.3	1039.5	1090.4	1156.7	1219.0	1304.5	1373.7	1447.3	1513.8	1579.5	1640.6
Previous year prices (EUR million)												
Private consumption	928.5	949.5	964.7	973.0	1178.3	1190.3	1195.2	1202.1	1466.2	1479.5	1482.3	1479.8
Durables	105.0	106.1	112.1	111.5	144.3	145.6	139.3	141.5	167.6	176.1	167.6	167.4
Non-durables	823.5	843.4	852.6	861.5	1034.0	1044.7	1055.9	1060.6	1298.6	1303.5	1314.7	1312.4
Volume (base year 1995)												
Private consumption	6990.9	7149.0	7263.2	7325.5	7317.3	7391.4	7422.3	7464.8	7542.1	7610.7	7624.9	7612.1
Durables	771.7	780.2	824.3	819.4	806.6	813.7	778.6	790.9	764.3	802.9	764.0	763.1
Non-durables	6230.8	6380.9	6450.4	6517.9	6523.7	6590.9	6661.9	6691.2	6800.8	6826.3	6885.3	6873.3
Deflator (1995=1)												
Private consumption	0.1510	0.1583	0.1641	0.1703	0.1806	0.1884	0.1994	0.2089	0.2160	0.2250	0.2329	0.2421
Durables	0.1647	0.1736	0.1845	0.1919	0.2043	0.2134	0.2250	0.2351	0.2378	0.2478	0.2567	0.2652
Non-durables	0.1490	0.1561	0.1611	0.1673	0.1773	0.1850	0.1958	0.2053	0.2128	0.2218	0.2294	0.2387

GROSS FIXED CAPITAL FORMATION

	1980				1981				1982			
	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4
Current prices (EUR million)												
Gross fixed capital formation	511.3	519.4	538.1	591.7	673.8	733.1	787.4	798.1	843.7	870.4	894.2	912.5
Machinery and equipment	135.0	146.1	156.2	168.5	185.9	194.0	214.6	213.7	227.3	239.5	243.6	240.5
Transport material	48.8	51.9	57.0	64.0	77.4	83.6	90.3	88.2	84.5	85.6	86.1	87.0
Construction	269.0	257.8	258.2	284.7	325.2	363.2	382.9	399.3	433.5	441.4	460.2	479.0
Others	58.5	63.5	66.8	74.4	85.3	92.3	99.5	96.8	98.4	103.9	104.3	106.0
Previous year prices (EUR million)												
Gross fixed capital formation	445.4	421.9	428.7	450.4	593.7	613.7	645.6	649.5	770.8	756.0	749.2	736.9
Machinery and equipment	115.8	115.5	123.6	130.3	170.6	170.6	187.0	187.7	205.6	202.8	200.2	194.2
Transport material	43.7	43.7	47.1	50.2	67.4	68.9	73.7	73.8	81.7	80.7	80.1	79.5
Construction	233.2	210.3	201.8	210.1	281.4	299.4	303.8	307.8	390.9	382.3	379.6	375.6
Others	52.8	52.5	56.2	59.7	74.4	74.8	81.0	80.2	92.5	90.2	89.3	87.6
Volume (base year 1995)												
Gross fixed capital formation	2710.7	2567.8	2608.7	2740.8	2920.6	3018.9	3175.7	3194.9	3171.0	3110.2	3081.9	3031.6
Machinery and equipment	495.5	494.4	529.0	557.8	584.6	584.9	641.1	643.3	624.3	615.9	607.9	589.7
Transport material	183.7	183.6	198.1	211.2	236.3	241.4	258.2	258.6	239.3	236.2	234.5	232.7
Construction	1923.7	1734.6	1664.4	1733.5	1855.9	1974.9	2003.9	2029.9	2090.6	2044.3	2029.7	2008.7
Others	311.5	309.9	331.7	352.2	368.8	370.7	401.9	398.0	381.0	371.5	367.8	360.7
Deflator (1995=1)												
Gross fixed capital formation	0.1886	0.2023	0.2063	0.2159	0.2307	0.2428	0.2479	0.2498	0.2661	0.2799	0.2902	0.3010
Machinery and equipment	0.2725	0.2956	0.2952	0.3021	0.3179	0.3317	0.3348	0.3322	0.3641	0.3889	0.4008	0.4079
Transport material	0.2654	0.2826	0.2875	0.3030	0.3278	0.3464	0.3498	0.3413	0.3532	0.3623	0.3671	0.3738
Construction	0.1398	0.1486	0.1551	0.1643	0.1752	0.1839	0.1911	0.1967	0.2073	0.2159	0.2267	0.2384
Others	0.1877	0.2049	0.2014	0.2113	0.2313	0.2489	0.2475	0.2433	0.2584	0.2797	0.2837	0.2938

PRIVATE CONSUMPTION (RESIDENTS)

	1983				1984				1985			
	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4
Current prices (EUR million)												
Private consumption	1983.2	2089.8	2244.6	2410.6	2511.3	2664.0	2841.8	2905.1	3038.3	3149.2	3228.3	3376.0
Durables	232.3	237.5	249.1	256.6	251.3	267.3	294.6	300.4	316.2	326.3	336.7	352.3
Non-durables	1750.9	1852.3	1995.6	2153.9	2260.0	2396.7	2547.2	2604.6	2722.1	2822.9	2891.6	3023.7
Previous year prices (EUR million)												
Private consumption	1740.9	1732.8	1726.8	1711.6	2153.4	2148.7	2156.3	2154.9	2713.7	2725.4	2734.0	2773.3
Durables	201.3	196.1	192.4	185.4	226.2	229.1	239.1	238.2	278.3	277.4	278.5	283.5
Non-durables	1539.5	1536.8	1534.4	1526.3	1927.2	1919.6	1917.2	1916.7	2435.4	2448.1	2455.5	2489.9
Volume (base year 1995)												
Private consumption	7600.9	7565.9	7539.3	7473.3	7445.7	7429.6	7456.0	7450.9	7399.7	7431.6	7455.0	7562.3
Durables	799.5	778.8	764.1	736.2	713.8	723.2	754.7	751.9	735.7	733.1	736.3	749.2
Non-durables	6820.9	6808.6	6798.0	6762.1	6758.9	6732.1	6723.8	6721.9	6688.2	6723.0	6743.3	6837.9
Deflator (1995=1)												
Private consumption	0.2609	0.2762	0.2977	0.3226	0.3373	0.3586	0.3811	0.3899	0.4106	0.4238	0.4330	0.4464
Durables	0.2905	0.3050	0.3260	0.3485	0.3521	0.3696	0.3903	0.3996	0.4298	0.4450	0.4573	0.4702
Non-durables	0.2567	0.2721	0.2936	0.3185	0.3344	0.3560	0.3788	0.3875	0.4070	0.4199	0.4288	0.4422

GROSS FIXED CAPITAL FORMATION

	1983				1984				1985			
	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4
Current prices (EUR million)												
Gross fixed capital formation	986.3	1051.2	1137.6	1125.2	1055.7	1153.5	1192.0	1282.3	1286.0	1314.2	1363.3	1446.4
Machinery and equipment	255.6	267.3	303.7	290.7	265.4	307.8	318.3	352.1	340.7	335.1	348.2	390.3
Transport material	97.7	102.4	111.3	105.2	87.1	90.8	88.2	94.8	93.2	94.6	101.3	115.5
Construction	516.3	557.2	583.3	601.3	600.1	640.5	673.0	705.9	725.9	754.8	776.1	780.6
Others	116.6	124.2	139.3	127.9	103.1	114.4	112.5	129.5	126.3	129.7	137.8	159.9
Previous year prices (EUR million)												
Gross fixed capital formation	879.8	889.3	881.5	804.0	936.1	972.7	951.1	961.8	1154.5	1147.5	1161.5	1185.3
Machinery and equipment	234.1	235.0	237.9	200.0	229.1	254.4	247.0	253.0	308.9	304.9	308.9	327.0
Transport material	90.6	90.8	89.3	76.0	77.1	77.9	72.0	72.6	85.8	87.4	91.5	99.1
Construction	450.7	458.7	451.0	445.6	541.1	545.8	544.0	544.3	644.1	637.6	640.2	630.0
Others	104.4	104.8	103.3	82.4	88.7	94.6	88.2	92.0	115.7	117.7	120.9	129.2
Volume (base year 1995)												
Gross fixed capital formation	3097.2	3130.7	3103.4	2830.3	2647.3	2750.9	2690.0	2720.1	2664.2	2648.1	2680.5	2735.4
Machinery and equipment	600.1	602.5	609.8	512.7	476.8	529.4	514.0	526.4	508.4	501.7	508.4	538.2
Transport material	248.8	249.4	245.4	208.7	176.2	178.2	164.5	165.9	162.8	165.8	173.6	188.1
Construction	2030.7	2066.5	2032.2	2007.9	1949.8	1966.8	1960.3	1961.3	1927.3	1907.9	1915.6	1885.1
Others	374.7	376.1	370.7	295.6	247.5	263.8	245.9	256.6	255.2	259.6	266.8	285.0
Deflator (1995=1)												
Gross fixed capital formation	0.3184	0.3358	0.3666	0.3975	0.3988	0.4193	0.4431	0.4714	0.4827	0.4963	0.5086	0.5288
Machinery and equipment	0.4260	0.4437	0.4980	0.5670	0.5566	0.5815	0.6193	0.6688	0.6702	0.6680	0.6848	0.7252
Transport material	0.3927	0.4107	0.4534	0.5043	0.4941	0.5098	0.5359	0.5716	0.5723	0.5708	0.5834	0.6139
Construction	0.2542	0.2696	0.2870	0.2995	0.3078	0.3256	0.3433	0.3599	0.3766	0.3956	0.4051	0.4141
Others	0.3112	0.3303	0.3759	0.4326	0.4165	0.4336	0.4576	0.5048	0.4948	0.4996	0.5164	0.5613

PRIVATE CONSUMPTION (RESIDENTS)

	1986				1987				1988			
	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4
Current prices (EUR million)												
Private consumption	3559.4	3786.4	3910.5	4096.7	4201.5	4427.8	4541.2	4727.6	5080.5	5346.6	5620.7	5952.1
Durables	332.8	379.6	404.4	432.1	480.7	536.0	529.0	558.7	666.5	763.2	803.8	896.8
Non-durables	3226.6	3406.9	3506.1	3664.6	3720.7	3891.7	4012.3	4169.0	4413.9	4583.4	4816.9	5055.3
Previous year prices (EUR million)												
Private consumption	3288.9	3397.8	3439.2	3530.8	3999.2	4123.6	4138.8	4205.7	4774.0	4877.3	4943.4	5071.4
Durables	309.5	338.1	349.2	370.0	442.9	476.4	456.2	481.9	611.1	676.1	686.5	743.9
Non-durables	2979.4	3059.7	3090.0	3160.8	3556.3	3647.2	3682.5	3723.8	4163.0	4201.2	4256.8	4327.5
Volume (base year 1995)												
Private consumption	7674.3	7928.6	8025.1	8238.8	8300.7	8559.0	8590.4	8729.3	9116.8	9314.1	9440.2	9684.8
Durables	686.8	750.2	774.9	821.0	867.3	932.9	893.4	943.7	1056.2	1168.6	1186.6	1285.8
Non-durables	7017.3	7206.6	7277.8	7444.6	7457.2	7647.9	7722.0	7808.5	8075.0	8149.2	8257.1	8394.2
Deflator (1995=1)												
Private consumption	0.4638	0.4776	0.4873	0.4972	0.5062	0.5173	0.5286	0.5416	0.5573	0.5740	0.5954	0.6146
Durables	0.4845	0.5059	0.5218	0.5263	0.5543	0.5746	0.5921	0.5920	0.6311	0.6531	0.6774	0.6974
Non-durables	0.4598	0.4727	0.4818	0.4922	0.4989	0.5089	0.5196	0.5339	0.5466	0.5624	0.5834	0.6022

GROSS FIXED CAPITAL FORMATION

	1986				1987				1988			
	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4
Current prices (EUR million)												
Gross fixed capital formation	1413.9	1543.8	1607.6	1761.6	1864.4	2029.0	2120.2	2303.6	2448.6	2618.4	2775.0	2874.3
Machinery and equipment	375.7	442.0	461.2	524.9	543.4	606.1	649.5	710.7	760.8	809.6	862.6	867.3
Transport material	119.1	140.0	160.5	180.3	207.4	229.1	213.2	245.6	257.9	271.3	283.5	305.2
Construction	764.8	775.1	788.6	827.9	877.9	925.8	981.5	1036.1	1087.0	1171.9	1233.1	1298.8
Others	154.4	186.6	197.3	228.5	235.6	268.0	276.1	311.2	342.9	365.6	395.9	403.0
Previous year prices (EUR million)												
Gross fixed capital formation	1342.5	1391.7	1438.0	1503.1	1773.8	1880.1	1956.3	2041.9	2308.1	2412.0	2445.7	2512.1
Machinery and equipment	359.5	399.1	417.5	451.5	525.1	577.8	626.9	643.4	718.8	746.3	751.3	761.7
Transport material	114.3	126.6	143.4	151.0	192.3	205.9	191.1	208.1	242.9	252.6	255.4	277.3
Construction	727.9	709.8	712.3	725.2	831.0	847.8	878.5	916.7	1029.7	1079.1	1099.9	1119.6
Others	140.9	156.2	164.8	175.5	225.6	248.6	259.8	273.8	316.7	334.0	339.1	353.4
Volume (base year 1995)												
Gross fixed capital formation	2662.2	2759.7	2851.6	2980.7	3155.3	3344.2	3479.8	3632.1	3777.4	3947.5	4002.6	4111.3
Machinery and equipment	522.7	580.3	607.1	656.5	688.9	758.1	822.5	844.2	891.8	925.9	932.1	945.0
Transport material	194.9	216.1	244.6	257.6	292.7	313.4	290.9	316.8	329.4	342.5	346.3	376.0
Construction	1829.8	1784.3	1790.7	1823.1	1902.8	1941.3	2011.7	2099.0	2143.7	2246.4	2289.7	2330.8
Others	271.5	300.8	317.5	338.0	361.2	398.1	416.0	438.4	468.4	494.0	501.6	522.8
Deflator (1995=1)												
Gross fixed capital formation	0.5311	0.5594	0.5638	0.5910	0.5909	0.6067	0.6093	0.6342	0.6482	0.6633	0.6933	0.6991
Machinery and equipment	0.7187	0.7617	0.7596	0.7996	0.7888	0.7995	0.7897	0.8418	0.8532	0.8744	0.9254	0.9177
Transport material	0.6107	0.6479	0.6561	0.7000	0.7087	0.7308	0.7328	0.7754	0.7829	0.7921	0.8185	0.8116
Construction	0.4180	0.4344	0.4404	0.4541	0.4614	0.4769	0.4879	0.4936	0.5071	0.5217	0.5385	0.5572
Others	0.5687	0.6204	0.6215	0.6759	0.6524	0.6733	0.6636	0.7099	0.7321	0.7400	0.7892	0.7710

PRIVATE CONSUMPTION (RESIDENTS)

	1989				1990				1991			
	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4
Current prices (EUR million)												
Private consumption	6044.8	6207.6	6466.6	6651.0	7015.7	7389.7	7768.6	8136.2	8549.9	8976.3	9348.8	9622.9
Durables	881.5	805.6	832.7	853.4	907.6	957.8	1022.1	1052.3	1108.1	1170.1	1246.6	1250.9
Non-durables	5163.3	5402.0	5633.9	5797.6	6108.1	6431.9	6746.5	7083.9	7441.8	7806.2	8102.2	8372.0
Previous year prices (EUR million)												
Private consumption	5620.4	5656.7	5747.3	5825.9	6633.7	6791.9	6962.6	7098.1	8027.8	8243.6	8425.5	8519.2
Durables	845.9	769.2	779.7	782.5	884.7	908.7	954.0	963.8	1066.2	1109.0	1173.3	1162.2
Non-durables	4774.5	4887.5	4967.6	5043.3	5748.9	5883.1	6008.6	6134.3	6961.6	7134.6	7252.2	7357.0
Volume (base year 1995)												
Private consumption	9594.6	9656.6	9811.2	9945.3	10199.6	10442.9	10705.4	10913.8	11193.2	11494.1	11747.7	11878.4
Durables	1269.3	1154.2	1170.0	1174.2	1250.5	1284.5	1348.5	1362.3	1419.7	1476.6	1562.2	1547.5
Non-durables	8318.4	8515.3	8654.8	8786.8	8958.0	9167.1	9362.5	9558.4	9779.8	10022.9	10188.1	10335.3
Deflator (1995=1)												
Private consumption	0.6300	0.6428	0.6591	0.6688	0.6878	0.7076	0.7257	0.7455	0.7638	0.7810	0.7958	0.8101
Durables	0.6945	0.6979	0.7117	0.7268	0.7258	0.7457	0.7580	0.7725	0.7805	0.7925	0.7980	0.8084
Non-durables	0.6207	0.6344	0.6510	0.6598	0.6819	0.7016	0.7206	0.7411	0.7609	0.7788	0.7953	0.8100

GROSS FIXED CAPITAL FORMATION

	1989				1990				1991			
	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4
Current prices (EUR million)												
Gross fixed capital formation	2920.2	3000.6	3109.6	3241.4	3340.0	3468.4	3582.1	3687.1	3727.0	3809.7	3982.7	4101.2
Machinery and equipment	855.6	897.5	929.8	985.4	1037.8	1052.2	1123.3	1143.1	1179.7	1175.6	1187.2	1191.9
Transport material	287.9	276.5	297.7	327.1	311.4	334.6	313.3	345.3	316.6	346.0	359.0	363.3
Construction	1380.6	1421.1	1456.2	1476.3	1527.5	1607.4	1652.5	1675.5	1712.0	1753.4	1883.5	1992.4
Others	396.1	405.5	425.9	452.6	463.2	474.2	493.0	523.1	518.7	534.7	553.0	553.5
Previous year prices (EUR million)												
Gross fixed capital formation	2719.5	2750.3	2745.1	2819.8	3157.8	3241.4	3281.0	3361.3	3565.3	3598.3	3687.4	3757.9
Machinery and equipment	803.1	837.5	853.3	912.5	1025.1	1052.8	1112.5	1159.8	1141.6	1146.0	1154.0	1157.2
Transport material	270.5	265.6	261.9	281.1	303.7	323.9	299.0	327.0	328.2	353.7	353.2	357.1
Construction	1276.0	1268.6	1252.8	1228.8	1392.0	1418.1	1412.9	1381.6	1578.2	1559.9	1634.3	1695.7
Others	370.0	378.6	377.1	397.4	437.0	446.6	456.6	493.0	517.4	538.8	545.8	547.8
Volume (base year 1995)												
Gross fixed capital formation	4019.5	4064.9	4057.2	4167.7	4196.8	4307.9	4360.5	4467.3	4389.7	4430.3	4539.9	4626.7
Machinery and equipment	899.1	937.6	955.3	1021.6	1065.7	1094.6	1156.6	1205.7	1185.1	1189.6	1198.0	1201.4
Transport material	337.3	331.2	326.6	350.6	343.7	366.6	338.4	370.0	356.9	384.6	384.1	388.4
Construction	2399.9	2386.0	2356.2	2311.1	2294.8	2337.9	2329.3	2277.7	2256.2	2230.1	2336.4	2424.2
Others	487.6	499.0	497.1	523.7	522.2	533.6	545.5	589.1	580.1	604.1	612.0	614.2
Deflator (1995=1)												
Gross fixed capital formation	0.7265	0.7382	0.7664	0.7777	0.7958	0.8051	0.8215	0.8254	0.8490	0.8599	0.8773	0.8864
Machinery and equipment	0.9516	0.9572	0.9733	0.9645	0.9738	0.9613	0.9713	0.9481	0.9954	0.9882	0.9910	0.9921
Transport material	0.8533	0.8346	0.9115	0.9329	0.9060	0.9127	0.9257	0.9333	0.8870	0.8997	0.9346	0.9355
Construction	0.5753	0.5956	0.6180	0.6388	0.6657	0.6876	0.7095	0.7356	0.7588	0.7862	0.8061	0.8219
Others	0.8123	0.8126	0.8568	0.8642	0.8871	0.8887	0.9037	0.8881	0.8942	0.8851	0.9035	0.9011

PRIVATE CONSUMPTION (RESIDENTS)

	1992				1993				1994			
	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4
Current prices (EUR million)												
Private consumption	9870.7	10298.8	10480.2	10724.4	10875.2	10978.1	11258.3	11492.1	11622.4	11908.1	12074.7	12329.4
Durables	1335.3	1429.5	1382.3	1485.8	1397.3	1363.7	1386.0	1376.8	1415.4	1464.6	1435.5	1546.6
Non-durables	8535.4	8869.3	9097.9	9238.6	9477.9	9614.4	9872.3	10115.3	10207.0	10443.5	10639.2	10782.7
Previous year prices (EUR million)												
Private consumption	9459.4	9616.7	9662.4	9799.4	10561.0	10534.8	10608.3	10614.2	11117.4	11232.5	11246.3	11337.1
Durables	1316.3	1378.6	1312.7	1384.5	1344.8	1285.4	1278.5	1248.2	1355.3	1383.5	1334.8	1410.9
Non-durables	8143.1	8238.1	8349.6	8414.9	9216.2	9249.4	9329.8	9366.0	9762.0	9849.0	9911.5	9926.2
Volume (base year 1995)												
Private consumption	12003.3	12203.0	12260.9	12434.8	12482.5	12451.5	12538.5	12545.4	12466.8	12596.0	12611.4	12713.3
Durables	1655.3	1733.7	1650.8	1741.1	1618.8	1547.4	1539.1	1502.6	1523.2	1554.9	1500.1	1585.6
Non-durables	10351.8	10472.5	10614.3	10697.3	10865.2	10904.3	10999.1	11041.8	10943.7	11041.2	11111.2	11127.7
Deflator (1995=1)												
Private consumption	0.8223	0.8440	0.8548	0.8625	0.8712	0.8817	0.8979	0.9160	0.9323	0.9454	0.9574	0.9698
Durables	0.8067	0.8245	0.8373	0.8534	0.8632	0.8813	0.9005	0.9163	0.9292	0.9419	0.9569	0.9754
Non-durables	0.8245	0.8469	0.8571	0.8636	0.8723	0.8817	0.8976	0.9161	0.9327	0.9459	0.9575	0.9690

GROSS FIXED CAPITAL FORMATION

	1992				1993				1994			
	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4
Current prices (EUR million)												
Gross fixed capital formation	4341.5	4407.0	4459.6	4375.3	4177.0	4255.1	4040.4	4061.3	4150.6	4240.5	4217.6	4640.1
Machinery and equipment	1178.8	1172.4	1189.2	1164.7	1109.7	1194.3	1116.9	1124.3	1108.6	1061.4	1017.5	1069.4
Transport material	405.9	409.1	404.0	371.8	352.0	353.4	323.2	326.7	351.9	389.5	351.4	518.6
Construction	2165.9	2243.2	2271.0	2280.4	2200.8	2153.9	2087.8	2070.1	2116.9	2197.4	2282.8	2399.8
Others	590.8	582.3	595.4	558.5	514.4	553.6	512.5	540.3	573.1	592.3	566.0	652.2
Previous year prices (EUR million)												
Gross fixed capital formation	4230.7	4277.4	4283.5	4151.3	4117.9	4118.7	3879.3	3807.4	4029.4	4104.3	4090.6	4437.8
Machinery and equipment	1199.9	1220.7	1251.8	1223.0	1145.3	1195.0	1125.7	1091.9	1055.8	1013.9	993.5	1023.6
Transport material	397.4	391.9	382.9	348.5	354.5	358.8	322.7	310.4	356.0	390.8	350.8	508.1
Construction	2061.2	2094.6	2079.1	2050.7	2106.2	2028.7	1933.0	1901.6	2055.2	2115.3	2176.3	2255.2
Others	572.1	570.3	569.7	529.0	512.0	536.2	497.9	503.5	562.5	584.2	570.0	651.0
Volume (base year 1995)												
Gross fixed capital formation	4871.5	4925.3	4932.3	4780.1	4568.9	4569.8	4304.1	4224.4	4305.6	4385.6	4371.0	4742.0
Machinery and equipment	1210.0	1230.9	1262.3	1233.3	1201.6	1253.8	1181.0	1145.7	1110.8	1066.8	1045.3	1077.0
Transport material	434.5	428.4	418.5	381.0	370.4	374.9	337.2	324.4	369.5	405.7	364.1	527.4
Construction	2596.3	2638.3	2618.8	2583.0	2453.1	2362.9	2251.4	2214.8	2241.0	2306.6	2373.1	2459.0
Others	638.4	636.4	635.7	590.4	550.2	576.3	535.1	541.1	584.2	606.8	592.0	676.1
Deflator (1995=1)												
Gross fixed capital formation	0.8912	0.8948	0.9042	0.9153	0.9142	0.9311	0.9387	0.9614	0.9640	0.9669	0.9649	0.9785
Machinery and equipment	0.9743	0.9524	0.9420	0.9443	0.9235	0.9525	0.9457	0.9813	0.9980	0.9950	0.9734	0.9930
Transport material	0.9342	0.9550	0.9652	0.9759	0.9504	0.9427	0.9584	1.0069	0.9524	0.9599	0.9650	0.9833
Construction	0.8343	0.8502	0.8672	0.8828	0.8972	0.9115	0.9273	0.9347	0.9446	0.9527	0.9619	0.9759
Others	0.9254	0.9150	0.9366	0.9459	0.9349	0.9606	0.9577	0.9986	0.9810	0.9762	0.9560	0.9647

PRIVATE CONSUMPTION (RESIDENTS)

	1995				1996				1997			
	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4
Current prices (EUR million)												
Private consumption	12548.2	12846.3	12849.2	12983.5	13340.2	13522.0	13860.8	13983.1	14244.8	14307.4	14693.3	14889.0
Durables	1469.4	1595.0	1544.2	1472.4	1614.9	1605.6	1680.5	1685.9	1748.9	1745.2	1836.1	1847.1
Non-durables	11078.7	11251.4	11305.1	11511.1	11725.3	11916.4	12180.2	12297.2	12495.9	12562.2	12857.2	13041.9
Previous year prices (EUR million)												
Private consumption	12116.6	12280.5	12148.4	12187.9	13003.8	13077.5	13292.0	13355.9	13937.1	13984.8	14189.3	14313.1
Durables	1423.3	1519.1	1459.3	1381.6	1594.2	1580.8	1650.0	1646.3	1716.9	1713.0	1799.9	1807.2
Non-durables	10693.3	10761.4	10689.1	10806.2	11409.7	11496.7	11642.1	11709.6	12220.2	12271.8	12389.4	12505.8
Volume (base year 1995)												
Private consumption	12736.4	12909.7	12770.4	12810.8	13003.8	13077.5	13292.0	13355.9	13433.5	13479.5	13676.5	13795.9
Durables	1496.3	1598.1	1534.7	1451.9	1594.2	1580.8	1650.0	1646.3	1686.8	1682.9	1768.2	1775.5
Non-durables	11240.1	11311.7	11235.7	11358.8	11409.7	11496.7	11642.1	11709.6	11747.6	11797.2	11910.2	12022.1
Deflator (1995=1)												
Private consumption	0.9852	0.9951	1.0062	1.0135	1.0259	1.0340	1.0428	1.0470	1.0604	1.0614	1.0743	1.0792
Durables	0.9821	0.9980	1.0062	1.0141	1.0130	1.0157	1.0185	1.0240	1.0368	1.0370	1.0384	1.0403
Non-durables	0.9856	0.9947	1.0062	1.0134	1.0277	1.0365	1.0462	1.0502	1.0637	1.0649	1.0795	1.0848

GROSS FIXED CAPITAL FORMATION

	1995				1996				1997			
	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4
Current prices (EUR million)												
Gross fixed capital formation	4514.7	4641.9	4604.4	4696.4	4707.2	4868.4	5165.7	5381.7	5684.6	5866.1	6075.9	6144.7
Machinery and equipment	1109.0	1142.6	1130.6	1211.3	1208.9	1225.0	1262.1	1312.1	1366.3	1413.5	1458.4	1506.8
Transport material	343.5	407.0	389.9	411.5	421.7	441.0	488.4	489.5	547.2	596.5	627.1	662.9
Construction	2475.8	2501.5	2480.7	2462.7	2442.5	2556.5	2748.6	2896.5	3066.3	3126.8	3228.6	3182.8
Others	586.4	590.7	603.1	610.9	634.1	646.0	666.5	683.7	704.9	729.3	761.8	792.3
Previous year prices (EUR million)												
Gross fixed capital formation	4430.3	4510.2	4460.6	4480.5	4596.4	4736.1	4998.9	5174.4	5542.0	5680.3	5808.8	5889.1
Machinery and equipment	1113.0	1124.7	1127.6	1182.4	1174.4	1161.7	1190.6	1238.0	1352.7	1377.3	1395.9	1478.8
Transport material	329.2	399.3	382.4	389.5	407.1	453.0	504.8	486.5	516.3	585.0	613.9	647.0
Construction	2403.3	2408.0	2377.1	2327.4	2388.3	2492.1	2669.3	2796.3	2991.3	3023.0	3089.7	3027.1
Others	584.8	578.1	573.6	581.2	626.5	629.2	634.2	653.5	681.7	695.0	709.3	736.2
Volume (base year 1995)												
Gross fixed capital formation	4573.6	4655.9	4604.5	4623.4	4596.4	4736.1	4998.9	5174.4	5372.0	5506.0	5630.6	5708.5
Machinery and equipment	1124.2	1136.0	1139.0	1194.4	1174.4	1161.7	1190.6	1238.0	1287.0	1310.4	1328.1	1406.9
Transport material	340.5	413.0	395.5	402.9	407.1	453.0	504.8	486.5	519.3	588.4	617.5	650.8
Construction	2505.6	2510.5	2478.2	2426.4	2388.3	2492.1	2669.3	2796.3	2907.6	2938.4	3003.2	2942.4
Others	603.4	596.5	591.7	599.6	626.5	629.2	634.2	653.5	659.3	672.1	685.9	711.9
Deflator (1995=1)												
Gross fixed capital formation	0.9871	0.9970	1.0000	1.0158	1.0241	1.0279	1.0334	1.0401	1.0582	1.0654	1.0791	1.0764
Machinery and equipment	0.9865	1.0058	0.9926	1.0142	1.0293	1.0545	1.0600	1.0598	1.0616	1.0787	1.0981	1.0710
Transport material	1.0089	0.9855	0.9859	1.0212	1.0358	0.9735	0.9677	1.0061	1.0537	1.0136	1.0155	1.0185
Construction	0.9881	0.9964	1.0010	1.0149	1.0227	1.0258	1.0297	1.0358	1.0546	1.0641	1.0751	1.0817
Others	0.9719	0.9904	1.0193	1.0188	1.0121	1.0266	1.0509	1.0461	1.0693	1.0852	1.1107	1.1128

PRIVATE CONSUMPTION (RESIDENTS)

	1998				1999				2000			
	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4
Current prices (EUR million)												
Private consumption	15163.8	15510.4	15879.9	16220.2	16565.9	16753.3	16979.7	17074.5	17563.5	17699.2	18109.9	18183.3
Durables	2005.8	2074.3	2207.4	2298.7	2465.3	2491.1	2455.9	2378.5	2628.6	2507.0	2535.6	2547.8
Non-durables	13158.0	13436.1	13672.5	13921.5	14100.5	14262.2	14523.9	14696.0	14935.0	15192.2	15574.3	15635.5
Previous year prices (EUR million)												
Private consumption	14899.1	15188.1	15396.6	15664.8	16366.1	16438.6	16534.6	16609.8	17258.1	17197.5	17339.8	17381.6
Durables	1988.1	2039.6	2168.9	2256.8	2445.5	2463.8	2433.2	2356.7	2564.5	2438.1	2457.9	2463.0
Non-durables	12911.0	13148.5	13227.6	13408.0	13920.6	13974.8	14101.3	14253.1	14693.6	14759.4	14881.9	14918.6
Volume (base year 1995)												
Private consumption	13938.2	14208.6	14403.7	14654.5	14914.1	14980.2	15067.6	15136.2	15394.5	15340.4	15467.3	15504.7
Durables	1915.0	1964.6	2089.2	2173.8	2319.1	2336.6	2307.6	2235.0	2409.3	2290.5	2309.1	2314.0
Non-durables	12029.2	12250.5	12324.3	12492.3	12612.6	12661.6	12776.3	12913.8	13004.8	13063.0	13171.4	13203.9
Deflator (1995=1)												
Private consumption	1.0879	1.0916	1.1025	1.1068	1.1108	1.1184	1.1269	1.1281	1.1409	1.1538	1.1708	1.1728
Durables	1.0474	1.0558	1.0566	1.0574	1.0631	1.0661	1.0643	1.0642	1.0910	1.0945	1.0981	1.1010
Non-durables	1.0938	1.0968	1.1094	1.1144	1.1180	1.1264	1.1368	1.1380	1.1484	1.1630	1.1824	1.1842

GROSS FIXED CAPITAL FORMATION

	1998				1999				2000			
	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4
Current prices (EUR million)												
Gross fixed capital formation	6584.6	6722.2	6795.6	7023.0	7088.7	7232.2	7494.0	7647.6	8119.3	7964.0	8178.8	8157.7
Machinery and equipment	1594.7	1732.1	1716.9	1747.9	1734.2	1789.7	1866.4	1929.7	1978.2	2001.7	2059.2	2088.7
Transport material	688.3	718.2	731.9	802.7	786.2	796.3	865.4	871.0	935.8	901.1	914.3	944.1
Construction	3447.7	3386.6	3428.5	3529.6	3544.6	3590.3	3689.1	3754.8	4034.0	3945.2	4069.5	4014.7
Others	853.8	885.3	918.4	942.7	1023.6	1055.8	1073.1	1092.0	1171.3	1115.9	1135.8	1110.3
Previous year prices (EUR million)												
Gross fixed capital formation	6507.8	6551.3	6624.6	6812.2	7095.5	7113.0	7301.8	7346.9	7812.6	7535.0	7706.4	7523.2
Machinery and equipment	1629.3	1691.5	1688.9	1737.8	1809.4	1813.3	1881.9	1944.5	1925.6	1890.4	1937.5	1896.2
Transport material	677.1	720.1	753.1	789.4	757.5	759.3	834.3	833.1	894.6	844.2	879.0	873.7
Construction	3389.5	3313.5	3344.1	3421.5	3553.8	3552.5	3604.1	3591.1	3889.6	3735.6	3823.5	3716.9
Others	812.0	826.2	838.5	863.6	974.9	987.9	981.6	978.2	1102.8	1064.8	1066.4	1036.4
Volume (base year 1995)												
Gross fixed capital formation	6082.4	6123.0	6191.5	6366.8	6477.7	6493.7	6666.1	6707.2	6985.9	6737.6	6890.9	6727.0
Machinery and equipment	1512.3	1570.0	1567.6	1613.0	1668.5	1672.2	1735.3	1793.1	1806.9	1773.9	1818.1	1779.4
Transport material	661.1	703.1	735.3	770.7	739.2	741.0	814.2	813.0	837.6	790.4	823.0	818.0
Construction	3170.8	3099.8	3128.4	3200.8	3246.5	3245.3	3292.5	3280.6	3485.7	3347.7	3426.5	3330.9
Others	741.6	754.5	765.8	788.7	826.0	837.1	831.7	828.8	863.6	833.7	835.0	811.5
Deflator (1995=1)												
Gross fixed capital formation	1.0826	1.0979	1.0976	1.1031	1.0943	1.1137	1.1242	1.1402	1.1622	1.1820	1.1869	1.2127
Machinery and equipment	1.0545	1.1033	1.0953	1.0837	1.0394	1.0703	1.0755	1.0762	1.0948	1.1284	1.1326	1.1738
Transport material	1.0413	1.0215	0.9953	1.0416	1.0636	1.0747	1.0630	1.0714	1.1173	1.1401	1.1110	1.1542
Construction	1.0873	1.0925	1.0959	1.1027	1.0918	1.1063	1.1205	1.1446	1.1573	1.1785	1.1877	1.2053
Others	1.1514	1.1734	1.1993	1.1954	1.2392	1.2614	1.2902	1.3176	1.3564	1.3385	1.3602	1.3681

PRIVATE CONSUMPTION (RESIDENTS)

	2001				2002				2003			
	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4
Current prices (EUR million)												
Private consumption	18479.4	18827.8	18988.5	18934.1	19391.4	19575.1	19824.8	19765.2	19939.2	20081.0	20443.9	20522.3
Durables	2513.4	2556.0	2503.7	2434.3	2512.0	2533.7	2421.3	2317.9	2220.1	2218.2	2273.8	2320.6
Non-durables	15966.0	16271.8	16484.8	16499.8	16879.4	17041.4	17403.5	17447.2	17719.1	17862.8	18170.1	18201.7
Previous year prices (EUR million)												
Private consumption	17951.8	18172.8	18168.9	18115.0	19012.8	19026.4	19019.3	18895.9	19456.3	19572.1	19694.8	19770.0
Durables	2452.0	2489.5	2428.4	2352.9	2473.1	2488.9	2358.6	2222.3	2184.2	2190.3	2240.3	2258.6
Non-durables	15499.7	15683.3	15740.6	15762.1	16539.7	16537.4	16660.7	16673.6	17272.1	17381.8	17454.4	17511.4
Volume (base year 1995)												
Private consumption	15480.9	15671.5	15668.1	15621.6	15781.0	15792.3	15786.4	15683.9	15614.2	15707.1	15805.6	15866.0
Durables	2237.0	2271.2	2215.4	2146.6	2192.1	2206.2	2090.6	1969.8	1888.2	1893.4	1936.7	1952.5
Non-durables	13252.3	13409.2	13458.2	13476.6	13591.4	13589.5	13690.9	13701.4	13706.2	13793.2	13850.9	13896.1
Deflator (1995=1)												
Private consumption	1.1937	1.2014	1.2119	1.2120	1.2288	1.2395	1.2558	1.2602	1.2770	1.2785	1.2935	1.2935
Durables	1.1235	1.1254	1.1301	1.1340	1.1459	1.1485	1.1582	1.1767	1.1758	1.1715	1.1741	1.1885
Non-durables	1.2048	1.2135	1.2249	1.2243	1.2419	1.2540	1.2712	1.2734	1.2928	1.2950	1.3118	1.3098

GROSS FIXED CAPITAL FORMATION

	2001				2002				2003			
	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4
Current prices (EUR million)												
Gross fixed capital formation	7975.4	8314.7	8410.3	8557.6	8224.8	8253.7	7942.8	7746.2	7425.2	7334.6	7366.2	7365.3
Machinery and equipment	2075.4	2060.2	1970.0	1985.4	1816.0	1813.8	1716.2	1755.8	1642.6	1619.9	1653.0	1733.0
Transport material	775.1	837.1	810.7	783.1	689.9	680.6	686.2	633.8	569.1	611.3	611.9	585.4
Construction	3972.5	4242.4	4405.7	4539.4	4413.8	4460.7	4250.7	4100.1	3958.5	3876.6	3868.4	3822.4
Others	1152.4	1175.0	1223.9	1249.7	1305.1	1298.6	1289.7	1256.5	1254.9	1226.8	1232.9	1224.5
Previous year prices (EUR million)												
Gross fixed capital formation	7876.9	8172.7	8286.1	8332.3	8196.5	8115.5	7780.3	7469.8	7307.0	7207.2	7291.2	7169.2
Machinery and equipment	2101.0	2064.8	2047.3	2074.9	1906.9	1863.5	1798.6	1787.5	1683.6	1639.9	1708.1	1743.3
Transport material	764.2	820.6	809.9	752.3	718.7	693.5	680.2	632.8	576.0	608.3	625.6	584.0
Construction	3896.4	4129.6	4239.5	4303.4	4323.7	4311.9	4091.6	3891.4	3868.4	3801.0	3808.3	3713.3
Others	1115.3	1157.6	1189.4	1201.7	1247.2	1246.7	1209.9	1158.1	1179.0	1158.0	1149.2	1128.6
Volume (base year 1995)												
Gross fixed capital formation	6643.0	6892.5	6988.1	7027.1	6789.9	6722.8	6445.1	6187.9	5939.2	5858.1	5926.3	5827.1
Machinery and equipment	1855.5	1823.6	1808.1	1832.5	1725.1	1685.8	1627.2	1617.1	1577.8	1536.8	1600.7	1633.7
Transport material	676.0	725.9	716.4	665.5	624.1	602.2	590.6	549.5	506.6	535.0	550.2	513.6
Construction	3296.6	3494.0	3586.9	3641.0	3532.2	3522.5	3342.5	3179.0	3048.9	2995.8	3001.6	2926.7
Others	822.7	853.9	877.3	886.4	893.7	893.4	867.0	829.9	797.6	783.4	777.5	763.5
Deflator (1995=1)												
Gross fixed capital formation	1.2006	1.2063	1.2035	1.2178	1.2113	1.2277	1.2324	1.2518	1.2502	1.2521	1.2430	1.2640
Machinery and equipment	1.1185	1.1297	1.0895	1.0834	1.0527	1.0759	1.0547	1.0858	1.0411	1.0541	1.0327	1.0608
Transport material	1.1465	1.1532	1.1316	1.1766	1.1055	1.1301	1.1617	1.1536	1.1233	1.1427	1.1121	1.1398
Construction	1.2050	1.2142	1.2283	1.2467	1.2496	1.2663	1.2717	1.2897	1.2983	1.2940	1.2888	1.3060
Others	1.4008	1.3760	1.3950	1.4099	1.4603	1.4537	1.4876	1.5141	1.5734	1.5660	1.5859	1.6038

PRIVATE CONSUMPTION (RESIDENTS)

	2004			
	T1	T2	T3	T4
Current prices (EUR million)				
Private consumption	20799.1	21223.9	21454.8	21580.4
Durables	2345.2	2428.1	2416.0	2497.3
Non-durables	18453.9	18795.8	19038.9	19083.1
Previous year prices (EUR million)				
Private consumption	20480.3	20791.9	20795.3	20934.6
Durables	2328.8	2416.9	2397.9	2439.0
Non-durables	18151.5	18375.0	18397.5	18495.6
Volume (base year 1995)				
Private consumption	15930.0	16172.4	16175.0	16283.4
Durables	1977.6	2052.5	2036.3	2071.3
Non-durables	13936.8	14108.4	14125.7	14201.0
Deflator (1995=1)				
Private consumption	1.3057	1.3124	1.3264	1.3253
Durables	1.1859	1.1830	1.1865	1.2057
Non-durables	1.3241	1.3322	1.3478	1.3438

GROSS FIXED CAPITAL FORMATION

	2004			
	T1	T2	T3	T4
Current prices (EUR million)				
Gross fixed capital formation	7484.4	7744.6	7737.7	7751.6
Machinery and equipment	1729.0	1767.0	1758.5	1881.4
Transport material	539.0	574.9	590.1	596.6
Construction	3946.0	4100.2	4076.0	3980.9
Others	1270.3	1302.4	1313.2	1292.8
Previous year prices (EUR million)				
Gross fixed capital formation	7417.8	7550.3	7525.5	7387.1
Machinery and equipment	1752.5	1748.3	1765.7	1814.2
Transport material	541.4	574.0	582.9	577.3
Construction	3894.4	3950.9	3897.7	3744.1
Others	1229.6	1277.1	1279.2	1251.5
Volume (base year 1995)				
Gross fixed capital formation	5923.6	6029.4	6009.6	5899.1
Machinery and equipment	1673.5	1669.5	1686.1	1732.4
Transport material	479.4	508.2	516.1	511.2
Construction	3003.2	3046.8	3005.7	2887.3
Others	777.2	807.2	808.6	791.1
Deflator (1995=1)				
Gross fixed capital formation	1.2635	1.2845	1.2876	1.3140
Machinery and equipment	1.0332	1.0584	1.0429	1.0860
Transport material	1.1244	1.1312	1.1432	1.1671
Construction	1.3140	1.3457	1.3561	1.3787
Others	1.6344	1.6134	1.6240	1.6343

HOUSEHOLDS' DISPOSABLE INCOME

	1977				1978				1979			
	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4
Current prices (EUR million)												
Compensation of employees	548.6	553.3	569.9	585.5	621.9	644.6	675.3	699.9	722.9	755.4	798.2	845.4
Domestic transfers	96.6	98.1	100.9	105.3	111.0	116.2	120.9	125.1	128.7	135.8	146.6	160.9
External transfers	52.7	57.1	56.2	56.1	65.1	84.8	93.6	118.7	137.3	143.6	165.5	160.6
Corporate and property income	143.3	150.4	163.8	187.3	202.3	225.8	246.5	263.2	277.8	294.2	315.1	336.9
Direct taxes	29.6	30.2	31.3	33.1	35.4	38.1	41.3	44.9	49.0	52.6	55.7	58.2
Social Security contributions	92.7	94.3	97.6	102.6	109.2	115.1	120.2	124.7	128.4	135.1	144.9	157.7
Disposable income	719.0	734.4	761.8	798.4	855.9	918.2	974.8	1037.3	1089.4	1141.4	1224.8	1287.9

LABOUR MARKET

	1977				1978				1979			
	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4
Thousands												
Labour force	3994.5	3992.6	4025.0	4031.7	4096.4	4108.9	4160.3	4179.1	4203.9	4224.9	4258.3	4276.2
Total employment	3801.7	3797.0	3822.5	3817.3	3882.0	3885.2	3931.6	3948.2	3972.0	3992.8	4025.6	4043.8
Employees	2903.6	2900.7	2930.8	2928.2	2999.6	3003.6	3045.3	3059.7	3067.8	3086.0	3116.0	3133.2
Other forms of employment	898.0	896.3	891.7	889.1	882.5	881.5	886.2	888.5	904.1	906.8	909.6	910.5
Unemployment	192.9	195.6	202.5	214.4	214.3	223.7	228.7	230.9	231.9	232.1	232.7	232.4
EUR thousand												
Compensation per employee	0.189	0.191	0.194	0.200	0.207	0.215	0.222	0.229	0.236	0.245	0.256	0.270
Per cent												
Unemployment rate	4.8	4.9	5.0	5.3	5.2	5.4	5.5	5.5	5.5	5.5	5.5	5.4

HOUSEHOLDS' DISPOSABLE INCOME

	1980				1981				1982			
	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4
Current prices (EUR million)												
Compensation of employees	908.1	962.9	1021.0	1079.7	1128.1	1190.7	1250.3	1317.0	1395.4	1473.8	1550.8	1639.1
Domestic transfers	178.8	196.1	212.9	229.2	244.9	261.0	277.5	294.3	311.4	330.6	351.9	375.3
External transfers	181.2	182.3	193.3	193.6	205.5	231.4	223.0	229.9	236.7	261.1	274.4	291.1
Corporate and property income	360.5	389.6	421.7	457.5	496.8	537.4	580.0	627.2	672.7	717.2	764.6	810.2
Direct taxes	60.3	63.9	69.1	75.8	84.2	92.2	99.9	107.3	114.3	121.9	130.1	138.9
Social Security contributions	173.5	187.8	200.4	211.5	220.9	233.7	249.8	269.3	292.2	315.2	338.4	361.8
Disposable income	1394.7	1479.2	1579.5	1672.7	1770.3	1894.7	1981.0	2091.7	2209.6	2345.5	2473.2	2615.0

LABOUR MARKET

	1980				1981				1982			
	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4
Thousands												
Labour force	4305.7	4305.5	4317.5	4336.9	4316.5	4336.4	4329.6	4324.1	4358.5	4360.7	4332.9	4337.1
Total employment	4077.1	4086.5	4096.5	4112.4	4085.3	4096.6	4090.5	4086.4	4124.6	4124.9	4110.1	4106.6
Employees	3178.3	3189.5	3208.0	3224.1	3206.7	3217.1	3206.1	3201.8	3214.1	3213.2	3198.2	3196.3
Other forms of employment	898.8	897.0	888.5	888.4	878.6	879.5	884.4	884.6	910.5	911.7	911.9	910.2
Unemployment	228.6	219.0	221.0	224.4	231.2	239.8	239.1	237.7	234.0	235.8	222.8	230.5
EUR thousand												
Compensation per employee	0.286	0.302	0.318	0.335	0.352	0.370	0.390	0.411	0.434	0.459	0.485	0.513
Per cent												
Unemployment rate	5.3	5.1	5.1	5.2	5.4	5.5	5.5	5.5	5.4	5.4	5.1	5.3

HOUSEHOLDS' DISPOSABLE INCOME

	1983				1984				1985			
	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4
Current prices (EUR million)												
Compensation of employees	1709.2	1784.4	1838.4	1879.7	1920.9	1973.0	2047.1	2146.9	2253.3	2376.8	2489.7	2614.9
Domestic transfers	400.8	424.0	444.8	463.2	479.3	502.6	533.2	571.1	616.2	652.3	679.6	697.9
External transfers	287.6	283.8	307.9	315.6	375.0	371.7	403.1	421.9	399.6	420.5	454.8	512.4
Corporate and property income	847.7	926.3	1027.9	1118.7	1212.3	1294.4	1364.3	1436.4	1482.8	1544.2	1627.4	1683.7
Direct taxes	148.2	157.9	167.8	178.1	188.7	202.5	219.4	239.6	262.9	276.6	280.8	275.3
Social Security contributions	385.3	406.4	425.1	441.3	455.2	472.5	493.3	517.5	545.2	574.2	604.6	636.2
Disposable income	2711.8	2854.3	3026.1	3157.7	3343.5	3466.7	3635.0	3819.0	3943.8	4142.9	4366.2	4597.5

LABOUR MARKET

	1983				1984				1985			
	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4
Thousands												
Labour force	4279.6	4293.8	4297.3	4310.6	4359.8	4375.3	4398.0	4416.2	4405.6	4409.7	4391.6	4395.0
Total employment	4034.6	4032.1	4020.7	4022.9	4069.9	4082.3	4096.3	4106.6	4091.9	4095.6	4075.9	4073.5
Employees	3150.9	3150.4	3143.7	3145.6	3176.8	3185.7	3191.0	3198.5	3180.0	3183.7	3169.8	3169.7
Other forms of employment	883.7	881.8	877.0	877.3	893.1	896.6	905.3	908.1	911.8	912.0	906.1	903.8
Unemployment	245.0	261.6	276.6	287.7	289.9	293.1	301.7	309.6	313.7	314.1	315.6	321.5
EUR thousand												
Compensation per employee	0.542	0.566	0.585	0.598	0.605	0.619	0.642	0.671	0.709	0.747	0.785	0.825
Per cent												
Unemployment rate	5.7	6.1	6.4	6.7	6.7	6.7	6.9	7.0	7.1	7.1	7.2	7.3

HOUSEHOLDS' DISPOSABLE INCOME

	1986				1987				1988			
	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4
Current prices (EUR million)												
Compensation of employees	2726.0	2854.6	2982.7	3111.2	3239.4	3370.3	3501.1	3622.3	3755.0	3891.7	4074.2	4263.0
Domestic transfers	707.2	728.8	762.8	808.9	867.4	915.9	954.4	982.9	1001.5	1029.7	1067.7	1115.4
External transfers	489.2	491.1	489.6	503.5	571.5	589.0	609.6	623.8	634.3	644.3	653.6	664.5
Corporate and property income	1769.8	1856.3	1910.1	1991.6	2082.1	2148.0	2212.4	2268.5	2311.4	2391.1	2502.3	2651.7
Direct taxes	260.2	247.6	237.5	229.8	224.7	229.9	245.5	271.5	308.0	349.5	396.1	447.9
Social Security contributions	669.1	705.3	744.8	787.6	833.6	874.0	908.8	938.0	961.6	994.0	1035.2	1085.1
Disposable income	4762.8	4977.9	5162.9	5397.8	5702.1	5919.4	6123.2	6287.9	6432.6	6613.4	6866.5	7161.5

LABOUR MARKET

	1986				1987				1988			
	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4
Thousands												
Labour force	4362.1	4371.4	4381.7	4389.9	4423.3	4444.9	4467.9	4476.8	4487.1	4498.0	4525.9	4545.2
Total employment	4033.5	4040.6	4056.9	4076.0	4119.7	4149.1	4180.7	4201.0	4219.6	4235.6	4270.6	4297.4
Employees	3149.6	3156.2	3165.9	3179.7	3196.3	3218.1	3241.9	3258.7	3288.5	3303.1	3339.8	3362.5
Other forms of employment	883.9	884.4	891.0	896.3	923.4	930.9	938.8	942.2	931.1	932.4	930.8	934.9
Unemployment	328.6	330.8	324.8	313.9	303.6	295.9	287.1	275.8	267.4	262.4	255.4	247.8
EUR thousand												
Compensation per employee	0.865	0.904	0.942	0.978	1.013	1.047	1.080	1.112	1.142	1.178	1.220	1.268
Per cent												
Unemployment rate	7.5	7.6	7.4	7.1	6.9	6.7	6.4	6.2	6.0	5.8	5.6	5.5

HOUSEHOLDS' DISPOSABLE INCOME

	1989				1990				1991			
	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4
Current prices (EUR million)												
Compensation of employees	4516.8	4733.0	4970.0	5190.2	5398.5	5645.8	5877.4	6193.9	6441.0	6764.6	7033.6	7350.2
Domestic transfers	1172.7	1232.3	1294.1	1358.2	1424.5	1500.7	1586.8	1682.9	1788.8	1901.3	2020.1	2145.5
External transfers	733.5	728.6	739.2	731.3	728.5	807.3	836.0	812.0	772.6	910.4	809.3	830.6
Corporate and property income	2837.3	2998.5	3139.0	3265.6	3360.3	3448.6	3573.1	3717.6	3873.5	4014.9	4139.6	4251.0
Direct taxes	504.7	549.4	581.9	602.3	610.5	627.2	652.5	686.3	728.6	783.5	851.2	931.6
Social Security contributions	1143.9	1202.2	1260.1	1317.4	1374.3	1435.8	1501.7	1572.1	1647.0	1733.4	1831.4	1940.7
Disposable income	7611.6	7940.7	8300.4	8625.6	8927.0	9339.5	9719.2	10148.1	10500.3	11074.2	11320.0	11704.9

LABOUR MARKET

	1989				1990				1991			
	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4
Thousands												
Labour force	4611.2	4635.0	4663.8	4672.5	4661.7	4678.6	4677.6	4724.7	4725.3	4745.0	4724.9	4721.1
Total employment	4365.8	4388.6	4419.9	4432.2	4422.3	4439.5	4439.4	4486.2	4489.3	4517.6	4504.4	4511.0
Employees	3419.8	3438.9	3467.6	3477.9	3475.1	3488.2	3480.4	3515.7	3497.7	3517.7	3500.1	3502.6
Other forms of employment	946.0	949.7	952.2	954.3	947.2	951.2	958.9	970.5	991.6	999.9	1004.3	1008.4
Unemployment	245.4	246.4	243.9	240.4	239.4	239.1	238.3	238.5	235.9	227.4	220.5	210.1
EUR thousand												
Compensation per employee	1.321	1.376	1.433	1.492	1.553	1.619	1.689	1.762	1.841	1.923	2.010	2.098
Per cent												
Unemployment rate	5.3	5.3	5.2	5.1	5.1	5.1	5.1	5.0	5.0	4.8	4.7	4.4

HOUSEHOLDS' DISPOSABLE INCOME

	1992				1993				1994			
	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4
Current prices (EUR million)												
Compensation of employees	7721.0	7991.9	8234.7	8413.5	8484.7	8588.8	8586.4	8670.2	8640.4	8760.5	8914.6	9102.0
Domestic transfers	2277.2	2387.3	2475.6	2542.1	2587.0	2632.9	2680.0	2728.3	2777.7	2838.7	2911.4	2995.7
External transfers	828.4	791.0	797.1	783.4	851.7	698.4	746.3	771.6	742.3	729.0	639.2	754.8
Corporate and property income	4334.7	4425.4	4489.3	4510.3	4539.7	4593.1	4619.1	4631.0	4695.1	4795.5	4931.5	5073.8
Direct taxes	1024.6	1089.6	1126.4	1135.1	1115.7	1106.0	1105.8	1115.3	1134.4	1151.8	1167.4	1181.2
Social Security contributions	2061.6	2168.7	2261.8	2341.2	2406.7	2448.1	2465.4	2458.5	2427.6	2443.6	2506.4	2616.0
Disposable income	12075.1	12337.3	12608.5	12773.0	12940.7	12959.2	13060.6	13227.1	13293.4	13528.3	13722.9	14129.0

LABOUR MARKET

	1992				1993				1994			
	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4
Thousands												
Labour force	4726.6	4708.9	4712.4	4710.0	4688.9	4704.4	4682.9	4709.0	4710.2	4738.1	4762.5	4767.6
Total employment	4534.4	4530.6	4533.4	4526.2	4486.8	4478.8	4440.7	4452.0	4440.6	4458.3	4474.1	4473.9
Employees	3526.4	3519.6	3519.0	3507.6	3466.5	3452.0	3402.0	3400.4	3360.3	3363.2	3359.4	3349.2
Other forms of employment	1008.0	1010.9	1014.4	1018.6	1020.3	1026.8	1038.7	1051.6	1080.3	1095.1	1114.7	1124.7
Unemployment	192.2	178.4	179.1	183.8	202.1	225.6	242.2	257.0	269.6	279.9	288.4	293.6
EUR thousand												
Compensation per employee	2.190	2.271	2.340	2.399	2.448	2.488	2.524	2.550	2.571	2.605	2.654	2.718
Per cent												
Unemployment rate	4.1	3.8	3.8	3.9	4.3	4.8	5.2	5.5	5.7	5.9	6.1	6.2

HOUSEHOLDS' DISPOSABLE INCOME

	1995				1996				1997			
	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4
Current prices (EUR million)												
Compensation of employees	9352.4	9560.5	9754.6	9952.1	10124.6	10242.0	10437.8	10599.3	10802.0	11046.3	11272.5	11488.7
Domestic transfers	3091.6	3172.9	3239.5	3291.4	3328.6	3369.4	3413.7	3461.6	3512.9	3574.5	3646.2	3728.2
External transfers	599.2	620.7	641.6	681.9	698.0	678.4	679.3	668.7	725.4	754.5	759.7	750.8
Corporate and property income	5208.7	5336.6	5425.4	5481.8	5488.3	5471.2	5496.6	5565.7	5663.6	5704.1	5718.3	5698.0
Direct taxes	1193.3	1214.3	1244.0	1282.6	1330.0	1365.0	1387.6	1397.7	1395.4	1399.0	1408.4	1423.6
Social Security contributions	2772.6	2892.4	2975.6	3022.1	3032.0	3062.7	3114.2	3186.7	3280.0	3366.5	3446.1	3518.9
Disposable income	14286.1	14584.0	14841.5	15102.4	15277.4	15333.2	15525.5	15710.8	16028.4	16314.0	16542.4	16723.3

LABOUR MARKET

	1995				1996				1997			
	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4
Thousands												
Labour force	4766.8	4771.2	4777.8	4814.8	4850.2	4854.5	4874.8	4874.9	4878.2	4904.1	4930.1	4940.6
Total employment	4471.1	4473.4	4481.5	4508.8	4542.7	4539.9	4565.4	4570.8	4580.1	4616.6	4642.3	4665.7
Employees	3345.2	3338.9	3340.6	3356.5	3375.5	3369.8	3388.3	3390.0	3401.9	3429.0	3450.1	3468.2
Other forms of employment	1125.9	1134.5	1140.8	1152.3	1167.2	1170.1	1177.2	1180.8	1178.2	1187.6	1192.2	1197.5
Unemployment	295.7	297.8	296.3	305.9	307.5	314.5	309.3	304.1	298.0	287.5	287.7	274.8
EUR thousand												
Compensation per employee	2.796	2.863	2.920	2.965	2.999	3.039	3.081	3.127	3.175	3.221	3.267	3.313
Per cent												
Unemployment rate	6.2	6.2	6.2	6.4	6.3	6.5	6.3	6.2	6.1	5.9	5.8	5.6

HOUSEHOLDS' DISPOSABLE INCOME

	1998				1999				2000			
	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4
Current prices (EUR million)												
Compensation of employees	11765.9	11992.5	12171.6	12405.0	12657.5	12855.7	13164.6	13442.3	13816.6	14112.4	14446.4	14713.1
Domestic transfers	3820.3	3905.7	3984.5	4056.6	4122.1	4206.1	4308.7	4429.8	4569.5	4700.0	4821.3	4933.4
External transfers	775.2	792.7	784.3	752.9	787.7	775.6	854.3	791.7	833.5	901.6	846.5	986.0
Corporate and property income	5636.7	5599.6	5595.8	5608.0	5642.6	5696.8	5765.8	5899.1	6058.2	6179.8	6242.5	6276.0
Direct taxes	1444.6	1465.3	1485.8	1506.0	1525.8	1555.5	1594.8	1644.0	1702.8	1753.5	1795.9	1830.1
Social Security contributions	3584.8	3640.8	3686.8	3723.0	3749.2	3805.6	3892.3	4009.2	4156.3	4280.9	4383.1	4462.7
Disposable income	16968.8	17184.5	17363.6	17593.6	17934.8	18173.1	18606.2	18909.8	19418.6	19859.4	20177.7	20615.8

LABOUR MARKET

	1998				1999				2000			
	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4
Thousands												
Labour force	4990.6	4987.5	4992.0	5021.4	5047.3	5056.7	5069.2	5075.7	5097.0	5105.3	5144.7	5152.8
Total employment	4718.5	4746.0	4753.5	4784.0	4818.9	4823.1	4851.4	4864.7	4887.8	4904.6	4940.8	4962.0
Employees	3507.1	3529.4	3536.9	3562.6	3594.8	3601.2	3633.7	3647.8	3682.5	3698.7	3731.4	3749.6
Other forms of employment	1211.4	1216.6	1216.6	1221.3	1224.0	1221.8	1217.6	1216.9	1205.3	1205.9	1209.5	1212.4
Unemployment	272.1	241.5	238.5	237.4	228.4	233.6	217.8	211.1	209.2	200.7	203.9	190.8
EUR thousand												
Compensation per employee	3.355	3.398	3.441	3.482	3.521	3.570	3.623	3.685	3.752	3.816	3.872	3.924
Per cent												
Unemployment rate	5.5	4.8	4.8	4.7	4.5	4.6	4.3	4.2	4.1	3.9	4.0	3.7

HOUSEHOLDS' DISPOSABLE INCOME

	2001				2002				2003			
	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4
Current prices (EUR million)												
Compensation of employees	14936.0	15157.9	15393.4	15660.7	15872.9	16071.7	16167.3	16111.2	16350.9	16382.6	16522.4	16638.5
Domestic transfers	5036.3	5135.8	5231.8	5324.4	5413.5	5523.6	5654.7	5806.8	5979.9	6136.2	6275.8	6398.6
External transfers	929.8	958.8	899.4	918.7	786.7	687.3	701.0	661.6	707.6	592.2	588.8	591.9
Corporate and property income	6300.8	6362.0	6439.1	6513.9	6606.9	6664.4	6696.8	6690.5	6645.3	6653.2	6677.4	6672.0
Direct taxes	1856.0	1876.2	1890.6	1899.3	1902.3	1906.4	1911.8	1918.5	1926.4	1934.3	1942.2	1950.1
Social Security contributions	4519.8	4588.1	4667.7	4758.5	4860.5	4943.2	5006.7	5051.0	5075.9	5116.6	5173.2	5245.6
Disposable income	20827.2	21150.2	21405.5	21759.9	21917.2	22097.3	22301.1	22300.6	22681.4	22713.3	22949.0	23105.4

LABOUR MARKET

	2001				2002				2003			
	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4
Thousands												
Labour force	5188.5	5204.3	5226.6	5255.0	5264.1	5298.7	5314.5	5299.0	5346.9	5339.6	5345.9	5343.7
Total employment	4986.1	4997.6	5015.3	5040.4	5036.6	5048.3	5041.4	4991.3	5022.3	5005.9	5010.3	5001.5
Employees	3760.8	3771.3	3785.2	3807.2	3812.3	3822.7	3813.4	3772.3	3789.0	3774.8	3783.4	3779.9
Other forms of employment	1225.3	1226.3	1230.1	1233.1	1224.3	1225.6	1227.9	1219.0	1233.3	1231.1	1226.9	1221.6
Unemployment	202.4	206.6	211.3	214.6	227.6	250.4	273.2	307.7	324.6	333.7	335.6	342.1
EUR thousand												
Compensation per employee	3.972	4.019	4.067	4.113	4.164	4.204	4.240	4.271	4.315	4.340	4.367	4.402
Per cent												
Unemployment rate	3.9	4.0	4.0	4.1	4.3	4.7	5.1	5.8	6.1	6.2	6.3	6.4

HOUSEHOLDS' DISPOSABLE INCOME

	2004			
	T1	T2	T3	T4
Current prices (EUR million)				
Compensation of employees	16927.4	17067.7	17226.0	17326.8
Domestic transfers	6504.6	6610.4	6715.9	6821.2
External transfers	597.0	657.7	619.7	619.3
Corporate and property income	6659.4	6662.4	6698.5	6700.7
Direct taxes	1958.0	1964.3	1968.9	1971.9
Social Security contributions	5333.7	5403.2	5454.0	5486.0
Disposable income	23396.7	23630.7	23837.3	24010.1

LABOUR MARKET

	2004			
	T1	T2	T3	T4
Thousands				
Labour force	5351.0	5361.9	5384.5	5391.8
Total employment	5010.4	5009.5	5015.8	5024.3
Employees	3813.3	3817.6	3834.1	3843.7
Other forms of employment	1197.0	1192.0	1181.7	1180.6
Unemployment	340.6	352.3	368.7	367.5
EUR thousand				
Compensation per employee	4.439	4.471	4.493	4.508
Per cent				
Unemployment rate	6.4	6.6	6.8	6.8

Chronology of major financial policy measures

January

7 January (Decree-Law No 13/2005, Official Gazette No 5, Series I-A)	Introduces changes in the legal framework of real-estate based funds, as approved by Decree-Law No 60/2002 of 20 March.
17 January (Circular Letter of Banco de Portugal No 102/2004/DSB)	Provides indications on the accounting model to be adopted by institutions subject to the supervision of Banco de Portugal that are not covered by Article 4 of Regulation (EC) No 1606/2002 of the European Parliament and of the Council of 19 July 2002, and on the implementation of a transitional regime during the year starting on 1 January 2005.
17 January (Instruction of Banco de Portugal No 23/2004)	Lays down the procedures to be followed in the reporting of consolidated accounting information, prepared in accordance with the International Accounting Standards.
13 January (Regulation of the Securities Market Commission No 1/2005, Official Gazette No 31, Series II)	Amends several articles, adds others and republishes, as duly amended, Regulation No 8/2002, of 18 June, which lays down the set of rules governing the legal regime governing real estate funds.
24 January (Circular Letter of Banco de Portugal No 7/2005/DET)	Banco de Portugal lays down that credit institutions should ensure that the distribution of banknotes through ATMs takes into consideration the structure of the currency circulation of the country, so as to allow a better adequacy between cash supply and demand.

13 January (Regulation of the Securities Market Commission No 1/2005, Official Gazette No 31, Series II)	Amends several articles, adds others and republishes, as duly amended, Regulation No 8/2002, of 18 June, which lays down the set of rules governing the legal regime governing real estate funds.
24 January (Circular Letter of Banco de Portugal No 7/2005/DET)	Banco de Portugal lays down that credit institutions should ensure that the distribution of banknotes through ATMs takes into consideration the structure of the currency circulation of the country, so as to allow a better adequacy between cash supply and demand.

February

15 February (Instruction of Banco de Portugal No 1/2005)	Regulates the involvement and "implicit support" in securitisation operations.
15 February (Instruction of Banco de Portugal No 2/2005)	Defines the places and conditions under which current metal coins can be deposited with or withdrawn from Banco de Portugal. Revokes Instruction No 3/2003, published in the Official Bulletin No 2, of 17 February 2003.
15 February (Instruction of Banco de Portugal No 4/2005)	Provides for the application of a reduced rate to the calculation of the annual contribution to the Deposit Guarantee Fund regarding deposits opened in the off-shore financial centres of Madeira and Santa Maria Island. Revokes Instruction No 122/96, published in BNBP No 5, of 15 October 1996.
21 February (Notice of Banco de Portugal No 1/2005, Official Gazette No 41, Series I, B)	Lays down that institutions shall prepare their annual and consolidated accounts in conformity with the International Accounting Standards (IAS), as adopted, at each moment, by a EU regulation. Provides for a transitional regime during 2005, for the institutions, which are not subject to the provisions of Regulation (EC) No 1606/2002 of the European Parliament and of the Council of 19 July 2002.
21 February (Notice of Banco de Portugal No 2/2005, Official Gazette No 41, Series I, B)	Following the adoption of the International Accounting Standards (IAS), amends Notice No 12/92 on the regulatory framework governing the own funds and the solvency ratio.
21 February (Notice of Banco de Portugal No 3/2005, Official Gazette No 41, Series I, B)	Following the adoption of the International Accounting Standards (IAS), redefines the regime governing the provisions to be set up by credit institutions and financial companies.

21 February (Notice of Banco de Portugal No 4/2005, Official Gazette No 41, Series I, B)	Following the adoption of the International Accounting Standards (IAS), amends Notice No 12/2001, of 23 November, on the coverage of liabilities on account of retirement and survivors pensions.
21 February Notice of Banco de Portugal No 5/2005, Official Gazette No 41, Series I, B	Following the adoption of the International Accounting Standards (IAS), amends Notice No 10/94, of 18 November, on the supervision and control of large exposures of institutions subject to the supervision of Banco de Portugal.
21 February (Notice of Banco de Portugal No 6/2005, Official Gazette No 41, Series I, B)	Taking into account the transposition of Directive 2003/51/EC of the European Parliament and of the Council of 18 June 2003, by Decree-Law No 35/2005, of 17 February, amends Notice No 8/94, of 15 November, as regards of composition of consolidation for prudential supervision purposes.
28 February (Instruction of Banco de Portugal No 6/2005)	Regulates Notice No 1/2005, of 28 February, with respect to (the accounting framework of) credit fallen due.
28 February (Instruction of Banco de Portugal No 7/2005)	Lays down provisions on imparity.

March

10 March (Corrigendum no. 10/2005 Official Gazette no. 49, Series I, B)	Corrigendum to Notice of Banco de Portugal no. 4/2005, published in the Official Gazette no. 41, Series I, B of 28 February.
17 March (Circular Letter of Banco de Portugal no. 9/2005/DET)	Following the Decision taken by the Governing Council of the European Central Bank on 16 December 2004, makes known the new framework laying down common principles for authentication and fitness sorting regarding banknote recycling by credit institutions and other professional cash handlers.
18 March Instruction of Banco de Portugal no. 9/2005, disclosed through Circular Letter no. 18/2005/DSB *21 March Circular Letter of Banco de Portugal no. 13/2005/DSB*	Concerning the reporting to Banco de Portugal of statistical data prepared in accordance with the International Accounting Standards (IAS) or with the Adjusted Accounting Rules (AAR). Following Notice no. 1/2005 of 28 February and Circular Letter no. 102/04/DSBDR of 23 December, provides clarification on the possible scenarios for the implementation of the accounting rules to be complied with in the transitional regime to 2005 by the institutions that must prepare consolidated and non-consolidated accounts or only non-consolidated accounts.
24 March (Circular Letter of Banco de Portugal no. 19/2005/DSB)	Provides further clarification on pre-contractual information, with regard to loan requests for the acquisition of goods or services.

April

1 April (Circular Letter of Banco de Portugal no. 20/2005/DSB)	Recommends that credit institutions and financial companies must identify the intervening parties and analyse with particular caution operations contracted with natural or legal persons resident or established in certain countries or territories, within the scope of the measures aimed at preventing money laundering. Revokes Circular Letter no. 101/2004/DSB of 3 December 2004.
11 April(Regulation of the Ministry of Finance - Portuguese Insurance Institute No 28/2005, Official Gazette No 70, Series II)	Under the provisions laid down in subparagraph a), of paragraph 1 of Article 13 of Decree-Law No 35/2005 of 17 February, defines the statutory regime and the legal framework for the implementation of the international accounting rules adopted in accordance with the provisions of Regulation (EC) No 1606/2002 of the European Parliament and of the Council of 19 July 2002 as far as insurance companies, pension fund management companies and insurance mediating companies are concerned. This regulation shall be applicable as from the 2005 fiscal year.
14 April (Regulation of the Securities Market Commission No 2/2005, Official Gazette No 96, Series II)	Establishes the regime governing the accounts of real estate investment funds, whose legal framework was approved by Decree Law No 60/2002 of 20 March, as amended by Decree Law No 13/2005 of 7 January.

29 April (Regulation of the Securities Market Commission No 4/2005, Official Gazette, Series II)	Introduces changes in the legal framework of the managing entities of stock markets, transferable securities centralised systems, securities settlement systems and services.
29 April (Regulation of the Securities Market Commission No 5/2005, Official Gazette, Series II)	Introduces changes in the regulations on the operation of markets in general and stock markets in particular, putting an end to the compulsory prior registration with the Securities Market Commission of commissions charged by market management entities, replacing this procedure with a prior notification.

May

5 May (Resolution of the Council of Ministers No 100/2005, Official Gazette No 103, Series I-B)	Adopts guidelines and measures with a view to ensuring an appropriate response of the judicial system to the mass litigation phenomenon and the protection of the occasional user of the judicial system.
16 May (Instruction of Banco de Portugal No 13/2005, BNBP No 5/2005)	Introduces changes in Instruction No 9/2003 (provisions maps), following the introduction of the International Accounting Standards (IAS) and the Adjusted Accounting Rules (AAR).
16 May (Instruction of Banco de Portugal No 14/2005, BNBP No 5/2005)	Introduces changes in Instruction No 25/97 (periodical reporting of data of a prudential nature), following the introduction of the International Accounting Standards (IAS) and the Adjusted Accounting Rules (AAR).
16 May (Instruction of Banco de Portugal No 15/2005, BNBP No 5/2005)	Provides data on the impact on own funds and own funds requirements of the adoption of the International Accounting Standards (IAS) and the Adjusted Accounting Rules (AAR).

Working papers

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