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Economics and Research Department
Av. Almirante Reis, 71-6th floor
1150-012 Lisboa

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Outlook for the Portuguese Economy: 2007-2008

OUTLOOK FOR THE PORTUGUESE ECONOMY: 2007-2008

1. INTRODUCTION

The outlook for the Portuguese economy in the 2007-2008 period is characterised by the continuing gradual acceleration in economic activity. This relies, on the one hand, on the significant rebound in total factor productivity and, on the other, on the acceleration of business investment. In this context, consumption is projected to evolve smoothly vis-à-vis the dynamics of disposable income, while exports are expected to move in line with the deceleration of the external demand for the Portuguese economy. Developments in the financing needs of the Portuguese economy over the forecasting horizon mainly reflect the combination of a gradual improvement in the trade balance with a deterioration of the income account.

After weak growth in 2005 (0.5 per cent), gross domestic product (GDP) is estimated to have grown by 1.3 per cent in 2006, with a projected acceleration to 1.8 and 2.2 per cent in 2007 and 2008 respectively (Table 1.1). The economic activity expansion should not yet give rise to the restarting of the process of real convergence towards the euro area, which was interrupted early in the decade. However, the current projection points to a GDP growth close to that of the euro area at the end of the forecasting horizon (Chart 1.1).

The current projections rely on a series of assumptions for the Portuguese economy particularly on future developments in interest rates, exchange rates, in the external demand relevant for the Portuguese economy and in the prices of several commodities, including oil. In particular, it is worth mentioning that financial market expectations point to gradually less favourable financing conditions in

Table 1.1

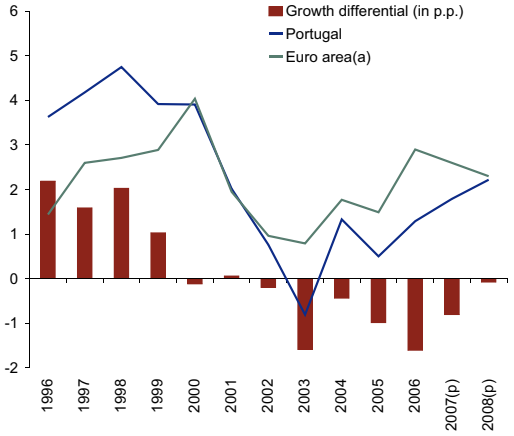
PROJECTIONS OF BANCO DE PORTUGAL 2006-2008
Rate of change, in percentage

	Weights	Current projection			EB Winter 2006		
	2006	2006	2007	2008	2006	2007	2008
Gross domestic product	100.0	1.3	1.8	2.2	1.2	1.8	2.1
Private consumption	65.4	1.1	1.4	1.4	1.2	1.5	1.7
Public consumption	20.7	-0.3	-0.1	0.3	-0.2	0.0	0.3
Gross fixed capital formation	21.5	-2.0	0.6	3.1	-3.1	0.0	3.9
Domestic demand	107.8	0.2	0.8	1.6	0.1	1.1	1.9
Exports	31.3	9.1	7.2	6.5	9.3	6.2	6.1
Imports	39.1	4.2	3.4	4.2	4.3	3.5	4.7
Contribution (in p.p.)							
Net exports		1.0	0.9	0.5	1.1	0.6	0.1
Domestic demand		0.3	0.9	1.7	0.1	1.2	2.0
of which: change in inventories		0.0	-0.1	0.1	0.1	0.2	0.0
Current + capital account (% of GDP)		-8.7	-7.9	-8.1	-7.6	-7.3	-7.2
Trade balance (% of GDP)		-7.6	-5.7	-5.4	-7.6	-6.4	-6.0
HICP		3.0	2.5	2.3	3.0	2.3	2.4

Note: Projections corresponding to the main scenario are shown for each variable (considered to be the most likely value of that variable, depending on the series of assumptions in question). As described in Section 7 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 main scenario may be different from the probability of observing a value above the main scenario.

Chart 1.1

GROSS DOMESTIC PRODUCT
Rate of change, in percentage



Note: (a) For 2007 and 2008 the figures for the euro area correspond to the midpoints of the projection ranges published in the June 2007 issue of ECB's Monthly Bulletin.

the 2007-2008 period. The projection also relies on specific assumptions for the Portuguese economy, namely as regards developments in the main general government aggregates. In this context, the current projection assumes the maintenance of the current fiscal consolidation process, which, notwithstanding some short-term restrictive effects, is essential to promoting sustained economic growth in the medium to long term.

The gradual acceleration in activity in this business cycle will crucially depend on higher growth in total factor productivity, similarly to previous business cycles. In turn, developments in business investment in the past few years seem to have eased the contribution of the capital stock to GDP growth. After weak productivity growth in the Portuguese economy over the past few years, on average, developments in total factor productivity over the forecasting horizon will be particularly influenced by the continuing process of corporate sector restructuring. This process may be associated not only to the replacement of less productive companies with companies that are more efficient in terms of resource utilisation, but also to the creation of jobs with higher productivity levels within the internal restructuring processes in existing companies.

The increase in the growth pace of economic activity throughout the forecasting horizon essentially reflects an accelerating domestic demand, insofar as a certain slowdown in exports is to be expected. Nevertheless, the latter are likely to continue to grow close to the values projected for the main markets of destination. The acceleration in domestic demand reflects a rebound in investment, which is likely to show positive growth rates in 2007. In turn, private consumption will exhibit a very moderate recovery profile, reflecting the maintenance of biding constraints stemming from solvency conditions which are linked to intertemporal budget restrictions, in a context of gradually less favourable financing conditions and a moderate recovery in employment. Finally, the ongoing fiscal consolidation process may require a restrictive fiscal policy until the end of the current forecasting horizon, so as to ensure convergence towards the medium-term objective envisaged in the Stability and Growth Programme (structural balance of -0.5 per cent of GDP in 2010).

As regards the Portuguese economy's financing needs measured by the combined current and capital account balance, current projections incorporate a decrease from 8.7 per cent of GDP in 2006 to

around 8 per cent in 2007 and 2008. This essentially reflects the decline of the goods and services trade deficit in 2007, namely in its non-energy component, in a context where domestic demand will grow less than in the major trading partners and where the restructuring process of the export sector will likely create a favourable impact in the terms of trade on the forecasting horizon as a whole. Developments in the trade balance are expected to more than offset the worsening of the income account, determined by both the gradually deteriorating international investment position and the increase assumed for interest rates over the forecasting horizon.

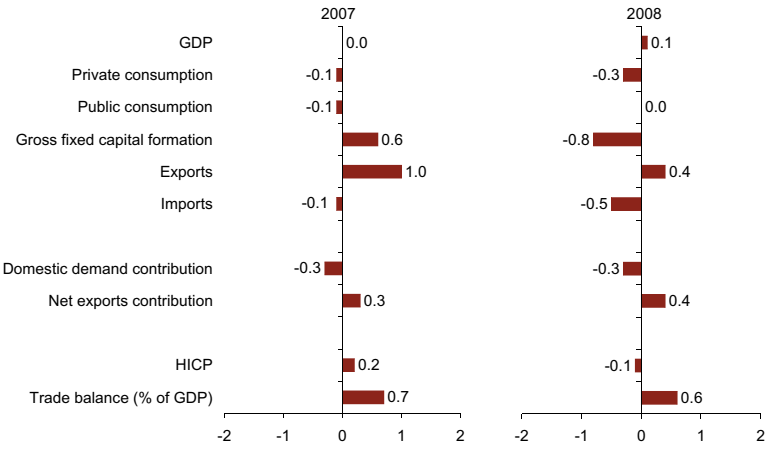
Current projections point to a reduction of the inflation rate, as measured by the annual average rate of change in the Harmonised Index of Consumer Prices (HICP), from 3 per cent in 2006 to 2.5 per cent in 2007 and 2.3 per cent in 2008. The deceleration in prices projected for 2007 is essentially determined by the energy component, which will evolve in line with the path assumed for oil prices. Inflation developments in 2007 will be equally conditioned by a number of specific factors, especially the significant acceleration in unprocessed food prices from late 2006 onwards. The unwinding of these effects and the moderation of growth in non-energy import prices are likely to contribute to a deceleration in the non-energy component of the HICP in 2008.

The current projection keeps the forecast for GDP growth in 2007 unchanged from the one published in the winter 2006 issue of the Economic Bulletin, although the composition of expenditure incorporates some differences (Chart 1.2). The revision of the composition of expenditure reflects the incorporation of new information released by *Instituto Nacional de Estatística* (INE), namely quarterly national accounts for the fourth quarter of 2006 and the first quarter of 2007, and international trade statistics for April. This information revealed a more favourable performance of exports and investment than previously projected, which determined an upward revision of the growth projection for these expenditure components. By contrast, information on private consumption points to lower growth than previously projected.

As regards 2008, the current projection includes an upward revision of activity growth by 0.1 percentage points (p.p.), given that the lower contribution of domestic demand is expected to be more than offset by the greater contribution of net exports. Lower private consumption and investment growth

Chart 1.2

REVISION VERSUS THE PROJECTION OF THE WINTER 2006 ECONOMIC BULLETIN
In percentage points



reflects the upward revision of interest rates and less favourable developments projected for employment growth.

The current projection incorporates an improvement of the trade balance as a percentage of GDP, by 0.7 p.p. and 0.6 p.p. in 2007 and 2008 respectively, mainly reflecting the downward revision of imports in nominal terms.[1]

The current projection for the inflation rate in 2007 represents a slightly higher value than that released in the Winter 2006 Economic Bulletin, reflecting the upward revision of the oil price in euro and the increase in some administered prices. For 2008 the current projection points to a slight downward revision (-0.1 p.p.).

2. UNDERLYING ASSUMPTIONS

The current projection relies on a series of technical assumptions. Assumptions related to developments in interest rates, exchange rates and international commodity prices are based on information available in financial markets up to the beginning of June.

This exercise also assumes an evolution for the external demand relevant for the Portuguese economy which is based on projections for the euro area economies, prepared by the respective national central banks within the Eurosystem staff projection exercise of June 2007, and on the aggregation of a series of assumptions for developments in non-euro area economies.

Finally, account is also taken of specific assumptions for Portugal, particularly those relating to developments in public finances and prices subjected to regulations.

2.1. Interest rates and exchange rates

The current projection assumes that short and long-term interest rates evolve in line with financial market expectations up to the end of the forecasting horizon. This assumption translates into a rise in the short-term interest rate, from an average 3.1 per cent in 2006 to 4.2 per cent in 2007 and 4.8 per cent in 2008. Long-term interest rates are also expected to rise, albeit more moderately, from 3.9 per cent in 2006 to 4.5 per cent in 2007 and 4.8 per cent in 2008. Exchange rates are assumed to remain at the average levels prevailing in early June. This technical assumption implies an appreciation of the euro by 3 per cent in 2007 in effective terms and by 6.5 per cent against the US dollar.

2.2. International prices

Technical assumptions regarding developments in international commodity prices are based on expectations implied in futures markets. In the case of the oil price, following the sharp increases seen in recent years, futures markets point to an annual average value in 2007 similar to that recorded in 2006 (around USD 65 per barrel) and to a slight increase to approximately USD 70 in 2008.

Non-energy commodity prices in US dollars will continue to grow at a high rate in 2007 (22 per cent), followed by a considerable deceleration in 2008 to a growth rate of around 5 per cent.

(1) Projections for the combined current and capital account balance are well below projections in the central scenario of the winter 2006 *Economic Bulletin*. This difference essentially reflects updated data for the income account, associated with a more marked deterioration than initially estimated of the Portuguese economy's international investment position, as well as a downward revision of the surplus estimated for the capital account.

With regard to consumer prices in the euro area, the Eurosystem's projections released in June 2007 *Monthly Bulletin of the European Central Bank* (ECB) point to an annual average growth rate of the HICP between 1.8 and 2.2 per cent in 2007 and 1.4 and 2.6 per cent in 2008 (2.2 per cent in 2006). Whereas in 2007 the rise in indirect taxes is expected to have a significant impact on HICP growth (with a 0.5 p.p. contribution), changes in indirect taxes assumed in the current projection are likely to have, in general, a neutral impact on inflation in 2008. Some acceleration in nominal compensation per employee is also being projected, which, together with stable productivity growth, translates into a moderate acceleration in unit labour costs. Finally, these projections incorporate a continued increase in profit margins, albeit at a gradually weaker pace.

2.3. Economic activity abroad and external demand

Developments in the external demand for the Portuguese economy assumed in the current exercise are based on an external framework common to all Eurosystem countries regarding output growth and imports of goods and services from a group of non-euro area economies.[2] This framework serves as a basis for the projections of the national central banks of euro area countries, the consistency of goods and services trade flows among them being subsequently ensured.

Growth in non-Eurosystem economies is assumed to stand at around 5 per cent in 2007 and 2008, which compares with 6 per cent in 2006. Although the US economy is, to some extent, assumed to slow down, growth in non-Japan Asia will remain robust. For the remaining countries, including non-euro area EU economies and Japan, Eurosystem's projections also point to the maintenance of buoyant growth.

In spite of a less favourable international environment, according to the Eurosystem's exercise released in the June 2007 issue of the *ECB's Monthly Bulletin*, quarterly GDP growth rates will remain relatively stable in 2007, with an annual average rate of change in the range of 2.3-2.9 per cent. For the following year, the projections point to economic activity growth rates between 1.8 and 2.8 per cent. This is essentially due to the behaviour of domestic demand, sustained by an expected improvement in labour market conditions, which is likely to have a positive impact on disposable income and private consumption developments.

Taking into account the assumptions for the growth rate of non-euro area economies and especially projections for the evolution of the euro area economic activity, the external demand relevant for the Portuguese economy is expected to be less buoyant in 2007 (6.4 per cent, from 8.5 per cent in 2006), reflecting a deceleration in both the intra and the extra-euro area component. For 2008, growth in the external demand for the Portuguese economy will be relatively stable (5.9 per cent), based on a further deceleration in the intra-euro area component, counterbalanced by an acceleration in the extra-euro area component.

2.4. Specific assumptions for Portugal

The current projection is also based on a series of specific assumptions for the Portuguese economy, stress being laid on those referring to public finances and administered prices.

With regard to public finances, according to the rule used at Eurosystem level, account was only taken of the fiscal policy measures already approved or which were specified in detail and are likely to pass

(2) For the United Kingdom, it excludes the effects of the VAT fraud, according to estimates of the UK Office for National Statistics (available at http://www.statistics.gov.uk/pdfdir/trd0607.pdf).

the legislative process. This assumption restrains, in particular, developments projected for public consumption, namely as regards possible impacts of the Restructuring Programme for the State's Central Administration (PRACE) and of the reform of the general government binding, career and remuneration schemes. Against this background, real public consumption is assumed to almost stabilise in 2007 and to increase slightly in 2008. This essentially stems from a reduction of the number of public employees, in line with the rule of hiring only one employee per each two leaving service, from a negligible rise in real intermediate consumption and, in 2007, from savings on medical services and pharmaceutical subsidies, following the measures introduced in the State Budget for 2007.

Regarding public instrument, it was assumed that the ratio to GDP would record a minor downward trend over the forecasting horizon. Uncertainty associated with this item is particularly high, due not only to the fiscal consolidation strategy, but also to the fact that 2007 is the first year of the National Strategic Reference Framework.

As far as indirect taxation is concerned, in 2007 the current projection takes into consideration the rise in unit rates on the tax on oil products by 2.5 cents per fuel litre in mid-January this year, as well as the increase in the tobacco tax, in line with the State Budget for 2007. In 2008, further rises in the tax on oil products and the tobacco tax, are being assumed in line with the December 2006 update of the Stability and Growth Programme. The current projection also assumes that the remaining administered prices will, in general, evolve in line with that recorded in recent years.

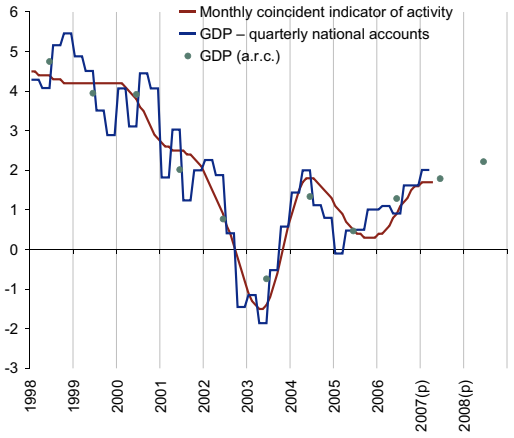
3. SUPPLY

3.1. Economic activity

The current projection points to a real GDP growth rate of 1.8 per cent in 2007 (after 1.3 per cent in 2006), and to an acceleration to 2.2 per cent in 2008 (Chart 3.1.1). This increase in the growth pace of economic activity essentially reflects developments in the private sector, which is forecast to grow by 2.2 per cent in 2007 (after 1.7 per cent in 2006), and then accelerate to around 2.7 per cent in 2008.

Chart 3.1.1

DEVELOPMENTS IN ECONOMIC ACTIVITY
Rate of change, in percentage



Economic activity in the public sector will likely contract further in 2007 and 2008 by around 0.5 per cent, which is notwithstanding bellow the one recorded in 2006 (-1.9 per cent).[3]

At the sectoral level, manufacturing activity in 2006 was remarkably buoyant, growing by an estimated 2.8 per cent, associated with strong goods export growth. In 2007 and 2008 activity in this sector will be conditioned by the slowdown in external demand relevant for the Portuguese firms, which will nevertheless continue to grow significantly. This sector will benefit, however, from the rebound in domestic demand over the forecasting horizon, despite the high import content of its most dynamic components.

After successive decreases in the past few years (-4.5 per cent in 2005 and -6.4 per cent in 2006), activity in the construction sector is likely to record positive growth rates at the end of the forecasting horizon, in line with some recovery of investment spending on housing and construction by households and firms. In addition, developments in the construction sector will reflect the stabilisation of the general government investment volume in levels close to those seen in 2006, after substantial drops in previous years.

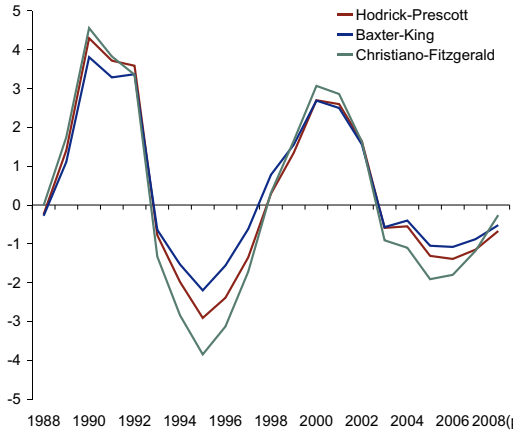
In the services sector, activity will probably continue to show weak growth, despite the favourable performance of services exports, similarly to 2006 (the estimated figure stood at 1.2 per cent). This trend reflects the projected moderate growth for household consumer spending, albeit at a higher pace than that recorded in 2006, and a virtually nil increase in services essentially supplied by the public sector.

The current projection points to a GDP growth above the currently available estimates for potential output growth over the horizon.[4] This implies the continuing gradual narrowing of the output gap (Chart 3.1.2).

Chart 3.1.2

OUTPUT GAP

In percentage points



Note: For further details on the output gap computation methods, see Almeida, V. and R. Félix (2006), "*Computing Potential Output and the Output Gap for the Portuguese Economy*", *Economic Bulletin, Banco de Portugal, autumn 2006*.

(3) Public sector output corresponds to general government expenditures on primary factors which are intended to provide public goods and services, in particular compensation of public employees and consumption of fixed capital. Private sector output is obtained as the difference between total output and public sector output, thus including general government intermediate consumption expenditure on goods and services produced by the private sector.

(4) See V. Almeida and R. Félix (2006), *Computing Potential Output and the Output Gap for the Portuguese Economy", Economic Bulletin, Banco de Portugal, autumn 2006*.

3.2. Employment

In 2006 employment grew by 0.7 per cent, surpassing expectations implied by the trend of economic activity. The current projection points to employment growth of 0.3 per cent in 2007, reflecting the slowdown recorded at the end of last year and early this year. In 2008 employment is projected to grow further by around 1 per cent, evolving in line with the gradual acceleration in economic activity.

Developments projected for aggregate employment result, however, from a distinct behaviour of the private sector and general government. In particular, in the latter case, a net reduction of number of public employees in 2007 and 2008 was assumed. Employment in the private sector in 2006 grew at a higher rate than suggested by its relationship with the respective developments in activity (Chart 3.2.1). However, according to the available information, the reversal of this trend started in late 2006 and continued in early 2007, and therefore the projection for the current year includes a slowdown in employment in this sector. In 2008 developments in employment in the private sector are likely to be again more in line with economic activity.

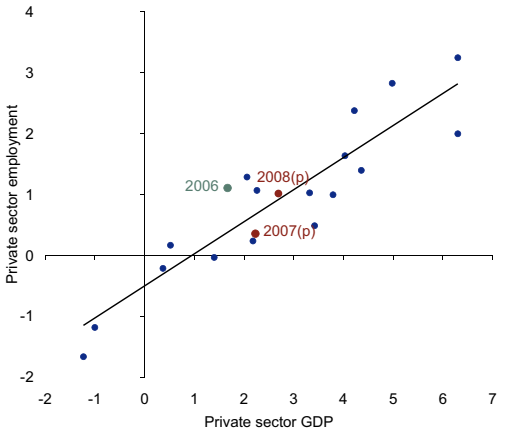
Labour supply has been marked over the past few years by the upward trend of the activity rate, which reflects, inter alia, the growing participation of women in the labour market, as well as demographic dynamics and the fostering of active ageing through retainment policies in employment targeted at older age groups. However, the impact of some of these factors is likely to diminish in the short term, and therefore a slowdown in the labour force to some extent is taken into consideration over the forecasting horizon.

Apparent labour productivity will accelerate considerably in 2007, following weak growth in 2006, as a reflection of the rebound in economic activity and the reversal of particularly high employment growth. Although output growth per hour worked has slightly surpassed that of output per worker in 2006, in a context of decreasing average working hours, both indicators are expected to grow similarly over the horizon.

Chart 3.2.1

EMPLOYMENT AND ECONOMIC ACTIVITY IN THE PRIVATE SECTOR

Rate of change, in percentage



3.3. Factors of economic growth

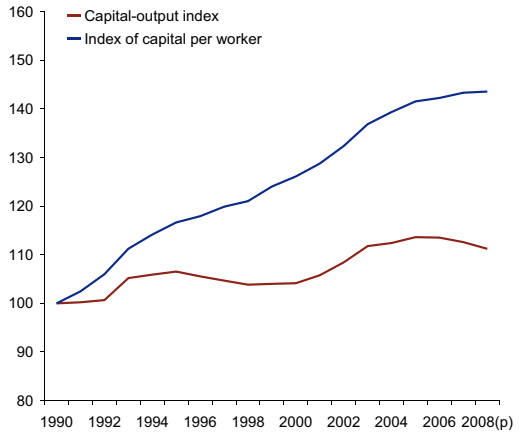
Developments in investment included in the current projection determine the maintenance of moderate growth in the capital stock, which is expected to grow at rates close to 1 per cent in 2007 and 2008, similarly to 2006. These developments in the capital stock, in a context of more dynamic growth in economic activity, determine a stabilisation of the capital-output ratio in the period following the 2003 recession, as had been the case in the wake of the 1993 recession. With regard to physical capital per worker, the current projection points to lower growth for the 2006-2008 period, vis-à-vis developments in the preceding period (Chart 3.3.1).

The factors that influence the Portuguese economy's growth can be identified through the breakdown of output growth into the contributions stemming from the use of labour and capital inputs, and of the total productivity growth of these factors. Total factor productivity is obtained as a residual, computed by the share of economic growth that is not accounted for by the contribution of inputs considered in the production function (in this case, labour and capital). Hence, this component reflects the influence of various effects, namely technological and organisational advances, changes in the institutional framework of economic activity and all qualitative changes in inputs themselves, in particular developments in human capital.[5] In addition, it is worth mentioning that this productivity measure is affected by measurement errors as regards the quantity of inputs effectively used .

The breakdown of output growth points to a different contribution of inputs over the forecasting horizon. Hence, against a background of low capital stock growth and moderate employment growth, total factor productivity growth will play a fundamental role in the development of economic activity over the current projection horizon (Chart 3.3.2).

Chart 3.3.1

OUTPUT, CAPITAL AND EMPLOYMENT
Index 1990=100

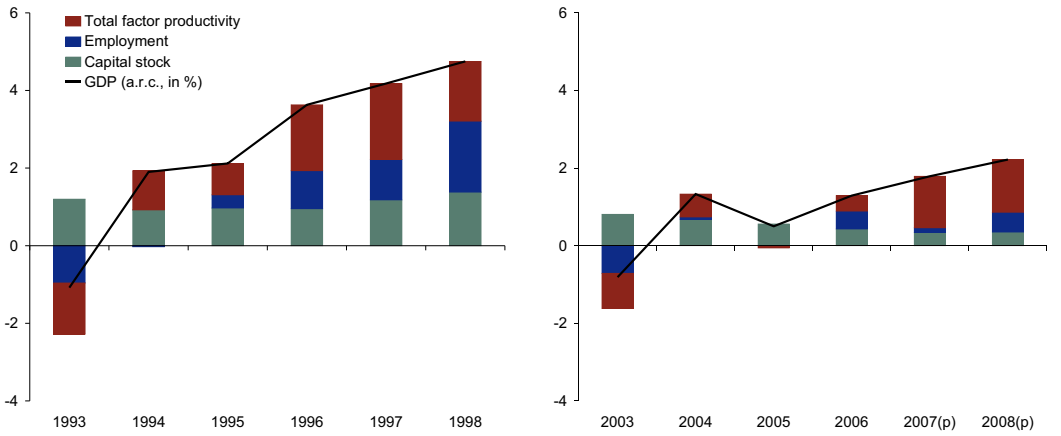


(5) For further details on the growth accounting exercise and the precautions needed for its interpretation, see V. Almeida and R. Félix (2006), *Computing Potential Output and the Output Gap for the Portuguese Economy", Economic Bulletin, Banco de Portugal, Autumn 2006*.

Chart 3.3.2

CONTRIBUTION OF INPUTS TO OUTPUT GROWTH DURING AND AFTER THE 1993 AND 2003 RECESSIONS

Contribution to the rate of change in percentage points



The rise in total factor productivity implied in the current projection, in addition to reflecting pro-cyclical developments in the capacity utilisation rate,[6] also reflects a process of rebalancing of the national production, particularly of the export sector. The participation of new players in international trade with low unit production costs and with a pattern of specialisation that is particularly competitive with the Portuguese export structure seems to have implied a reduction in the weight of exports of products with low technological and human capital content and some reallocation of resources to the remaining market segments. This restructuring process may be associated not only to the replacement of less productive companies by companies more efficient in terms of resource utilisation, but also to the creation of jobs with higher productivity levels, within internal corporate restructuring processes.

The comparison of the role of the different factors that influence economic growth in the period following the 1993 and 2003 recessions allows for the highlighting of some distinctive factors of the current recovery stage (Chart 3.3.2). Thus, GDP growth in the years following the 2003 recession has been marked, on average, by a lower contribution both of inputs and of their productivity. This seems to be particularly pronounced in the case of the input capital, reflecting the weak investment dynamics (see *sub-section 4.3*), and contrasts with the high growth rates seen in the period following the 1993 recession.

The contribution of labour input in the period following the 2003 recession is substantially lower than that recorded in the period subsequent to the 1993 recession. In particular, the most recent period showed lower average employment growth in the private sector. The current projection assumes the continuing net reduction in the number of public employees over the forecasting horizon, similarly to what happened in 2006.

Finally, the contribution of total factor productivity to growth in the period following the 2003 recession was, on average, slightly lower than after the 1993 recession. However, as already mentioned, the rebound in economic activity in 2007 and 2008 will likely be associated with an increased contribution of total factor productivity to figures similar to those estimated for the 1996-1998 period.

(6) A rise in the capacity utilisation rate reflects positively on total factor productivity, insofar as the capital factor is measured by the installed capital stock and not by that effectively used in production.

4. DEMAND

4.1. Expenditure composition

The gradual acceleration of economic activity over the projection horizon from 1.3 per cent in 2006 to 1.8 and 2.2 per cent in 2007 and 2008 incorporates an increase in the contribution of domestic demand and a decline in the contribution of net external demand. The contribution of domestic demand is expected to go up from 0.3 p.p. in 2006 to approximately 0.9 and 1.7 p.p. in 2007 and 2008, chiefly reflecting the return of investment to positive growth rates. The contribution of net external demand, in turn, is projected to decline by around 1.0 p.p. in 2006 to 0.9 and 0.5 p.p. in 2007 and 2008 respectively, reflecting a slowdown in exports and some acceleration in imports, namely in 2008.

A comparison of the contribution of the different expenditure components to GDP growth at similar stages of the business cycle highlights the special characteristics of the present stage of recovery of activity, as regards both its dynamics and the role played by the different economic agents as final users of the goods and services produced.

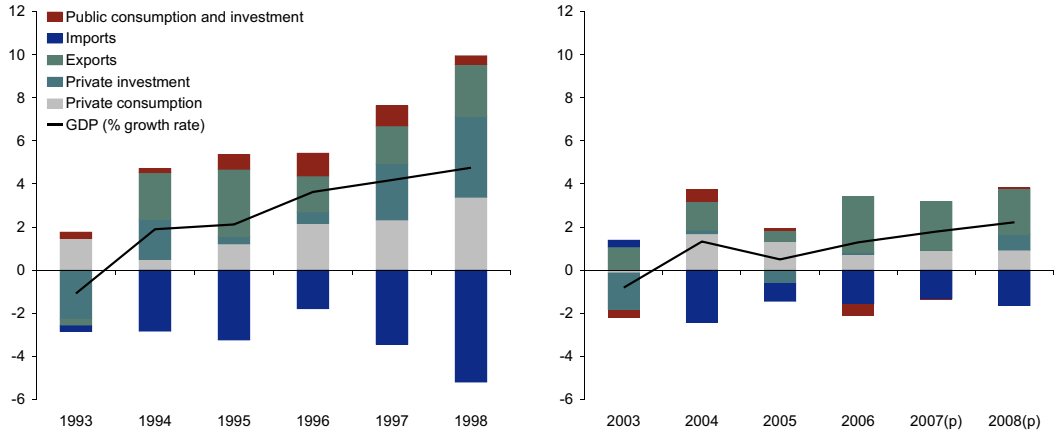
As already examined in previous issues of the Economic Bulletin, not only the strength of economic activity at the present stage of recovery is clearly lower than after the 1993 recession, but also GDP recovery has assumed a more irregular profile (Chart 4.1.1).

As regards expenditure composition, the differences between both business cycles are chiefly centred on domestic demand. The weak growth of domestic demand, contrary to the buoyancy observed during the recovery stage following the 1993 recession, largely reflects limitations stemming from the intertemporal budget restrictions of the economic agents, as well as their impact on expectations in terms of future demand developments.

Turning to households, the indebtedness level as a percentage of disposable income has increased steadily, which, against the background of increasing interest rates, will tend to limit consumption and

Chart 4.1.1

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



investment expenditure in housing by households, namely due to the need to finance debt service. In turn, the period following the 1993 recession was characterised by a sustained decline in financing costs, and by strong growth of household indebtedness, which stood then at substantially lower levels, favouring the strong growth of consumption and investment expenditure in housing in the second half of the 1990s.

Concerning general government , measures leading to the correction of the excessive deficit situation, although fundamental to ensure sustained growth in the medium and long term, have limited the contribution of consumption and public investment to growth in recent years. This trend is expected to be maintained until the end of the current projection horizon. In turn, the period following the 1993 recession was characterised by a more significant contribution of general government expenditure to GDP growth. In particular, from 1997 to 2001, the fiscal policy was strongly expansionary and assumed a clearly pro-cyclical nature.

The contribution of business investment to growth of economic activity in the current recovery period has been clearly lower than after the 1993 recession. However, a clear increase is projected over the current forecasting horizon. It is worth mentioning that the successive decreases in business investment in the recent past have probably corresponded to an adjustment of the capital stock to levels consistent with the current outlook for the trend growth of demand. In turn, the period following the 1993 recession was characterised by a very significant growth of private investment, boosted by an increase in the optimal capital stock, as a result of the significant cut in financing costs.

4.2. Private consumption

Private consumption decelerated from 2.1 per cent in 2005 to 1.1 per cent in 2006. In spite of this slowdown, consumption growth continued to be higher than growth of household real disposable income, determining a decline in the saving rate of approximately one percentage point. According to the current projections, this expenditure component will grow by 1.4 per cent in 2007 and in 2008, reflecting smoothed developments vis-à-vis the projected evolution of disposable income (Chart 4.2.1). Taking as a reference for the euro area the midpoint of the projected ranges published by the *ECB in the June issue of the Monthly Bulletin*, the growth of household consumption expenditure in Portugal is expected to remain below that of the euro area up to the end of the horizon, similarly to what occurred in 2006 (Chart 4.2.2).

Developments in private consumption in 2006 were the result of the combined slight slowdown in consumption of non-durable goods and of the significant fall in consumption of durable goods after the strong growth observed in 2005. The gradual increase in interest rates and the ensuing rise in the debt burden, in a context of high household indebtedness, as well as higher than initially expected growth of consumer prices, have contributed to the weak growth of disposable income in real terms, which limited the growth of this expenditure component in 2006.

The acceleration of private consumption in 2007 is corroborated by developments in the survey regarding household financial situation over the next 12 months made available by the European Commission (Chart 4.2.3). The expected consumption behaviour over the projection horizon reflects, albeit smoothly, developments in the real disposable income of households, made possible by the more sustained recovery of economic activity. The lagged effects associated with the sustained increase in interest rates, in a context where improvements in the labour market are still not very meaningful, should act as moderating factors of consumption expenditure, namely as regards durable goods.

Chart 4.2.1

CONSUMPTION, DISPOSABLE INCOME AND SAVING RATE

Rate of change, in percentage

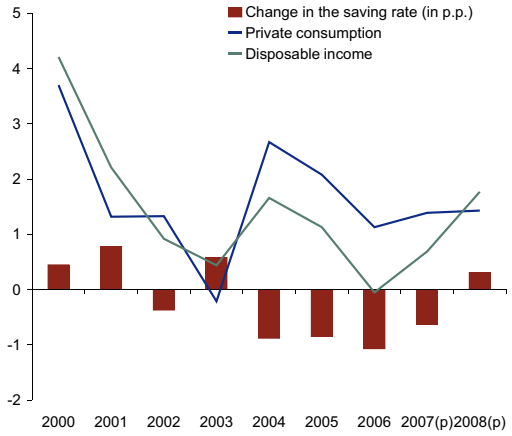
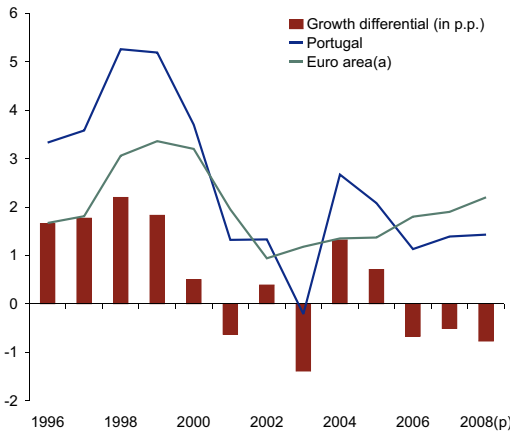


Chart 4.2.2

PRIVATE CONSUMPTION

Rate of change, in percentage

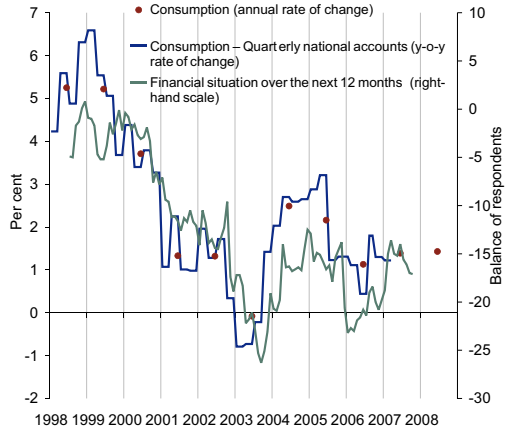


Note: (a) Figures for the euro area correspond to the midpoint of projection range published in the *June issue of the ECB Monthly Bulletin*.

The growth of household consumption expenditure will likely remain below GDP growth, after a decade when the annual average growth was almost 0.5 percentage point higher and when the saving rate declined by around 3 p.p. in accumulated terms. Over the forecasting horizon, against a background of smoothed developments in consumption, a further decrease is expected in the saving rate in 2007, followed by a recovery in 2008.

Chart 4.2.3

PRIVATE CONSUMPTION AND FINANCIAL SITUATION OVER THE NEXT 12 MONTHS



Source: *INE*, Banco de Portugal and European Commission.
Note: The series on the financial situation over the next 12 months was lagged by 6 periods.

4.3. Gross fixed capital formation

Gross fixed capital formation (GFCF) contracted by 2 per cent in 2006. Over the last five years, the accumulated fall reached approximately 16 per cent, generating a gradual and marked decline in the weight of this component of expenditure on GDP (Chart 4.3.1 and Chart 4.3.2). The breakdown of GFCF by institutional sectors suggests different behaviours. While growth of business investment was close to 1 per cent in 2006, after a four year period of consecutive falls, the drop in investment by general government and by households in housing was very significant.

The analysis of the recent behaviour of business and household investment, similarly to private consumption, falls within the scope of the process of adjustment to a system characterised by structurally lower financing costs as a result of participation in the euro area and financial integration of the Portuguese economy. The fall in nominal and real interest rates and expectations regarding higher economic growth in the second half of the 1990s stimulated indebtedness intended to finance the expansion of the housing stock held by households and investment by companies, which led to a significant increase in the investment rate of the economy until 2000.

After 2001, investment decelerated clearly, in a context of weak trend growth of productivity, influenced by the occurrence of a number of external and internal shocks. In particular, stress should be laid, at the external level, on the sharp deceleration of the euro area economy after 2000, the strong rise in oil prices, and the marked increase in competition and in global economic integration. At the domestic level, it is worth mentioning the excessive deficit situation of the general government, as well as uncertainty regarding the indispensable fiscal consolidation measures, which have contributed to moderate growth of economic activity in recent years.

The current projection points to a slight recovery in the overall investment level in 2007, mainly determined by the stabilisation of general government investment (after a fall by more than 15 per cent in 2006) and of housing investment (after a drop of approximately 4 per cent in 2006). The development of investment in housing is affected by the above-mentioned expansion of the housing stock at the end

Chart 4.3.1

BREAKDOWN OF GFCF

Contribution to the rate of change in percentage points

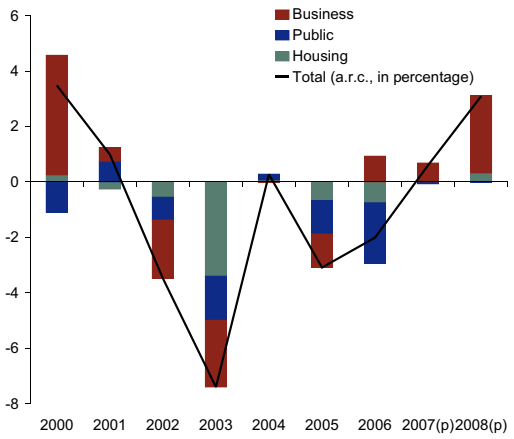
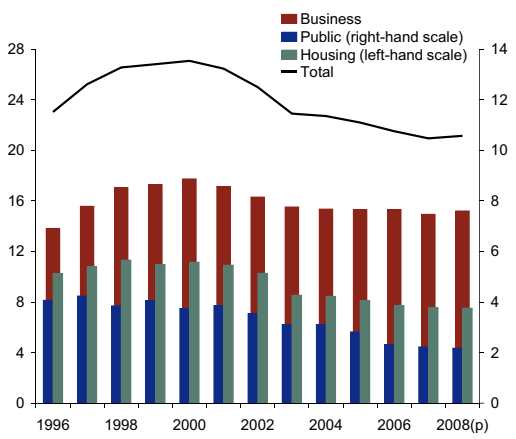


Chart 4.3.2

INVESTMENT BY INSTITUTIONAL SECTOR

As a percentage of GDP



of the 1990s, since the long cycle associated with decisions to purchase a house and the low depreciation rate of housing render a rather slow renewal, affecting developments in this type of investment during very long periods.

Business investment, in turn, is expected to grow by around 1 per cent, close to the figure observed in 2006, although accelerating strongly during the year, to reach a growth rate significantly above the annual average at the end of 2007. However, the annual average value is negatively affected by the intra-annual deceleration profile in the previous year, which was strongly affected by some temporary factors occurred in the first half of the year.[7] The recovery profile of business investment is consistent with the increase in the confidence levels in the industrial sector since mid-2005, reflected in the confidence indicator and in production expectations of the European Commission's opinion surveys (Chart 4.3.3).

Forecasts for 2008 point to an acceleration of GFCF (from 0.6 per cent in 2007 to 3.1 per cent in 2008) to a clearly higher pace than the one of economic activity, thereby playing a prominent role in its recovery. These developments are chiefly the result of the acceleration in private GFCF, to the extent that the level of general government investment is expected to remain virtually unchanged (see subsection 2.4). The acceleration of business GFCF reflects the usual pro-cyclical development and is in line with the empirical regularity observed in the Portuguese economy (Chart 4.3.4). Against a background of gradual recovery of overall demand business restructuring, namely of the industrial sector, and pursuit of fiscal consolidation, more favourable conditions will be created for business investment which will contribute to a more balanced and sustainable growth of domestic activity. In turn, growth in investment in housing will likely be more marked in 2008, in spite of the upward profile of the interest rates over the forecasting horizon, reflecting the acceleration of real disposable income and some improvement in labour market conditions.

Chart 4.3.3

CONFIDENCE INDICATOR AND PRODUCTION EXPECTATIONS IN MANUFACTURING

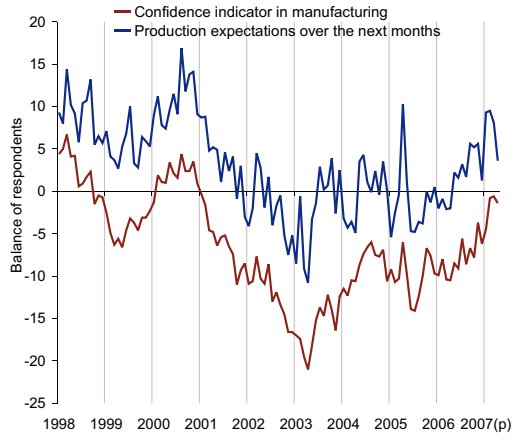
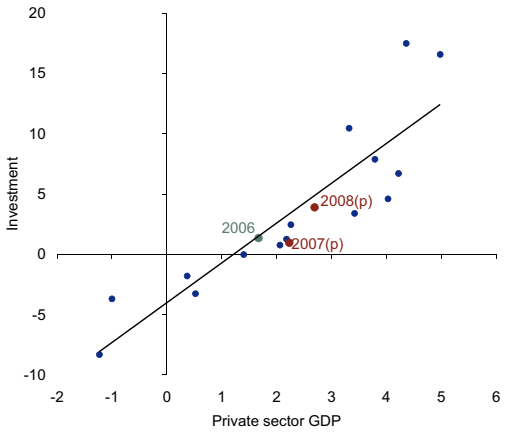


Chart 4.3.4

CORPORATE INVESTMENT AND PRIVATE GDP
Rate of change, in percentage



Source: European Commission.

(7) Namely the strong growth of GFCF in transport material.

4.4. External trade

Exports of goods and services will likely continue to be the most dynamic component of demand in 2007 and 2008, in spite of the slight deceleration over the forecasting horizon (Chart 4.4.1).

In 2006 exports had a very significant contribution to the recovery of economic activity, with a marked growth of 9.1 per cent, in line with developments of demand for imports by the group of countries that form the main markets of destination of Portuguese exports (see *subsection 2.3*). This strong growth of exports, in line with the evolution of external demand, is in contrast with developments in the two previous years, when there were substantial losses of market shares in real terms, which have reached approximately 10 per cent in accumulated terms.

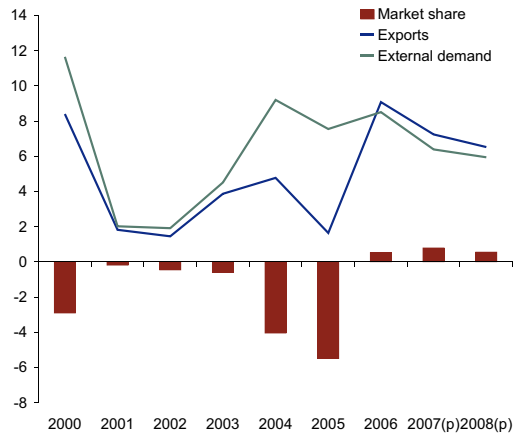
The recent developments in exports of goods will continue to reflect the gradual process of reconversion in manufacturing, stimulated by increased competition in international markets (see "Box: *Recent developments in goods and services exports*"). The participation of new players with low unit production costs and with an especially competitive specialisation pattern vis-à-vis the structure of Portugal's exports has implied a decline in the weight of exports of less technology and human capital-intensive products. In 2007, the lower weight of these sectors, which have been characterised by weaker buoyancy in international markets, as well as some redirection of resources to more technology- and human capital-intensive market segments, will enable exports to grow nearly in line with developments in external demand for Portuguese goods and services. Therefore, exports are expected to grow, in real terms, to 7.2 per cent in 2007 and 6.5 per cent in 2008. This, in light of the present assumptions for developments in external demand, reflects a slight increase in market share which, however, will not be enough to offset losses occurred in the recent past.

The favourable developments projected for exports in 2007, both for goods and services, are strongly influenced by the very buoyant behaviour of exports over the first four months of the year. The estimated developments for exports in the first quarter of 2007 are reflected in the indicators made avail-

Chart 4.4.1

EXPORTS OF GOODS AND SERVICES AND EXTERNAL DEMAND

Rate of change, in percentage



able by the European Commission on exports in the industrial sector, pointing to an improvement in export expectations for the next months and to an increase in the export order book (Chart 4.4.2). Therefore, the slight increase in market share implied in projections for the current year is chiefly the result of the incorporation of available data for the first months of the year, since expected quarterly developments for exports in the second half of the year are virtually in line with the external demand for Portuguese goods and services. External trade statistics available up to March and preliminary information for April point to a rather buoyant behaviour of goods exports, in line with developments in the previous year. Following a nominal growth of 10.7 per cent in year-on-year terms in the first quarter of the year, preliminary information points to a year-on-year rate of change of 12.1 per cent goods exports, in nominal terms, in April.

The correction of a base effect related to the strong increase in exports of transport material in the second half of 2006, associated with the sales of a new car model of an important company in the sector, contributes to a decelerating profile in the course of 2007. The current projection also includes a sharp growth of exports in the automobile sector in mid-2008, again associated with sales of a new car model. Taking into account the very high growth in 2006, projections for energy exports point to a strong deceleration over the horizon. As regards exports of the other goods, which account for approximately 2/3 of total goods and services exports, growth is projected to remain robust, in spite of a deceleration of approximately 1 p.p. over the horizon. In the case of services exports, it is worth mentioning tourism, which is expected to exhibit a favourable development over the forecasting horizon, strengthening the strong growth observed in 2006, in line with developments expected for tourism demand for Portugal.

Goods and services are expected to grow 3.4 and 4.2 per cent in real terms in 2007 and 2008 respectively, after an increase of 4.2 per cent in real terms, in 2006 (Chart 4.4.3). In addition to available information for the first months of 2007, pointing to a deceleration of this component, the current projection assumes, in line with developments in recent years, that growth of goods and services imports will be higher than growth of the overall demand weighted by the different import-intensive components. This behaviour reflects the increase in the imported content of the different expenditure components of the

Chart 4.4.2

EXPORT ORDER BOOK AND EXPORT EXPECTATIONS

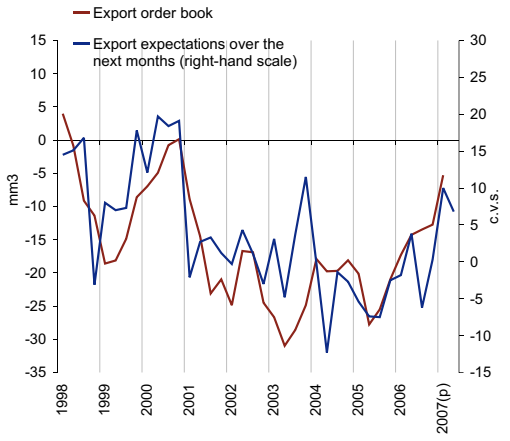
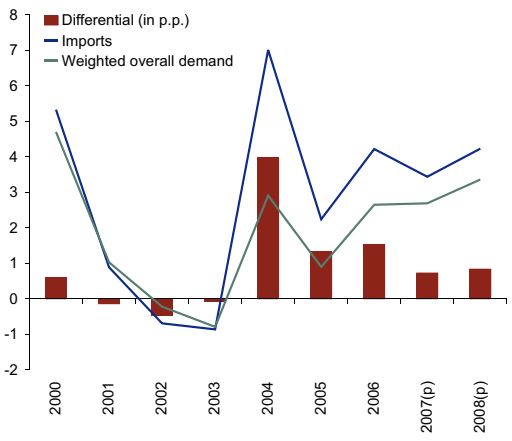


Chart 4.4.3

IMPORTS OF GOODS AND SERVICES AND WEIGHTED OVERALL DEMAND

Rate of change, in percentage



national economy, in a context of growing openness of markets, as a result of growing international economic integration.

As previously mentioned, the projection for 2007 is influenced by real developments in international trade in the first quarter and by preliminary information in nominal terms for April. However, it is important to stress that the high volatility of monthly data on external trade and its preliminary nature are important sources of uncertainty in the current projection.

5. INFLATION

The present projections point to an annual average rate of change of the HICP of 2.5 per cent in 2007 and 2.3 per cent in 2008, which compares to 3 per cent in 2006.

Considering the average forecasting ranges for inflation in the euro area published by the ECB in the *June 2007 Monthly Bulletin*, the current projections for inflation in Portugal point to the maintenance of a positive differential vis-à-vis the euro area (Chart 5.1.1), which, however, is expected to decline over the forecasting horizon from 0.8 p.p. in 2006 to 0.5 and 0.3 p.p. in 2007 and 2008 respectively. The expected gradual narrowing of this differential over the forecasting horizon is partly related to the projected decline in the growth differential of domestic costs.[8] Nonetheless, it is worth mentioning that the contribution to inflation resulting from increases in indirect taxes and administrative prices may be a relevant factor for maintaining this differential over the forecasting horizon, namely in 2008.

The deceleration in consumer prices in 2007 reflects mainly a decline in the annual average rate of change of the energy component of the HICP from 8.1 per cent to 3.7 per cent (Chart 5.1.2). In 2008, the decline in inflation reflects developments in the non-energy component. After growing by 2.4 per cent in 2007, close to the rate of change observed in the previous year, it is expected to decelerate to 2.1 per cent in 2008. This favourable development of the non-energy component in 2008 more than

Chart 5.1.1

INFLATION IN PORTUGAL AND IN THE EURO AREA
Annual average rate of change

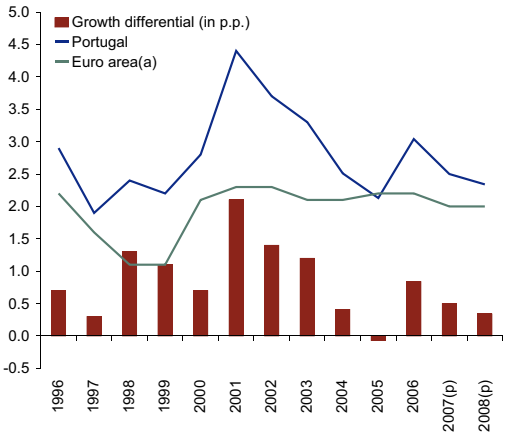
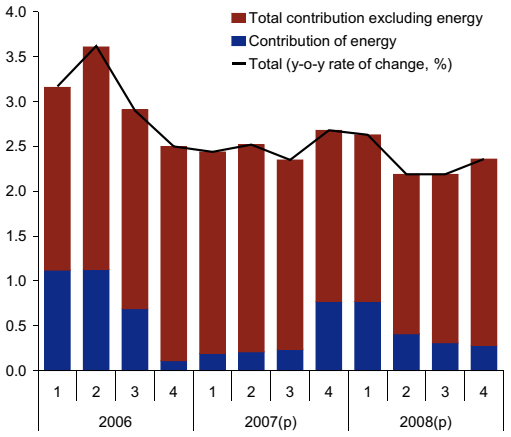


Chart 5.1.2

INFLATION AND CONTRIBUTION OF ENERGY
Contribution to the percentage rate of change



Note: (a) For 2007 and 2008 the figures for the euro area correspond to the midpoint of the projection ranges published in the June 2007 *ECB Monthly Bulletin*.

(8) The European Commission's Spring 2007 forecasts point to annual average changes of unit labour costs for the total economy in the euro area of 1.2 and 1.6 per cent in 2007 and 2008 respectively (0.8 per cent in 2006).

offsets the impact of the slight acceleration of the energy component to 4.7 per cent. This downward trend of projected inflation seems to be already incorporated in consumer expectations, considering developments of the expected inflation trend over the next 12 months included in the European Commission's opinion surveys (Chart 5.1.3).

Developments of the non-energy component of the HICP over the forecasting horizon partly reflect the moderate acceleration of wages in the private sector, in a context of economic activity recovery, as well as other specific factors, such as the rise in the price of hospital services in April 2007, which resulted in a contribution of 0.2 p.p. to the year-on-year rate of change of the HICP in that month, and a new increase in the Tax on Tobacco to be introduced in early 2008 (see *subsection 2.4*). These developments will be partly offset by the projected developments in import prices of non-energy goods, which are expected to exhibit over the forecasting horizon a more moderate pace of growth than in 2006, particularly in 2007. The profile projected for these goods prices reflects to a large extent the expected developments in export prices of the main suppliers of the Portuguese economy, since non-energy commodity prices will decelerate sharply over the forecasting horizon vis-à-vis the very significant value recorded in 2006 (see *subsection 2.2*). In addition, it is worth mentioning that the profile projected for the non-energy component of the HICP is strongly influenced by developments in unprocessed food prices, which accelerated rather significantly in late 2006 and early 2007 (Chart 5.1.4). This profile is likely to be reversed over the forecasting horizon, returning to values close to the average recorded in recent years.

Turning to the energy component of the HICP, the decline projected for the annual average rate of change in 2007, in line with developments in the oil price in euros in futures markets, includes, however, a significant increase in the last quarter of 2007, as a result of a base effect due to the decline in prices in this type of goods in late 2006. In the first quarter of 2008, the year-on-year rate of change of prices of this component shall continue to be high, affected by a new increase in the tax on oil products expected for January 2008 (see *subsection 2.4*), exhibiting a deceleration profile afterwards.

Chart 5.1.3

HICP AND INFLATION EXPECTATIONS

Percentage year-on-year rate of change and balance of respondents

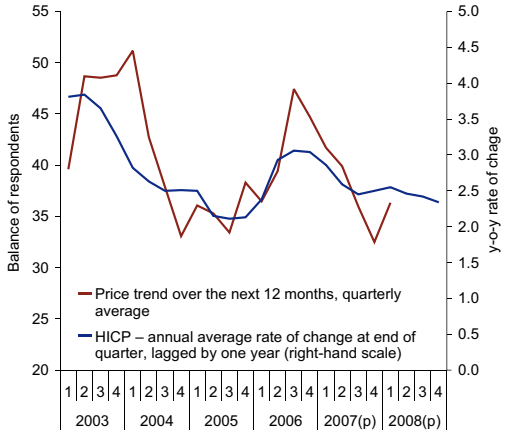
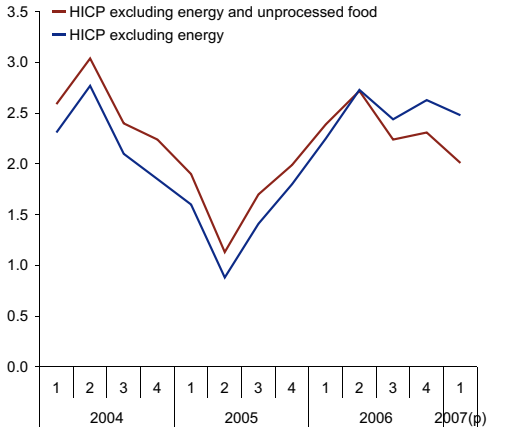


Chart 5.1.4

HICP EXCLUDING ENERGY AND UNPROCESSED FOOD

Year-on-year rate of change



6. CURRENT AND CAPITAL ACCOUNT

External financing requirements of the Portuguese economy (measured by the weight of the combined current and capital account balance) remained virtually unchanged in 2006, at around 8.7 per cent, and are expected to decline to 7.9 per cent in 2007, and to increase slightly to 8.1 per cent in 2008. These developments reflect a near stabilization of domestic saving over the forecasting horizon, a decline in total investment as a percentage of GDP in 2007 and a slight increase in 2008 (Chart 6.1). Turning to the components of the current and capital accounts, a significant fall is projected for the deficit in the trade balance on goods and services which will partly offset the deterioration of the income account balance, in parallel with the stabilization of current and capital transfers as a percentage of GDP (Chart 6.2 and 6.3).

The deficit in the trade balance of goods and services as a percentage of GDP dropped by approximately 1 p.p. in 2006 to 7.6 per cent. This was the result of a positive volume effect, which more than offset the negative impacts associated with price and terms of trade effects. The loss in terms of trade in 2006, in line with developments in 2005, was exclusively due to the strong increase in the price of energy, since there were significant gains when excluding this type of good. These developments reflect, on the one hand, the impact of growing international trade integration of countries with small unit production costs, enabling the maintenance of the moderate development of import prices of non-energy goods and, on the other hand, significant growth of national export prices.

The current projections point to a gradual improvement of the deficit in the trade balance on goods and services to 5.7 per cent of GDP in 2007 and to 5.4 per cent in 2008. These developments reflect higher growth of the export volume than of the import volume, in spite of the deceleration in external demand for Portuguese goods and services and a gradual acceleration of domestic demand. The favourable developments projected for terms of trade in 2007, against the background of the interruption of the sharp growth trend of energy prices in recent years, will also contribute to the reduction of the deficit in the trade balance on goods and services.

Chart 6.1

SAVING AND INVESTMENT
As a percentage of GDP

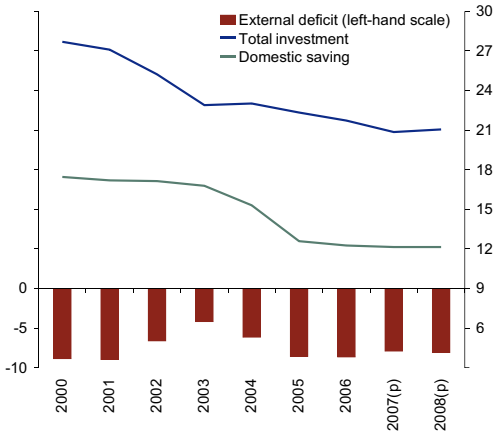


Chart 6.2

CURRENT AND CAPITAL ACCOUNT
As a percentage of GDP

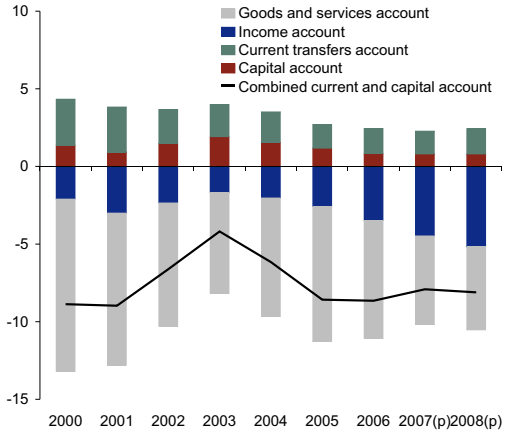
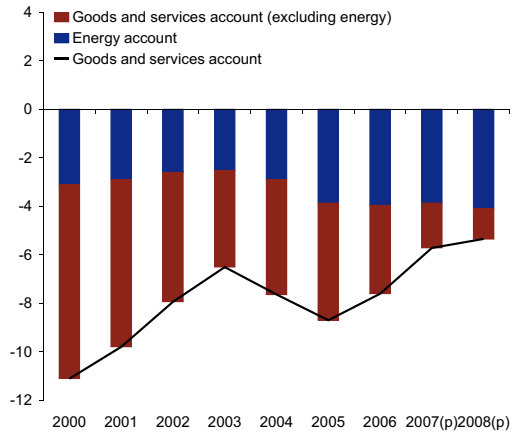


Chart 6.3

GOODS AND SERVICES ACCOUNT AND ENERGY ACCOUNT
As a percentage of GDP



As regards the income account balance, the deficit as a percentage of GDP is projected to widen from 3.5 per cent in 2006 to 4.5 per cent in 2007 and to 5.2 per cent in 2008. This widening is determined by the effect of the continued gradual deterioration of the international investment position of the Portuguese economy and by the upward profile of the interest rates assumed in the current projection.

Turning to the combined current and capital transfers account, its positive balance is expected to virtually stagnate at around 2.4 per cent of GDP over the forecasting horizon.

In 2006 developments of external financing requirements of the Portuguese economy as a percentage of GDP reflected the decline in the investment rate of the economy and the increase in public sector savings that were largely offset by the drop in private sector savings. Projections for the 2007-2008 period include, on the one hand, a decline in net borrowing requirements of the public sector, determined by developments in savings of this sector over the forecasting horizon, according to the commitments of the Portuguese authorities to pursuing a fiscal consolidation policy with a view to achieving the medium-term objective (structural balance of -0.5 per cent of GDP in 2010). On the other hand, the projection reflects a virtual stabilisation of net borrowing requirements of the private sector in 2007 and an increase in 2008, which was chiefly due to a decline in saving and a slight increase in the investment rate in this sector.

7. UNCERTAINTY AND RISK ANALYSIS

As mentioned in previous issues of the Economic Bulletin, the non-materialisation of the assumptions underlying the projection, as well as the possible occurrence of specific factors with an impact on some variables of the macroeconomic scenario, determine the existence of a number of risk and uncertainty factors surrounding the projection presented in this article. This section provides a quantitative risk analysis for 2007 and 2008 with regard to GDP growth and its components and to inflation.[9]

(9) The methodology followed in this analysis was published in A. Novo and M. Pinheiro, "*Uncertainty and Risk Analysis of Macroeconomic Forecasts", Working Paper (19/2003)* of Banco de Portugal.

In this context, two risks were identified surrounding the central scenario of the current projection. One risk emerging in the international framework of the Portuguese economy is related to the possible correction of global macroeconomic imbalances, especially of the external deficit of the US economy. At the domestic level, it was considered that business investment in transport material may turn out to be lower than assumed in the central scenario of the projection in the second half of 2007, reflecting the occurrence of some temporary effects in the first half of the year.

7.1. Risk factors

At the international level, stress should be laid on the possible correction of global macroeconomic imbalances, namely as regards the USA's external deficit, and on the possibility of this correction being somewhat abrupt. In fact, several economies show sizeable current account imbalances, or in excessive deficit, as the case of the USA, or largely in surplus, as the case of China. Its adjustment may therefore give rise to risks associated with sharp capital movements. In case these risks materialise, the exchange rate of the euro vis-à-vis the US dollar would tend to appreciate, benefiting from the statute of international safe currency, leading to loss of competitiveness of the European economies, namely of the Portuguese economy. In turn, demand in the USA may contract further, which is associated with the possibility of a stronger cooling of the housing market. The possible loss of competitiveness of the European economy and the contraction of domestic demand in the USA would determine more moderate growth of world economic activity, namely in the euro area. Given that demand in the euro area represents approximately 2/3 of Portuguese exports, the materialisation of this scenario would negatively affect GDP growth in the Portuguese economy. This scenario envisages higher euro exchange rate and less buoyant external demand in 2007 and 2008.

Turning to domestic risks, growth of business investment in transport material may be less robust in the second half of 2007 than considered in the projection. In effect, strong growth in business investment at the start of the year is partly due to the sharp increase in the sale of light commercial vehicles, probably associated with changes in taxation to enter into force in July. This strong growth may represent advance purchases in anticipation of the above-mentioned changes and, therefore, it may be offset in the second half of the year, which is not fully contemplated in the current projection. In the rest of the forecasting horizon, investment risks are balanced.

Table 7.2.1

SUBJECTIVE PROBABILITIES OF RISK FACTORS
In percentage

	2007	2008
Conditioning variables		
Exchange rate	55	55
External demand	55	55
Endogenous variables		
Investment	55	50

Table 7.2.2

PROBABILITY OF A N OUTTURN BELOW THE CENTRAL PROJECTION
In percentage

	Weights (%) 2006	2007	2008
Gross domestic product	100.0	56	54
Private consumption	65.4	53	52
GFCF	21.5	57	53
Exports	31.3	55	55
Imports	39.1	55	54
HICP		50	52

7.2. Quantification of risk factors

Table 7.2.1 evaluates the quantification of the risks identified above, based on the definition of a subjective probability of non-materialisation of the technical assumptions and of occurrence of specific impacts that may affect the forecasting variables. In this context, at external risk level, that evaluation considers a 55 per cent probability of lower external demand growth and of an appreciation of the euro exchange rate for 2007 and 2008. At the internal level, it considers a 55 per cent probability of investment growth being short of that envisaged in the main scenario for 2007.

Table 7.2.2 and Charts 7.2.1 and 7.2.2 present the main impacts of risks on the forecasted variables, namely on GDP and its components, as well as on the inflation rate. As regards the projection for economic activity, the quantified risk analysis makes it possible to identify a slightly downward risk, i.e. a certain probability of economic activity growth being lower than projected. This result is chiefly due to the downward risk for external demand and, in the current year, also to the risk for investment in transport material. As regards the projection for the inflation rate, risks appear to be broadly balanced in 2007 and slightly biased downwards in 2008, due to the risk of appreciation of the euro exchange rate.

Chart 7.2.1

GROSS DOMESTIC PRODUCT
Rate of change, in percentage

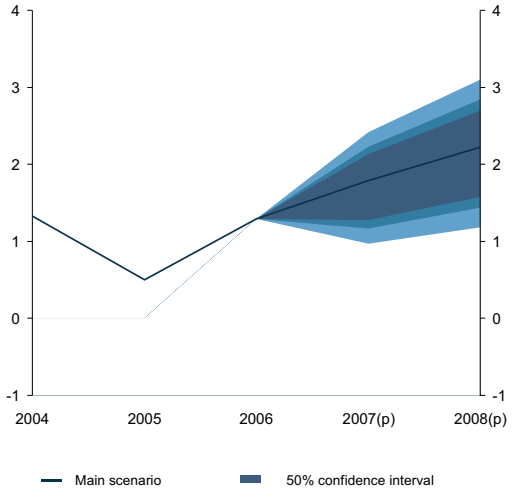
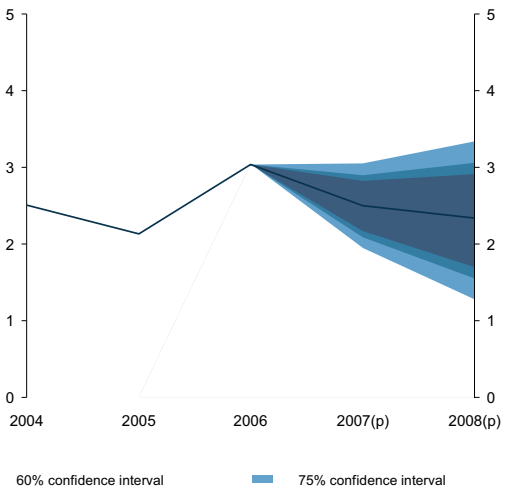


Chart 7.2.2

HARMONISED INDEX OF CONSUMER PRICES
Rate of change, in percentage



8. CONCLUSION

The current projection of recovery of the Portuguese economy for the 2006-2008 period is based on some elements characterising, albeit to a variable degree, the cyclical pattern usually observed in more advanced economies. On the supply side, the recovery of economic activity reflects an acceleration of total factor productivity, due not only to the restructuring of the corporate sector, namely at the manufacturing level, but also to the wider utilisation of spare capacity. This restructuring process is based, on the one hand, on the replacement of less productive companies with more efficient companies and, on the other hand, on the creation of jobs with higher productivity levels. On the demand side, the gradual increase in the pace of growth of GDP reflects, to a large extent, business investment developments. Investment dynamics may be a crucial element for the sustainability of the economy recovery process and for the increase in the respective potential growth, particularly when associated with a higher degree of technology-intensive products.

Notwithstanding some of the common features described above, each business cycle is unique, since it is the result, on the one hand, of some economic shocks disturbing the economy and, on the other hand, of endogenous mechanisms that propagate these shocks in the economy at every moment. In this context, the current projection for the Portuguese economy is influenced by four dynamic features which should be highlighted: the continued process of economic integration at the global level; the endogenous adjustment of household decisions as regards the indebtedness level, against the background of an increase in financing costs; the continued pursuance of the budget adjustment process; and the maintenance of important structural weaknesses regarding the market functioning and the endowment of physical and human capital.

The deepening of the world economic integration process has implied for Portugal a marked decline in the weight of exports of goods with lower technological content and lower qualification of labour force. This has implied a redirection of resources to sectors where the Portuguese economy reveals comparative advantages at the world level. In this context, after the strong market share losses registered in previous years, the current projection implies, similarly to developments in 2006, export growth virtually in line with developments expected for the main markets of destination. However, in the present context of deceleration in activity and in goods and services trade volume of major Portugal's trading partners, of maintenance of competitive pressures at the world level and of high volatility of data on external trade, it is worth stressing the relatively significant uncertainty surrounding the development of exports over the forecasting horizon.

The short-term interest rate hike over the forecasting horizon will tend to be reflected in consumption and investment decisions of households. The full transmission of money market rates to the interest rates on loans will likely contribute to mitigate further growth of consumption and investment in housing over the forecasting horizon, given the relatively high level of households' indebtedness. This impact will be particularly marked for those groups more vulnerable to interest rate hikes, in particular younger households, with lower income and more prone to move into unemployment. In most recent years, the full financial integration of the Portuguese economy and banking sector competition enabled banking products to be made available, which tend to adjust credit supply to the capacity of households to meet the debt service. Therefore, in aggregate terms, household consumption smoothed somewhat in recent years vis-à-vis the deceleration in disposable income growth. In this context, the current projection envisages, at the end of the horizon, the recovery of disposable income and the interruption of the continued fall in the saving rate recorded in the recent past. The solvency conditions arising from intertemporal budget restrictions of the economic agents are projected to become more buoyant. How-

ever, the moment of reversal of the fall in the saving rate, as well as the respective magnitude, are naturally subject to a high degree of uncertainty.

A third important dynamic feature characterising the current projection is the continued pursuit of the budget adjustment process, with a view to reaching the -0.5 per cent medium-term objective for the structural balance as a percentage of GDP by 2010. The maintenance of this objective will imply that the development of general government expenditure in consumption and investment is consistent with solvency conditions resulting from the respective intertemporal budget restrictions. In spite of some restrictive effects in the short-term, the continued fiscal consolidation process is a main factor to ensure sustained economic growth in the medium and long term.

Finally, the present cyclical recovery in activity is influenced by the adjustment capacity of the economy, particularly expressed in the efficient operation of the labour and output markets and in human capital endowment. These factors are particularly important in a context of reinforced global competition, in which the mobility of physical and human resources are fundamental to potentiate higher economic growth. In this context, the current projection does not consider the potential impact of policy measures with a visible effect in the short and medium term – the case of reforms leading to improvements in the market functioning, in particular, in the labour market – or measures intended to produce visible effects only in the medium to long term, with stress on investment in human capital. These measures, even if liable to imply immediate transaction costs, would make it possible to foster higher trend growth of the economy in longer horizons and, while promoting less market segmentation and broadly based increase in human capital, they create the conditions for better income allocation in the economy.

Box: Recent developments in goods and services exports

Goods and services exports in 2006 recorded overall favourable developments in the various markets, with a strong acceleration in goods, tourism and other services. This behaviour must be interpreted at the light of the process of gradual adaptation of the Portuguese economy to the changing pattern of comparative advantages at the global level. Some essential features of this process include the geographical diversification of export markets, the decline in the weight of exports of goods from traditional sectors characterised by low technological intensity and reduced labour qualification. Regarding goods sales, the "machinery and equipment" item made the highest contribution to export growth in 2006, stress being also laid on the favourable behaviour of vehicle sales. The greatest contributions were made by some traditional markets, in particular Spain and Germany, being also worth mentioning the notable growth of sales to markets with a lower weight, especially Angola and Singapore and, to a lesser extent, Mexico and Brazil.[1]

Flash estimates for external trade in early 2007 broadly support the trend followed in the previous year (Table 1). The growth rate of nominal goods exports in the first quarter of 2007 stood at 10.7 per cent year-on-year (12.4 per cent in 2006 as a whole). The most significant contribution in this quarter was associated with sales of "vehicles and other transport equipment", which continued to follow the upward trend started in the previous year. As in 2006,

Table 1

NOMINAL GOODS EXPORTS IN THE FIRST QUARTER OF 2007

Contributions by exports of groups of products/geographical areas to the year on year rate of change

	2006	2007 Q.1		2006	2007 Q.1
Groups of products			**Geographical areas**		
			Markets with a higher positive contribution		
Vehicles, other transport equipment	0.9	3.5	Germany	2.6	3.6
Machinery, equipment	3.6	3.4	Spain	3.8	2.6
Common metals	2.0	1.4	France	0.2	1.3
Mineral products and ores	1.0	0.9	Angola	1.3	1.3
Rubber and plastic	0.7	0.6	Malaysia	0.0	1.2
Food	0.5	0.6	Japan	0.1	0.5
Pulp, paper	0.5	0.4	Antigua and Barbuda	0.1	0.4
Other products	0.3	0.4	US	1.5	0.4
Chemical products	0.4	0.3	Italy	0.2	0.3
Agricultural products	0.3	0.3	Cape Verde	0.1	0.2
Textiles	0.2	0.2	Brazil	0.2	0.0
Wood, cork	0.3	0.2			
Precision and optical instruments	0.1	0.1	*Markets with a higher negative contribution*		
Hides, skins and leather	0.1	0.0	Singapore	1.0	-0.2
Clothing	-0.3	-0.1	Netherlands	0.2	-0.3
Footwear	-0.1	-0.1	Mexico	0.2	-0.4
Mineral fuels	1.9	-1.1	Belgium	-0.2	-0.5
			United Kingdom	-0.7	-0.5
			Rest of the world	1.6	0.7
Total	12.4	10.7	Total	12.4	10.7

Sources: INE and Banco de Portugal.
Note: The groups of products and geographical areas are ranked according to their contribution to export growth in the first quarter of 2007. All countries whose contribution to developments in goods exports was, in absolute terms, equal to or above 0.2 p.p. in 2006 or in the first quarter of 2007 were included.

(1) *For a more detailed analysis of export behaviour in 2006, see the 2006 Annual Report of Banco de Portugal.*

"machinery and equipment" showed a further positive behaviour, significantly contributing to export growth. Sales of "common metals" and "mineral products and ores" continued to rise at a fast pace, partly associated to the maintenance of a sharp growth in the international price of these commodities. By contrast, sales of "mineral fuels" made a negative contribution, after exceptionally high growth in the recent past. Finally, exports of sectors related to "clothing" and "footwear" continued to fall in year-on-year terms, making a negative contribution to export growth.

With regard to the breakdown of nominal goods export growth into geographic markets, the greatest contributions continued to be associated with traditional markets, namely Germany and Spain. However, similarly to 2006, it is also worth mentioning the notable growth of sales to some markets with a lower weight, especially in the first quarter to Angola and Malaysia. Another feature that was already observed in 2006 is the maintenance of the negative contributions of sales to Belgium and the United Kingdom.

As far as nominal services exports are concerned, the quarterly national accounts of INE point to overall favourable developments in the first quarter of 2007, with a year-on-year rate of growth around 17 per cent. As in 2006, this is based on a favourable behaviour of both "tourism" and "other services". Similarly to other countries, services exports have been gaining importance in Portuguese exports as a whole, which can be partly accounted for by the emergence of an international services market, due not only to reductions in transport and communication costs, but also to the greater geographical fragmentation of the different activities of each company.

Finally, it is worth mentioning that recent changes in the pattern of Portuguese exports, which have resulted in a lesser importance of low-tech sectors, have been promoting favourable trend of the terms of trade excluding energy, which continued to be observed in the first quarter of 2007.

ARTICLES

THE EFFECTS OF MONETARY AND TECHNOLOGY SHOCKS IN THREE DIFFERENT MODELS OF THE EURO AREA*

*Sandra Gomes***

*Carlos Martins***

*João Sousa***

1. INTRODUCTION

The purpose of this study is to analyse the dynamic response of a set of euro area macroeconomic variables to monetary policy and technology shocks. We do so by conducting simulations on three different models of the euro area. The first modelling approach corresponds to structural VAR models (SVAR), the second approach uses the NiGEM multi-country model developed by the National Institute of Economic and Social Research (NIESR) and the third approach is a slightly modified version of the Smets and Wouters (2003) Dynamic Stochastic General Equilibrium (DSGE) model.

Economic models are mathematical representations of the economy that are designed to be simplifications of a complex reality. Models are used by economists to help them understand the functioning of the economy, to identify the main economic mechanisms at work, to forecast its future behaviour and to make counterfactual policy analysis. However, no model is capable of perfectly capturing reality. A more robust approach may thus be gained by analysing the results of different models. In this study we use three modelling approaches which differ both in terms of the theoretical underpinnings and the empirical specification. This implies that the results should be compared mainly in qualitative terms and not in terms of the quantitative effect.

One useful way to express the notion that any model implies some compromise is that proposed by Pagan (2003), who considers that there is usually a trade-off between the degree of theoretical coherence of a model and its degree of empirical coherence. Theoretical coherence refers to the extent to which the models reflect the current state of knowledge concerning the way the economy works. Empirical coherence refers to the ability of the model to fit the patterns of the variables of interest seen in a historical data set. The need to establish a trade-off between the two types of coherence arises because theory may not provide sufficient guidance to explain certain patterns seen in the data (e.g. how many autoregressive terms should be included in a model) or because certain features of empirical models may be theoretically implausible (for instance non-stationary nominal interest rates).

Within the commonly used macro-models, VAR models are generally regarded as being the most coherent empirically as they only contain a minimal set of theoretical restrictions and are able to fit the data well. The SVAR model used in this paper has some theoretical adherence to the extent that the restrictions imposed on the VAR are those implied by a theoretical model (see Alves *et al.*, 2006a), but otherwise is quite flexible in reproducing the data.

* The opinions are solely those of the authors and do not necessarily represent those of the Banco de Portugal. The authors thank the comments of José Ferreira Machado, Nuno Alves and Ana Cristina Leal.

** Economics and Research Department.

The NiGEM follows a more traditional modelling approach. It is a multi-country macroeconometric model where for each country or region there is a description of the supply side, the labour market, consumption behaviour, financial markets and government sector. As a global model, NiGEM describes trade in goods and services, the structure of foreign assets and liabilities, and the links between these and the rest of the model. The NiGEM has hundreds of equations and allows for a very detailed simulation of a wide range of shocks and variables. Even though it allows for some theoretically desirable features (such as forward-looking behaviour), the model includes several ad-hoc features that reduce its theoretical coherence. As a result, it can be argued that the NiGEM is vulnerable to the Lucas critique (see Lucas, 1976), namely that the parameters of the model are a mixture of the so-called "deep parameters", describing preferences and technology, and expectational parameters which by definition do not remain stable when there are changes in the policy regime.

The third model used in this study is a DSGE model. DSGE models are micro-founded and can be considered to have the closest adherence to economic theory, albeit at a cost of simplification relative to models such as the NiGEM. DSGE models are founded on the real-business-cycle (RBC) literature that started in the 1980s.[1] In RBC models, prices were flexible and markets continuously cleared, and consequently there was little scope for monetary policy. In the 1990s, a new generation of models appeared, the so-called DSGE models, which were based on the RBC methodology and extended it to address a broader range of macroeconomic issues. By including nominal rigidities, monetary policy becomes relevant in these models. Since DSGE models include the optimising behaviour of economic agents in their structure, they are, in principle, immune to the Lucas critique. The possibility to join together the theoretical consistency of such models with their ability to fit economic data well makes them an important tool in policy analysis.[2]

This study is organised as follows. In section 2 we provide a brief description of the models used in the simulation exercises. In section 3 we define the simulation experiments and in section 4 we present the simulation results. Section 5 concludes.

2. BRIEF DESCRIPTION OF THE MODELS

2.1. The Structural VAR

The SVAR model used in this study was estimated in Alves *et al*. (2006 a, b) for the euro area which in turn is largely based on the models of Altig *et al*. (2005) for the US.[3] The VAR includes measures of labour productivity, hours worked (per capita), inflation, consumption, investment, capacity utilization, real wages, interest rates and monetary aggregates (see Appendix). Let Y_t be the vector of endogenous variables. The VAR in structural form is then given by:

$$A_0 Y_t = A(L) Y_{t-1} + e_t$$

where e_t is the vector of structural shocks and A_0 and $A(L)$ are parameter matrices and L is the lag operator. The structural shocks, e_t, which are unobservable, are assumed to be mutually independ-

(1) The first application of this methodology was by Kydland and Prescott (1982).

(2) Some recent studies have shown that DSGE models are able to fit the data reasonably well (see Smets and Wouters, 2003, 2004). In fact, several central banks have already replaced their traditional macro-econometric models with DSGE models in policy advice and in the forecasting process (for example the Bank of England, the Bank of Finland and the Bank of Canada).

(3) Previous work on structural VARs in the context of the euro area includes Peersman and Smets (2001) who, however, only estimate technology shocks, and Peersman and Straub (2004) who estimate both monetary and technology shocks using model-based sign restrictions.

ent. It should be noted that the above equation cannot be estimated without imposing some restrictions on the matrix A_0. In fact, the model is first estimated in its reduced form:

$$Y_t = B(L)Y_{t-1} + u_t .$$

The structural shocks are related linearly to the one-step-ahead forecast errors, u_t:

$$u_t = Ce_{t,} \qquad E(e_t e'_t) = I$$

and the parameters of the structural form are linked to those of the reduced form by:

$$C = A_0^{-1}, \quad B(L) = A_0^{-1}A(L).$$

In order to uniquely identify monetary policy and technology shocks it is necessary to impose restrictions on the matrices A_0 and $A(1)$ (see Alves *et al*., 2006 a,b and section 3 below).

2.2. The NiGEM

NiGEM is an estimated multi-country model of the world economy.[4] In NiGEM a large number of economies are linked through the effects on trade as well as financial markets. NiGEM includes nominal rigidities that slow the process of adjustment to shocks and typically a dynamic error correction framework is adopted for key behavioural equations.

NiGEM provides us with a quite detailed picture of different economic effects of policy simulations. According to Pagan's approach, a structural model like NiGEM may be seen as middle ground between SVAR and DSGE models. In SVAR models, the use of theoretical priors is scarce and the system cannot include a large number of variables. On the other hand, NiGEM is not so well theoretically founded as DSGE models, but has a much greater richness in terms of the features of the model. It should be noted, however, that NiGEM can be run with either forward or backward looking expectations. Among the models used in this article, it is the only one that considers international linkages (Chart 1).

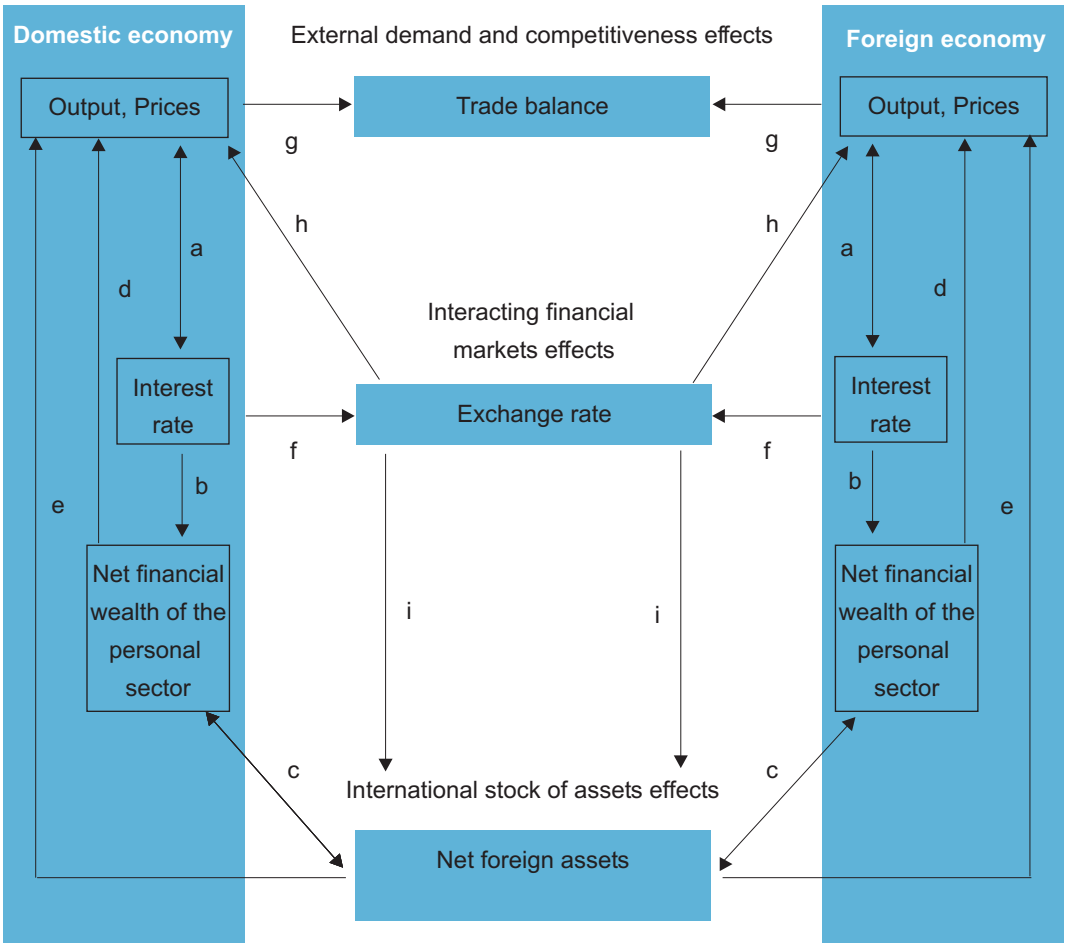
In NiGEM almost all economies belonging to the Organisation for Economic Co-operation and Development (OECD) are included as separate blocks but with a common underlying structure. The euro area is not modelled as a whole, but results from the aggregation of individual countries that are modelled separately. Nevertheless, it is possible to run the model in a way that is consistent with a monetary union in the euro area and thereby ensure common interest rate and exchange rate paths for countries within the euro area.

Each country model has complete demand and supply sides and full asset structures. On the supply side, NiGEM is a one sector model. The quantity of output supplied in each country depends on the aggregate production function and the equilibrium in the labour market. International factors affect supply only through real interest rates, except in some countries where the rate of technical progress depends on the stock of foreign direct investment. Prices are strongly related to the cost function implied by the production function as well as to the measure of capacity utilisation. In the labour market there is a set of equations that determine the levels of employment, unemployment, average hours worked and hourly wages in equilibrium. In the long run, real wages rise in line with productivity, all else equal. In the short to medium-term, unemployment imposes a stabilising feedback mechanism in the model putting downward pressure on real wages.

(4) For a detailed description see "The NiGEM Model", NIESR, document available at http://www.niesr.ac.uk/pdf/nigem2.pdf.

Chart 1

THE NiGEM



Note: Type of effect: a - Monetary policy; b - Asset price changes in financial markets; c - Reavaluations of foreign assets; d - Wealth effects; e - Income balance; - f Interest rate parity; g - Trade; h - Import and export prices; I - Valuation effects.

Demand is generated both domestically, some of which spills over into imports of goods and services, and externally, that is demand for exports of goods and services. Consumption depends on income (the sum of wages, profits and interest income plus transfers and net of taxes) and wealth. The change in the capital stock adjusted for depreciation determines investment. External trade of goods and services depends upon demand and relative competitiveness effects.

In NiGEM each country has a stock of foreign assets and a stock of foreign liabilities. Therefore, changes in exchange rates and in both domestic and foreign equity prices and interest rates will generate wealth and income effects.

Each country has a model for the public sector which includes taxes and government spending. Fiscal policy is set using taxes and levels of spending. In addition, there is an automatic solvency rule, which is implemented by an increase in the direct tax rate. This simple feedback rule ensures that governments remain solvent in the long run by returning the budget deficit and debt stock to sustainable levels. In the long run, Ricardian equivalence is fulfilled.

Financial markets are crucial in NiGEM as they determine long-term interest rates, exchange rates and equity prices. They may be backward looking or forward looking. Nominal short-term interest rates are determined by monetary policy rules. Long-term interest rates are a forward convolution of expected short-term interest rates. Forward looking exchange rates are ruled by an Uncovered Interest Rate Parity condition which means that in each period the expected change in the forward looking exchange rate is equal to an interest premium. Equity prices are solved out from the discounted sum of expected profits.

2.3. The DSGE model

The DSGE model used in this study is a slightly modified version of the model in Smets and Wouters (2003) that we re-estimated with euro area data (see Appendix). This is a closed economy model where there are two types of optimising agents: households and firms. Households optimise utility (which is a function of consumption and leisure) subject to their budget constraint and firms maximise profits. The government sector is modelled as being totally exogenous and the behaviour of the monetary authority is assumed to be well described by a Taylor-type rule where the interest rate is assumed to react to the output gap and deviations of inflation from target. The structure of the model is summarised in Chart 2.

Households want to keep their lifetime consumption as smooth as possible. In addition, households display external habit formation,[5] which introduces persistence in the consumption process, a feature of the data. As regards savings, the model assumes that agents can invest in one-period bonds, which yield a return. The interest rate on these bonds is the same as the policy rate of the central bank.

Households also decide on how much time to devote to work or to leisure and they set their wage in the labour market. It should be noted that this model rules out the existence of unemployment.[6] Each household offers a differentiated type of labour to a labour aggregator that transforms it into a homogeneous input. Wages are sticky à la Calvo (1983), which means that there is a constant and exogenous probability of households being able to reoptimise wages in each period. The fraction of households that cannot reoptimise wages partially updates their previous period wages with previous period inflation. The households that are allowed to reoptimise their wages set the wage so that the present value of the marginal return to working is a markup over the present value of the marginal cost of working (i.e. the disutility of working). This implies that the aggregate real wage is a function of expected and past real wages and expected, current and past inflation.

The model assumes that capital is owned by households who rent it to firms. Households can change their capital stock by investing in new capital, taking into account that there are adjustment costs.[7] They can also change the degree of utilisation of the capital stock (i.e. the level of capital services that are rented). When households rent out capital to firms they receive a remuneration, the rental rate of capital. As the rental rate of capital goes up, the capital stock can be used more intensively according to a cost schedule (following King and Rebelo, 2000). The real value of installed capital depends positively on its expected future value (taking into account the depreciation rate) and on the expected val-

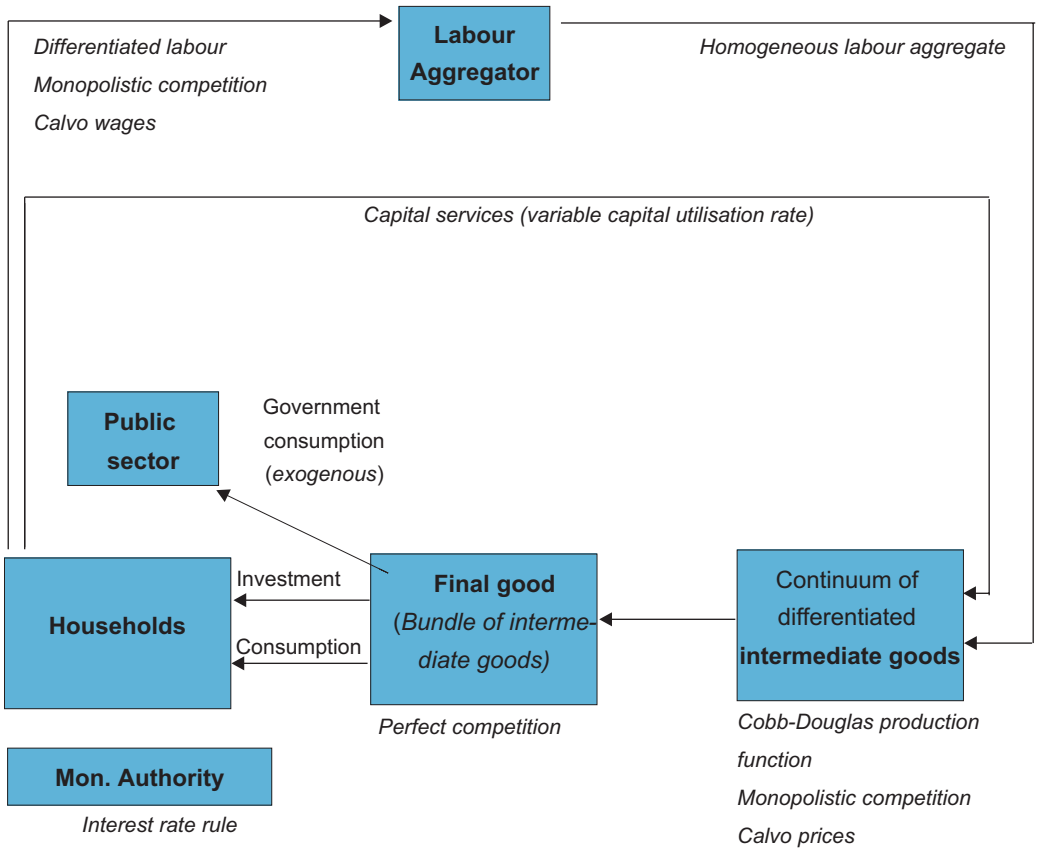
(5) Under habit formation, an increase in current consumption lowers the marginal utility of consumption in the current period and increases it in the next period. The fact that habits are considered external means that the habit formation depends on past aggregate consumption and not on the individual consumer's past consumption.

(6) For a recent example of an estimated DSGE model which allows for unemployment, see Christoffel, Kuester and Linzert (2006).

(7) These costs, that are a function of the change in investment, are useful in capturing the hump shaped response of investment to various shocks as discussed by Christiano, Eichenbaum and Evans (2005).

Chart 2

THE DSGE MODEL



ues for the real rental rate and the rate of capital utilization (net of the expected cost of using capital).[8] Households choose the utilization rate that equals the cost of higher utilization to the real rental rate of capital services. The introduction of variable capital utilisation tends to smooth the adjustment of the rental rate of capital in response to changes in output.

Focusing now on the product markets, this economy produces one final good and a continuum of intermediate goods. The final good is just a bundle of the continuum of intermediate goods and its market is in perfect competition. The final good can be used for consumption (either private or public) and investment purposes. The intermediate goods are differentiated, so there is monopolistic competition in the markets for these goods. Each intermediate good is produced by a single firm via a Cobb-Douglas production function with capital and labour.

Firms decide on the combination of production inputs (by minimising costs) and then they decide on the price they charge. Firms are not allowed to choose prices optimally in every period. As in Calvo (1983), in each period only an (exogenous) fixed proportion of the firms get to reoptimise. The other

(8) We use a different timing assumption regarding the stock of capital evolution equation, because Smets and Wouters (2003) assume that investment takes one period to be installed and we assume that it is installed immediately.

firms partially update their previous period prices by means of the previous period aggregate inflation (following Christiano, Eichenbaum and Evans, 2005). As a result of the maximisation of profits, firms set the new prices as a markup over current and expected marginal costs. This implies that current aggregate inflation will depend on past and expected inflation and on the marginal cost.

All markets have to clear. This implies that the final good production (net of the costs of changing the capital utilisation) has to equal its demand, namely for consumption purposes (both private and public) and investment purposes. Additionally, the capital rental market is in equilibrium when the demand for capital by the intermediate goods producers equals the supply by the households and the labour market is in equilibrium when the firms' demand for labour equals labour supply at the wage set by the households.

3. DEFINITION OF THE SIMULATION EXPERIMENTS

3.1 Monetary policy shock

Following Christiano, Eichenbaum and Evans (1999), we identify monetary policy shocks as deviations of the interest rate from a policy rule that the central bank is assumed to follow.

In the SVAR model, the identification of the monetary policy shock is achieved by assuming that the only date t variables in the monetary authority's information set are productivity, measures of economic activity (hours, capacity utilization), wages and inflation (see Alves *et al*. 2006a, b).

In the DSGE and the NiGEM models the monetary policy shock is the additive random term in the Taylor rule where the central bank adjusts the short-term interest rate as a reaction to past levels of the rate (interest rate smoothing), the output gap and differences between the inflation rate and its objective. Note, however, that there are differences in the way that the rule is implemented. In fact, in the NiGEM the rule for the short-term interest rate (R_t) is defined in terms of the level of the variables:

$$R_t = \rho R_{t-1} + r^* + \gamma_y \left(y_t - \bar{y}_t \right) + \gamma_\pi \left(\pi_t - \pi^*_t \right) + \varepsilon_t$$

where $y_t - \bar{y}_t$ is the output gap, $\pi_t - \pi^*_t$ is the deviation between the inflation rate and the central bank's inflation target, and r* is the long run equilibrium nominal interest rate which is set equal to 4.0 per cent. In the DSGE model we use the rule:[9]

$$\hat{R}_t = \rho \hat{R}_{t-1} + \gamma_y \hat{y}_t + \gamma_\pi \left(\hat{\pi}_t - \hat{\pi}^*_t \right) + \gamma_{\Delta y} \left(\hat{y}_t - \hat{y}_{t-1} \right) + \gamma_{\Delta\pi} \left(\hat{\pi}_t - \hat{\pi}_{t-1} \right) + \varepsilon_t$$

where the hat (^) means that the variables are measured in deviations from the steady state. In the DSGE model ρ is estimated to be equal to 0.89, γ_π is equal to 1.5 and, γ_y, $\gamma_{\Delta y}$ and $\gamma_{\Delta\pi}$ are all equal to 0.1. In NiGEM we assume further that the parameter ρ is equal to 0.8, γ_y equal to 0.5 and γ_π equal to 1.5.

In the simulations described below, the monetary policy shock involves a temporary and exogenous increase in the stochastic term of the euro area monetary policy rule (i.e. an increase in ε_t), so that the short-term interest rate rises by 25 basis points in the period the shock hits the economy.

(9) In the Smets and Wouters (2003) model the interest rate rule is defined in terms of the deviation of output from potential, which is defined as the level of output that would prevail under flexible prices and wages in the absence of cost-push shocks.

3.2. Technology shock

The identification approach of the technology shock implies some differences in terms of the way it is implemented in each of the models. In the case of the SVAR models, to identify the technology shocks we follow much of related literature by imposing the restriction that these are the only shocks that can affect labour productivity in the long run. In implementing it, we pursue the methodology advocated by Shapiro and Watson (1988). We assume, as is standard in the literature, that in the short-run real economic activity and prices do not react to monetary policy shocks or to shocks to money velocity. In the NiGEM model, the technological shock consisted of temporarily increasing labour-augmenting technical progress in all euro area countries in the Constant Elasticity of Substitution production function. In the DSGE model the shock is implemented as an exogenous increase in total factor productivity in a Cobb-Douglas production function. In all three models, the magnitude is calibrated such that it has - not necessarily on impact - a maximum effect on euro area output of 1 percent.

4. RESULTS

In this section, we report the responses of macroeconomic variables to a monetary policy shock and a technology shock as described in the previous section. In the following description of the results, we concentrate on the first 20 quarters after the occurrence of each shock.

4.1. Impulse responses to a monetary policy shock

4.1.1. SVAR

The responses of the variables to the monetary shock are shown in Chart 3.[10] After a monetary policy shock the interest rate shows a hump-shaped increase. Output, consumption, investment and hours worked per capita all exhibit hump-shaped falls that take approximately one-and-half to two years to get to the trough. As expected, investment responds in a quantitatively stronger fashion than consumption. The short-run reaction of inflation is an increase. This result is common in VAR studies and constitutes what has been called the "price puzzle"[11]. Surprisingly, the short run reaction of real wages is to increase and that is in spite of inflation rising in the same time frame. That effect is reversed thereafter so that the real wages' response eventually goes into negative territory.

4.1.2. NIGEM

In NiGEM after a monetary policy shock there is a prompt response of financial markets. The positive interest rate differential between the euro area and other economies created by the shock generates an expectation of euro depreciation in the periods ahead.[12] Forward-looking exchange rates immedi-

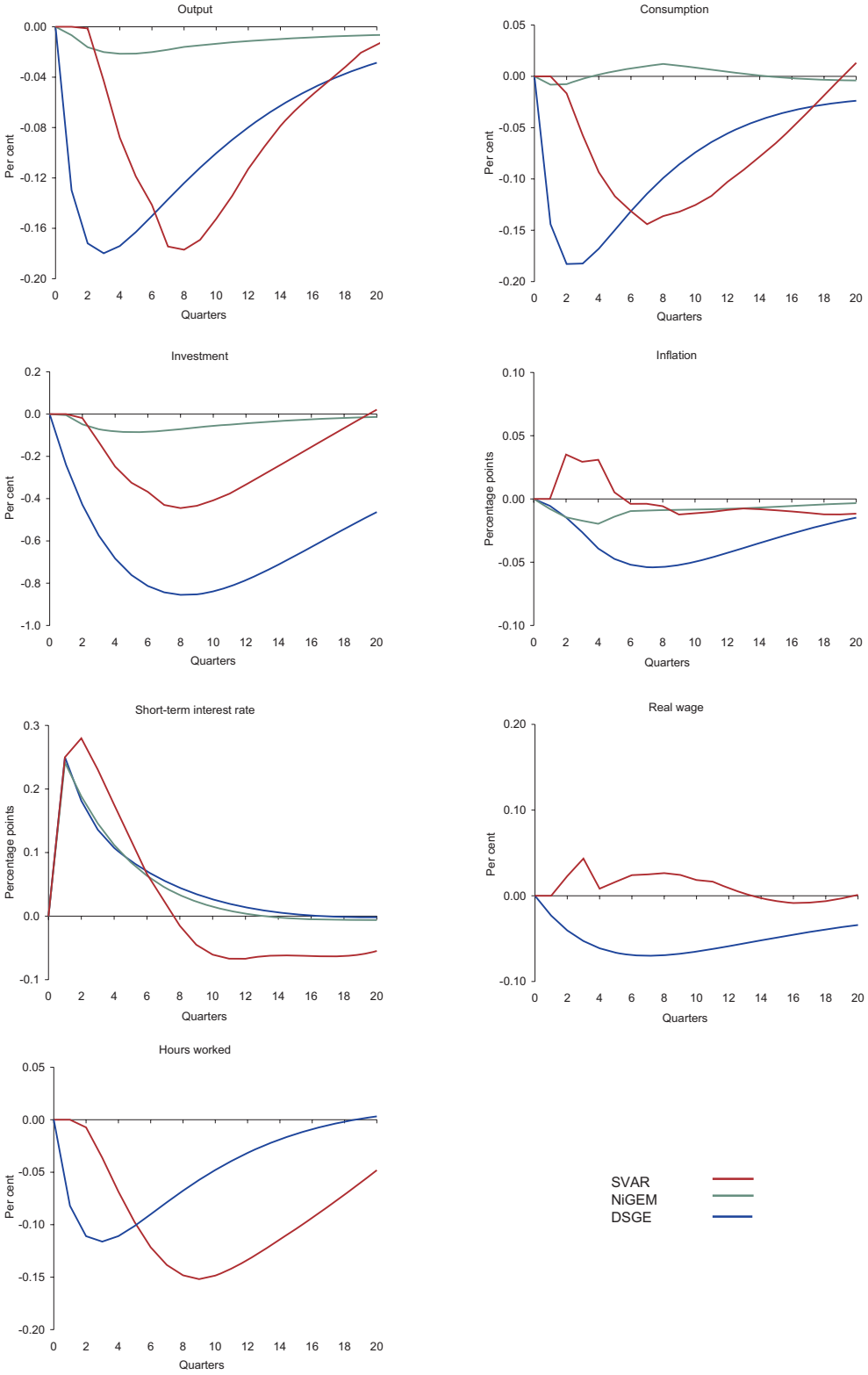
(10) The responses of all variables are measured in percentages, except the interest and inflation rates, which are measured in percentage points.

(11) In the literature there are several explanations for this result. One explanation is that the price puzzle is the result of the central bank reacting to leading indicators of inflationary pressures (such as commodity prices). As there are lags in the effects of monetary policy, inflation rises in a first stage at the same time that interest rates are also rising. In the medium term, inflation eventually declines as the delayed effects of monetary policy are transmitted to the economy. Another explanation for the price puzzle is that the increase in interest rates raises the costs of firms which are, in the very short-term, transmitted to consumer prices.

(12) The responses are in percentage deviations from baseline, except for the interest and inflation rates, which are in percentage point deviations from the baseline.

Chart 3

IMPULSE RESPONSES TO A MONETARY POLICY SHOCK[(a)]



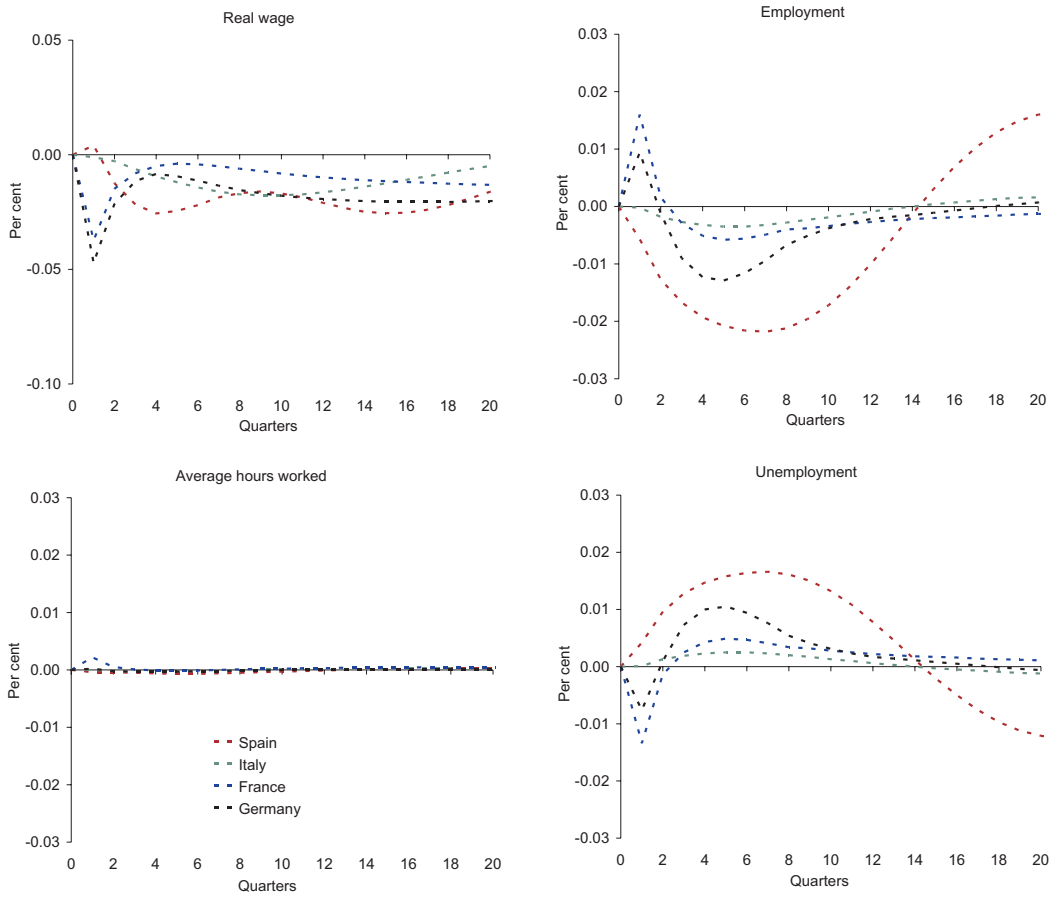
Note: (a) For the NiGEM no aggregation for the whole euro area is available in the case of real wage and total hours worked.

ately respond with a movement in the opposite direction, which means an instantaneous nominal effective appreciation of the euro relative to the baseline. In line with the evolution in short-term interest rates, long-term interest rates rise. Higher interest rates lead to a decline in both financial asset and housing prices in comparison to the baseline.

The initial shock and the financial markets' reaction transmit gradually to product and labour markets through the deceleration in demand and prices (Chart 3). The real appreciation of the exchange rate reduces net external demand. In particular, real exports drop. The rise in the user cost of capital influenced by the increase in the forward-looking real long-term rate (i.e., considering forward-looking expectations of inflation) diminishes the desired capital stock and real investment. Though more moderately, real private consumption also declines relative to the baseline influenced primarily by the decrease in real wealth. The decrease in demand feeds directly into the capacity utilization equation and generates a downward pressure on domestic prices. In addition, the exchange rate appreciation reduces import prices which pass-through to domestic prices. As a result, consumer price inflation declines relative to the baseline.[13]

Chart 4

IMPULSE RESPONSES TO A MONETARY POLICY SHOCK - LABOUR MARKET IN NiGEM



(13) The reduction in inflation will moderate though not impeding the increase in the forward-looking real long-term rate, the real appreciation of the currency and the decrease in real wealth.

The labour market adjusts to the reduction in demand and in the largest euro area economies there is generally a reduction in employment and an increase in unemployment in comparison to the baseline (Chart 4). The increase in unemployment, in conjunction with the decline in inflation and the forward-looking behaviour in labour market, leads to a gradual decline in the nominal wage relative to the baseline. Real wages also decline, though in a more mitigated amount, influenced by the decline in inflation.

For some years after the shock, real disposable income is sustained though it eventually falls in the context of diminishing labour compensation. Two factors contribute to the positive behaviour in real personal income for some time: first, the fall in inflation exerts a favourable effect and second, the increase in the domestic interest income and the improvement in the balance of income from abroad. The behaviour of real disposable income explains why real consumption does not decline much in response to a monetary policy shock and even moves slightly above baseline in the second and third years after the shock.

4.1.3. DSGE model

In the DSGE model, the transitory monetary policy shock implies that the nominal interest rate increases which leads to a hump-shaped fall in output, consumption and investment (Chart 3).[14] The maximum effect occurs in the two first years after the shock. Higher interest rates make savings more attractive and therefore households substitute consumption today for consumption in the future, which partly explains the decline in consumption. A higher interest rate increases the cost of investment which induces investment to fall. The maximum effect on investment is around 3 to 4 times larger than that on consumption. The decrease in demand for final goods makes firms produce less and demand less factor inputs, so employment falls. Lower demand for labour puts downward pressure on nominal wages and given the small decline in inflation, real wages also fall. The decline in labour and the real wage reinforce the fall in consumption.

4.2. Impulse responses to a technology shock

4.2.1. SVAR

The responses of the variables to the technology shock for the SVAR are shown in Chart 5. The impact of a positive technology shock is to generate a steady increase in output that takes about 20 quarters to reach one percent. Consumption and investment also rise in line with output. Hours worked and real wages rise.[15] It is still worth noting that the impact on inflation is negligible and interest rates increase slightly.

4.2.2. NiGEM

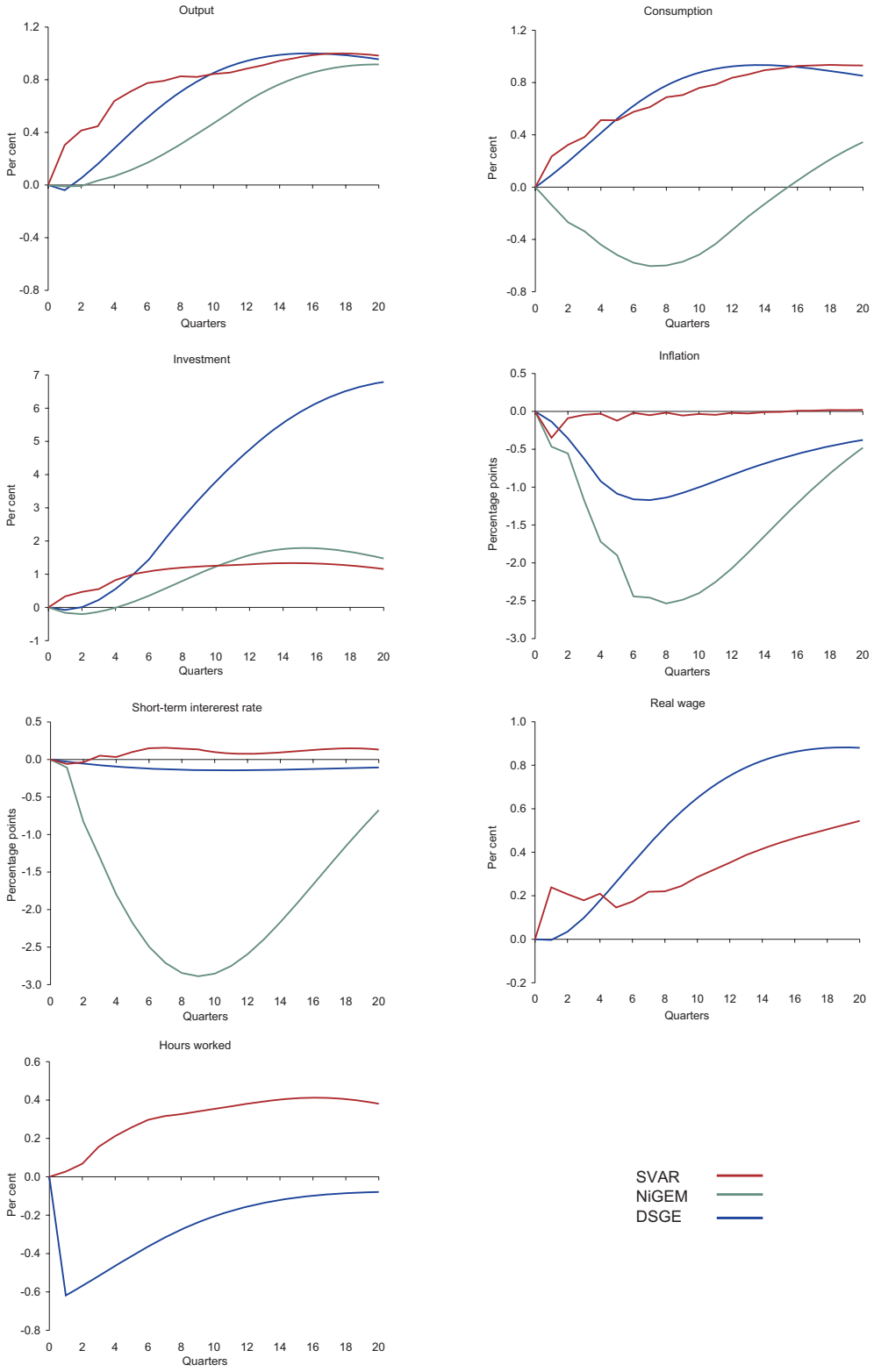
The increase in exogenous technical progress feeds directly into the capacity utilization equation and there is an immediate downward pressure on prices as a result of the increase in economic capacity. Inflation declines immediately relative to the baseline (Chart 5). In a framework where the monetary

(14) The responses are in percent deviations from the steady-state, except for the interest rate which is in deviations from the steady-state.

(15) Note, however, that this result hinges crucially on the assumption of stationarity of hours. If one considers hours to be non-stationary then hours worked would fall in response to a positive technological shock (see Alves, *et. al* 2006 a, b).

Chart 5

IMPULSE RESPONSES TO A TECHNOLOGY SHOCK[a]



Note: (a) For the NiGEM no aggregation for the euro area is available in the case of the real wage and total hours worked.

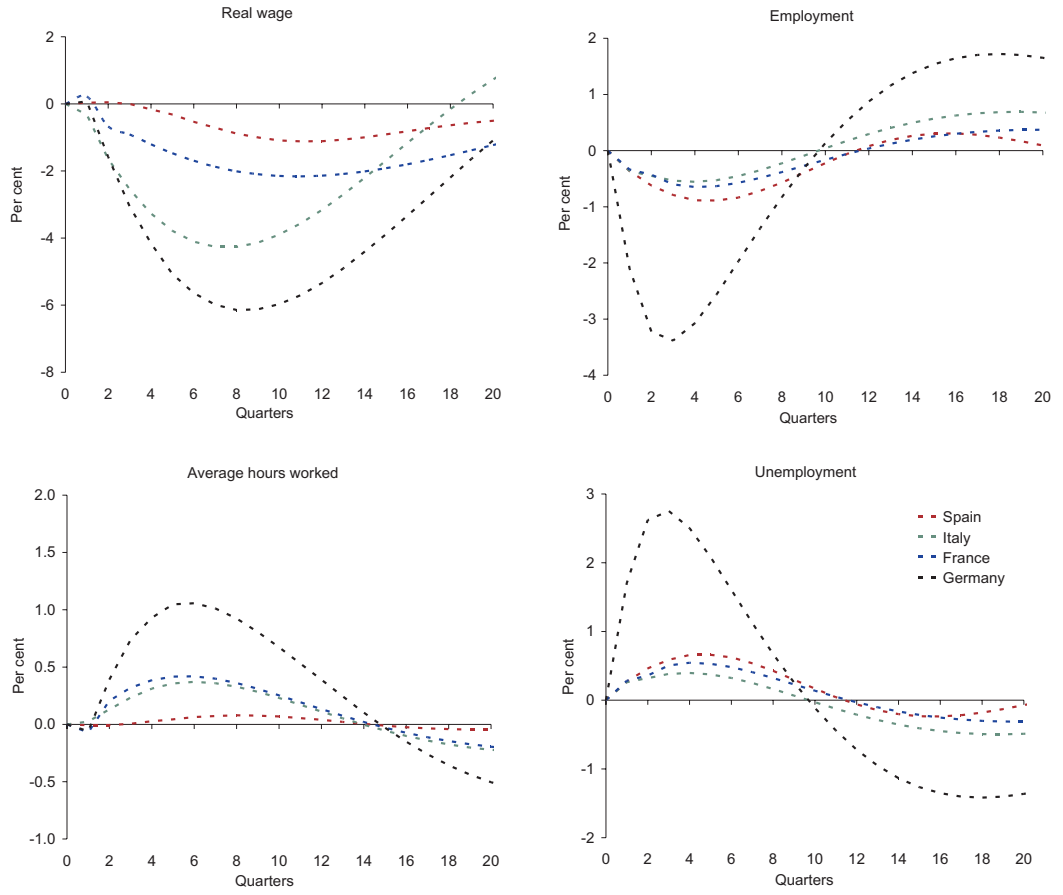
authority follows a Taylor rule, the decline in inflation in a first stage leads to a fall in interest rates. In parallel, forward-looking exchange rates will react in the first period in anticipation to the expectation of lower interest rates which means an instantaneous nominal effective depreciation of the euro relative to the baseline. This factor together with declining inflation implies evidently a real effective depreciation of the euro, i.e. euro area competitiveness increases.

The changes in financial markets feed into real economic activity in particular via stimulating investment and external demand. The user cost of capital declines after the shock, influenced by the fall in the forward-looking real long-term rate and, consequently, the desired capital stock and real investment rise. In turn, the real exchange rate depreciation diminishes the price of exports and fuel external demand. The positive effect on investment and net exports contribute to the increase in real GDP.

For some periods after the shock, there is a reduction in employment and an increase in unemployment in comparison to the baseline (Chart 6). This follows immediately from the shock that leads to a reduction in labour demand for each level of output and real wages. The response of average hours is relatively symmetric to the employment response and is mainly explained by the short-run dynamics in real wages and GDP. As the response of average hours is smaller than that of employment, total hours worked decline. The increase in unemployment, in conjunction with the decline in inflation and the forward-looking behaviour in the labour market, leads to a strong decline in the nominal wage, which con-

Chart 6

IMPULSE RESPONSES TO A TECHNOLOGY SHOCK - LABOUR MARKET IN NiGEM



tributes to diminish labour compensation and personal income relative to the baseline. In the first years after the shock, the decrease in nominal wage and income may be greater than the one observed in prices, which in general leads to a decline in real wages and real disposable income in the biggest euro area countries. These factors contribute to dampen real private consumption for some time after the shock.

Eventually, the expansion of real activity becomes more broadly balanced as private consumption gains momentum. As mentioned before, besides income, consumption depends also on wealth. In this context, it should be noted that real financial wealth increases after the shock, benefiting to a great extent from the lower level of prices and in part from a temporary increase in nominal wealth resulting from the rise in equity and bond prices following the interest rate decline. On the other hand, over time, the ongoing activity expansion will reverse the labour market situation, implying a decrease in unemployment, a recovery in real wage and higher real disposable income.

4.2.3. DSGE model

After a positive technology shock, the increased productivity temporarily expands the economy's production frontier and lowers firms' marginal costs. As a result, output, consumption and investment rise (Chart 5). The response of the variables occurs with some delay, which is shorter in the case of consumption, and is quite persistent, with the effects of the shock being significant for over five years. The real wage increases steadily, which is also reflected in increased consumption though with some delay due to the presence of habit formation.

Given lower marginal costs, firms adjust their prices downward and therefore inflation falls. The decline in inflation is gradual, due to the existence of stickiness in price adjustment, peaking in the second year after the shock. Despite the rise in output, the monetary authority responds with a decrease in interest rates as the effect of the fall in inflation dominates in the Taylor rule. Since workers are more productive, firms need less labour to produce the same amount of output. This leads to a fall in the number of hours worked. Since this is a general equilibrium outcome, it should be noted that the reduction in hours worked is also the desired response of workers.

The responses of labour market variables should be treated with some caution as this sector is quite stylised in this model. It should also be noted that the response of hours worked is not a built-in feature of the model. One possible interpretation of the fall in hours (although not shown in the charts, the response of employment is similar to the one of hours worked) is that the technology shock allows households to work less (and therefore have more leisure which increases their utility) while at the same time having a higher real wage and a higher level of consumption.

5. CONCLUSIONS

This study has characterised the responses of euro area macroeconomic aggregates to monetary policy shocks and technology shocks using three different models. The analysis has allowed the identification of similarities in terms of the responses of some macroeconomic variables but also some striking differences between the models have been uncovered. In all models, the monetary policy shock that consists of a rise in interest rates has a contractionary impact on economic activity. However, in the case of the NiGEM, the response of consumption is more muted. This seems to be linked to effects coming from the external sector, which is excluded from the other models where the euro area is treated as a closed economy. In terms of the inflation response, both the NiGEM and the DSGE models respond as expected, with a contractionary monetary policy leading to lower inflation. In the

SVAR model, however, inflation rises in the short-term, declining only in the medium-to longer term. This puzzle is a feature common to other VAR studies. As for the positive technology shock, the three models show rather similar responses in terms of increased output and investment. However, consumption declines in the case of NiGEM while in the other models it rises. The negligible impact on inflation in the SVAR model differs from that in the DSGE and the NiGEM models where the technology shock has a strong deflationary impact. In the NiGEM this deflationary impact leads to a real depreciation of the euro and to an improvement in exports, which explains why output increases despite the fall in consumption. Another striking difference has to do with the response of labour market variables. In the DSGE and the NiGEM models the labour input declines after a technology shock while in the SVAR it increases. In the DSGE model this is the outcome of the optimising behaviour of households and firms. In the case of the NiGEM more detail on the labour market is available. The responses show that employment declines and unemployment increases in the shorter-term. This may be explained by the fact that demand reacts sluggishly to the increase in the expansion of production capabilities and therefore less labour input is needed to satisfy such demand. The increase in unemployment in NiGEM has negative feedback effects on wages and, consequently, on disposable income and consumption.

In sum, the above results highlight the importance of models as a disciplinary device for analysing the effect of shocks on the economy. The heterogeneity found in the results advises for the use of a broad set of models, to gain robustness in the answers provided. In particular, the modelling of the labour market and the inclusion of open economy features seem crucial in the response of euro area variables to shocks. Such features are usually included in traditional models but are often absent from DSGE models which have been increasingly used in recent years. Our analysis therefore supports the efforts underway to improve these blocks in micro-founded models, an area of active research.

Appendix. Taking the models to the data

The parameters of each of the three models used in this study are obtained with different procedures. While the SVAR model is estimated, the NiGEM and DSGE models involve both estimation and calibration. Starting with the SVAR, we have used a model estimated in Alves *et al*. (2006a, b). The data refer to twelve euro area member states for the period from the first quarter of 1970 to the third quarter of 2004. The variables included are real GDP, consumption, investment, capacity utilization, wages, per capita hours, the short-term interest rate, the GDP deflator and the monetary aggregate M1. For periods after 1999, the data correspond to an aggregation of the available country series using, as far as possible, official statistical sources, such as the Eurostat, the ECB, the European Commission and the OECD. However, euro area series at a quarterly frequency are often available only for a relatively short time-span and we had to backdate a number of series. To do this we relied mostly on the database by Fagan *et al*. (2001), hereafter Area-Wide Model (AWM) database (see Alves *et al*., 2006). The short-term interest rate series used is the three-month Euribor provided by Bloomberg and for periods before 1999 we used data from the AWM database. The series for hours worked is the one constructed in Alves *et al*. (2006a, b) which is obtained by multiplying average hours per employee by the total number of employees and then dividing by working age population. Inflation is measured as annualised quarterly changes in the logarithm of the GDP deflator. All variables are in logarithms, except for the short-term interest rate.

The NIGEM model used in this article is estimated and calibrated by the NIESR and corresponds to the version V4.06 released in October 2006. The estimation period of the model equations is not identical across equations and is dependent on structural stability (the earliest start date is the first quarter of 1961). The baseline scenario used in simulations corresponds to the results obtained from the NIESR

forecasting exercise in October 2006, which is based upon a quarterly database containing all the information released up to that date.

In which respects the DSGE, following Smets and Wouters (2003), we estimated the log-linearised version[16] of the model using Bayesian techniques, keeping however some parameters fixed. The model is estimated using data for seven observed variables, namely real GDP, consumption, investment, GDP deflator, real wage, employment and the nominal short-term interest rate. We used a slightly different and updated quarterly dataset than the one of Smets and Wouters (2003) (namely data for the period from the first quarter of 1980 to the fourth quarter of 2006). Given that the model implies that all variables must be used in terms of differences from the steady state level, all series used must be stationary. The series were stationarized by removing linear trends as in Smets and Wouters (2003).

While the theoretical model would call for the use of hours worked for the labour input, in the estimation Smets and Wouters used data on employment because no official series for euro area average hours worked was available. This implies that one has to use an auxiliary equation which relates employment (the observed variable) with hours worked (the variable in the model but that is unobserved). Given that employment is likely to respond more slowly to macroeconomic shocks than total hours worked, it is assumed that in any given period only a constant fraction of firms is able to adjust employment to its desired total labour input. The difference is taken up by (unobserved) hours worked per employee (that are completely flexible). We followed the same procedure and used the employment series in the estimation, but we used a slightly different version of this auxiliary equation.

(16) We take a log-linear approximation of the equilibrium equations around the steady-state.

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ENSURING PRICE STABILITY WITH AN INTEREST RATE RULE*

*Bernardino Adão***

*Isabel Correia***

*Pedro Teles***

1. INTRODUCTION

The primary concern of monetary policy is to ensure price stability. Such is the mandate of the ESCB established by the Maastricht Treaty, but the objective, spelled out in various ways, is common to every other central bank. In a somewhat old fashioned language, the objective of price stability requires that monetary policy provide a nominal anchor, that it anchor expectations. For once, the objective seems easier to attain in practice than in theory.

Central banks in developed countries have been very successful in the last twenty five years in targeting low inflation. The success has been attributed to a somewhat mechanical interest rate rule where the short term nominal interest rate is set in response to deviations from trend of inflation and economic activity, a Taylor rule, named after John Taylor who first estimated it (Taylor, 1993). It turns out that no policy rule of this type is able to achieve in a monetary model what it appears to achieve in reality. The same models that give very reasonable answers to other questions, generate multiple equilibria when monetary policy is conducted with an interest rate feedback rule whether it may respond to future, current or past inflation.

There is an extensive literature on this issue of central importance to monetary policy making, dating back to Sargent and Wallace (1975) who showed that a policy that targets the interest rate gives rise to multiple equilibria. Most of the later literature has focused on conditions for local determinacy, meaning that, while the multiplicity of equilibria remains, there might be only one equilibrium in a particular neighborhood of interest. McCallum (1981) is the main responsible for triggering this literature, showing that there are indeed interest rate feedback rules that guarantee local uniqueness. Technically, this has been very useful because it has allowed economists to abstract from a problem that was not easy to solve, and concentrate on other issues focusing on the unique local equilibria. Unfortunately, as pointed out by Benhabib, Schmitt-Grohe and Uribe (2001, 2002), the same policy rules that ensure locally determinacy typically generate global indeterminacy, so that the alternative equilibria can converge to other steady states or cycle around the original one.

In this note, and based on Adao, Correia and Teles (2006), we discuss how interest rate rules can be used to implement a unique equilibrium with stable prices. We first consider an economy with a finite horizon and show that nominal interest rates are not a sufficient policy instrument. In a finite horizon economy a finite number of equilibrium variables is restricted by a finite number of equilibrium conditions. If policy specifies restrictions for the nominal interest rates only, then there are more unknowns than equations and there are multiple equilibria. This result does not depend on whether there is an exogenous target for the interest rate or whether it responds to endogenous variables. The number of equations is the same. Similarly, whether prices are flexible or sticky also does not matter.

* The opinions are solely those of the authors and do not necessarily represent those of the Banco de Portugal.

** Economics and Research Department.

We proceed to considering an economy that lasts forever. We first discuss in a simplified model how economists usually approach the multiplicity problem, by concentrating on conditions for local determinacy. Finally, we show, as in Adao, Correia and Teles (2006), that there is a policy rule that implements a unique global equilibrium. This rule would not work in the finite horizon economy.

The interest rate feedback rule that implements a unique equilibrium globally in a price targeting the rule where the nominal interest rate responds to the forecast of the future price level as well as the forecast of future economic activity. Unfortunately the rule is not as robust as one would hope. Whether the time horizon is infinite or finite, even if arbitrarily large, makes a fundamental difference and that is not an issue that economists can take a stand on. But, furthermore, in order to be effective the rule would require a knowledge of the economic structure that is not realistic.

Robert Lucas (1996) wrote in his Noble lecture that "Central bankers and even some monetary economists talk knowledgeably of using high interest rates to control inflation, but I know of no evidence from even one economy linking these variables in a useful way (...)." We will have to add that some of us, monetary economists, are still not reasonably confident of a theory linking the two variables in a useful way.

2. THE MODEL

The economy consists of large number of identical households, a representative firm behaving competitively, and a government. The economy has a finite horizon T. There are shocks to technology and to government expenditures.

The representative household has preferences over consumption C_t, and leisure L_t, described by the expected utility function

$$U = E_0 \left\{ \sum_{t=0}^{T} \beta^t u\left(C_t, L_t\right) \right\} \tag{2.1}$$

where β is a discount factor. The technology uses labor only and is linear

$$Y_t \leq A_t N_t$$

for $0 \leq t \leq T$, where C_t is aggregate consumption , $N_t = 1 - L_t$ is labor and A_t is the technology parameter.

We assume that households must purchase consumption with money according to the cash-in-advance constraint

$$P_t C_t \leq M_t \tag{2.2}$$

for $0 \leq t \leq T$, where P_t is the price of the consumption good in units of money and M_t are money balances used for transactions. Each period is divided into two subperiods, with the assets market operating in the first subperiod and the goods market in the second.

The households start period t with nominal wealth $\mathbb{W}_t$. They decide to hold money, M_t, and to buy B_t riskless nominal bonds that pay $R_t B_t$ one period later. R_t is the gross nominal interest rate at date t. Thus, in the assets market at the beginning of period t they face the constraint

$$M_t + B_t \leq \mathbb{W}_t \tag{2.3}$$

for $0 \leq t \leq T$.

At the end of the period, the households receive the labor income $W_t N_t$ where W_t is the nominal wage rate, and pay lump sum taxes, T_t. Thus, the nominal wealth households bring to period $t+1$ is

$$\mathbb{W}_{t+1} = M_t + R_t B_t - P_t C_t + W_t N_t - T_t, \tag{2.4}$$

for $0 \leq t \leq T$. After period T, there is a subperiod for the clearing of debts, where money can be used to pay debts. Wealth in the terminal period cannot be negative,

$$\mathbb{W}_{t+1} \geq 0. \tag{2.5}$$

The households' problem is to maximize expected utility (2.1) subject to the restrictions (2.3), (2.2), (2.4), together with the no-Ponzi games condition (2.5).

The first order conditions of the households problem include

$$\frac{u_L(t)}{u_C(t)} = \frac{W}{P_t}\frac{1}{R_t}, \tag{2.6}$$

for $0 \leq t \leq T$, and

$$\frac{u_C(t)}{P_t} = R_t E_t\left[\frac{\beta u_C(t+1)}{P_{t+1}}\right], \tag{2.7}$$

for $0 \leq t \leq T-1$. Condition (2.6) sets the intratemporal marginal rate of substitution between leisure and consumption equal to the real wage adjusted for the cost of using money, R_t. Condition (2.7) is an intertemporal marginal condition necessary for the optimal choice of risk-free nominal bonds. The other conditions are the constraints with equality and the terminal condition

$$\mathbb{W}_{T+1} = 0. \tag{2.8}$$

The firms are competitive and prices are flexible. The firms maximize profits so that the equilibrium real wage is

$$\frac{W_t}{P_t} = A_t, 0 \leq t \leq T. \tag{2.9}$$

The policy variables are lump sum taxes, T_t, interest rates, R_t, money supplies, M_t, state noncontingent public debt, B_t. The period by period government budget constraints are

$$M_0 + B_0 = \mathbb{W}_0$$

$$\begin{aligned} &M_t + B_t \\ &= M_{t-1} + R_{t-1}B_{t-1} + P_{t-1}G_{t-1} - P_{t-1}T_{t-1}, \\ &1 \leq t \leq T \end{aligned}$$

$$\mathbb{W}_{T+1} = M_T + R_T B_T + P_T + G_T - P_T T_T = 0 \tag{2.10}$$

Market clearing in the goods and labor market requires

$$C_t + G_t = A_t N_t,$$

and

$$N_t = 1 - L_t,$$

for $0 \leq t \leq T$.

Equilibrium

An equilibrium is a sequence of policy variables, quantities and prices such that the private agents solve their problems given the sequences of policy variables and prices, the budget constraint of the government is satisfied, markets clear, and the policy sequence is in the set defined by the policy.

The equilibrium conditions for the variables $\{C_t, L_t, R_t, M_t, B_t, T_t\}$ are the resource constraints

$$C_t + G_t = A_t(1 - L_t), 0 \leq t \leq T, \tag{2.11}$$

the intratemporal conditions

$$\frac{u_C(t)}{u_L(t)} = \frac{R_t}{A_t}, 0 \leq t \leq T, \tag{2.12}$$

those are obtained from the households intratemporal conditions (2.6) and the firms optimal conditions (2.9), the cash in advance constraints (2.2), the intertemporal conditions (2.7) and the budget constraints (2.10), as well as the government policy rules, to be specified below.

3. INTEREST RATE POLICY DOES NOT ENSURE PRICE STABILITY

An equilibrium in the economy described above is characterized by a finite number of equations and unknowns. A necessary condition for there to be a unique equilibrium is that the number of equations equals the number of the unknowns. Interest rate rules, whether these are sequences of numbers or feedback rules, functions of future, current or past variables, are not sufficient restrictions. They are never able to pin down unique equilibria.

To see this, notice taht from the resource constraints, (2.11), the intratemporal conditions (2.12), and the cash in advance constraints holding with equality, (2.2), we obtain the functions $C_t = C(R_t)$ and $L_t = L(R_t)$ and $P_t = \frac{M_t}{C(R_t)}$, $0 \leq t \leq T$. We can substitute these variables in the intertemporal conditions (2.7), so that the system of equilibrium conditions restricting the policy variables $\{R_t, M_t, P_t\}$ can be summarized by the following dynamic equations

$$\frac{u_C\left(C(R_t), L(R_t)\right)}{\frac{M_t}{C(R_t)}} = \beta R_t E_t\left[\frac{u_C\left(C(R_{t+1})L(R_{t+1})\right)}{\frac{M_{t+1}}{C(R_{t+1})}}\right], t = 0, \ldots, T-1 \tag{3.1}$$

together with

$$P_t = \frac{M_t}{C(R_t)}, t = 0, \ldots, T.$$

The budget constraints restrict, not uniquely, the levels of state noncontingent debts and taxes. Assuming these policy variables are not set exogenously we can ignore those restrictions.

Suppose the interest rates are determined exogenously. In that case there are still more variables than unknowns. If the money supplies were also set exogenously in every state in the terminal period, then

the conditions above would determine the money stock in every state in the previous periods. That way the price levels would also be pinned down in every period and state. The degrees of multiplicity are therefore the number of states in the terminal period. The nominal interest rates restrict the conditional average growth rate of money supply, they do not restrict how money supply is distributed across states. In this economy with uncertainty there is still the need for a nominal anchor for every history. In a deterministic economy only one money supply would be missing, one nominal anchor.

In this economy, if instead of targeting the interest rate, there was a feedback rule for the interest rate where it would be responding to endogenous variables, nothing would change. There would still be the same number of equations and unknowns and the degree of multiplicity would be the same. Similarly this result does not depend on preferences or technology, and it also does not depend on whether prices are flexible or sticky.

In the following section, the economy lasts forever. It is the same economy, but with an infinite horizon. We illustrate how this problem of multiplicity is usually handled, by imposing conditions such that there is a single equilibrium in a neighborhood of interest, so that a particular equilibrium may be locally determinate. We also show that in the infinite horizon economy there are rules that implement unique global equilibria.

4. AN INFINITE HORIZON ECONOMY

4.1. Local determinacy

In monetary models with multiple equilibria it is possible to conduct policy so that there is a single equilibrium in the neighborhood of a steady state. In this case we say that there is a determinate equilibrium. Most of the analysis in monetary models focus on that particular equilibrium.

We will now consider the analogous infinite horizon model but will simplify the structure assuming that the utility is linear in consumption. For linear consumption the log-linearized intertemporal conditions approximated around a deterministic steady state with constant nominal interest rate and constant inflation π^*, which is also the target, are

$$\hat{R}_t - E_t\left(\hat{P}_{t+1} - \hat{P}_t\right) = 0.$$

Suppose now that the interest rate rule is the forward rule

$$\hat{R}_t = E_t\left(\tau\hat{\pi}_{\tau+1}\right)$$

so that the interest rate is raised above the steady state when the inflation forecast is above the target π^*. Then we have

$$(\tau - 1)E_t\left(\hat{\pi}_{t+1}\right) = 0,$$

so that for $\tau \neq 1$, expected inflation is pinned down, but the price level in each date and state is not.

Suppose now that the interest rate rule is

$$\hat{R}_t = \tau\hat{\pi}_t$$

where $\tau > 1$. Then, from

$$\hat{R}_t = E_t\left(\hat{\pi}_{t+1}\right),$$

we have

$$\tau\hat{\pi}_t - E_t\left(\hat{\pi}_{t+1}\right) = 0$$

With $\tau > 1$, there is a bounded solution and a continuum of unbounded solutions. If $\hat{\pi}_0 = 0$, then $\hat{\pi}_t = 0$, $t \geq 0$ but if $\hat{\pi}_0 = \varepsilon > 0$, the inflation path is explosive.[1]

The bounded solution is the determinate equilibrium

$$\hat{\pi}_t = 0.$$

The equilibrium inflation is equal to the target and given an historical price level P_{-1}, the path for the price level is pinned down. The unbounded solutions cannot be analyzed with the linearized model, which is only valid for small deviations around the steady state. In general there are other equilibria in the nonlinear model, which may cycle or converge to other steady states (see Benhabib, Schmitt-Grohe and Uribe, 2001, 2002)

In the following section we show that there are interest rate rules that do not react to inflation but rather to a forecast of the price level that implement unique global equilibria. These are the rules analyzed in Adao, Correia and Teles (2006).

In the log-linearized model the rule would be

$$\hat{R}_t = E_t\hat{P}_{t+1}.$$

Then from the intertemporal condition

$$\hat{R}_t = E_t\hat{P}_{t+1} - \hat{P}_t,$$

we have

$$\hat{P}_t = 0$$

so that there is indeed a unique global solution.

4.2. Rules that implement unique global equilibria

Here we consider the original nonlinear model for general preferences but with an infinite horizon. Suppose monetary policy was conducted with the following interest rate rule

$$R_t = \frac{\xi_t}{E_t\dfrac{\beta u_c\left(t+1\right)}{P_{t+1}}}, \qquad (4,1)$$

where ξ_t is an exogenous variable. Then there is a unique global equilibrium. To see this, notice that the intertemporal condition (2.7) can be written as

(1) If $\tau < 1$, instead, there would be a continuum of indeterminate equilibria close to the steady state.

$$\frac{u_C(t)}{P_t} = \xi_t, t \geq 0, \tag{4.2}$$

so that

$$R_t = \frac{\xi_t}{\beta E_t \xi_{t+1}}. \tag{4.3}$$

Given the functions $C_t = C(R_t)$ and $C_t = C(R_t)$ obtained using the resource constraints, (2.11), and the intratemporal conditions, (2.12), we can use (4.2) above to determine the sequence of price levels P_t. The money supply is determined endogenously using the cash-in-advance condition.

Depending on the process for ξ_t, a particularly desirable outcome can be implemented. In this model the first best equilibrium can be achieved with the Friedman rule of a zero nominal interest rate. This can be implemented with the policy rule (4.1), above, where $\xi_t = \frac{1}{\beta^t}$.

We saw in the previous section that in the finite horizon economy there were no rules that implemented unique equilibria. Indeed in the finite horizon economy this rule cannot be used in the last period, since there are no forecasts ahead. The rule would have to be

$$R_t = \frac{\xi_t}{E_t \frac{\beta_{uC}(t+1)}{P_{t+1}}}, 0 \leq t \leq T-1 \tag{4.4}$$

For period T, the rule cannot be used because there is nothing to forecast at T, and if the nominal interest rates are set exogenously, the price level in the different states is not pinned down. If the economy lasted forever, there would be no last period and the rule would always work.

The forward looking interest rate feedback rules that implement unique global equilibria resemble to some extent the rules that appear to be followed by central banks. The nominal interest rate reacts positively to the forecast of future consumption[2]. It also reacts positively to the forecast of the future price level. This last feature of the rules is less conventional (see Woodford (2003) for Wicksellian price targeting rules).

(2) It does not react to labor if the utility function is separable in leisure.

5. CONCLUDING REMARKS

In this note we discuss, based on Adao, Correia and Teles (2006), how monetary policy can be used to implement a unique stable price equilibrium. We show that in a monetary model with a finite horizon, where the degrees of freedom in conducting policy can be counted exactly, interest rate rules will not implement unique equilibria. Instead in an infinite horizon there are feedback rules that can achieve that.

The rules that implement unique equilibria are price targeting rules where the interest rate is raised when the forecast of the future price level goes up. It also reacts positively to the forecast of future economic activity. Unfortunately in order for the rule to be effective there is the need for a knowledge of the economic structure that is not realistic. Also, the fact that the rule would not work in a finite horizon model even if arbitrarily large is also an obvious fragility.

In the end we have to conclude that more work has to be done in the development of models or alternative ways of conducting policy so that we can be reasonably confident that policy is able to implement a unique stable price equilibrium.

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DETERMINANTS OF SPREADS IN SYNDICATED LOANS TO EURO AREA CORPORATES*

*Luciana Barbosa***

*Nuno Ribeiro***

1. INTRODUCTION

A clear-cut ranking of factors underlying price differentiation of banks' new business calls for the analysis of data at the operation level. Unfortunately, such a database is not readily available for retail bank loans for all euro area countries. With that in mind, this paper is intended to derive general results for the loan market in the euro area by making use of a rich database of syndicated loans at the operation level (for a description of the functioning of the syndicated loan market see Gadanecz (2004)). This market is usually identified as a transaction market for more transparent companies or projects, a feature that suggests that it should be more integrated cross-border than the market for bank loans at large. In fact, the direct reading of the information available for the primary market shows up a widespread presence of non-resident banks in each syndicate, in many cases acting as leading managers of the operations. Notwithstanding those considerations, the present study intends to evaluate if the theoretical predictions in the literature concerning factors for interest rate differentiation among borrowers are observed in the syndicated loans to euro area corporations, and it intends also to verify if cross-country differences persist after controlling for economically relevant factors.[1] In particular, this work provides some evidence of home bias in the syndicated loan market in the euro area, i.e. operations conducted exclusively by banks whose nationality was different from that of the borrower presented systematically higher spreads than those operations in which at least a bank with the same nationality was present. Given the more transactional nature of syndicated loans than average bank loans and the *a priori* evidence of deep cross-border bank presence in this market, there is a case for considering these results as a starting counterfactual for more general conclusions on the cross-country integration of corporate bank loans in the euro area. To be sure, based on these findings, it should not be surprising if future empirical studies based on retail operations concluded for the lack of or incomplete integration of the several national corporate bank loan markets in the euro area.

According to ECB (2006), cross-country differences in aggregate statistics are observed in the euro area, which may be associated to a large set of factors. Among these, differences in product characteristics and in the market environment were identified, as well as structural issues related to the aggregation of interest rates in individual operations. The evidence uncovered in this study may also inform the ongoing debate on the fine-tuning of economically meaningfully breakdowns in the euro area official statistics on bank loan interest rates aggregate statistics.

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** Economics and Research Department.

(1) The available empirical literature is focused essentially on the loans market to corporations in the United States. In particular, it is worth mentioning the results obtained in Angbazo *et al* (1998), who identified relevant factors in price determination in the riskier segment of syndicated loans market, and tested for the existence of a relation between this market and the bond market.

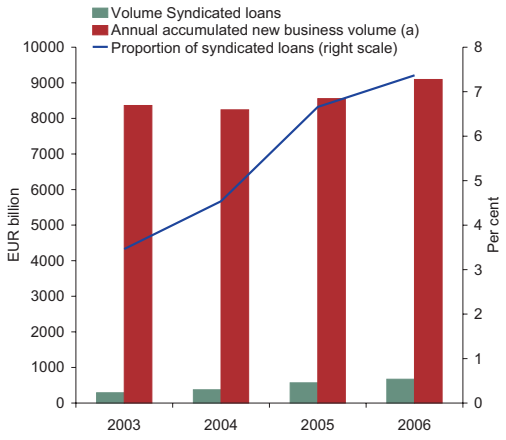
The paper is outlined as follows. In section 2, the database used is described and some general features of the syndicated loan market are presented. In section 3, the econometric approach is explained and the corresponding results are discussed. Section 4 contains a further exploration on the role of collateral and on the results pointing to the presence of "home bias" in this market. Section 5 provides a short elaboration on the quantification of country-specific effects in this framework. Finally, section 6 outlines the most salient conclusions.

2. DATA AND DESCRIPTIVE STATISTICS

According to the Dealogic Loanware database, the main source for this work, the syndicated loan market for non-financial corporations has posted a remarkable growth at the global level over the last few years, climbing from a total amount of deals closed of 1500 billions euro in 1999 to 2700 billions euro in 2006. These recent developments continue to shape a structural change in this market, which was fostered in the 1980's mostly as a means of developing countries' sovereign financing. Further, in what concerns non-financial corporations, this market has spread geographically very substantially: while 57 percent of money raised through loan syndicates were to US borrowers in 1999, this percentage dropped to 40 percent in 2006. This decline occurred at the expense of a rise of the growth in the financing of euro area residents in this market, whose share rose from 18 percent to 25 percent in the same period, and the stronger presence of Asian residents in the international syndicated loans market. The growth in the market concerning euro area borrowers has occurred essentially in the non-rated borrowers' segment, even though the predominance of non-rated borrowers is present at the global level also. The enormous expansion in this market in the euro area recently raises the interest of understanding its functioning, pricing mechanisms and the way it organizes (see Rhodes (2006) for the details of either the economic, legal aspects or conventions in this market, as well as a brief review of its development over the last three decades). Even though no precise estimates of how much

Chart 1

SYNDICATED LOAN MARKET IMPORTANCE IN THE EURO AREA



Sources: ECB and Dealogic Loanware.
Note: (a) New business volume is based on monetary interest rate statistics of the Eurosystem.

Table 1

DESCRIPTIVE STATISTICS

	1999			2000			2001			2002			2003			2004			2005			2006			Total observations	
	Spread		Obs.	Spread		Obs.	Spread		Obs.	Spread		Obs.	Spread		Obs.	Spread		Obs.	Spread		Obs.	Spread		Obs.		of which: rated
	(1)	(2)	#	(1)	(2)	#	(1)	(2)	#	(1)	(2)	#	(1)	(2)	#	(1)	(2)	#	(1)	(2)	#	(1)	(2)	#		
Austria			0	188	121	4	189	180	9			0	363	379	6	247	130	5	191	101	4	16	16	1	29	2
Belgium	59	68	5	88	80	16	97	84	17	130	59	10	211	145	15	222	203	43	174	63	34	254	118	24	164	3
Ireland	170	127	15	209	171	10	161	178	8	258	337	13	165	167	19	164	154	20	280	138	7	236	253	36	128	27
Finland	154	108	10	150	98	12	168	94	18	73	58	6	202	73	6	130	67	13	81	48	25	215	91	17	107	16
France	144	70	128	149	61	149	147	76	125	198	133	173	224	156	114	214	69	219	210	66	329	233	110	367	1604	186
Germany	120	63	40	174	107	57	206	108	79	222	56	83	269	105	93	250	121	219	266	117	255	250	80	253	1079	148
Greece	95	58	20	97	86	14	112	82	21	127	76	29	143	118	30	165	149	20	188	163	21	135	89	10	165	14
Italy	95	94	55	146	61	58	150	116	53	131	104	57	180	147	108	212	165	147	183	144	215	199	164	108	801	48
Luxembourg	109	102	3	266	283	7	199	132	14	223	64	6	331	331	12	335	147	17	285	186	28	189	78	16	103	9
Neetherlands	125	78	50	156	71	80	187	119	59	186	96	49	268	213	77	211	106	78	228	172	96	281	201	134	623	88
Portugal	133	117	6	122	70	16	85	67	14	68	35	3	128	100	8	138	65	8	106	68	19			0	74	15
Spain	87	77	75	107	60	83	116	105	72	116	85	90	148	131	111	168	101	191	149	97	288	166	99	253	1163	49
Euro Area	120	74	407	144	75	506	155	103	489	173	94	519	210	149	599	211	106	980	201	102	1321	224	113	1219	6040	605
St-dev	87			101			109			124			176			173			185			187				

Source: Dealogic Loanware.
Note: (1) Simple average; (2) Weighted average by loan amount.

this type of financing represents in the European banks loan books, a rough estimate point to a doubling of its importance between 1999 and 2006 (see Chart 1).[2]

As stated above, this work was undertaken making use of the Dealogic Loanware database for syndicated loans, identified at the operation level, granted to non-financial corporations domiciled in the euro area in the period January 1999 to October 2006. Further, loans with identified purpose as "public finance" were disregarded and it was imposed that the information about pricing at issue (excluding fees), loan amount and signing date (or at least funding date) was available. After these requirements, the database ended up with 6040 observations. Some aggregate statistics at the country and euro area levels are shown in Table 1. Loans granted to corporates resident in France, Germany and Spain are the most frequent, while borrowers in Portugal and Austria are the least frequent in the sample. Further analysis was undertaken with loans drawn by firms for which explicit default risk information was available (borrowers rated by either Standard&Poors or Moody's). This implied a very significant compression in the database, giving rise to a sample of 605 observations. Observations for Austria and Belgium were very few; accordingly, the results concerning these countries must be interpreted with particular caution.

3. ECONOMETRIC APPROACH

3.1. The general model and variables

Econometric regressions were performed with the interest rate spread as dependent variable. Dummies for the country of residence and for the economic sector of the borrower, other borrower and operation specific characteristics and time specific dummies were taken as explanatory variables. The specification taken is as follows:

$$Spread_{jit} = \alpha + \beta \cdot country\ dummies_j + \delta \cdot sector\ dummies_j + \varphi \cdot borrower_j + \rho \cdot operation_i + \xi\, time\ dummies \quad (1)$$

The specification in (1) was estimated by OLS in two samples: one set of regressions includes all loans in the database (after selection criteria), while the other restricts the sample to rated firms only. The reason why the analysis was performed for both samples is related to the fact that, in the database and in line with what is observed in general in banks' credit portfolio, only a narrow sub-set of firms presents information related to rating. Consequently, bias may be arising through the absence of control for the market's perceived risk of the borrowers in most operations. Analysing the narrower sample, in which all firms considered have external rating, it is possible to appraise the relevance of the lack of rating information, as well as to test whether the conclusions for the remaining characteristics are robust to the omission of explicit controls for default risk in the regression concerning the larger sample.

In the appendix the variables used are explained. These include the usual determinants of the spread applied in loans. We focus on the interest spread on each selected loan operation (*Spread*).[3] Loan size was taken into account with dummies for the quartiles of the loan amount of the operation, sorted by year (*lncrp* stands for the log of the loan amount, while lncrp25 is the dummy for operations in the first quartile of the distribution of loan amounts in a given year). This variable controls for possible economies of scale in the design of the operation, with a higher dilution of fixed costs for larger operations. At

(2) A simple ratio of new deals announced each year and the cumulative amount of new business to euro area corporates, as published by the ECB, points to an average of around 7.5 percent of syndicated loans in the overall loans to non-financial corporations resident in the euro area.

(3) The actual unit of observation is the loan tranche. Each loan facility may include several loan tranches with possible different loan terms.

the same time, the size of the operation can be a proxy for borrower size, allowing for the control of systematic differences associated to firm size.

The rating at issue was aggregated into adjacent classes and included as a direct measure of credit risk. Most operations involve unrated firms, while among rated ones, investment grade operations are the most frequent in this sample.[4] The maturity of the operation was synthesized into classes and introduced into the regression as dummy variables. A large strand of literature focus on the relationship between maturity and loan spreads and it points to the existence of an upward sloping credit spread curve over the maturity spectrum (see Jackson and Perraudin (1999) and related references). Hence, operations with longer maturity are expected to be more expensive, irrespective of the shape of the yield curve.

The announced purpose of the loan, with a dummy for controlling for the cases when this information is undisclosed, was taken also as a controlling variable. In particular, it is possible to identify in the database loan operations whose proceeds were intended to finance take-overs or recapitalization of the obligors (*takeover*), project finance and other specific purposes (*project finance*), very different by nature from a general purpose loan or credit line (*general*).

A dummy variable specifying whether the loan is a credit line (*credit lines*), a term loan (*term loan*), a bridge loan (*bridge loan*), a mezzanine loan (*mezzanine*) or other type of loan (*other*) was introduced. In practice, the purpose of all mezzanine loans in the database was classified as takeover, so that this loan type was considered as a sub-type of the takeover purpose. Previous research for the United States point to the existence of a positive premium on term loans when compared to credit lines. This empirical fact can be associated to the insurance role that credit lines offer to firms, when confronted with adverse shocks, in conjugation with the liquidity provision service provided by banks by means of this instrument (Berger and Udell (1992); Kashiap and Stein (2002)).

Fees (measured in basis points) accrued to loan arrangers, book runners and providers were included to control for possible substitution effects between fees for services and interest spread. In addition, a distinction between commitment (*commitment fees*) and other types of fees (*other fees*) was considered. Further, a dummy for controlling whenever information on fees is undisclosed was also included (*fees undisclosed*).

Dummies for the existence of guarantees (*guarantor*) and for the existence of collateral (*collateral*) attached to the operation were also considered. The sign of the impact of these factors on pricing is ambiguous in light of both theoretical considerations and previous empirical researches. In what concerns guarantees, it is our impression that they reflect chiefly support from entities in the same economic group of the borrower, in particular a guarantee from the parent company to its subsidiary. As such, a lower price was expected in association with the presence of guarantees. In what concerns loans secured on collateral, all else equal, it is natural to expect that, by the time a delinquency event has already occurred, loans with collateral are less risky than the ones without it. Conversely, the *ex-ante* relationship between collateral and risk (and subsequently pricing) is not obvious. In fact, at the time of approval of the loan, if all relevant characteristics of the borrower are not known to the lender, in some circumstances, it may be more probable that collateral is demanded for those borrowers perceived as riskier (Boot, Thakor and Udell (1991) for a thorough description of the relationship between risk and collateral). Empirical results point to a positive relationship between collateral and risk (see Jiménez and Saurina (2004) for a large sample of Spanish debtors); and collateral and pricing (Berger and Udell (1990) and Carey and Nini (2004) for the international syndicated market). Further, banks may demand collateral as a substitute of ex-post monitoring efforts (Manove and Padilla (1999); Manove,

(4) Ratings corresponding to investment grade are those BBB- or above in the Standard & Poors scale, while the remaining ratings correspond to borrowers or debt issues which are commonly labelled as non-investment grade or with junk status.

Padilla and Pagano (2001)). Other arguments point to the opposite direction, i.e. collateral may serve as a screening device. The economic cost of pledging collateral is lower for low risk borrowers than for high risk ones, so that the former are willing to trade the pledging of collateral against a lower interest rates (Besanko and Thakor (1987a,b)). Given this ambiguity, there was no *a priori* straightforward expected role for collateral before the empirical approach was implemented.

The share-holding relationships of the borrowers with the general government were approached by means of a dummy controlling for the public (*public*) versus private (*private*) control of the borrower. Asymmetry of information between banks with a local presence and remote-located banks was taken into account by attaching to each operation a dummy variable (labelled as *home bias*) for the cases when the nationality of all banks listed as providers of funds in the operation was different from the borrower's. A set of dummies controlling for industry and nationality of the borrower were also put in place, even though their coefficients are not reported.

3.2. Results

Table 2 presents the results of the models using the full sample in columns (1) and (2) and the sub-sample of borrowers with credit rating in the columns (3) and (4). As described before, the idea underlying the running of parallel regressions with and without controlling for rating is to neglect direct information about borrower risk and to test if the general conclusions for the remaining factors are robust to default risk measurement omission.

The main results of these regressions conform to the literature on the topic. For instance, the higher the loan size, the lower the spread, most significantly when comparing the quartile of the largest operations with the remaining.[5] This may be the result of economies of scale in the preparation of a syndicated loan, i.e. there may be fixed costs, which can be diluted in larger loans. An alternative and more plausible explanation is that loan size may be a proxy for borrower size, so that this variable captures banks' perceived lower risk in (very) large borrowers.

Loan ratings are intended to be *ex-ante* measures of default probability expectations, so that better loan ratings should be associated with lower spreads. The empirical findings in Table 2 indeed point to such a relationship. In particular, rating seems to have a sizeable marginal impact on pricing for ratings below triple B class and insignificant among investment grade classes (between the best rating class and BBB- class). Further, the spread paid by non-rated borrowers is slightly below the double B average, suggesting that, if rated, those firms would be, on average, at the margin between the BB+ and the BBB- rating.

Spreads increase monotonically with maturity. In particular, spreads of operations with over 5 years maturity (*maturity > 5 years* dummy variable, omitted in the regression) differ significantly from operations with lower maturities. In turn, operations with unknown or uncertain maturity (*maturity unknown*) carry, on average, spreads which locate between the 1 to 5 years maturity class and the over 5 years class. These results are indicative of no significant maturity bias in those operations, as the above-mentioned classes are the most frequent in the sample.

According to the results of the regressions underlying Table 2, loans for takeover or recapitalization purposes are perceived as riskier than all other. This is not surprising, since takeovers financed by means of debt are conductive to increased leverage of the acquirer. Among these, the mezzanine

(5) In fact, the variables representing the first three quartiles of loan size post very similar coefficients, suggesting that these dummies could be aggregated. Anyway, the most general specification was kept in order to allow for the assessment of this feature in the remaining regressions.

Table 2

REGRESSION RESULTS

Dependent variable:	Full sample				Sample with rated borrowers only			
Spread	(1)		(2)		(3)		(4)	
	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic
Explanatory variables								
Constant	38.42	4.11	85.27	12.35	53.20	2.88	50.15	2.61
2000	9.19	1.54	6.40	1.07	32.63	2.56	24.18	1.62
2001	14.68	2.47	12.36	2.07	28.29	2.14	15.22	1.01
2002	42.07	7.43	40.16	7.03	60.76	4.01	68.66	4.06
2003	57.94	9.88	57.54	9.74	44.27	3.16	60.69	3.92
2004	54.09	10.10	54.89	10.17	31.08	2.23	54.11	3.60
2005	40.90	7.92	41.38	7.95	-3.35	-0.25	11.46	0.76
2006	45.53	8.41	45.37	8.33	-14.34	-0.86	-6.08	-0.34
Loan size								
lncrdp25	50.02	13.98	58.44	16.74	30.23	2.77	85.89	7.22
lncrdp50	50.01	13.19	57.48	15.46	4.46	0.52	46.96	4.46
lncrdp75	44.50	12.56	52.39	14.82	10.17	1.25	32.16	3.26
Rating								
a	-10.62	-1.20	-	-	-8.80	-1.02	-	-
bb	84.21	7.37	-	-	105.99	8.57	-	-
b	103.37	8.74	-	-	149.09	8.75	-	-
no rating	57.54	8.14	-	-	-	-	-	-
Maturity								
maturity unknown	-34.45	-2.67	-35.99	-2.79	-43.75	-2.24	-59.73	-2.13
maturity < 1 year	-70.12	-13.25	-80.41	-15.18	-60.06	-5.29	-84.07	-6.48
maturity 1 up to 5 years	-61.36	-21.45	-64.17	-22.17	-48.22	-5.83	-67.23	-7.51
Loan purpose								
take over	45.79	14.62	47.59	15.00	20.77	2.93	33.07	3.92
mezzanine	583.17	25.12	582.65	25.09	575.22	4.12	578.98	3.64
asset backed	-21.22	-2.42	-21.09	-2.43	1.22	0.04	-5.14	-0.15
project finance	-14.86	-2.56	-9.38	-1.61	-56.63	-2.05	-10.42	-0.35
unknown	0.29	0.03	4.25	0.37	-	-		
Instrument type								
credit lines	-31.16	-14.31	-34.08	-15.47	-17.64	-2.80	-37.34	-5.27
bridge loan	31.32	2.81	32.19	2.81	121.24	2.87	102.75	2.39
other	75.52	7.01	69.88	6.32	27.76	1.57	16.78	0.86
Fees								
commitment fees	0.18	3.35	0.21	3.96	-0.01	-0.07	0.36	1.64
other fees	0.36	2.69	0.46	3.26	0.66	1.87	1.22	3.32
fees undisclose	-3.42	-0.42	-1.09	-0.14	26.35	0.56	44.87	1.14
Guarantor	-30.04	-5.06	-28.31	-4.75	-20.89	-1.48	-26.92	-1.58
Collateral	11.97	3.50	15.03	4.33	39.35	2.62	61.95	3.56
Home bias	26.60	3.96	26.80	3.97	23.34	1.18	20.51	0.96
Public	-36.64	-5.66	-46.30	-7.35	-2.75	-0.27	-22.25	-1.80
Number of observations	6040		6040		605		605	
R-squared	0.68		0.67		0.75		0.66	
Adj R-squared	0.68		0.67		0.72		0.63	

Note: Borrower business and country dummies were included in the regression, but their coefficients are omitted in the present table.

tranches are extremely expensive, posting a spread almost 6 percentage points higher than general purpose loans.

Term loans (*term loans*, omitted in the regression) and most specially bridge loans (*bridge loan*) carry higher spreads than credit lines (*credit lines*). Bridge loans are a way of interim financing that can be assessed as embodying higher risk in the sense that are supposed to be replaced by more stable financing still in preparation that may not materialize due to, *inter alia*, the deterioration in market conditions. In what concerns the relative price of term loans and credit lines, the fact that the latter show up to be cheaper is in line with other works carried on for the United States. In addition to what was outlined before about the insurance role of credit lines for firms, these instruments may have an hedging interest for banks, in case there is positive correlation between shocks in deposit supply and credit demand. This hypothesis would mean that shocks to savers' liquidity and to investors' financing requirements are positively correlated.

As expected, loan facilities carrying guarantees have lower spreads, while, in the sample under consideration, collateral is positively related to loan spreads. This effect is stronger in specifications that do not include rating as a regressor, which is indicative of positive correlation between the presence of collateral and borrower default risk, i.e., those firms carrying worse credit rating are more likely to post collateral when borrowing.

Entities owned or controlled by the general government pay less for their loans than their private peers. This result should be reflecting that the relationship with public administrations corresponds ultimately to an implicit public guarantee.

The facilities in which banks with the same nationality of the borrower do not participate as providers of funds in the primary market carry higher spreads. This variable (identified as *home bias* in Table 2) is intended to account for the hypothesis that domestic banks are better information processors than foreign banks. In this way, if there is no single bank with the same nationality of the borrower, that may constitute a signal for all other potential participants that unknown information to them is biased towards high risk. These results give support to the idea that, even in the syndicated loans market, there may be information asymmetries between local and foreign players in the credit market.

The results presented in Table 2 allow also observing that loans with higher fees carry higher spreads, i.e. fee business and pure intermediation seem to be complements rather than substitutes from the perspective of banks' revenues. In fact, in the full sample, 1 percentage point of additional fees (other fess) corresponds to around 40 basis points of higher spread, and this result shows up to be slightly stronger when no control for rating is carried out. When restricting the analysis to rated borrowers only, the magnitude of the coefficient is significantly higher. This result is consistent with those presented by Angbazo *et al* (1998) in a sample of loans granted between 1987 and 1994.

Another piece of interesting information that can be inferred from the set of regressions is the identification of a time-series credit cycle. The time dummies in the regression point to a hump shaped time-series of spreads (with a peak in 2003-2004), after controlling for the remaining factors. This cycle was not so evident when reading the average spreads presented in Table 1.

4. EXPLORING FURTHER THE ROLE OF COLLATERAL AND OF THE "HOME BIAS" VARIABLE

In order to better understand the reasons behind the positive association between collateral pledging and the interest spread applied on loans, a more detailed study of this effect was performed. This involved running additional regressions in which other characteristics of the borrowers and/or the opera-

tions were crossed with the variable identifying the presence of collateral. A comprehensive set of trials describing loan purpose, instrument type, borrower rating and loan size were put in place. Only the last two characteristics showed up to be relevant in shedding additional light to this issue and the respective results are reported in Table 3 for the full sample[6]. The results concerning the association between the impact of the collateral and loan rating are under column (1) and are illustrative of the fact that the positive association is similar across rating classes. Column (2) presents the results of the regressions exploring the role of loan size crossed with the variable concerning the presence of collateral. In all specifications the positive association between collateral and spread appeared robust for the largest loans (the 4th quartile, omitted in the regression), while there seems to be a general tendency for the effect to disappear in smaller loans. To be sure, the coefficient of the dummy for the first quartile of the loan size crossed with the dummy for the existence of collateral is statistically significant and close to the symmetric of the coefficient of the collateral variable.

A similar procedure was undertaken trying to uncover what firm/operation characteristics could be associated with the positive relationship found between the non-presence of domestic banks in the syndicate (*home bias*) and loan spreads. The statistically significant differentiation in this effect was found along the credit risk rating scale, with a strong differential effect in the double B rated borrowers, when compared to triple B borrowers. As can be seen in column (3) in Table 3 the effect is not monotonic in the rating scale and can be observed both in the full sample and in the sample with rated borrowers only.

Table 3

REGRESSION WITH INTERACTION TERMS FOR *COLLATERAL* AND *HOME BIAS* VARIABLES

Dependent variable: Spread	**(1)**		**(2)**		**(3)**	
	Coefficient	**t-statistic**	**Coefficient**	**t-statistic**	**Coefficient**	**t-statistic**
Explanatory variables						
lncrdp25	50.13	14.01	59.67	14.29	50.70	14.32
lncrdp50	50.22	13.22	53.86	12.01	50.75	13.60
lncrdp75	44.46	12.51	48.39	11.91	44.91	12.71
lncrdp25*collateral	-	-	-35.52	-4.73	-	-
lncrdp50*collateral	-	-	-15.89	-1.97	-	-
lncrdp75*collateral	-	-	-16.38	-1.99	-	-
a	-10.64	-1.17	-10.00	-1.13	-5.34	-0.62
bb	83.78	6.37	82.51	7.25	74.90	7.11
b	90.71	7.22	99.19	8.40	113.68	8.75
no rating	59.49	8.18	55.23	7.79	58.35	7.79
collateral	34.63	1.29	30.25	4.93	11.86	3.47
a*collateral	18.84	0.49	-	-	-	-
bb*collateral	-14.14	-0.44	-	-	-	-
b*collateral	18.26	0.53	-	-	-	-
no rating*collateral	-24.68	-0.91	-	-	-	-
a*home bias	-	-	-	-	-68.78	-1.30
bb*home bias	-	-	-	-	207.76	2.44
b*home bias	-	-	-	-	-46.30	-1.53
no rating*home bias	-	-	-	-	-8.74	-0.41

Note: The results concerning the remaining variables of the model were omitted for the sake of simplicity of reading of the interaction effects.

(6) The same analysis applied to the sub-sample of rated borrowers yielded similar results.

5. WHAT CAN WE SAY ABOUT CROSS-COUNTRY DIFFERENCES?

In the raw data, the difference between the country carrying the whole-sample highest average spread and the one with the lowest spread is as high as 150 basis points. A very crude exercise of contrasting the country dummies in the most general model (reported to in column (1) in Table 2) suggests that this metric compresses to less than 50 basis points. Additionally, the standard deviations of the country dummies are only one third of the standard deviation of the spreads in the raw data, after scaling all countries against France, the omitted country in the regression (Chart 2).

Wald tests on the joint statistical relevance of the coefficients underlying sets of characteristics of the borrowers or operations were performed and are presented in Table 4. Borrower nationality stands out as significant in all specifications, giving further support for the conclusion that country-specific effects still remain after taking into account the remaining borrower and loan operation characteristics.

6. CONCLUSIONS

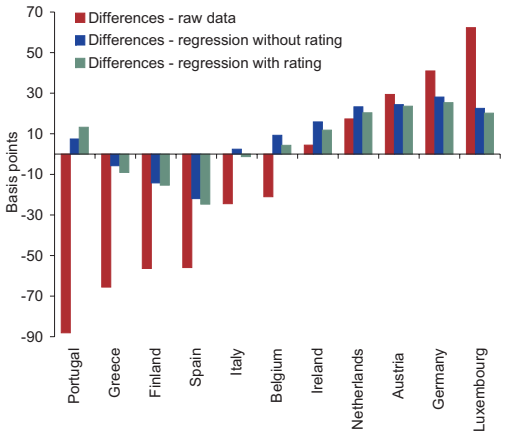
This work provides an overview of empirical findings for the factors underlying the pricing of syndicated loans in the euro area. The findings from previous empirical literature are confirmed and the results are in line with established theoretical predictions in what concerns the role of maturity, loan size and credit risk rating. The results also show that collateral and guarantees matter differently in the pricing of corporate loans with a positive association between spreads and collateral pledging and the opposite in the case of guarantees. As such, it provides indications of important factors to take into consideration when stratifying loan operations into homogeneous classes for the purpose of building up aggregate interest rate statistics. Additionally, the approach allows for isolating country specific from borrower/operation specific effects.

Further, some interesting stylized facts emerge which deserve future research, in order to identify their underlying reasons. First, fees seem to be complements to interest income for banks, rather than substitutes, as common wisdom would suggest and the literature on the role of up-front fees predicts. As such, this issue deserves further analysis, taking into consideration that not all fees payable on a loan contract are front-end fees; rather, they accrue over regular payment periods in the same fashion as interest. Second, there is some evidence of the presence of home bias in the syndicated loan market, in the sense that loan facilities in which no bank with the same nationality as that of the borrowers are more expensive than the remaining. This conclusion, if confirmed in subsequent work, suggests that one should not be surprised by evidence of incomplete integration in the retail loan market in the euro area. This is particularly relevant if one takes into consideration that the syndicated loan market is, by its nature, a much more integrated and transparent market than that for bank loans in general. Accordingly, a more detailed analysis crossing nationality and the roles of participating banks in each syndicate, for instance distinguishing between arrangers of the operation and the remaining banks, may provide finer conclusions about the structural factors underlying these findings.

Chart 2

DIFFERENCES TO FRANCE AVERAGE SPREADS

Average spreads



Note: Country differences stemming from the regression results as posted in columns (1) and (2) in Tables 2. Only Germany, Netherlands, Spain are statistically significant at 5% significance level.

Table 4

WALD TESTS ON JOINT SIGNIFICANCE OF GROUP OF VARIABLES

Table 2

Group of variable	Equation (1)	Equation (2)	Equation (3)	Equation (4)
Year	30.01 (0.00)	31.94 (0.00)	6.16 (0.00)	6.48 (0.00)
Borrower nationality	13.95 (0.00)	13.56 (0.00)	3.80 (0.00)	5.09 (0.00)
Loan size	85.73 (0.00)	122.38 (0.00)	2.98 (0.03)	18.12 (0.00)
Rating	45.57 0.00	- -	30.80 0.00	- -
Maturity	165.06 (0.00)	183.86 (0.00)	12.08 (0.00)	19.94 (0.00)
Loan Purpose	181.67 (0.00)	180.96 (0.00)	8.60 (0.00)	7.56 (0.00)
Instrument Type	103.55 (0.00)	110.67 (0.00)	9.62 (0.00)	15.48 (0.00)
Fees	6.76 (0.00)	9.44 (0.00)	1.29 (0.28)	5.97 (0.00)
Borrower sector	17.00 (0.00)	18.52 (0.00)	3.59 (0.00)	4.70 (0.00)

Note: Wald test p-value are presented in parentesis.

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Annex 1

DEFINITION OF THE VARIABLES

Variable	Definition
Dependent variable	
Spread	Interest spread applied to loans (basis points)
Explanatory variables	
Time Dummies	
$year_t$	Dummies equal to one if the loan takes place in year t (1999-2006)
Borrower specific variables	
Borrower business	16 dummies variables representing the industry of the borrower
Nationality	12 dummies variables related with borrower's nationality
Rating	
a	Dummy equals one if borrower rating is between AAA and A-
bbb	Dummy equals one if borrower rating is between BBB+ and BBB- (omitted in regressions)
bb	Dummy equals one if borrower rating is between BB+ and BB-
b	Dummy equals one if borrower rating is between B+ and CCC+
no rating	Dummy equals one if the borrower is not rated
Type of borrower	
public	Dummy equals one if the borrower is controlled by the general government
private	Dummy equals one if the borrower is controlled by the private sector (omitted in regressions)
Operation specific variables	
Loan size	
lncrdp25	Dummy equals one if the loan is less than the percentile 25 of the loan size distribution (by year)
lncrdp50	Dummy equals one if the loan is between the percentile 25 and 50 of the loan size distribution (by year)
lncrdp75	Dummy equals one if the loan is between the percentile 50 and 75 of the loan size distribution (by year)
lncrdp100	Dummy equals one if the loan is grather than the percentile 75 of the loan size distribution (by year) - (omitted in the regression)
Maturity	
maturity unknown	Dummy equals one if the loan maturity is unknown
maturity <1 year	Dummy equals one if the loan maturity is lower than or equal to 1 year
maturity 1 up to 5 years	Dummy equals one if the loan maturity is higher than 1 year and lower than 5 years
maturity > 5 years	Dummy equals one if the loan maturity is higher than 5 years (omitted in regressions)
Loan Purpose	
takeover	Dummy equals one if primary loan purpose is takeover or recapitalization
mezzanine	Dummy equals one if among takeover or recapitalization operations the category is a mezzanine tranche
asset backed	Dummy equals one if the loan is asset backed
project finance	Dummy equals one if primary loan purpose is project finance
general	Dummy equals one if primary loan purpose is general corporation purposes (omitted in regressions)
unknown	Dummy equals one if primary loan purpose is unknown
Instrument Type	
term loans	Dummy equals one if the category is term loan (omitted in regressions)
credit lines	Dummy equals one if the category is credit lines
bridge loans	Dummy equals one if the category is bridge loan
mezzanine	Dummy equals one if the category is mezzanine loan
other	Dummy equals one if the category is another type of loan
Fees	
commitment fees	Commitment fees (basis points)
other fees	Other fees (basis points)
fees undisclosed	Dummy equals one if fees are undisclosed
Garantor	Dummy equals one if there is a garantor in the operation
Collateral	Dummy equals one if the loan is secured
Lenders nationality	
home bias	Dummy equals one if all lenders' nationality are different from borrower nationality

Annex 2

DESCRIPTIVE STATISTICS OF THE EXPLANATORY VARIABLES

	1999	2000	2001	2002	2003	2004	2005	2006
Credit (€ m)								
mean	245.72	378.11	282.12	317.73	187.36	193.61	261.26	305.84
[min; max]	[0.23; 9424]	[0.18; 20000]	[1.02; 5000]	[1.1; 10000]	[1.35; 6148]	[0.35; 7500]	[0.53; 8000]	[1; 21333]
Rating								
a	0.04	0.08	0.05	0.06	0.03	0.03	0.03	0.03
bbb	0.02	0.03	0.04	0.05	0.03	0.02	0.02	0.02
bb	0.01	0.02	0.01	0.02	0.03	0.03	0.02	0.01
b	0.01	0.02	0.00	0.02	0.02	0.02	0.02	0.02
no rating	0.90	0.86	0.90	0.85	0.90	0.91	0.91	0.92
Maturity								
maturity unknown	0.04	0.06	0.04	0.01	0.02	0.02	0.02	0.01
maturity < 1 year	0.14	0.13	0.14	0.10	0.05	0.06	0.04	0.04
maturity 1 up to 5 years	0.32	0.27	0.31	0.34	0.30	0.29	0.29	0.21
maturity > 5 years	0.50	0.54	0.51	0.55	0.63	0.64	0.65	0.73
Loan Purpose								
takeover	0.59	0.61	0.70	0.73	0.78	0.78	0.77	0.84
mezzanine	0.01	0.02	0.03	0.02	0.03	0.03	0.04	0.05
asset backed	0.02	0.03	0.01	0.01	0.00	0.01	0.01	0.02
project finance	0.09	0.14	0.09	0.06	0.10	0.08	0.09	0.05
general	0.21	0.21	0.20	0.20	0.12	0.13	0.12	0.08
unknown	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Instrument Type								
term loans	0.51	0.53	0.52	0.55	0.51	0.58	0.50	0.53
bridge loans	0.02	0.03	0.02	0.03	0.03	0.02	0.03	0.03
credit lines	0.43	0.40	0.40	0.39	0.42	0.35	0.38	0.34
other	0.03	0.02	0.03	0.02	0.02	0.02	0.05	0.05
Fees								
commitment fees (b.p.)								
mean	11.13	14.16	16.63	15.45	18.17	10.20	8.75	6.50
[min; max]	[0; 100]	[0; 125]	[0; 150]	[0; 150]	[0; 190]	[0; 350]	[0; 150]	[0; 158]
other fees (b.p.)								
mean	4.02	6.92	7.00	7.60	7.90	4.57	4.29	3.92
[min; max]	[0; 85]	[0; 100]	[0; 162]	[0; 300]	[0; 270]	[0; 160]	[0; 145]	[0; 360]
fees undisclose	0.03	0.01	0.02	0.02	0.00	0.02	0.03	0.05
Garantor	0.06	0.04	0.02	0.04	0.05	0.04	0.03	0.02
Collateral	0.18	0.26	0.19	0.18	0.31	0.25	0.33	0.23
Type of borrower								
public	0.03	0.05	0.05	0.04	0.03	0.02	0.03	0.02
private	0.97	0.95	0.95	0.96	0.97	0.98	0.97	0.98
Lenders nationality								
home bias	0.07	0.13	0.10	0.05	0.07	0.09	0.09	0.14

Note: In percent of the total number of observations unless otherwise stated.

THE ECONOMIC IMPACT OF RISING THE RETIREMENT AGE: LESSONS FROM THE SEPTEMBER 1993 LAW*

*Pedro Martins***

*Álvaro Novo****

*Pedro Portugal****

1. INTRODUCTION

In most developed countries, pension systems have been facing longer life spans and lower birth rates. Almost without exception, political decision makers have responded by increasing the legal retirement age (the age when workers are entitled to collect their full retirement pension); by increasing the contributions to the pension funds; and by restricting the access to early retirement.[1]

Despite its importance, there is very little research about the economic impact of these policies. This essay investigates the legal change that occurred in the Portuguese labour market when, from 1994 onwards, the retirement age of women (initially set at 62) was gradually adjusted in order to converge to the retirement age of men (65 throughout). We exploit the richness of the individual records of "*Inquérito ao Emprego*" and "*Quadros de Pessoal*", which also allow one to follow individuals and their firms.

In this context, it is particularly insightful to draw on matching estimators, which can establish an accurate comparison between the "treatment" groups (those individuals or firms subject to an intervention) and the "control" group. We follow these procedures, in order to estimate the impact of the increased retirement age of women upon their wages and hours worked. We also obtain estimates of the impact of the reform upon the personnel policies (hiring and firing) of firms. Finally, we also evaluate the impact of the higher retirement age upon the performance of the firms.

2. THE NEW LEGAL RETIREMENT AGE

In the early 1990s, the Portuguese social security system was facing the sustainability problems common in pay-as-you-go systems. These problems were related to the ageing of the population, as life expectancy increased and as birth falls fell. In 1993, those aged 65 or more corresponded to 21.6% of the active population (Banco de Portugal, 1994). In this context, the Portuguese government decided to raise the legal age of retirement (LAR) of women from 62 to 65 years, making that equal between the two sexes ("*Decreto-Lei*" 329/93). This law raised the retirement age by six months in every civil year, up to 1999, when the two retirement ages converged (see Table 1). For instance, while a woman born in 31st December 1939 would be entitled to retire in 31st December 1993 (on the day of her 62nd birthday), a woman born one day later (1st January 1932) would only be eligible to collect her full pension six months later, at 1st July 1994, when she would be 62 years and 6 months old. However, given the

* The analyses, opinions and findings of this article represent the views of the authors, they are not necessarily those of the Banco de Portugal. The authors are grateful to Mário Centeno for his comments and suggestions.

** Queen Mary, University of London.

*** Economics and Research Department, Banco de Portugal.

(1) Fourteen OECD countries have recently increased their retirement age and are gradually approaching that new level.

Table 1

TREATMENT GROUPS: BEFORE AND AFTER THE NEW LEGAL AGE OF RETIREMENT (LAR)

	Treatment groups						
Year:	**1992**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**
LAR:	62	62.5	63	63.5	64	64.5	65
	[57.5, 58)						[64.5, 65)
	[58, 58.5)					[64, 64.5)	
	[58.5, 59)				[63.5, 64)		
	[59, 59.5)			[63, 63.5)			
	[59.5, 60)		[62.5, 63)				
	[60, 60.5)	[62, 62.5)					

gradual implementation of the increase in the LAR, women aged 6 months later (1st July 1933), would only reach their retirement age on the 1st July 1995 (when aged 63). The following analyses exploit these gradual adjustments in the law as a source of identification of the impact of the increased LAR upon the labour market.

There are two additional aspect of the pension system in Portugal that need to be taken into account. The first one is that LAR refers to the age at which the worker is entitled to his/her retirement pension. At that point in time, the labour contract between that worker and his/her employer expires, although the worker can establish a new contract with the same (or a different) employer. The retirement earnings and the work earnings (in a possible new contract) are independent. The second additional aspect is that the social security system included some exceptions to the standard LAR, as in early retirement. The most conspicuous cases concerned the long-term unemployed, workers in firms undergoing major restructuring processes, and workers in particularly demanding jobs (e.g. air-traffic controllers), thus limiting the impact of the new law.

3. IDENTIFICATION AND ESTIMATION

Given the non-experimental nature of the law reform, a quality of our evaluation depends crucially on the quality of the groups used for the construction of counterfactuals. The following analysis selects carefully control groups (counterfactuals) and follows simultaneously two methodologies that have been suggested in the literature on non-experimental identification: difference-in-differences (Meyer, 1995) and matching (Rubin, 1977, and Rosenbaum and Rubin, 1983). These two methodologies are combined in a single one: difference-in-differences matching (DDM).

3.1. Statistical methodology

Let Y^D_{it} be the potential value for individual *i* in period t if in state *D*, in which *D=1* if exposed to treatment and D=0 if not. Assume that treatment occurs in period *t*. The fundamental identification problem is that it is impossible to observe in period *t* the value of individual *i* in both states. It is therefore impossible to estimate the individual effect of treatment, $Y^1_{it} - Y^0_{it}$. It is possible, however, to estimate the average impact of treatment on the treated if there is a suitable control group.

The idea behind the difference-in-differences estimator is that once can use information from a group of individuals that were not subject to the treatment in order to identify the time change in *Y* that is not due to treatment, i.e. that would result from the simple time difference. The identification hypothesis in this method can be described as

$$E[Y^0_{it} - Y^0_{it'} \mid D=1] = E[Y^0_{it} - Y^0_{it'} \mid D=0],$$

in which *t'* is the period before the implementation of the program. This hypothesis states that, throughout time, the evolution in *Y* for the treated individuals (D=1), in the case in which they were not treated, would have been the same than the evolution observed for the individuals that were not exposed to the treatment (D=0). The difference-in-differences estimator provides estimates of the mean effect of treatment on the treated and can be obtained from the sample moments in

$$DdD = \{ E[Y_{it} \mid D=1] - E[Y_{it} \mid D=0] \} - \{ E[Y_{it'} \mid D=1] - E[Y_{it'} \mid D=0] \}.$$

The limitations of this estimator are related to how comparable the two groups are in terms of their observed characteristics. However, it is possible to combine this method with the matching method suggested by Rubin (1977), in order to make sure that the groups share common characteristics by removing from the sample those individuals whose characteristics are not common to the two groups (only those in the common support are kept). The method that combines these two methodologies, suggested by Heckman *et al*. (1997, 1998) is known as difference-in-differences matching. The feasibility of this identification strategy depends on the availability of a rich set of individual characteristics in the data, which in our case are present at both the individual- and the firm-level.

In the case of panel data, the DDM estimator takes the following form:

$$MDD = E[(Y^1_t - Y^1_{t'}) - \hat{E}(Y^0_t - Y^0_{t'} \mid P)],$$

in which $\hat{E}(\cdot \mid P)$ represents the expected value of the time change in *Y* for the individuals in the control group that are statistically close to those in the treatment group (i.e. whose probability of participation in the treatment, *P*, is also high). This probability is computed by a probit model (dichotomous dependent variables), and conditioning the dependent variable (undertaking or not the treatment) upon individual observed characteristics. It is possible to show that, if the selection to treatment is independent on the potential result of the treatment, conditionally on the observed characteristics, then conditioning on *P* is equivalent, but computationally simpler. In practical terms, the first step of the procedure involves estimating for each individual in the sample the difference in the behaviour over time (from *t'* to *t*), so to compute the first differences (separately for the treatment and the control groups). In the second step, one estimates *P*, following which one matches units in the treatment group to units in the control group, in order to compute the (second) difference amongst comparable units. The mean of these differences represents the mean impact of treatment upon the treated group.

4. DATA

The analysis of the impact of the new law exploits two data sets that allow one to follow workers and firms over time. The impact upon the inactivity transition rates is based on the "*Inquérito ao Emprego*" data set, from *INE* (Statistics Portugal). In this data set it is possible to follow workers over the 6 quarters in which they are surveyed. The impact upon the wages and hours worked of the targeted women and upon the flows of workers and firm performance are based on the "*Quadros de Pessoal*" data set (Ministry of Employment). The latter data set includes matched information about the worker (e.g. age, schooling, tenure) and the firm (e.g. equity, sales, industry, firm size) over time, so that one can study

the impact of the new law at both the individual- and the firm-level, controlling for the characteristics of each unit under analysis.

5. THE NEW LAW AND LABOUR MARKET PARTICIPATION

The extension of the length of activity for women is the most immediate impact of the new law. In fact, the data confirm that the probability that a woman in the treatment group is employed increased by 31.1% with respect to the group not affected by the law. Symmetrically, the probability that such woman is inactive fell by 27.9%.[2] These values are further corroborated by the developments in the employment rates of women aged 62-65, from 23.2% in 1992 to 30.4% in 2000.[3] From these figures, one can conclude that the new law had a significant impact upon the activity level of the women targeted by the law. Absent any other effects, the new law contributed towards the sustainability of social security. However, it is possible that those firms that held these targeted women in their workforces adjusted their personnel policies, namely in terms of their pay, hirings and separations.

6. THE IMPACT UPON WAGES AND HOURS WORKED

6.1. Treatment and control groups

Strictly speaking, the new law affected all women aged 62 or less. However, the law affected some women more immediately than others, in such a way that one can expect that those women played a larger role in the consequences of the reform. Amongst such women, one can include those that would have retired in *t+1* if the LAR had been unchanged at *t*. For instance, women aged [60; 60.5) by the end of 1992 would have retired in 1994 under the old LAR (62); however, as LAR increased to 62.5 by then, these women had to postpone their retirement to 1995. All women aged [55; 60.5) at the end of 1992 had to postpone their retirement during the period 1994-1999 (1999 being the year in which LARs were equalised for the two genders). Those women will correspond to our treatment group. Table 1 describes as different age groups in 1992 were affected differently by the law throughout the period in which the LAR converged completely.

The control group is composed of men at the same age as the women included in the treatment group. The LAR for men was already 65 when the new law became effective in the 1994-1999 period. Therefore, the two groups are comparable in this age dimension. On the other hand, it is clear that the choice of this control group can raise questions in terms of the comparability across genders. Such a problem is, however, mitigated to the extent that one is willing to accept the hypothesis of time invariance of the difference-in-differences estimator. In other words, if the differences across the two genders are constant throughout the period under analysis, then focusing on men as the counterfactual for women is no longer an issue. In fact, the data support this hypothesis: between 1991 and 1993, the difference in the logarithm of wages between men and women was 0.39, 0.39 and 0.38, respectively, and 0.098, 0.093 and 0.100 for the logarithm of hours worked. We therefore conclude that our control group is a legitimate one.

(2) The results reported are obtained from the coefficient identifying the impact of the treatment in a multivariate logit model. See Pedro Martins, Álvaro Novo and Pedro Portugal, 2007, "Increasing the legal retirement age: The impact on workers' wages, hours, worker flows and firm performance", *mimeo*, Banco de Portugal.

(3) As a benchmark, the activity rate of women aged 15-64 is around 61.5% in the same period. For women aged 55-64, the activity rate in 1992 was 35.5% (66.2% for men), increasing to 41.8% (64.4%) in 2000. The difference-in-differences method controls for the difference in the time trends that are observed prior to the years in which the new law was introduced.

In order to implement the difference-in-differences method, one also needs to define the "before" and "after" periods. One should bear in mind that, beginning in 1994, women's LAR increased six months for each civil year, up to 65 in 1999. Therefore, there are two obvious choices for the "before" period: 1992 and 1993. Our preference for 1992 is based on the fact that the new law was promulgated in 1993, so that some individuals and firms may have reacted before 1994, for instance through early retirement procedures; moreover, the government policy was not known in 1992, thus making it less likely that individuals' behaviour was affected on that year.

6.2. The mean individual impact of the increase in LAR

Given the non-experimental nature of the event under analysis, we begin by focusing our attention on the quality of the matching procedure, which is crucial for the validity of the reported effects. As argued previously, this is particularly important in a non-experimental environment, which in the present case is even more important given the gender differences. In order to assess the quality of the matching, Table 2 reports the mean value for a set of variables (characteristics) used in order to estimate the participation probability (i.e. to be targeted by the new law). One can expect that, before the matching, there are (statistical) differences between the treatment and control groups. In fact, the first lines in Table 2 confirm that there are differences between the two groups.[4] One should notice that, after the control group units are restricted to those share (under a statistical metric) the same probability of participation upon treatment, the differences disappear and one cannot any longer find any differences in the mean characteristics between the two groups. This procedure ensures that the comparability of the two groups was achieved, so that one can attribute any differences in behaviour to the impact of the treatment. There may still be differences in unobserved variables, but these will also be eliminated (controlled for), in this case by the difference-in-differences method, assuming those are constant over the period under analysis.

Table 3 presents a new set of DDM estimates concerning the effects of the new law upon the group of women targeted in terms of their pay and hours worked. The global assessment of the results suggests that the impact of the increase in the LAR is very weak in terms of these labour market variables. In statistical terms, none of the estimated impacts concerning wages and hours worked is significant, while in economic terms the impact is also very minor.

Choosing men as a counterfactual comparison group may raise some criticism. In order to assess the sensitivity of the estimates to the definition of the control group, we consider two alternative control groups. The most obvious choice for the control group would be a comparison of women with other women. However, this is problematic, as any woman aged less than 62 in 1993 was affected by the new LAR. In this context, a natural choice would be to consider as a control group those women aged above 62 in 1993 and that are still employed although they were already entitled to retire with a full pension under the earlier law. Yet another choice would be to take into account as the control group those women that were not forced to postpone their retirement from 1994 to 1999, although this may raise endogeneity issues. The last two columns in Table 3 present our results. The conclusions do not seem to depend on the specific definition of the control group. Neither pay nor hours worked are significantly affected by the postponement of the retirement age.

(4) These are the lines corresponding to the title "Unmatched" in the "Sample" columns.

Table 2

AVERAGE CHARACTERISTIC VALUES FOR SAMPLE BEFORE AND AFTER MATCHING PROCEDURE

		Group		
Variable	**Sample**	**Treatment**	**Control**	**p-value [(a)]**
Experience	Unmatched	52.44	52.19	0.000
	Matched	52.43	52.34	0.163
Experience ^{2}	Unmatched	2759.2	2734.4	0.000
	Matched	2758.4	2749.3	0.162
Tenure	Unmatched	15.58	17.80	0.000
	Matched	15.60	15.51	0.704
Tenure ^{2}	Unmatched	381.6	484.9	0.000
	Matched	382.4	382.5	0.994
Sales (in logs)	Unmatched	7.02	7.78	0.000
	Matched	7.03	7.09	0.227
Education				
High school	Unmatched	0.03	0.03	0.093
	Matched	0.03	0.04	0.739
College degree	Unmatched	0.03	0.04	0.001
	Matched	0.03	0.03	0.402
Year				
1994	Unmatched	0.17	0.18	0.191
	Matched	0.17	0.16	0.471
1995	Unmatched	0.20	0.20	0.603
	Matched	0.20	0.20	0.765
1996	Unmatched	0.14	0.15	0.006
	Matched	0.14	0.14	0.746
1997	Unmatched	0.18	0.17	0.071
	Matched	0.18	0.18	0.824
1998	Unmatched	0.15	0.14	0.246
	Matched	0.15	0.15	0.818
1999	Unmatched	0.17	0.16	0.107
	Matched	0.17	0.17	0.909

Source: *Quadros de Pessoal, with authors' computations.*
Notes: Unmatched: The reported values use the total sample of individuals before the matching procedure. Matched: The reported values for treatment and control groups use only individuals matched in the probability of participating in treatment (using the kernel matching algorithm).This table omits the value for the dummy variable for sector of activity and district. (a) A p-value greater than 0.05 indicates that the difference of average value between the two groups is not statistically significant at the 5 percent level.

Table 3

LABOR MARKET IMPACT: WAGES AND HOURS WORKED

Variable	**Men**	**Women +62 years**	**Women [50, 55]**
Log(Wages)	0.008	-0.023	-0.003
	(0.011)	(0.022)	(0.011)
	10 204	4 953	6 788
Log(Hours worked)	0.009	0.006	-0.010
	(0.009)	(0.016)	(0.009)
	9 823	5 041	6 850

Source: *Quadros de Pessoal, with authors' computations.*
Notes: The reported values for each variable are: point estimate, standard deviation (in parentheses) and number of observations. The estimation method is difference-in-differences matching for longitudinal data. The treatment group consists of women that in 1992 belonged to the age group [57.5, 60.5). The control groups consist of, respectively, men in the same age group, women aged 62 or more years old and women aged 50 to 55 years old in 1992.

7. THE IMPACT UPON PERSONNEL POLICIES AND FIRM PERFORMANCE

Although the new law had an immediate impact upon the increase in female labour supply, as driven by the extension of the range of ages in which women are active, it is important to assess any effects in terms of firms' labour demand and production decisions. One area of particular interest concerns firms' personnel policies, namely hirings and separations/firings. In fact, the increase in the LAR, in a context of severe restrictions to the adjustment of employment levels – as is abundantly known for the Portuguese case – may significantly block the flow of workers.

7.1. Treatment and control groups

In order to examine separations, hirings and the net flow of workers at the firm level, we considered as the treatment group the set of firms that employed at least one female worker aged [55; 60.5) in 1992. Once the control group firms are identified – those that did not employ any woman in that age group -, the effect of the new law was assessed over a period of five years. In other words, the estimates of the effects of the new law in terms of hirings (or other flows) are based upon the sum of all hirings (or other flows) observed between 1994 and 1999.

7.2. Mean impact of the increase in the LAR upon firms

As before, the comparison between treatment and control group firms is established by drawing on a matching method based on the probability that each firm belongs to the treatment group. These estimates are then used in order to establish the matching between treatment group firms and those control groups firms that most closely resemble the former. This method seeks to restrict the comparison between the two groups to a set of firms that are effectively comparable in terms of a desirably long set of observed characteristics. The variables considered for the matching include the firm size, five qualitative variables for different firm size categories, the percentage of female workers, the mean total salary, the mean hours of work, the percentage of workers that are men aged 60 or above, the percentage of the equity of the firm held by foreign investors and by domestic private investors, 57 qualitative variables for different industries and 29 qualitative variables referring to the geographical units in which the firms are located.[5]

From the estimation of the mean effect of the increase of the LAR, it is found that the accumulated effect over the five years (1994-1999) lead to a retention of about 1.6 workers by the treatment-group firms (which employed, on average, 1.2 women affected by the law). This fall in the level of separations induced a decrease of 2.6 hirings (see Table 4). From the joint effect of the change in these flows, there is a net loss of one employee when one compares the evolution of the level of employment in the treatment group firms with the equivalent evolution in the control group firms. The reduction in hirings is particularly strong amongst younger workers, particularly females. From the decomposition of the hiring flows it is found that about two thirds of the decrease in hirings affected women aged 25 or less (see Martins, Novo and Portugal, 2007).

There is also evidence of a slight but significant decrease in the level of sales in firms that employed workers affected by the increase in the LAR, once a comparison with the equivalent change in the level

(5) Some variables are included as polynomials of the second or third degree. The data set includes only firms with less than 100 employees, since it proved particularly difficult to find large firms that did not employ a single woman worker affected by the new law.

Table 4

AVERAGE TREATMENT EFFECT ON TREATED FIRMS: WORKERS FLOW, SALES AND SALES PER WORKER

Flow	Period	Impact	Standard deviation	Number of observations: Treatment group	Number of observations: Control group
Hiring (number of workers)	1995-99	-2.59	0.49	4048	40197
Separations (number of workers)	1995-99	-1.64	0.40	4048	40197
Net job creation (number of workers)	1995-99	-0.95	0.25	4048	40197
Sales (thousands of euros)	1995-99	-12.63	2.74	5310	57330
Sales per worker (thousands of euros)	1995-99	-0.04	0.17	5359	57104

Source: *Quadros de Pessoal, 1991 to 1999 with authors' computations.*
Note: Point estimates based on difference-in-differences matching with kernel matching.

of sales is established (Table 4). This result may be interpreted as a consequence of a scale effect in production related to the increase in labour costs unleashed by the forced retention of older female workers. However, this result may not have consequences in terms of the average firm productivity, when calculated as the ratio between sales and firm size, since firm size has also fallen. All in all, these results seem to be consistent with the evidence that the firms affected did not allow that the increase in the LRA affected their decision regarding their wage bills.

8. CONCLUSIONS

This essay studied the microeconomic impact of the increase in the legal retirement age of women that took place in September 1993, using statistical techniques that allow one to establish an appropriate comparison between the treatment group and a group of individuals that exhibit similar characteristics, except that they were not affected by the new law (the control group).

While evidence that the new law was binding is obtained, based on the result of a significant increase in the employment rate of women aged between 62 and 65, there is no evidence that wages or hours worked changed.

However, the increase in the legal retirement age decreased significantly the hiring of new workers, particularly young women. Over an horizon of five years, for each female worker affected by the increase in the retirement age, up to two new workers were not hired as a consequence. There was also evidence that the level of sales fell, while average sales per worker has not changed, since net job creation was also negative.

The evidence about a net loss of employment amongst the firms affected may imply, absent any general equilibrium effects that counteract upon the decrease in hirings, that the positive effect upon the sustainability of social security may have been attenuated by a decrease in the amount of social security revenues and by an increase in the amount of unemployment benefits for younger workers.

In the institutional setting of the Portuguese labour market, stimulating employment amongst the older workers ("active ageing") may be, in part, counteracted by the rigidity of the wage determination mechanisms, especially through the widespread usage of tenure-related pay increases, and by employment protection, which in the Portuguese case corresponds to the high firing costs.

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QUARTERLY SERIES FOR THE PORTUGUESE ECONOMY

Updating 1977-2006

QUARTERLY SERIES FOR THE PORTUGUESE ECONOMY: 1977-2006

This section publishes an update of the quarterly series for the Portuguese economy, similarly to previous years. The now presented series are based on the annual figures published in the 2006 Annual Report of Banco de Portugal and on the quarterly indicators made available in May 2007.

As mentioned in previous issues, the inclusion of a new year and the usual statistical revisions of the most recent data, implied changes to the quarterly series that, in some cases, do not only affect the recent years, due to the sensitivity of the seasonal adjustment methods and of the quarterly interpolation to revisions of both annual series and quarterly indicators.[1]

Quarterly series for the 1977-2006 period are presented in the tables below, with a similar breakdown as in previous publications. Data on the labour market considers the employment series evaluated in terms of both the number of individuals and full-time equivalent employment. An electronic version of the series is available on the Banco de Portugal's website, at *www.bportugal.pt/publish/bolecon/docs*.

(1) For more details see "Quarterly series for the Portuguese economy 1977-2003", *Economic Bulletin, June 2004*.

MAIN EXPENDITURE COMPONENTS

	1977				1978				1979			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Current prices (EUR million)												
Private consumption (residents)	575.2	612.5	648.2	672.2	704.6	732.3	777.1	827.7	855.3	903.5	968.5	1059.4
Public consumption	121.3	123.7	128.4	135.7	145.7	155.4	164.9	174.2	183.1	194.4	208.1	224.5
GFCF	263.7	296.8	304.6	312.7	302.0	322.8	344.6	378.0	429.5	481.8	525.3	531.2
Change in inventories	27.7	30.5	36.1	44.5	55.7	56.2	46.1	25.4	-6.0	-15.8	-4.1	29.2
Exports of goods and services	135.9	148.8	156.6	168.0	180.1	193.7	220.3	255.3	288.5	331.7	372.1	411.0
Goods	88.2	96.3	100.4	105.8	112.3	122.9	137.0	163.0	182.9	209.7	234.6	259.3
Services	47.8	52.5	56.1	62.3	67.8	70.7	83.2	92.3	105.6	122.1	137.5	151.7
Imports of goods and services	227.0	266.7	276.2	296.9	302.4	306.0	334.1	358.7	384.8	436.6	506.5	562.9
Goods	194.9	229.7	237.2	255.4	258.5	260.5	284.6	305.4	326.8	371.5	426.9	474.9
Services	32.1	37.0	38.9	41.5	44.0	45.5	49.5	53.3	58.1	65.1	79.6	88.0
GDP	896.9	945.7	997.7	1036.2	1085.5	1154.4	1218.8	1301.9	1365.6	1459.0	1563.5	1692.4
Previous year prices (EUR million)												
Private consumption (residents)					651.5	650.3	658.6	667.1	781.9	791.5	804.9	819.6
Public consumption					130.7	132.6	134.7	136.8	166.4	169.5	173.1	177.0
GFCF					274.5	278.6	280.2	287.7	371.2	393.7	407.2	387.3
Change in inventories					52.3	54.3	46.5	28.7	1.2	-11.9	-10.5	5.4
Exports of goods and services					163.6	166.9	179.5	195.5	252.4	274.8	290.5	299.6
Goods					101.2	105.1	110.1	122.2	157.5	170.6	179.7	185.0
Services					62.4	61.9	69.4	73.4	94.9	104.1	110.8	114.6
Imports of goods and services					273.8	266.4	266.3	271.4	327.0	345.3	368.4	381.1
Goods					235.0	228.7	227.9	232.5	277.4	292.6	308.0	318.7
Services					38.7	37.8	38.4	39.0	49.7	52.7	60.3	62.4
GDP					998.8	1016.3	1033.2	1044.5	1246.1	1272.3	1296.8	1307.8
Chain-linked volume (reference year 2000)												
Private consumption (residents)					7688.1	7673.6	7772.1	7872.3	7970.7	8068.5	8204.9	8355.3
Public consumption					2181.5	2213.7	2247.6	2283.4	2320.8	2364.1	2413.2	2468.0
GFCF					2972.0	3016.3	3034.3	3115.0	3343.8	3546.2	3668.5	3488.9
Exports of goods and services					1356.5	1384.5	1488.4	1621.4	1738.7	1892.8	2001.4	2064.0
Goods					747.4	776.0	812.9	902.1	952.7	1032.5	1087.3	1119.3
Services					690.9	685.3	768.9	812.7	893.9	980.7	1043.6	1079.4
Imports of goods and services					1769.5	1722.2	1721.1	1754.4	1751.0	1848.8	1972.4	2040.4
Goods					1429.4	1390.9	1386.2	1413.9	1405.7	1482.9	1561.1	1615.3
Services					347.2	338.4	343.8	349.2	356.2	377.9	432.7	447.1
GDP					13727.6	13968.1	14200.2	14355.1	14723.3	15032.9	15323.1	15453.2
Deflator (2000=1)												
Private consumption (residents)					0.0916	0.0954	0.1000	0.1051	0.1073	0.1120	0.1180	0.1268
Public consumption					0.0668	0.0702	0.0734	0.0763	0.0789	0.0822	0.0862	0.0910
GFCF					0.1016	0.1070	0.1136	0.1214	0.1284	0.1359	0.1432	0.1523
Exports of goods and services					0.1328	0.1399	0.1480	0.1575	0.1659	0.1753	0.1859	0.1991
Goods					0.1502	0.1584	0.1686	0.1807	0.1920	0.2031	0.2158	0.2317
Services					0.0982	0.1032	0.1083	0.1136	0.1181	0.1245	0.1318	0.1405
Imports of goods and services					0.1709	0.1777	0.1941	0.2044	0.2198	0.2362	0.2568	0.2759
Goods					0.1808	0.1873	0.2053	0.2160	0.2324	0.2506	0.2735	0.2940
Services					0.1267	0.1343	0.1441	0.1527	0.1631	0.1722	0.1839	0.1967
GDP					0.0791	0.0826	0.0858	0.0907	0.0927	0.0971	0.1020	0.1095

MAIN EXPENDITURE COMPONENTS

	1980				1981				1982			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Current prices (EUR million)												
Private consumption (residents)	1139.2	1221.9	1286.1	1345.3	1423.2	1497.4	1590.0	1674.6	1749.0	1838.1	1905.2	1977.0
Public consumption	243.8	262.4	280.1	296.8	312.3	328.1	344.3	360.7	377.3	397.0	419.9	446.3
GFCF	529.6	538.5	557.8	611.9	699.3	759.7	812.7	827.8	875.3	903.1	927.0	946.8
Change in inventories	84.0	117.8	130.4	122.0	92.5	77.2	76.1	89.3	116.7	128.0	123.1	102.0
Exports of goods and services	447.8	463.8	476.0	483.2	496.4	525.7	539.5	551.6	569.4	595.6	673.1	711.3
Goods	285.1	292.7	294.1	296.9	302.7	318.3	329.2	341.1	360.3	385.5	450.3	477.7
Services	162.7	171.1	181.9	186.3	193.7	207.4	210.3	210.5	209.0	210.1	222.8	233.6
Imports of goods and services	627.9	682.6	729.3	773.0	815.9	930.9	942.2	953.3	1020.9	1097.2	1150.3	1141.4
Goods	518.5	566.9	599.8	635.2	666.4	769.5	780.8	785.8	856.0	921.1	973.7	962.4
Services	109.4	115.7	129.4	137.8	149.5	161.4	161.4	167.5	165.0	176.2	176.7	179.0
GDP	1816.7	1921.7	2001.3	2086.1	2207.8	2257.1	2420.4	2550.6	2666.7	2764.5	2898.0	3042.0
Previous year prices (EUR million)												
Private consumption (residents)	1003.5	1026.8	1043.1	1051.5	1271.3	1282.9	1288.6	1295.9	1576.1	1590.5	1593.7	1591.3
Public consumption	214.1	218.8	222.9	226.6	282.0	285.3	288.0	290.2	342.6	345.3	348.6	352.8
GFCF	461.6	437.8	444.4	465.3	615.9	635.4	665.7	672.4	800.1	785.0	777.4	764.7
Change in inventories	35.7	56.8	68.6	71.1	64.3	65.7	75.4	93.4	119.7	125.2	110.1	74.2
Exports of goods and services	385.7	387.7	385.6	376.1	454.6	460.4	459.2	458.2	520.3	526.6	549.6	577.6
Goods	244.7	242.8	238.4	230.3	278.7	280.0	284.0	288.8	332.4	344.4	369.0	393.0
Services	141.0	145.0	147.2	145.7	175.9	180.5	175.2	169.4	187.9	182.2	180.7	184.6
Imports of goods and services	546.4	559.5	578.1	583.7	724.8	732.6	754.0	771.7	966.8	970.5	954.4	948.1
Goods	451.3	462.3	473.6	478.1	595.0	601.2	625.1	640.4	815.1	818.6	810.6	805.0
Services	95.1	97.2	104.6	105.6	129.8	131.5	128.9	131.3	151.7	151.9	143.8	143.1
GDP	1554.4	1568.4	1586.6	1606.9	1963.2	1997.1	2023.1	2038.4	2392.0	2402.1	2425.1	2412.5
Chain-linked volume (reference year 2000)												
Private consumption (residents)	8639.4	8839.7	8980.0	9052.2	9042.3	9125.1	9165.8	9217.3	9313.6	9398.9	9417.9	9403.7
Public consumption	2528.7	2583.6	2632.6	2675.9	2713.4	2745.2	2771.5	2792.1	2807.2	2828.5	2856.1	2890.1
GFCF	3295.5	3125.4	3172.7	3321.6	3554.2	3667.0	3842.1	3880.5	3857.5	3784.9	3748.4	3687.0
Exports of goods and services	2115.5	2126.5	2114.7	2062.5	2045.7	2072.1	2066.5	2062.1	2030.5	2055.1	2144.9	2253.9
Goods	1157.1	1147.9	1127.1	1089.2	1077.9	1083.0	1098.6	1117.2	1126.8	1167.4	1250.7	1332.1
Services	1090.6	1121.3	1138.6	1127.0	1122.1	1151.0	1117.3	1080.5	1022.0	991.2	982.7	1004.0
Imports of goods and services	2199.9	2252.7	2327.6	2349.9	2352.5	2378.1	2447.3	2504.9	2570.2	2580.1	2537.2	2520.5
Goods	1710.7	1752.2	1795.0	1812.0	1812.8	1831.6	1904.4	1951.2	2036.0	2044.8	2024.7	2010.8
Services	527.9	539.8	580.5	586.2	588.9	596.7	585.0	595.9	561.1	561.9	532.0	529.5
GDP	15473.9	15614.0	15794.2	15996.6	15774.1	16046.6	16255.2	16377.9	16339.1	16408.0	16565.2	16479.0
Deflator (2000=1)												
Private consumption (residents)	0.1319	0.1382	0.1432	0.1486	0.1574	0.1641	0.1735	0.1817	0.1878	0.1956	0.2023	0.2102
Public consumption	0.0964	0.1016	0.1064	0.1109	0.1151	0.1195	0.1242	0.1292	0.1344	0.1403	0.1470	0.1544
GFCF	0.1607	0.1723	0.1758	0.1842	0.1967	0.2072	0.2115	0.2133	0.2269	0.2386	0.2473	0.2568
Exports of goods and services	0.2117	0.2181	0.2251	0.2343	0.2426	0.2537	0.2611	0.2675	0.2804	0.2898	0.3138	0.3156
Goods	0.2464	0.2550	0.2610	0.2725	0.2808	0.2939	0.2996	0.3053	0.3198	0.3302	0.3600	0.3586
Services	0.1492	0.1526	0.1598	0.1653	0.1726	0.1802	0.1882	0.1948	0.2045	0.2120	0.2268	0.2327
Imports of goods and services	0.2854	0.3030	0.3133	0.3289	0.3468	0.3915	0.3850	0.3806	0.3972	0.4253	0.4534	0.4528
Goods	0.3031	0.3236	0.3342	0.3505	0.3676	0.4201	0.4100	0.4027	0.4204	0.4504	0.4809	0.4786
Services	0.2072	0.2143	0.2230	0.2351	0.2538	0.2705	0.2758	0.2811	0.2940	0.3135	0.3321	0.3380
GDP	0.1174	0.1231	0.1267	0.1304	0.1400	0.1407	0.1489	0.1557	0.1632	0.1685	0.1749	0.1846

MAIN EXPENDITURE COMPONENTS

	1983				1984				1985			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Current prices (EUR million)												
Private consumption (residents)	2125.0	2238.8	2403.6	2580.1	2688.7	2850.6	3039.8	3106.7	3248.9	3367.6	3454.5	3616.2
Public consumption	476.3	505.4	533.1	559.1	583.1	611.7	645.5	684.7	730.1	775.6	821.3	867.2
GFCF	1026.6	1092.3	1175.8	1169.5	1098.1	1192.7	1236.5	1328.3	1336.1	1362.6	1416.7	1494.1
Change in inventories	64.8	35.1	12.8	-2.1	-9.5	-12.0	-9.8	-2.7	9.3	16.8	20.0	18.8
Exports of goods and services	790.2	874.3	999.4	1102.0	1208.2	1320.8	1446.6	1548.7	1693.3	1758.6	1777.0	1835.1
Goods	530.2	597.9	686.9	761.8	840.2	917.3	1011.7	1080.7	1170.9	1227.0	1237.4	1266.4
Services	260.1	276.4	312.6	340.2	368.0	403.5	434.9	468.1	522.4	531.6	539.5	568.7
Imports of goods and services	1173.0	1222.1	1360.9	1474.9	1533.5	1615.9	1752.9	1818.9	1916.6	1942.3	1905.5	2003.2
Goods	979.8	1024.3	1143.4	1247.8	1284.6	1355.9	1470.4	1522.4	1601.3	1610.8	1583.5	1661.7
Services	193.1	197.8	217.5	227.1	248.9	260.0	282.6	296.5	315.2	331.5	322.0	341.5
GDP	3310.1	3523.8	3763.7	3933.8	4035.1	4347.9	4605.6	4846.9	5101.1	5338.8	5584.0	5828.1
Previous year prices (EUR million)												
Private consumption (residents)	1868.3	1860.0	1853.7	1837.8	2306.8	2301.5	2309.7	2307.5	2903.7	2915.8	2925.4	2968.4
Public consumption	422.3	426.1	427.9	427.7	517.9	517.7	520.0	524.7	645.5	654.5	663.7	673.3
GFCF	915.6	923.2	911.4	836.8	974.2	1006.1	987.5	997.3	1199.2	1188.7	1206.4	1224.0
Change in inventories	17.7	-21.0	-41.9	-44.9	-30.1	-21.0	-17.5	-19.7	-27.6	-25.6	-13.6	8.4
Exports of goods and services	719.2	740.1	766.9	794.6	1021.8	1067.9	1105.5	1138.6	1507.6	1514.4	1507.1	1526.8
Goods	490.3	509.3	528.1	549.9	703.7	732.5	761.8	783.8	1042.7	1059.9	1055.1	1064.8
Services	228.9	230.8	238.7	244.7	318.0	335.5	343.7	354.8	464.9	454.4	452.0	462.0
Imports of goods and services	1078.6	1039.2	1026.2	986.7	1260.4	1267.4	1304.4	1305.9	1728.1	1753.8	1743.9	1810.9
Goods	911.8	878.1	863.8	829.6	1046.9	1053.5	1081.2	1082.5	1446.7	1468.2	1472.2	1528.2
Services	166.8	161.1	162.4	157.0	213.5	213.8	223.3	223.5	281.3	285.6	271.7	282.7
GDP	2864.7	2889.2	2891.8	2865.3	3530.1	3604.9	3600.7	3642.4	4500.3	4494.1	4545.1	4590.0
Chain-linked volume (reference year 2000)												
Private consumption (residents)	9388.7	9346.7	9315.0	9235.2	9201.3	9180.1	9212.8	9204.3	9143.7	9182.0	9212.1	9347.6
Public consumption	2930.3	2956.6	2969.2	2967.9	2952.8	2951.7	2964.5	2991.3	3032.1	3074.2	3117.6	3162.4
GFCF	3780.2	3811.5	3762.5	3454.6	3231.7	3337.4	3275.6	3308.3	3248.6	3220.1	3268.0	3315.8
Exports of goods and services	2393.7	2463.1	2552.2	2644.5	2727.6	2850.9	2951.2	3039.5	3157.2	3171.4	3156.2	3197.4
Goods	1428.6	1483.9	1538.8	1602.2	1653.2	1720.8	1789.8	1841.4	1897.3	1928.7	1919.8	1937.5
Services	1045.8	1054.5	1090.7	1118.0	1152.3	1215.5	1245.2	1285.5	1359.9	1329.4	1322.3	1351.4
Imports of goods and services	2496.7	2405.5	2375.3	2283.9	2303.9	2316.6	2384.3	2387.1	2414.7	2450.6	2436.9	2530.4
Goods	1993.0	1919.3	1888.1	1813.4	1813.5	1824.9	1872.8	1875.1	1897.0	1925.1	1930.4	2003.8
Services	523.0	505.2	509.1	492.4	518.7	519.5	542.4	542.8	549.0	557.4	530.3	551.7
GDP	16574.3	16716.5	16731.3	16578.1	16179.3	16521.8	16502.5	16693.9	16627.4	16604.3	16793.1	16958.8
Deflator (2000=1)												
Private consumption (residents)	0.2263	0.2395	0.2580	0.2794	0.2922	0.3105	0.3299	0.3375	0.3553	0.3668	0.3750	0.3869
Public consumption	0.1626	0.1709	0.1795	0.1884	0.1975	0.2073	0.2177	0.2289	0.2408	0.2523	0.2634	0.2742
GFCF	0.2716	0.2866	0.3125	0.3385	0.3398	0.3574	0.3775	0.4015	0.4113	0.4231	0.4335	0.4506
Exports of goods and services	0.3301	0.3550	0.3916	0.4167	0.4430	0.4633	0.4902	0.5095	0.5363	0.5545	0.5630	0.5739
Goods	0.3711	0.4029	0.4464	0.4755	0.5082	0.5330	0.5653	0.5869	0.6171	0.6362	0.6446	0.6536
Services	0.2487	0.2622	0.2866	0.3043	0.3194	0.3320	0.3493	0.3641	0.3841	0.3999	0.4080	0.4208
Imports of goods and services	0.4698	0.5080	0.5729	0.6458	0.6656	0.6975	0.7352	0.7620	0.7937	0.7926	0.7819	0.7916
Goods	0.4917	0.5337	0.6056	0.6881	0.7083	0.7430	0.7851	0.8119	0.8441	0.8367	0.8203	0.8293
Services	0.3693	0.3915	0.4273	0.4612	0.4800	0.5006	0.5210	0.5463	0.5742	0.5947	0.6072	0.6190
GDP	0.1997	0.2108	0.2250	0.2373	0.2494	0.2632	0.2791	0.2903	0.3068	0.3215	0.3325	0.3437

MAIN EXPENDITURE COMPONENTS

	1986				1987				1988			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Current prices (EUR million)												
Private consumption (residents)	3816.3	4062.7	4198.0	4400.2	4515.0	4757.8	4882.5	5083.6	5463.7	5748.0	6044.3	6400.7
Public consumption	913.2	955.6	994.1	1028.4	1058.2	1097.4	1146.4	1206.0	1277.0	1350.4	1426.3	1504.6
GFCF	1469.7	1596.1	1666.8	1821.3	1932.7	2101.2	2190.3	2383.3	2526.6	2706.4	2863.8	2972.8
Change in inventories	13.2	18.8	35.8	64.1	103.7	134.4	156.2	169.1	173.1	163.0	138.8	100.6
Exports of goods and services	1862.5	1943.6	2037.8	2166.5	2256.5	2415.7	2511.7	2630.4	2739.0	2776.7	2973.7	3160.3
Goods	1266.2	1330.0	1379.6	1467.6	1527.1	1610.9	1681.6	1766.3	1849.0	1910.8	2040.7	2150.5
Services	596.3	613.6	658.2	698.9	729.3	804.8	830.0	864.1	889.9	865.9	933.0	1009.8
Imports of goods and services	1989.3	2018.6	2074.4	2335.3	2493.3	2706.7	2950.2	3159.6	3419.8	3524.0	3845.2	3926.8
Goods	1671.1	1667.6	1728.2	1946.1	2095.0	2268.8	2494.7	2668.2	2893.5	2984.2	3265.7	3299.7
Services	318.2	351.0	346.2	389.2	398.2	437.9	455.5	491.4	526.3	539.8	579.5	627.1
GDP	6085.4	6558.2	6858.0	7145.2	7372.9	7799.9	7937.0	8312.9	8759.6	9220.6	9601.6	10212.2
Previous year prices (EUR million)												
Private consumption (residents)	3520.6	3638.7	3682.9	3783.2	4295.3	4429.8	4447.8	4519.3	5128.8	5237.7	5309.4	5446.7
Public consumption	827.4	837.5	845.9	852.4	991.8	1001.9	1016.6	1035.8	1180.6	1206.9	1233.3	1259.5
GFCF	1395.4	1439.3	1490.9	1554.6	1838.0	1945.6	2018.5	2111.2	2381.5	2493.5	2525.4	2598.8
Change in inventories	40.3	71.8	102.9	133.6	164.0	181.3	185.7	177.0	155.2	135.4	117.5	101.5
Exports of goods and services	1810.7	1856.4	1931.1	1999.1	2166.2	2252.3	2277.5	2298.7	2527.4	2551.6	2680.1	2823.5
Goods	1249.4	1290.4	1333.4	1378.0	1471.7	1500.7	1519.4	1531.4	1699.5	1759.9	1847.2	1947.6
Services	561.3	565.9	597.7	621.1	694.5	751.5	758.1	767.3	828.0	791.7	832.9	875.9
Imports of goods and services	2075.4	2220.2	2348.1	2557.4	2451.0	2600.1	2736.0	2882.2	3247.7	3393.5	3512.3	3600.6
Goods	1767.3	1889.4	2023.8	2199.9	2070.9	2192.2	2319.0	2435.0	2743.8	2883.0	2973.6	3032.1
Services	308.1	330.8	324.3	357.5	380.2	407.9	416.9	447.2	503.9	510.5	538.6	568.6
GDP	5519.0	5623.5	5705.6	5765.6	7004.2	7210.8	7210.0	7259.8	8125.8	8231.7	8353.4	8629.4
Chain-linked volume (reference year 2000)												
Private consumption (residents)	9487.7	9806.0	9925.1	10195.3	10274.4	10596.3	10639.2	10810.3	11281.8	11521.5	11679.1	11981.2
Public consumption	3208.5	3247.8	3280.1	3305.6	3324.2	3358.1	3407.2	3471.6	3551.3	3630.7	3709.8	3788.7
GFCF	3246.9	3349.1	3469.2	3617.4	3837.2	4062.0	4214.0	4407.6	4570.9	4785.8	4847.1	4987.9
Exports of goods and services	3250.9	3332.8	3467.1	3589.1	3688.6	3835.1	3878.1	3914.2	3944.3	3982.0	4182.5	4406.4
Goods	1958.4	2022.7	2090.1	2160.0	2225.5	2269.3	2297.6	2315.8	2350.3	2433.8	2554.6	2693.5
Services	1392.3	1403.7	1482.6	1540.5	1574.4	1703.7	1718.5	1739.4	1727.6	1651.9	1737.9	1827.6
Imports of goods and services	2627.2	2810.5	2972.4	3237.3	3391.4	3597.7	3785.7	3988.0	4239.3	4429.6	4584.7	4700.0
Goods	2122.7	2269.4	2430.9	2642.4	2795.0	2958.7	3130.0	3286.5	3505.2	3683.0	3798.8	3873.4
Services	514.7	552.6	541.7	597.1	597.1	640.7	654.8	702.3	733.3	742.9	783.9	827.5
GDP	16917.5	17237.9	17489.7	17673.4	18220.6	18758.2	18755.9	18885.5	19296.6	19548.0	19837.0	20492.4
Deflator (2000=1)												
Private consumption (residents)	0.4022	0.4143	0.4230	0.4316	0.4394	0.4490	0.4589	0.4703	0.4843	0.4989	0.5175	0.5342
Public consumption	0.2846	0.2942	0.3031	0.3111	0.3183	0.3268	0.3365	0.3474	0.3596	0.3719	0.3845	0.3971
GFCF	0.4526	0.4766	0.4804	0.5035	0.5037	0.5173	0.5198	0.5407	0.5528	0.5655	0.5908	0.5960
Exports of goods and services	0.5729	0.5832	0.5877	0.6036	0.6117	0.6299	0.6476	0.6720	0.6944	0.6973	0.7110	0.7172
Goods	0.6465	0.6575	0.6601	0.6794	0.6862	0.7099	0.7319	0.7627	0.7867	0.7851	0.7988	0.7984
Services	0.4283	0.4371	0.4440	0.4537	0.4633	0.4724	0.4830	0.4968	0.5151	0.5242	0.5369	0.5525
Imports of goods and services	0.7572	0.7182	0.6979	0.7214	0.7352	0.7523	0.7793	0.7923	0.8067	0.7956	0.8387	0.8355
Goods	0.7872	0.7348	0.7109	0.7365	0.7496	0.7668	0.7970	0.8119	0.8255	0.8103	0.8597	0.8519
Services	0.6183	0.6351	0.6391	0.6518	0.6669	0.6834	0.6956	0.6997	0.7177	0.7266	0.7393	0.7578
GDP	0.3597	0.3805	0.3921	0.4043	0.4046	0.4158	0.4232	0.4402	0.4539	0.4717	0.4840	0.4983

MAIN EXPENDITURE COMPONENTS

	1989				1990				1991			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Current prices (EUR million)												
Private consumption (residents)	6512.1	6694.7	6974.9	7178.5	7571.5	7973.4	8383.5	8780.8	9242.4	9699.7	10106.2	10405.7
Public consumption	1585.6	1666.4	1746.7	1826.3	1904.7	2004.2	2126.9	2274.8	2450.5	2604.4	2733.5	2835.1
GFCF	3021.9	3101.9	3216.1	3347.7	3450.6	3584.3	3701.3	3808.8	3850.6	3938.4	4120.2	4247.0
Change in inventories	48.2	43.0	84.9	173.9	310.0	367.9	347.6	249.0	72.1	-45.6	-104.2	-103.8
Exports of goods and services	3411.0	3533.8	3748.5	3990.3	4182.5	4327.4	4348.9	4438.7	4347.6	4456.1	4502.7	4524.5
Goods	2343.2	2459.8	2589.3	2742.4	2867.5	2943.7	2971.7	2950.6	2918.2	2911.0	2980.6	3029.2
Services	1067.8	1074.0	1159.1	1247.9	1315.0	1383.7	1377.2	1488.0	1429.4	1545.1	1522.1	1495.3
Imports of goods and services	4086.1	4184.0	4421.9	4604.4	5032.4	4952.3	5249.4	5474.2	5448.5	5511.0	5757.5	5763.2
Goods	3492.3	3508.3	3708.2	3888.8	4225.5	4144.1	4359.4	4606.1	4585.5	4589.9	4730.2	4760.9
Services	593.9	675.6	713.8	715.5	806.9	808.2	890.0	868.0	863.1	921.1	1027.3	1002.3
GDP	10492.7	10855.7	11349.1	11912.2	12386.7	13304.9	13658.8	14077.9	14514.7	15142.1	15600.9	16145.3
Previous year prices (EUR million)												
Private consumption (residents)	6047.2	6093.0	6190.3	6279.1	7156.1	7327.8	7510.8	7655.1	8661.5	8889.8	9085.3	9187.6
Public consumption	1464.2	1489.5	1510.3	1526.6	1752.6	1779.8	1820.7	1875.4	2234.7	2291.1	2325.3	2337.2
GFCF	2813.7	2842.3	2836.5	2908.5	3260.0	3345.8	3384.2	3463.6	3682.2	3717.5	3809.4	3887.0
Change in inventories	87.4	103.5	149.9	226.5	333.3	381.4	370.8	301.5	173.5	89.1	48.5	51.6
Exports of goods and services	3246.0	3305.8	3468.1	3635.9	4042.4	4141.5	4117.0	4160.8	4242.2	4353.0	4361.4	4404.0
Goods	2244.1	2322.1	2428.0	2534.3	2793.3	2856.7	2871.5	2856.8	2903.3	2932.0	2988.1	3065.2
Services	1001.9	983.8	1040.1	1101.6	1249.2	1284.8	1245.5	1304.0	1339.0	1421.0	1373.2	1338.8
Imports of goods and services	3815.1	3922.3	4055.0	4202.2	4832.1	4972.7	5163.7	5212.2	5363.5	5521.5	5747.1	5870.5
Goods	3252.5	3297.3	3407.4	3561.9	4055.6	4204.9	4332.8	4411.7	4529.4	4641.4	4768.9	4915.8
Services	562.5	625.0	647.6	640.3	776.5	767.8	830.9	800.4	834.1	880.1	978.1	954.6
GDP	9843.3	9911.8	10100.1	10374.3	11712.4	12003.6	12039.9	12244.3	13630.6	13819.0	13882.8	13997.0
Chain-linked volume (reference year 2000)												
Private consumption (residents)	11877.1	11967.1	12158.3	12332.6	12642.2	12945.4	13268.9	13523.7	13870.4	14236.1	14549.2	14713.0
Public consumption	3867.3	3934.1	3989.0	4032.0	4063.2	4126.2	4221.0	4347.7	4506.2	4619.9	4688.9	4713.0
GFCF	4878.1	4927.8	4917.6	5042.5	5078.8	5212.5	5272.3	5396.0	5306.1	5357.0	5489.4	5601.2
Exports of goods and services	4601.6	4686.5	4916.6	5154.4	5329.6	5460.2	5427.9	5485.7	5322.8	5461.8	5472.3	5525.8
Goods	2831.5	2929.9	3063.5	3197.7	3313.6	3388.8	3406.4	3388.9	3339.8	3372.9	3437.4	3526.1
Services	1881.2	1847.2	1953.0	2068.5	2128.2	2188.9	2121.9	2221.7	2084.2	2211.8	2137.5	2083.9
Imports of goods and services	4654.5	4785.3	4947.1	5126.8	5451.5	5610.2	5825.6	5880.3	5896.8	6070.6	6318.6	6454.2
Goods	3884.4	3937.9	4069.3	4253.9	4485.6	4650.8	4792.3	4879.6	4914.3	5035.8	5174.2	5333.5
Services	764.2	849.1	879.8	869.9	967.6	956.8	1035.3	997.4	978.5	1032.5	1147.5	1119.9
GDP	20620.7	20764.2	21158.5	21732.9	22126.9	22677.1	22745.7	23131.8	23134.6	23454.4	23562.7	23756.5
Deflator (2000=1)												
Private consumption (residents)	0.5483	0.5594	0.5737	0.5821	0.5989	0.6159	0.6318	0.6493	0.6663	0.6813	0.6946	0.7072
Public consumption	0.4100	0.4236	0.4379	0.4529	0.4688	0.4857	0.5039	0.5232	0.5438	0.5637	0.5830	0.6015
GFCF	0.6195	0.6295	0.6540	0.6639	0.6794	0.6876	0.7020	0.7059	0.7257	0.7352	0.7506	0.7582
Exports of goods and services	0.7413	0.7540	0.7624	0.7741	0.7848	0.7925	0.8012	0.8091	0.8168	0.8159	0.8228	0.8188
Goods	0.8276	0.8396	0.8452	0.8576	0.8654	0.8686	0.8724	0.8707	0.8737	0.8631	0.8671	0.8591
Services	0.5676	0.5814	0.5935	0.6033	0.6179	0.6322	0.6490	0.6698	0.6858	0.6985	0.7121	0.7176
Imports of goods and services	0.8779	0.8743	0.8938	0.8981	0.9231	0.8827	0.9011	0.9309	0.9240	0.9078	0.9112	0.8929
Goods	0.8990	0.8909	0.9112	0.9142	0.9420	0.8911	0.9097	0.9440	0.9331	0.9115	0.9142	0.8926
Services	0.7771	0.7958	0.8113	0.8226	0.8339	0.8447	0.8596	0.8703	0.8820	0.8921	0.8953	0.8950
GDP	0.5088	0.5228	0.5364	0.5481	0.5598	0.5867	0.6005	0.6086	0.6274	0.6456	0.6621	0.6796

MAIN EXPENDITURE COMPONENTS

	1992				1993				1994			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Current prices (EUR million)												
Private consumption (residents)	10685.5	11139.9	11343.7	11601.6	11782.6	11888.8	12187.3	12437.5	12583.1	12890.0	13074.0	13353.3
Public consumption	2906.5	2976.8	3046.5	3115.8	3185.0	3248.6	3306.5	3359.0	3405.8	3461.4	3526.1	3600.0
GFCF	4499.0	4570.7	4618.2	4534.0	4328.2	4407.1	4176.9	4202.6	4291.1	4398.2	4378.0	4832.0
Change in inventories	-44.3	-20.8	-33.5	-82.2	-167.0	-193.4	-161.4	-70.9	78.1	181.4	239.1	251.1
Exports of goods and services	4626.7	4624.1	4523.6	4428.3	4407.7	4411.7	4735.9	4857.4	4890.1	5164.1	5324.1	5595.2
Goods	3131.3	3162.7	3093.2	3058.5	3047.4	3100.7	3268.3	3404.0	3524.0	3762.1	3970.8	4203.7
Services	1495.4	1461.3	1430.5	1369.7	1360.3	1311.0	1467.6	1453.4	1366.1	1402.0	1353.3	1391.5
Imports of goods and services	5930.4	5934.0	5975.3	5866.0	5924.1	5807.1	5982.2	6269.3	6310.1	6501.2	6786.4	7207.0
Goods	4933.5	4954.4	4923.2	4858.8	4715.3	4681.8	4808.5	4994.3	5237.9	5419.3	5712.9	5942.3
Services	996.8	979.5	1052.2	1007.2	1208.8	1125.2	1173.7	1274.9	1072.2	1081.9	1073.6	1264.7
GDP	16743.1	17356.7	17523.2	17731.5	17612.4	17955.7	18263.0	18516.4	18938.0	19593.9	19754.8	20424.7
Previous year prices (EUR million)												
Private consumption (residents)	10224.5	10391.5	10445.7	10586.4	11429.5	11400.6	11479.5	11488.6	12037.4	12163.3	12178.5	12274.7
Public consumption	2690.5	2682.3	2677.9	2677.1	3009.3	3017.1	3029.3	3045.8	3319.6	3341.3	3361.9	3381.5
GFCF	4379.8	4430.7	4427.3	4294.0	4262.4	4264.4	4006.3	3939.0	4168.5	4259.8	4243.9	4619.4
Change in inventories	98.4	121.6	121.3	97.5	50.0	23.8	18.7	34.7	72.0	100.3	119.6	130.1
Exports of goods and services	4613.8	4604.9	4560.3	4477.7	4417.4	4375.1	4565.8	4639.5	4753.3	4921.3	5064.4	5238.2
Goods	3148.5	3202.8	3193.5	3167.9	3085.4	3096.3	3164.9	3279.2	3442.2	3591.9	3786.3	3940.1
Services	1465.3	1402.0	1366.8	1309.8	1332.0	1278.8	1400.9	1360.3	1311.1	1329.4	1278.1	1298.1
Imports of goods and services	6084.3	6231.9	6378.0	6308.3	6070.0	5879.9	5877.4	6062.5	6117.2	6308.9	6620.4	6983.3
Goods	5077.3	5225.9	5291.7	5245.7	4834.8	4735.5	4734.3	4832.8	5077.3	5263.7	5571.6	5739.9
Services	1007.0	1006.0	1086.3	1062.6	1235.2	1144.4	1143.1	1229.7	1039.9	1045.2	1048.8	1243.4
GDP	15922.6	15999.1	15854.5	15824.4	17098.8	17201.2	17222.2	17085.2	18233.6	18477.0	18348.0	18660.6
Chain-linked volume (reference year 2000)												
Private consumption (residents)	14867.0	15109.9	15188.7	15393.4	15460.2	15421.0	15527.8	15540.1	15440.3	15601.7	15621.2	15744.7
Public consumption	4692.3	4678.1	4670.3	4669.1	4674.2	4686.3	4705.2	4730.9	4763.5	4794.6	4824.2	4852.3
GFCF	5897.2	5965.7	5961.1	5781.6	5521.8	5524.4	5190.0	5102.8	5197.3	5311.1	5291.3	5759.5
Exports of goods and services	5636.4	5625.5	5571.0	5470.1	5412.5	5360.6	5594.3	5684.6	5692.8	5894.0	6065.4	6273.5
Goods	3637.1	3699.9	3689.1	3659.5	3640.7	3653.6	3734.5	3869.4	4000.1	4174.0	4399.9	4578.6
Services	2082.9	1993.0	1942.9	1861.8	1823.4	1750.5	1917.7	1862.1	1724.0	1748.1	1680.8	1707.0
Imports of goods and services	6696.0	6858.4	7019.1	6942.5	7045.6	6825.0	6822.1	7036.9	7072.9	7294.6	7654.8	8074.4
Goods	5564.5	5727.4	5799.5	5749.1	5614.1	5498.8	5497.4	5611.8	5876.5	6092.3	6448.7	6643.4
Services	1129.7	1128.5	1218.6	1192.0	1429.0	1323.9	1322.4	1422.6	1195.4	1201.5	1205.6	1429.4
GDP	24351.6	24468.6	24247.5	24201.4	23980.9	24124.5	24154.0	23961.9	24250.4	24574.2	24402.6	24818.3
Deflator (2000=1)												
Private consumption (residents)	0.7187	0.7373	0.7468	0.7537	0.7621	0.7709	0.7849	0.8003	0.8150	0.8262	0.8369	0.8481
Public consumption	0.6194	0.6363	0.6523	0.6673	0.6814	0.6932	0.7027	0.7100	0.7150	0.7219	0.7309	0.7419
GFCF	0.7629	0.7662	0.7747	0.7842	0.7839	0.7978	0.8048	0.8236	0.8256	0.8281	0.8274	0.8390
Exports of goods and services	0.8209	0.8220	0.8120	0.8095	0.8144	0.8230	0.8466	0.8545	0.8590	0.8762	0.8778	0.8919
Goods	0.8609	0.8548	0.8385	0.8358	0.8371	0.8487	0.8752	0.8797	0.8810	0.9013	0.9025	0.9181
Services	0.7180	0.7332	0.7363	0.7357	0.7460	0.7489	0.7653	0.7805	0.7924	0.8020	0.8052	0.8152
Imports of goods and services	0.8857	0.8652	0.8513	0.8449	0.8408	0.8509	0.8769	0.8909	0.8922	0.8912	0.8866	0.8926
Goods	0.8866	0.8650	0.8489	0.8451	0.8399	0.8514	0.8747	0.8900	0.8913	0.8895	0.8859	0.8945
Services	0.8824	0.8680	0.8634	0.8450	0.8459	0.8499	0.8875	0.8962	0.8969	0.9004	0.8904	0.8848
GDP	0.6876	0.7093	0.7227	0.7327	0.7344	0.7443	0.7561	0.7727	0.7809	0.7973	0.8095	0.8230

MAIN EXPENDITURE COMPONENTS

	1995				1996				1997			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Current prices (EUR million)												
Private consumption (residents)	13610.8	13930.4	13885.7	14052.3	14415.5	14584.7	14913.9	15079.1	15394.0	15473.8	15885.8	16103.0
Public consumption	3683.3	3764.1	3842.4	3917.6	3989.1	4063.7	4142.0	4224.6	4311.7	4394.4	4472.6	4546.3
GFCF	4694.6	4807.9	4777.4	4878.8	4885.3	5028.5	5346.2	5581.0	5908.3	6070.8	6314.2	6398.6
Change in inventories	222.1	194.7	175.3	143.2	140.1	130.0	128.4	147.6	117.9	127.2	113.7	119.1
Exports of goods and services	5983.9	5935.7	6042.8	6394.1	6397.6	6406.0	6305.6	6396.7	6491.0	6958.5	7078.4	7453.4
Goods	4472.1	4404.0	4487.9	4831.2	4885.9	4920.2	4818.2	4858.8	4942.7	5271.6	5357.6	5657.5
Services	1511.9	1531.7	1554.9	1562.9	1511.7	1485.8	1487.4	1537.9	1548.3	1686.8	1720.7	1796.0
Imports of goods and services	7429.7	7516.8	7267.6	7583.8	7715.2	7808.8	7979.3	8294.3	8403.0	8717.7	9187.2	9526.4
Goods	6200.7	6289.2	6056.0	6293.0	6490.8	6526.1	6689.8	6953.9	7106.4	7359.1	7756.6	7983.3
Services	1229.0	1227.7	1211.7	1290.9	1224.5	1282.7	1289.5	1340.4	1296.6	1358.6	1430.6	1543.2
GDP	20765.1	21116.0	21455.9	21802.1	22112.4	22404.1	22856.8	23134.6	23819.9	24306.9	24677.5	25093.9
Previous year prices (EUR million)												
Private consumption (residents)	13122.2	13303.9	13186.6	13245.0	14158.8	14214.0	14447.9	14505.1	15075.3	15120.7	15403.4	15504.9
Public consumption	3549.4	3569.7	3591.1	3613.4	3861.2	3888.6	3918.8	3951.7	4190.7	4223.9	4252.7	4277.3
GFCF	4596.6	4687.0	4621.5	4646.1	4763.8	4921.0	5183.0	5370.2	5748.9	5904.1	6037.0	6126.8
Change in inventories	131.6	136.1	143.8	154.5	176.4	158.2	133.0	122.2	70.8	67.8	58.4	62.9
Exports of goods and services	5797.7	5664.3	5811.9	6166.1	6353.3	6481.8	6477.2	6468.8	6441.6	6788.6	6781.0	7067.0
Goods	4336.8	4181.7	4278.7	4646.9	4865.4	5028.2	5045.8	5001.4	4918.2	5163.6	5144.5	5403.5
Services	1460.8	1482.6	1533.3	1519.3	1488.0	1453.6	1431.4	1467.4	1523.4	1625.0	1636.5	1663.5
Imports of goods and services	7331.8	7421.2	7187.9	7417.2	7605.5	7641.3	7908.4	8169.3	8326.7	8575.9	8827.1	9179.9
Goods	6086.5	6184.7	5996.3	6128.8	6371.5	6373.8	6680.9	6899.5	7044.3	7269.0	7473.2	7736.8
Services	1245.3	1236.5	1191.6	1288.3	1234.0	1267.5	1227.6	1269.9	1282.4	1306.9	1354.0	1443.1
GDP	19865.7	19939.9	20167.0	20407.9	21707.9	22022.3	22251.5	22248.6	23200.8	23529.2	23705.5	23858.9
Chain-linked volume (reference year 2000)												
Private consumption (residents)	15778.9	15997.3	15856.3	15926.5	16220.8	16284.1	16552.0	16617.5	16782.6	16833.1	17147.9	17260.8
Public consumption	4878.9	4906.9	4936.2	4966.9	4999.0	5034.5	5073.6	5116.2	5161.6	5202.5	5238.0	5268.2
GFCF	5536.5	5645.4	5566.5	5596.1	5555.9	5739.3	6044.9	6263.3	6510.9	6686.7	6837.2	6938.9
Exports of goods and services	6613.8	6461.6	6630.0	7034.1	6974.9	7116.0	7110.9	7101.7	7148.2	7533.3	7524.8	7842.1
Goods	4811.5	4639.4	4746.9	5155.5	5175.0	5348.3	5367.0	5319.7	5354.2	5621.3	5600.5	5882.5
Services	1817.7	1844.8	1907.9	1890.4	1801.8	1760.2	1733.3	1776.9	1788.8	1908.2	1921.7	1953.3
Imports of goods and services	8232.2	8332.6	8070.6	8328.1	8413.5	8453.1	8748.6	9037.2	9074.2	9345.8	9619.6	10004.1
Goods	6836.2	6946.5	6734.9	6883.8	7028.9	7031.4	7370.1	7611.2	7673.4	7918.2	8140.6	8427.8
Services	1394.9	1385.0	1334.7	1443.1	1382.9	1420.5	1375.7	1423.1	1398.5	1425.2	1476.6	1573.8
GDP	24745.4	24837.8	25120.7	25420.8	25528.8	25898.6	26168.1	26164.7	26597.8	26974.4	27176.4	27352.3
Deflator (2000=1)												
Private consumption (residents)	0.8626	0.8708	0.8757	0.8823	0.8887	0.8956	0.9010	0.9074	0.9173	0.9192	0.9264	0.9329
Public consumption	0.7549	0.7671	0.7784	0.7887	0.7980	0.8072	0.8164	0.8257	0.8353	0.8447	0.8539	0.8630
GFCF	0.8479	0.8516	0.8582	0.8718	0.8793	0.8762	0.8844	0.8911	0.9074	0.9079	0.9235	0.9221
Exports of goods and services	0.9048	0.9186	0.9114	0.9090	0.9172	0.9002	0.8867	0.9007	0.9081	0.9237	0.9407	0.9504
Goods	0.9295	0.9493	0.9454	0.9371	0.9441	0.9200	0.8977	0.9134	0.9232	0.9378	0.9566	0.9618
Services	0.8317	0.8302	0.8150	0.8267	0.8390	0.8441	0.8581	0.8655	0.8655	0.8840	0.8954	0.9194
Imports of goods and services	0.9025	0.9021	0.9005	0.9106	0.9170	0.9238	0.9121	0.9178	0.9260	0.9328	0.9551	0.9523
Goods	0.9070	0.9054	0.8992	0.9142	0.9234	0.9281	0.9077	0.9136	0.9261	0.9294	0.9528	0.9473
Services	0.8810	0.8864	0.9078	0.8945	0.8854	0.9030	0.9373	0.9419	0.9272	0.9533	0.9689	0.9805
GDP	0.8391	0.8502	0.8541	0.8576	0.8662	0.8651	0.8735	0.8842	0.8956	0.9011	0.9080	0.9174

MAIN EXPENDITURE COMPONENTS

	1998				1999				2000			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Current prices (EUR million)												
Private consumption (residents)	16422.3	16732.0	17060.6	17487.7	17835.8	18054.2	18339.9	18590.2	19163.0	19303.8	19725.8	19907.6
Public consumption	4615.6	4703.8	4811.0	4937.8	5085.2	5236.0	5389.9	5546.4	5704.9	5848.7	5977.7	6092.4
GFCF	6868.1	6972.0	7070.8	7333.3	7401.6	7499.9	7775.4	7939.9	8339.3	8103.6	8330.6	8329.8
Change in inventories	195.2	205.6	230.6	253.9	281.7	295.8	284.8	263.4	222.9	192.8	173.9	167.9
Exports of goods and services	7571.2	7803.4	7872.6	7595.9	7710.2	7809.3	8031.2	8321.8	8821.1	8733.0	9196.1	9636.6
Goods	5614.2	5791.3	5725.9	5602.6	5642.0	5724.2	5915.6	6063.7	6508.8	6382.5	6827.4	7055.8
Services	1957.0	2012.1	2146.8	1993.3	2068.2	2085.1	2115.6	2258.2	2312.3	2350.5	2368.8	2580.8
Imports of goods and services	9872.0	10155.2	10117.5	10198.5	10362.5	10552.6	11119.3	11465.7	12457.0	11945.4	12409.0	12889.8
Goods	8234.4	8603.7	8596.9	8577.5	8798.1	8980.8	9507.8	9793.5	10680.1	10110.6	10615.3	10993.7
Services	1637.6	1551.4	1520.7	1621.0	1564.4	1571.8	1611.4	1672.2	1776.9	1834.8	1793.6	1896.1
GDP	25800.4	26261.7	26928.1	27410.2	27952.1	28342.5	28701.8	29196.2	29794.2	30236.4	30995.2	31244.3
Previous year prices (EUR million)												
Private consumption (residents)	16181.6	16414.1	16625.3	16940.1	17617.1	17712.5	17871.7	18013.3	18804.4	18759.4	18956.0	18993.4
Public consumption	4495.8	4534.0	4589.2	4661.3	4952.5	5029.3	5091.8	5140.0	5440.2	5479.1	5521.7	5568.0
GFCF	6773.8	6822.7	6891.6	7097.0	7379.0	7399.9	7572.0	7632.5	8105.6	7814.8	7961.5	7800.5
Change in inventories	209.7	242.0	292.1	336.5	308.2	323.3	308.5	280.4	213.7	182.8	164.9	160.7
Exports of goods and services	7447.9	7568.9	7769.6	7564.7	7768.0	7836.7	8015.0	8144.1	8622.5	8318.3	8640.9	8969.2
Goods	5564.1	5675.2	5761.8	5700.6	5729.6	5779.1	5933.3	5988.8	6345.5	6048.7	6366.0	6493.0
Services	1883.8	1893.7	2007.8	1864.1	2038.4	2057.6	2081.7	2155.2	2277.0	2269.6	2274.9	2476.2
Imports of goods and services	9939.2	10199.3	10293.5	10482.5	10677.9	10759.9	11081.7	11306.7	11821.7	11199.7	11304.2	11492.1
Goods	8323.1	8646.6	8775.1	8819.6	9072.8	9140.6	9444.4	9615.4	10122.6	9472.3	9638.1	9751.1
Services	1616.1	1552.6	1518.4	1662.9	1605.2	1619.2	1637.4	1691.3	1699.1	1727.3	1666.1	1741.0
GDP	25169.6	25382.3	25874.4	26117.2	27346.7	27541.9	27777.4	27903.5	29364.7	29354.6	29940.8	29999.7
Chain-linked volume (reference year 2000)												
Private consumption (residents)	17512.0	17763.6	17992.2	18332.9	18631.4	18732.3	18900.7	19050.4	19446.2	19402.3	19606.0	19645.7
Public consumption	5293.6	5338.6	5403.6	5488.5	5590.3	5677.1	5747.6	5802.0	5841.0	5881.8	5926.3	5974.6
GFCF	7399.8	7453.2	7528.5	7752.9	7872.8	7895.1	8078.7	8143.3	8471.2	8167.4	8317.1	8147.6
Exports of goods and services	7998.1	8128.1	8343.6	8123.6	8208.7	8281.4	8469.8	8606.2	9081.9	8759.5	9101.3	9444.0
Goods	5886.2	6003.7	6095.4	6030.6	6052.6	6105.0	6267.8	6326.5	6727.8	6413.1	6749.5	6884.1
Services	2112.7	2123.8	2251.7	2090.6	2156.4	2176.7	2202.3	2280.0	2354.1	2346.4	2351.9	2559.9
Imports of goods and services	10551.9	10828.1	10928.1	11128.8	11496.8	11585.0	11931.5	12173.8	12824.9	12147.9	12262.7	12465.7
Goods	8861.7	9206.2	9342.9	9390.4	9816.6	9890.0	10218.7	10403.8	11009.5	10302.3	10482.5	10605.5
Services	1686.5	1620.2	1584.5	1735.3	1680.2	1694.9	1713.9	1770.3	1815.4	1845.6	1780.2	1860.2
GDP	27792.8	28027.6	28571.0	28839.0	29102.2	29309.8	29560.4	29694.6	30239.5	30254.8	30861.0	30914.9
Deflator (2000=1)												
Private consumption (residents)	0.9378	0.9419	0.9482	0.9539	0.9573	0.9638	0.9703	0.9758	0.9854	0.9949	1.0061	1.0133
Public consumption	0.8719	0.8811	0.8903	0.8997	0.9096	0.9223	0.9378	0.9560	0.9767	0.9944	1.0087	1.0197
GFCF	0.9281	0.9354	0.9392	0.9459	0.9402	0.9499	0.9624	0.9750	0.9844	0.9922	1.0016	1.0224
Exports of goods and services	0.9466	0.9601	0.9436	0.9351	0.9393	0.9430	0.9482	0.9670	0.9713	0.9970	1.0104	1.0204
Goods	0.9538	0.9646	0.9394	0.9290	0.9322	0.9376	0.9438	0.9585	0.9675	0.9952	1.0115	1.0249
Services	0.9263	0.9474	0.9534	0.9535	0.9591	0.9579	0.9606	0.9904	0.9822	1.0017	1.0072	1.0081
Imports of goods and services	0.9356	0.9379	0.9258	0.9164	0.9013	0.9109	0.9319	0.9418	0.9713	0.9833	1.0119	1.0340
Goods	0.9292	0.9346	0.9201	0.9134	0.8962	0.9081	0.9304	0.9413	0.9701	0.9814	1.0127	1.0366
Services	0.9710	0.9575	0.9597	0.9341	0.9311	0.9273	0.9402	0.9445	0.9788	0.9942	1.0075	1.0193
GDP	0.9283	0.9370	0.9425	0.9505	0.9605	0.9670	0.9710	0.9832	0.9853	0.9994	1.0043	1.0107

MAIN EXPENDITURE COMPONENTS

	2001				2002				2003			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Current prices (EUR million)												
Private consumption (residents)	20163.9	20441.4	20518.4	20673.2	21080.3	21256.7	21539.6	21508.5	21689.2	21781.9	22068.1	22282.5
Public consumption	6193.1	6300.0	6412.4	6530.3	6654.6	6757.4	6837.2	6894.4	6931.8	6987.6	7060.4	7149.1
GFCF	8182.1	8524.4	8686.1	8825.7	8601.8	8667.9	8401.5	8170.1	8018.2	7900.3	7940.8	7875.0
Change in inventories	236.3	207.4	307.4	62.0	101.3	75.3	127.0	15.4	-4.2	-22.7	-5.9	13.9
Exports of goods and services	9432.1	9427.7	9114.9	9385.7	9227.8	9582.6	9550.8	9518.2	9758.3	9505.0	9739.0	9787.6
Goods	7022.0	6930.1	6651.5	6779.2	6666.3	7018.0	6941.7	6982.4	7218.9	6998.8	7109.2	7187.5
Services	2410.1	2497.6	2463.4	2606.6	2561.5	2564.7	2609.1	2535.8	2539.4	2506.2	2629.7	2600.1
Imports of goods and services	12682.9	12796.9	12592.0	12244.3	12225.5	12341.7	12412.5	12155.2	12161.5	11554.2	12094.3	12063.8
Goods	10853.9	10900.5	10769.5	10402.4	10396.1	10459.7	10602.1	10327.7	10411.1	9819.4	10328.5	10269.2
Services	1829.0	1896.3	1822.6	1841.9	1829.4	1882.0	1810.4	1827.6	1750.4	1734.8	1765.8	1794.6
GDP	31524.7	32104.1	32447.1	33232.6	33440.4	33998.3	34043.5	33951.4	34231.8	34597.9	34708.0	35044.4
Previous year prices (EUR million)												
Private consumption (residents)	19675.7	19816.0	19800.7	19841.4	20730.4	20741.6	20816.7	20596.4	21186.3	21205.0	21373.8	21439.2
Public consumption	6026.6	6078.1	6129.1	6179.6	6490.4	6525.6	6544.1	6545.8	6780.3	6778.7	6796.9	6834.9
GFCF	8027.5	8367.4	8473.0	8561.6	8508.8	8502.2	8150.0	7864.9	7894.4	7822.6	7872.5	7748.8
Change in inventories	242.0	216.4	326.9	67.1	106.6	80.7	138.4	17.1	-4.4	-23.5	-5.2	10.4
Exports of goods and services	9342.7	9239.8	9093.4	9372.1	9320.4	9565.2	9504.0	9511.0	9797.5	9623.0	9931.0	9992.8
Goods	6953.1	6761.5	6647.0	6820.0	6780.2	7060.5	6977.5	7058.2	7325.4	7173.3	7362.1	7462.0
Services	2389.7	2478.3	2446.4	2552.0	2540.2	2504.7	2526.4	2452.8	2472.1	2449.8	2568.9	2530.8
Imports of goods and services	12457.2	12564.5	12595.6	12524.6	12471.2	12538.3	12635.9	12324.8	12057.2	11859.4	12370.2	12425.1
Goods	10678.9	10712.0	10836.8	10727.1	10659.5	10691.9	10883.4	10558.7	10323.2	10135.6	10633.0	10640.7
Services	1778.2	1852.6	1758.8	1797.5	1811.7	1846.4	1752.6	1766.1	1734.0	1723.8	1737.3	1784.4
GDP	30857.4	31153.2	31227.5	31497.1	32685.4	32877.0	32517.3	32210.3	33596.9	33546.5	33598.8	33601.1
Chain-linked volume (reference year 2000)												
Private consumption (residents)	19675.7	19816.0	19800.7	19841.4	20055.5	20066.3	20139.0	19925.8	19896.4	19914.0	20072.5	20134.0
Public consumption	6026.6	6078.1	6129.1	6179.6	6229.5	6263.3	6281.1	6282.7	6259.0	6257.5	6274.3	6309.4
GFCF	8027.5	8367.4	8473.0	8561.6	8312.7	8306.2	7962.1	7683.6	7526.6	7458.2	7505.7	7387.8
Exports of goods and services	9342.7	9239.8	9093.4	9372.1	9242.4	9485.2	9424.5	9431.4	9721.0	9547.9	9853.5	9914.8
Goods	6953.1	6761.5	6647.0	6820.0	6730.3	7008.6	6926.2	7006.3	7342.2	7189.7	7379.0	7479.1
Services	2389.7	2478.3	2446.4	2552.0	2511.9	2476.8	2498.3	2425.5	2385.8	2364.2	2479.2	2442.4
Imports of goods and services	12457.2	12564.5	12595.6	12524.6	12428.0	12494.9	12592.2	12282.1	12219.7	12019.3	12537.0	12592.6
Goods	10678.9	10712.0	10836.8	10727.1	10666.6	10699.1	10890.6	10565.7	10579.3	10387.0	10896.7	10904.7
Services	1778.2	1852.6	1758.8	1797.5	1762.0	1795.7	1704.5	1717.6	1646.8	1637.1	1649.9	1694.6
GDP	30857.4	31153.2	31227.5	31497.1	31529.5	31714.3	31367.2	31071.2	31177.8	31131.1	31179.6	31181.8
Deflator (2000=1)												
Private consumption (residents)	1.0248	1.0316	1.0362	1.0419	1.0511	1.0593	1.0695	1.0794	1.0901	1.0938	1.0994	1.1067
Public consumption	1.0276	1.0365	1.0462	1.0568	1.0682	1.0789	1.0885	1.0974	1.1075	1.1167	1.1253	1.1331
GFCF	1.0193	1.0188	1.0251	1.0308	1.0348	1.0435	1.0552	1.0633	1.0653	1.0593	1.0580	1.0660
Exports of goods and services	1.0096	1.0203	1.0024	1.0015	0.9984	1.0103	1.0134	1.0092	1.0038	0.9955	0.9884	0.9872
Goods	1.0099	1.0249	1.0007	0.9940	0.9905	1.0013	1.0022	0.9966	0.9832	0.9734	0.9634	0.9610
Services	1.0085	1.0078	1.0070	1.0214	1.0197	1.0355	1.0444	1.0455	1.0644	1.0600	1.0607	1.0646
Imports of goods and services	1.0181	1.0185	0.9997	0.9776	0.9837	0.9877	0.9857	0.9897	0.9952	0.9613	0.9647	0.9580
Goods	1.0164	1.0176	0.9938	0.9697	0.9746	0.9776	0.9735	0.9775	0.9841	0.9454	0.9479	0.9417
Services	1.0286	1.0236	1.0363	1.0247	1.0382	1.0480	1.0622	1.0640	1.0629	1.0597	1.0703	1.0590
GDP	1.0216	1.0305	1.0391	1.0551	1.0606	1.0720	1.0853	1.0927	1.0980	1.1114	1.1132	1.1239

MAIN EXPENDITURE COMPONENTS

	2004				2005				2006			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Current prices (EUR million)												
Private consumption (residents)	22661.7	22963.1	23291.4	23498.6	23780.6	24146.2	24217.3	24498.6	24853.4	25146.7	25359.4	25488.1
Public consumption	7253.6	7368.0	7492.8	7628.1	7774.3	7878.6	7940.3	7959.3	7935.9	7936.8	7961.5	8009.9
GFCF	8042.9	8221.8	8258.2	8233.5	8177.3	8275.3	8248.5	8263.4	8346.2	8422.8	8177.3	8219.0
Change in inventories	71.5	71.7	116.9	171.8	245.0	-44.4	49.1	-41.5	194.5	-192.7	250.3	67.0
Exports of goods and services	10106.5	10397.1	10215.7	10310.0	10254.7	10546.4	10783.6	10902.5	11526.2	11905.9	12306.3	12472.8
Goods	7387.2	7505.7	7492.0	7524.4	7464.4	7683.7	7877.7	7882.0	8349.7	8660.0	8921.9	8983.4
Services	2719.3	2891.5	2723.6	2785.6	2790.3	2862.7	2905.9	3020.5	3176.5	3245.9	3384.4	3489.4
Imports of goods and services	12524.6	12928.0	13237.5	13433.7	13511.2	13671.1	14014.7	14077.3	15167.2	14831.1	15316.2	14912.3
Goods	10724.4	11077.3	11323.1	11436.8	11577.8	11642.5	11975.5	11917.8	12942.3	12602.9	13103.7	12609.3
Services	1800.2	1850.7	1914.4	1996.8	1933.4	2028.6	2039.2	2159.5	2224.9	2228.2	2212.5	2303.0
GDP	35611.7	36093.8	36137.6	36408.4	36720.7	37131.1	37224.1	37505.0	37688.9	38388.3	38738.7	39344.6
Previous year prices (EUR million)												
Private consumption (residents)	22316.2	22458.4	22646.3	22742.8	23495.8	23712.1	23511.8	23621.0	24338.9	24417.9	24478.1	24498.9
Public consumption	7132.1	7187.6	7238.8	7285.6	7556.3	7584.9	7598.4	7596.6	7882.9	7869.1	7859.4	7853.9
GFCF	7972.0	8035.7	7979.5	7832.9	8011.8	8070.2	7866.2	7797.1	8217.9	8233.8	7972.3	7879.4
Change in inventories	41.1	36.1	50.6	62.6	167.6	-29.5	31.0	-25.6	166.3	-162.3	202.4	53.8
Exports of goods and services	10165.8	10314.1	10071.7	10088.8	10180.8	10514.3	10493.6	10515.1	11263.9	11525.5	11670.7	11885.4
Goods	7479.9	7487.7	7406.1	7374.2	7384.7	7653.8	7644.7	7573.1	8163.1	8386.1	8411.1	8498.7
Services	2685.8	2826.5	2665.5	2714.6	2796.1	2860.5	2848.9	2942.0	3100.8	3139.4	3259.7	3386.6
Imports of goods and services	12509.5	12751.2	12915.1	13053.3	13342.2	13441.3	13282.2	13226.6	14514.6	14266.4	14492.2	14331.1
Goods	10710.2	10897.8	11007.8	11036.0	11416.5	11416.4	11297.3	11116.7	12352.0	12118.3	12380.3	12068.3
Services	1799.3	1853.4	1907.3	2017.3	1925.6	2025.0	1984.9	2109.9	2162.5	2148.2	2111.9	2262.8
GDP	35117.7	35280.7	35071.7	34959.3	36070.2	36410.6	36218.8	36277.7	37355.3	37617.5	37690.8	37840.2
Chain-linked volume (reference year 2000)												
Private consumption (residents)	20333.0	20462.5	20633.6	20721.6	20886.2	21078.4	20900.4	20997.5	21120.3	21188.9	21241.1	21259.1
Public consumption	6364.1	6413.7	6459.3	6501.1	6539.0	6563.7	6575.4	6573.9	6558.7	6547.2	6539.1	6534.5
GFCF	7505.7	7565.6	7512.7	7374.7	7327.5	7380.9	7194.4	7131.2	7238.0	7252.0	7021.7	6939.9
Exports of goods and services	10230.6	10379.9	10135.9	10153.1	10148.6	10481.0	10460.4	10481.9	11021.3	11277.2	11419.3	11629.3
Goods	7709.6	7717.6	7633.6	7600.6	7570.4	7846.2	7836.9	7763.5	8192.0	8415.7	8440.8	8528.8
Services	2528.0	2660.4	2508.9	2555.1	2577.9	2637.3	2626.6	2712.5	2826.3	2861.5	2971.1	3086.8
Imports of goods and services	12900.1	13149.3	13318.3	13460.8	13522.6	13623.1	13461.8	13405.5	14183.3	13940.9	14161.5	14004.1
Goods	11218.9	11415.5	11530.7	11560.2	11714.7	11714.5	11592.3	11407.0	12172.4	11942.0	12200.2	11892.8
Services	1692.8	1743.7	1794.4	1897.8	1815.3	1908.9	1871.1	1989.0	2009.8	1996.4	1962.8	2102.9
GDP	31592.4	31739.0	31551.0	31449.9	31589.4	31887.5	31719.6	31771.2	31921.5	32145.6	32208.2	32335.9
Deflator (2000=1)												
Private consumption (residents)	1.1145	1.1222	1.1288	1.1340	1.1386	1.1455	1.1587	1.1667	1.1768	1.1868	1.1939	1.1989
Public consumption	1.1398	1.1488	1.1600	1.1734	1.1889	1.2003	1.2076	1.2107	1.2100	1.2122	1.2175	1.2258
GFCF	1.0716	1.0867	1.0992	1.1165	1.1160	1.1212	1.1465	1.1588	1.1531	1.1614	1.1646	1.1843
Exports of goods and services	0.9879	1.0017	1.0079	1.0154	1.0105	1.0062	1.0309	1.0401	1.0458	1.0557	1.0777	1.0725
Goods	0.9582	0.9725	0.9815	0.9900	0.9860	0.9793	1.0052	1.0153	1.0192	1.0290	1.0570	1.0533
Services	1.0757	1.0869	1.0856	1.0902	1.0824	1.0854	1.1063	1.1136	1.1239	1.1343	1.1391	1.1304
Imports of goods and services	0.9709	0.9832	0.9939	0.9980	0.9992	1.0035	1.0411	1.0501	1.0694	1.0639	1.0815	1.0649
Goods	0.9559	0.9704	0.9820	0.9893	0.9883	0.9938	1.0331	1.0448	1.0633	1.0553	1.0741	1.0602
Services	1.0634	1.0614	1.0669	1.0522	1.0651	1.0627	1.0898	1.0857	1.1070	1.1161	1.1272	1.0951
GDP	1.1272	1.1372	1.1454	1.1577	1.1624	1.1644	1.1735	1.1805	1.1807	1.1942	1.2028	1.2167

PRIVATE CONSUMPTION (RESIDENTS)

	1977				1978				1979			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Current prices (EUR million)												
Private consumption	575.2	612.5	648.2	672.2	704.6	732.3	777.1	827.7	855.3	903.5	968.5	1059.4
Durables	65.6	72.9	73.6	72.9	78.3	80.4	86.6	87.7	95.9	98.3	110.2	125.0
Non-durables	509.7	539.6	574.6	599.3	626.3	651.8	690.5	739.9	759.4	805.2	858.3	934.4
Previous year prices (EUR million)												
Private consumption					651.5	650.3	658.6	667.1	781.9	791.5	804.9	819.6
Durables					72.5	71.9	74.9	73.8	91.1	88.7	93.1	97.1
Non-durables					579.0	578.4	583.7	593.3	690.8	702.8	711.7	722.5
Chain-linked volume (reference year 2000)												
Private consumption					7688.1	7673.6	7772.1	7872.3	7970.7	8068.5	8204.9	8355.3
Durables					760.1	754.1	785.3	773.8	840.4	818.4	859.4	895.8
Non-durables					6961.4	6953.5	7018.1	7133.4	7158.4	7282.6	7375.3	7487.2
Deflator (2000=1)												
Private consumption					0.0916	0.0954	0.1000	0.1051	0.1073	0.1120	0.1180	0.1268
Durables					0.1031	0.1067	0.1103	0.1134	0.1141	0.1201	0.1283	0.1396
Non-durables					0.0900	0.0937	0.0984	0.1037	0.1061	0.1106	0.1164	0.1248

GROSS FIXED CAPITAL FORMATION

	1977				1978				1979			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Current prices (EUR million)												
Gross fixed capital formation	263.7	296.8	304.6	312.7	302.0	322.8	344.6	378.0	429.5	481.8	525.3	531.2
Machinery and equipment	52.0	68.2	73.6	80.1	78.3	85.8	88.5	85.4	89.2	99.6	112.4	118.2
Transport material	36.8	40.7	41.4	43.6	42.5	45.1	43.1	46.1	44.7	49.0	49.0	53.0
Construction	142.6	148.1	148.4	146.3	140.3	149.0	169.7	204.5	251.8	285.2	311.2	305.7
Others	32.3	39.9	41.2	42.6	40.8	42.9	43.3	42.0	43.7	48.0	52.6	54.3
Previous year prices (EUR million)												
Gross fixed capital formation					274.5	278.6	280.2	287.7	371.2	393.7	407.2	387.3
Machinery and equipment					70.9	74.9	73.6	67.7	79.6	85.8	91.3	88.7
Transport material					35.9	35.3	30.9	30.2	36.3	37.6	35.7	36.7
Construction					131.9	132.8	142.4	159.7	218.7	231.5	239.4	222.8
Others					35.7	35.5	33.4	30.0	36.7	38.8	40.7	39.1
Chain-linked volume (reference year 2000)												
Gross fixed capital formation					2972.0	3016.3	3034.3	3115.0	3343.8	3546.2	3668.5	3488.9
Machinery and equipment					485.5	512.7	503.8	463.5	462.6	498.7	531.2	515.9
Transport material					294.7	289.8	253.0	247.7	222.5	231.0	219.3	225.4
Construction					1880.5	1893.3	2029.9	2277.0	2663.8	2819.7	2915.9	2713.0
Others					450.0	447.6	420.8	378.7	367.9	389.0	408.8	392.4
Deflator (2000=1)												
Gross fixed capital formation					0.1016	0.1070	0.1136	0.1214	0.1284	0.1359	0.1432	0.1523
Machinery and equipment					0.1613	0.1673	0.1756	0.1843	0.1928	0.1997	0.2117	0.2291
Transport material					0.1443	0.1558	0.1703	0.1859	0.2011	0.2122	0.2234	0.2353
Construction					0.0746	0.0787	0.0836	0.0898	0.0945	0.1012	0.1067	0.1127
Others					0.0908	0.0958	0.1030	0.1110	0.1188	0.1234	0.1286	0.1383

PRIVATE CONSUMPTION (RESIDENTS)

	1980				1981				1982			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Current prices (EUR million)												
Private consumption	1139.2	1221.9	1286.1	1345.3	1423.2	1497.4	1590.0	1674.6	1749.0	1838.1	1905.2	1977.0
Durables	145.1	155.7	174.1	179.4	187.5	195.7	198.1	209.3	205.5	224.0	221.0	227.8
Non-durables	994.2	1066.2	1112.0	1165.9	1235.8	1301.7	1392.0	1465.3	1543.5	1614.1	1684.2	1749.2
Previous year prices (EUR million)												
Private consumption	1003.5	1026.8	1043.1	1051.5	1271.3	1282.9	1288.6	1295.9	1576.1	1590.5	1593.7	1591.3
Durables	120.0	122.1	128.4	127.2	164.7	164.8	158.3	160.2	189.4	198.2	189.1	188.7
Non-durables	883.5	904.7	914.6	924.3	1106.6	1118.2	1130.3	1135.7	1386.7	1392.3	1404.7	1402.6
Chain-linked volume (reference year 2000)												
Private consumption	8639.4	8839.7	8980.0	9052.2	9042.3	9125.1	9165.8	9217.3	9313.6	9398.9	9417.9	9403.7
Durables	954.0	970.4	1021.3	1011.4	996.1	996.5	957.5	969.0	938.9	982.6	937.3	935.5
Non-durables	7711.9	7896.9	7983.3	8067.4	8075.4	8159.9	8248.7	8287.7	8423.9	8458.0	8533.1	8520.7
Deflator (2000=1)												
Private consumption	0.1319	0.1382	0.1432	0.1486	0.1574	0.1641	0.1735	0.1817	0.1878	0.1956	0.2023	0.2102
Durables	0.1521	0.1604	0.1705	0.1774	0.1882	0.1964	0.2069	0.2160	0.2189	0.2280	0.2358	0.2435
Non-durables	0.1289	0.1350	0.1393	0.1445	0.1530	0.1595	0.1687	0.1768	0.1832	0.1908	0.1974	0.2053

GROSS FIXED CAPITAL FORMATION

	1980				1981				1982			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Current prices (EUR million)												
Gross fixed capital formation	529.6	538.5	557.8	611.9	699.3	759.7	812.7	827.8	875.3	903.1	927.0	946.8
Machinery and equipment	133.4	144.3	154.3	166.5	183.6	191.7	212.0	211.3	224.5	236.6	240.6	237.9
Transport material	53.8	58.1	64.1	69.9	87.8	92.7	98.0	98.5	94.1	95.5	95.3	96.2
Construction	283.7	272.1	272.3	300.5	342.1	382.2	402.7	420.4	457.8	466.1	486.4	505.9
Others	58.8	64.1	67.1	75.0	85.7	93.1	100.0	97.5	98.9	104.9	104.8	106.8
Previous year prices (EUR million)												
Gross fixed capital formation	461.6	437.8	444.4	465.3	615.9	635.4	665.7	672.4	800.1	785.0	777.4	764.7
Machinery and equipment	114.3	114.1	122.1	128.7	168.6	168.7	184.7	185.4	203.1	200.5	197.7	192.0
Transport material	48.2	48.9	53.0	54.8	76.4	76.4	79.9	82.3	91.0	90.0	88.6	87.8
Construction	246.0	222.0	212.7	221.7	296.0	315.1	319.5	323.9	412.8	403.7	401.2	396.7
Others	53.1	52.8	56.6	60.1	74.8	75.2	81.6	80.8	93.2	90.8	89.9	88.2
Chain-linked volume (reference year 2000)												
Gross fixed capital formation	3295.5	3125.4	3172.7	3321.6	3554.2	3667.0	3842.1	3880.5	3857.5	3784.9	3748.4	3687.0
Machinery and equipment	547.4	546.3	584.6	616.2	646.3	646.9	708.3	710.8	689.7	680.7	671.4	652.0
Transport material	221.0	224.2	243.3	251.4	292.2	292.0	305.6	314.8	290.6	287.6	283.1	280.5
Construction	2368.8	2137.8	2048.5	2134.9	2279.4	2426.1	2459.7	2493.8	2577.0	2520.1	2504.4	2476.6
Others	417.0	414.6	444.0	471.6	493.5	495.9	538.1	532.8	510.1	497.2	492.2	482.7
Deflator (2000=1)												
Gross fixed capital formation	0.1607	0.1723	0.1758	0.1842	0.1967	0.2072	0.2115	0.2133	0.2269	0.2386	0.2473	0.2568
Machinery and equipment	0.2436	0.2641	0.2639	0.2702	0.2842	0.2964	0.2993	0.2973	0.3255	0.3475	0.3583	0.3649
Transport material	0.2433	0.2590	0.2636	0.2780	0.3006	0.3176	0.3207	0.3130	0.3238	0.3320	0.3365	0.3429
Construction	0.1198	0.1273	0.1329	0.1407	0.1501	0.1575	0.1637	0.1686	0.1776	0.1850	0.1942	0.2043
Others	0.1409	0.1545	0.1511	0.1591	0.1737	0.1877	0.1859	0.1830	0.1939	0.2109	0.2130	0.2212

PRIVATE CONSUMPTION (RESIDENTS)

	1983				1984				1985			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Current prices (EUR million)												
Private consumption	2125.0	2238.8	2403.6	2580.1	2688.7	2850.6	3039.8	3106.7	3248.9	3367.6	3454.5	3616.2
Durables	259.2	265.4	278.3	287.4	282.6	299.7	329.5	334.5	352.3	362.6	374.8	393.1
Non-durables	1865.8	1973.4	2125.3	2292.7	2406.0	2550.9	2710.3	2772.3	2896.7	3005.0	3079.8	3223.1
Previous year prices (EUR million)												
Private consumption	1868.3	1860.0	1853.7	1837.8	2306.8	2301.5	2309.7	2307.5	2903.7	2915.8	2925.4	2968.4
Durables	225.6	219.8	215.4	207.9	252.8	255.2	265.3	263.2	310.2	308.2	309.9	315.9
Non-durables	1642.8	1640.2	1638.2	1629.9	2054.0	2046.3	2044.4	2044.4	2593.5	2607.6	2615.4	2652.5
Chain-linked volume (reference year 2000)												
Private consumption	9388.7	9346.7	9315.0	9235.2	9201.3	9180.1	9212.8	9204.3	9143.7	9182.0	9212.1	9347.6
Durables	974.5	949.7	930.7	898.0	870.0	878.3	913.3	905.9	887.9	882.2	887.2	904.3
Non-durables	8458.3	8444.9	8434.9	8392.2	8390.6	8359.0	8351.0	8351.0	8310.4	8355.8	8380.8	8499.6
Deflator (2000=1)												
Private consumption	0.2263	0.2395	0.2580	0.2794	0.2922	0.3105	0.3299	0.3375	0.3553	0.3668	0.3750	0.3869
Durables	0.2660	0.2794	0.2990	0.3201	0.3249	0.3413	0.3608	0.3692	0.3968	0.4110	0.4224	0.4347
Non-durables	0.2206	0.2337	0.2520	0.2732	0.2868	0.3052	0.3245	0.3320	0.3486	0.3596	0.3675	0.3792

GROSS FIXED CAPITAL FORMATION

	1983				1984				1985			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Current prices (EUR million)												
Gross fixed capital formation	1026.6	1092.3	1175.8	1169.5	1098.1	1192.7	1236.5	1328.3	1336.1	1362.6	1416.7	1494.1
Machinery and equipment	252.5	264.4	299.3	287.6	262.3	304.5	314.3	347.4	336.5	331.4	344.3	385.6
Transport material	111.3	113.7	119.8	118.3	99.2	97.5	98.9	105.2	106.7	104.7	114.8	123.1
Construction	545.7	588.9	616.3	634.5	633.1	675.4	710.1	744.8	765.8	795.8	819.0	823.9
Others	117.1	125.2	140.4	129.2	103.5	115.3	113.2	130.8	127.1	130.7	138.6	161.4
Previous year prices (EUR million)												
Gross fixed capital formation	915.6	923.2	911.4	836.8	974.2	1006.1	987.5	997.3	1199.2	1188.7	1206.4	1224.0
Machinery and equipment	231.1	232.2	234.5	198.1	226.5	251.5	243.8	249.9	305.2	301.4	305.3	323.2
Transport material	103.1	100.7	96.1	85.4	87.8	83.7	80.7	80.6	98.2	96.5	103.6	105.6
Construction	476.4	484.7	476.6	470.3	570.8	575.6	574.1	574.2	679.3	672.3	675.7	665.1
Others	105.2	105.6	104.2	82.9	89.2	95.3	88.8	92.7	116.5	118.5	121.8	130.2
Chain-linked volume (reference year 2000)												
Gross fixed capital formation	3780.2	3811.5	3762.5	3454.6	3231.7	3337.4	3275.6	3308.3	3248.6	3220.1	3268.0	3315.8
Machinery and equipment	662.5	665.9	672.4	568.1	527.0	585.3	567.5	581.5	561.7	554.7	562.0	594.8
Transport material	308.8	301.7	288.0	256.0	218.8	208.6	201.3	200.9	203.3	199.9	214.4	218.7
Construction	2505.5	2549.1	2506.5	2473.4	2400.9	2421.4	2414.8	2415.2	2372.9	2348.3	2360.1	2323.1
Others	501.8	504.0	497.1	395.7	330.9	353.5	329.4	344.0	341.8	347.7	357.3	381.9
Deflator (2000=1)												
Gross fixed capital formation	0.2716	0.2866	0.3125	0.3385	0.3398	0.3574	0.3775	0.4015	0.4113	0.4231	0.4335	0.4506
Machinery and equipment	0.3811	0.3971	0.4452	0.5062	0.4978	0.5202	0.5538	0.5975	0.5990	0.5974	0.6125	0.6483
Transport material	0.3604	0.3769	0.4158	0.4620	0.4531	0.4675	0.4913	0.5238	0.5248	0.5237	0.5354	0.5631
Construction	0.2178	0.2310	0.2459	0.2565	0.2637	0.2789	0.2941	0.3084	0.3227	0.3389	0.3470	0.3547
Others	0.2334	0.2485	0.2824	0.3264	0.3127	0.3262	0.3436	0.3804	0.3719	0.3759	0.3878	0.4226

PRIVATE CONSUMPTION (RESIDENTS)

	1986				1987				1988			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Current prices (EUR million)												
Private consumption	3816.3	4062.7	4198.0	4400.2	4515.0	4757.8	4882.5	5083.6	5463.7	5748.0	6044.3	6400.7
Durables	375.2	426.9	455.3	487.3	542.6	602.3	597.2	630.0	745.8	846.6	890.7	988.1
Non-durables	3441.1	3635.8	3742.7	3912.9	3972.4	4155.5	4285.3	4453.6	4717.9	4901.4	5153.5	5412.6
Previous year prices (EUR million)												
Private consumption	3520.6	3638.7	3682.9	3783.2	4295.3	4429.8	4447.8	4519.3	5128.8	5237.7	5309.4	5446.7
Durables	348.1	380.1	392.8	417.0	500.0	537.2	517.5	545.4	683.0	751.2	762.9	823.6
Non-durables	3172.6	3258.7	3290.2	3366.2	3795.2	3892.6	3930.3	3974.0	4445.8	4486.6	4546.5	4623.2
Chain-linked volume (reference year 2000)												
Private consumption	9487.7	9806.0	9925.1	10195.3	10274.4	10596.3	10639.2	10810.3	11281.8	11521.5	11679.1	11981.2
Durables	836.0	912.9	943.4	1001.6	1058.7	1137.4	1095.7	1154.6	1280.2	1408.0	1430.0	1543.7
Non-durables	8720.5	8957.1	9043.8	9252.8	9267.3	9505.0	9597.1	9703.7	10035.3	10127.5	10262.7	10435.8
Deflator (2000=1)												
Private consumption	0.4022	0.4143	0.4230	0.4316	0.4394	0.4490	0.4589	0.4703	0.4843	0.4989	0.5175	0.5342
Durables	0.4488	0.4676	0.4826	0.4865	0.5126	0.5295	0.5451	0.5456	0.5826	0.6013	0.6229	0.6401
Non-durables	0.3946	0.4059	0.4138	0.4229	0.4286	0.4372	0.4465	0.4590	0.4701	0.4840	0.5022	0.5187

GROSS FIXED CAPITAL FORMATION

	1986				1987				1988			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Current prices (EUR million)												
Gross fixed capital formation	1469.7	1596.1	1666.8	1821.3	1932.7	2101.2	2190.3	2383.3	2526.6	2706.4	2863.8	2972.8
Machinery and equipment	371.8	436.7	456.0	518.2	537.2	598.5	641.8	701.8	751.7	799.9	851.8	857.2
Transport material	135.3	153.2	179.9	198.2	230.9	254.8	234.7	274.3	283.6	303.1	313.4	340.8
Construction	807.4	817.9	832.3	874.5	927.5	977.9	1036.2	1094.0	1146.0	1235.7	1299.7	1369.5
Others	155.2	188.2	198.6	230.4	237.2	270.0	277.7	313.2	345.2	367.7	398.8	405.4
Previous year prices (EUR million)												
Gross fixed capital formation	1395.4	1439.3	1490.9	1554.6	1838.0	1945.6	2018.5	2111.2	2381.5	2493.5	2525.4	2598.8
Machinery and equipment	355.5	394.3	412.6	445.9	519.0	570.6	619.0	635.5	710.2	737.3	742.3	752.6
Transport material	129.7	138.5	160.6	166.0	214.0	229.1	210.3	232.5	267.3	282.3	282.5	309.6
Construction	768.2	749.1	751.7	766.0	877.9	895.6	927.6	967.7	1085.4	1137.8	1159.4	1180.7
Others	141.9	157.4	166.1	176.7	227.1	250.3	261.5	275.5	318.6	336.1	341.3	355.9
Chain-linked volume (reference year 2000)												
Gross fixed capital formation	3246.9	3349.1	3469.2	3617.4	3837.2	4062.0	4214.0	4407.6	4570.9	4785.8	4847.1	4987.9
Machinery and equipment	578.2	641.3	671.1	725.2	761.6	837.3	908.4	932.6	985.4	1022.9	1029.9	1044.2
Transport material	241.4	257.9	298.8	308.9	355.3	380.4	349.3	386.1	395.3	417.5	417.8	457.9
Construction	2254.5	2198.3	2205.8	2247.9	2346.5	2394.0	2479.4	2586.6	2637.6	2764.9	2817.4	2869.1
Others	363.5	403.1	425.4	452.7	483.5	533.0	556.7	586.5	626.7	661.1	671.2	700.0
Deflator (2000=1)												
Gross fixed capital formation	0.4526	0.4766	0.4804	0.5035	0.5037	0.5173	0.5198	0.5407	0.5528	0.5655	0.5908	0.5960
Machinery and equipment	0.6430	0.6810	0.6794	0.7145	0.7053	0.7149	0.7065	0.7525	0.7629	0.7820	0.8271	0.8209
Transport material	0.5605	0.5943	0.6019	0.6416	0.6497	0.6699	0.6719	0.7105	0.7176	0.7261	0.7502	0.7443
Construction	0.3581	0.3721	0.3773	0.3890	0.3953	0.4085	0.4179	0.4230	0.4345	0.4469	0.4613	0.4773
Others	0.4270	0.4669	0.4669	0.5089	0.4906	0.5065	0.4988	0.5340	0.5509	0.5562	0.5942	0.5791

PRIVATE CONSUMPTION (RESIDENTS)

	1989				1990				1991			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Current prices (EUR million)												
Private consumption	6512.1	6694.7	6974.9	7178.5	7571.5	7973.4	8383.5	8780.8	9242.4	9699.7	10106.2	10405.7
Durables	979.5	901.0	931.6	955.7	1018.3	1072.3	1141.2	1173.1	1241.5	1303.3	1384.3	1390.8
Non-durables	5532.6	5793.6	6043.3	6222.7	6553.2	6901.0	7242.3	7607.8	8000.9	8396.4	8721.9	9014.8
Previous year prices (EUR million)												
Private consumption	6047.2	6093.0	6190.3	6279.1	7156.1	7327.8	7510.8	7655.1	8661.5	8889.8	9085.3	9187.6
Durables	937.3	860.3	872.4	878.9	989.9	1018.0	1066.3	1077.3	1189.5	1234.7	1302.6	1294.3
Non-durables	5109.9	5232.7	5317.9	5400.2	6166.2	6309.8	6444.6	6577.8	7472.0	7655.1	7782.7	7893.3
Chain-linked volume (reference year 2000)												
Private consumption	11877.1	11967.1	12158.3	12332.6	12642.2	12945.4	13268.9	13523.7	13870.4	14236.1	14549.2	14713.0
Durables	1528.8	1403.2	1423.1	1433.5	1520.8	1563.9	1638.1	1655.0	1722.3	1787.7	1886.0	1874.0
Non-durables	10343.9	10592.5	10764.9	10931.6	11142.7	11402.2	11645.9	11886.6	12163.9	12462.1	12669.8	12849.8
Deflator (2000=1)												
Private consumption	0.5483	0.5594	0.5737	0.5821	0.5989	0.6159	0.6318	0.6493	0.6663	0.6813	0.6946	0.7072
Durables	0.6407	0.6421	0.6546	0.6667	0.6696	0.6857	0.6967	0.7088	0.7209	0.7291	0.7340	0.7422
Non-durables	0.5349	0.5470	0.5614	0.5692	0.5881	0.6052	0.6219	0.6400	0.6578	0.6738	0.6884	0.7016

GROSS FIXED CAPITAL FORMATION

	1989				1990				1991			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Current prices (EUR million)												
Gross fixed capital formation	3021.9	3101.9	3216.1	3347.7	3450.6	3584.3	3701.3	3808.8	3850.6	3938.4	4120.2	4247.0
Machinery and equipment	845.4	886.6	918.3	972.8	1024.8	1039.6	1109.3	1129.5	1165.2	1162.1	1173.1	1177.9
Transport material	319.9	306.8	331.7	362.2	348.2	370.6	349.2	382.2	351.9	384.4	397.1	404.8
Construction	1457.7	1500.6	1537.0	1557.3	1610.9	1697.4	1746.2	1771.0	1810.9	1854.4	1992.6	2108.0
Others	398.9	407.7	429.0	455.3	466.6	476.7	496.6	526.1	522.6	537.5	557.4	556.3
Previous year prices (EUR million)												
Gross fixed capital formation	2813.7	2842.3	2836.5	2908.5	3260.0	3345.8	3384.2	3463.6	3682.2	3717.5	3809.4	3887.0
Machinery and equipment	793.6	827.2	842.8	900.9	1012.5	1040.1	1098.6	1145.1	1127.7	1132.4	1140.0	1143.7
Transport material	300.5	294.5	291.9	311.4	339.5	358.7	333.3	361.9	364.7	392.8	390.9	398.0
Construction	1347.3	1339.5	1322.3	1296.2	1468.2	1497.7	1492.9	1460.2	1669.2	1649.9	1729.1	1794.1
Others	372.3	381.1	379.5	400.0	439.8	449.3	459.4	496.5	520.7	542.3	549.4	551.3
Chain-linked volume (reference year 2000)												
Gross fixed capital formation	4878.1	4927.8	4917.6	5042.5	5078.8	5212.5	5272.3	5396.0	5306.1	5357.0	5489.4	5601.2
Machinery and equipment	993.6	1035.7	1055.2	1127.9	1177.1	1209.2	1277.2	1331.2	1308.9	1314.4	1323.2	1327.4
Transport material	408.9	400.7	397.1	423.6	419.2	442.8	411.5	446.8	432.6	465.9	463.7	472.1
Construction	2957.9	2940.8	2903.0	2845.7	2825.4	2882.1	2872.9	2809.9	2785.5	2753.4	2885.5	2994.0
Others	652.5	667.9	665.2	701.1	698.8	713.9	729.9	788.9	776.3	808.6	819.2	821.9
Deflator (2000=1)												
Gross fixed capital formation	0.6195	0.6295	0.6540	0.6639	0.6794	0.6876	0.7020	0.7059	0.7257	0.7352	0.7506	0.7582
Machinery and equipment	0.8509	0.8561	0.8703	0.8625	0.8707	0.8597	0.8686	0.8485	0.8902	0.8841	0.8866	0.8874
Transport material	0.7823	0.7657	0.8354	0.8549	0.8308	0.8369	0.8486	0.8554	0.8135	0.8249	0.8565	0.8575
Construction	0.4928	0.5103	0.5295	0.5472	0.5701	0.5890	0.6078	0.6303	0.6501	0.6735	0.6906	0.7041
Others	0.6113	0.6104	0.6450	0.6495	0.6678	0.6677	0.6804	0.6670	0.6732	0.6647	0.6804	0.6768

PRIVATE CONSUMPTION (RESIDENTS)

	1992				1993				1994			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Current prices (EUR million)												
Private consumption	10685.5	11139.9	11343.7	11601.6	11782.6	11888.8	12187.3	12437.5	12583.1	12890.0	13074.0	13353.3
Durables	1488.8	1585.1	1536.2	1639.3	1557.0	1513.8	1535.7	1523.6	1571.8	1616.9	1582.8	1692.3
Non-durables	9196.7	9554.8	9807.5	9962.3	10225.5	10375.0	10651.7	10913.9	11011.2	11273.1	11491.2	11661.0
Previous year prices (EUR million)												
Private consumption	10224.5	10391.5	10445.7	10586.4	11429.5	11400.6	11479.5	11488.6	12037.4	12163.3	12178.5	12274.7
Durables	1461.6	1528.5	1460.7	1533.1	1495.6	1430.7	1422.8	1389.6	1501.5	1529.7	1478.1	1555.0
Non-durables	8762.9	8863.0	8984.9	9053.3	9933.9	9969.9	10056.7	10099.0	10535.9	10633.6	10700.4	10719.7
Chain-linked volume (reference year 2000)												
Private consumption	14867.0	15109.9	15188.7	15393.4	15460.2	15421.0	15527.8	15540.1	15440.3	15601.7	15621.2	15744.7
Durables	1997.4	2088.8	1996.1	2095.1	1957.0	1872.1	1861.7	1818.3	1839.3	1873.8	1810.6	1904.8
Non-durables	12873.3	13020.4	13199.6	13300.0	13511.3	13560.2	13678.3	13735.8	13614.1	13740.3	13826.7	13851.6
Deflator (2000=1)												
Private consumption	0.7187	0.7373	0.7468	0.7537	0.7621	0.7709	0.7849	0.8003	0.8150	0.8262	0.8369	0.8481
Durables	0.7454	0.7589	0.7696	0.7825	0.7956	0.8086	0.8249	0.8379	0.8546	0.8629	0.8742	0.8884
Non-durables	0.7144	0.7338	0.7430	0.7490	0.7568	0.7651	0.7787	0.7946	0.8088	0.8204	0.8311	0.8419

GROSS FIXED CAPITAL FORMATION

	1992				1993				1994			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Current prices (EUR million)												
Gross fixed capital formation	4499.0	4570.7	4618.2	4534.0	4328.2	4407.1	4176.9	4202.6	4291.1	4398.2	4378.0	4832.0
Machinery and equipment	1164.5	1158.6	1174.0	1151.7	1097.7	1180.4	1103.8	1110.4	1093.2	1048.2	1007.1	1061.0
Transport material	449.6	457.0	447.6	413.7	389.1	395.9	354.0	366.2	386.4	435.1	389.9	577.5
Construction	2289.4	2369.9	2396.5	2407.3	2323.5	2273.7	2202.9	2182.6	2234.2	2319.6	2411.1	2536.6
Others	595.6	585.2	600.1	561.3	517.9	557.1	516.2	543.5	577.3	595.3	569.9	656.8
Previous year prices (EUR million)												
Gross fixed capital formation	4379.8	4430.7	4427.3	4294.0	4262.4	4264.4	4006.3	3939.0	4168.5	4259.8	4243.9	4619.4
Machinery and equipment	1185.4	1206.2	1235.6	1208.8	1131.7	1180.7	1112.2	1079.8	1043.3	1002.9	982.7	1012.4
Transport material	440.1	437.7	424.2	387.9	391.9	401.9	353.5	348.1	390.4	436.2	389.2	566.8
Construction	2178.5	2212.8	2194.1	2165.0	2223.7	2141.7	2039.6	2004.6	2168.8	2232.9	2298.8	2384.0
Others	575.9	574.0	573.5	532.3	515.1	540.2	501.1	506.5	566.0	587.8	573.3	656.2
Chain-linked volume (reference year 2000)												
Gross fixed capital formation	5897.2	5965.7	5961.1	5781.6	5521.8	5524.4	5190.0	5102.8	5197.3	5311.1	5291.3	5759.5
Machinery and equipment	1336.3	1359.7	1392.9	1362.7	1327.1	1384.5	1304.3	1266.2	1226.8	1179.2	1155.5	1190.4
Transport material	524.8	522.0	505.8	462.5	446.7	458.2	402.9	396.8	442.1	493.9	440.7	641.8
Construction	3203.0	3253.4	3225.9	3183.2	3023.3	2911.7	2772.9	2725.3	2760.5	2842.1	2925.9	3034.4
Others	854.6	851.8	851.0	790.0	736.2	772.0	716.1	723.9	781.7	811.8	791.8	906.3
Deflator (2000=1)												
Gross fixed capital formation	0.7629	0.7662	0.7747	0.7842	0.7839	0.7978	0.8048	0.8236	0.8256	0.8281	0.8274	0.8390
Machinery and equipment	0.8714	0.8521	0.8429	0.8452	0.8272	0.8525	0.8463	0.8769	0.8911	0.8889	0.8716	0.8913
Transport material	0.8567	0.8755	0.8848	0.8943	0.8711	0.8642	0.8787	0.9229	0.8741	0.8808	0.8847	0.8999
Construction	0.7148	0.7284	0.7429	0.7563	0.7685	0.7809	0.7944	0.8008	0.8094	0.8162	0.8240	0.8359
Others	0.6969	0.6870	0.7051	0.7105	0.7035	0.7216	0.7208	0.7507	0.7385	0.7332	0.7198	0.7248

PRIVATE CONSUMPTION (RESIDENTS)

	1995				1996				1997			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Current prices (EUR million)												
Private consumption	13610.8	13930.4	13885.7	14052.3	14415.5	14584.7	14913.9	15079.1	15394.0	15473.8	15885.8	16103.0
Durables	1618.9	1744.0	1706.2	1632.2	1777.9	1772.4	1871.5	1879.1	1947.7	1942.8	2047.0	2053.3
Non-durables	11991.9	12186.5	12179.5	12420.1	12637.6	12812.4	13042.4	13200.0	13446.4	13531.0	13838.8	14049.6
Previous year prices (EUR million)												
Private consumption	13122.2	13303.9	13186.6	13245.0	14158.8	14214.0	14447.9	14505.1	15075.3	15120.7	15403.4	15504.9
Durables	1569.6	1664.4	1616.3	1534.0	1752.3	1738.1	1829.3	1823.1	1915.5	1905.8	2005.1	2003.5
Non-durables	11552.7	11639.5	11570.3	11711.1	12406.5	12475.9	12618.6	12681.9	13159.8	13214.9	13398.3	13501.4
Chain-linked volume (reference year 2000)												
Private consumption	15778.9	15997.3	15856.3	15926.5	16220.8	16284.1	16552.0	16617.5	16782.6	16833.1	17147.9	17260.8
Durables	1803.8	1912.8	1857.6	1762.9	1918.6	1903.0	2002.9	1996.1	2051.8	2041.4	2147.8	2146.1
Non-durables	13992.6	14097.8	14013.9	14184.4	14316.8	14396.9	14561.6	14634.7	14742.7	14804.4	15009.8	15125.4
Deflator (2000=1)												
Private consumption	0.8626	0.8708	0.8757	0.8823	0.8887	0.8956	0.9010	0.9074	0.9173	0.9192	0.9264	0.9329
Durables	0.8975	0.9118	0.9185	0.9259	0.9267	0.9314	0.9344	0.9414	0.9492	0.9517	0.9530	0.9568
Non-durables	0.8570	0.8644	0.8691	0.8756	0.8827	0.8899	0.8957	0.9020	0.9121	0.9140	0.9220	0.9289

GROSS FIXED CAPITAL FORMATION

	1995				1996				1997			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Current prices (EUR million)												
Gross fixed capital formation	4694.6	4807.9	4777.4	4878.8	4885.3	5028.5	5346.2	5581.0	5908.3	6070.8	6314.2	6398.6
Machinery and equipment	1103.8	1120.3	1116.4	1201.2	1202.6	1196.3	1238.2	1297.2	1367.2	1393.8	1449.5	1506.5
Transport material	382.8	450.7	431.9	457.8	462.8	485.0	539.7	541.1	600.2	646.1	688.0	724.9
Construction	2615.5	2643.6	2621.9	2605.7	2586.2	2704.5	2902.9	3057.8	3235.5	3301.6	3412.6	3372.7
Others	592.5	593.3	607.1	614.1	633.7	642.7	665.3	684.9	705.3	729.3	764.1	794.5
Previous year prices (EUR million)												
Gross fixed capital formation	4596.6	4687.0	4621.5	4646.1	4763.8	4921.0	5183.0	5370.2	5748.9	5904.1	6037.0	6126.8
Machinery and equipment	1100.4	1112.3	1115.2	1168.1	1156.8	1146.4	1174.6	1223.3	1337.1	1368.7	1392.0	1471.7
Transport material	368.3	448.3	417.4	431.9	451.9	507.2	552.2	539.0	570.2	642.6	665.2	708.0
Construction	2538.9	2544.1	2511.6	2461.7	2528.7	2636.8	2819.3	2951.5	3158.5	3192.6	3265.2	3207.0
Others	589.1	582.3	577.3	584.5	626.3	630.7	636.9	656.5	683.1	700.2	714.6	740.2
Chain-linked volume (reference year 2000)												
Gross fixed capital formation	5536.5	5645.4	5566.5	5596.1	5555.9	5739.3	6044.9	6263.3	6510.9	6686.7	6837.2	6938.9
Machinery and equipment	1242.1	1255.6	1258.9	1318.6	1292.7	1281.1	1312.6	1367.0	1423.6	1457.2	1482.0	1566.9
Transport material	415.6	505.8	471.0	487.3	493.0	553.2	602.3	587.9	628.6	708.5	733.4	780.5
Construction	3089.7	3096.1	3056.5	2995.7	2951.0	3077.1	3290.1	3444.4	3582.8	3621.4	3703.7	3637.7
Others	808.1	798.9	791.9	801.8	832.8	838.6	846.9	873.0	881.9	904.1	922.6	955.6
Deflator (2000=1)												
Gross fixed capital formation	0.8479	0.8516	0.8582	0.8718	0.8793	0.8762	0.8844	0.8911	0.9074	0.9079	0.9235	0.9221
Machinery and equipment	0.8887	0.8922	0.8868	0.9109	0.9303	0.9339	0.9433	0.9490	0.9604	0.9565	0.9781	0.9615
Transport material	0.9211	0.8909	0.9170	0.9396	0.9387	0.8768	0.8960	0.9203	0.9548	0.9119	0.9382	0.9287
Construction	0.8465	0.8539	0.8578	0.8698	0.8764	0.8789	0.8823	0.8878	0.9031	0.9117	0.9214	0.9271
Others	0.7332	0.7427	0.7666	0.7659	0.7610	0.7664	0.7856	0.7846	0.7998	0.8067	0.8282	0.8314

PRIVATE CONSUMPTION (RESIDENTS)

	1998				1999				2000			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Current prices (EUR million)												
Private consumption	16422.3	16732.0	17060.6	17487.7	17835.8	18054.2	18339.9	18590.2	19163.0	19303.8	19725.8	19907.6
Durables	2196.4	2270.7	2401.9	2507.4	2645.1	2697.9	2671.8	2618.1	2871.8	2753.1	2791.1	2818.8
Non-durables	14226.0	14461.3	14658.7	14980.3	15190.7	15356.2	15668.1	15972.2	16291.2	16550.7	16934.7	17088.8
Previous year prices (EUR million)												
Private consumption	16181.6	16414.1	16625.3	16940.1	17617.1	17712.5	17871.7	18013.3	18804.4	18759.4	18956.0	18993.4
Durables	2182.9	2239.1	2361.4	2462.8	2628.6	2658.8	2632.0	2569.5	2836.4	2709.7	2725.7	2731.7
Non-durables	13998.6	14175.0	14263.9	14477.3	14988.4	15053.7	15239.8	15443.8	15968.0	16049.7	16230.3	16261.7
Chain-linked volume (reference year 2000)												
Private consumption	17512.0	17763.6	17992.2	18332.9	18631.4	18732.3	18900.7	19050.4	19446.2	19402.3	19606.0	19645.7
Durables	2291.2	2350.1	2478.6	2585.0	2720.7	2752.0	2724.2	2659.5	2895.4	2767.1	2783.1	2789.2
Non-durables	15227.5	15419.4	15516.0	15748.2	15909.7	15978.9	16176.4	16393.0	16550.8	16635.3	16822.9	16856.5
Deflator (2000=1)												
Private consumption	0.9378	0.9419	0.9482	0.9539	0.9573	0.9638	0.9703	0.9758	0.9854	0.9949	1.0061	1.0133
Durables	0.9586	0.9662	0.9691	0.9700	0.9722	0.9804	0.9808	0.9844	0.9918	0.9950	1.0029	1.0106
Non-durables	0.9342	0.9379	0.9447	0.9512	0.9548	0.9610	0.9686	0.9743	0.9843	0.9949	1.0066	1.0138

GROSS FIXED CAPITAL FORMATION

	1998				1999				2000			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Current prices (EUR million)												
Gross fixed capital formation	6868.1	6972.0	7070.8	7333.3	7401.6	7499.9	7775.4	7939.9	8339.3	8103.6	8330.6	8329.8
Machinery and equipment	1602.1	1710.3	1705.3	1745.2	1743.9	1770.4	1855.0	1918.9	1952.9	1946.5	2012.6	2053.4
Transport material	746.8	769.8	789.9	871.2	837.3	835.0	909.1	914.7	961.2	893.9	909.0	940.0
Construction	3669.8	3604.5	3652.7	3763.6	3794.0	3821.7	3916.9	3992.7	4268.6	4143.5	4276.1	4224.7
Others	849.3	887.5	922.8	953.3	1026.5	1072.7	1094.5	1113.6	1156.6	1119.7	1132.9	1111.7
Previous year prices (EUR million)												
Gross fixed capital formation	6773.8	6822.7	6891.6	7097.0	7379.0	7399.9	7572.0	7632.5	8105.6	7814.8	7961.5	7800.5
Machinery and equipment	1610.4	1681.9	1681.6	1726.3	1792.4	1809.9	1877.2	1934.3	1902.6	1884.0	1933.1	1900.8
Transport material	745.5	782.0	801.4	852.9	811.4	803.1	861.0	873.7	939.9	871.5	886.3	903.8
Construction	3605.4	3527.1	3563.3	3649.9	3792.9	3781.3	3830.0	3828.6	4150.4	3980.7	4066.9	3969.6
Others	812.5	831.7	845.3	867.9	982.3	1005.5	1003.7	995.9	1112.7	1078.6	1075.2	1026.3
Chain-linked volume (reference year 2000)												
Gross fixed capital formation	7399.8	7453.2	7528.5	7752.9	7872.8	7895.1	8078.7	8143.3	8471.2	8167.4	8317.1	8147.6
Machinery and equipment	1670.3	1744.5	1744.1	1790.5	1841.8	1859.8	1928.9	1987.6	1988.7	1969.2	2020.7	1986.9
Transport material	799.3	838.4	859.2	914.5	871.0	862.2	924.3	938.0	966.6	896.3	911.5	929.6
Construction	3936.5	3850.9	3890.5	3985.0	4043.9	4031.6	4083.5	4082.0	4344.0	4165.9	4252.7	4150.4
Others	994.6	1018.1	1034.9	1062.4	1117.4	1143.9	1141.9	1132.9	1171.8	1135.9	1132.3	1080.8
Deflator (2000=1)												
Gross fixed capital formation	0.9281	0.9354	0.9392	0.9459	0.9402	0.9499	0.9624	0.9750	0.9844	0.9922	1.0016	1.0224
Machinery and equipment	0.9592	0.9804	0.9778	0.9747	0.9469	0.9519	0.9617	0.9655	0.9820	0.9885	0.9960	1.0335
Transport material	0.9344	0.9181	0.9194	0.9527	0.9612	0.9685	0.9835	0.9752	0.9943	0.9973	0.9972	1.0112
Construction	0.9323	0.9360	0.9389	0.9444	0.9382	0.9480	0.9592	0.9781	0.9827	0.9946	1.0055	1.0179
Others	0.8539	0.8717	0.8917	0.8973	0.9186	0.9378	0.9585	0.9829	0.9870	0.9857	1.0005	1.0286

PRIVATE CONSUMPTION (RESIDENTS)

	2001				2002				2003			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Current prices (EUR million)												
Private consumption	20163.9	20441.4	20518.4	20673.2	21080.3	21256.7	21539.6	21508.5	21689.2	21781.9	22068.1	22282.5
Durables	2692.1	2737.7	2672.3	2607.3	2659.6	2703.4	2602.8	2469.6	2375.1	2382.4	2440.4	2464.5
Non-durables	17471.8	17703.7	17846.0	18065.9	18420.7	18553.2	18936.8	19039.0	19314.2	19399.5	19627.7	19818.0
Previous year prices (EUR million)												
Private consumption	19675.7	19816.0	19800.7	19841.4	20730.4	20741.6	20816.7	20596.4	21186.3	21205.0	21373.8	21439.2
Durables	2640.4	2671.9	2595.0	2532.4	2628.6	2666.3	2543.3	2400.7	2341.8	2349.8	2404.1	2423.9
Non-durables	17035.3	17144.1	17205.7	17309.0	18101.8	18075.3	18273.4	18195.7	18844.5	18855.2	18969.6	19015.3
Chain-linked volume (reference year 2000)												
Private consumption	19675.7	19816.0	19800.7	19841.4	20055.5	20066.3	20139.0	19925.8	19896.4	19914.0	20072.5	20134.0
Durables	2640.4	2671.9	2595.0	2532.4	2562.4	2599.1	2479.2	2340.2	2239.8	2247.5	2299.4	2318.3
Non-durables	17035.3	17144.1	17205.7	17309.0	17492.4	17466.8	17658.2	17583.2	17650.4	17660.4	17767.6	17810.4
Deflator (2000=1)												
Private consumption	1.0248	1.0316	1.0362	1.0419	1.0511	1.0593	1.0695	1.0794	1.0901	1.0938	1.0994	1.1067
Durables	1.0196	1.0246	1.0298	1.0296	1.0379	1.0401	1.0499	1.0553	1.0604	1.0601	1.0613	1.0631
Non-durables	1.0256	1.0326	1.0372	1.0437	1.0531	1.0622	1.0724	1.0828	1.0943	1.0985	1.1047	1.1127

GROSS FIXED CAPITAL FORMATION

	2001				2002				2003			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Current prices (EUR million)												
Gross fixed capital formation	8182.1	8524.4	8686.1	8825.7	8601.8	8667.9	8401.5	8170.1	8018.2	7900.3	7940.8	7875.0
Machinery and equipment	2092.4	2066.2	2022.4	2026.6	1944.1	1937.7	1882.3	1887.3	1807.3	1748.5	1805.7	1827.2
Transport material	814.6	870.0	838.2	815.9	753.2	733.2	728.6	673.4	637.6	668.9	663.6	655.9
Construction	4189.1	4466.4	4649.4	4750.8	4638.2	4691.6	4488.3	4316.0	4287.0	4222.5	4209.6	4121.2
Others	1086.1	1121.8	1176.0	1232.4	1266.3	1305.4	1302.2	1293.5	1286.4	1260.4	1261.9	1270.7
Previous year prices (EUR million)												
Gross fixed capital formation	8027.5	8367.4	8473.0	8561.6	8508.8	8502.2	8150.0	7864.9	7894.4	7822.6	7872.5	7748.8
Machinery and equipment	2069.4	2079.1	2072.6	2108.5	1968.8	1960.7	1905.9	1897.8	1844.1	1815.9	1882.7	1903.1
Transport material	789.2	846.3	805.3	773.3	764.6	734.3	690.2	660.0	634.1	662.0	659.0	651.7
Construction	4122.2	4361.0	4472.2	4525.1	4538.1	4529.6	4295.5	4085.6	4167.7	4121.7	4116.5	3995.0
Others	1046.7	1081.0	1122.9	1154.7	1237.4	1277.6	1258.4	1221.4	1248.5	1223.1	1214.3	1198.9
Chain-linked volume (reference year 2000)												
Gross fixed capital formation	8027.5	8367.4	8473.0	8561.6	8312.7	8306.2	7962.1	7683.6	7526.6	7458.2	7505.7	7387.8
Machinery and equipment	2069.4	2079.1	2072.6	2108.5	1998.1	1989.9	1934.3	1926.1	1891.5	1862.6	1931.2	1952.1
Transport material	789.2	846.3	805.3	773.3	736.0	706.9	664.5	635.4	602.1	628.6	625.7	618.8
Construction	4122.2	4361.0	4472.2	4525.1	4393.5	4385.3	4158.7	3955.5	3882.5	3839.6	3834.7	3721.6
Others	1046.7	1081.0	1122.9	1154.7	1180.8	1219.2	1200.8	1165.5	1151.6	1128.1	1120.0	1105.9
Deflator (2000=1)												
Gross fixed capital formation	1.0193	1.0188	1.0251	1.0308	1.0348	1.0435	1.0552	1.0633	1.0653	1.0593	1.0580	1.0660
Machinery and equipment	1.0111	0.9938	0.9758	0.9611	0.9730	0.9738	0.9731	0.9799	0.9555	0.9387	0.9350	0.9360
Transport material	1.0322	1.0281	1.0409	1.0551	1.0234	1.0372	1.0966	1.0598	1.0589	1.0641	1.0605	1.0599
Construction	1.0162	1.0242	1.0396	1.0499	1.0557	1.0698	1.0793	1.0911	1.1042	1.0997	1.0977	1.1074
Others	1.0377	1.0378	1.0473	1.0673	1.0724	1.0707	1.0845	1.1098	1.1170	1.1173	1.1267	1.1491

PRIVATE CONSUMPTION (RESIDENTS)

	2004				2005				2006			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Current prices (EUR million)												
Private consumption	22661.7	22963.1	23291.4	23498.6	23780.6	24146.2	24217.3	24498.6	24853.4	25146.7	25359.4	25488.1
Durables	2431.4	2551.4	2575.6	2636.9	2648.3	2842.9	2613.6	2724.5	2727.6	2784.0	2708.3	2740.7
Non-durables	20230.3	20411.8	20715.8	20861.6	21132.3	21303.3	21603.7	21774.1	22125.9	22362.6	22651.1	22747.4
Previous year prices (EUR million)												
Private consumption	22316.2	22458.4	22646.3	22742.8	23495.8	23712.1	23511.8	23621.0	24338.9	24417.9	24478.1	24498.9
Durables	2420.9	2530.0	2545.0	2590.8	2622.9	2809.5	2564.2	2651.0	2684.5	2723.9	2643.1	2671.7
Non-durables	19895.4	19928.4	20101.3	20151.9	20873.0	20902.6	20947.6	20970.0	21654.3	21694.0	21835.0	21827.1
Chain-linked volume (reference year 2000)												
Private consumption	20333.0	20462.5	20633.6	20721.6	20886.2	21078.4	20900.4	20997.5	21120.3	21188.9	21241.1	21259.1
Durables	2281.2	2384.1	2398.2	2441.4	2445.3	2619.3	2390.6	2471.5	2460.8	2496.8	2422.8	2449.0
Non-durables	18044.7	18074.6	18231.4	18277.4	18438.0	18464.1	18503.9	18523.7	18655.6	18689.8	18811.2	18804.4
Deflator (2000=1)												
Private consumption	1.1145	1.1222	1.1288	1.1340	1.1386	1.1455	1.1587	1.1667	1.1768	1.1868	1.1939	1.1989
Durables	1.0658	1.0702	1.0740	1.0801	1.0830	1.0854	1.0933	1.1024	1.1084	1.1150	1.1178	1.1191
Non-durables	1.1211	1.1293	1.1363	1.1414	1.1461	1.1538	1.1675	1.1755	1.1860	1.1965	1.2041	1.2097

GROSS FIXED CAPITAL FORMATION

	2004				2005				2006			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Current prices (EUR million)												
Gross fixed capital formation	8042.9	8221.8	8258.2	8233.5	8177.3	8275.3	8248.5	8263.4	8346.2	8422.8	8177.3	8219.0
Machinery and equipment	1858.1	1869.0	1903.5	1940.4	1918.9	1915.6	1941.8	1955.6	1897.4	1891.9	1898.7	2018.2
Transport material	653.0	637.3	618.1	692.4	595.5	578.0	646.6	648.9	678.1	886.4	743.9	664.4
Construction	4229.6	4385.2	4385.9	4244.4	4301.3	4409.1	4285.1	4253.5	4335.4	4218.6	4097.4	4069.2
Others	1302.1	1330.3	1350.8	1356.3	1361.6	1372.6	1375.0	1405.4	1435.3	1425.9	1437.4	1467.2
Previous year prices (EUR million)												
Gross fixed capital formation	7972.0	8035.7	7979.5	7832.9	8011.8	8070.2	7866.2	7797.1	8217.9	8233.8	7972.3	7879.4
Machinery and equipment	1860.9	1856.3	1882.8	1894.5	1912.0	1930.8	1897.5	1919.8	1898.6	1899.9	1944.1	1978.5
Transport material	643.2	636.3	597.5	674.2	595.0	593.4	627.7	633.8	689.4	883.6	728.3	645.3
Construction	4187.9	4232.8	4190.7	3991.9	4209.5	4252.3	4070.8	3976.8	4241.3	4068.7	3921.2	3878.8
Others	1280.0	1310.2	1308.4	1272.2	1295.4	1293.6	1270.3	1266.6	1388.7	1381.5	1378.6	1376.9
Chain-linked volume (reference year 2000)												
Gross fixed capital formation	7505.7	7565.6	7512.7	7374.7	7327.5	7380.9	7194.4	7131.2	7238.0	7252.0	7021.7	6939.9
Machinery and equipment	1977.1	1972.2	2000.4	2012.8	2010.8	2030.6	1995.6	2019.0	1978.2	1979.5	2025.6	2061.5
Transport material	606.3	599.8	563.2	635.5	550.1	548.7	580.4	586.1	632.5	810.7	668.3	592.1
Construction	3799.5	3840.3	3802.0	3621.7	3677.0	3714.4	3555.8	3473.7	3545.9	3401.6	3278.3	3242.8
Others	1135.4	1162.2	1160.6	1128.5	1112.8	1111.2	1091.2	1088.1	1108.8	1103.1	1100.8	1099.4
Deflator (2000=1)												
Gross fixed capital formation	1.0716	1.0867	1.0992	1.1165	1.1160	1.1212	1.1465	1.1588	1.1531	1.1614	1.1646	1.1843
Machinery and equipment	0.9398	0.9477	0.9515	0.9641	0.9543	0.9433	0.9731	0.9686	0.9592	0.9558	0.9373	0.9790
Transport material	1.0771	1.0625	1.0974	1.0895	1.0825	1.0534	1.1140	1.1071	1.0720	1.0933	1.1132	1.1222
Construction	1.1132	1.1419	1.1536	1.1719	1.1698	1.1870	1.2051	1.2245	1.2227	1.2402	1.2499	1.2548
Others	1.1468	1.1446	1.1638	1.2019	1.2236	1.2352	1.2601	1.2917	1.2945	1.2926	1.3057	1.3346

HOUSEHOLD'S DISPOSABLE INCOME

	1977				1978				1979			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Current prices (EUR million)												
Compensation of employees	599.1	604.2	622.1	638.9	678.5	702.9	736.2	762.9	787.8	823.0	869.4	920.5
Domestic transfers	94.1	95.5	98.3	102.5	108.1	113.2	117.7	121.7	125.3	132.2	142.7	156.6
External transfers	49.4	53.8	52.9	53.1	61.3	79.9	88.7	111.4	130.7	134.7	156.4	150.1
Corporate and property income	155.4	162.3	176.4	198.9	212.2	235.1	255.5	273.0	286.6	304.9	325.5	349.0
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	94.0	95.7	99.0	104.1	110.8	116.7	122.0	126.5	130.2	137.1	147.0	160.0
Disposable income	774.4	789.9	819.3	856.3	914.0	976.2	1034.9	1097.6	1151.1	1205.2	1291.3	1358.0

LABOUR MARKET

	1977				1978				1979			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
10^3 heads												
Labour force	4073.5	4068.8	4102.6	4104.3	4176.8	4183.9	4241.9	4255.5	4283.2	4302.3	4336.0	4359.3
Total employment	3877.1	3869.9	3897.0	3885.7	3959.2	3955.7	4009.0	4020.6	4047.1	4066.3	4099.7	4122.2
Unemployment	196.3	198.9	205.6	218.6	217.6	228.2	232.9	234.9	236.1	236.0	236.3	237.1
Employment in full-time equivalent	3766.0	3758.9	3785.2	3773.6	3843.7	3842.6	3889.3	3909.9	3926.8	3951.7	3985.0	3999.5
Employees	3106.3	3102.8	3135.4	3131.7	3209.4	3212.7	3257.3	3271.7	3279.0	3297.8	3329.7	3348.0
Other forms of employment	659.7	656.1	649.9	641.9	634.3	630.0	632.0	638.2	647.8	654.0	655.3	651.4
EUR thousand												
Compensation per employee	0.193	0.195	0.198	0.204	0.211	0.219	0.226	0.233	0.240	0.250	0.261	0.275
Per cent												
Unemployment rate	4.8	4.9	5.0	5.3	5.2	5.5	5.5	5.5	5.5	5.5	5.5	5.4

HOUSEHOLD'S DISPOSABLE INCOME

	1980				1981				1982			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Current prices (EUR million)												
Compensation of employees	988.4	1047.8	1111.0	1175.0	1227.7	1296.2	1361.1	1433.8	1519.5	1605.0	1688.8	1784.8
Domestic transfers	174.0	190.9	207.3	223.1	238.4	254.1	270.1	286.4	303.1	321.8	342.6	365.4
External transfers	170.6	171.1	182.3	182.9	193.9	218.6	210.4	215.4	222.8	245.5	258.0	275.5
Corporate and property income	372.4	402.0	434.8	470.4	511.1	550.5	593.0	638.9	682.4	726.7	774.4	817.0
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	176.0	190.5	203.3	214.5	224.1	237.0	253.4	273.2	296.4	319.8	343.3	367.0
Disposable income	1469.1	1557.5	1663.1	1761.2	1863.0	1990.1	2081.3	2194.1	2317.1	2457.3	2590.3	2736.8

LABOUR MARKET

	1980				1981				1982			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
10^3 heads												
Labour force	4382.8	4388.2	4398.2	4418.6	4399.8	4416.7	4408.9	4400.4	4436.8	4439.8	4414.8	4418.4
Total employment	4150.6	4164.4	4171.9	4192.1	4162.8	4174.3	4167.0	4157.2	4201.0	4199.2	4186.2	4183.9
Unemployment	232.3	223.8	226.3	226.4	237.0	242.4	241.9	243.3	235.8	240.6	228.6	234.5
Employment in full-time equivalent	4038.8	4040.9	4052.9	4063.8	4038.7	4050.3	4041.5	4046.3	4074.8	4082.7	4067.2	4058.0
Employees	3397.0	3408.9	3428.5	3445.5	3425.3	3436.1	3423.3	3418.3	3431.7	3430.6	3414.2	3412.2
Other forms of employment	641.8	632.0	624.4	618.3	613.4	614.2	618.2	628.1	643.1	652.1	653.0	645.8
EUR thousand												
Compensation per employee	0.291	0.307	0.324	0.341	0.358	0.377	0.398	0.419	0.443	0.468	0.495	0.523
Per cent												
Unemployment rate	5.3	5.1	5.1	5.1	5.4	5.5	5.5	5.5	5.3	5.4	5.2	5.3

HOUSEHOLD'S DISPOSABLE INCOME

	1983				1984				1985			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Current prices (EUR million)												
Compensation of employees	1860.4	1941.8	1999.7	2043.6	2087.4	2143.1	2222.9	2330.8	2445.8	2579.6	2701.5	2836.8
Domestic transfers	390.2	412.7	433.0	450.9	466.6	489.3	519.1	555.9	599.8	635.0	661.5	679.3
External transfers	270.1	268.0	290.7	297.0	354.8	349.6	379.7	396.8	375.3	395.5	428.8	484.3
Corporate and property income	849.3	929.5	1034.4	1125.3	1221.8	1303.8	1373.7	1447.1	1486.0	1554.6	1643.2	1706.3
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	390.9	412.3	431.2	447.7	461.8	479.4	500.4	525.0	553.1	582.5	613.3	645.4
Disposable income	2830.9	2982.0	3158.7	3291.1	3480.1	3604.0	3775.5	3966.0	4090.9	4305.4	4540.9	4786.1

LABOUR MARKET

	1983				1984				1985			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
10^3 heads												
Labour force	4359.8	4372.1	4376.3	4386.2	4440.1	4453.3	4479.6	4494.5	4486.0	4487.7	4471.6	4472.5
Total employment	4108.4	4106.6	4095.9	4093.6	4146.1	4154.2	4172.1	4179.8	4166.5	4168.3	4150.3	4145.4
Unemployment	251.4	265.5	280.4	292.6	294.0	299.1	307.5	314.8	319.5	319.4	321.2	327.2
Employment in full-time equivalent	3993.8	3983.6	3972.1	3976.0	4017.8	4036.2	4048.4	4062.7	4045.2	4048.6	4029.0	4019.5
Employees	3362.1	3361.4	3353.6	3355.1	3388.4	3397.5	3402.5	3410.2	3389.2	3392.7	3376.9	3376.2
Other forms of employment	631.7	622.2	618.5	620.9	629.4	638.8	645.9	652.4	656.0	655.8	652.1	643.3
EUR thousand												
Compensation per employee	0.553	0.578	0.596	0.609	0.616	0.631	0.653	0.683	0.722	0.760	0.800	0.840
Per cent												
Unemployment rate	5.8	6.1	6.4	6.7	6.6	6.7	6.9	7.0	7.1	7.1	7.2	7.3

HOUSEHOLD'S DISPOSABLE INCOME

	1986				1987				1988			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Current prices (EUR million)												
Compensation of employees	2956.2	3095.5	3234.2	3373.8	3512.9	3654.9	3795.7	3925.6	4067.3	4213.3	4409.3	4612.4
Domestic transfers	688.4	709.5	742.5	787.5	844.4	891.6	929.1	956.8	974.9	1002.4	1039.4	1085.8
External transfers	461.8	462.9	461.4	473.1	538.9	554.5	574.4	587.6	597.6	607.1	616.1	625.7
Corporate and property income	1809.3	1903.7	1956.7	2032.8	2121.1	2181.8	2254.9	2316.3	2369.2	2453.8	2572.1	2732.4
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	678.8	715.5	755.6	798.9	845.6	886.6	921.9	951.5	975.5	1008.3	1050.1	1100.8
Disposable income	4976.7	5208.5	5401.7	5638.5	5947.0	6166.3	6386.7	6563.3	6725.5	6918.9	7190.7	7507.5

LABOUR MARKET

	1986				1987				1988			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
10^3 heads												
Labour force	4438.0	4447.0	4460.7	4469.5	4500.5	4524.6	4547.4	4557.0	4568.6	4577.8	4605.2	4623.5
Total employment	4104.0	4110.5	4130.1	4149.6	4191.3	4223.5	4255.4	4276.3	4296.4	4310.9	4345.4	4371.2
Unemployment	334.1	336.5	330.5	319.9	309.1	301.1	292.0	280.7	272.2	266.9	259.8	252.3
Employment in full-time equivalent	3984.9	3988.0	4004.1	4030.7	4064.9	4102.0	4132.5	4147.9	4172.3	4180.6	4216.3	4243.1
Employees	3353.3	3360.0	3370.1	3385.0	3402.6	3426.2	3451.5	3469.3	3500.8	3515.9	3554.6	3578.4
Other forms of employment	631.6	627.9	634.0	645.8	662.3	675.8	681.0	678.6	671.5	664.7	661.7	664.7
EUR thousand												
Compensation per employee	0.882	0.921	0.960	0.997	1.032	1.067	1.100	1.132	1.162	1.198	1.240	1.289
Per cent												
Unemployment rate	7.5	7.6	7.4	7.2	6.9	6.7	6.4	6.2	6.0	5.8	5.6	5.5

HOUSEHOLD'S DISPOSABLE INCOME

	1989				1990				1991			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Current prices (EUR million)												
Compensation of employees	4886.7	5119.8	5375.5	5613.1	5837.1	6104.1	6351.9	6694.0	6956.8	7305.2	7591.8	7932.0
Domestic transfers	1141.6	1199.6	1259.8	1322.2	1386.7	1460.9	1544.7	1638.2	1741.3	1850.7	1966.5	2088.6
External transfers	692.2	686.3	696.5	688.1	685.5	760.9	788.5	764.9	726.8	859.4	761.7	782.8
Corporate and property income	2927.4	3093.5	3226.8	3335.3	3413.2	3502.0	3621.6	3777.9	3955.4	4120.3	4261.2	4390.1
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	1160.4	1219.6	1278.3	1336.5	1394.2	1456.5	1523.4	1594.8	1670.8	1758.5	1857.8	1968.8
Disposable income	7982.7	8330.2	8698.3	9019.9	9317.9	9744.2	10130.9	10593.9	10981.0	11593.7	11872.2	12293.2

LABOUR MARKET

	1989				1990				1991			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
10^3 heads												
Labour force	4693.5	4715.4	4745.8	4754.6	4741.9	4759.3	4759.6	4809.7	4814.1	4830.1	4804.4	4795.9
Total employment	4443.6	4464.9	4497.6	4509.8	4497.8	4515.9	4516.4	4568.1	4572.4	4598.3	4581.7	4582.4
Unemployment	249.9	250.5	248.1	244.7	244.0	243.4	243.1	241.6	241.6	231.8	222.7	213.5
Employment in full-time equivalent	4310.6	4334.4	4366.3	4374.7	4367.0	4381.8	4379.9	4433.1	4429.7	4462.9	4447.0	4450.4
Employees	3639.6	3659.5	3690.0	3700.8	3697.1	3711.3	3701.6	3739.8	3718.5	3739.8	3719.2	3721.6
Other forms of employment	670.9	674.9	676.3	673.9	669.9	670.5	678.3	693.3	711.2	723.1	727.8	728.8
EUR thousand												
Compensation per employee	1.343	1.399	1.457	1.517	1.579	1.645	1.716	1.790	1.871	1.953	2.041	2.131
Per cent												
Unemployment rate	5.3	5.3	5.2	5.1	5.1	5.1	5.1	5.0	5.0	4.8	4.6	4.5

HOUSEHOLD'S DISPOSABLE INCOME

	1992				1993				1994			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Current prices (EUR million)												
Compensation of employees	8332.1	8623.2	8884.5	9076.4	9151.0	9263.2	9256.3	9347.1	9313.0	9444.9	9608.3	9811.6
Domestic transfers	2217.0	2324.1	2409.9	2474.3	2517.3	2562.2	2609.0	2657.5	2707.9	2766.6	2833.8	2909.2
External transfers	780.2	745.3	750.8	738.7	803.7	657.0	702.6	727.4	699.8	688.5	598.2	713.1
Corporate and property income	4483.7	4582.1	4648.4	4673.2	4707.9	4766.6	4804.4	4835.6	4927.3	5048.3	5201.8	5348.6
Direct taxes	1024.6	1089.6	1126.4	1135.1	1115.8	1106.0	1105.8	1115.3	1134.4	1151.8	1167.4	1181.3
Social Security contributions	2091.5	2200.0	2294.5	2374.9	2441.2	2483.3	2501.0	2494.4	2463.6	2479.6	2542.5	2652.3
Disposable income	12696.9	12985.1	13272.6	13452.4	13622.9	13659.7	13765.4	13957.9	14050.0	14316.9	14532.1	14949.0

LABOUR MARKET

	1992				1993				1994			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
10^3 heads												
Labour force	4802.3	4786.6	4805.4	4790.1	4781.7	4781.0	4764.8	4781.2	4790.7	4814.7	4851.8	4851.0
Total employment	4614.9	4603.2	4619.1	4601.0	4573.2	4552.0	4519.4	4521.0	4517.1	4529.8	4557.9	4551.9
Unemployment	187.5	183.5	186.4	189.0	208.5	229.0	245.5	260.1	273.5	284.9	293.9	299.2
Employment in full-time equivalent	4479.0	4470.1	4474.6	4466.1	4426.2	4421.4	4378.5	4398.3	4377.6	4403.9	4417.7	4418.1
Employees	3747.6	3740.1	3739.4	3726.9	3681.8	3666.3	3611.0	3609.7	3566.0	3570.6	3566.1	3556.8
Other forms of employment	731.4	730.0	735.2	739.2	744.4	755.1	767.5	788.6	811.6	833.3	851.5	861.3
EUR thousand												
Compensation per employee	2.223	2.306	2.376	2.435	2.485	2.527	2.563	2.589	2.612	2.645	2.694	2.759
Per cent												
Unemployment rate	3.9	3.8	3.9	3.9	4.4	4.8	5.2	5.4	5.7	5.9	6.1	6.2

HOUSEHOLD'S DISPOSABLE INCOME

	1995				1996				1997			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Current prices (EUR million)												
Compensation of employees	10081.8	10306.5	10519.6	10727.3	10937.6	11057.6	11265.3	11448.2	11659.5	11929.1	12160.4	12388.1
Domestic transfers	2993.1	3075.0	3154.9	3232.8	3308.7	3376.7	3436.9	3489.2	3533.6	3590.9	3661.1	3744.1
External transfers	555.2	580.7	608.4	652.1	690.0	673.8	684.6	676.0	728.0	753.3	759.2	749.9
Corporate and property income	5504.2	5618.1	5714.6	5752.6	5781.2	5723.9	5730.2	5722.7	5760.8	5774.9	5846.5	5942.5
Direct taxes	1193.4	1214.3	1244.0	1282.5	1329.8	1364.9	1387.6	1398.1	1396.3	1399.7	1408.3	1422.0
Social Security contributions	2808.9	2931.1	3018.9	3072.4	3091.4	3128.3	3183.0	3255.5	3345.8	3431.3	3512.1	3588.1
Disposable income	15132.0	15434.8	15734.5	16009.9	16296.2	16338.8	16546.5	16682.4	16939.8	17217.1	17506.9	17814.5

LABOUR MARKET

	1995				1996				1997			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
10^3 heads												
Labour force	4855.5	4854.0	4863.1	4895.5	4946.9	4935.9	4959.9	4955.4	4962.8	4992.8	5018.4	5026.2
Total employment	4553.8	4550.8	4562.3	4584.4	4634.1	4615.2	4645.3	4646.1	4660.2	4700.9	4724.8	4745.9
Unemployment	301.7	303.2	300.8	311.1	312.8	320.6	314.6	309.3	302.6	291.9	293.6	280.3
Employment in full-time equivalent	4418.1	4417.9	4425.4	4450.6	4489.3	4481.6	4505.4	4510.1	4522.5	4560.5	4585.6	4612.5
Employees	3553.8	3547.5	3550.8	3565.2	3593.3	3584.0	3602.2	3607.3	3618.1	3649.6	3668.5	3686.7
Other forms of employment	864.4	870.4	874.6	885.4	895.9	897.7	903.1	902.8	904.4	910.8	917.2	925.8
EUR thousand												
Compensation per employee	2.837	2.905	2.963	3.009	3.044	3.085	3.127	3.174	3.223	3.269	3.315	3.360
Per cent												
Unemployment rate	6.2	6.2	6.2	6.4	6.3	6.5	6.3	6.2	6.1	5.8	5.9	5.6

HOUSEHOLD'S DISPOSABLE INCOME

	1998				1999				2000			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Current prices (EUR million)												
Compensation of employees	12669.1	12949.0	13131.5	13403.8	13640.9	13898.9	14197.7	14484.1	14851.7	15122.9	15399.6	15640.7
Domestic transfers	3840.0	3931.3	4018.0	4100.0	4177.4	4269.0	4374.6	4494.3	4628.2	4756.2	4878.3	4994.6
External transfers	777.1	790.8	781.5	755.7	768.7	763.2	834.2	768.6	810.2	880.0	830.4	956.0
Corporate and property income	6045.4	6122.3	6202.5	6242.5	6275.5	6298.0	6336.4	6458.3	6560.7	6684.4	6786.3	6865.2
Direct taxes	1440.9	1462.3	1486.1	1512.4	1541.1	1576.8	1619.5	1669.1	1725.6	1774.1	1814.5	1846.8
Social Security contributions	3659.3	3719.7	3769.4	3808.2	3836.3	3891.3	3973.3	4082.3	4218.3	4332.4	4424.6	4494.9
Disposable income	18231.4	18611.4	18878.1	19181.4	19485.2	19760.9	20150.0	20453.9	20906.9	21336.9	21655.6	22114.8

LABOUR MARKET

	1998				1999				2000			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
10^3 heads												
Labour force	5073.1	5082.1	5079.4	5109.7	5127.8	5148.9	5159.9	5170.0	5200.9	5208.0	5253.3	5263.0
Total employment	4794.1	4837.9	4837.3	4868.0	4895.8	4909.9	4938.7	4955.5	4987.3	5003.2	5044.2	5069.3
Unemployment	279.0	244.3	242.1	241.7	232.0	239.0	221.2	214.5	213.6	204.9	209.1	193.7
Employment in full-time equivalent	4661.9	4707.5	4706.5	4736.9	4748.3	4763.3	4788.8	4807.2	4849.6	4869.6	4903.3	4933.4
Employees	3723.1	3757.4	3758.6	3787.5	3803.8	3821.3	3845.8	3861.0	3895.0	3908.0	3930.5	3950.5
Other forms of employment	938.8	950.1	947.9	949.5	944.5	942.1	943.0	946.2	954.7	961.6	972.8	982.9
EUR thousand												
Compensation per employee	3.403	3.446	3.494	3.539	3.586	3.637	3.692	3.751	3.813	3.870	3.918	3.959
Per cent												
Unemployment rate	5.5	4.8	4.8	4.7	4.5	4.6	4.3	4.1	4.1	3.9	4.0	3.7

HOUSEHOLD'S DISPOSABLE INCOME

	2001				2002				2003			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Current prices (EUR million)												
Compensation of employees	15783.0	15960.6	16183.8	16432.7	16733.6	16919.0	17021.2	16971.2	17167.0	17209.5	17318.8	17447.8
Domestic transfers	5105.1	5226.0	5357.3	5499.0	5651.2	5772.6	5863.4	5923.4	5952.8	6024.6	6138.9	6295.7
External transfers	907.9	940.2	884.8	889.9	760.3	669.1	689.0	643.1	662.5	568.0	590.9	586.7
Corporate and property income	6972.4	7023.6	7070.6	7090.6	7057.4	7106.8	7211.9	7323.3	7501.9	7593.0	7672.7	7657.4
Direct taxes	1871.0	1892.8	1912.1	1929.1	1943.7	1948.1	1942.5	1926.7	1900.8	1887.3	1886.2	1897.5
Social Security contributions	4543.4	4598.8	4661.1	4730.3	4806.4	4871.1	4924.4	4966.3	4996.8	5043.3	5105.8	5184.4
Disposable income	22354.1	22658.8	22923.3	23252.7	23452.3	23648.2	23918.6	23968.0	24386.5	24464.5	24729.2	24905.7

LABOUR MARKET

	2001				2002				2003			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
10^3 heads												
Labour force	5309.8	5318.8	5343.1	5369.9	5383.6	5419.7	5439.4	5428.8	5455.3	5460.1	5461.0	5464.6
Total employment	5102.2	5106.6	5126.9	5152.2	5152.2	5163.6	5160.0	5112.2	5120.9	5116.8	5120.0	5118.3
Unemployment	207.6	212.2	216.2	217.6	231.4	256.2	279.4	316.6	334.4	343.3	341.0	346.4
Employment in full-time equivalent	4941.9	4951.1	4967.0	4984.0	5004.1	5004.1	4991.1	4940.7	4948.6	4932.8	4926.2	4912.4
Employees	3950.2	3958.4	3977.6	4001.8	4037.0	4046.3	4038.1	3994.6	3994.5	3978.6	3976.3	3974.5
Other forms of employment	991.6	992.7	989.4	982.2	967.0	957.9	953.0	946.1	954.1	954.2	949.9	937.8
EUR thousand												
Compensation per employee	3.995	4.032	4.069	4.106	4.145	4.181	4.215	4.249	4.298	4.325	4.356	4.390
Per cent												
Unemployment rate	3.9	4.0	4.0	4.1	4.3	4.7	5.1	5.8	6.1	6.3	6.2	6.3

HOUSEHOLD'S DISPOSABLE INCOME

	2004				2005				2006			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Current prices (EUR million)												
Compensation of employees	17761.3	17932.8	18180.8	18415.2	18600.8	18785.2	19003.7	19112.8	19492.8	19604.5	19791.1	19804.9
Domestic transfers	6494.9	6664.0	6803.0	6911.9	6990.6	7087.0	7201.2	7333.0	7482.6	7614.7	7729.4	7826.6
External transfers	592.7	631.5	623.7	584.0	556.3	600.4	497.0	494.3	647.6	619.5	591.6	638.2
Corporate and property income	7585.3	7531.9	7493.5	7504.9	7511.9	7539.4	7532.6	7548.6	7518.0	7522.2	7525.2	7552.4
Direct taxes	1921.2	1944.6	1967.8	1990.7	2013.4	2041.0	2073.5	2110.9	2153.2	2187.7	2214.5	2233.4
Social Security contributions	5278.9	5365.8	5444.9	5516.3	5580.0	5641.5	5700.9	5758.1	5813.2	5871.7	5933.6	5998.9
Disposable income	25234.1	25449.9	25688.3	25909.0	26066.3	26329.5	26460.0	26619.8	27174.5	27301.5	27489.2	27589.7

LABOUR MARKET

	2004				2005				2006			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
10^3 heads												
Labour force	5467.8	5480.2	5496.3	5511.1	5521.8	5538.1	5553.9	5566.3	5574.0	5591.9	5597.9	5588.1
Total employment	5123.9	5119.8	5118.0	5133.7	5114.2	5124.0	5121.8	5134.4	5148.2	5169.7	5175.7	5148.3
Unemployment	343.9	360.4	378.4	377.3	407.6	414.1	432.1	431.9	425.8	422.2	422.2	439.7
Employment in full-time equivalent	4936.5	4924.2	4933.7	4944.3	4931.3	4932.7	4942.9	4930.9	4975.0	4969.8	4982.8	4952.4
Employees	4014.4	4017.1	4037.5	4052.2	4046.4	4053.6	4076.4	4079.1	4141.2	4148.7	4172.3	4152.5
Other forms of employment	922.1	907.1	896.3	892.1	884.9	879.0	866.4	851.8	833.9	821.0	810.5	799.8
EUR thousand												
Compensation per employee	4.424	4.464	4.503	4.544	4.597	4.634	4.662	4.686	4.707	4.725	4.743	4.769
Per cent												
Unemployment rate	6.3	6.6	6.9	6.8	7.4	7.5	7.8	7.8	7.6	7.6	7.5	7.9

CHRONOLOGY OF MAJOR FINANCIAL MEASURES

January to June 2007

January

- **4 January (Notice of Banco de Portugal No 1/2007, Official Gazette No 5, Series I)**

  Introduces changes in Notice of Banco de Portugal No 1/93, of 8 June 1993, extending to 31 December 2007 the transitional regimes therein envisaged relating to the application of the solvency ratio.

- **10 January (Circular Letter of Banco de Portugal No 2/2007/DET)**

  Following complaints by the public regarding some credit institutions' practice of refusing to carry out cash exchange operations, makes known that credit institutions must perform over-the-counter cash exchange operations, including to non-clients, within reasonable amounts.

- **17 January (Instruction of Banco de Portugal No 1/2007, distributed with Circular Letter No 4/2007/DSB.**

  Establishes that the BPnet system shall be used for the supply of information by entities subject to the supervision of Banco de Portugal. This Instruction shall enter into force on 31 May 2007.

- **19 January (Instruction of Banco de Portugal No 2/2007, distributed with Circular Letter No 9/2007/DSB.**

  Provides for the supply of data on credit portfolio developments.

- **22 January (Decree-Law No 18/2007, Ministry of Economy and Innovation, Official Gazette No 15, Series I)**

  Establishes the value-date of any credit and debit entries in deposit demand accounts and transfers in euro, and the respective effect on the date on which funds become available for the beneficiary. This decree-law shall enter into force on 15 March 2007. At the end of the first year of validity of this decree-law, Banco de Portugal shall prepare and publish a progress report on the impact of its application.

February

- **2 February (Notice of Banco de Portugal No 2/2007, Official Gazette No 28, Series I)**

  Amends Notice of Banco de Portugal No 11/2005 of 13 July, governing the general terms and conditions for the opening of bank deposit accounts.

- **6 February (Notice of Banco de Portugal No 3/2007, Official Gazette No 30, Series I)**

  Harmonizes the procedures to be adopted by credit institutions regarding the compliance with the legal provisions governing the availability of funds and the value date of movements in demand deposit accounts, namely, the delivery of funds for deposit and certification, referred to in Decree-Law No 18/2007 of 22 January. This Notice shall enter into force on 15 March 2007.

- **8 February (Notice of Banco de Portugal No 2/2007, Official Gazette No 28, Series I)**

  Introduces changes in Notice of Banco de Portugal No 11/2005, of 21 July, relating to the general terms and conditions governing the opening of demand deposit accounts. This Notice shall enter into force on the 90th day following its publication.

- **12 February (Notice of Banco de Portugal No 3/2007, Official Gazette No 30, Series I)**

  Provides clarification on banking operations outside the scope of Decree-Law No 18/2007, of 22 January and lays down the treatment to be given to funds delivered for deposit without the immediate certification of deposited amounts. This Notice shall enter into force on 15 March 2007.

- **20 February (Decree-Law No 39/2007, Official Gazette No 36, Series I)**

Introduces a third amendment to Law No 5/98 of 31 January 1998, which approves the Organic Law of the Banco de Portugal. Clarifies a number of issues regarding the term of office of the members of the Board of Directors of the Banco de Portugal, in line with the revision of the Public Manager Statute (*Estatuto do Gestor Público*).

March

- **7 March (Decree-Law No 51/2007 of the Economy and Innovation Ministry of 7 March, Official Gazette No 47, Series I)**

Regulates the business activities of credit institutions and ensures the transparency of information provided by them when credit agreements are concluded for the purchase, construction and improvement of permanent or secondary residential property or residential leased property, as well as for the acquisition of land for the construction of owner-occupied housing. The commission to be charged on the total or partial repayment of the loan shall be applied on the principal to be repaid and shall not exceed 0.5% in floating rate contracts, and 2% in fixed rate contracts. The criteria used in the calculation of interest - 365-day count convention - are also harmonised. At the end of the first year after entry into force of this Decree-Law, the Banco de Portugal shall prepare and disclose a report assessing the impact of its implementation. This Decree-Law shall enter into force on the 30th day after its publication.

- **15 March (Instruction of the Banco de Portugal No 3/2007)**

Amends Instruction No 26/2005 on prevention of the use of the financial system for the purpose of money laundering and terrorist financing (Official Bulletin No 3/2007).

April

- **3 April (Decree-Law No 103/2007, Ministry of Finance and Public Administration, Official Gazette No 66, Series I)**

Transposes into Portuguese law Directive No 2006/49/EC of the European Parliament and of the Council of 14 June 2006 on the capital adequacy of investment firms and credit institutions.

- **3 April (Decree-Law No 104/2007, Ministry of Finance and Public Administration, Official Gazette No 66, Series I)**

Introduces the ninth amendment in the Legal Framework of Credit Institutions and Financial Companies (Regime Geral das Instituições de Crédito e Sociedades Financeiras) and transposes into Portuguese law Directive No 2006/48/EC of the European Parliament and of the Council of 14 June 2006 relating to the taking up and pursuit of the business of credit institutions.

- **18 April (Notice of Banco de Portugal No 4/2007, Official Gazette No 82, Series II)**

Following the publication of Decree-Law No 104/2007 of 3 April, which transposed into Portuguese law Directive 2006/48/EC of the European Parliament and of the Council of 14 June, amends Notice No 12/92, which lays down the main rules on the composition of the own funds of credit institutions and financial companies, for the purposes of calculating prudential ratios and limits.

- **18 April (Notice of Banco de Portugal No 5/2007, Official Gazette No 82, Series II)**

Following the publication of Decree-Law No 104/2007 and Decree-Law No 103/2007 both of 3 April, which transposed into Portuguese law respectively Directive 2006/48/EC of the European Parliament and of the Council of 14 June and Directive 2006/49/EC of the European Parliament and of the Council of 14 June, regulates the calculation of the amount of own funds requirements of credit institutions and investment firms to cover credit risk.

- **18 April (Notice of Banco de Portugal No 6/2007, Official Gazette No 82, Series II)**

  Following the publication of Decree-Law No 104/2007 and Decree-Law No 103/2007 both of 3 April, which transposed into Portuguese law respectively Directive 2006/48/EC of the European Parliament and of the Council of 14 June and Directive 2006/49/EC of the European Parliament and of the Council of 14 June, sets out the limits to the concentration of risks of credit institutions and financial companies, having their head office in Portugal – referred to in Article 6 (1) (a) to (g) and (j) of the Legal Framework of Credit Institutions and Financial Companies, approved by Decree-Law No 298/92 of 31 December 1992 – and of the branches set up in Portugal of credit institutions having their head office in non-European Union countries.

- **18 April (Notice of Banco de Portugal No 7/2007, Official Gazette No 82, Series II)**

  Following the publication of Decree-Law No 104/2007 of 3 April, which transposed into Portuguese law Directive 2006/48/EC of the European Parliament and of the Council of 14 June, sets out the methodologies for the calculation of the amount of own funds requirements of credit institutions and investment firms to cover credit risk in securitisation transactions.

- **18 April (Notice of Banco de Portugal No 8/2007, Official Gazette No 82, Series II)**

  Pursuant to Article 8 (1) (a) and (b) of Decree-Law No 103/2007 of 3 April, which transposed into Portuguese law Directive 2006/49/EC of the European Parliament and of the Council of 14 June, lays down the procedures to be adopted in the calculation of the amount of own funds requirements to cover market risk.

- **18 April (Notice of Banco de Portugal No 9/2007, Official Gazette No 82, Series II)**

  Pursuant to Article 7 (1) (d) of Decree-Law No 104/2007 of 3 April, which transposed into Portuguese law Directive 2006/48/EC of the European Parliament and of the Council of 14 June, lays down the procedures to be adopted in the calculation of the amount of own funds requirements to cover operational risk.

- **18 April (Notice of Banco de Portugal No 10/2007, Official Gazette No 82, Series II)**

  Following the transposition of Directive 2006/48/EC and Directive 2006/49/EC both of the European Parliament and of the Council of 14 June, sets out a reference framework for the disclosure of information by credit institutions and investment firms on risks and respective assessment methods.

- **27 April (Commission Decision 2007/327/EC, OJ L 122)**

  Commission Decision on the clearance of the accounts of the paying agencies of Member States concerning expenditure financed by the European Agricultural Guidance and Guarantee Fund (EAGGF), Guarantee Section, for the 2006 financial year (notified under document number C(2007) 1901).

- **30 April (Executive Order No 499/2007 of the Presidency of the Council of Ministers, of the Ministry of Finance and Public Administration and of the Ministry of Justice, Official Gazette No 83, Series I)**

  In accordance with the provisions set out in Article 4 (1), Article 6 (2) and Article 9 (1) and (2) of Decree-Law No 8/2007 of 17 January, lays down the rules on the reporting of simplified corporate data by electronic means. In parallel, this Executive Order regulates the way how the Ministry of Finance and Public Administration makes available the information to be sent to the Ministry of Justice, Instituto Nacional de Estatística (National Statistical Institute), and Banco de Portugal.

- **30 April (Instruction of Banco de Portugal No 9/2007, BNBP No 5/2007)**

  Lays down that the External Credit Assessment Institutions' (ECAIs) credit assessment may be used for the determination of the risk-weighted exposure amounts and securitisation positions.

- **30 April (Instruction of Banco de Portugal No 10/2007, BNBP No 5/2007)**

  For the purposes of calculating risk-weighted exposure amounts, indicates the recognised External Credit Assessment Institutions (ECAIs), and determines with which credit quality step each credit assessment shall be associated (mapping).

- **30 April (Instruction of Banco de Portugal No 11/2007, BNBP No 5/2007)**

  Indicates the specific items of information that institutions shall communicate to the Banco de Portugal for the purposes of compiling the application for authorisation to use the Internal Ratings Based Approach (IRB) (credit risk), the Standardised Approach and the Advanced Measurement Approach (AMA) (operational risk).

- **30 April (Instruction of Banco de Portugal No 12/2007, BNBP No 5/2007)**

  Sets out the procedures to be adopted (methodologies) in the internal validation process of rating systems.

- **30 April (Instruction of Banco de Portugal No 13/2007, BNBP No 5/2007)**

  Regulates the involvement and implicit support in securitisation transactions. Revokes Instruction No 1/2005, published in the Official Bulletin No 3 of 15 March 2005, which however shall remain in force until 31 December 2007, as regards the institutions exercising the discretion laid down in Article 33 (1) of Decree-Law No 104/2007 of 3 April.

- **30 April (Instruction of Banco de Portugal No 14/2007, BNBP No 5/2007)**

  Sets out the indices and correlated currency pairs and recognises the eligible investment firms, stock exchanges and clearing houses for the purposes of capital adequacy. Revokes Instruction No 23/97, published in BNBP No 4 of 15 April 1997, which however shall remain in force until 31 December 2007, as regards the institutions exercising the discretion laid down in Article 23 (1) of Decree-Law No 103/2007 of 3 April, or in Article 33 (1) of Decree-Law No 104/2007 of 3 April.

- **30 April (Instruction of Banco de Portugal No 15/2007, BNBP No 5/2007)**

  Lays down that institutions shall have an assessment process to ensure that the internal capital is adequate to cover risks and that it remains proportionate to the risk profile. This Instruction shall enter into force on 1 January 2008 as regards the institutions exercising the discretion laid down in Article 17 (5), Article 26 (4), or in Article 33 (1), all of Decree-Law No 104/2007 of 3 April.

- **30 April (Instruction of Banco de Portugal No 17/2007, BNBP No 5/2007)**

  Defines risk concentration and sets out the different types of risk monitoring by institutions.

- **30 April (Instruction of Banco de Portugal No 18/2007, BNBP No 5/2007**

  Defines the legal framework for the carrying out of stress tests and for the adoption of corrective measures. This Instruction shall enter)into force on 1 January 2008, as regards the institutions covered by the derogations foreseen in Articles 33 and 34 of Decree-Law No 104/2007 of 3 April and in Article 23 of Decree-Law No 103/2007 of 3 April.

May

- **8 May (Decree-Law No 171/2007 of the Ministry of Economy and Innovation, Official Gazette No 88, Series I)**

  Lays down the rules governing interest rate rounding when applied to credit and financing contracts signed by credit institutions and financial corporations not covered by the provisions laid down in Decree-Law No 240/2006 of 22 December. This Decree-Law shall apply to credit and financing contracts signed after its entry into force,

as well as current contracts, regardless of the borrowed amount and the purpose of the loan. With regard to current contracts, this Decree-Law shall apply as from the date of interest rate refixing, for rounding purposes, which should immediately follow its entry into force. This Decree-Law shall enter into force on the 30th day following its publication.

- **9 May (Decree-Law No 180/2007 of the Ministry of Finance and Public Administration, Official Gazette No 89, Series I)**

  Amends Decree-Law No 12/2006 of 20 January, regulating the setting up and operation of pension funds and managing entities of pension funds.

- **10 May (Decree-Law No 184/2007 of the Ministry of Finance and Public Administration, Official Gazette No 90, Series I)**

  Regulates the recycling of euro coins by all professional cash handlers, transposing into Portuguese law Commission Recommendation of 27 May 2005 concerning authentication of euro coins and handling of euro coins unfit for circulation. This Decree-Law shall apply to credit institutions and other cash handlers, namely cash-in-transit companies. Such entities shall submit information on their recycling activity to Banco de Portugal, according to the schedule defined by the bank.

- **11 May Decree-Law No 188/2007 of the Ministry of Finance and Public Administration, Official Gazette No 91, Series I**

  Harmonises the rules regarding the publication of accounting data of entities subject to the supervision of Banco de Portugal and Instituto de Seguros de Portugal (Portuguese Insurance Institute).

- **14 May (Decree-Law No 191/2007 of the Ministry of Finance and Public Administration, Official Gazette No 92, Series I)**

  Authorises the issue and sale by Imprensa Nacional - Casa da Moeda (the Portuguese Mint) of two silver coins on the European Year of Equal Opportunities for All and the 100th Anniversary of the World Scouting, with a face value of €5, and sets their issue ceilings at €537,500 and €800,000 respectively.

- **15 May (Instruction of Banco de Portugal No 19/2007, BNBP 5/2007)**

  Lays down the rules and conditions to be complied with by credit institutions and individuals regarding the deposit and exchange of banknotes damaged by anti-theft devices.

- **15 May (Instruction of Banco de Portugal No 20/2007, BNBP 6/2007)**

  Establishes the places, timetables, rules and conditions according to which euro banknotes may be deposited and withdrawn at Banco de Portugal.

- **15 May (Decree-Law No 195/2007 of the Ministry of Finance and Public Administration, Official Gazette No 93, Series I)**

  Regulates the recycling of euro coins by all professional cash handlers, as set forth in Council Regulation (EC) No 1338/2001 of 28 July laying down measures necessary for the protection of the euro against counterfeiting, and the sorting of unfit notes. This Decree-Law shall apply to credit institutions and other cash handlers, namely cash-in-transit companies. Recycling activity shall only be carried out after a contract has been signed with Banco de Portugal.

- **17 May (Notice of Banco de Portugal No 11/2007, Official Gazette No 99, Series II)**

  Amends Notice No 6/2003, which lays down the terms and conditions of the publication of accounts of institutions subject to the supervision of Banco de Portugal. This Notice shall enter into force on the date of its publication, and applies to the publication of annual accounts for the 2006 fiscal year.

- **18 May (Notice of Banco de Portugal No 12/2007, Official Gazette No 101, Series II)**

  Determines that credit institutions shall allow individuals making credit transfers through ATMs to see the name of the bank account owner or the bank account number prior to the confirmation of the transfers. This Notice shall enter into force 120 days following its publication.

- **21 May (Circular Letter No 19/2007/DPG)**

  Requests credit institutions to submit to Banco de Portugal information on the impact of the implementation of Decree-Law No 18/2007 of 22 January, which regulates issues relating to the value date of overnight deposits and transfers made in Portugal and the corresponding deadline for the provision of funds to the beneficiary.

- **23 May (Circular Letter No 41/07/DSBDR)**

  Expresses Banco de Portugal's view on the interpretation of Article 8 of Decree-Law No 51/2007 of 7 March, with regard to expenses or fees charged by institutions for the earlier repayment of housing loans or the transfer of such loans to another institution.

- **28 May (Notice of Banco de Portugal No 13/2007, Official Gazette No 107, Series II)**

  Amends Notice No 3/2006, in order to render the internal control system more effective and efficient.

June

- **1 June (Commission Regulation (EC) No 610/2007, OJ L 141)**

  In the Annex to Regulation (EC) No 1725/2003, "International Financial Reporting Interpretations Committee's (IFRIC) Interpretation 10 Interim Financial Reporting and Impairment", is inserted as set out in the Annex to this Regulation. Each company shall apply IFRIC 10, as set out in the Annex to this Regulation, as from the commencement date of its 2007 financial year at the latest, except for companies with a November or December commencement date which shall apply IFRIC 10 as from the commencement date of the 2006 financial year at the latest. This Regulation shall enter into force on the 3rd day following its publication in the Official Journal of the European Union.

- **1 June 2007 (Commission Regulation (EC) No 611/2007, OJ L 141)**

  In the Annex to Regulation (EC) No 1725/2003, "International Financial Reporting Interpretations Committee's (IFRIC) Interpretation 11 Interim Financial Reporting and Impairment", is inserted as set out in the Annex to this Regulation. Each company shall apply IFRIC 11, as set out in the Annex to this Regulation, as from the commencement date of its 2008 financial year at the latest, except for companies with a January or February commencement date which shall apply IFRIC 11 as from the commencement date of the 2009 financial year at the latest. This Regulation shall enter into force on the 3rd day following its publication in the Official Journal of the European Union.

- **5 June (2006 Annual Report and Accounts Official Gazette No 108, Series II)**

  Publishes the 2006 Annual Report and Accounts of Banco de Portugal.

- **6 June (Circular Letter No18/2007/DET)**

  Makes known on the procedures to be observed when signing a contract with Banco de Portugal, resulting from the new legal framework of euro banknotes recycling laid down in Decree-Law No 195/2007 of 15 May. It defines the contract model, provides for migration plans adaptable to the relatively prolonged transition period

envisaged in that Decree-Law, and expresses the total availability by Banco de Portugal for the co-operation, training and clarification of any issues.