



OF E.U. AND US INFLATION AND MACROECONOMIC ANALYSIS

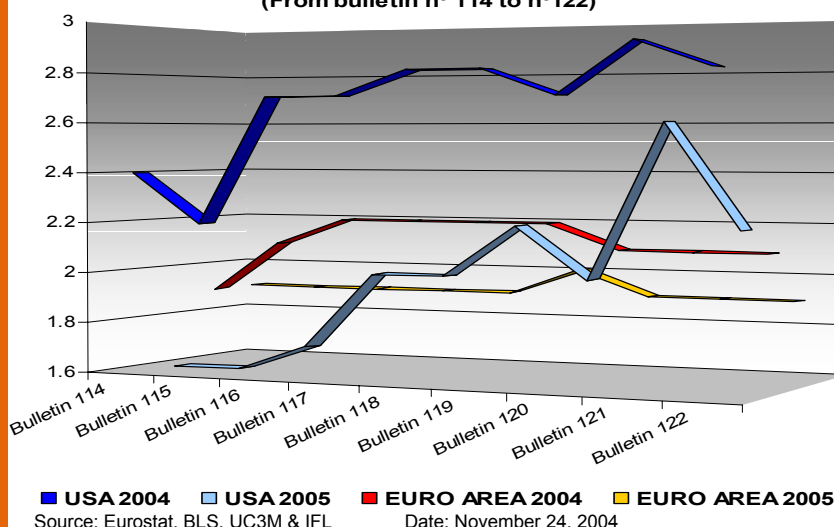


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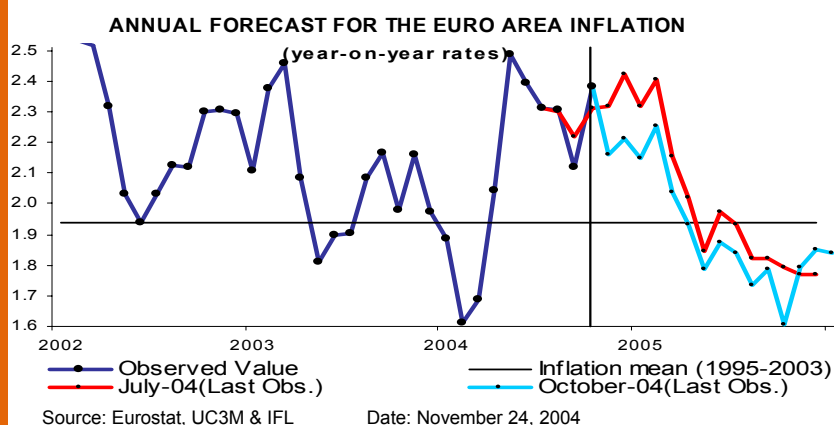
Macroeconomic Forecast and Analysis Laboratory, IFL, N° 122, November 2004.

Forecast average inflation in the euro area was more stable than in the U.S. in the months in which energy prices were growing heavily.

EVOLUTION OF AVERAGE YEAR-ON-YEAR RATES OF TOTAL INFLATION FOR 2004 AND 2005 IN THE EURO AREA AND U.S.A. ESTIMATED DURING LAST NINE MONTHS.
(From bulletin n° 114 to n°122)



The forecast for annual inflation in the euro area improves in November to rates close to 2.1% for the coming months.



Monthly Debate

The Capitalism to Come.

PART III: FIRM, MARKET AND STATE
by Juan Urrutia Elejalde.

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The Capitalism to Come.
Chapter III. FIRM, MARKET AND STATE
III.2.1: Financial Markets and Insurance
By: Juan Urrutia Elejalde
University professor in Economics

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N°122



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OF E.U. AND US INFLATION AND MACROECONOMIC ANALYSIS



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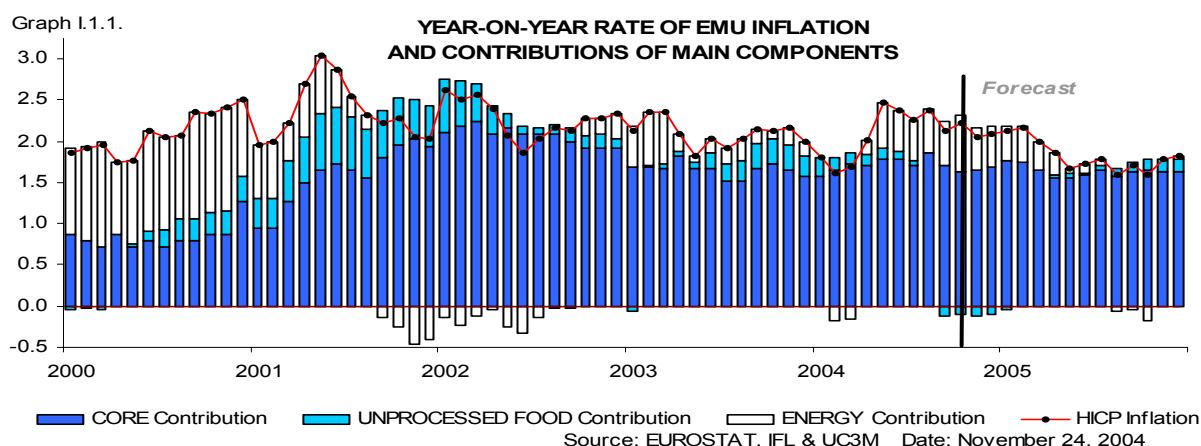
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I. MAIN POINTS AND NEW RESULTS

I.1. ECONOMIC AND MONETARY UNION

- For November, we are forecasting a negative monthly inflation rate of 0.1%, representing a fall in annual inflation in the euro area to 2.1% from the 2.4% observed in October. The annual rate of core inflation will remain at 2.0% in November 2004. Within core inflation, the annual rates forecast for processed foods fall for the last few months of 2004 and early 2005, whereas non-energy industrial goods and services continue with forecast inflation rates similar to those registered in 2003 and the beginning of 2004. Outside core inflation, there is a strong downwards trend in the annual rates of growth for unprocessed food for what is left of 2004 and the first quarter of 2005, with the rate at negative values. As for energy, we continue to forecast high inflation rates until mid-2005, so total inflation will be over 2.0% until the second quarter of 2005.
- Monthly inflation in October performed worse than expected, reaching a monthly rate of 0.34% instead of the 0.26% forecast. This forecasting error in total inflation was largely due to the performance of energy prices in the last week of October. In core inflation, there was a downwards innovation, and the same applies to all its components. Industrial goods prices grew 0.56% this month when the growth forecast was 0.61%, processed food registered zero growth, less than the 0.06% forecast, and services registered a negative rate of 0.08% instead of the 0.06% forecast. In components not included in core inflation, the prices of unprocessed food and energy registered different upwards innovations, a negative rate of 0.08%



instead of the 0.44% forecast, and a positive rate of 2.87% instead of our predicted 1.50%, respectively (A2 in the appendix).

- The new inflation forecasts represent a downwards revision of the annual rates of the total HCPI in the euro area for what is left of 2004 and the first two quarters of 2005. This reduction is largely due to a less inflationist profile for energy, the forecast rates of which have fallen by approximately one percentage point for the same dates due to the recent evolution of the exchange rate and barrel of Brent, the forecast price of which has gone from 37.87€ to 35.66€ per barrel for the last quarter of 2004, with the average annual rate for energy consumer prices for 2004 falling to 4.4% from last month's forecast of 4.5%. For 2005, the Brent futures markets indicate no more increases in prices after July and therefore the forecast annual rate of total inflation in the euro area will systematically fall from the 2.2% of the beginning of the year to 1.8% in the last quarter, with an average annual rate of 1.9% for 2005. The good performance of unprocessed food prices, with negative annual rates since August 2004, also has a good effect on total inflation.
- By country, for November 2004 we expect total annual inflation rates of 2.1% in Germany, 3.5% in Spain, 2.3% in Italy and 2.2% in France. The annual energy rates registered positive values of over 9% in these countries in October 2004, except in Italy, where it was 5.8%. As for HCPI inflation, excluding energy, in these four countries of the euro area, Germany is the least inflationist in this category, followed by France and Italy, with Spain the most inflationist of the four. The inflation forecasts in the euro area reveal significant differences between countries, leading to a wide range of interest rates in the different member States, which for the one year horizon go from negative values in Ireland (-0.61%), Spain (-0.38%) to positive values in Germany (1.28%), Finland (1.19%), the other member States have rates close to zero or with negative values, which should favour investment possibilities.



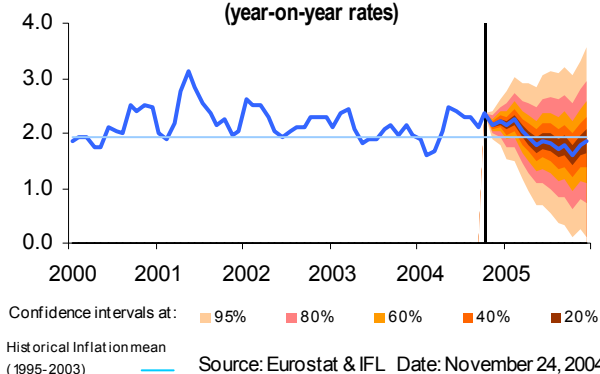
□ For 2004, we forecast a total average inflation rate of 2.1%, with which the probability of the average annual inflation rate being in excess of 2% is above 80%, as shown on graph I.1.2 showing the range of forecasting intervals for 2004 and 2005. On the other hand, the risk of deflation disappeared from the euro area several months ago.

□ Total inflation in the euro area is at rates similar to the U.S., using a homogeneous measure for the two areas (see graph I.1.3), during the second half of 2003 and early 2004. But since May, 2004, there has been an inflation differential in favour of the euro area ranging from half and one percentage point. This differential is due to the increases in crude oil prices since May 2004 and the different repercussion of these prices on the countries' price indexes. The differential is not expected to decrease until growth of crude oil prices weakens in the second half of 2005.

□ Independently of the above, there continues to be an inflation differential in services, in favour of the euro area, and in non-energy industrial goods, in favour of the U.S. Whereas the forecast for the average annual rates of service prices, including owner's equivalent rent in the U.S., will be 3.3% in 2004 and 3.2% in 2005, compared with the 3.2% observed in 2003, in the EMU these rates will be 2.6% in both 2004 and 2005, after the 2.6% also observed in 2003. In the case of non-energy industrial goods, the rates for the U.S. will be a negative 1.0% in 2004 and positive 0.4% in 2005 and the EMU rates will be 0.8% in 2004 and 0.9% in 2005.

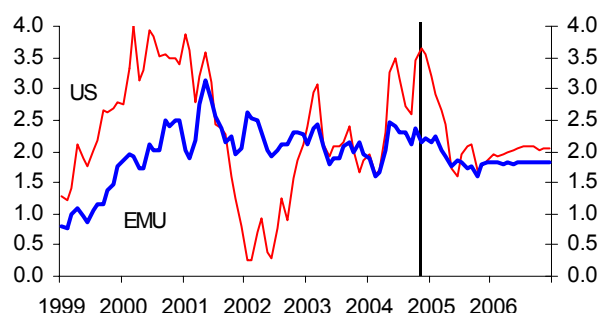
Graph I.1.2

ANNUAL FORECASTS FOR THE EMU INFLATION
(year-on-year rates)



Graph I.1.3

YEAR-ON-YEAR RATES OF TOTAL INFLATION
IN THE EMU AND THE USA



Source: BLS, EUROSTAT, IFL & UC3M Date: November 24 / 2004
*USA inflation less owner's equivalent rent of primary residence. This homogeneous measure of inflation has been constructed in order to compare data in the euro area and USA.

Table I.1.1

FORECASTS FOR THE AVERAGE ANNUAL RATES IN THE HICP OF THE EMU

Harmonised Indices of Consumer Prices (HICP)	2001*	2002*	2003*	Forecasts		
				2004	2005	2006
TOTAL INFLATION (100%)	2.3	2.3	2.1	2.1	1.9	1.8
CORE INFLATION (84,17%)	1.9	2.5	2.0	2.0	2.0	2.0
Non energy processed goods HICP (43,27%)	1.5	1.9	1.5	1.5	1.3	1.3
Services HICP (40,91%)	2.5	3.1	2.6	2.6	2.6	2.6
RESIDUAL INFLATION (15,83%)	4.4	1.1	2.6	2.5	1.6	1.1
Non Processed Food HICP (7,58%)	7.0	3.1	2.2	0.5	0.7	1.9
Energy HICP (8,25%)	2.3	-0.6	3.0	4.4	2.4	0.3

* Observed Values (revised)

(1) Monthly and annual rates can be found in tables A5A and A5B in the appendix.

Source: Eurostat & IFL / Date: November 24, 2004



I.2 MACROECONOMIC TABLE OF EURO-AREA

	Annual Averages Growths				
	2001	2002	2003	Forecasts BIMA	
				(*)	
				2004	2005
GDP p m	1.6	0.9	0.5	2.0	2.2
Demand					
Final Consumption	2.1	1.3	1.2	1.4	2.0
Capital Investment	-0.3	-2.7	-0.6	1.8	3.2
Contribution Domestic Demand	0.9	0.3	1.2	1.5	2.2
Exports of Goods and Services	3.4	1.7	0.1	7.0	6.5
Imports of Goods and Services	1.7	0.3	2.1	6.1	7.0
Contribution Foreign Demand	0.7	0.6	-0.7	0.5	0.0
Supply					
Gross Value Added Total (market prices)	1.6	0.9	0.5	2.0	2.2
Net Taxes	-2.9	-0.6	-0.6	0.7	-1.0
Gross Value Added Total (basic prices)	1.9	0.9	0.5	2.1	2.4
Gross Value Added Agriculture	-1.2	1.0	-3.6	1.7	2.1
Gross Value Added Industry	0.3	0.2	0.0	2.5	2.8
Gross Value Added Construction	-0.4	-0.6	-0.6	0.5	0.3
Gross Value Added Services	2.7	1.3	1.0	2.1	2.4
Private	3.2	0.9	0.9	2.3	2.7
Public	1.7	2.2	1.0	1.7	1.8
Prices					
CPI harmonized, annual average	2.3	2.3	2.1	2.1	1.9
CPI harmonized, dec./dec.	2.1	2.3	2.0	2.2	1.8
Employment					
Unemployment rate	8.0	8.4	8.9	9.0	9.0
Others Economic Indicators					
Production Index of Industry (excluding construction)	0.4	-0.5	0.3	2.3	1.7

Source: EUROSTAT & UC3M

Date: November 25, 2004

(*) Bulletin EU & US Inflation and Macroeconomic Analysis.

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I.3. UNITED STATES

- For **November**, the forecast for the general rate is a fall of 0.13%, with the annual rate rising from 3.19% to 3.33%. For core inflation, we forecast a decrease of 0.08%, and a rise in the annual rate to 2.14% (chapter II shows the details).

Table I.3.1

**OBSERVED VALUES AND FORECAST ON CONSUMER PRICE
FIGURES IN US
-October 2004-**

CONSUMER PRICES INDEX (CPI)	Monthly Growth (T^1_t)		Confidence Intervals at 80% level (+ -)
	observed (a)	forecasts (b)	
Residual Inflation	1.21	0.99	0.42
Core Inflation	0.41	0.38	0.16
Total inflation	0.53	0.51	0.13

Source: BLS & Universidad Carlos III Madrid

Data: November 17, 2004

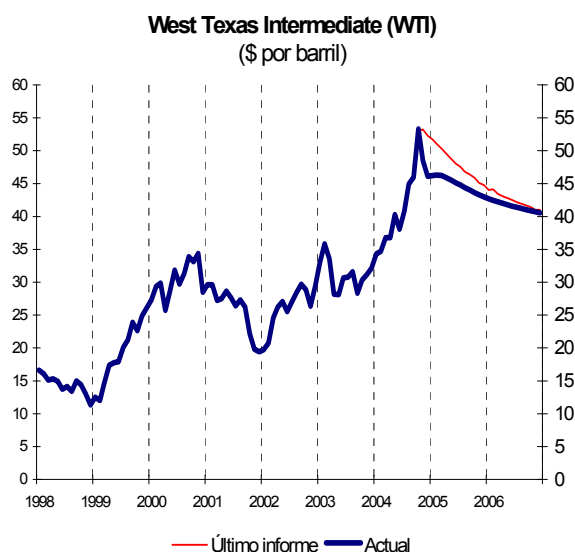
- In **October**, the U.S. CPI increased by 0.53% over the previous month's figure, similar to the forecast 0.51% (see **Table I.3.11**), with the annual rate growing from 2.54% to 3.19% (chapter II shows the details).
- In a more detailed analysis, the upward forecasting errors in some components compensate the downwards forecasting errors in others. The items with greater increases were fresh fruit and vegetables and non-food and non-energy goods, not including second-hand vehicles and tobacco. And the items with the greatest downward innovations were electricity prices and both long-distance and mobile telephone services.

- The **core** index rose by 0.41%, similar to the 0.38% increase forecast, with the annual rate rising from 1.96% to 2.01%. The increase in non-energy industrial products was 0.79%, instead of the forecast 0.58%, with the annual rate going from a negative value of 0.57% to a positive value of 0.07%. On the other hand, service prices rose by 0.22%, less than expected (0.30%), with the annual rate decreasing by two tenths from 2.98% to 2.79%. Core inflation, not including owner's equivalent rent of primary residence and tobacco, and therefore comparable with the underlying rate in Europe excluding food, increased by 0.51%, instead of the 0.47% forecast, with the annual rate going from 1.76% to 1.89%.
- By components, non-durable goods prices, excluding the index for tobacco, increased by 1.14%, instead of the 0.66% expected, with the annual rate going from 0.14% to 0.52%. Durable goods prices increased by 0.53% as opposed to the 0.58% forecast, with the annual rate going from -1.38% to -0.43%.
- The index for services excluding owner's equivalent rent of primary residence shows an increase of 0.24%, as opposed to the 0.37% forecast, with the annual rate going from 3.38% to 3.16%. The index for owner's equivalent rent of primary residence increased by 0.18%, exactly as forecast, with the annual rate going from 2.45% to 2.30%.
- The difference between the index for services (excluding the index for owner's equivalent rent of primary residence) and the index for commodities less food and energy (excluding tobacco prices) decreased sharply by nine tenths to 3.2 points, due to the seven tenths increase in commodities and the two tenths fall in the annual rate for services.
- For **2004, 2005 and 2006**, we forecast mean annual total inflation rates of 2.7%, 2.2% and 2.2% respectively, representing a decrease of four tenths for 2005 compared with last month's report (see **Graph I.3.2**). Nevertheless, the expectations for the general CIP for 2005 have improved significantly - 4 tenths -, largely thanks to the better performance of crude oil prices forecast on the futures markets (see **Graph I.3.1**).
- Two aspects stand out in relation to the October figure: 1) The impact that the depreciation of the \$ is having, and will continue to have, on non-energy industrial goods, even though much of the production capacity is unused, and 2) The good evolution of the service sector. These effects have been compensated by forecasting that core inflation will not change in the medium term from last month's report.

1 The official information provided is with one decimal aggregation error

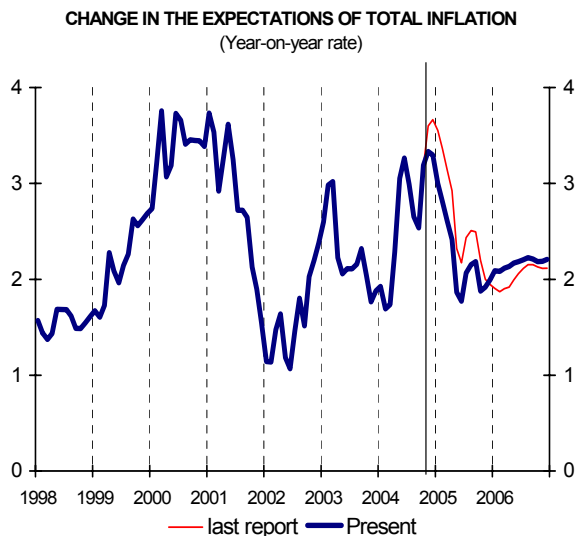


Graph I.3.1



Source: Universidad C.III Madrid & BLS / Date: November 17, 2004

Graph I.3.2



Source: Universidad C.III Madrid & BLS / Date: November 17, 2004

Table I.3.2

AVERAGE ANNUAL RATE OF GROWTH IN US

CONSUMER PRICES INDEX (CPI)	2001	2002	2003	2004 (forecasts)	2005 (forecasts)	2006 (forecasts)
Food (1)	3.1	1.8	2.1	3.4	2.5	2.6
Energy (2)	3.8	-5.9	12.2	10.9	2.3	-1.1
Residual Inflation (3=2+1)	3.3	-0.8	5.3	6.0	2.4	1.3
Non-food and non-energy goods (4)	0.3	-1.1	-2.0	-1.0	0.4	1.0
Less tobacco	-0.2	-1.5	-2.1	-1.1	0.3	0.9
-Durable goods	-0.6	-2.6	-3.2	-2.4	0.2	1.5
-Nondurable goods	1.1	0.4	-0.7	0.4	0.5	0.5
Non-energy services (5)	3.7	3.8	2.9	2.9	2.9	3.0
-Services less owner's equivalent rent of primary residence (5-a)	3.6	3.6	3.2	3.3	3.2	3.2
-Owner's equivalent rent of primary residence (a)	3.8	4.1	2.4	2.3	2.4	2.7
Core Inflation (6=4+5)	2.7	2.3	1.5	1.8	2.2	2.4
Core inflation less owner's equivalent rent of primary residence (6-a)	2.3	1.7	1.1	1.5	2.1	2.3
Core inflation less owner's equivalent rent of primary residence and tobacco	2.1	1.6	1.1	1.5	2.1	2.3
Total inflation (7=6+3)	2.8	1.6	2.3	2.7	2.2	2.2
All items less owner's equivalent rent of primary residence (7-a)	2.6	0.9	2.2	2.8	2.2	2.0

Source: BLS & Universidad Carlos III Madrid

Data: November 17, 2004

(*) Monthly and annual growth rates can be found in tables A6A and A6B in Appendix



I.4. SPAIN

- The total monthly inflation rate forecast for November 2004 is 0.2%, with the annual rate falling to 3.5% from the 3.6% observed in October (Graphs I.4.1).
- The total monthly inflation rate in October (1.03%) was higher than our forecast of 0.93%, largely due to a forecasting error in how residual inflation would perform, with the rate observed being 1.39% instead of the forecast 0.89%. Within residual inflation, energy (ENE) performed worse than expected, with an observed monthly rate of 2.64% instead of the forecast 1.72%, whereas unprocessed foods (ANE) registered a negative rate of 0.04%, equal to the forecast fall of 0.05%. As for core inflation (processed food, manufactured goods and services), it also performed much as predicted, although within its components, the monthly rate for processed food (AE) and services (SER) were lower than forecast, 0.06% instead of 0.13% and 0.05% instead of 0.14%, respectively, whereas non-energy industrial goods (MAN) registered an upwards innovation: 2.59% observed compared with the 2.42% forecast. In this last component, the end of the sales season had a worse than expected effect on the monthly rates for apparel and footwear: 9.19% and 6.05% respectively instead of the forecast 8.52% and 5.53% (table I.4.1 and II.4.1).

Table I.4.1

OBSERVED VALUES AND FORECASTS IN THE MONTH-ON-MONTH RATE OF GROWTH IN THE COMPONENTS OF THE CPI IN SPAIN

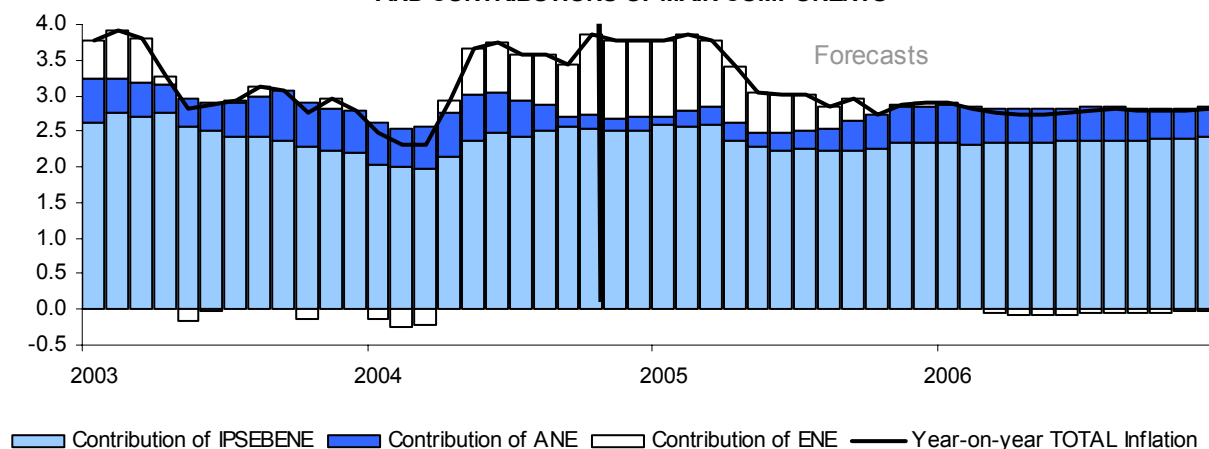
Consumer Price Index (CPI)	Observed growth October 2004	Forecast	Confidence interval at 80%
Total Inflation(100%)	1.03	0.93	± 0.15
Core inflation (82.28%)	0.95	0.94	± 0.13
Residual inflation (17.72%)	1.39	0.89	± 0.22

(*) At 80% confidence level.

Source : INE & UC3M / Date: November 12, 2004

Graph I.4.1

YEAR-ON-YEAR RATE OF INFLATION IN SPAIN AND CONTRIBUTIONS OF MAIN COMPONENTS

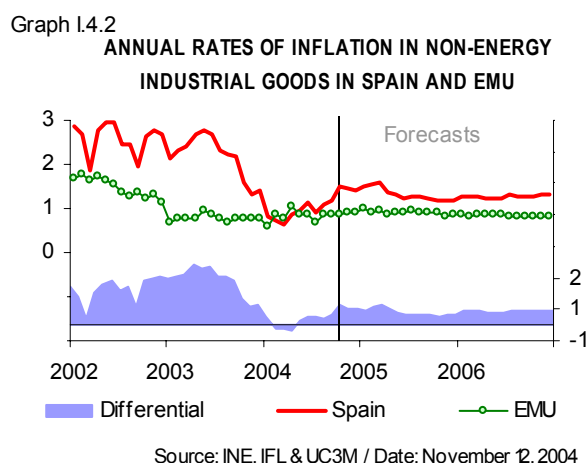


Source: INE, IFL & UC3M / Date: November 12, 2004

- This month, the annual core inflation rate remained at the 2.9% observed since August 2004. As for the components or core inflation, the annual rates for services, and especially processed food, have fallen, whereas the annual rate for manufactured goods has increased from the 1.0% observed in September to the 1.3% observed in October. On the other hand, prices not included in core inflation registered significant increases in their annual rates; unprocessed foods rose to 1.8% from September's 1.4% and energy products increased to 11.6% from the September figure of 7.5%, affecting the increase in the annual total inflation rate from September's 3.2% to October's 3.6%. Graph I.4.1 shows the important impact of the increase in energy prices on total inflation, especially since June, 2004. As the graph shows, this contribution to the total CPI is not expected to remit until the second quarter of 2005.



- The inflation differential between Spain and the euro area is a variable of interest in goods associated to greater competition in the latter. The annual inflation rates of non-energy industrial goods in the EMU and Spain are expected to be 0.8% in 2004 and 0.9% in 2005 in the EMU and 0.9% in 2004 and 1.2% in 2005 in Spain. These forecasts show that the difference between the annual inflation rate in Spain and the euro zone will be around 1.0% in the remaining months of 2004 and throughout 2005 and 2006 (see graph I.4.2). As for core inflation, in the euro zone the annual inflation rate was 2.0% in October, 2004. The forecast for the mean annual rate of core inflation is 2.0% in 2004, 2005 and 2006 in the euro zone, compared to 2.7% expected for 2004 and 2.6% for 2005 and 2006 for Spain.



- Graph I.4.3 shows that there is a probability of over 80% that the annual rate of inflation will remain above the mean (1996-2003) in the final months of 2004 and the first quarter of 2005. The mean annual rate of total inflation was 3.0% in 2003 and the forecast is for 3.1% in 2004, 2.9% in 2005 and 2.5% in 2006 (table I.4.2). The contributions of core inflation and unprocessed food to annual inflation in Spain are expected to remain stable until 2005. The fall in the contribution of energy prices to total inflation for the second half of 2005 will make the annual CPI return to rates similar to those observed in 2003 (see graph I.4.1).

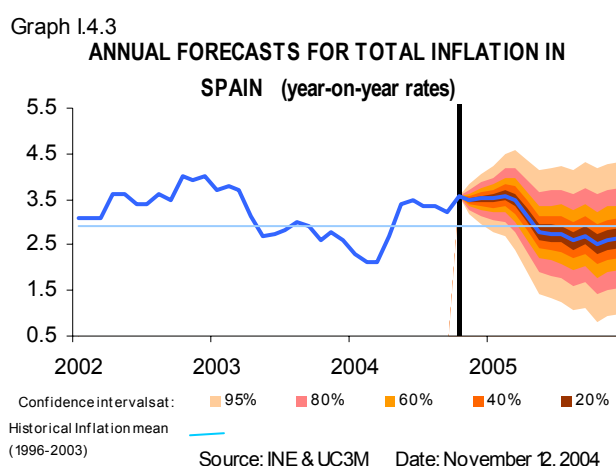


Table I.4.2 FORECASTS FOR THE MEAN ANNUAL RATES OF GROWTH IN THE CPI IN SPAIN						
Consumer Prices Index (CPI)	2001	2002	2003	Forecasts		
				2004	2005	2006
TOTAL INFLATION (100%)	3.5	3.5	3.0	3.1	2.9	2.5
CORE INFLACIÓN (82.28%)	3.4	3.7	2.9	2.7	2.6	2.6
Non energy industrial goods (30.05%)	2.6	2.5	2.0	0.9	1.2	1.3
Services (35.05%)	4.2	4.6	3.7	3.7	3.8	3.9
Processed food CPI (17.17%)	3.4	4.3	3.0	3.5	2.6	2.4
RESIDUAL INFLATION (17.72%)	3.6	2.6	3.6	4.9	4.2	2.1
Non processed food CPI (8.60%)	8.7	5.8	6.0	4.5	3.3	4.8
Energy (9.12%)	-1.0	-0.2	1.4	5.2	4.9	-0.4

Monthly and annual rates can be found in tables A7A and A7B in the appendix
Source: INE, IFL & UC3M / Date: November 12, 2004



I.5. MACROECONOMIC TABLE OF SPANISH ECONOMY

MACROECONOMIC TABLE AND INDICATORS (*)					
	Annual Rates				
	2003	Forecasts BIMA(*)			Budget
		2004	2005	2006	2005
Private Final Consumption Expenditure	2.9	3.4	3.3	3.3	3.2
Public Final Consumption Expenditure	3.9	4.4	4.2	4.2	3.5
Gross Fixed Capital Formation	3.2	4.2	4.1	3.4	4.0
Equipment	1.0	4.4	6.3	5.4	(3)
Building	4.3	4.3	2.9	2.1	3.2
Other products	3.0	3.2	4.1	4.4	(3)
Inventory change (1)	0.1	0.2	-0.1	-0.1	0.0
Domestic Demand	3.2	3.9	3.6	3.4	3.4
Exports of Goods and Services	2.6	4.5	5.9	7.4	6.4
Imports of Goods and Services	4.8	8.5	8.2	8.2	7.3
Net Exports (1)	-0.8	-1.5	-1.1	-0.7	-0.6
GDP	2.5	2.6	2.7	2.9	3.0
GDP, current prices	6.6	6.4	6.5	6.1	6.3
Prices and Costs					
CPI, annual average	3.0	3.1	2.9	2.5	
CPI, dec./dec.	2.6	3.5	2.6	2.5	
Average earning per worker	4.2	3.8	3.9	4.0	
Unit labour cost	3.5	3.2	3.3	3.4	
Labour Market (Data poll labour force)					
Labour Force (% variation)	2.6	1.9	1.7	1.8	
Employment (EPA)					
Annual average variation in %	2.7	2.4	2.3	2.3	
Annual average variation in thousands	436.8	400.7	393.2	402.2	
Unemployment rate	11.3	10.9	10.3	9.9	10.8
Basic balances					
Foreign sector					
Current Account (m. €.)	-24.634	-35.270	-28.937	-26.500	
Net lending or borrowing (% GDP) (2)	-3.3	-4.4	-3.4	-2.9	
AA.PP. (Total) / Public Administration					
Net lending or borrowing (% GDP) (2)	0.0	-0.8	-1.2	-1.0	
Other Economic Indicators					
Industrial Production Index	1.6	2.6	2.6	3.3	

(1) Contributions to GDP growth

(2) In term of national accounts

(3) Equipment goods and other goods: Forecast PGE, 5.1; Forecast BIAM, 5.5.

Source: INE & UC3M

Date: November 25, 2004.

(*) Bulletin EU & US Inflation and Macroeconomic Analysis.

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I.6 FORECAST SUMMARY

INFLATION FORECASTS AND EVOLUTION IN THE EMU AND USA (1999-2006)								
	1999	2000	2001	2002	2003	Forecasts		
						2004	2005	2006
TOTAL INFLATION								
Euro-area (100%).	1.1	2.1	2.3	2.3	2.1	2.1	1.9	1.8
USA (81.5%). ⁽¹⁾	2.1	3.5	2.6	0.9	2.2	2.8	2.2	2.0
A HOMOGENEOUS MEASURE OF CORE INFLATION ⁽²⁾								
Services and Non-energy industrial goods excluding food and tobacco.								
Euro-area (72.34%).	1.1	1.0	1.8	2.4	1.8	1.8	1.9	1.9
USA (55.6%). ⁽¹⁾	1.4	2.1	2.1	1.6	1.1	1.5	2.1	2.3
DIFFERENT COMPONENTS OF THE HOMOGENEOUS MEASURE OF CORE INFLATION								
(1) Services.								
Euro-area (41.33%).	1.5	1.5	2.5	3.1	2.6	2.6	2.6	2.6
USA (27.4%). ⁽¹⁾	2.7	3.5	3.6	3.6	3.2	3.3	3.2	3.2
(2) Non-energy industrial goods excluding food and tobacco.								
Euro-area (31.01%).	0.7	0.4	0.9	1.5	0.8	0.8	0.9	0.8
USA (29.0%).	-0.5	-0.1	-0.2	-1.5	-2.1	-1.1	0.3	0.9
INFLATION IN EXCLUDED COMPONENTS FROM THE HOMOGENEOUS MEASURE OF CORE INFLATION								
(1) Food.								
Euro-area (19.53%).	0.6	1.4	4.5	3.1	2.8	2.3	1.6	2.3
USA (14.9%).	2.1	2.3	3.1	1.8	2.1	3.4	2.5	2.6
(2) Energy.								
Euro-area (8.13%).	2.4	13.0	2.3	-0.6	3.0	4.4	2.4	0.3
USA (9.90%).	3.6	16.9	3.8	-5.9	12.2	10.9	2.3	-1.1

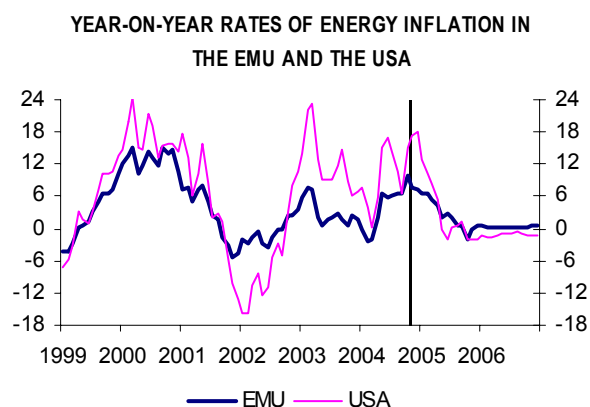
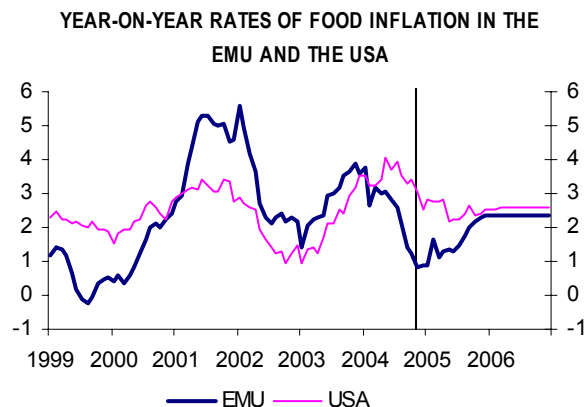
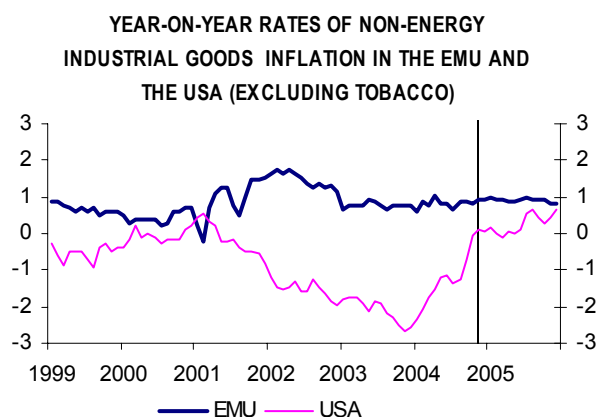
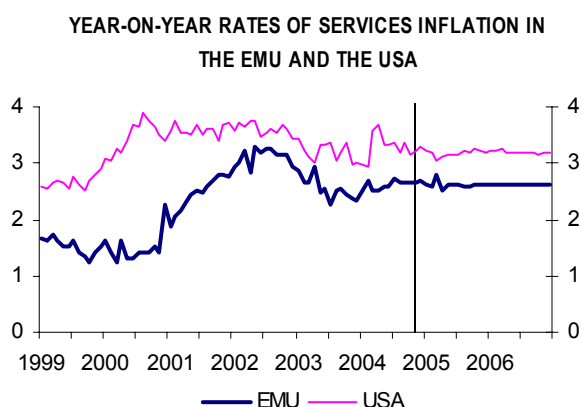
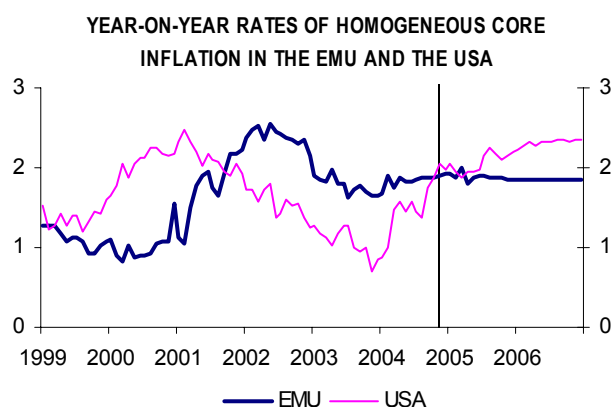
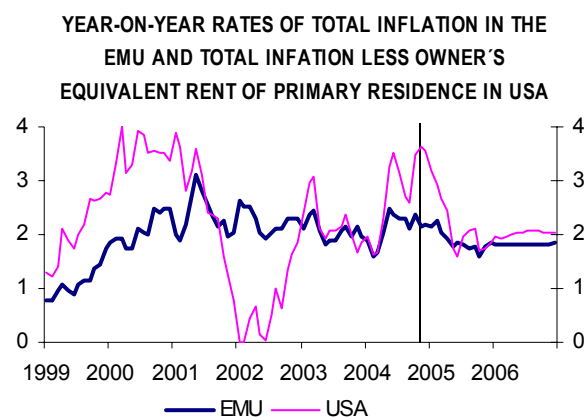
⁽¹⁾ less owner's equivalent rent of primary residence.

⁽²⁾ This homogeneous measure of underlying inflation does not coincide with the usual measure of core inflation for the EMU nor for the USA. It has been constructed in order to compare the data in the EMU and in the USA.

Source: EUROSTAT, BLS, IFL & UC3M.
Date: November 24 / 2004



YEAR-ON-YEAR RATES OF INFLATION IN THE EMU AND USA



Source: EUROSTAT, BEA, IFL & UC3M

Date: November 24, 2004

Total inflation is less owner's equivalent rent of primary residence. The core inflation has been constructed in order to compare the data in the EMU and in the USA.

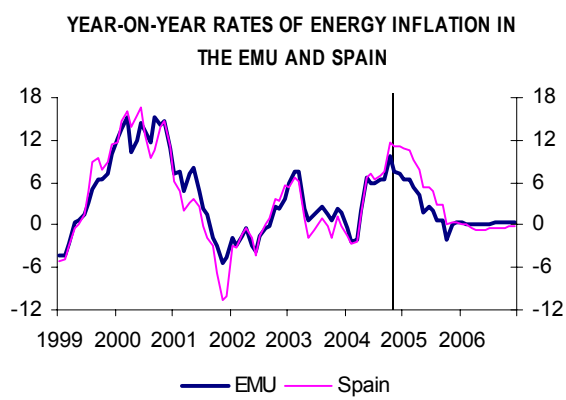
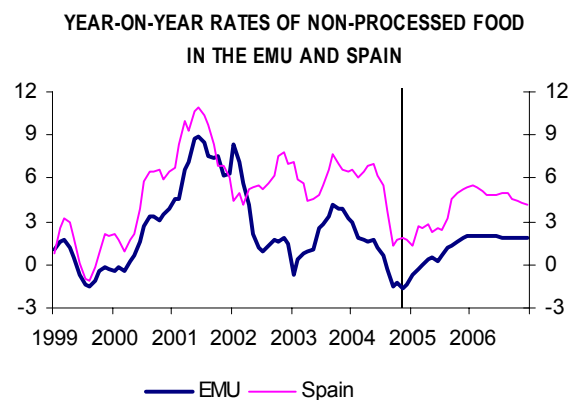
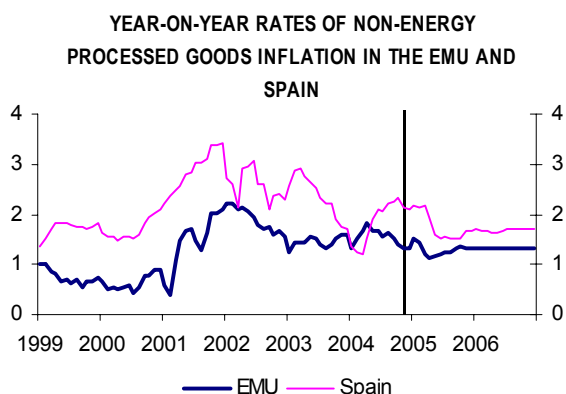
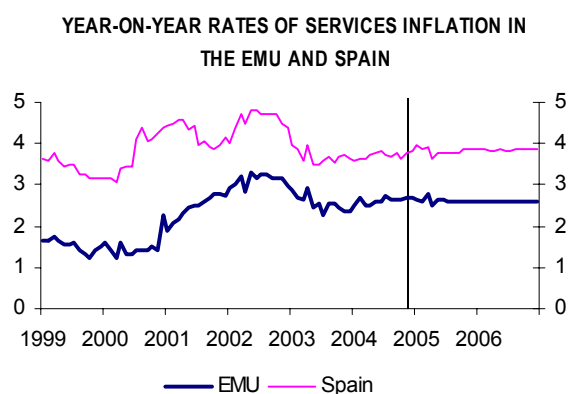
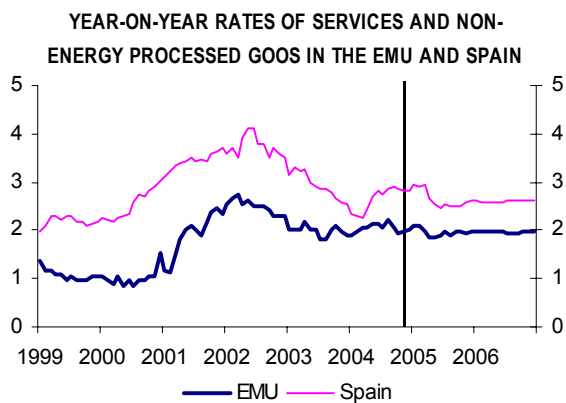
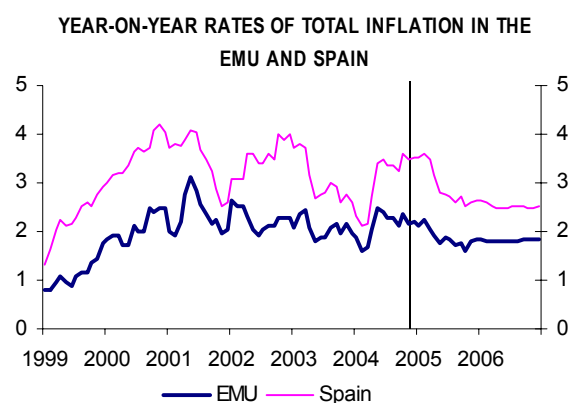


INFLATION FORECASTS AND EVOLUTION IN THE EMU AND SPAIN (1999-2006)								
	1999	2000	2001	2002	2003	Forecasts		
						2004	2005	2006
TOTAL INFLATION								
Spain (100%).	2.3	3.6	3.5	3.5	3.0	3.1	2.9	2.5
Euro-area (100%).	1.1	2.1	2.3	2.3	2.1	2.1	1.9	1.8
CORE INFLATION								
Services and Non-energy processed goods.								
Spain (81.40%).	2.2	2.5	3.4	3.7	2.9	2.7	2.6	2.6
Euro- area (84.18%).	1.1	1.0	1.9	2.5	2.0	2.0	2.0	2.0
DIFFERENT COMPONENTS OF CORE INFLATION								
(1) Services.								
Spain (34.87%).	3.4	3.7	4.2	4.6	3.7	3.7	3.8	3.9
Euro- area (41.33%)	1.5	1.5	2.5	3.1	2.6	2.6	2.6	2.6
(2) Non-energy processed goods.								
Spain (46.53%).	1.7	1.7	2.9	2.6	2.4	1.9	1.7	1.7
Euro- area (43.26%).	0.7	0.6	1.5	1.9	1.5	1.5	1.3	1.3
INFLATION IN EXCLUDED COMPONENTS FROM CORE INFLATION								
1) Non-processed food.								
Spain (9.40%).	1.2	4.2	8.7	5.8	6.0	4.5	3.3	4.8
Euro- area (7.69%).	0.0	1.7	7.0	3.1	2.2	0.5	0.7	1.9
(2) Energy.								
Spain (9.14%).	3.2	13.3	-1.0	-0.2	1.4	5.2	4.9	-0.4
Euro- area (8.13%).	2.4	13.0	2.3	-0.6	3.0	4.4	2.4	0.3

Source: EUROSTAT, BLS, IFL & UC3M.
Date November 24 / 2004.



YEAR-ON-YEAR RATES OF INFLATION IN THE EMU AND SPAIN



Source: EUROSTAT, BEA, IFL & UC3M
Date: November 24, 2004



I.7 INFLATION FORECASTS OF DIFFERENT INSTITUTIONS

INFLATION FORECASTS OF DIFFERENT INSTITUTIONS ¹										
	BIAM ²		CONSENSUS FORECASTS ³		IMF ⁴		ECB ⁵		OCDE ⁶	
	2004	2005	2004	2005	2004	2005	2004	2005	2004	2005
UME	2.1	1.9	2.1	2.0	2.1	1.9	2.1	1.9	1.9	1.7
EE.UU.	2.7	2.2	2.6	2.4	3.0	3.0	-	-	2.0	1.8
ESPAÑA	3.1	2.9	3.0	2.8	2.8	2.7	-	-	3.0	3.2

1 The forecasts are based on CPI in USA and Spain and on HICP in the EMU.

2 Bulletin EU & US Inflation and Macroeconomic Analysis , November 2004

3 November 8, 2004.

4 IMF. World Economic Outlook. September 2004.

5 ECB. Monthly Bulletin. Survey of Professional Forecasters. November 2004

6 OECD Economic Outlook 76. November 2004. Measured by the increase in the GDP deflator. For Spain, the forecasts are based on HICP.

Our forecasts for total inflation in the EMU and Spain are slightly greater than the previsions derived from other institutions because with the methodology applied in our Bulletin, total inflation is breaking down in core and residual inflation. Last one is composed by inflation in non-processed food and energy prices.

The innovations come in different components are transferred in future thorough different multipliers. The innovations derived from residual inflation are less persistent.

Our expectations about total inflation in the EMU are the same published in the previous bulletin: 2.1% in 2004 and 1.9% in 2005. In Spain, the expectations for 2004, and for 2005 are the same published last month. Energy prices are expected to increase due to the evolution of crude prices. The expected average inflation rate for 2004 in energy prices is 5.2% in Spain and 4.9% in the EMU.



II. ANALYSIS OF INFLATION, MONETARY POLICY AND INTERNATIONAL ANALYSIS

II.1 Economic and Monetary Union

In October 2004, inflation in the euro area registered a monthly rate of 0.34%, with the annual rate falling to 2.37%.

Monthly inflation in the month of October performed worse than expected, 0.34% instead of the forecast 0.26%. This forecasting error in total inflation was largely due to the performance of energy prices in the last week of October. There was a downwards innovation in core inflation and all its components. The prices of industrial good grew by 0.56% this month when we had forecast 0.61% growth, processed food registered zero growth instead of the 0.06% forecast and services registered a negative rate of 0.08% instead of the negative 0.06% forecast. In components not included in core inflation, unprocessed food and energy prices registered upwards innovations, a negative rate of 0.08% instead of the -0.44% forecast and a positive 2.87% instead of the 1.50% expected, respectively (Tables II.1.1 and A2 in the appendix).

Table II.1.1 shows the forecasting error for the different basic aggregates in the euro area (see table A1B in the appendix for the disaggregation scheme).

Table II.1.1 OBSERVED AND FORECAST VALUES ON CONSUMER PRICE FIGURES IN THE EMU			
Consumer Price Index (HICP)	Current growth October 04	Forecast	Confidence intervals (a)
(1) Processed food - AE (9.463%) ^(b)	0.00	0.04	± 0.09
(2) Tobacco (2.373%)	0.00	0.10	± 0.13
(3) Commodities - MAN (31.009%)	0.56	0.61	± 0.10
Non-Energy Manufactured Goods - BENE [1+2+3] (42.845%)	0.40	0.45	± 0.09
(4) Services - SERV (41.334%)	-0.08	-0.06	± 0.14
Core Inflation:			
Non-Energy Manufactured Goods and Services, (excluding fats, oils, tobacco and tourist packages) - IPSEBENE [1+2+3+4] (84.178%)	0.17	0.20	± 0.08
(5) Non-Processed Food - ANE (7.689%)	-0.08	-0.44	± 0.46
(6) Energy Goods - ENE (8.133%)	2.87	1.50	± 0.60
Residual Inflation:			
Fats, Oils, Tobacco, Tourist Packages, Non- Processed Food and Energy - R [5+6] (15.822%)	1.46	0.59	± 0.39
Total Inflation:			
HICP [1+2+3+4+5+6] (100%)	0.34	0.26	± 0.09

(a) At 80% confidence level

(b) Excluding tobacco prices

Source: EUROSTAT, IFL & UC3M/ Date: November 17, 2004

It is important to note the existence of rounding errors in the aggregation of different sectors of HICP in the EMU. Eurostat publishes data with one decimal point and apparently they use more decimals in obtaining the aggregate indexes. The question is that the aggregate values cannot be exactly reproduced up to a decimal point by the users of Eurostat data. For this reason, aggregation errors are marked in the forecast errors tables in the appendix (table A2).

There was an upwards innovation in total inflation.

The breakdown of the harmonised consumer price index into basic market groups shows that the prices of processed food (AE) excluding tobacco, performed better than expected with a zero rate instead of the forecast 0.04%. The prices of tobacco registered a downwards innovation with a zero rate lower than the 0.10% forecast. Non-energy industrial goods registered a monthly rate of 0.56%, lower than the 0.61% expected. Services registered a



The forecast for the year-on-year rate of inflation falls to 2.1% for November, from the 2.4% observed in October 2004.

negative monthly growth rate of 0.08%, practically the same as the negative 0.06% forecast. With this, core inflation, calculated as the aggregate of these indices, performed practically as forecast, with a monthly rate of 0.17% instead of the 0.20% expected. On the other hand, residual inflation (unprocessed food and energy) was considerably higher than forecast, with a monthly rate of 1.46% instead of the 0.59% expected, due to a timid upwards innovation in unprocessed food and a strong upwards innovation in energy (tables A1 and A2 in the appendix).

In the euro area we expect annual inflation to fall in November, with a negative monthly rate of 0.1%. Average annual inflation in the area will therefore continue to be above 2% for 2004, specifically 2.1%, and it will be 1.9% in 2005, compared to the 2.1% registered in 2003.

Table II.1.2 summarises the forecasts for the different components in the Monetary Union. Monthly and annual rates may be found in tables A5A and A5B.

Table II.1.2							
AVERAGE ANNUAL RATE OF GROWTH IN MONETARY UNION							
	Observed				Forecasts		
	2000	2001	2002	2003	2004	2005	2006
Residual Inflation 15.822%	7.5	4.4	1.1	2.6	2.5	1.6	1.1
Non-Processed Food*	1.7	7.0	3.1	2.2	0.5	0.7	1.9
7.689%							
Energy	13.0	2.3	-0.6	3.0	4.4	2.4	0.3
8.133%							
Core Inflation 84.178%	1.0	1.9	2.5	2.0	2.0	2.0	2.0
Processed Food ^(a)	0.6	2.7	2.4	2.1	1.3	1.3	1.9
9.463%							
Tobacco	3.4	3.8	5.9	8.4	11.8	6.3	5.3
2.373%							
Non-Energy Commodities	0.4	0.9	1.5	0.8	0.8	0.9	0.8
31.009%							
Non-Energy Services	1.5	2.5	3.1	2.6	2.6	2.6	2.6
41.334%							
Total Inflation 100%	2.1	2.3	2.3	2.1	2.1	1.9	1.8

*Excluding tobacco prices

Source: EUROSTAT, IFL & UC3M/ Date: November 24, 2004

The average annual rate in 2003, 2.1%, is due to the fall in core inflation from the 2.5% registered in 2002 to 2.0% in 2003, thanks to the favourable evolution expected for non-energy industrial goods and service prices, to the disappearance of the euro-rounding effect on annual rates, and to increases in residual inflation caused by the evolution of energy prices. For 2004, we expect a core inflation profile slightly above the 2003 figures, with energy being the component responsible for the acceleration registered in total inflation in the year. This inflationist trend for energy is not expected to change until the second quarter of 2005, always depending on the medium-term performance of the crude oil market.

By country, for November 2004 we expect positive total annual inflation rates of 2.1% in Germany, 3.5% in Spain, 2.3% in Italy and 2.2% in France.

Table II.1.3 summarises average annual growth rates for the main countries. Monthly and annual forecasts for all countries can be found in tables A4A, A4B, A4C and A4D.



Table II.1.3							
ANNUAL AVERAGE RATES OF GROWTH							
	Observed				Forecasts		
	2000	2001	2002	2003	2004	2005	2006
Spain HICP (11.11%) *	3.5	2.8	3.6	3.1	3.1	3.0	2.7
Germany HICP (29.26%)	1.4	1.9	1.3	1.0	1.8	1.2	1.1
France HICP (20.70%)	1.8	1.8	1.9	2.2	2.3	1.9	1.7
Italy HICP (19.26%)	2.6	2.3	2.6	2.8	2.2	2.2	2.7
EMU HICP (100%)	2.1	2.3	2.3	2.1	2.1	1.9	1.8
United kingdom HICP	0.8	1.2	1.3	1.4	1.3	1.4	1.3

* country weights in the total HICP for the EMU

Source: EUROSTAT, IFL & UC3M/ Date: November 24 / 2004

Inflation forecasts for the euro area reveal significant differences between countries, leading to a range of actual real interest rates through member countries, which for the one year horizon go from negative values in Luxembourg (-0.80%), Portugal (-0.68%), Ireland (-0.61%), Greece (-0.59%) and Spain (-0.38%), to positive values in Germany (1.28%), Finland (1.19%) or France (0.64%). This range is broader than in past years and, in fact, except in Germany and Finland, all member countries are experiencing near zero or negative real interest rates, which should favour business investment (see table II.1.4).

Table II.1.4	INFLATION EXPECTATIONS		ACTUAL REAL INTEREST RATES	
	Three Months	One Year	Three Months	One Year
Luxembourg	3.59	3.13	-1.42	-0.80
Portugal	2.88	3.02	-0.71	-0.68
Ireland	2.92	2.94	-0.75	-0.61
Greece	3.15	2.92	-0.98	-0.59
Spain	2.97	2.71	-0.81	-0.38
Belgium	3.17	2.69	-1.00	-0.35
Italy	2.19	2.66	-0.02	-0.33
Netherlands	2.14	2.23	0.03	0.11
Austria	2.05	2.02	0.11	0.32
France	1.82	1.69	0.34	0.64
Finland	1.03	1.14	1.14	1.19
Germany	1.20	1.05	0.97	1.28

Source: ECB, Eurostat & EFN Date: November 24, 2004

Rate dispersion in the euro area increased in the central years of the graph (2001-2003)

The only countries with atypical rates would be Greece and

Graph II.1.1 shows the dispersion of the average annual inflation rates in euro area countries for the 1997-2005 period, including the forecasts for 2004 and 2005. The graph uses a box diagram, the base of which is the first quartile and the top of which is the third quartile, and its height therefore the inter-quartile range. The horizontal line in the graph is the median. The box also has two vertical lines, above and below, measuring 1.5 times the inter-quartile range. This figure relates the inflation rates for the different countries in the euro area with certain values of its distribution for each year. In fact, if the rate is above or below the vertical line stemming from the box, this would be an atypical datum for this distribution; if the rate falls inside the box, this would be the part with more distribution observations and if the rate coincides with the horizontal line in the box, the same number of observations would be on either side of the rate. We can see how rate dispersion in the euro area increased in the central years (2001-2003) and was lower before 2001 and after 2003. We can also see that the only countries with atypical rates would be Greece with a very high rate up to 2000 and

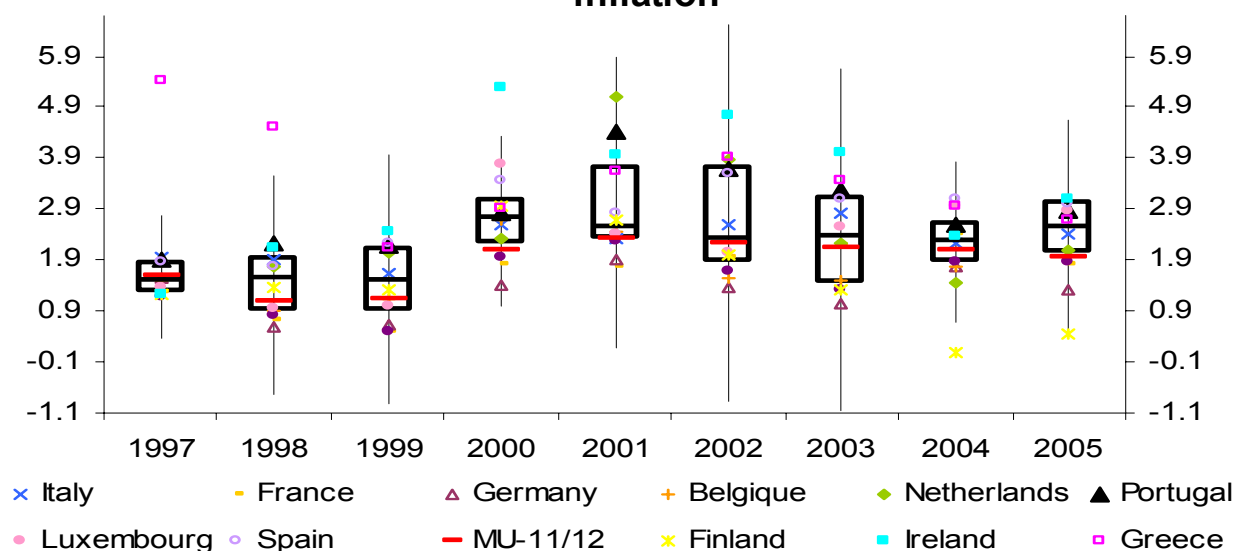


Finland.

Finland with an abnormally low rate since 2004. The inflation rate for the euro area as a whole, which is calculated as the weighted average of the inflation rates of the different countries, is below the median throughout the period, but always in the boxes, showing that countries with more weight in the mean have the lowest inflation rates in the area (Germany or France, for instance).

Graph II.1.1.

Box diagram of euro area countries dispersion on inflation



Date: November 23, 2004 Source: IFL & EUROSTAT

Table II.1.5 shows annual observed HICP growth rates for energy and those corresponding to the remainder of goods and services for the euro area and major countries.

Table II.1.5												
ANNUAL GROWTH HICP												
	HICP excluding Energy						HICP energy					
	Observed			Forecasts			Observed			Forecasts		
	Oct. 2004	Mean 2002	Mean 2003	Mean 2004	Mean 2005	Mean 2006	Oct. 2004	Mean 2002	Mean 2003	Mean 2004	Mean 2005	Mean 2006
Germany	1.4	1.4	0.8	1.5	1.0	1.0	9.4	0.3	4.0	4.8	3.6	1.7
Spain	2.8	3.4	3.2	2.8	2.7	2.8	11.6	-0.2	1.4	5.2	4.9	-0.4
France	1.6	2.3	2.2	2.1	1.7	1.9	12.8	-1.5	2.3	4.7	2.5	-1.1
Italy	1.9	3.0	2.8	2.3	2.1	2.5	5.8	-2.6	3.2	2.4	4.2	3.6
Monetary Union	1.7	2.6	2.0	1.9	1.8	2.0	9.8	-0.6	3.0	4.4	2.4	0.3

Source: EUROSTAT, IFL & UC3M/ Date: November 24, 2004

There continue to be inflation differentials among countries in prices excluding energy.

Year-on-year rates of energy prices registered values higher than 9% in October in these countries except for Italy where it was 5.8%. Non-energy inflation performed differently. For the HICP excluding energy in October 2004, Germany registered an annual rate of 1.4%; the forecast is for around 1.5% in 2004 and 1.0% in 2005. France registered 1.6% in October and the forecast average annual rate is 2.1% in 2004 and 1.7% in 2005. Italy registered 1.9% and the forecast is for 2.3% in 2004 and 2.1% in 2005. For Spain, the annual rate was 2.8% in October and we forecast a average annual rate of 2.8% in 2004 and 2.7% in 2005. Therefore, there are inflation differentials in the HCPI excluding energy between these four countries, with Germany being the least inflationist in the category, followed by France and Italy, with Spain the most inflationist country of the four.



II.2. Industrial Production in the EMU and USA.

The Industrial Production Index published for September 2004 has been an upwards innovation in the rate of growth of the global index and in all the components considered in this publication. However, it is relevant to signal the behaviour of Durable Consumer Goods that keep on decelerating (-3.46%). This information is shown in table II.2.1.

Table II.2.1 FORECASTS AND OBSERVED DATA IN THE ANNUAL RATE OF GROWTH OF THE DIFFERENT EMU IPI COMPONENTS CORRESPONDING TO SEPTEMBER		
	Forecast for September	Observed in September ^(*)
Capital	2.68	5.32
Durable	-1.58	-3.46
Intermediate	2.65	3.28
Non Durable	-0.23	0.93
Energy	1.12	3.36
Total	1.69	2.90

Working day adjusted data.

Source: Eurostat and UC3M.

New forecasts have been slightly upwards revised. The forecasts for year 2004 has been revised from 1.99% to 2.3% and those for 2005 from 1.55% to 1.7%. The expectations of growth for the different sectors are shown in table II.2.2.

Table II.2.2 ANNUAL AVERAGE RATES FOR INDUSTRIAL PRODUCTION IN EMU ^(**)								
	1998	1999	2000	2001	2002	2003	2004	2005
Capital	6.7	2.4	8.2	1.6	-1.6	-0.0	3.6	2.7
Durable	4.2	1.3	6.1	-2.1	-5.6	-4.3	0.3	-1.9
Intermediate	3.7	1.9	6.2	-0.6	0.2	0.2	2.2	1.7
Non Durable	2.1	1.2	0.9	0.8	0.6	0.2	0.9	0.8
Energy	1.6	0.8	1.9	1.3	1.1	3.0	2.7	2.3
Total EMU	3.8	1.8	5.2	0.4	-0.5	0.3	2.3	1.7

(**) Bold figures are forecasts. Working day adjusted data.

Source: Eurostat and UC3M.

Date: November, 22nd, 2004

In US, the last published data corresponds to September and has behaved over it was expected (5.16 instead of 4.83%). There has been only a downwards innovation in Durable Consumer Goods. This information is shown in table II.2.3.

Table II.2.3 FORECASTS AND OBSERVED DATA IN THE ANNUAL RATE OF GROWTH OF THE DIFFERENT EMU IPI COMPONENTS CORRESPONDING TO OCTOBER		
	Forecast for October	Observed in October
Durable Consumer Goods	4.03	1.93
Non Durable Consumer Goods	4.21	4.19
Equipment and Supplies	5.72	5.95
Materials	4.08	4.71
TOTAL US	4.83	5.16

Source: Federal Reserve and UC3M



Table II.2.4 shows the updated forecasts. The average rate of growth for IP in 2004 has been slightly upwards revised from 4.32% to 4.4% and in 2005 from 2.4% to 2.9%.

Table II.2.4 ANNUAL AVERAGE RATES FOR INDUSTRIAL PRODUCTION IN US ⁽¹⁾								
	1998	1999	2000	2001	2002	2003	2004	2005
Durable Consumer goods	7.2	6.9	3.9	-5.8	4.7	2.3	3.0	1.3
Non Durable Consumer Goods	2.3	-0.1	1.7	0.4	-0.6	-1.7	2.4	1.3
Equipment and Supplies	8.1	4.8	5.9	-4.1	-0.6	0.4	4.8	3.2
Materials	5.2	5.7	5.3	-4.5	0.4	0.5	4.6	3.1
TOTAL US	5.6	4.3	4.7	-3.5	-0.6	0.2	4.4	2.9

(1) Bold figures are forecasts.
Source: Federal Reserve and IFL.
Date: November 22nd, 2004



II.3 United States

In **October**, the U.S. CPI increased by 0.53%, as expected.

In **October**, the U.S. CPI increased by 0.53% over the previous month's figure, similar to the forecast 0.51% (see **Table II.3.1**), with the annual rate growing from 2.54% to 3.19%. In a more detailed analysis, the upwards forecasting errors in some components compensate the downwards forecasting errors in others. The items with greater increases were fresh fruit and vegetables and non-food and non-energy goods, not including second-hand vehicles and tobacco. And the items with the greatest downward innovations were electricity prices and both long-distance and mobile telephone services.

Table II.3.1

OBSERVED VALUES AND FORECAST ON CPI IN US October 2004

CONSUMER PRICES INDEX (CPI)	Relative importance Dec. 2003	Annual Growth (T ¹ ₁₂) observed	Monthly Growth (T ¹ ₁)		Confidence Intervals at 80% level (+ -)
			observed (a)	forecasts (b)	
Food (1)	14.4	3.41	0.64	0.22	0.39
Energy (2)	7.1	15.19	2.20	2.33	1.11
Residual Inflation (3=2+1)	21.5	7.46	1.21	0.99	0.42
Non-food and non-energy goods (4)	22.3	0.07	0.79	0.58	0.30
Less tobacco	21.4	-0.04	0.82	0.62	0.23
-Durable goods	11.3	-0.43	0.53	0.58	0.34
-Nondurable goods	11.0	0.71	1.05	0.58	0.42
-Non-durable goods less tobacco	10.2	0.52	1.14	0.66	0.30
Non-energy services (5)	56.3	2.79	0.22	0.30	0.15
-Services less owner's equivalent rent of primary residence (5-a)	32.9	3.16	0.24	0.37	0.23
-Owner's equivalent rent of primary residence (a)	23.4	2.30	0.18	0.18	0.13
Core Inflation (6=4+5)	78.5	2.01	0.41	0.38	0.16
Core inflation less owner's equivalent rent of primary residence (6-a)	55.2	1.90	0.50	0.46	0.20
Core inflation less owner's equivalent rent of primary residence and tobacco	54.3	1.89	0.51	0.47	0.18
Total inflation (7=6+3)	100.0	3.19	0.53	0.51	0.13
All items less owner's equivalent rent of primary residence (7-a)	76.6	3.47	0.63	0.61	0.16

Source: BLS & Universidad Carlos III Madrid

Data: November 17, 2004

The **core** index rose by 0.41%, similar to the 0.38% increase forecast, with the annual rate rising from 1.96% to 2.01%

The **core** index rose by 0.41%, similar to the 0.38% increase forecast, with the annual rate rising from 1.96% to 2.01%. The increase in non-energy industrial products was 0.79%, instead of the forecast 0.58%, with the annual rate going from a negative value of 0.57% to a positive value of 0.07%. On the other hand, service prices rose by 0.22%, less than expected (0.30%), with the annual rate decreasing by two tenths from 2.98% to 2.79%. Core inflation, not including owner's equivalent rent of primary residence and tobacco, and therefore comparable with the underlying rate in Europe excluding food, increased by 0.51%, instead of the 0.47% forecast, with the annual rate going from 1.76% to 1.89%.



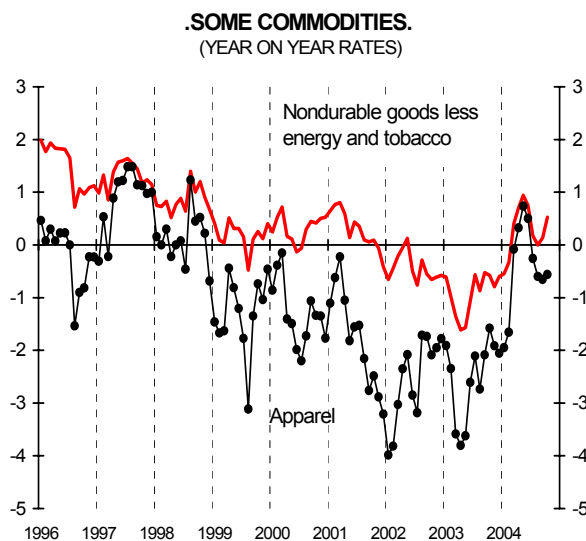
By components, the index for commodities less food and energy without tobacco increased by 0.82% instead of the 0.62% increase expected, with the annual rate going from a negative value of 0.71% to another negative value of 0.04%. Non-durable goods prices, excluding the index for tobacco, increased by 1.14%, instead of the 0.66% expected, with the annual rate going from 0.14% to 0.52%. Regarding non-durable goods, the annual rate of the apparel index went from -0.66% to -0.56% (see **Graph II.3.1**). And the index for tobacco decreased by 0.12%, similar to the forecast 0.41%, with the annual rate going from 3.03% to 2.73%. Durable goods prices increased by 0.53% as opposed to the 0.58% forecast, with the annual rate going from -1.38% to -0.43%. With regards to durable goods, the annual rate of the new car index went from the previous month's -1.10% to -0.44% (see **Graph II.3.2**).

The index for services excluding owner's equivalent rent of primary residence shows an increase of 0.24%, as opposed to the 0.37% forecast, with the annual rate going from 3.38% to 3.16%. The index for owner's equivalent rent of primary residence increased by 0.18%, exactly as forecast, with the annual rate going from 2.45% to 2.30% (see **Graph II.3.4**).

The difference between the index for services (excluding the index for owner's equivalent rent of primary residence) and the index for commodities less food and energy (excluding tobacco prices) decreased sharply by nine tenths to 3.2 points, due to the seven tenths increase in commodities and the two tenths fall in the annual rate for services.

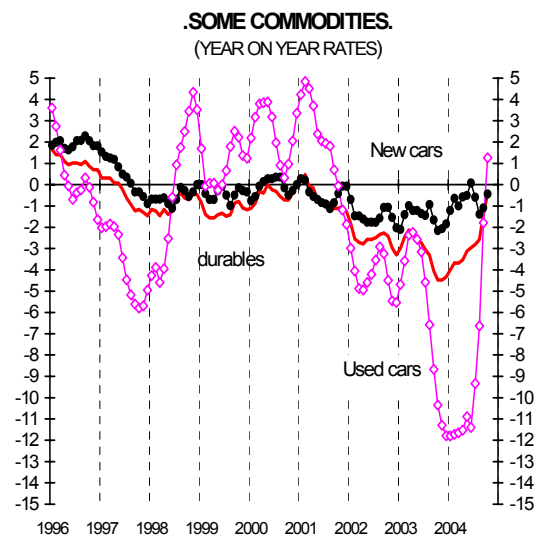
Residual inflation increased by 1.21%, more than expected: 0.99%, with the annual rate going from 4.60% to 7.46%. By components, food prices increased by 0.64%, more than expected (0.22%), with the annual rate going from 3.32% to 3.41%. The index for energy increased by 2.20%, similar to the forecast (2.33%), with the annual rate going from 6.71% to 15.19%.

Graph II.3.1



Source: Universidad C.III Madrid & BLS / Date: November 17, 2004

Graph II.3.2



Source: Universidad C.III Madrid & BLS / Date: November 17, 2004

For **November**, the forecast for the general rate is a fall of 0.13%, with the annual rate rising from 3.19% to 3.33%.

For **November**, the forecast for the general rate is a fall of 0.13%, with the annual rate rising from 3.19% to 3.33%. For core inflation, we forecast a decrease of 0.08%, and a rise in the annual rate to 2.14%.

By components, the expected decrease in the index for services is 0.02%, with an increase of 0.28% for the index for owner's equivalent rent of primary residence and a decrease of 0.22% for the rest, with the annual rate of the index for owner's equivalent rent of primary residence going from 2.30% to 2.36%.



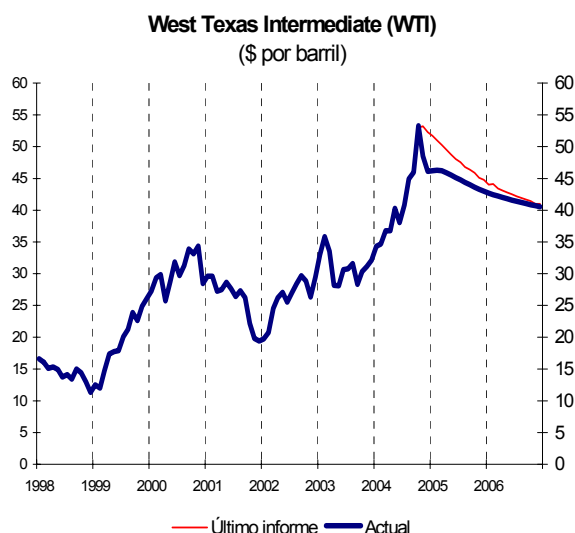
Taking commodities less food and energy into consideration, the expected decrease is 0.23%, with the annual rate going from 0.07% to 0.20%. Excluding the index for tobacco, the predicted decrease is 0.25%, which would leave the year-on-year rate at 0.09%, as opposed to last month's -0.04%. Durable goods prices are expected to increase 0.11%, leaving the annual rate at -0.24%. Non-durable goods prices are forecast to decrease 0.57%, with the annual rate going from 0.71% to 0.70%. Within the index of non-durable goods, tobacco prices are predicted to increase by 0.16%, which would leave the year-on-year rate at 2.98%.

The expected decrease in residual inflation is 0.23%, which would leave the year-on-year rate at 7.84%, as opposed to last month's 7.46%. With regards to residual inflation, the expected decrease for the food index is 0.06%, with the annual rate going from 3.41% to 3.08%. Energy prices are expected to decrease by 0.99%, which would leave the year-on-year rate at 17.31%, as opposed to last month's 15.19%.

For 2004, 2005 and 2006, we forecast mean annual total inflation rates of 2.7%, 2.2% and 2.2% respectively.

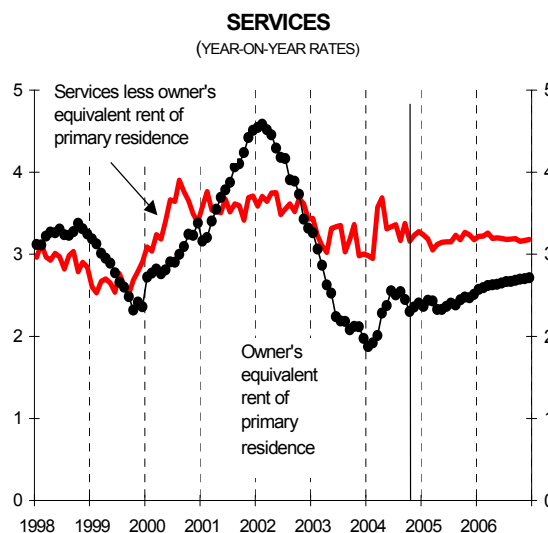
For 2004, 2005 and 2006, we forecast mean annual total inflation rates of 2.7%, 2.2% and 2.2% respectively, representing a decrease of four tenths for 2005 compared with last month's report (see **Graph II.3.6**).

Graph II.3.3



Source: Universidad C.III Madrid & BLS / Date: November 17, 2004

Graph II.3.4



Source: Universidad C.III Madrid & BLS / Date: November 17, 2004

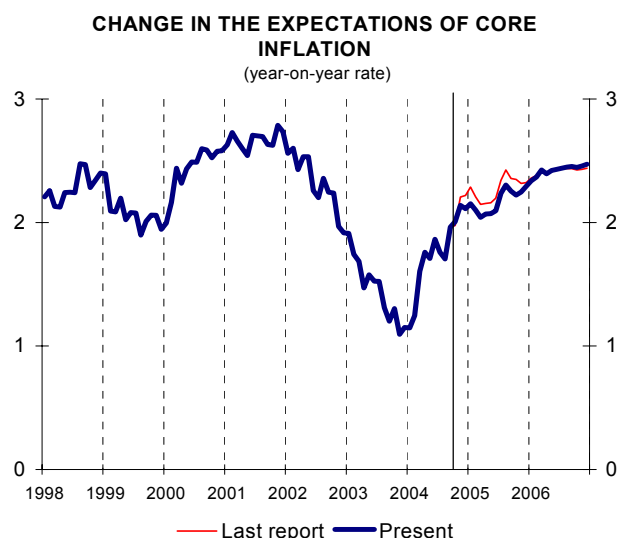
Two aspects stand out in relation to the October figure: 1) The impact that the depreciation of the \$ is having, and will continue to have, on non-energy industrial goods, even though much of the production capacity is unused, and 2) The good evolution of the service sector. These effects have been compensated by forecasting that core inflation will not change in the medium term from last month's report (see **Graph II.3.5**).

Nevertheless, the expectations for the general CIP for 2005 have improved significantly – 4 tenths –, largely thanks to the better performance of crude oil prices forecast on the futures markets (see **Graph II.3.3**).



Graph II.3.5

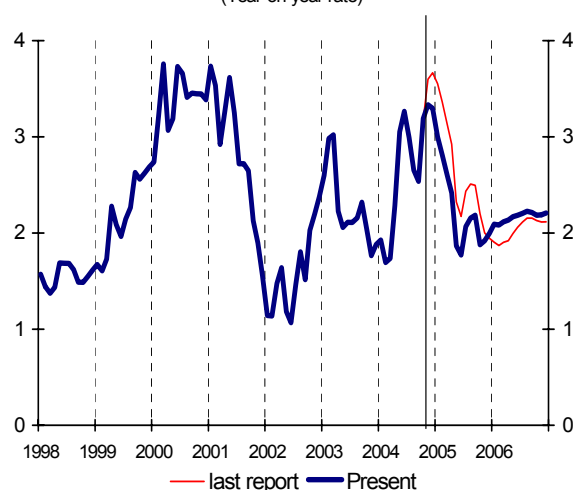
(year-on-year rate)



Source: Universidad C.III Madrid & BLS / Date: November 17, 2004

Graph II.3.6

CHANGE IN THE EXPECTATIONS OF TOTAL INFLATION
(Year-on-year rate)



Source: Universidad C.III Madrid & BLS / Date: November 17, 2004

Table II.3.2 shows the average annual growth rate forecasts for 2004 and 2005 for the different components of the US Consumer Price Index (monthly and annual rates can be found in **Tables A6A and A6B** in the Appendix).

Table II.3.2

AVERAGE ANNUAL RATE OF GROWTH IN US (*)

CONSUMER PRICES INDEX (CPI)	2001	2002	2003	2004 (forecasts)	2005 (forecasts)	2006 (forecasts)
Food (1)	3.1	1.8	2.1	3.4	2.5	2.6
Energy (2)	3.8	-5.9	12.2	10.9	2.3	-1.1
Residual Inflation (3=2+1)	3.3	-0.8	5.3	6.0	2.4	1.3
Non-food and non-energy goods (4)	0.3	-1.1	-2.0	-1.0	0.4	1.0
Less tobacco	-0.2	-1.5	-2.1	-1.1	0.3	0.9
-Durable goods	-0.6	-2.6	-3.2	-2.4	0.2	1.5
-Nondurable goods	1.1	0.4	-0.7	0.4	0.5	0.5
Non-energy services (5)	3.7	3.8	2.9	2.9	2.9	3.0
-Services less owner's equivalent rent of primary residence (5-a)	3.6	3.6	3.2	3.3	3.2	3.2
-Owner's equivalent rent of primary residence (a)	3.8	4.1	2.4	2.3	2.4	2.7
Core Inflation (6=4+5)	2.7	2.3	1.5	1.8	2.2	2.4
Core inflation less owner's equivalent rent of primary residence (6-a)	2.3	1.7	1.1	1.5	2.1	2.3
Core inflation less owner's equivalent rent of primary residence and tobacco	2.1	1.6	1.1	1.5	2.1	2.3
Total inflation (7=6+3)	2.8	1.6	2.3	2.7	2.2	2.2
All items less owner's equivalent rent of primary residence (7-a)	2.6	0.9	2.2	2.8	2.2	2.0

(*) Monthly and annual growth rates can be found in tables A6A and A6B in Appendix

Source: BLS & Universidad Carlos III Madrid

Data: November 17, 2004



II.4 Spain

The CPI for October 2004 in Spain showed a monthly rate of 1.03%, with an annual rate of 3.58%.

Core inflation registered a practically zero innovation, whereas residual inflation showed an upwards innovation.

The consumer price index in October 2004 in the Spanish economy showed a monthly rate of 1.03%, higher than our predicted 0.93%. The annual rate rose to 3.6%, compared to the 3.2% observed in September.

Core inflation (processed food, non-energy industrial goods and services), calculated on the basis of the IPSEBENE index, registered an annual rate of 2.88% in October. **Residual inflation** (unprocessed food and energy) was 6.84%.

The observed monthly rate of core inflation (0.95%) was practically equal to our forecast 0.94%. In its components, there was a downwards innovation in processed food (AE) and services (SER). In non-energy industrial goods (MAN) there was an upwards innovation largely in apparel and footwear. In residual inflation, there was an upwards innovation caused by an increase in energy prices.

To analyse this in more detail we need to see table II.4.1 which summarises the forecasting error in the different components. The breakdown of these components is provided in table A1A in the appendix.

Table II.4.1 OBSERVED VALUES AND FORECASTS ON CONSUMER PRICE FIGURES IN SPAIN			
Consumer Price Index (CPI)	Current growth October 04	Forecast	Confidence Intervals ^(*)
(1) AE (17,17%)	0.06	0.13	± 0.17%
(2) MAN (30,05%)	2.59	2.42	± 0.32%
(3) SER (35,05%)	0.05	0.14	± 0.12%
IPSEBENE [1+2+3] (82,28%)	0.95	0.94	± 0.15%
(5) ANE (8,60%)	-0.04	-0.05	± 0.91%
(6) ENE (9,12%)	2.64	1.72	± 0.88%
R [5+6] (17.72%)	1.39	0.89	± 0.50%
IPC (100%)	1.03	0.93	± 0.15%
*) At 80% confidence level.			

Source: INE, IFL & UC3M Date: November 12, 2004

The forecast for mean growth in processed food prices is 3.5% for 2004, 2.6% in 2005 and 2.4% in 2006

The annual rates for non-energy industrial goods are expected to remain at above 1% in 2005

Inflation in **processed food**, AE, registered a monthly rate of 0.06% in October, lower than our forecast, 0.13%. In this month, the monthly AE rate registered its annual minimum, after three consecutive months with rates of around 0.2%, and after reaching a maximum of 1.0% in May, 2004. The annual AE rate in October also fell to 4.0% from the 4.3% observed in September. In spite of this, the annual AE rates are still high, although they are expected to continue to fall until the second half of 2005, when they will reach values around the 2.5% observed in the first half of 2004. For the remaining months of the year, we expect the annual rates to be below 4.0%, so the mean growth forecast will be 3.5% in 2004, 2.6% in 2005 and 2.4% in 2006.

Prices of **non-energy industrial goods**, the MAN index, registered a monthly rate of 2.59%, higher than our prediction of 2.42%. The annual rate registered in October increased to 1.3% from the 1.0% observed in September. The end of the sales period had a worse impact than expected on the price of apparel and footwear, which registered monthly rates of 9.19% and 6.05%, respectively, instead of the 8.52% and 5.53% forecast. The annual rates for apparel and footwear were 2.97% and 2.03%, respectively, in October. These goods are the most related to foreign trade and unless Spanish production of these goods is of a higher quality than in other European countries, the Spanish economy will suffer a loss of competitiveness in relation to Europe, which will translate necessarily to lower economic growth. The forecast for the mean annual rate of non-energy industrial goods prices is 0.9% in 2004, 1.2% in 2005 and



1.3% in 2006. In 2003, the mean annual rate registered was 2.0%.

Table II.4.3 shows a summary of the mean annual forecasts of the different components of core and residual inflation.

Table II.4.2								
SPANISH AVERAGE RATES OF GROWTH								
	1999	2000	2001	2002	2003	Forecasts		
						2004	2005	2006
Residual Inflation	2.2	8.8	3.6	2.6	3.6	4.9	4.2	2.1
Fats	15.0	-7.6	-7.3	15.2	3.5	16.1	4.6	5.2
Tobacco	4.3	2.5	4.9	7.4	3.8	5.6	2.4	0.0
Tourism	7.2	12.3	7.1	8.7	3.1	1.4	5.7	6.6
Non Processed Foods	1.2	4.2	8.7	5.8	6.0	4.5	3.3	4.8
Energy	3.2	13.3	-1.0	-0.2	1.4	5.2	4.9	-0.4
Core Inflation	2.2	2.5	3.4	3.7	2.9	2.7	2.6	2.6
BENE-X	1.4	1.8	3.0	2.1	2.3	1.5	1.7	1.7
Processed Food excluding fats and tobacco	0.8	1.4	4.1	3.1	2.8	2.6	2.7	2.7
Non-energy industrial goods	1.7	1.7	2.9	2.6	2.4	1.9	1.7	1.7
SER-Tourism	3.3	3.5	4.1	4.4	3.6	3.7	3.7	3.8
CPI Inflation	2.3	3.6	3.5	3.5	3.0	3.1	2.9	2.5

(*) More detailed information can be found in tables A6A and A6B in Appendix.

Source: INE, IFL & UC3M / Date: November 12/ 2004

The evolution of service prices led to an inflation differential between industrial goods and services of 2.3 points in October, 2004.

With regards to the **services** sector (SER), it registered a falling rate of inflation in October due largely to the improved performance of culture, the observed monthly rate of which was a negative value of 0.31% instead of the forecast 1.47%. In spite of the fall in monthly inflation observed in October, the evolution of service prices is cause for concern in some of its components, such as transport, restaurants, housing, universities and household services, which show annual rates of around 4% or more. The inflation differential between the annual rates of non-energy industrial goods market and the services market, was 2.3 percentage points in October, greater than the 1.8 points observed this month for the EMU. The differential in Spain between the annual SER and MAN rates are expected to remain around 2.5 percentage points in the remaining months of 2004 and throughout 2005. Service prices in October registered an annual rate of 3.6%, which compares badly with the 2.6% observed in the euro zone. Mean growth in service prices in Spain is forecast at 3.7% in 2004, 3.8% in 2005 and 3.9% in 2006, compared to the 3.7% observed in 2003.

The mean annual rate of core inflation will be 2.7% in 2004 and 2.6% in 2005 and 2006.

With the aforementioned innovations in the goods and the services market, **core inflation** in October, calculated from the IPSEBENE index, was 2.9% for the third consecutive month. It is predicted that the average rate of growth of core inflation will be 2.7% in 2004 and 2.6% in 2005 and 2006, compared to the 2.9% observed in 2003.

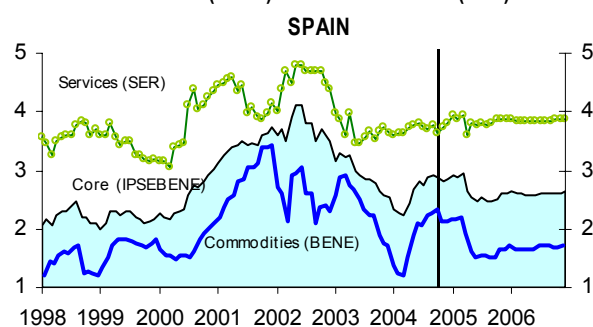
As for the components used to calculate **residual inflation** (RES), unprocessed food has performed as forecast, whereas energy had performed worse than expected, with a monthly rate of 2.64% instead of our forecast 1.72%. However, the recent evolution of the crude oil market leads us to expect inflation rates in energy to moderate until, in the second half of 2005, it reaches values similar to those observed in the first half of 2004.

Due to the increase in energy prices in October, the forecast mean annual rate for 2004 has been increased from the 5.0% predicted in the previous bulletin to the 5.2% expected this month. For 2005, we forecast a mean annual rate of 4.9% and in 2006 the annual rate will have a negative value of 0.4%, always depending on oil prices. As for the mean annual rate for unprocessed food, it is forecast at 4.5% for 2004, 3.3% for 2005 and 4.8% in 2006.



Graph II.4.1

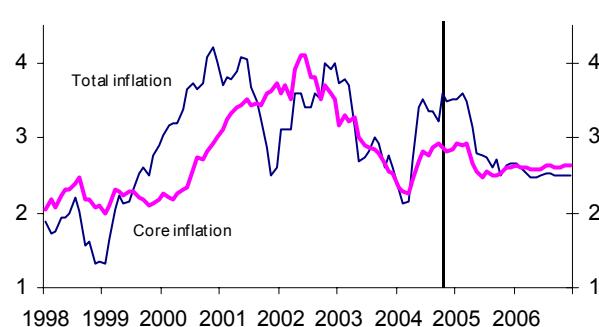
**AVERAGE RATES OF GROWTH OF CPI INFLATION
IN GOODS (BENE) AND IN SERVICES (SER) IN
SPAIN**



Source: INE, IFL & UC3M / Date: November 12, 2004

Graph II.4.2

**ANNUAL RATES OF TOTAL AND CORE
INFLATION IN SPAIN**



Source: INE, IFL & UC3M / Date: November 12, 2004

The evolution of total inflation in Spain will be marked in 2004 and early 2005 by the evolution of energy prices.

The forecast for total annual inflation in November 2004 is 3.5%; the monthly rate will be 0.2%.

As a result, the forecast for **total inflation** for November 2004 is a monthly increase of 0.2% and annual growth of 3.5%, slightly below the 3.6% observed in October. Monthly core inflation will be 0.3% and the annual rate, 2.8%. The forecast rate of mean inflation in the total CPI is 3.1% in 2004, 2.9% in 2005 and 2.5% in 2006, after the 2.9% observed in 2003. The forecast for total CPI inflation in 2004 are the same as in the previous bulletin, and they will be marked by the poor performance of energy products, the annual rates of which will be around 11% at the end of 2004. The quarterly price forecast per Brent barrel in the last quarter of 2004 is 35.56€. This price has grown from the 25.54€ per barrel in the first quarter to the 33.87€ per barrel observed in the third quarter.

Table II.4.3 shows the average annual rates between 2001 and 2006 of the different sectors in the EMU and Spain, where the important differentials in industrial goods and services mentioned earlier can be observed.

Table II.4.3 HARMONIZED CPI ANNUAL GROWTH BY SECTORS IN THE EMU AND SPAIN							
		2001	2002	2003	Forecasts		
					2004	2005	2006
AE*	EMU	2.9	3.0	3.3	3.4	2.3	2.6
	SPAIN	3.4	4.3	3.0	3.5	2.6	2.4
MAN	EMU	0.9	1.5	0.8	0.8	0.9	0.8
	SPAIN	2.6	2.5	2.0	0.9	1.2	1.3
BENE	EMU	1.5	1.9	1.5	1.5	1.3	1.3
	SPAIN	2.9	2.6	2.4	1.9	1.7	1.7
SER	EMU	2.5	3.1	2.6	2.6	2.6	2.6
	SPAIN	4.2	4.6	3.7	3.7	3.8	3.9
IPSEBENE	EMU	1.9	2.5	2.0	2.0	2.0	2.0
	SPAIN	3.4	3.7	2.9	2.7	2.6	2.6
ANE	EMU	7.0	3.1	2.2	0.5	0.7	1.9
	SPAIN	8.7	5.8	6.0	4.5	3.3	4.8
ENE	EMU	2.3	-0.6	3.0	4.4	2.4	0.3
	SPAIN	-1.0	-0.2	1.4	5.2	4.9	-0.4
RESIDUAL	EMU	4.4	1.1	2.6	2.5	1.6	1.1
	SPAIN	3.6	2.6	3.6	4.9	4.2	2.1
HICP CPI	EMU	2.3	2.3	2.1	2.1	1.9	1.8
	SPAIN	3.5	3.5	3.0	3.1	2.9	2.5

(a) Including tobacco prices

Source: INE, EUROSTAT, IFL & UC3M / Date: November 24, 2004





THE CAPITALISM TO COME:

Juan Urrutia Elejalde
Professor of Economics

November 2004

CHAPTER III.2.: MARKET

II FINANCIAL MARKETS AND INSURANCE

Introduction

III.2.3.A. The Hart economy

III.2.3.B. The stock market

- a) The development of the stock market
- b) On takeovers and initial public offerings
- c) Consequences of the opening of markets
- d) The efficiency of the capital market

III.2.C. Insurance and speculation

- a) Insurance
- b) Speculation

Summary

Appendix

SUMMARY

The stock market to which we have paid great attention in this second part of chapter III.2 will also be under the impact of information and communication technologies (ICTs) and their ability to store information. Many new financial assets adapted to each saver's risk profile will be generated but, thanks to ICTs, there will be no transaction costs associated to intermediaries and no redundant, supposedly original assets. Resources will thus be released for other, more interesting productive purposes.

It will be difficult to distinguish these financial markets from the insurance market when they are fully developed. The information age may increase awareness of risks that could now partly be mitigated by globalisation and partly by the actuarial calculation possibilities provided by new technologies. We can be sure that the future will bring more economic-financial security and we may wonder whether this greater security will end up affecting our creative powers.



Both the financial and insurance markets may suffer from speculation. Although it can act as a means of spreading information, it appears to represent a problem for price forming mechanisms, so that prices cannot be taken as efficient decision-making signals because they do not reflect only scarcity but also a certain kind of expectations that do not necessarily have to be fulfilled. It is intuition rather than analysis what makes us expect, rather than believe, that the networking power of ICTs and their ability to spread mutual trust could help to prevent the emergence of this phenomenon, which distorts the allocation of resources and can have harmful macroeconomic effects. Inasmuch as the use of fiduciary money is based on its positive price, and this is no other than the product of a speculation bubble, we are not running much of a risk if we forecast its gradual disappearance.

INTRODUCTION

Now that, in the first part of this chapter, we have acquired a more or less precise idea of how bilateral contracts become widespread and finally create a market, we are in a position to understand the market of all markets: the stock market, occasionally known as "the markets". To do so, as in the introduction to this chapter, we have to move in a Radner economy in which the financial system is incomplete; but what interests us now is to identify financial assets as shares (which are traded on a centralised market with a large pool of information) and securities (which can be traded on decentralised markets with a limited pool of information), introduce production and move in a Hart economy, which we introduced in the previous chapter to discuss the objective function of the firm. The first part of this section attempts to keep the promise we made then and complete our description of the model, formally justifying the objective function it contains (see the appendix) and define equilibrium and its optimal properties. All this may seem tedious but it leads us, in the second part, to study the stock market. The analysis of the development of a market that we performed in the previous section in some detail enables us to save details in our explanation of how a true market develops from bilateral contracts, enabling us to pay attention to other aspects more related to the ultimate objective of THE CAPITALISM TO COME such as takeover bids and initial public offerings and some aspects of insurance. In this second section, remembering that Hart showed that the appearance of a new market does not guarantee a Pareto improvement, we will attempt to explore a proposal enabling us to discuss both the impact of ICTs, the proliferation of information and globalisation on the stock market, and the importance that such an impact may have for the breadth of scope of each individual's freedom. And in the third part, to end this section, we will be paying attention to the speculation which could arise on the stock market, what can be expected from this speculation in view of the new factors we are exploring and how it all affects creativity and personal autonomy.

III.2.3.A. THE HART ECONOMY

Table 3A shows the changes we have made to the Radner economy. Some of them are mere simplifications providing an analysis which is already too detailed; but what is important is the introduction of shares and securities associated to taking production into account in the simplest possible way. Table 3B shows how far we progressed in the analysis of this model, enabling us in the Appendix to justify the objective function of the firm used and, finally, to define equilibrium in table 3Ci.

We will start with a reminder of the elements in table 3A. As we can see, besides some simplifications introduced to facilitate the analysis, we have introduced production by two firms indexed by $j=1,2$, and replaced the previous financial system with a stock market where shares in each company or the securities they issue are traded.



TABLE 3 A: The Hart economy

3.A.1. Simplifications of the Radner economy

- $\Pi^{ts} = \Pi^s$ for all i
- $U^i = \sum_{s=1}^2 \Pi^s u^i(X^{is})$: consumption today is of no interest
- There is no financial system A : $A = [0, 0]$

3.A.2 Introduction of production

- Two firms indexed by $j = 1, 2$
- Production function:

$$f^j(y^{j0}, y^{js}) = 0$$

$y^{j0} < 0$: input used at $t = 0$ by j , $j = 1, 2$

$y^{js} > 0$ quantity produced at $t=1$, by j , $j=1, 2$ in state s , $s = 1, 2$

3.A.3. Shares and securities: stock markets

V^j : Stock market value of firm j

θ_0^{ij} share of individual i in firm j at $t=0$

B^j : Securities issued by firm j at $t = 0$
to finance the acquisition of y^{j0}

$(1+r)$: payment in wheat at $t=1$ of a security, $r > 0$

b^i : shares bought by consumer i

Let's see how this economy works. At $t=0$, each firm decides how much input y^j_0 to buy and issues B^j securities to finance it. If we take wheat at $t=0$ as a numeraire, we can say that each security promises to pay out $(1+r)$ units of wheat tomorrow, whatever the state of nature. Moreover, since there is no risk of bankruptcy, the securities of the two firms are perfect substitutes. In equilibrium, therefore:

$$\sum_{j=1}^2 B^j = -\sum_{j=1}^2 y^{j0} = \sum_{i=1}^2 W^{i0} = \sum_{i=1}^2 b^i$$

where b^i is the quantity of securities bought by consumer i . This consumer also goes to the stock exchange at $t=0$, where he trades his stock portfolio for θ^{ij} , a portfolio that will provide him expected dividends tomorrow in each s of



$$\sum_{j=1}^2 \theta^{ij} \left[p^{es} y^{js} - (1+r) B^j \right]$$

where p^{es} is the expected price of wheat in s and the expression in square brackets is the net profit obtained by firm j if it produces y^{js} at price p^{es} tomorrow. Thus the stock market value of shares in firm j is generated. We will use V^j to represent it and it can be defined as the price of share j which reflects the expected dividends. Note, then, that at $t=0$, each consumer, based on his beliefs $\Pi^{is} = \Pi^s$, on his initial allocations W^{is} , and his price expectations p^{es} , decides his consumption plan X^is and his portfolio (b^i, θ^{ij}) and each producer, based on his technology f^j and his price expectations, decides his production plan (y^j_0, y^j_s) .

At $t = 1$, once s is known, firms implement their production plans and consumers, once dividends have been collected and the loan returned, execute their consumption plan, thus generating p^s which, due to rational expectations, we take as identical to p^{es} .

The equilibrium of the economy we have just described is somewhat more delicate than that of an economy with no production, so we will continue in stages. Under the hypothesis of rational expectations, the consumer's problem consists of choosing his consumption vector (X^is) and his portfolio (b^i, θ^{ij}) given his initial allocations $(W^{i0}, W^{is}, \theta_0^{ij})$, in order to solve:

$$(1) \text{ Max } \sum_{s=1}^2 \Pi^s u^i(X^is) \quad \text{s.t.}$$

$$(2) \sum_{j=1}^2 \theta^{ij} V^j + b^i = W^{i0} + \sum_{j=1}^2 \theta_0^{ij} V^j$$

$$(3) p^s X^is = b^i (1+r) + \sum_{j=1}^2 \theta^{ij} \left[p^s y^{is} + (1+r) y^{j0} \right] + p^s W^{is}, \quad s=1,2$$

where V^j is the value of firm j . This value is its stock market value and equal to the present value of its net profits. This stock market value, then, depends on the production plan (y^j_0, y^j_s) . If it were given, we could define equilibrium now; but the production plan is not given, but the company's decision variable. All the new aspects introduced so far are included in Table 3B and they are no more than a reminder of what we saw in the previous chapter. The idea was to introduce the problem of the firm's objective function and we promised to fully justify it in another chapter. This justification can be found in the appendix.



TABLE 3 B

1. Resource and financing constraints affecting firms

$$\sum_{j=1}^2 B^j = - \sum_{j=1}^2 y^{j0} = \sum_{i=1}^2 W^{i0} = \sum_{i=1}^2 b^i, \quad i=1,2; \quad j=1,2$$

2. Share dividends

$$\sum_{j=1}^2 \theta^{ij} [p^{es} y^{is} - (1+r) B^j], \quad i=1,2; \quad j=1,2$$

purchasing power that i expects to obtain at $t = 1$ from his portfolio of shares acquired at $t = 0$

3. Consumer behaviour: given (W^i) and θ_0^{ij}

(X^i) , (b^i, θ^{ij}) is the solution of:

$$(1) \text{Max} \sum_{s=1}^2 \Pi^s U^i(X^{is})$$

s.a.

$$(2) \sum_{j=1}^2 \theta^{ij} V^j + b^i = W^{i0} + \sum_{j=1}^2 \theta_0^{ij} V^j$$

$$(3) p^s X^{is} = b^i (1+r) + \sum_{j=1}^2 \theta^{ij} [p^s y^{is} + (1+r) y^{j0}] + p^s W^{is}, \quad s=1,2$$

Business performance modelling is not obvious in an economy like the one we are using. The reason is that firms are owned by the consumers (shareholders) and there are evidently situations in which a firm's shareholders will not unanimously agree to maximise its stock market value, as would occur, for instance, if the maximisation of the firm's net profits requires the mass production of wheat at a very low price if the weather is good and a minority shareholder has an enormous initial allocation of wheat if the weather is good. This shareholder may prefer a production plan with little wheat if the weather is good, because a higher price would increase his earnings.

The problem lies in finding an objective function that is unanimously accepted by the shareholdersⁱⁱ. As the appendix shows and we saw in the previous chapter, this objective function is given by the following expression:



$$(\bullet) \quad \sum_{i \in A^j} \theta_0^{ij} \left[\sum_{s=1}^2 q^{is} (p^s y^{js} + (1+r)y^{j0}) \right]$$

We are now in a position to define the equilibrium of this Hart economy, as shown in table 3C. Its interpretation is immediate. What is interesting about this notion of equilibrium is that the corresponding consumption and production allocation is a NSO, where to define this notion we must add, besides a planner for the securities and two for the shares, a planner for production. We can now take a look at the stock market.

TABLE 3 C

Definition 2. Vector

$$\{(\tilde{r}^*, \tilde{V}^1, \tilde{V}^2); [\tilde{b}^i, \theta^{i1}, \theta^{i2}], i=1,2; (\tilde{y}^{10}, \tilde{y}^{20}), (\tilde{p}^1, \tilde{p}^2), [\tilde{X}^{i1}, \tilde{X}^{i2}], i=1,2, [\tilde{y}^{j1}, \tilde{y}^{j2}], j=1,2\}$$

is a Hart economy equilibrium providing it meets the following conditions:

1. $\forall i: [\tilde{b}^i, \theta^{i1}, \theta^{i2}], (\tilde{X}^{i1}, \tilde{X}^{i2})$ is the solution of equation (1) under conditions (2) and (3) for equilibrium prices $(\tilde{r}, \tilde{V}^1, \tilde{V}^2, \tilde{p}^1, \tilde{p}^2)$

2. $\forall j: [\tilde{y}^{j0}, \tilde{y}^{j1}, \tilde{y}^{j2}]$ maximises $(\bullet)$ subject to technology

$$3. a) \sum_{i=1}^2 b^i = \sum_{j=1}^2 \tilde{y}^{j0} = \sum_{i=1}^2 W^{i0}$$

$$b) \sum_{i=1}^2 \tilde{\theta}_1^{ij} = 1, \quad j \in A_j = \text{set of initial shareholders of } j = 1, 2$$

$$c) \sum_{i=1}^2 \tilde{X}^{is} = \sum_{j=1}^2 W^{js} + \sum_{i=1}^2 y^{js}, \quad j \in A_{js} = \text{set of shareholders of } j \text{ in } s=1, 2; \quad j=1, 2$$

III.2.3.B. THE STOCK MARKET

As we said in the introduction to this second part of this chapter, when we refer to “the markets”, without specifying, we are referring to the stock market and this is the only fully developed market (in the sense explained in the previous section) that there is. Therefore, its analysis in this section is of central importance if we are going to attain our objective of getting an idea of what we can expect from capitalism in the future, given its crucial function of channelling savings towards investment. In a first sub-section, we will remember and complete what we sensed in the previous section concerning the development of a market from the proliferation of bilateral contracts. In a second sub-section, we will take a brief look at some stock market phenomena, such as takeover bids and IPO's public offers of sale, which acquire a different aspect when they are seen from



our perspective. In a third sub-section we will attempt to think about the impact that the enlargement of the stock market pertaining to popular capitalism could have on welfare and, finally, we will discuss the idea of the efficiency of the capital market.

a) The development of the stock market

Let's remember what we said in the first part of this chapter. The inefficiencies in the equilibrium allocation of the Radner economy are due to the lack of real markets. If the financial system is not rich enough (if it does not comply with the rank condition), the inefficiencies persist. If we notice what is occurring, we realise that the inefficiency consists of a distribution of risk which could improve with new contingent markets or, if you prefer, with new financial products. Although new financial products can generally not be introduced, or as long as they are not introduced due to a lack of legal regulation, personal relations between two agents are still possible. Unlike the market which is anonymous because of its size, and therefore requires special legal protection, the relations between two agents via a contract are personal, and protected only by ordinary legislation. In our toy economy with only two individuals, we cannot distinguish the market (anonymous) from the contract (personal), but conceptually they are as different as buying a mass-produced car and having one made especially. In the first case, the manufacturer does not care who buys it and in the second he will only change his production process if he is sure that, once manufactured, the buyer will pay the price. The "papers" to be signed in one and the other case will be very different. If we abstract from this restriction of our toy economy, we will be able to distinguish contracts from the market and, finally, to understand how a true market comes about from the widespread use of certain contracts. They can be real or financial contracts. It is naturally possible for two agents to sign a contract for the delivery of wheat tomorrow if it rains. This allows us to transfer purchasing power from today to tomorrow and insure ourselves against the contingency of bad weather spoiling the crop. We realise that this possibility can also arise with loan contracts. In general, the lender provides an amount of money today in exchange for a larger amount that the borrower undertakes to pay tomorrow if state s prevails. There will be interest in signing such contracts providing the degree of aversion to risk is different for the two agents and they will be signed because contingencies can be observed by both of them and by a third party (judge) responsible for ensuring the performance of contracts.

These contracts can become widespread in a large population, and not only because their compliance can be demanded in court, since it is possible to verify the contingency on which compliance depends. This possibility of coercion which represents a significant transaction cost can be replaced with a cost advantage by the extension of mutual trust. As we have explained several times, the proliferation of information and the possibility of processing it in order to establish networks of identity-based communities, enables the emergence of sufficient mutual trust for such bilateral contracts to become widespread.

b) On takeovers and IPO's

The first thing we have to realise is that what is maximised in equilibrium (remember equation (*)) is not the present value of the net profits paid in dividends but a weighted average of the personal valuations of the original shareholders in these profits. So what the stock market shows in its prices is something subjective that we could call the expected present value of its dividends in the eyes of its present shareholders, which is not the same as what we will call the true value of the firm, which is the equilibrium value of the company share if there were contingent future markets. In this case, $q^{is} = \hat{p}^s$, where $\hat{p}^s$ would be the prices on those markets. In this case, the stock market would reflect the present value of the dividends in the eyes of the market. The problem is precisely that there are no markets.



The second thing we have to realise is that, given the current distance between shareholders and executives, it is by no means clear how the executive choosing the production plan will prefer the one that maximises (•) if the values of q_i s are subjective. One possible explanation is that if the executive fails to maximise (•), another company with its own management team could make a takeover bid which would be accepted by present shareholders in as much as it would imply a better valued production plan, and the old executive would lose his job.

This is possible providing the new management team has incentives to make the takeover bid. This will be the case providing that, since stock market prices do not represent the true market value, it is worth paying something similar to the current trading price and then changing the production plan to one which is better valued both by the old shareholders with their new shares and by the shareholders of the company making the takeover.

Let us now consider public offers of sale or IPO's, i.e. when companies start to trade on the stock market for the first time. They are usually intended to obtain financing for new projects or for the owners to cash in and diversify their risk, or to be subject to market discipline. The best way of considering the problem is to make a few critical remarks about the recent appearance of Google, an emblem of the digital economy, on the stock market, because this opens our eyes to certain variations starting to appear on the horizon.

The explosive success of Google dates from after the dotcom disaster. In view of the proliferation of information dispersed on an infinite number of web pages, there was evidently a need for a rapid electronic search system, and its design and implantation was an obvious business opportunity. The algorithm created by Larry Page and Sergei Brin, the founders and owners of Google, is an efficient search engine which everyone uses and which some of us would like to take apart to manipulate the existing information. This algorithm becomes the code of social life, a sort of miracle worker capable of diligently creating all possible personal networks and of recognising all imaginable identities, and then using them as a practically absolute source of power. And this kind of philosopher's stone, which in any case is a business, starts to trade on the stock market. The company has dangerous competitors and needs financing to win the competitive race and its two young creators probably think that the time is right to pocket some of the value they have created.

The IPO's procedure is stereotyped. The company wishing to issue shares puts itself into the hands of an investment bank; the experts study the firm, the market for its product, its competitors and its ownership structure and they finally assign it a value, establishing a starting price, practically guaranteeing placement either with customers or with themselves. But the new technologies revolution was not in vain, and Larry and Sergei decide to use the market, in this case in the form of a Dutch auction organised by the company itself, and thus eliminating part of the transaction costs.

From then on, more and more difficulties arise. It appears that the market does not have all the information, since some share packages have been given to employees. The auction gives rise to suspicions reminiscent of when such a system was used to adjudicate radioelectric frequencies to enable the use of the third generation of mobile telephones in Europe. And, big mistake, during what we could call the period of discretion, an interview with the two owners appears in Playboy magazine. The outcome is that the starting price and the final auction price are lower than initially expected, supposedly due to the inexperience of two young non-conformists who do not want to pay a toll which, indeed, is not necessary.

There are two lessons to be remembered and both of them have nothing to do with the eventual performance of Google shares which, by the way, has been good but not spectacular. The first lesson is that, as other cases of innovation teach us, the new technologies take some time to become established (as electronic voting in shareholders' meetings will take some time to become established), because the people who still use the old ones have to make allowance for their depreciation even after losing the battle to



prevent their use. We cannot expect IPO's to do without investment banks in the immediate future, thus incurring in a social cost which can be eliminated. The second lesson is that the terror caused by an auction is no more than a tangible manifestation of the terror caused by the market itself, such as when the Spanish government decided on a call for tenders in the UMTS affair, disregarding the auction method which allows no intrusion of any kind.

The funny thing is that those who warn against the dangers of the market or an auction are those who, like investment banks, supposedly trust their virtues. It may be because they are fully aware that, thanks to the new technologies and as we explained at length in chapter 1.3, we all have all the information and can become financial intermediaries.

c) Consequences of the opening of markets.

Let us now consider the effects of a new market on welfare when it has been created by the widespread use of contracts. We already know that there is nothing to guarantee that new markets will increase welfare unless they complete the market structure or a full rank financial system is attained, which is the same as having a complete market structure. In a situation like this, there does not appear to be much more to be said, but an old article by Hakansson opens a window.

Let us imagine that new financial markets are created with original securities. They can be really new, such as options for instance, or the result of a combination of old securities (as in a merger) or by splitting an old security (as in spin-offs). In all these cases, special circumstances aside, the issuing of new securities changes both dividend matrix A and each agent's possibilities of future consumption, because innovations usually occur without agents having the opportunity to adapt their portfolios. We will call this second change a change in the initial allocations (of securities).

Let us begin by analysing the changes in the financial structure or dividend matrix. We use $F(A)$ to refer to the consumption set at $t=1$ which is possible with portfolio Z through financial structure A . We now assume that, in our economy, we go from A' to A'' . Since the market portfolio is always possible, we know that $F(A') \cap F(A'') \neq \emptyset$. Therefore, we have the three following types of change: 1. $F(A') = F(A'')$, in which case $r(A') = r(A'')$, 2. $F(A') \subset F(A'')$ (or vice versa), in which case $r(A') < r(A'')$ (or vice versa) and 3. $F(A') \cap F(A'')$ contained in both $F(A')$ and in $F(A'')$. For arbitrary changes in the initial allocations and for arbitrary preferences and beliefs, following Hakansson (1982), we can only affirm the following:

- If the change in A from A' to A'' is of the first type, either all the agents stay as they were or some of them gain and others lose.
- If the change in A from A' to A'' is of the second type, besides the above, all the agents may gain.
- If the change in A from A' to A'' is of the third type, besides the above, all the agents may lose. In other words, anything could happen.

As you can see, there is not much that we can say in general so it is a good idea to restrict the changes in the initial allocations, only allowing changes that are heavily neutral, keeping exactly the same initial allocations and, therefore, the same consumptions at $t=1$. In these conditions, Hakansson shows that in the first two types of change it is no longer possible for some to gain and others to lose providing that the initial allocations were efficient before the change.



Hakansson's results enable us to judge the three innovations mentioned. This is not the time to go into details (although they are necessary because no two mergers, spin-offs or options are the same) so we will merely present suggestions, which should be interpreted as such. The first suggestion is that the introduction of options, since it is clearly a change of the second type and satisfies the heavily neutral criterion in relation to the initial allocations, cannot worsen the situation for everyone, and could even improve it, and it will only worsen it for some and improve it for others when the initial allocations are not efficient before the change^{viii}.

The next two suggestions follow on naturally if we ignore the synergic effects of spin-offs and mergers. Spin-offs are identical to options in that they must be of the first two types and that they maintain the initial allocations. Mergers, without going into detail, are the opposite of spin-offs, so the third suggestion is that mergers cannot improve the situation for everyone and can even worsen it, and they will only have distributive effects if the initial allocations were not efficient before the change^{ix}.

But, as usual, this static analysis is not sufficient and, in the Austrian spirit, we must understand the advantages of the emergence of new markets. On the one hand, we know that they are not consequentialist so the prior negative arguments of Hart or Hakansson barely affect them. What is important is that the creation of markets, besides showing creativity (indeed, they are pure technological development), increases everyone's personal autonomy and improves those who create them, given the powerful wish to participate of the individual agent who, as we have repeated time and time again, is not only a passive consumer.

We now see how there is a certain underground current between the ICTs and the Austrian idea of markets, precisely because the initiative enabling markets to be created, and which is more than justified by the contribution they make, is something the objective merit of which depends on information. Many of the financial securities issued or the bilateral contracts signed are strictly redundant, because they are combinations of others that already exist and make not additional contribution. This is easily discovered by the ICTs, so they help to "clean" the markets, showing that an asset is redundant, providing the same type of redundancy on-line at a lower price (which is important if combining assets has a cost) and, in general, releasing resources for other purposes.

d) The efficiency of the capital market

To complete our analysis of the capital market, we must mention its informative efficiency. To fully understand this notion, we have to be specific about the informative structure of the economy, something we had previously avoided.

We first have to realise that our Radner economy to which we referred in the first part of this chapter, and the equilibrium of which we presented with care, is of no use when the informative structure is endogenous and asymmetrical. Let us assume that, in

this economy, each consumer's utility function is $U^i = \sum_{j=1}^2 \Pi^s u_i(X^i)$ with beliefs that

are, a priori, common $\Pi^s = \Pi^s \forall i$. Assume for reasons of simplicity that at $t = 0$ (today) there is no financial market. The only thing happening today is that each

individual i receives a signal $y^i \in Y^i$ (private asymmetrical information) correlated with the state of nature that will prevail tomorrow. In view of this signal, each consumer reviews his beliefs, which will now be different for each individual, and expressed as

$\Pi^s(y^i)$. We must add that some of the individuals do not observe s directly at $t = 1$, but only through what the prices may reveal (endogenous asymmetrical information). In these conditions, Table 1B's equilibrium in rational expectations is defined as follows:



Definition 1': vector

$$\{(\tilde{p}^1, \tilde{p}^2), (\tilde{X}^1, \tilde{X}^2)\}$$

is a Radner equilibrium if it meets the following conditions:

$$1. \quad \forall i: \tilde{X}^i \max \sum_{s=1}^2 \Pi^s(y^i) u^i(X^{is}) \text{ s.a.}$$

$$\tilde{p}^s X^{is} = \tilde{p}^s W^{is}, \quad s=1, 2$$

$$2. \quad \tilde{X}^{1s} + \tilde{X}^{2s} = W^{1s} + W^{2s}, \quad s=1, 2$$

Secondly, let us see why this notion of equilibrium is not appropriate when the informative structure is endogenous and asymmetrical. Take the equilibrium price vector

$\tilde{p} = (\tilde{p}^1, \tilde{p}^2)$. It is evident that this equilibrium price vector is a function of the signal vector $y = (y^1, y^2)$: $\tilde{p} = \phi(y)$. If consumers know ϕ and it can be inverted, they can

know the complete signal vector $y = \phi^{-1}(\tilde{p})$. Knowing y , the a posteriori beliefs would not be $\Pi^s(y^i)$ but $\Pi^s(y^i, \phi^{-1}(\tilde{p}))$ and, therefore, the objective function which each consumer would have wanted to maximise is no longer condition 1 of the definition, but

$$\sum_{s=1}^2 \Pi^s(y^i, \phi^{-1}(\tilde{p})) u^i(X^{is})$$

, so that $\tilde{p}$ would no longer be an equilibrium price vector. To use terminology introduced earlier, we would say that the equilibrium allocation is not NSO ex-post, because although consumers consume as expected in equilibrium, they would actually prefer to consume other quantities in view of the new information transmitted by the equilibrium prices. It is therefore evident that the equilibrium allocation can not be NSO ex-ante either.

Thirdly, we therefore have to introduce a new notion of equilibrium in rational expectations considering the transmission of private information y^i from prices, thus directly approaching the subject of informative efficiency. Let ϕ , as we have used it, be a price function $\prod_{i=1}^2 Y^i \rightarrow P = \left\{ p^s / \sum_s p^s = 1 \right\}$. We can now define a new notion of Radner equilibrium.

Definition 1'': vector

$$\{\tilde{\phi}, (\tilde{X}^1, \tilde{X}^2)\}$$

is a Radner equilibrium with endogenous and asymmetrical information if it meets the following conditions:

$$1. \quad \forall i \quad y \quad \forall j \in \prod_{i=1}^2 Y^i :$$



$$\tilde{X}^i \max \sum_{S=1}^2 \Pi^s(y^i, \phi^{-1}(\cdot)) u^i(X^{is}) \quad \text{s.a.}$$

$$\tilde{\phi}_s(y) X^{is} = \tilde{\phi}_s(y) W^{is} \quad , \quad s = 1, 2$$

$$2. \quad \tilde{X}^{1s} + \tilde{X}^{2s} = W^{1s} + W^{2s} \quad , \quad s = 1, 2$$

The interpretation of this notion of equilibrium is very simple. At $t=0$, individual signals y^i are received which constitute a vector y and generate prices $\tilde{\phi}_s(y)$, $s = 1, 2$, which in turn transmit information about y , through $\phi^{-1}(\cdot)$, and lead to consumptions generated precisely by those market prices.

In the fourth place, we can now attack the problem of informative efficiency by analysing the optimality of the allocation corresponding to the equilibrium we have just defined. It should be clear that this equilibrium is the same that would be reached in the economy of section 1 (with $r(A) < 2$) if those individuals were to know vector y . This leads us to think that the equilibrium allocation must be NSO ex-post. However, in this economy, the optimality analysis is a little more complex, because knowing the signal vector " y " does not necessarily mean knowing the state of nature when it arrives, because there are not only revealing but also non-revealing equilibria.

An equilibrium is revealing if $\tilde{\phi}_1(y) \neq \tilde{\phi}_2(y)$, because this enables us to know the state of the economy at $t = 1$. In this case, the equilibrium allocation is an NSO ex-post although, as we have seen, not necessarily an NSO ex-ante. This is the clearest notion of the informative efficiency of the price system, a subject which Vives has studied in depth. When this same idea is applied to the prices of financial assets (not included in this section's example), it is said that the financial system (or the capital market) is efficient, meaning efficient from an informative perspective and not, as the text shows, efficient in the allocation of actual resources ex-ante. At times, the idea of the efficiency of the capital market is expressed by saying that there is no private information enabling a profit to be made because all the information is already reflected in the price of the assets. The two ideas, however, are not equivalent, because profits may not be possible even though all the information is not reflected. And there may also be systematic possibilities of stock market profits because there is public information that has not been used. If an agent can buy private information before it is revealed by equilibrium prices, he can influence equilibrium in his favour and, therefore, will want to purchase it. To avoid this potential distortion, the regulation of financial markets prohibits insider-trading.

To complete this section, we add that if the equilibrium is not revealing ($\tilde{\phi}_1(y) = \tilde{\phi}_2(y)$), the allocation equilibrium may not be an NSO ex-post. If so, as we have seen, it will not be an NSO ex-ante either. If it is an NSO ex-post, as we know, it could still not be an NSO ex-antexi.

III.2.3.C INSURANCE AND SPECULATION

The stock market, the informative efficiency of which has just been demonstrated, is an example of the market's capacity in general to aggregate information through prices, a subject on which X. Vives has written at length. So speculation is a disturbing phenomenon in the sense that the aggregate information may not correspond to objectivity. Studying what we can expect from speculation in the capitalism to come is therefore important, and we will approach it in the second sub-section. Before that, however, we must emphasise the insurance role played by markets in order to take up a



position in relation to the effect that an improvement in the dissipation of uncertainty, partly enabled by the three future phenomena we have repeatedly mentioned, may have on individual freedom and creativity.

a) Insurance

Liberals, especially if they belong to the Austrian school, will think that uncertainty about the future is inevitable. And this is the case precisely because the free activity of individual agents generates unsuspected results when it comes into contact with the use that others make of their personal autonomy. None of this is reflected in the Radner or Hart economy, models of which have been presented in this chapter. We see how the future in this economy, “tomorrow” in the model, can bring two different states of nature, either rain or sunshine, but we have underlined that the initial allocations, the wheat outputs and, if applicable, the return on securities and share dividends, are perfectly defined in each state of nature. We also know the likelihood of one state or another prevailing “tomorrow”. In these conditions, the result of what all the individuals do, each of them with their own objectives, which in the model consists of simply maximising the consumption utility, consists of sharing (or allocating) the risk of one or the other contingency arising. In the Hart economy equilibrium, the risk is allocated optimally or sub-optimally depending on whether the range of the known financial system is equal to or lower than the number of different states of nature.

If the financial system is not complete, that is if $r(A) < 2$, there are incentives for an intermediary to arise and, as occurred with the financial contracts (and with possible labour contracts) offer insurance contracts to people who will pay a premium today in exchange for compensation tomorrow if the contingency against which they are insured arises. This will give rise to a true insurance market. In our toy economy model, there is no way in which to distinguish this market from the financial market proper, but this merely replicates the reality of capitalism today in that, in fact, no difference can be established between insurance and other financial assets, so much so that, as occurs in Great Britain, there are movements demanding that they should both be supervised by the same agency.

However, the general public has a very different attitude to the two products. Risk-taking individuals invest in financial assets and diversify their portfolios to reduce risks, whereas others invest in insurance, aware that insurance companies diversify their risk to remain solvent and be capable of complying with their obligations should a contingency against which they have provided insurance arise. The difference may not only be in the different attitude of individual agents to risk, but also the result of other factors. Diversification possibilities may be limited by size, information and psychology. I believe it is evident that the larger the funds to be invested, greater are the possibilities of diversification, just because of the indivisibility of the packages with which a market operates. This, by the way, is at the origin of the emergence of investment funds, which are difficult to distinguish from an insurance company. And it is not clear that the information required to invest well in financial assets or insurance is exogenous and symmetrical. There are institutions that specialise in obtaining and processing such information, and their own activities on one market or the other, together with the activities of other firms, may alter the information emerging from those markets. However, this distinction concerning information, and even size, is starting not to be very relevant in an information society in which the ICTs are becoming increasingly powerful. It is difficult to imagine that information will cease to be available to everyone in the near future. Since it is an asset that can be digitalised, it may be difficult to charge for it, although it is also possible that a market will be created for it in which a Schumpeterian entrepreneur will obtain a profit by providing it at a price. Whatever, either because information, however much of it there is, can be compressed and is available for everyone, or because competition between different enterprises on the information market becomes more intense, this insurance world will enable us to increase the possibilities of not being at the mercy of what the future may bring.

However, it is also possible that the development of the insurance market has a



limit in the psychological bias detected by the psychologists who have collaborated with economists, and to whom we referred in chapter I.1. when we said that homo posteconomicus would end up being psychologically denser. This cognitive bias means that individual agents do not perceive certain risks or do not believe that something can be done to prevent them. One example of this could be the risk of living in a society with a poor distribution of income: I don't like living in it and my physical insecurity may be greater. Information technologies also have a role to play here, helping to reduce the cognitive bias preventing us from seeing reality and transmitting a campaign aimed at informing us of our ability as a human group to cover ourselves against many of those risks.

In relation to insurance, it is impossible to refrain from mentioning the fascinating book written by Shiller^{xii} in which he brilliantly shows that there is no objective impediment preventing us from taking insurance against contingencies as varied as the following: an unfair distribution of income, a significant fall in a family's income level, depreciation in the value of a home, bankruptcy and, in particular and unexpectedly, a country suffering from economic problems. The interest of Shiller's book lies in his explanations of how coverage of these risks may arise. It would be sufficient, and this could be difficult, to admit the existence of such risks and start to share them throughout the world, accumulating information which, as I have shown, should not be a problem since we have ICTs. The technique may be complicated, but it is indeed possible.

However, this possibility, largely provided by the three factors the virtuality of which I am attempting to explore (information society, globalisation and ICTs), raises the most complicated intellectual puzzle that can be imagined. It is the individual freedom associated to the market economy that leads individual agents (such as Shiller himself, for example) to become entrepreneurs and market makers who help to create social mechanisms changing the scenario on which we act. If Shiller's view could be put into practice, and anyone taking the above three factors seriously could only question their speed of implantation, we would all feel more secure and, whatever our aversion to risk, could release resources for fulfilling our life projects. But this is precisely where the puzzle arises. This kind of fortunate release of the efforts demanded by a working life is a lot like the communist paradise in which I think in the morning and read in the evening if they are the physical and spiritual pleasures that help me to grow as a human being, but what about the freedom required to broaden my autonomy? I have so much autonomy that there seems to be no need for freedom. It is as if the liberal programme had reached its end. Perhaps it is impossible to feel free if freedom is everywhere.

b) Speculation

In one sense, there is speculation whenever something is bought with the idea of reselling it at a higher price to make a profit. There can therefore be speculation on the perishable commodities market and indeed there is when dramatic circumstances allow^{xiii}; but in general speculation takes place on markets where durable goods are traded. I can buy a car and wait for it to become a collector's item. The same applies to a work of art, a home in an area with a future, and certainly to a bottle of wine which, in view of its characteristics, should not be considered a perishable commodity. On any of these markets, then, the price may not reflect the value of consumption for the consumer, but also the profit he hopes to make in the future when the item is sold again. Note that, in any case, this occurs on consolidated markets in which there is a more or less single price and trade is for cash. In a precise sense, we could say that, far from the activity being censurable, it is an example of creativity helping to disseminate the information reflected in the prices, although it may also be distorted. To understand how this phenomenon works and discover what we can say about its future based on the new technologies, the best thing we can do is to concentrate on the stock market that we studied in the previous section because, since it is a financial market, it is easy to identify and quantify the services it provides, something that is not so easy in relation to the housing market, for instance.



Assume that we have a determined security of which there are $\bar{X} > 0$ shares.

An investor i at time t has a demand X_t^i for this security, which can be positive if he wants to buy or negative if he wants to sell. Assume that there are I investors indexed by $i = 1, \dots, I$ and that the time horizon contemplated by the investor is T periods indexed by $t = 0, 1, \dots, T$. This security offers dividends that we identify by a stochastic process $d = (d_0, d_1, \dots, d_T)$ which is exogenous but unknown. In other words, the dividends for each period are a random variable which could be related to what occurs in previous periods.

As I will shortly be describing, the I investors at time t decide their purchase and sale operations and establish a price $p_t \in P$. For the following calculations, the discount

factor to be applied to the possible income of the previous period is $\gamma = \frac{1}{1+r}$, where r is the real interest rate. What each individual does will depend on the information they have about the stochastic process of the dividends, d . We can try to define it. Each

individual i receives at each time t a personal signal $s_t^i \in S^i$ that can be understood as a signal about the history of the performance of d to date. Each individual received one of

these signals, and $s_t = \prod_{i=1}^I S^i$ is the vector of signals received by the I individuals at time t .

But now consider a price forecasting function, $\phi: S \rightarrow P$, like the one introduced when we were considering the efficiency of the capital market, that indicates how each individual's activity on the market we are studying, based on s_t^i , generates a price of asset $p \in P$. If ϕ is known, it provides additional information to all the individuals derived from observation of that p , which is represented by $S_t(p_t) = \phi^{-1}(p_t)$. Therefore, at each time t , each individual i has two-fold information $(s_t^i, S_t(p_t))$, part of which is personal and part common to everyone.

However, given an a priori common belief concerning the stochastic dividend process d , this two-fold information induces a probability for s_t^i that is different for each individual. Therefore, each individual can calculate his personal fundamental value at t of the security concerned:

$$F(s_t^i, S_t(p_t)) = \mathbb{E} \left[\sum_{\tau=t}^T \gamma^\tau d_{t+\tau} / (s_t^i, S_t(p_t)) \right],$$

which is the largest amount that individual i would pay at time t for one unit of the security in question if he had to keep it in his portfolio until the end of the time horizon. We can therefore define the bubble of i at t :

$$B(s_t^i, S_t(p_t)) = p_t - F(s_t^i, S_t(p_t))$$

or, in other words, the capital gain that i expects to obtain at the time when the price is p_t .

Can there be positive bubbles? There could be, if all the individuals expecting a capital gain would buy and so determine a price to sustain the expected bubble. But is this possibility immune to knowledge of its possibility? Tirole (1982) proved that with a horizon $T < \infty$, $B > 0$ in the short term, but $B = 0$ in the long term. Tirole (1985) also



proved that in an overlapping generations model, which therefore has a horizon $T = \infty$, $B > 0$ in certain conditions. And, finally, Santos and Woodford proved that if we consider additional assets, $B = 0$ xiv.

These results lead to interesting comments on the nature of the market. Probably the most disturbing is that there could be a bubble so that, in a sense, what we have here is an exception to the liberal idea that prices formed on the market aggregate information well and that this is a good thing. Certainly, the example we have studied shows that the market is an implacable information-aggregating machine, but what is at stake now is that information has to be a good signal upon which to act. For example, a price corresponding to a bubble could induce behaviour that is immediately frustrated. This will happen when someone enters a bubble and it explodes on the following day. It would therefore be very interesting to give some reasons to hope for widespread information and the ICTs to mitigate this market signal "error". Since the bubble is based on the fact that someone has information that will lead him to pay more than a share is worth based on the demands that he, and others, believe will arise, that bubble will pop out or not depending on the information available. If, as we have argued many times, ICTs help to create networks and we take the nodes in a network as forming a community that shares information, besides assuming that all possible networks are already formed, and they overlap, it will be the case that we all have the same information and therefore we all want to buy and sell and there is no probability of a bubble forming or of someone expecting it to form. This is another reason for believing that, in THE CAPITALISM TO COME, we should not expect speculation to be a widespread phenomenon.

Finally, this type of argument enables us to consider the disappearance of fiduciary money. This type of money is now used in many transactions because it has a positive price or, if you prefer, it has such a price only because it is used, because it provides no service: the positive price of fiduciary money is a bubble. Because such a bubble exists, this fiduciary money can be a value deposit, but if there are other potential value deposits which also generate other services, there is no reason to use it. It will only be useful, then, as an account unit or a simple form of accounting in the sense that when my pockets are empty I have reached my budgetary constraint. It seems clear that the new technologies, as we have just shown, put an end to the possibility of bubbles and that, consequently, fiduciary money will only be used to facilitate trading or for primitive accounting reasons. But both functions can be performed by ICTs so it is no great risk to forecast the future disappearance of fiduciary money. What this represents for central banks is another story; suffice it to say here that in no way does it represent its automatic lack of usefulness.



NOTES

ⁱ Readers not interested in the following formalism will not suffer if they go directly to the following section.

ⁱⁱ This objective function was presented in the previous chapter and the formal proof that this is the function to be considered when the market structure is incomplete, is provided in the Appendix to this chapter.

ⁱⁱⁱ Remember that stock brokers agencies trade on the Stock Exchange.

^{iv} Note that this possibility may not exist. However, this is a good occasion to acknowledge that what is called the business control market is a mere example of how the creativity provided by a free market provides support for the economic system.

^v These remarks concerning Google's appearance on the stock exchange appeared in Urrutia (2004).

^{vi} Hart (1975)

^{vii} See Hakansson (1982)

^{viii} There are now organised markets for all kinds of options; but the fact that they started as non-anonymous bilateral contracts provides another example, in addition to the labour market that we have already examined, of the development of markets from contracts.

^{ix} In view of this suggestion, readers may wonder why they take place. The reason lies precisely in the synergies they generate, which more than compensate the losses derived from the financial change. The possible synergies depend on each individual case.

^x See Lucas (1972), who describes the new concept of equilibrium in an economy of overlapping generations. The text follows Laffont (1984, chap. 9). We should also mention the work of Vives relating to the transmission of information by prices.

^{xi} At this point, it is easy to prove an example of an intriguing possibility, that a revealing equilibrium could be dominated by a non-revealing one. Let's take a look at what appears to be a "folk theorem". Assume that the two individuals in our economy have initial allocations W^i of $W^1 = (1.0)$ and $W^2 = (0.1)$ respectively. Assume that they both have the same u so that $u = \sqrt{X_1}$ when the sun shines and $u = \sqrt{X_2}$ when it rains, and that $\Pi = 1/2$. If the equilibrium is revealing and the sun shines, $\tilde{p}_2 = 0$ and $\tilde{p}_1 > 0$ so there can be no trade and $u^1 = 1$ and $u^2 = 0$. If the equilibrium is revealing and it rains, $\tilde{p}_2 > 0$, $\tilde{p}_1 = 0$ so there can be no trade and $u^1 = 0$ and $u^2 = 1$. If the equilibrium is non-revealing, it consists of $\tilde{p}_1 = \tilde{p}_2 = 1/2$ and $X^{i1} = X^{i2} = 1/2$ for $i = 1, 2$ so both individuals obtain $u^i = \sqrt{1/2}$, $i = 1, 2$. Now let's consider ex-ante efficiency. In the revealing equilibrium, $Eu^i = (1/2)(1+0) = 1/2$, $i = 1, 2$. In the non-revealing equilibrium, $Eu^i = 1/2(\sqrt{1/2} + \sqrt{1/2}) > 1/2$, $i = 1, 2$. Therefore, the individuals unanimously prefer the non-revealing equilibrium. And finally, we consider ex-post efficiency. If the sun shines, individual 1 prefers the revealing equilibrium and individual 2 the non-revealing equilibrium, and the other way around if it rains. Therefore the revealing equilibrium is not unanimously preferred. It follows that the non-revealing equilibrium Pareto dominates the revealing equilibrium. The reason for this paradox is that prices transmit too much information in the revealing equilibrium, precluding the possibilities of mutual assurance that exist in the non-revealing equilibrium.

^{xii} See Shiller (2003)

^{xiii} Unfortunately, we are aware of many cases in which food aid for crises managed by NGOs ends up in the hands of unscrupulous speculators often related to the State, one of those States described by Wolf as failed.

^{xiv} See the two papers by Tirole (1982, 1985) and the paper by Santos and Woodford (1997).



REFERENCES

- Hakansson, (1982): "Changes in the Financial Market: Welfare and Price Effects and the Basic Theorems of Value Conservation"; The Journal of Finance, 3
- Hart, O. (1975): "On the Optimality of Equilibrium when Market Structure is Incomplete", Journal of Economic Theory, 19
- Laffont , J.J. (1984): Cours de Theorie Microeconomique, Vol II Economica, Paris
- Lucas, R. (1972): "The Neutrality of Money", Journal of Economic Theory, 4
- Santos, M. and M. Woodford (1997): "Rational Asset Pricing Bubbles", Econometrica, 65.
- Shiller, R.J. (2003): The New Financial Order, Princeton University Press, Oxford
- Tirole, J. (1982): "On the Possibility of Speculation under Rational Expectations", Econometrica, 50.
- Tirole, J (1985): " Asset Bubbles and Overlapping Generations", Econometrica, 53.
- Urrutia, J. (2004): "La OPA de Google: dos lecciones importantes",
Juan.urrutiaelejalde.org/articulo/google.html.
- Vives, X. (1988): "Aggregation of Information in Large Cournot Markets", Econometrica, 56
- Vives, X. (1993): "How Fast do Rational Agents Learn?", Review of Economic Studies, 60



TABLES & PLOTS

TABLES:

- A1A: Spanish CPI disaggregation.
- A1B: EMU HICP disaggregation.
- A1C: USA HICP disaggregation
- A2: Europe forecast errors for euro-zone and Monetary Union countries.
- A3: HICP Europe forecast errors by sectors in Monetary Union.
- A4A: Harmonized Consumer Price Index (HICP) Annual Growth Rates for 2003,2004, and 2005 for EMU countries.
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- A4C: Harmonized Consumer Price Index (HICP) Monthly Growth Rates for 2003,2004, and 2005 for EMU countries.
- A4D: Harmonized Consumer Price Index (HICP) Monthly Growth Rates for 2003,2004, and 2005 for EMU countries.
- A5A: Harmonized Consumer Price Index (HICP) Annual Growth Rates by sectors for 2003,2004, and 2005 for EMU.
- A5B: Harmonized Consumer Price Index (HICP) Monthly Growth Rates for 2003,2004, and 2005 for EMU.
- A6A: US CPI Annual Growth Rates for 2003,2004, and 2005.
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- A7A: Spanish CPI Annual Growth rates for 2003,2004, and 2005.
- A7B: Spanish CPI Monthly Growth rates for 2003,2004, and 2005.

PLOTS:

- A1A: HICP monthly growth rates in EMU.
- A1B: CPI monthly growth rates in US.
- A1C: CPI monthly growth rates in Spain
- A2A: Annual Forecast For The EMU Inflation
- A2B: Annual Forecast For The USA Inflation
- A2C: Annual Forecast For The Spanish Inflation
- A3A: Year-on-year rate of EMU inflation and contributions of main components

METHODOLOGY: ANALYSIS OF SPANISH INFLATION BY SECTORS

BASIC COMPONENTS AGGREGATES		BASIC COMPONENTES	BASIC COMPONENTS AGGREGATES	
IPSEBENE 81.401% 1 + 2 + 3 + 4 + 5 BENE 46.527% 1 + 2 + 4 AE 16.376% 1 + 4 ↓ CORE INFLATION IT IS CALCULATED ON THE IPSEBENE INDEX		(1) AE-X 13.331% processed food excluding fats and tobacco CPI. (2) MAN 30.150% non-energy industrial goods CPI (3) SERV-T 33.725% services excluding packages tourist CPI (4) X 3.046% fats and tobacco CPI (5) T 1.149% tourist packages CPI (6) ANE 9.398% non-processed food CPI (7) ENE 9.142% energy CPI	BENE-X 44.481% 1 + 2 IPSEBENE-X-T 77.206% 1 + 2 + 3 R 22.735% 4 + 5 + 6 + 7 IPC 1 + 2 + 3 + 4 + 5 + 6 + 7 ↓ TREND INFLATION IT IS CALCULATED ON THE IPSEBENE-X-T INDEX ↓ GLOBAL INFLATION IT IS CALCULATED ON THE IPC INDEX	
$\text{IPC} = 0.13331 \text{ AE-X} + 0.3150 \text{ MAN} + 0.3715 \text{ SERV-T} + 0.03046 \text{ X} + 0.01149 \text{ T} + 0.09398 \text{ ANE} + 0.09142 \text{ ENE}$			(weights 03)	

Source: INE & Instituto Flores de Lemus, Universidad Carlos III

Methodology: Analysis of EMU inflation by SECTORS

BASIC COMPONENTS AGGREGATES		BASIC COMPONENTS
IPSEBENE 84.178% 1 + 2 + 3 + 4 	BENE 42.845% 1 + 2 + 3	(1) AE ^(a) 9.463% <i>HICP Processed Food</i> (2) TOBACCO 2.373% <i>HICP Tobacco</i> (3) MAN 31.009% <i>HICP Non Energy Industrial Goods</i>
	RESIDUAL INFLATION 15.822% 5 + 6	(4) SERV 41.334% <i>HICP Services</i> (5) ANE 7.689% <i>HICP Non processed Food</i> (6) ENE 8.133% <i>HICP Energy</i>
CORE INFLATION (IT IS CALCULATED ON THE IPSEBENE INDEX)		
IPCA = 0.09463 AE + 0.02373 TOBACCO + 0.31009 MAN + 0.41334 SERV + 0.07689 ANE + 0.08133 ENE		

(a) To date the aggregate AE, following Eurostat methodology, included tobacco prices. From now on, our definition of AE, processed food, is more accurate and does therefore not include tobacco prices.

Source: EUROSTAT & Instituto Flores de Lemus, Universidad Carlos III

Methodology: Analysis of USA inflation by SECTORS

BASIC COMPONENTS AGGREGATES		BASICS COMPONENTS	
CORE CPI 78.54% 1 + 2 +3+4+5	SERVICES LESS ENERGY 56.28% 1+2	{	(1) OWNERS' EQUIVALENT RENT OF PRIMARY RESIDENCE 23.38%
			(2) SERVICES LESS OWNER' EQUIVALENT RENT OF PRIMARY RESIDENCE 32.90%
RESIDUAL CPI 21.46% 6 +7 +8 +9	COMMODITIES LESS FOOD AND ENERGY 22.25% 3+4+5	{	(3) TOBACCO 0.81%
			(4)NON DURABLES LESS TOBACCO 10.17%
	{	(5) DURABLES 11.28%	
		(6) FOOD 14.38%	
		(7) GAS 1.17%	
		(8) ELECTRICITY 2.43%	
		(9) MOTOR FUEL AND FUEL OIL 3.48%	
ENERGY 7.08% 7 + 8+9	{		
HIPC =0.5628(SERV. – ENERGY) + 0.2225(COMM. - FOOD AND ENERGY) + 0.1438FOOD + 0.0708ENERGY			

Source: EUROSTAT & Instituto Flores de Lemus, Universidad Carlos III

Table A2

FORECAST ERRORS IN THE MONTHLY INFLATION RATE FOR OCTUBER IN THE EUROPEAN UNION

	Weights 2004 MU	Weights 2004 EU	Observed Monthly Rate	Forecast	Observed Annual Rate	Confidence Intervals at 80%
Spain	111,07		1,04	0,92	3,62	± 0,15
Germany	292,58		0,18	0,09	2,21	± 0,29
Austria	31,43		0,44	0,02	2,26	± 0,37
Belgium	33,18		0,52	-0,48	2,66	± 0,32
Finland	15,65		0,35	-0,01	0,62	± 0,37
France	206,97		0,35	0,32	2,33	± 0,20
Greece	26,55		0,75	0,42	3,30	± 0,78
Netherlands	52,90		0,16	-0,02	1,48	± 0,33
Ireland	12,86		0,08	0,13	2,52	± 0,30
Italy	192,65		0,33	0,48	2,12	± 0,23
Luxembourg	2,73		0,50	-0,12	4,07	± 0,32
Portugal	21,43		0,48	0,18	2,35	± 0,66
Denmark		11,78	0,43	0,13	1,56	± 0,27
United Kingdom		181,92	0,27	-0,02	1,18	± 0,33
Sweden		18,65	0,35	0,13	1,42	± 0,50

(1) aggregation error -0.03%

(2) aggregation error -0.08%

Source: EUROSTAT, IFL & UC3M

Date: November 17, 2004

Table A3

FORECAST ERRORS IN THE MONTHLY INFLATION RATE BY SECTORS IN THE EMU					
	Weights 2004	Observed Monthly Growth	Forecast	Annual Growth Observed	Confidence interval at 80%
HICP Processed Food	118,36	0,00	0,06	2,85	± 0.14
HICP Processed Food excluding tobacco	94,63	0,00	0,04	0,66	± 0.09
HICP Tobacco	23,73	0,00	0,10	11,66	± 0.13
HICP Non Energy Industrial Goods	310,09	0,56	0,61	0,84	± 0.10
HICP Non Energy Processed Goods	428,45	0,40	0,45	1,40	± 0.09
HICP Services	413,34	-0,08	-0,06	2,65	± 0.14
CORE INFLATION (1)	841,78	0,17	0,20	1,95	± 0.08
HICP Unprocessed Food	76,89	-0,08	-0,44	-1,26	± 0.46
HICP Energy (2)	81,33	2,87	1,50	9,78	± 0.60
RESIDUAL INFLATION (3)	158,22	1,46	0,59	4,42	± 0.39
GLOBAL INFLATION (4)	1000,00	0,34	0,26	2,37	± 0.09
(1) aggregation error 0.02%					
(2) aggregation error -0.03%					
(3) aggregation error 0.04%					
(4) aggregation error -0.09%					

Source: EUROSTAT , IFL & UC3M

Date: November 17, 20043

Table A4A

HARMONIZED CPI (HICP) ANNUAL GROWTH FOR EMU COUNTRIES (1)

	EMU12		I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Avr 04/03(b)	Avr 05/04(b)	Avr 06/05(b)
Spain HICP	11,11%	2004	2,3	2,2	2,2	2,7	3,4	3,5	3,3	3,3	3,2	3,6	3,5	3,6	3,1	3,0	2,7
		2005	3,7	3,7	3,6	3,2	2,9	2,9	2,8	2,7	2,9	2,6	2,8	2,8			
		2006	2,8	2,8	2,7	2,6	2,6	2,6	2,7	2,7	2,7	2,6	2,6	2,6			
Germany HICP	29,26%	2004	1,2	0,8	1,1	1,7	2,1	1,9	2,0	2,1	1,9	2,2	2,1	2,1	1,8	1,2	1,1
		2005	1,6	1,7	1,5	1,3	1,1	1,3	1,2	1,0	1,1	0,9	1,0	1,1			
		2006	1,1	1,0	1,0	1,0	1,0	1,0	1,0	1,1	1,1	1,1	1,1	1,1			
Austria HICP	3,14%	2004	1,2	1,5	1,5	1,5	2,1	2,3	2,1	2,2	1,8	2,3	2,2	2,2	1,9	2,1	2,0
		2005	2,3	2,2	2,1	2,2	2,0	2,0	2,0	2,0	2,1	2,0	2,0	2,0			
		2006	2,0	2,0	2,0	2,0	2,0	2,0	2,0	2,0	2,0	2,0	2,0	2,0			
Belgium HICP	3,32%	2004	1,4	1,2	1,0	1,7	2,4	2,0	2,1	2,0	1,8	2,7	2,9	2,9	2,0	3,2	2,6
		2005	3,2	3,3	3,4	3,2	3,1	3,2	3,4	3,3	3,5	3,0	2,9	2,9			
		2006	2,9	2,7	2,7	2,7	2,7	2,7	2,6	2,5	2,5	2,5	2,5	2,5			
Finland HICP	1,57%	2004	0,8	0,4	-0,4	-0,4	-0,1	-0,1	0,2	0,3	0,2	0,6	0,7	0,7	0,2	1,0	1,2
		2005	0,9	0,7	1,0	1,0	1,0	1,1	1,2	1,2	1,0	0,9	1,0	1,0			
		2006	1,1	1,0	1,2	1,2	1,2	1,2	1,3	1,3	1,2	1,1	1,2	1,2			
France HICP	20,70%	2004	2,2	1,9	1,9	2,4	2,8	2,7	2,6	2,5	2,2	2,3	2,2	2,2	2,3	1,9	1,7
		2005	2,1	2,1	2,0	2,0	1,8	1,8	1,8	1,8	1,9	1,6	1,7	1,8			
		2006	1,7	1,7	1,7	1,7	1,7	1,7	1,7	1,7	1,7	1,7	1,7	1,7			
Netherlands HICP	5,29%	2004	1,5	1,3	1,2	1,5	1,7	1,5	1,2	1,2	1,1	1,5	1,6	1,8	1,4	2,1	2,2
		2005	1,8	1,9	2,0	2,0	1,9	2,1	2,2	2,3	2,3	2,2	2,2	2,2			
		2006	2,2	2,2	2,2	2,2	2,2	2,2	2,2	2,2	2,2	2,2	2,2	2,2			
Ireland HICP	1,29%	2004	2,3	2,2	1,8	1,7	2,1	2,5	2,5	2,5	2,4	2,5	2,5	2,6	2,3	2,9	2,9
		2005	2,8	2,8	2,9	3,0	3,0	2,9	2,9	2,8	2,9	2,9	2,9	2,9			
		2006	2,9	2,9	2,9	2,9	2,9	2,9	2,9	2,9	2,9	2,9	2,9	2,9			
Italy HICP	19,26%	2004	2,2	2,4	2,3	2,3	2,3	2,4	2,2	2,4	2,1	2,1	2,1	2,1	2,2	2,2	2,7
		2005	2,5	2,2	2,0	2,0	2,1	2,1	2,2	2,1	2,2	2,2	2,3	2,4			
		2006	2,5	2,7	2,7	2,7	2,8	2,8	2,8	2,8	2,8	2,8	2,8	2,8			
Luxembourg HICP	0,27%	2004	2,3	2,4	2,0	2,7	3,4	3,8	3,8	3,6	3,1	4,1	3,9	3,9	3,3	3,7	3,0
		2005	4,4	3,4	3,6	3,5	3,4	3,3	4,4	3,7	3,6	3,6	3,5	3,5			
		2006	3,7	3,5	3,4	3,2	3,0	2,9	2,9	2,7	2,7	2,5	2,5	2,5			
Portugal HICP	2,14%	2004	2,2	2,1	2,2	2,4	2,4	3,7	2,9	2,4	2,1	2,4	2,7	2,8	2,5	2,9	3,0
		2005	2,8	2,9	2,9	2,8	2,8	2,2	2,7	3,0	3,1	3,0	3,0	3,0			
		2006	3,0	3,0	3,0	3,0	3,0	3,0	3,0	3,0	3,0	3,0	3,0	3,0			
Greece HICP	2,65%	2004	3,1	2,6	2,9	3,1	3,1	3,0	3,1	2,8	2,9	3,3	3,3	3,3	3,0	3,2	2,9
		2005	3,4	3,4	3,2	3,1	3,1	3,1	3,3	3,3	3,1	3,0	3,0	3,0			
		2006	3,1	3,1	2,9	2,8	2,8	2,8	3,0	3,0	2,8	2,8	2,7	2,7			

* The annual rate of growth reflects fundamental changes in prices with respect to monthly growth rates

(1) Figures in bold type are forecasted values.

(2) Annual average rate of growth.

Source: EUROSTAT, IFL & UC3M

Date: November 24, 2004

Table A4B

HARMONIZED CPI (HICP) ANNUAL GROWTH FOR EU COUNTRIES (1)

	EU15		I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	<i>Avr</i> 04/03(b)	<i>Avr</i> 05/04(b)	<i>Avr</i> 06/05(b)
Denmark HICP	1,18%	2004	1,0	0,7	0,0	0,5	1,1	0,9	1,1	0,9	0,9	1,6	1,4	1,6	1,0	2,1	2,0
		2005	1,8	1,8	2,3	2,1	2,0	2,2	2,2	2,5	2,3	2,0	2,0	2,0			
		2006	2,0	2,0	2,0	2,0	2,0	2,0	2,0	2,0	2,0	2,0	2,0	2,0			
UK HICP	18,19%	2004	1,4	1,3	0,9	1,2	1,5	1,6	1,4	1,3	1,1	1,2	1,3	1,3	1,3	1,4	1,3
		2005	1,2	1,3	1,5	1,4	1,3	1,4	1,3	1,4	1,5	1,4	1,4	1,4			
		2006	1,3	1,3	1,3	1,3	1,3	1,3	1,3	1,3	1,3	1,3	1,3	1,3			
Sweden HICP	1,87%	2004	1,3	0,2	0,4	1,1	1,5	1,2	1,2	1,3	1,2	1,4	1,6	1,6	1,1	1,7	1,6
		2005	1,7	2,0	1,8	1,6	1,5	1,8	1,8	1,9	1,7	1,6	1,7	1,6			
		2006	1,7	1,7	1,6	1,6	1,6	1,6	1,7	1,7	1,6	1,6	1,6	1,6			

* The annual rate of growth reflects fundamental changes in prices with 6 months lags with respect to monthly growth rates.

(1) Figures in bold type are forecasted values.

(2) Annual average rate of growth.

Source: EUROSTAT, IFL & UC3M

Date: November 24, 2004

Table A4C

HARMONIZED CPI (HICP) MONTHLY GROWTH FOR EMU COUNTRIES (1)

	EMU12		I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	D04 / D03	D05 / D04	D06 / D05
Spain HICP	11,11%	2004	-0,8	0,1	0,7	1,4	0,6	0,2	-0,7	0,5	0,2	1,0	0,2	0,2	3,6	2,8	2,6
		2005	-0,7	0,1	0,6	1,0	0,2	0,1	-0,7	0,4	0,3	0,8	0,4	0,3			
		2006	-0,7	0,0	0,5	1,0	0,2	0,1	-0,7	0,4	0,3	0,8	0,4	0,3			
Germany HICP	29,26%	2004	0,0	0,2	0,5	0,3	0,2	0,0	0,4	0,2	-0,4	0,2	-0,3	1,0	2,1	1,1	1,1
		2005	-0,5	0,2	0,3	0,1	0,0	0,2	0,3	0,0	-0,3	-0,1	-0,2	1,0			
		2006	-0,5	0,2	0,3	0,1	0,0	0,2	0,3	0,0	-0,3	-0,1	-0,1	1,0			
Austria HICP	3,14%	2004	0,1	0,5	0,4	-0,1	0,4	0,2	-0,3	0,4	-0,1	0,4	0,2	0,3	2,2	2,0	2,0
		2005	0,1	0,3	0,3	-0,1	0,3	0,1	-0,2	0,3	0,0	0,4	0,2	0,3			
		2006	0,1	0,3	0,3	-0,1	0,3	0,1	-0,2	0,3	0,0	0,4	0,2	0,3			
Belgium HICP	3,32%	2004	-1,3	1,9	0,1	0,5	0,3	-0,1	-1,0	1,7	-0,1	0,5	0,5	0,0	2,9	2,9	2,5
		2005	-1,1	2,0	0,2	0,3	0,2	0,0	-0,8	1,6	0,1	0,1	0,3	0,0			
		2006	-1,1	1,8	0,2	0,3	0,2	0,0	-0,9	1,5	0,1	0,1	0,2	0,0			
Finland HICP	1,57%	2004	-0,3	0,4	-0,4	0,0	0,2	-0,1	-0,3	0,3	0,4	0,4	0,0	0,1	0,7	1,0	1,2
		2005	-0,1	0,3	-0,2	0,0	0,1	0,0	-0,1	0,2	0,3	0,3	0,0	0,1			
		2006	0,0	0,2	-0,1	0,1	0,1	0,0	0,0	0,2	0,2	0,2	0,1	0,1			
France HICP	20,70%	2004	0,1	0,4	0,4	0,3	0,4	0,1	-0,2	0,2	0,1	0,4	-0,1	0,1	2,2	1,8	1,7
		2005	0,1	0,4	0,4	0,2	0,2	0,1	-0,2	0,1	0,2	0,1	0,0	0,2			
		2006	0,0	0,4	0,4	0,2	0,2	0,1	-0,2	0,1	0,2	0,1	0,0	0,2			
Netherlands HICP	5,29%	2004	0,5	0,6	0,8	0,3	0,2	-0,7	-0,3	0,2	0,8	0,2	-0,3	-0,4	1,8	2,2	2,2
		2005	0,5	0,6	0,9	0,4	0,1	-0,5	-0,2	0,2	0,9	0,1	-0,3	-0,4			
		2006	0,5	0,6	0,9	0,4	0,1	-0,5	-0,2	0,2	0,9	0,1	-0,3	-0,4			
Ireland HICP	1,29%	2004	-0,6	0,9	0,4	0,3	0,2	0,5	-0,4	0,6	0,1	0,1	0,0	0,5	2,6	2,9	2,9
		2005	-0,4	0,9	0,5	0,4	0,2	0,4	-0,4	0,6	0,1	0,1	0,0	0,5			
		2006	-0,5	0,9	0,5	0,4	0,2	0,4	-0,4	0,6	0,1	0,1	0,0	0,5			
Italy HICP	19,27%	2004	-0,6	-0,2	1,1	0,8	0,2	0,2	-0,2	-0,2	0,5	0,3	0,2	0,0	2,1	2,4	2,8
		2005	-0,2	-0,5	0,9	0,7	0,3	0,1	-0,2	-0,2	0,5	0,4	0,3	0,1			
		2006	-0,1	-0,3	1,0	0,7	0,3	0,1	-0,1	-0,2	0,6	0,4	0,3	0,1			
Luxembourg HICP	0,27%	2004	-0,3	1,3	0,1	0,5	0,5	0,4	-0,8	1,1	0,2	0,5	0,3	0,2	3,9	3,5	2,5
		2005	0,1	0,3	0,3	0,4	0,4	0,3	0,2	0,4	0,1	0,5	0,2	0,2			
		2006	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2			
Portugal HICP	2,14%	2004	0,0	-0,2	0,2	1,0	0,8	1,2	-0,9	-0,4	-0,1	0,5	0,4	0,1	2,8	3,0	3,0
		2005	0,1	-0,1	0,3	0,9	0,7	0,6	-0,3	-0,1	0,0	0,4	0,4	0,1			
		2006	0,1	-0,1	0,3	0,9	0,7	0,6	-0,3	-0,1	0,0	0,4	0,4	0,1			
Greece HICP	2,67%	2004	-0,8	-0,7	2,9	0,4	0,4	-0,2	-1,9	-0,3	2,1	0,7	0,4	0,3	3,3	3,0	2,7
		2005	-0,8	-0,6	2,6	0,3	0,4	-0,2	-1,7	-0,3	1,9	0,7	0,4	0,3			
		2006	-0,7	-0,5	2,3	0,3	0,4	-0,2	-1,5	-0,2	1,7	0,6	0,3	0,3			

(1) Figures in bold type are forecasted values.

(2) Annual average rate of growth.

Source: EUROSTAT, IFL & UC3M

Date: November 24, 2004

Table A4D

HARMONIZED CPI (HICP) MONTHLY GROWTH FOR EU COUNTRIES (1)

	EU15		I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	D04 / D03	D05 / D04	D06 / D05
Denmark HICP	1,18%	2004	-0,1	0,4	0,1	0,5	0,3	-0,3	-0,3	-0,3	0,8	0,4	0,1	0,0	1,6	2,0	2,0
		2005	0,1	0,5	0,5	0,3	0,3	0,0	-0,4	-0,1	0,6	0,1	0,1	0,0			
		2006	0,0	0,5	0,5	0,3	0,3	0,0	-0,4	-0,1	0,6	0,1	0,1	0,0			
UK HICP	18,19%	2004	-0,5	0,3	0,0	0,5	0,4	-0,1	-0,3	0,3	0,1	0,3	0,0	0,4	1,3	1,4	1,3
		2005	-0,6	0,3	0,2	0,4	0,3	0,0	-0,3	0,3	0,2	0,1	0,0	0,3			
		2006	-0,6	0,3	0,2	0,4	0,3	0,0	-0,3	0,3	0,2	0,1	0,0	0,3			
Sweden HICP	1,87%	2004	-0,3	-0,1	0,9	0,3	0,4	-0,5	-0,2	0,0	0,7	0,4	-0,1	0,2	1,6	1,6	1,6
		2005	-0,1	0,2	0,6	0,1	0,2	-0,3	-0,1	0,0	0,6	0,2	-0,1	0,2			
		2006	-0,1	0,2	0,5	0,1	0,2	-0,2	-0,1	0,0	0,5	0,2	0,0	0,2			

(1) Figures in bold type are forecasted values.

(2) Annual average rate of growth.

Source: EUROSTAT, IFL & UC3M

Date: November 24, 2004

Table A5A

HARMONIZED CPI (HICP) ANNUAL GROWTH BY SECTORS IN THE EMU 2003-2004-2005 (a)

			I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Avr 04/03(b)	Avr 05/04(b)	Avr 06/05(b)
AE	9,46%	2004	1,9	1,9	1,7	1,7	1,5	1,4	1,4	1,2	0,9	0,6	0,7	0,7	1,3		
		2005	0,7	0,7	0,8	0,9	1,0	1,1	1,2	1,4	1,7	1,8	1,9	1,9		1,3	
		2006	1,9	1,9	1,9	1,9	1,9	1,9	1,9	1,9	1,9	1,9	1,9	1,9			1,9
TOBACCO	2,37%	2004	9,0	8,3	13,9	13,1	13,8	13,8	13,7	13,5	13,2	11,7	9,2	9,0	11,8		
		2005	11,7	11,4	5,9	5,5	4,9	4,9	5,0	5,1	5,2	5,3	5,3	5,3		6,3	
		2006	5,3	5,3	5,3	5,3	5,3	5,3	5,3	5,3	5,3	5,3	5,3	5,3			5,3
MAN	31,01%	2004	0,6	0,9	0,8	1,0	0,8	0,8	0,7	0,9	0,8	0,8	0,9	0,9	0,8		
		2005	1,0	0,9	0,9	0,8	0,9	0,9	1,0	0,9	0,9	0,9	0,8	0,8		0,9	
		2006	0,8	0,8	0,8	0,8	0,8	0,8	0,8	0,8	0,8	0,8	0,8	0,8			0,8
BENE	42,85%	2004	1,3	1,5	1,7	1,8	1,7	1,7	1,5	1,6	1,5	1,4	1,3	1,3	1,5		
		2005	1,5	1,4	1,2	1,1	1,2	1,2	1,2	1,3	1,3	1,4	1,3	1,3		1,3	
		2006	1,3	1,3	1,3	1,3	1,3	1,3	1,3	1,3	1,3	1,3	1,3	1,3			1,3
SER	41,33%	2004	2,5	2,7	2,5	2,5	2,6	2,6	2,7	2,6	2,6	2,6	2,7	2,7	2,6		
		2005	2,6	2,6	2,8	2,5	2,6	2,6	2,6	2,6	2,6	2,6	2,6	2,6		2,6	
		2006	2,6	2,6	2,6	2,6	2,6	2,6	2,6	2,6	2,6	2,6	2,6	2,6			2,6
IPSEBENE	84,18%	2004	1,9	2,0	2,1	2,1	2,1	2,1	2,1	2,2	2,0	2,0	2,0	2,0	2,0		
		2005	2,1	2,1	2,0	1,9	1,9	1,9	2,0	1,9	2,0	2,0	2,0	2,0		2,0	
		2006	2,0	2,0	2,0	2,0	2,0	2,0	2,0	2,0	2,0	2,0	2,0	2,0			2,0
ANE	7,69%	2004	2,9	1,9	1,7	1,6	1,8	1,3	0,7	-0,3	-1,5	-1,3	-1,6	-1,4	0,5		
		2005	-0,7	-0,2	0,0	0,4	0,5	0,3	0,6	1,1	1,4	1,6	1,9	1,9		0,7	
		2006	1,9	2,0	2,0	2,0	2,0	2,0	1,9	1,9	1,9	1,9	1,9	1,9			1,9
ENE	8,13%	2004	-0,3	-2,3	-2,0	2,0	6,7	5,9	6,0	6,4	6,4	9,8	7,7	7,4	4,4		
		2005	6,4	6,6	5,4	4,4	1,9	2,7	2,1	0,6	0,7	-2,1	0,0	0,5		2,4	
		2006	0,4	0,2	0,1	0,1	0,1	0,2	0,2	0,3	0,3	0,4	0,5	0,5			0,3
HICP	100,00%	2004	1,9	1,6	1,7	2,0	2,5	2,4	2,3	2,3	2,1	2,4	2,1	2,2	2,1		
		2005	2,1	2,2	2,0	1,9	1,8	1,9	1,8	1,7	1,8	1,6	1,8	1,8		1,9	
		2006	1,8	1,8	1,8	1,8	1,8	1,8	1,8	1,8	1,8	1,8	1,8	1,8			1,8

Source: EUROSTAT, IFL & UC3M

Date: November 24, 2004

Table A5B

HARMONIZED CPI (HICP) MONTHLY GROWTH BY SECTORS IN THE EMU 2003-2004-2005 (a)

			I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	D04 / D03	D05 / D04	D06 / D05
AE	9,46%	2004	0,2	0,2	0,0	0,1	0,0	0,1	0,1	0,0	-0,2	0,0	0,1	0,0	0,7	1,9	1,9
		2005	0,2	0,2	0,1	0,2	0,2	0,2	0,2	0,2	0,1	0,1	0,1	0,1			
		2006	0,2	0,2	0,1	0,2	0,2	0,2	0,2	0,2	0,1	0,1	0,1	0,1			
TOBACCO	2,37%	2004	1,7	0,3	5,3	0,4	0,6	0,1	0,0	0,0	0,0	0,0	0,1	0,1	9,0	5,3	5,3
		2005	4,2	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,1			
		2006	4,2	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,1			
MAN	31,01%	2004	-1,6	0,3	1,0	0,8	0,1	-0,2	-1,6	0,1	1,1	0,6	0,3	-0,1	0,9	0,8	0,8
		2005	-1,5	0,2	1,1	0,8	0,1	-0,2	-1,5	0,0	1,1	0,6	0,3	-0,1			
		2006	-1,5	0,2	1,1	0,8	0,1	-0,2	-1,5	0,0	1,1	0,6	0,3	-0,1			
BENE	42,85%	2004	-1,0	0,3	1,1	0,7	0,1	-0,1	-1,1	0,1	0,8	0,4	0,3	-0,1	1,3	1,3	1,3
		2005	-0,8	0,2	0,8	0,6	0,1	-0,1	-1,1	0,1	0,8	0,4	0,2	0,0			
		2006	-0,8	0,2	0,8	0,6	0,1	-0,1	-1,1	0,1	0,8	0,4	0,2	0,0			
SER	41,33%	2004	0,0	0,5	0,0	0,3	0,1	0,3	0,8	0,2	-0,3	-0,1	-0,1	0,9	2,7	2,6	2,6
		2005	-0,1	0,5	0,2	0,1	0,2	0,3	0,7	0,2	-0,3	-0,1	-0,1	0,9			
		2006	-0,1	0,5	0,2	0,1	0,2	0,3	0,7	0,2	-0,3	-0,1	-0,1	0,9			
IPSEBENE	84,18%	2004	-0,5	0,4	0,6	0,4	0,2	0,1	-0,3	0,3	0,2	0,2	0,1	0,4	2,0	2,0	2,0
		2005	-0,4	0,3	0,5	0,3	0,2	0,1	-0,2	0,2	0,3	0,2	0,1	0,4			
		2006	-0,4	0,3	0,5	0,3	0,2	0,1	-0,2	0,2	0,3	0,2	0,1	0,4			
ANE	7,69%	2004	1,1	-0,7	0,3	0,3	0,4	0,1	-1,2	-1,3	-0,1	-0,1	-0,6	0,3	-1,4	1,9	1,9
		2005	1,8	-0,2	0,6	0,7	0,6	-0,2	-0,8	-0,8	0,2	0,2	-0,3	0,3			
		2006	1,8	-0,2	0,6	0,7	0,6	-0,2	-0,8	-0,9	0,2	0,2	-0,3	0,3			
ENE	8,13%	2004	1,0	-0,1	1,3	1,1	2,5	-0,8	0,6	1,5	-0,2	1,5	-2,1	-0,5	7,4	0,5	0,5
		2005	0,0	0,1	0,2	0,1	0,1	0,0	0,0	0,0	0,0	0,0	0,0	0,0			
		2006	-0,1	-0,1	0,1	0,1	0,0	0,1	0,1	0,0	0,1	0,1	0,1	0,0			
HICP	100,00%	2004	-0,2	0,2	0,7	0,4	0,3	0,0	-0,2	0,2	0,2	0,3	-0,1	0,3	2,2	1,8	1,8
		2005	-0,2	0,3	0,5	0,3	0,2	0,1	-0,2	0,1	0,2	0,2	0,1	0,4			
		2006	-0,2	0,3	0,5	0,3	0,2	0,1	-0,2	0,1	0,2	0,2	0,1	0,4			

Source: EUROSTAT, IFL & UC3M

Date: November 24, 2004

Table A6A

US ANNUAL RATES OF GROWTH ON CPI AND ITS COMPONENTS(1)

		I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Avr 04/03(b)	Avr 05/04(b)	Avr 06/05(b)
Non energy commodities less food (1)	2004	-2,3	-2,0	-1,6	-1,4	-1,1	-1,0	-1,2	-1,1	-0,6	0,1	0,2	0,2	-1,0	0,4	1,0
	2005	0,3	0,1	0,0	0,2	0,1	0,2	0,6	0,8	0,5	0,4	0,5	0,7			
	2006	0,7	0,8	0,9	0,9	1,0	1,0	1,0	1,0	1,1	1,1	1,1	1,1			
Non energy services (2)	2004	2,5	2,5	2,9	3,1	2,9	3,0	3,0	2,9	3,0	2,8	2,9	2,9	2,9	2,9	3,0
	2005	2,9	2,9	2,8	2,8	2,8	2,8	2,8	2,9	2,9	2,9	2,9	2,9			
	2006	2,9	3,0	3,0	3,0	3,0	3,0	3,0	3,0	3,0	3,0	3,0	3,0			
Core inflation (3=1+2)	2004	1,1	1,2	1,6	1,8	1,7	1,9	1,8	1,7	2,0	2,0	2,1	2,1	1,8	2,2	2,4
	2005	2,2	2,1	2,0	2,1	2,1	2,1	2,2	2,3	2,3	2,2	2,2	2,3			
	2006	2,3	2,4	2,4	2,4	2,4	2,4	2,4	2,4	2,5	2,4	2,5	2,5			
Core inflation less owner's equivalent rent of primary residence	2004	0,9	1,0	1,5	1,6	1,5	1,6	1,5	1,4	1,8	1,9	2,1	2,0	1,5	2,1	2,3
	2005	2,1	2,0	1,9	2,0	2,0	2,0	2,2	2,3	2,2	2,1	2,2	2,2			
	2006	2,2	2,3	2,3	2,3	2,3	2,3	2,3	2,4	2,4	2,3	2,4	2,4			
Food (4)	2004	3,5	3,3	3,2	3,4	4,1	3,7	4,0	3,5	3,3	3,4	3,1	2,5	3,4	2,5	2,6
	2005	2,8	2,8	2,7	2,8	2,2	2,2	2,2	2,4	2,6	2,3	2,4	2,6			
	2006	2,5	2,5	2,6	2,6	2,6	2,6	2,6	2,6	2,6	2,6	2,6	2,6			
Energy (5)	2004	7,8	3,8	0,4	5,6	15,0	17,0	14,2	10,5	6,7	15,2	17,3	18,2	10,9	2,3	-1,1
	2005	12,7	10,4	8,4	5,4	-0,1	-1,9	0,1	0,5	1,4	-2,2	-2,1	-1,8			
	2006	-1,1	-1,5	-1,8	-1,2	-1,1	-1,0	-0,7	-0,6	-0,8	-1,2	-1,2	-1,1			
All items (6=3+4+5)	2004	1,9	1,7	1,7	2,3	3,1	3,3	3,0	2,7	2,5	3,2	3,3	3,3	2,7	2,2	2,2
	2005	3,0	2,8	2,6	2,4	1,9	1,8	2,1	2,2	2,2	1,9	1,9	2,0			
	2006	2,1	2,1	2,1	2,1	2,2	2,2	2,2	2,2	2,2	2,2	2,2	2,2			
All items less owner's equivalent rent of primary residence	2004	1,9	1,6	1,7	2,3	3,3	3,5	3,2	2,7	2,6	3,5	3,6	3,6	2,8	2,2	2,0
	2005	3,2	2,9	2,7	2,4	1,7	1,6	2,0	2,1	2,1	1,7	1,8	1,8			
	2006	1,9	1,9	2,0	2,0	2,0	2,0	2,1	2,1	2,1	2,0	2,0	2,1			

(1) Figures in bold type are forecasted values.

(2) Mean level of 2004 over 2003 growth rate.

(3) Mean level of 2005 over 2004 growth rate.

(4) Mean level of 2006 over 2005 growth rate.

Source: BLS & Universidad Carlos III Madrid

Data: November 17, 2004

Table A6B

US MONTHLY RATES OF GROWTH ON CPI AND ITS COMPONENTS (1)

		I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	D04 / D03	D05 / D04	D06 / D05
Non energy commodities less food (1)	2004	-0,4	0,6	0,7	0,1	-0,2	-0,6	-0,9	-0,1	0,9	0,8	-0,2	-0,7	0,2	0,7	1,1
	2005	-0,3	0,5	0,6	0,3	-0,3	-0,5	-0,5	0,1	0,7	0,6	-0,1	-0,5			
	2006	-0,3	0,5	0,7	0,2	-0,2	-0,4	-0,4	0,1	0,7	0,6	-0,1	-0,4			
Non energy services (2)	2004	0,5	0,4	0,6	0,2	0,1	0,3	0,3	0,2	0,1	0,2	0,0	0,0	2,9	2,9	3,0
	2005	0,4	0,4	0,5	0,2	0,1	0,3	0,4	0,2	0,1	0,3	0,0	0,0			
	2006	0,5	0,4	0,6	0,2	0,1	0,3	0,4	0,2	0,1	0,3	0,0	0,0			
Core inflation (3=1+2)	2004	0,2	0,5	0,6	0,2	0,0	0,1	0,0	0,1	0,3	0,4	-0,1	-0,2	2,1	2,3	2,5
	2005	0,2	0,4	0,6	0,2	0,0	0,1	0,1	0,2	0,3	0,4	-0,1	-0,1			
	2006	0,3	0,4	0,6	0,2	0,0	0,1	0,1	0,2	0,3	0,4	0,0	-0,1			
Core inflation less owner's equivalent rent of primary residence	2004	0,2	0,6	0,8	0,2	-0,1	0,0	-0,1	0,0	0,4	0,5	-0,2	-0,3	2,0	2,2	2,4
	2005	0,3	0,5	0,7	0,3	-0,1	0,0	0,1	0,1	0,3	0,4	-0,2	-0,3			
	2006	0,3	0,5	0,8	0,2	0,0	0,0	0,1	0,1	0,3	0,4	-0,2	-0,3			
Food (4)	2004	0,1	0,2	0,2	0,1	0,9	0,1	0,3	0,0	-0,1	0,6	0,1	0,1	2,5	2,6	2,6
	2005	0,4	0,1	0,1	0,1	0,3	0,1	0,3	0,2	0,1	0,4	0,1	0,2			
	2006	0,4	0,1	0,2	0,1	0,3	0,2	0,3	0,2	0,1	0,4	0,1	0,2			
Energy (5)	2004	4,2	2,3	1,8	2,0	5,6	3,6	-2,1	-0,6	-0,6	2,2	-1,0	-0,2	18,2	-1,8	-1,1
	2005	-0,6	0,2	-0,1	-0,8	0,1	1,8	-0,2	-0,2	0,3	-1,4	-0,9	0,0			
	2006	0,2	-0,2	-0,3	-0,2	0,2	2,0	0,0	-0,1	0,0	-1,8	-0,9	0,1			
All items (6=3+4+5)	2004	0,5	0,5	0,6	0,3	0,6	0,3	-0,2	0,1	0,2	0,5	-0,1	-0,1	3,3	2,0	2,2
	2005	0,2	0,4	0,4	0,1	0,0	0,2	0,1	0,1	0,2	0,2	-0,1	-0,1			
	2006	0,3	0,3	0,5	0,2	0,1	0,2	0,2	0,2	0,2	0,2	-0,1	-0,1			
All items less owner's equivalent rent of primary residence	2004	0,6	0,7	0,8	0,3	0,7	0,4	-0,3	0,0	0,2	0,6	-0,3	-0,2	3,6	1,8	2,1
	2005	0,2	0,4	0,5	0,1	0,0	0,2	0,1	0,1	0,2	0,2	-0,2	-0,2			
	2006	0,3	0,4	0,6	0,1	0,0	0,2	0,1	0,1	0,2	0,2	-0,2	-0,1			

(1) Figures in bold type are forecasted values.

(2) December 2004 over December 2003 growth rate.

(3) December 2005 over December 2004 growth rate.

(4) December 2006 over December 2005 growth rate.

Source: BLS & Universidad Carlos III Madrid

Data: November 17, 2004

Table A7A

CONSUMER PRICE INDEX, ANNUAL GROWTH RATES IN SPAIN 2004-2005-2006 (a)

			I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Avr 04/03(b)	Avr 05/04(b)	Avr 06/05(b)
(1) AE	17,18%	2004	2,5	2,4	2,4	2,9	3,7	4,0	4,2	4,2	4,3	4,0	3,6	3,5	3,5		
		2005	3,6	3,5	3,5	3,1	2,3	2,2	2,2	2,2	2,1	2,1	2,5	2,5		2,6	
		2006	2,4	2,4	2,4	2,4	2,4	2,4	2,4	2,4	2,4	2,4	2,4	2,4			2,4
(2) MAN	30,05%	2004	0,7	0,5	0,5	0,7	0,9	1,0	0,8	1,0	1,0	1,3	1,3	1,3	0,9		
		2005	1,4	1,4	1,4	1,2	1,2	1,2	1,2	1,2	1,2	1,2	1,2	1,2		1,2	
		2006	1,3	1,3	1,3	1,2	1,2	1,2	1,3	1,3	1,3	1,3	1,3	1,3			1,3
(3) SER	34,96%	2004	3,6	3,6	3,6	3,7	3,8	3,8	3,7	3,7	3,8	3,6	3,8	3,8	3,7		
		2005	3,9	3,9	3,9	3,6	3,8	3,8	3,8	3,8	3,8	3,9	3,9	3,9		3,8	
		2006	3,9	3,9	3,8	3,8	3,8	3,8	3,8	3,8	3,9	3,9	3,9	3,9			3,9
IPSEBENE (4)=(1)+(2)+(3)	82,19%	2004	2,3	2,3	2,2	2,4	2,7	2,8	2,8	2,9	2,9	2,9	2,8	2,8	2,7		
		2005	2,9	2,9	2,9	2,6	2,5	2,5	2,5	2,5	2,5	2,5	2,6	2,6		2,6	
		2006	2,6	2,6	2,6	2,6	2,6	2,6	2,6	2,6	2,6	2,6	2,6	2,6			2,6
(5) ANE	9,40%	2004	6,5	6,1	6,5	6,8	7,0	6,2	5,5	3,8	1,4	1,8	1,8	1,8	4,5		
		2005	1,3	2,7	2,6	2,8	2,3	2,6	2,5	3,2	4,6	4,9	5,3	5,4		3,3	
		2006	5,5	5,4	5,1	4,8	4,8	4,9	5,0	4,9	4,6	4,4	4,3	4,2			4,8
(6) ENE	9,14%	2004	-1,7	-2,5	-2,5	1,4	6,6	7,2	6,6	7,0	7,5	11,6	11,0	11,2	5,2		
		2005	10,9	10,7	9,2	7,8	5,2	5,2	4,8	2,9	2,8	0,2	0,3	0,4		4,9	
		2006	0,2	0,0	-0,4	-0,8	-0,8	-0,7	-0,6	-0,5	-0,4	-0,4	-0,3	-0,2			-0,4
IPC	100%	2004	2,3	2,1	2,1	2,7	3,4	3,5	3,4	3,3	3,2	3,6	3,5	3,5	3,1		
		2005	3,5	3,6	3,5	3,1	2,8	2,8	2,7	2,6	2,7	2,5	2,6	2,6		2,9	
		2006	2,7	2,6	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5			2,5

* T1,12 growth rate lags fundamental changes in prices 6 months with respect to monthly growth rates. It is necessary to evaluate forecast in order to analyze current situation.

** Weights on General CPI are shown in brackets.

(a) Figures in bold type are forecasted values

(b) 2004 over 2003 mean growth

(c) 2005 over 2004 mean growth

(d) 2006 over 2005 mean growth

Source: INE, IFL & UC3M

Date: November 12, 2004

Table A7B

CONSUMER PRICE INDEX, MONTHLY GROWTH RATES IN SPAIN 2004-2005-2006 (a)

			I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	D04 / D03	D05 / D04	D06 / D05
(1) AE	17,18%	2004	0,4	0,5	0,3	0,5	1,0	0,4	0,2	0,2	0,2	0,1	-0,3	0,1	3,5		
		2005	0,4	0,4	0,3	0,2	0,2	0,2	0,2	0,2	0,1	0,0	0,1	0,1		2,5	
		2006	0,4	0,3	0,3	0,2	0,2	0,3	0,2	0,2	0,1	0,0	0,0	0,1			2,4
(2) MAN	30,05%	2004	-3,6	-0,2	0,9	3,0	0,6	-0,1	-3,7	-0,1	1,1	2,6	1,1	-0,1	1,3		
		2005	-3,6	-0,1	1,0	2,8	0,6	-0,1	-3,6	-0,1	1,0	2,6	1,1	-0,1		1,2	
		2006	-3,5	-0,2	0,9	2,7	0,6	-0,1	-3,6	-0,1	1,0	2,6	1,1	-0,1			1,3
(3) SER	34,96%	2004	0,6	0,4	0,5	0,7	-0,1	0,4	0,6	0,6	-0,4	0,0	-0,1	0,4	3,8		
		2005	0,7	0,3	0,5	0,4	0,0	0,4	0,6	0,6	-0,4	0,1	-0,1	0,4		3,9	
		2006	0,7	0,3	0,5	0,4	0,0	0,4	0,6	0,6	-0,4	0,1	-0,1	0,4			3,9
IPSEBENE (4)=(1)+(2)+(3)	82,19%	2004	-1,0	0,2	0,6	1,5	0,4	0,2	-1,1	0,3	0,2	0,9	0,3	0,2	2,8		
		2005	-0,9	0,2	0,6	1,2	0,3	0,2	-1,0	0,3	0,2	1,0	0,4	0,2		2,6	
		2006	-0,9	0,1	0,6	1,2	0,3	0,2	-1,0	0,3	0,2	1,0	0,4	0,2			2,6
(5) ANE	9,40%	2004	0,6	-1,9	0,8	0,3	0,8	-0,5	0,8	0,3	-0,2	0,0	0,1	0,8	1,8		
		2005	0,1	-0,6	0,7	0,5	0,3	-0,2	0,7	1,0	1,1	0,3	0,4	0,9		5,4	
		2006	0,2	-0,7	0,4	0,2	0,3	-0,1	0,8	1,0	0,8	0,1	0,3	0,9			4,2
(6) ENE	9,14%	2004	0,6	0,4	1,5	1,3	2,5	0,0	0,3	1,8	0,1	2,6	-0,2	-0,2	11,2		
		2005	0,3	0,3	0,1	0,0	0,0	0,0	-0,1	0,0	0,0	0,0	0,0	0,0		0,4	
		2006	0,0	0,1	-0,3	-0,3	0,0	0,1	0,0	0,1	0,0	0,0	0,0	0,0			-0,2
IPC	100%	2004	-0,7	0,0	0,7	1,4	0,6	0,2	-0,8	0,4	0,2	1,0	0,2	0,2	3,5		
		2005	-0,7	0,1	0,6	1,0	0,2	0,1	-0,8	0,3	0,3	0,8	0,3	0,2		2,6	
		2006	-0,7	0,1	0,5	1,0	0,2	0,2	-0,7	0,3	0,3	0,8	0,3	0,2			2,5

** Weights on General CPI are shown in brackets.

(a) Figures in bold type are forecasted values

(b) December 2004 over December 2003.

(c) December 2005 over December 2004.

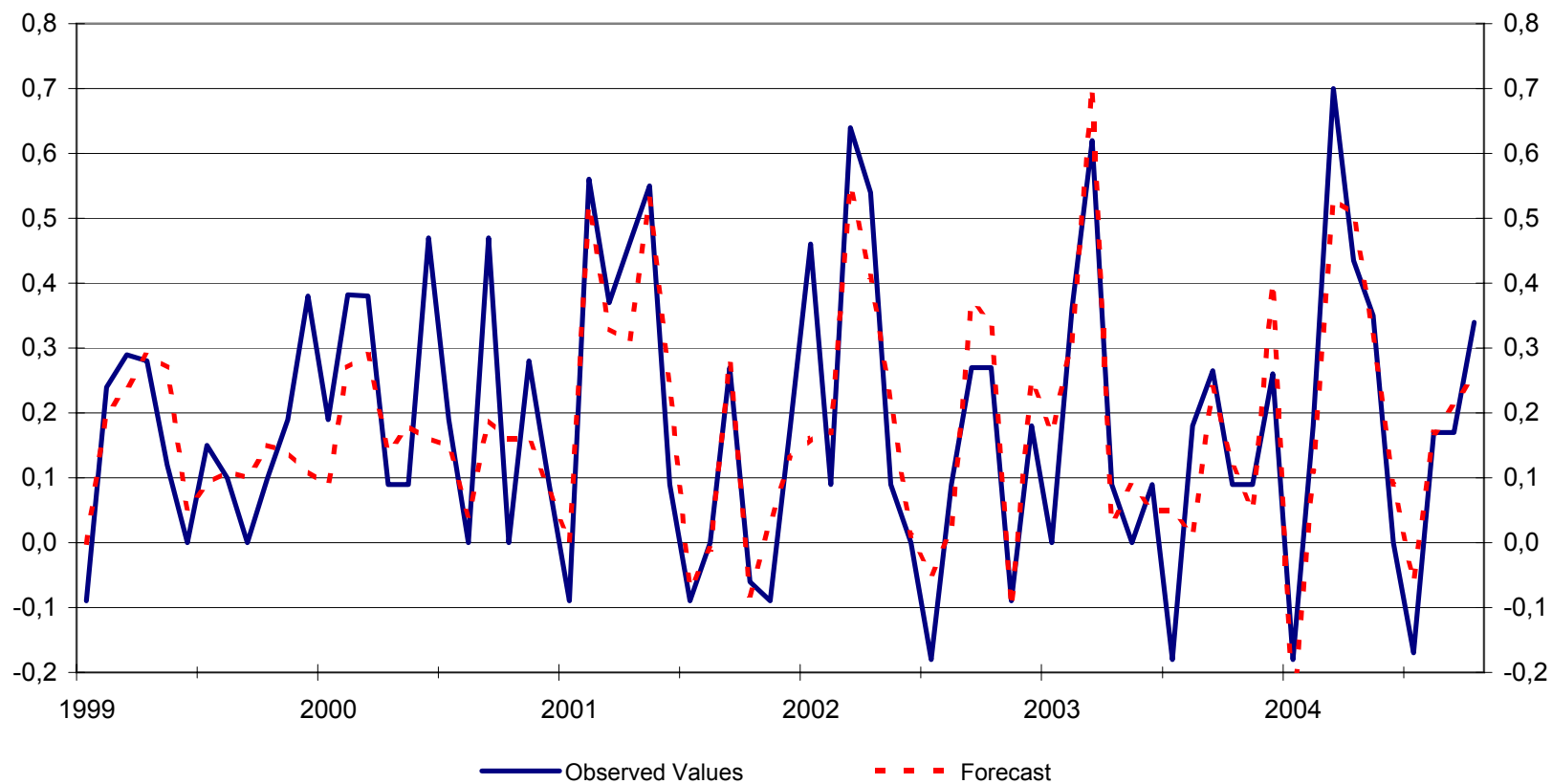
(d) December 2006 over December 2005.

Source: INE, IFL & UC3M

Date: November 12, 2004

Graph A1A

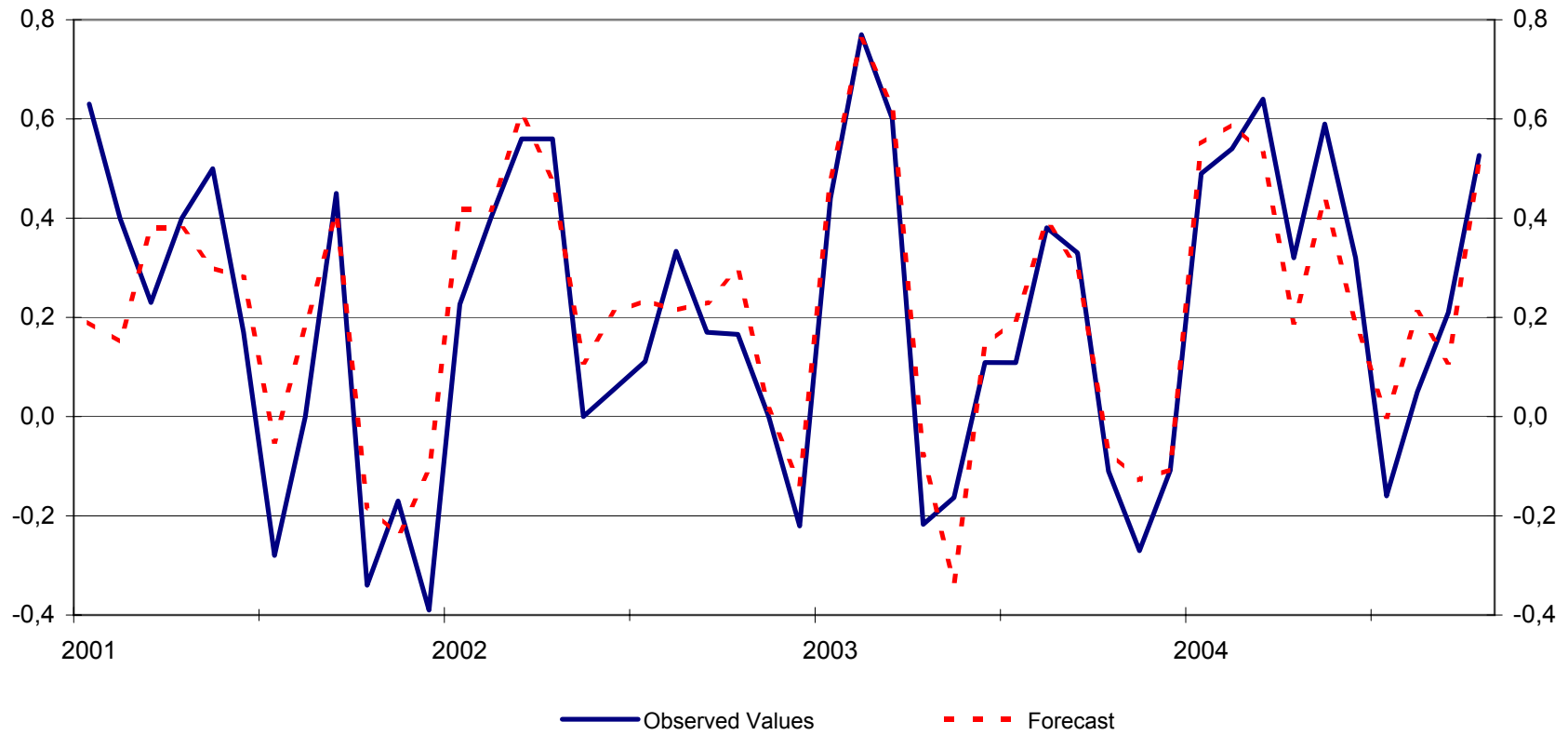
HCPI MONTH-ON-MONTH RATES OF GROWTH IN THE EMU



Source: EUROSTAT, IFL & UC3M Date: November 17, 2004

Graph A1B

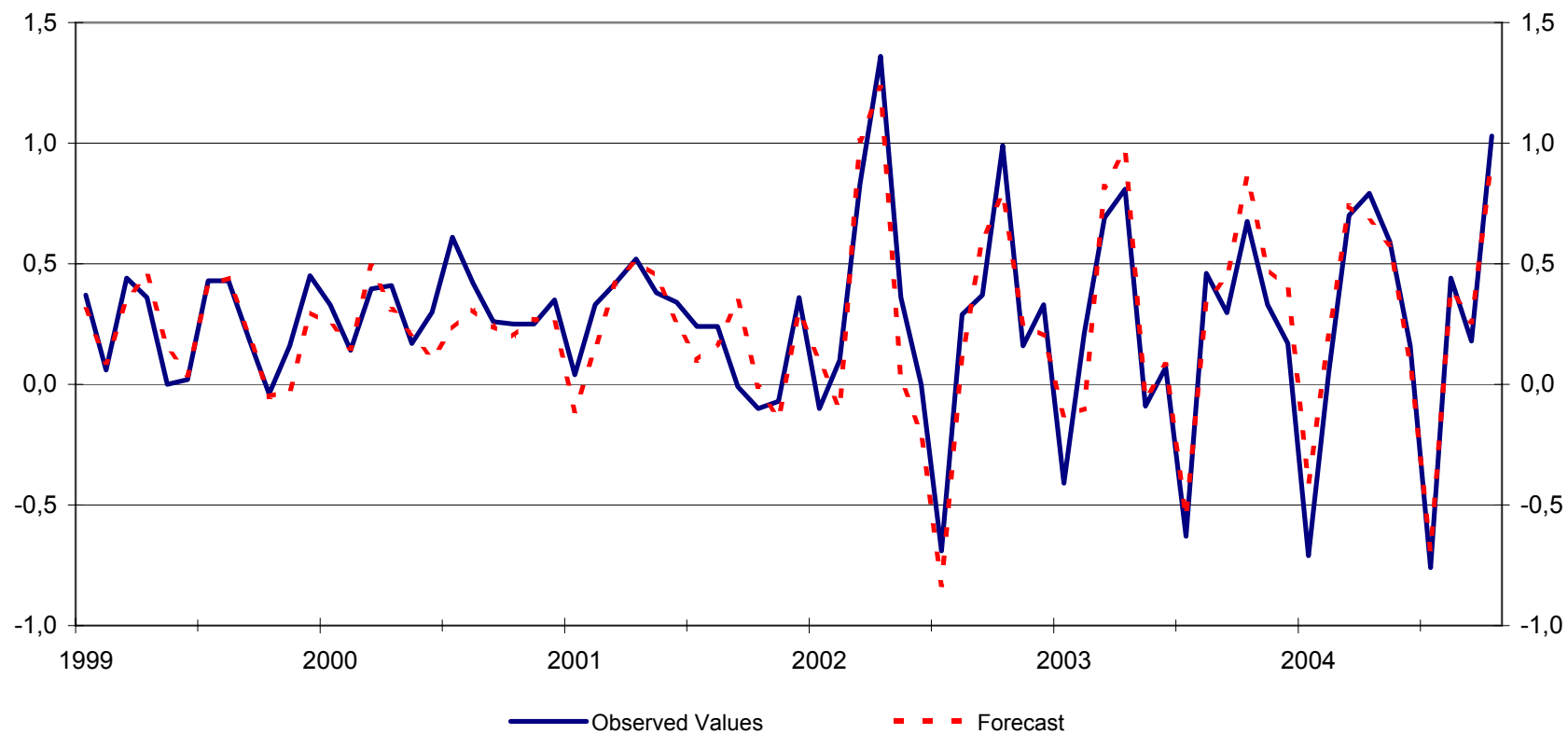
CPI MONTHLY GROWTH RATES IN USA



Source: BLS, IFL & UC3M Date: November 17, 2004

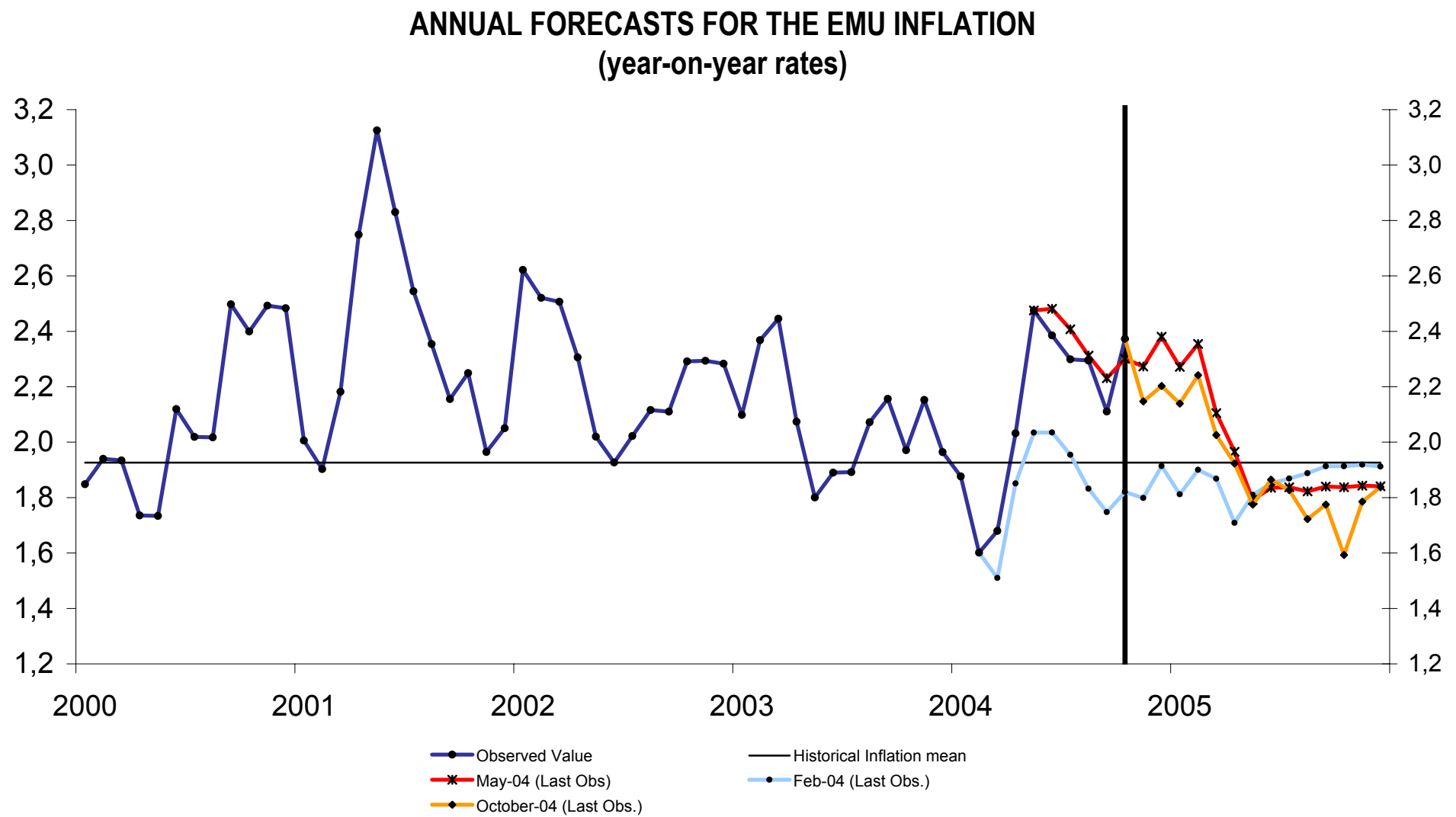
Graph A1C

CPI MONTH-ON-MONTH RATES OF GROWTH IN SPAIN



Source: INE, IFL & UC3M Date: November 12, 2004

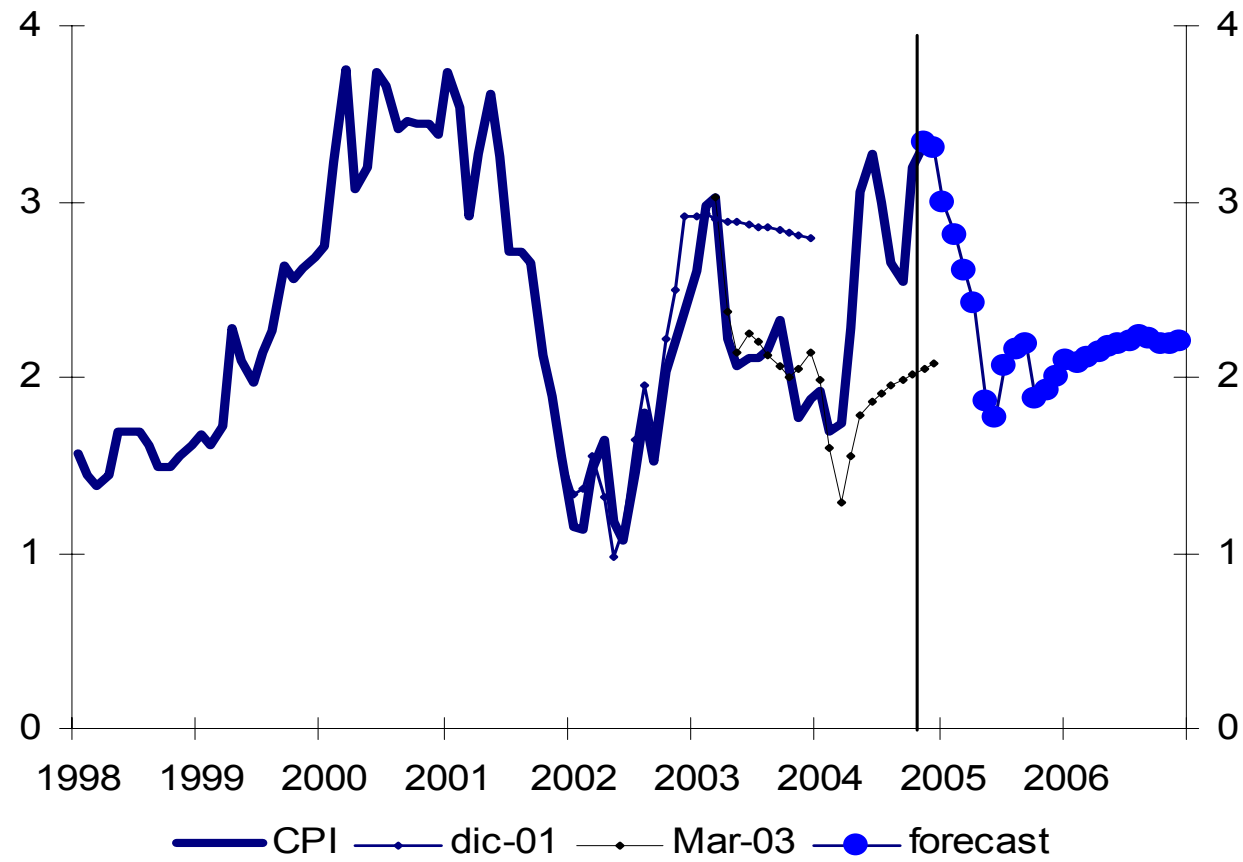
Graph A2A



Source: Eurostat & EFN

Date: November 24, 2004

Graph A2B ANNUAL FORECASTS FOR US INFLATION

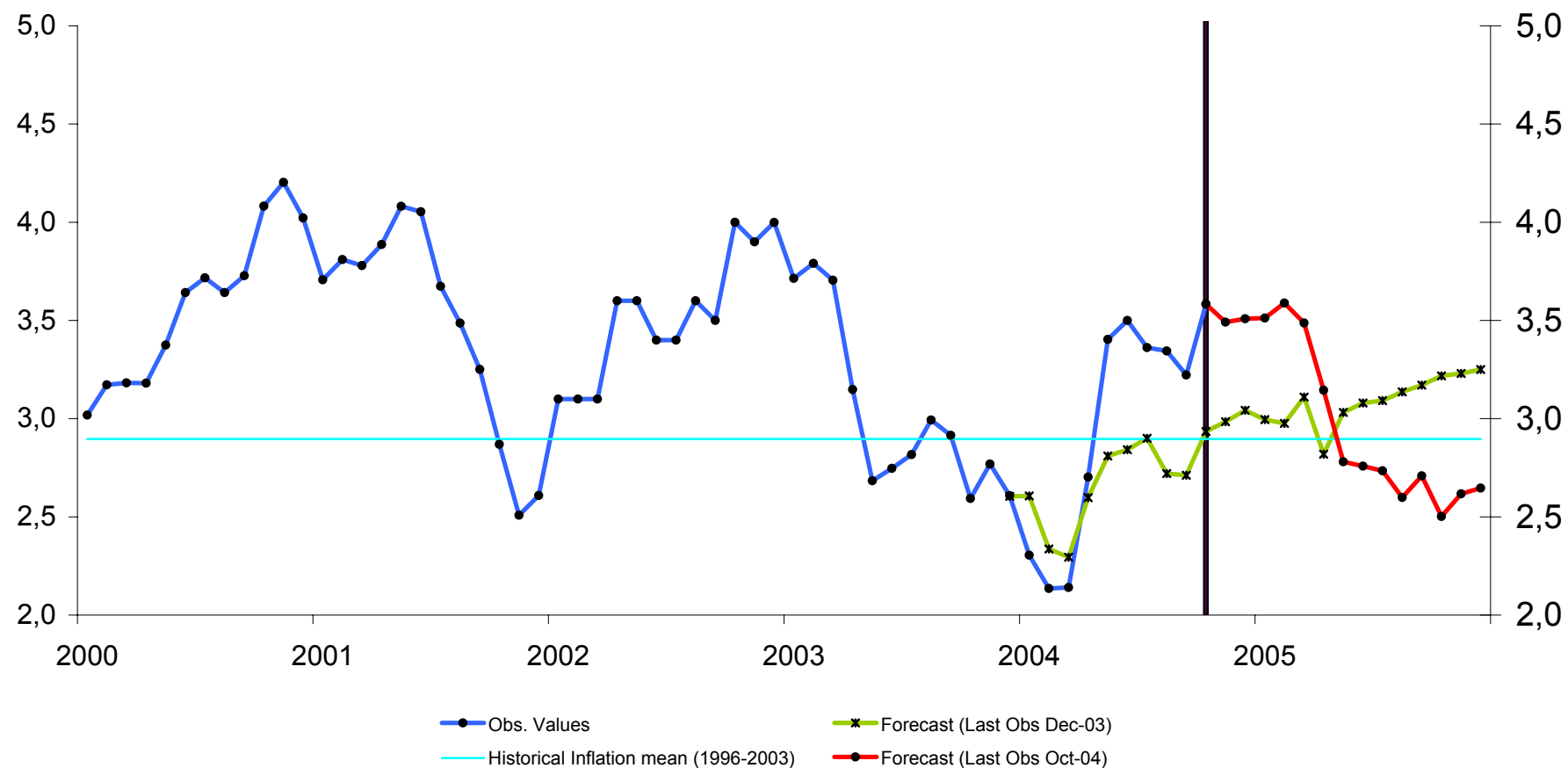


Source: Universidad Carlos III, Madrid

Date: 17/11/2004

Graph A2C

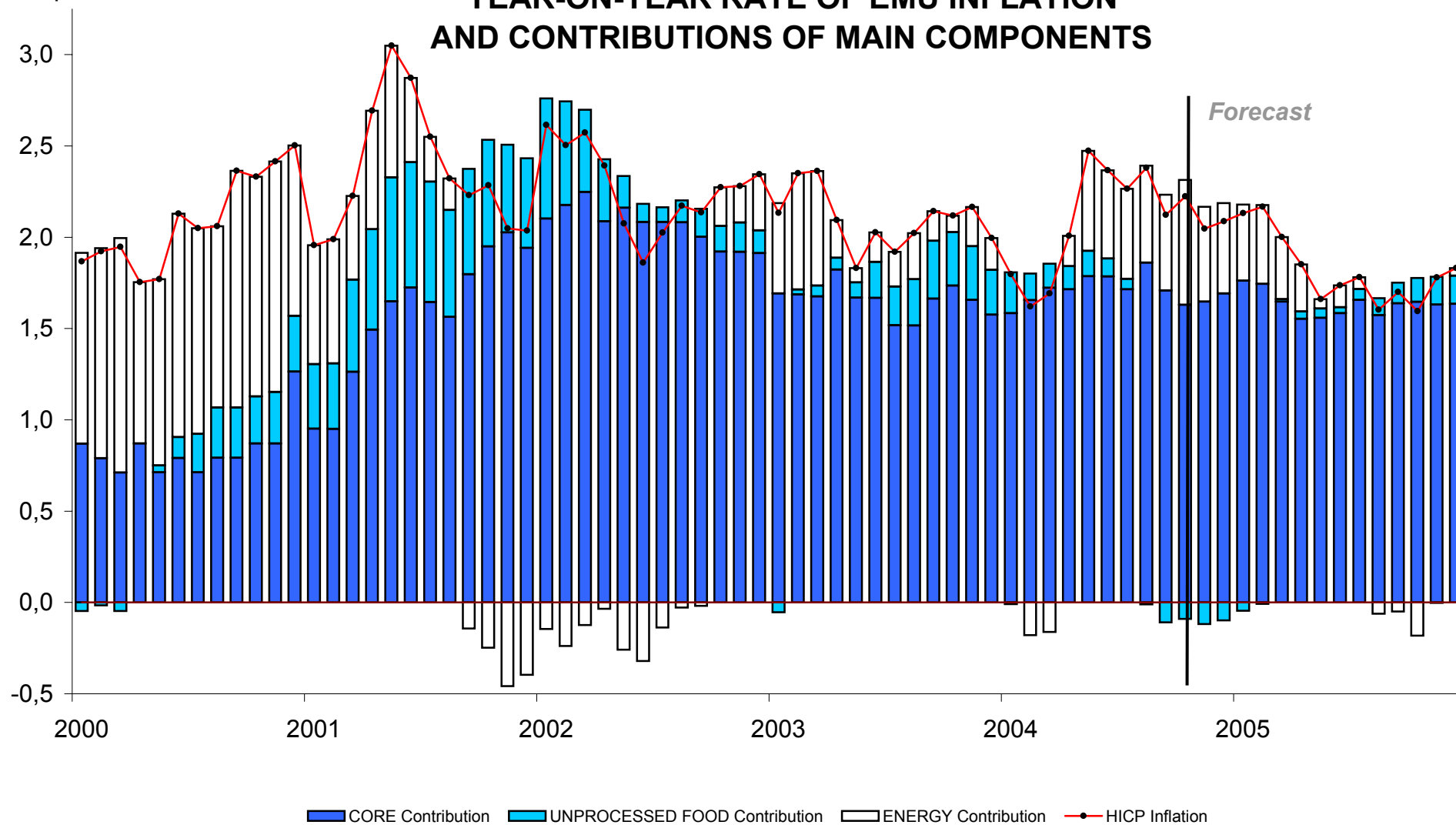
ANNUAL FORECASTS FOR TOTAL INFLATION IN SPAIN
(year-on-year rates)



Source: INE, IFL & UC3M Date: November 12, 2004

Graph A3A

YEAR-ON-YEAR RATE OF EMU INFLATION AND CONTRIBUTIONS OF MAIN COMPONENTS



Source: EUROSTAT, IFL & UC3M Date: November 24, 2004

MONTHLY DEBATES IN PREVIOUS BULLETINS

- Juan Urrutia "The Capitalism to come". Market and Contracts (n° 121)
- Juan Urrutia "The Capitalism to come". Firm, market, state. The firm (n° 120)
- Juan Urrutia "The Capitalism to come". Fraternity: Scope, Diversity and Cultural Relativism (n° 118)
- Juan Urrutia "The Capitalism to come". Transaction costs and information problems (n° 117)
- Juan Urrutia "The Capitalism to come" Ownership, information and scope (n°116)
- Juan Urrutia "The Capitalism to come" Users as intermediaries (n°115)
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INTERNATIONAL INFLATION FORECASTS

	NOVEMBER 2004		AVERAGE ANNUAL RATES				
	Monthly Rate	Annual Rate	2002*	2003*	2004	2005	2006
ECONOMIC MONETARY UNION							
Total Inflation	-0.1	2.1	2.3	2.1	2.1	1.9	1.8
Core Inflation	0.1	2.0	2.5	2.0	2.0	2.0	2.0
Goods	0.3	0.9	1.5	0.8	0.8	0.9	0.8
Services	-0.1	2.7	3.1	2.6	2.6	2.6	2.6
GDP			0.9	0.5	2.0	2.2	
Private Final Consumption Expenditure			1.3	1.2	1.4	2.0	
Gross Fixed Capital Formation			-2.7	-0.6	1.8	3.2	
Exports of Goods and Services			1.7	0.1	7.0	6.5	
Imports of Goods and Services			0.3	2.1	6.1	7.0	
Gross Value Added Total			0.9	0.5	2.0	2.2	
Gross Value Added Agriculture			1.0	-3.6	1.7	2.1	
Gross Value Added Industry			0.2	0.0	2.5	2.8	
Gross Value Added Construction			-0.6	-0.6	0.5	0.3	
Gross Value Added Services			1.3	1.0	2.1	2.4	
OTHER ECONOMIC INDICATOR							
Industrial Production Index (excluding construction)			-0.5	0.3	2.3	1.7	
UNITED STATES							
Total Inflation	-0.1	3.3	1.6	2.3	2.7	2.2	2.2
Core Inflation	-0.1	2.1	2.3	1.5	1.8	2.2	2.4
Goods	-0.2	0.2	-1.1	-2.0	-1.0	0.4	1.0
Services	0.0	2.9	3.8	2.9	2.9	2.9	3.0

*Observed values.

SPANISH ECONOMY FORECASTS

	NOVEMBER 2004		AVERAGE ANNUAL RATES				
	Monthly Rate	Annual Rate	2002*	2003*	2004	2005	2006
Total Inflation	0.2	3.5	3.5	3.0	3.1	2.9	2.5
Trend Inflation	0.3	2.8	3.7	2.9	2.7	2.6	2.6
Goods	1.1	1.3	2.5	2.0	0.9	1.2	1.3
Services	-0.1	3.8	4.6	3.7	3.7	3.8	3.9

*Observed values.

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