



BULLETIN OF EU AND US INFLATION AND MACROECONOMIC ANALYSIS

www.uc3m.es/boletin



Universidad
Carlos III de Madrid

Instituto Flores de Lemus

Nº 186 March 2010

Second Phase

Spain, Greece, Portugal and Italy: these countries are facing a difficult economic situation which can potentially destabilise the all euro area

They share some similarities but are also extremely different both in terms of economic history and of current situation

ECONOMIC OUTLOOK					
	Spain	Portugal	Italy	Greece	Euro area
GDP	2004-08	3,1	1,1	1,0	3,6
Annual rate	2009	-3,6	-2,9	-4,7	-1,1
General government debt (%GDP)	2009	52,0	74,9	114,8	111,5
General government deficit (%PIB)	2004-08	0,1	-3,7	-3,1	-5,4
	2009	-11,4	-9,3	-5,3	-13,0
Annual current account balance (% PIB)	2004-08	-8,3	-9,7	-2,2	-10,7
	2009	-5,3	-9,7	-2,7	-11,1
IPI	2004-08	0,3	-1,7	0,3	-0,4
Annual rate	2009	-15,8	-8,5	-17,6	-9,2
HIPC	2009	-0,3	-0,9	0,8	1,3
Annual rate					0,3

COMPETITIVENESS INDICATORS					
	Spain	Portugal	Italy	Greece	Euro area
Education	2008				
Early school leavers ¹	31,9	35,4	19,7	14,8	16,5
Upper secondary education ²	51,0	28,2	53,3	61,1	67,1
Tertiary education ³	29,0	14,0	14,0	23,0	24,0
Unit labour cost	2004-08	2,9	3,3	2,2	3,2
Annual rate	2009	0,3	5,2	4,3	6,3p
Labour cost index per hour	2004-08	4,1	3,2	2,6	1,3
Annual rate	2009	4,8	3,8	3,0	6,1
R&D expenditure per capita (€)	2008	324,7	236,7	311,8	117,4*
					541,7

*2007

¹ Persons between 18-24 years without secondary education, %

² Persons between 25-64 years with secondary education, %

³ Persons between 25-64 years with tertiary education, %

The housing market in Spain.

The difficult Return to normal.

Julio Rodriguez López

P.69

In Spain, the housing market registered cyclical fluctuations from 1997 to 2009. This evolution had a significant impact on the global Spanish economy. We start this paper by analysing what occurred in the 1997-2007 period of growth, and the factors behind that period. We then go on to describe the intense recession affecting the housing market from 2007 to 2009, a process that does not yet appear to have ceased in the first few months of 2010, in spite of partial evidence of greater activity on the market.

The effect of the crisis on the volatility and risk of the IBEX35 index.

Esther Ruiz and María Rosa Nieto

P.73

This paper analyses the evolution of the volatility and risk associated to the daily yield of the IBEX35 index from 2007 to 2009. Both the volatility and risk have increased greatly with the crisis, so they could be classified as its indicators. We also analyse the robustness of the econometric models used to estimate volatility and risk associated to the crisis, finding that they have not undergone major changes in the analysed period.

BULLETIN OF E.U. AN US INFLATION AND MACROECONOMIC ANALYSIS

Director: **Antoni Espasa.**

Coordination: **Emiliano Carluccio.**

Macroeconomic Analyst: **Michele Boldrin**

Labor Market Analyst: **Jose Ignacio Pérez Infante**

Macroeconometric Consultant: **Román Minguez.**

Analysis of Financial Markets Consultant: **Esther Ruiz**

Inflation Analysis and Forecasts:

Europe and Spain: **Emiliano Carluccio and César Castro.**

United States: **Ángel Sánchez**

Macroeconomic Analysis and Forecasts:

Spain: **Nicolás Carrasco, Coordination and Juan de Dios Tena**

Euro Area: **Nicolás Carrasco, Coordination and Iván Mayo**

Norway: **Gunnar Bardsen y Ragnar Nymoen**

Industrial Production Analysis:

Spain: Juan de Dios Tena and Carles Bretó

Euro Area: **Iván Mayo**

USA: **Iván Mayo**

Composition: **Elena Arispe and Eva María Torijano**

Advisory Board:

Paulina Beato, Guillermo de la Dehesa, José Luis Feito, Miguel Ángel Fernández de Pinedo, Alberto Lafuente, José Luís Larrea, José Luis Madariaga, Carlos Mas, Teodoro Millán, Emilio Ontiveros, Amadeo Petitbò, Federico Prades, Narcís Serra, Tomás de la Quadra-Salcedo, Javier Santiso, Xavier Vives, and Juan Urrutia (Chairman).

BULLETIN OF EU & US INFLATION AND MACROECONOMIC ANALYSIS is an independent academic publication, monthly published by the Macroeconomic Forecast and Analysis Laboratory, Universidad Carlos III de Madrid.

All rights reserved. Reproduction in part or whole is strictly prohibited without prior written permission of the Macroeconomic Forecast and Analysis Laboratory.

Depósito Legal: M22 938 – 1995

ISSN 1888-9298

Macroeconomic Forecast and Analysis Laboratory, Instituto Flores de Lemus

Universidad Carlos III de Madrid

C/ Madrid, 126 E-28903 Getafe (Madrid) Tel +34 91 624 98 89 Fax +34 91 624 93 05

www. uc3m.es/boletin E-mail: laborat@est-econ.uc3m.es

CONTENTS*

I. ECONOMIC OUTLOOK		p.1
II. THE ECONOMY IN THE EURO AREA		p.8
II.1 Macroeconomic Forecasts		p.10
Gross Domestic Product		p.12
Industrial Production Index		p.16
II.2 Inflation		p.18
II.3 Monetary Policy		p.28
III. UNITED STATES		
III.1 Industrial Production Index		p.29
III.2 Inflation		p.30
III.3. Property Sector		p.36
IV. THE SPANISH ECONOMY		p.38
IV.1 Macroeconomic Forecasts		p.40
Gross Domestic Product		p.42
Industrial Production Index		p.46
IV.2 Inflation		p.49
IV.3 The recent evolution of productivity in the Spanish economy		p.60
V. SUMMARY OF FORECASTS FOR DIFFERENT AREAS		p.66
VI. FORECASTS FOR DIFFERENT INSTITUTIONS		p.68
VII. MONTHLY DEBATE by Julio Rodriguez López		
The housing market in Spain. The difficult return to normal.		p.69
VIII. MONTHLY DEBATE by Esther Ruiz and María Rosa Nieto		
The effect of the crisis on the volatility and risk of the IBEX35 index		p.73

*The cut-off date for the statistics included in this Bulletin was March 31, 2010.

I. ECONOMIC OUTLOOK

Spain is not Greece, or Italy, or Portugal. The economies and public finances of these four countries are extremely weak, but they have very different characteristics and histories. They are developed and relatively rich countries whose economies have benefited from the single European currency but nonetheless have now seen their solvency and ability to find a pathway of sustainable growth in the euro area questioned.

Speculative attacks and rating cuts regarding their sovereign debt represent a confusing signal that depends on four basic factors:

1. Debt (largely public, but also private) relative to the GDP.
2. The recent evolution of public deficit.
3. Growth expectations in the medium and long term and, therefore, future possibilities of paying their debts.
4. Their foreign financing needs.

We will now attempt to analyse these elements objectively, comparing the current situation and the recent evolution of these four economies, together with the entire euro area. We will see how they share some weaknesses and delays relative to the area, but that they are in very different economic phases.

Public debt is an instability factor that is currently a cause for concern for different reasons. First, it is a key parameter in the Maastricht Treaty. Some countries, including Italy and Greece, negotiated their entrance in the euro area in spite of a debt/GDP ratio that was far from 60%, undertaking to apply a Public Sector deleveraging plan that has never been met. During the period of economic growth, the problem seemed to be a minor one. Now, however, the financial movements in the last few months have shown that the weakness of a relatively small country such as Greece can have a negative impact on the debt of virtuous countries, especially in the CDS market. This factor increases political tension between countries and makes an ordered solution difficult. The public debt of Italy and Greece is, respectively, 111.5% and 114.8% of their 2009 GDP, with an increase of 9 to 12 percentage points

relative to the previous year. Both these countries have had enormous difficulties when attempting to reduce this ratio, even in periods of economic growth. They also share a highly inefficient public sector, characterised by high levels of corruption and no transparency.

While Italian public debt has been higher than its GDP for over ten years, together with stagnant economic growth, the Greek situation is somewhat different. The growth registered by the Greek economy in the last 5 years was really high, with an average rate of 3.6% from 2004 to 2008, higher than in Spain (3.1%) and much higher than in Italy (1.0%). The change in the situation has not modified expectations concerning Italy, which will probably return to its stagnant growth pattern, but it has radically changed the perspectives for Greece, which seems incapable of growing at more than 4% again as it did in three of the last six years. The development potential of these four countries will now be analysed in more detail, but not that, rather than its level of debt, a country's solvency depends on its economic growth capabilities.

Another common feature in Italy and Greece is the low indebtedness of the private sector, particularly households. Although credit grew in the last few years due to low interest rates, these two countries never had a significant credit bubble similar to that found in Spain and Portugal. The lower leveraging of the private sector is unable to directly improve the rating of their respective public debts, but it represents significant stability for the financial and economic system that could help in their short-term recovery and, at least, does not represent an additional risk. The situation is just the opposite in Portugal and Spain. These countries have a lower than average public debt/GDP ratio. In the case of Spain, the difference is particularly significant, with a value of 51.95% versus the euro area's 78.66%. In spite of this, the markets have punished these debts on different occasions and more than one editorial in the international economic press has identified Spain as the greatest risk for euro area stability. The problem is first one of size. The Greek economy represents less than a quarter of the Spanish economy; if the latter's public

The financial movements in the last few months have shown that the weakness of a relatively small country such as Greece can have a negative impact on the debt of virtuous countries, especially in the CDS market.

Common feature in Italy and Greece is the low indebtedness of the private sector, particularly households.

Although credit grew in the last few years due to low interest rates, these two countries never had a significant credit bubble similar to that found in Spain and Portugal.



Graph I.1

GDP. Annual rates of growth					
	Spain	Portugal	Italy	Greece	Euro area
2004	3,3	1,5	1,5	4,6	2,2
2005	3,6	0,9	0,7	2,2	1,7
2006	4,0	1,4	2,0	4,5	3,0
2007	3,6	1,9	1,6	4,5	2,8
2008	0,9	0,0	-1,0	2,0	0,6
2009	-3,6	-2,9	-4,7	-1,1	-4,0
Average 04-08	3,1	1,1	1,0	3,6	2,1

Graph I.2

Annual government final consumption expenditure					
	Volume growth				
	Spain	Portugal	Italy	Greece	Euro area
2004	6,3	2,6	2,2	3,5	1,6
2005	5,5	3,2	1,9	1,1	1,6
2006	4,6	-1,4	0,5	-0,1	2,1
2007	5,5	0,0	1,0	8,4	2,3
2008	5,5	1,1	0,6	0,6	2,0
2009	4,3	1,7	1,2	2,0	2,0
Average 04-08	5,5	1,1	1,2	2,7	1,9

Graph I.3

General government deficit (-) or surplus (+) as % of GDP					
	Spain	Portugal	Italy	Greece	Euro area
2004	-0,3	-3,4	-3,5	-7,5	-2,9
2005	1,0	-6,1	-4,3	-5,2	-2,5
2006	2,0	-3,9	-3,3	-2,9	-1,3
2007	1,9	-2,6	-1,5	-3,7	-0,6
2008	-4,1	-2,7	-2,7	-7,7	-2,0
2009	-11,4	-9,3	-5,3	-13,0	-6,3
Average 04-08	0,1	-3,7	-3,1	-5,4	-1,9

Graph I.4

General government debt as % of GDP					
	Spain	Portugal	Italy	Greece	Euro area
2004	46,2	58,3	103,8	98,6	69,5
2005	43,0	63,6	105,8	100,0	70,1
2006	39,6	64,7	106,5	97,1	68,3
2007	36,1	63,6	103,5	95,6	66,0
2008	39,7	66,3	105,8	99,2	69,3
2009	52,0	74,9	114,8	111,5	78,7
Average 04-08	40,9	63,3	105,1	98,1	68,6

Source: EUROSTAT & IFL (UC3M)
Date: March 30, 2010

debt enters an explosive dynamic, no salvage is possible by the IMF or euro area members. The risk of Spain not being able to pay back its debts is minimal, but the impact would be terrible.

The likelihood of insolvency of the Spanish economy does not depend so much on the current state of its public accounts but rather on the enormous indebtedness of the private sector. In Spain, the debt of non-financial firms represents 130% of the GDP, while household indebtedness is 86% of the GDP and 126% of their gross disposable income. A significant part of this debt depends on the property sector, where there is currently an excess supply and an objective over-evaluation of assets. Furthermore, while Spain was accumulating debt at a rapid pace, the capital ratio per employee hardly improved and the negative differential with the euro area remained practically stable over the last ten years. In other words, the productive investment of the Spanish economy during the credit boom was not sufficient to reduce the productivity differential with the euro area, as the extraordinarily abundant and cheap flow of credit was largely absorbed by incredible increases in housing prices. Plentiful credit, low savings rates and excess investment in the property market also harmed the financial wealth of Spanish households, which is now on the same level as their gross disposable income. In Italy, the net financial wealth of households is nearly 250% of their gross disposable income and the average in the euro area is close to 200%.

It is evident that these figures question Spain's solvency, but it is not so clear how such doubts can affect the sovereign debt market. The leverage level of the Spanish private sector has no equal among other developed countries. This, together with the non-availability of its own monetary policy, configures a unique situation. The most obvious conclusion is that part of private debt will have to be transferred to the public sector, either by direct grants to households and firms, or through stagnant growth rates for many years with a structural reduction in public income not compensated by a similar reduction in public spending. This creates a highly complex scenario which is difficult to



forecast, especially in the medium term. In other words, the situation is as follows: investors clearly see Spain's difficulties, but solid expectations cannot be formed because of how exceptional the situation is.

In sum, the trading differentials of Greek and Italian public debt are largely due to their relationship to the GDP. In both cases, the low indebtedness of the private sector provides some guarantee of the stability of the financial and economic system. In the case of Italy, public debt has been more than 100% of the GDP for 20 years and no significant changes are expected in its potential growth (already very low), while the relative wealth of households and the high savings rate add no further solvency risks. The consumption expenditure of the Italian public authorities grew by an average of 1.2% in the last five years, versus 2.0% in the euro area, adding some stability to the public accounts.

With regards to Greece, the unreliability of its statistics, the brutal growth of its indebtedness in 2009, doubts regarding its competitiveness and ability to return to pre-crisis growth rates, together with a current account deficit higher than that of Spain (relative to the GDP) have sharply increased its country/risk and questioned the possibility of it remaining in the euro area.

In the last 5 years, Portuguese debt has gone from 58% to 74% of the GDP, with average growth similar to that found in Italy (1.1%). The indebtedness of Portuguese households is very high, even higher than in Spain when compared with their gross disposable income, as is the country's current account deficit. Like Italy, Portugal has maintained low potential growth and moderate growth of its public expenditure in the last five years, but its public debt seems doomed to grow without control. As in Spain, excessive household indebtedness is an additional source of risk.

Like Greece, Spain has come from a decade of exceptional growth that was financed by a credit boom that reached unsustainable levels. Its public debt is

much lower than the euro area average, but growth in public expenditure has been nearly triple the figures found in the area. The economy's low productivity rate, the enormous disequilibria on its labour and housing markets and its high foreign deficit have led to agents questioning its ability to recover, even more so than in the case of Greece (which already maintains a very high level of public debt).

Reorganising the situation regarding growth potential, we find the following: while Italy and Portugal have been registering GDP growth rates much lower than those of the euro area for years, and there is no reason to expect this situation to improve in the medium term, Greece and Spain come from a very positive decade in relation to the growth of their respective economies. Nonetheless, although in different ways, they have both accumulated unsustainable disequilibria and both the markets and other economic indicators are expecting stagnation in these two countries, or even a relatively long period of recession.

The Consensus Forecast expectations for the Greek economy show an average annual GDP growth rate in 2010 of -1.3%, with minimal growth forecast for 2011 (+0.3%). For the Spanish economy, we anticipate a 0.4% reduction in the GDP this year and 0.7% growth in 2011.

Why could Spain and Greece end up like Italy, with very low economic growth and incapable of controlling their public accounts? The first risk factor is low productivity, low qualification levels and little R&D investment.

As tables I.4 to I.6 show, these countries are in an ambiguous position relative to the euro area. The percentage of people with secondary education in Greece is not too far from the euro area average and early school leavers are fewer. The percentage of the population aged 25-64 with higher education is 23%, one point less than the EU19 average. Investment in R&D per inhabitant, however, is less than a quarter of the euro area average and even lower than in Portugal.

In other words, the situation is as follows: investors clearly see Spain's difficulties, but solid expectations cannot be formed because of how exceptional the situation is.

Greece and Spain come from a very positive decade in relation to the growth of their respective economies. Nonetheless, although in different ways, they have both accumulated unsustainable disequilibria and both the markets and other economic indicators are expecting stagnation in these two countries, or even a relatively long period of recession.



Graph I.5

Annual exports. Volume growth					
	Spain	Portugal	Italy	Greece	Euro area
2000	10,2	8,4	11,9	-	13,0
2001	4,2	1,8	2,6	0,0	4,0
2002	2,0	1,5	-2,9	-8,4	2,0
2003	3,7	3,9	-2,0	2,9	1,1
2004	4,2	4,0	4,9	17,4	7,4
2005	2,5	2,0	1,1	2,4	5,1
2006	6,7	8,7	6,2	5,3	8,5
2007	6,6	7,8	4,6	5,8	6,3
2008	-1,0	-0,5	-3,9	4,0	1,0
2009	-11,5	-11,6	-19,1	-18,1	-13,4
Average 00-04	4,9	3,9	2,9	3,0	5,5
Average 00-09	2,8	2,6	0,3	1,3	3,5

Graph I.6

Annual current account balance as % of GDP					
	Spain	Portugal	Italy	Greece	Euro area
2004	-5,3	-7,6	-0,9	-5,8	0,8
2005	-7,4	-9,5	-1,7	-7,3	0,1
2006	-9,0	-10,0	-2,6	-11,3	-0,1
2007	-10,0	-9,4	-2,4	-14,4	0,1
2008	-9,6	-12,1	-3,4	-14,6	-1,5
2009	-5,3	-9,7	-2,7	-11,1	-0,6
Average 04-08	-8,3	-9,7	-2,2	-10,7	-0,1

Graph I.7

Industrial production index. Average annual rate of growth					
	Spain	Portugal	Italy	Greece	Euro area
2004	1,9	-4,2	-0,4	0,7	2,1
2005	0,8	-3,5	-0,8	-1,6	1,3
2006	3,9	3,2	3,6	0,8	4,2
2007	2,0	0,1	2,1	2,3	3,7
2008	-7,3	-4,1	-3,3	-4,2	-1,7
2009	-15,8	-8,5	-17,6	-9,2	-14,9
Average 04-08	0,3	-1,7	0,3	-0,4	1,9

Graph I.8

HICP. Average annual rate of growth					
	Spain	Portugal	Italy	Greece	Euro area
2004	3,1	2,5	2,3	3,0	2,1
2005	3,4	2,1	2,2	3,5	2,2
2006	3,6	3,0	2,2	3,3	2,2
2007	2,8	2,4	2,0	3,0	2,1
2008	4,1	2,7	3,5	4,2	3,3
2009	-0,3	-0,9	0,8	1,3	0,3
Average 04-08	3,4	2,5	2,4	3,4	2,4

Source: EUROSTAT & IFL (UC3M)
Date: March 30, 2010

The situation in Spain is different; only 51% of the 24-64 year old population has completed secondary education, versus 67% in the euro area. The population in this age group with higher education, however, is 29%, 5 points more than the EU19 average and twice the value found in Italy and Portugal. R&D investment per capita is even lower than that of the euro area, but it has grown by more than 50% since 2004, overtaking the Italian economy.

Greece and Spain have positive elements but also evident disequilibrium. Spain appears to be more willing to foster research and development, but registered a relatively low average level of education among its active population. The qualifications of the Greek population are comparable to those of the euro area, but it appears to be incapable of making use of its human assets. Its investment in innovation is very low and has hardly grown in the last few years; in Portugal, per capita investment in this sector was comparable to Greece in 2004, but this value has now doubled.

In Spain (and Portugal), the early school leaver figures deserve special attention: more than 31% of the population aged 18 to 24 has not completed secondary education, a percentage that has remained practically constant in the last ten years. Projecting this figure to the future, we find that the unfavourable differential regarding the percentage of population with secondary education will not decrease in the near future, and could even grow slightly. In many of the new European Union countries (Poland, Czech Republic, Latvia, Slovenia and Slovakia), less than 10% of this age group does not complete secondary education, so these countries are rapidly converging with EU education levels. This is unacceptable, as it condemns Spain to a future of extreme social and economic inequality and will hinder all attempts to progress towards a new growth model. In the search for structural reforms that will not generate social conflict, this is an essential issue and admits no delay.

In sum, Spain may have a greater population with higher education than Italy and Portugal, and has the higher per capita



R&D expenditure of the four analysed countries. These positive aspects, however, need to be consolidated with appropriate reforms, particularly in relation to secondary education. Greece's educational levels are generally comparable with the rest of Europe, but its R&D spending is insufficient and has not grown in the last few years. In one or several sectors, all these countries are backwards, but Spain seems to be more capable of solving these differences in a reasonable period of time.

It is not easy to evaluate the productivity of these four economies. Our analysis focuses on labour costs and the evolution of exports. We will also analyse industrial production which, although it refers to the productivity of only part of the economy, is indicative of their ability to react to the recent production globalisation process.

From 2004 to 2008, the exports of Italy, Spain and Portugal (measured as a component of the GDP) grew less than the euro area average, with Italy registering the greatest differential (3.1pp). Greek exports grew by an average of 7.0%, with a favourable differential of 1.3pp. It is important to note that this figure is heavily conditioned by an incredible 17.4% growth rate observed in 2004. If we limit our analysis to the following years, Greek exports grew by an annual average of 4.4%, one tenth of a point less than Portugal and 1.2pp less than the euro area. In 2009, the most difficult year of the crisis, Italian exports fell by an average annual rate of more than 20%, while the falls in the other countries were less than in the euro area.

Two indicators will be analysed with regards to labour costs: unit labour costs and the labour cost index published by Eurostat, which represents the evolution of the mean hourly cost per worker. The general situation using the two indicators is very clear: the four countries have registered more than the euro area average growth in labour costs in the last decade. In Greece, their evolution in 2009 was a particular cause for concern, with a 6.1% increase in hourly labour costs compared with the euro area's 3.3%. This difference, among other things, has helped to position the Greek economy in the market's viewpoint. Analysing the last

decade, we find no significant differences between the four countries: they all registered unit labour cost increases of just over 30%, compared with 19.9% in the euro area.

The Spanish situation is somewhat more complicated. After growing stably more than in the euro area, the growth of unit labour costs in 2009 was clearly lower. Hourly labour costs, however, continued to grow more than average. ULC moderation is good news but could depend on the adjustment dynamics in the labour market and not consolidate in the future. ULCs fell in 2009 because most job losses were found in the less "technical" and productive sectors of the Spanish economy. For this process to consolidate, recovery must focus on more productive and technologically more advanced sectors. At the same time, the perverse incentives found on the Spanish labour market must vanish; they lead firms and the public sector to dismiss their youngest (and often most qualified) and unprotected employees instead of their least productive work force.

From 2004 to 2007, industrial production grew by 2.8% in the euro area, higher than in any of our four countries. In this period, Spain registered an average growth rate of 2.0% with Portugal at the other end of the spectrum with a 1.1% reduction. The situation was very different in 2008 and 2009. The total drop in Spanish industrial production was over 23%, significantly more than the other countries and the euro area average (-16.6%). The adjustment process was gentler in Greece and Portugal, however, with drops of 13.4% and 12.6%. Italy is in the middle with a 20.9% reduction. The Spanish figures reflect the collapse of the construction sector, but this does not make them any better.

The most rational interpretation of all the information available appears to be as follows: these four economies lost some competitiveness, largely due to an excessive increase in labour costs. The export and industrial production figures confirm this, but do not show an irreparable decline on the international markets. It is evident that the four countries need to reform their labour markets and control their labour costs. At

After growing stably more than in the euro area, the growth of unit labour costs in 2009 was clearly lower. Hourly labour costs, however, continued to grow more than average. ULC moderation is good news but could depend on the adjustment dynamics in the labour market and not consolidate in the future.



Graph I.9

Early school leavers. Persons between 18-24 years without secondary education, %					
	Spain	Portugal	Italy	Greece	Euro area
2004	32,0	39,4	22,3	14,7	18,0
2005	30,8	38,8	22,0	13,6	17,7
2006	30,5	39,1	20,6	15,5	17,4
2007	31,0	36,9	19,7	14,6	16,8
2008	31,9	35,4	19,7	14,8	16,5
2009					
Average 04-08	31,2	37,9	20,9	14,6	17,3

Graph I.10

Upper secondary education. Persons between 25-64 years with secondary education, %					
	Spain	Portugal	Italy	Greece	Euro area
2004	45,0	25,2	49,3	59,0	63,9
2005	48,5	26,5	50,4	60,0	64,9
2006	49,4	27,6	51,3	59,0	65,4
2007	50,4	27,5	52,3	59,8	66,3
2008	51,0	28,2	53,3	61,1	67,1
Average 04-08	48,9	27,0	51,3	59,8	65,5

Graph I.11

Tertiary education					
Persons between 25-64 years with tertiary education, %					
	Spain	Portugal	Italy	Greece	EU 19
2008	29,0	14,0	14,0	23,0	24,0

Graph I.12

R&D expenditure per capita (€)					
	Spain	Portugal	Italy	Greece	Euro area
2004	211,3	106,0	263,5	92,5	452,7
2005	236,9	114,1	266,8	104,1	464,7
2006	270,0	150,1	286,5	109,9	492,5
2007	300,0	186,1	308,3	117,4	516,9
2008	324,7	236,7	311,8		541,7
Average 04-08	268,6	158,6	287,4	106,0	493,7

Source: EUROSTAT & IFL (UC3M)
Date: March 30, 2010

the same time, Spanish industry has to face up to a hard restructuring process to depend less on residential construction. Spain, Greece, Portugal and Italy face difficulties, but they do not appear to be insurmountable. Whether there is political willingness and ability to apply the necessary reforms is quite another question.

We finally need to refer to the Spanish labour market. The unemployment rate in Italy, Greece and Portugal is in line with the euro area average (9.3% in 2009). The harmonised unemployment rate in Spain, however, is 18.0%. Nonetheless, and in spite of the job losses registered in 2009, Spain continues to be the economy that has created most net employment since 2004 in both absolute and relative terms. Spain's current problem is how to re-employ the million and a half workers dismissed from the construction sector and industry. They are generally unqualified workers, and these two sectors will take years to create significant numbers of jobs. The economic community is calling for an urgent and ambitious reform of the labour market but, even though negotiations are successful, a miracle cannot be expected. The Spanish economy needs to create employment again, but it also needs a labour market that fosters qualification and revaluation of human assets, that overcomes the dual nature of employee protection and that favours geographical and sectoral mobility. There are no easy solutions and, ultimately, real salaries and the creation of employment depend on labour productivity in general. The most likely result of a blind defence of the existing system is economic stagnation and slow but inevitable deflation of real salaries, with an enormous reduction in wellbeing and human capital that it will be difficult to recover.



Graph I.13

Labour cost index per hour Annual rate					
		Spain	Portugal	Italy	Greece
2007	I	3,8	4,6	1,2	3,6
	II	3,8	4,4	2,0	3,5
	III	5,4	5,5	1,5	3,8
	IV	5,0	6,4	2,9	2,1
2008	I	5,5	3,6	5,6	1,1
	II	4,9	3,1	2,1	2,2
	III	4,9	5,4	5,6	2,7
	IV	5,3	4,6	5,2	5,7
2009	I	5,4	2,6	2,3	-3,5
	II	5,7	4,8	4,8	6,6
	III	4,6	4,9	2,0	11,2
	IV	3,4	2,8	0,0	10,2
Average 2009		4,8	3,8	3,0	6,1
					3,3

Graph I.14

Unit labour cost Annual rate					
		Spain	Portugal	Italy	Greece
2000	2,9	4,4	0,5	-	0,9
2001	3,2	3,8	3,8	-0,4	2,3
2002	3,1	3,5	1,9	10,2	2,2
2003	2,8	3,7	2,4	1,5	1,7
2004	2,5	0,9	2,2	1,6	0,8
2005	3,4	3,2	3,1	3,0	1,3
2006	3,2	1,0	2,5	0,7	1,0
2007	3,7	1,1f	1,7	3,5p	1,6
2008	4,3	3,4f	4,2	3,9p	3,3
2009	0,3	5,2	4,3	6,3p	3,5
Average 00-04	2,9	3,3	2,2	3,2	1,6
Average 00-09	2,9	3,2	2,7	2,8	1,9

Total cost, on an hourly basis, for employers of employing the labour force. Growth rates in current prices with respect to the GDP volumes of employed persons. F Forecasts; P provisional

Graph I.15

Employment (Thousands persons)*					
		Spain	Portugal	Italy	Greece
2004	17971	5123	22404	4313	134457
2005	18973	5123	22563	4369	137036
2006	19748	5160	22988	4452	139762
2007	20356	5170	23222	4510	142586
2008	20258	5198	23405	4559	144147
2009	18888	5054	23010	4509	141574
Average 04-08	19461,1	5154,5	22916,4	4440,7	139597,7

* Annual average. For Italy and Euro area, the average is with information until 2009 - Q3.

Graph I.16

Employment. Annual average rate of growth*					
		Spain	Portugal	Italy	Greece
2004	3,5	-0,1	0,4	2,3	0,8
2005	5,6	0,0	0,7	1,3	1,9
2006	4,1	0,7	1,9	1,9	2,0
2007	3,1	0,2	1,0	1,3	2,0
2008	-0,5	0,5	0,8	1,1	1,1
2009	-6,8	-2,8	-1,7	-1,1	-1,8
Average 04-08	3,2	0,3	1,0	1,6	1,6

* For Italy and Euro area, the figure for 2009 is 2009-Q3 / average 2008.

Source: EUROSTAT & IFL (UC3M)
Date: March 30, 2010



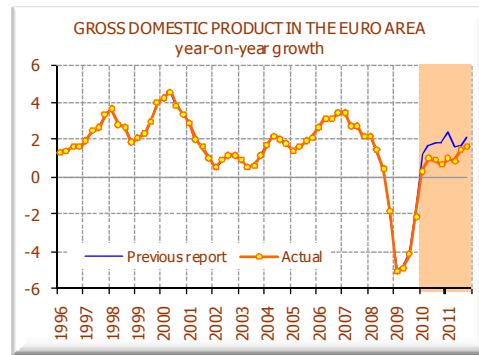
II. THE ECONOMY IN THE EURO AREA

Core inflation expectations have fallen again to an average annual rate of 0.7% and 0.9% for 2010 and 2011, respectively.

The rise in energy price expectations leaves the headline inflation forecast practically unaltered at 1.1% and 1.2%.

Eurostat has revised. The Industrial Production Index for the last few months, showing slower, more progressive recovery.

IPI Growth is forecast at 2.6% for 2010 and 1.8% for 2011.

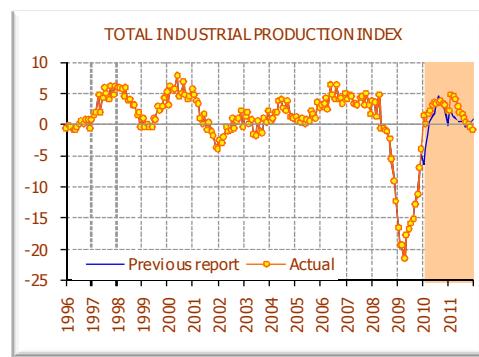
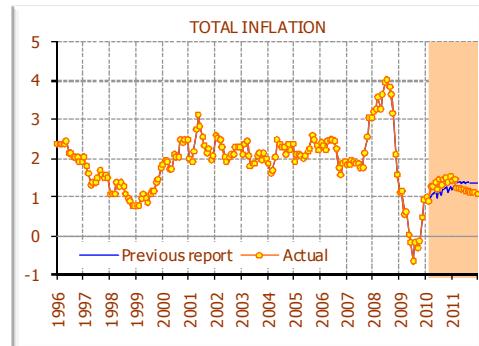
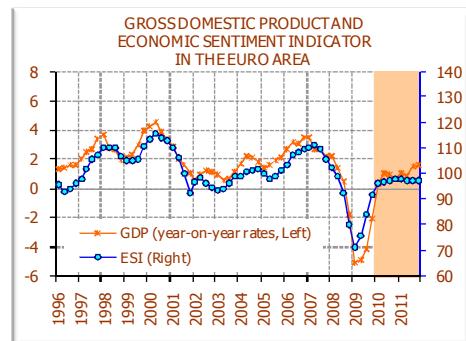


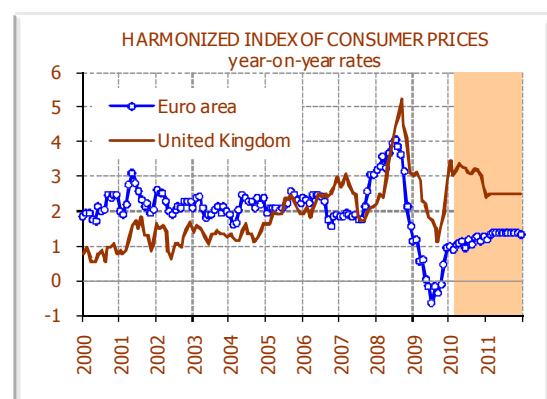
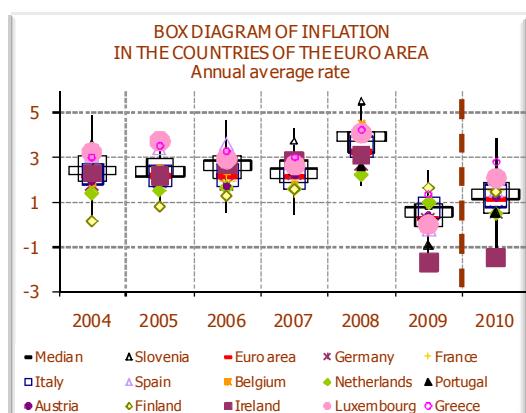
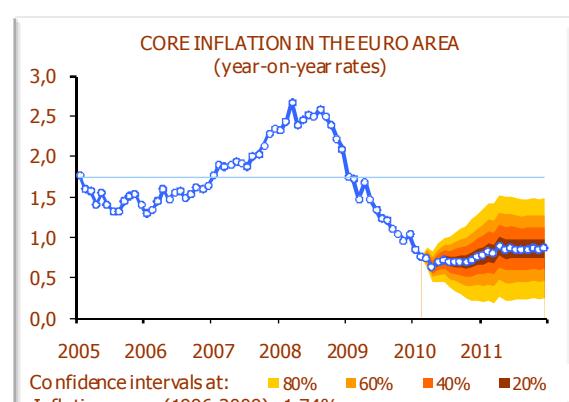
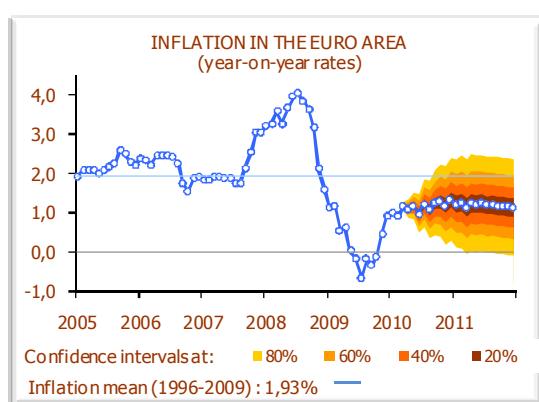
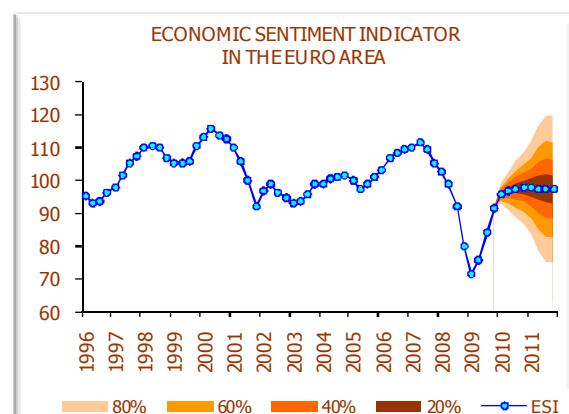
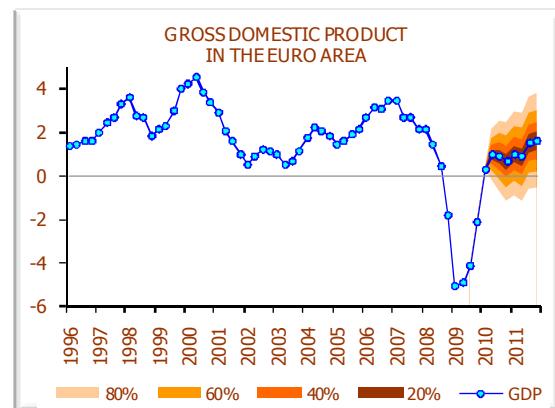
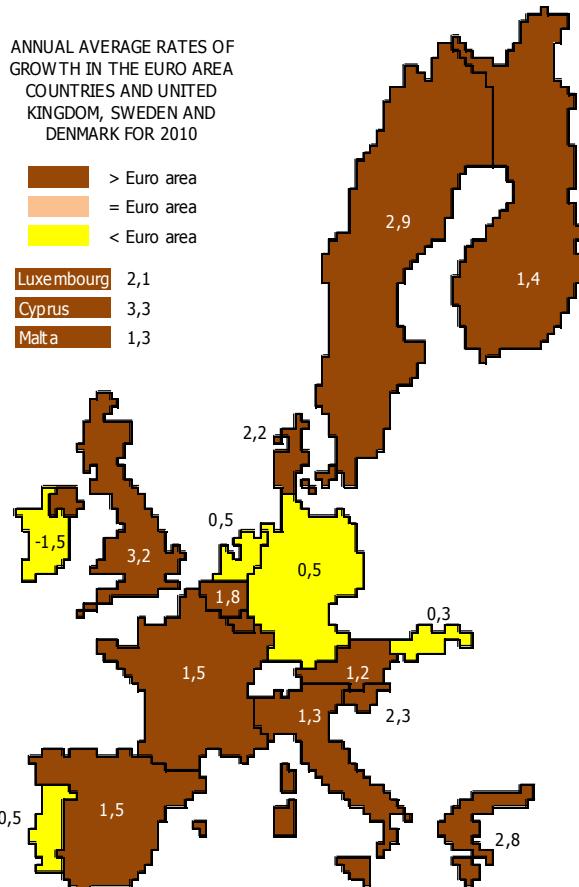
MAIN VARIABLES AND INDICATORS						
	Average annual rates					
	2006	2007	2008	2009	Forecasts	
					2010	2011
GDP mp.¹	3,1	2,8	0,6	-4,0	0,7	1,3
Demand						
Private final consumption	2,1	1,6	0,3	-1,0	-0,4	0,1
Public final consumption	2,1	2,3	2,1	2,2	1,0	0,0
Gross capital formation	6,3	4,6	-0,3	-14,6	2,2	3,5
Contribution domestic demand	2,9	2,4	0,5	-3,4	0,5	0,8
Exports of goods and services	8,7	6,3	0,8	-13,2	4,0	4,1
Imports of goods and services	8,6	5,5	0,9	-11,8	3,3	3,2
Contribution foreign demand	0,2	0,4	0,0	-0,8	0,4	0,4
Supply GVA						
Total	3,1	3,0	0,8	-4,2	0,7	1,1
Agriculture	0,1	-0,4	2,0	0,2	-0,8	1,6
Industry	4,4	2,9	-1,2	-15,0	2,5	1,3
Construction	3,1	2,2	-0,8	-4,8	-2,6	0,4
Trade services	2,8	3,6	0,6	-4,7	0,7	1,1
Financial services	4,2	4,3	1,6	-1,2	0,7	0,9
Public services	1,4	2,0	1,6	1,1	0,6	1,2
Prices (HICP²)						
Total	2,2	2,1	3,3	0,3	1,3	1,2
Core	1,5	2,0	2,4	1,3	0,7	0,9
Processed food	2,1	2,8	6,1	1,1	0,5	1,7
Non-energy industrial goods	0,6	1,0	0,8	0,6	-0,2	-0,5
Services	2,0	2,5	2,6	2,0	1,4	1,5
Residual	5,5	2,8	7,3	-4,5	4,1	3,0
Non-processed food	2,8	3,0	3,5	0,2	0,7	2,1
Energy	7,7	2,6	10,3	-8,1	6,7	3,7
Labour market³						
Unemployment rate	8,3	7,5	7,5	9,3	10,7	10,3
Industrial production index (excluding construction)⁴						
Total	4,2	3,7	-1,7	-14,9	2,6	1,8
Consumer goods						
Durables	4,7	1,4	-5,7	-17,3	1,8	-0,8
Non-durables	2,7	2,5	-1,4	-3,0	1,1	0,3
Equipment	6,0	6,7	-0,1	-20,9	3,4	4,1
Intermediate	4,8	3,7	-3,3	-19,2	2,7	2,6
Energy	0,6	-0,9	0,3	-5,9	3,5	-2,3

The figures in the shaded area are forecasts.

(1) Data adjusted for seasonality and working days effect.
Source: EUROSTAT & IFL (UC3M)

Date: (1) March 4, 2010 (2) March 31, 2010
(3) March 4, 2010 (4) March 12, 2010





II.1. MACROECONOMIC FORECASTS.

The GDP in the last quarter of 2009 registered a quarter-on-quarter growth rate of 0.1%, significantly less than expected and also less than the previous quarter (0.4%).

The most significant economic information regarding the euro area that has been published in the last month refers to the macroeconomic accounts for the fourth quarter of 2009. It confirmed the flash estimation published previously, which anticipated small quarter-on-quarter GDP growth in the quarter, and that the recovery process that started in the third quarter continued to be weak. Besides this information, the results of other indicators have also been published, largely referring to the first two months of this year, showing that recovery will continue at a slow pace.

According to the results of the euro area national accounts, the GDP in the last quarter of 2009 registered a quarter-on-quarter growth rate of 0.1%, significantly less than expected and also less than the previous quarter (0.4%), so the recovery anticipated by the third quarter figures continued in the fourth, but at a slower pace. In turn, in terms of the year-on-year rate, there was a 2.1% decrease, two percentage points less than in the third quarter. Last year, the euro area economy registered an average annual decrease of 4%, greater than that registered in the Spanish economy (3.6%).

This tells us that it has technically left the recession behind but that recovery is still weak.

The slight growth of the GDP in the fourth quarter was due to foreign demand, which contributed 0.3 pp to economic growth. This resulted from stronger exports (1.7%) than imports (0.9%), representing a deceleration of both variables. In domestic demand, consumption remained stable, after dropping by 0.2% in the previous quarter. Public consumption, on the other hand, which had grown considerably in the previous quarters thanks to national stimulation plans, fell by 0.2% in the last quarter of the year. Fixed capital investment fell by a quarter-on-quarter rate of 0.8% after growing by 1.7% in the previous quarter.

The most recent euro area indicators, corresponding to the first two months of this year, show that recovery continues, but not as quickly as anticipated by the figures for the third quarter of 2009 and the first two months of the fourth. This is shown by the Economic Sentiment Indicator which, although it grew in the first two months of 2010, it did so less than expected and is still on low levels. The Industrial Production Index (IPI) improved in January, after declining in December, and the latest labour market figures continue to reduce the rate of decline as unemployment continues to grow.

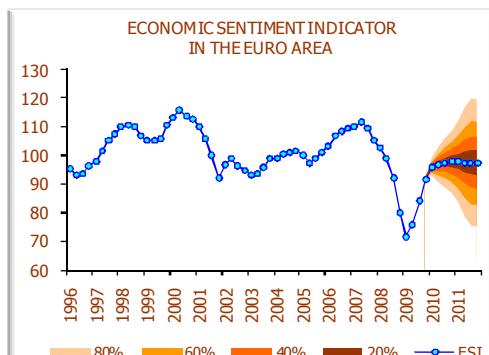
The Economic Sentiment Indicator (ESI) edited by the European Commission in February fell by one tenth of a point to 95.9. The figure was worse than expected, as the forecast was 97.3. The slight reduction in the ESI in February was due to the poor performance of the retail trade sales index and consumer confidence. As a result of the indicator's downwards innovation, the forecasts have worsened slightly, but it is still expected to reach 100 points in the second quarter of this year; the ESI will subsequently continue to grow, but at a slower rate.

The January industrial production index (IPI) in the euro area registered monthly growth of 1.7%, after the previous month's 0.8% (data adjusted for seasonality and calendar). Relative to a year earlier, the IPI grew by 1.4%, versus -4.1% in the previous month. By component, monthly growth, adjusted for seasonality, was 2.6% in energy, 2% in durable consumer goods and 1.4% in intermediate goods. The January IPI was better than expected. Together with last December's upwards revision, this clarifies the previous doubts concerning the continuity of the indicator's recovery.

The industrial confidence indicator evolved in February as forecast and is very close to reaching neutral values. They are expected for the second quarter of this year, strengthening this indicator's recovery.

Our forecasts for the average annual growth rate of the euro area IPI have been revised upwards for 2010, but recovery is expected to slow down in 2011. We are forecasting 2.6% growth for this year and 1.8% for the next. These forecasts are in line with previous reports, except the estimation performed with the December figure. From a sectoral perspective, they will all grow in

Graph II.1.1



Source: EUROSTAT & IFL (UC3M)
Date: March 4, 2010

The January industrial production index (IPI) in the euro area registered monthly growth of 1.7%, after the previous month's 0.8%



2010. In 2011, however, we expect a decline in energy and probably in consumer goods.

With the latest ESI and IPI figures, we have revised our macroeconomic forecasts downwards for the forecasting horizon. For 2010 we now expect an average annual GDP growth rate of 0.7%, followed by 1.3% in 2011. These rates represent a reduction of 1 pp and 0.7 pp, respectively, from the previous forecast. This means that recovery will be weaker than was expected in the last two quarters. According to the 2010 forecast, the foreign sector will continue to make a significant contribution to GDP growth. Exports are expected to grow by an average of 4% this year and a similar rate in the next. Imports are expected to grow by just over 3% in both years. Foreign demand will therefore contribute around 0.4 pp to GDP growth throughout the forecasting period.

With regards to domestic demand's contribution to growth, it is expected to be half a point in 2010 and a little more (0.8 pp) in 2011. This modest contribution of domestic demand will be based on gross capital formation and, to a lesser extent, on public consumption, as private consumption is expected to continue to fall (-0.4%) in 2010, growing slightly in 2011. The weakness of private consumption is derived from several factors, including the situation of the labour market during most of the forecasting period, and the lack of dynamism found in retail sales and consumer confidence. Although this indicator recovered in the last few months, it is still at low levels. GCF is expected to register an average annual growth rate of 2.2% in 2010 and 3.5% in 2011, compensating for approximately a third of the reduction registered in 2009.

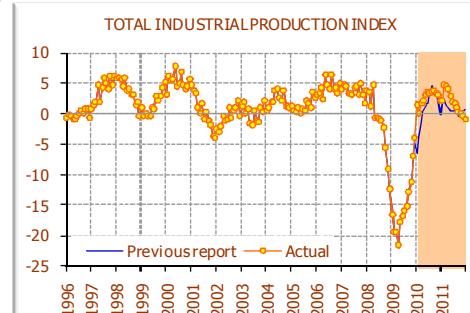
With regards to the euro area labour market, the latest figures show that the rate of decline continues to diminish, but that unemployment continues to rise. The last known employment figure refers to the last quarter of 2009, when it fell by 0.2% relative to the previous quarter, less than the 0.5%

registered in that period. Both these figures are corrected for seasonality. Relative to a year earlier, employment fell by 2%, with a 1.8% reduction throughout the year, equivalent to 2,721,000 job losses. With regards to the unemployment rate, the latest figure refers to January, when it was 9.9%, the same as in December. This is approximately one and a half percentage points higher than in the same month of the previous year. In spite of this stabilisation of the unemployment rate, further increases cannot be ruled out, although much slower than those registered in 2009.

For 2010 we now expect an average annual GDP growth rate of 0.7%, followed by 1.3% in 2011. These rates represent a reduction of 1 pp and 0.7 pp, respectively, from the previous forecast.

The aggregate labour market figures mask a high degree of dispersion among countries. Job losses and unemployment growth have been very moderate in countries like Germany and France and very intense in Spain and Ireland. Indeed, the unemployment rates of these two countries are nearly double the average and the rates of the first two are clearly lower than average, particularly Germany.

Graph II.1.2



Source: EUROSTAT & IFL (UC3M)
Date actual report: Marc 12, 2010
Date previous report: February 12, 2010

The forecasts for Spanish economic growth remain relatively stable. The average annual growth rate for 2010 has gone from -0.31% to -0.36%.

Spain, Greece, Portugal and Italy: these four countries are facing a difficult economic situation that could potentially destabilise the euro area.

Their economies, however, present important differences in both their current situations and recent evolution, which could determine their respective recovery possibilities.

With regards to the euro area labour market, the latest figures show that the rate of decline continues to diminish, but that unemployment continues to rise.

INDUSTRIAL PRODUCTION INDEX IN THE EURO AREA*					
Average year-on-year rates					
	2007	2008	2009	2010	2011
Consumer goods					
Durable	1,4	-5,7	-17,3	1,8	-0,8
Non-durable	2,5	-1,4	-3,0	1,1	0,3
Capital	6,7	-0,1	-20,9	3,4	4,1
Intermediate	3,7	-3,3	-19,2	2,7	2,6
Energy	-0,9	0,3	-5,9	3,5	-2,3
Total	3,7	-1,7	-14,9	2,6	1,8
Annual growth of GVA industrial sector	2,9	-1,2	-15,0	2,5	1,3



GROSS DOMESTIC PRODUCT IN THE EURO AREA: DEMAND

GROSS DOMESTIC PRODUCT AND COMPONENTS IN THE EURO AREA										
Annual average and annual rates of growth										
		Final Consumption		Gross Capital Formation	Domestic Demand (1)	Exports of goods and services	Imports of goods and services	Foreign Demand (1)	Real GDP	
Annual Average		Private	Public							
ANNUAL AVERAGE	2005	1,9	1,6	2,7	1,9	5,4	6,1	-0,1	1,8	
	2006	2,1	2,1	6,3	2,9	8,7	8,6	0,2	3,1	
	2007	1,6	2,3	4,6	2,4	6,3	5,5	0,4	2,8	
	2008	0,3	2,1	-0,3	0,5	0,8	0,9	0,0	0,6	
	2009	-1,0	2,2	-14,6	-3,4	-13,2	-11,8	-0,8	-4,0	
	2010	-0,4	1,0	2,2	0,5	4,0	3,3	0,4	0,7	
	2011	0,1	0,0	3,5	0,8	4,1	3,2	0,4	1,3	
ANNUAL RATES*	2009	QI	-1,4	2,4	-14,1	-3,4	-16,4	-13,1	-1,6	-5,1
		QII	-1,0	2,2	-16,2	-3,7	-17,0	-14,7	-1,2	-4,9
		QIII	-1,2	2,6	-15,0	-3,5	-13,6	-12,3	-0,7	-4,1
		QIV	-0,5	1,8	-13,1	-2,9	-5,2	-6,9	0,6	-2,1
	2010	QI	-0,4	1,3	-2,0	-0,4	3,5	1,7	0,8	0,3
		QII	-0,6	1,4	3,9	0,9	6,2	5,6	0,3	1,0
		QIII	-0,4	0,7	3,0	0,6	4,3	3,4	0,4	0,9
		QIV	-0,3	0,7	4,0	0,8	2,2	2,4	-0,1	0,7
	2011	QI	-0,7	0,7	2,7	0,4	4,6	3,3	0,6	1,0
		QII	-0,2	0,0	2,9	0,5	3,6	2,8	0,4	0,9
		QIII	0,5	-0,3	3,6	1,0	3,6	2,5	0,5	1,5
		QIV	0,8	-0,5	4,9	1,5	4,5	4,1	0,2	1,6

GROSS DOMESTIC PRODUCT AND COMPONENTS IN THE EURO AREA										
Annual average and quarterly rates of growth										
		Final Consumption		Gross Capital Formation	Domestic Demand (1)	Exports of goods and services	Imports of goods and services	Foreign Demand (1)	Real GDP	
Annual Average		Private	Public							
ANNUAL AVERAGE	2005	1,9	1,6	2,7	1,9	5,4	6,1	-0,1	1,8	
	2006	2,1	2,1	6,3	2,9	8,7	8,6	0,2	3,1	
	2007	1,6	2,3	4,6	2,4	6,3	5,5	0,4	2,8	
	2008	0,3	2,1	-0,3	0,5	0,8	0,9	0,0	0,6	
	2009	-1,0	2,2	-14,6	-3,4	-13,2	-11,8	-0,8	-4,0	
	2010	-0,4	1,0	2,2	0,5	4,0	3,3	0,4	0,7	
	2011	0,1	0,0	3,5	0,8	4,1	3,2	0,4	1,3	
QUARTERLY RATES*	2009	QI	-0,4	0,6	-9,6	-2,3	-8,3	-7,6	-0,4	-2,5
		QII	0,1	0,6	-4,8	-0,9	-1,2	-2,9	0,7	-0,1
		QIII	-0,2	0,8	1,7	0,4	2,8	2,8	0,1	0,4
		QIV	0,0	-0,2	-0,7	-0,2	1,7	1,0	0,3	0,1
	2010	QI	-0,3	0,1	2,0	0,3	0,1	0,9	-0,3	-0,1
		QII	-0,1	0,7	0,9	0,3	1,4	0,9	0,2	0,5
		QIII	-0,1	0,0	0,7	0,1	1,0	0,6	0,2	0,3
		QIV	0,1	-0,2	0,3	0,1	-0,4	0,0	-0,2	-0,1
	2011	QI	-0,6	0,2	0,7	-0,1	2,5	1,8	0,3	0,3
		QII	0,4	0,0	1,1	0,4	0,4	0,4	0,0	0,4
		QIII	0,6	-0,3	1,5	0,6	1,1	0,3	0,3	1,0
		QIV	0,5	-0,3	1,5	0,5	0,4	1,5	-0,4	0,0

Data adjusted for seasonality and working days effect

The figures in the shaded area are forecasts

(1) Contribution to GDP growth

*Year-on-year rates

Source: EUROSTAT & IFL (UC3M)

Date: March 4, 2010



GROSS DOMESTIC PRODUCT IN THE EURO AREA: SUPPLY

GROSS DOMESTIC PRODUCT AND COMPONENTS IN THE EURO AREA								
		Annual average and annual rates of growth						
		GVA						
		Agriculture	Industry	Construction	Trade Services	Financial Services	Public Services	TOTAL
ANNUAL AVERAGE	2005	-6,1	2,1	1,8	2,0	2,7	1,3	1,8
	2006	0,1	4,4	3,1	2,8	4,2	1,4	3,1
	2007	-0,4	2,9	2,2	3,6	4,3	2,0	3,0
	2008	2,0	-1,2	-0,8	0,6	1,6	1,6	0,8
	2009	0,2	-15,0	-4,8	-4,7	-1,2	1,1	-4,2
	2010	-0,8	2,5	-2,6	0,7	0,7	0,6	0,7
	2011	1,6	1,3	0,4	1,1	0,9	1,2	1,1
ANNUAL RATES*	2009	QI	0,1	-18,6	-6,1	-5,7	-1,1	1,1
		QII	0,0	-18,2	-4,8	-5,4	-1,4	1,3
		QIII	0,1	-14,6	-4,4	-4,8	-1,5	1,0
		QIV	0,8	-8,0	-3,8	-3,0	-1,0	1,1
	2010	QI	0,8	2,3	-2,8	0,3	0,2	1,0
		QII	0,0	3,9	-4,0	0,5	0,4	-0,1
		QIII	-1,7	2,0	-2,4	0,7	0,6	0,5
		QIV	-2,2	2,0	-1,1	1,3	1,8	1,1
	2011	QI	0,0	1,5	-1,6	0,7	0,9	1,4
		QII	1,1	-0,4	1,0	1,4	0,7	1,1
		QIII	2,7	1,8	1,0	1,7	1,3	0,6
		QIV	2,6	2,3	1,5	0,5	0,5	1,8

GROSS DOMESTIC PRODUCT AND COMPONENTS IN THE EURO AREA								
		Annual average and quarterly rates of growth						
		GVA						
		Agriculture	Industry	Construction	Trade Services	Financial Services	Public Services	TOTAL
ANNUAL AVERAGE	2005	-6,1	2,1	1,8	2,0	2,7	1,3	1,8
	2006	0,1	4,4	3,1	2,8	4,2	1,4	3,1
	2007	-0,4	2,9	2,2	3,6	4,3	2,0	3,0
	2008	2,0	-1,2	-0,8	0,6	1,6	1,6	0,8
	2009	0,2	-15,0	-4,8	-4,7	-1,2	1,1	-4,2
	2010	-0,8	2,5	-2,6	0,7	0,7	0,6	0,7
	2011	1,6	1,3	0,4	1,1	0,9	1,2	1,1
QUARTERLY RATES*	2009	QI	-0,6	-9,6	-1,0	-2,9	-0,7	-0,2
		QII	-0,3	-0,7	-0,7	-0,2	0,0	0,7
		QIII	0,5	2,4	-1,0	0,2	-0,2	0,2
		QIV	1,2	0,2	-1,1	-0,1	0,0	0,4
	2010	QI	-0,5	0,5	0,0	0,4	0,4	-0,3
		QII	-1,1	0,8	-1,9	0,0	0,2	-0,5
		QIII	-1,3	0,5	0,6	0,3	0,0	0,8
		QIV	0,7	0,2	0,2	0,5	1,2	1,1
	2011	QI	1,7	0,1	-0,5	-0,2	-0,5	0,0
		QII	-0,1	-1,1	0,6	0,8	0,0	-0,8
		QIII	0,3	2,7	0,6	0,6	0,6	0,3
		QIV	0,6	0,6	0,7	-0,7	0,4	2,3

Data adjusted for seasonality and working days effect

The figures in the shaded area are forecasts

(1) Contribution to GDP growth

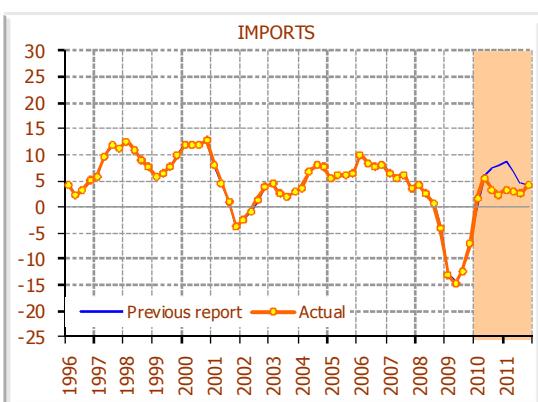
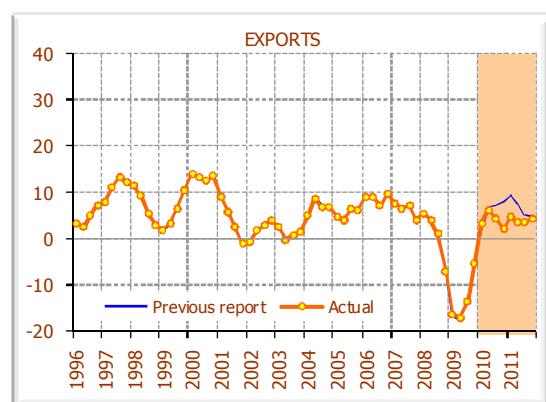
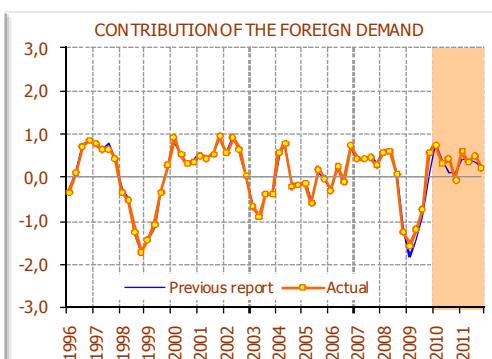
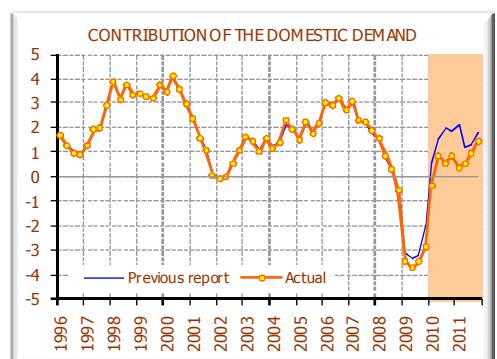
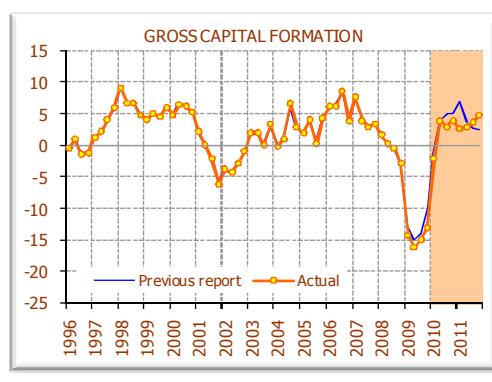
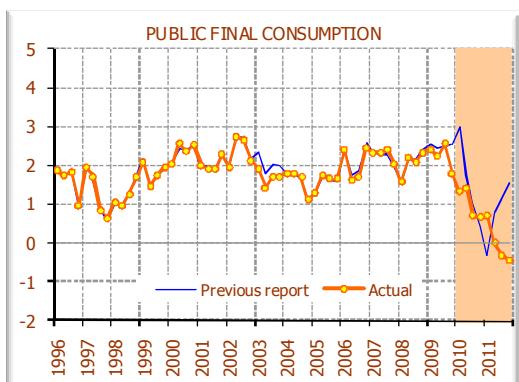
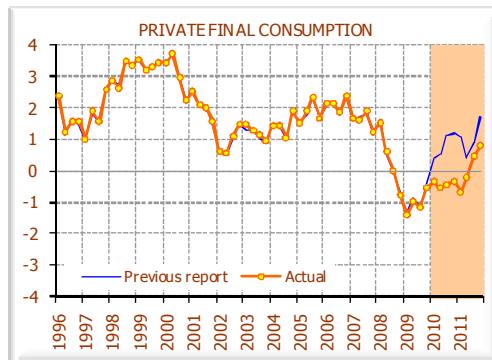
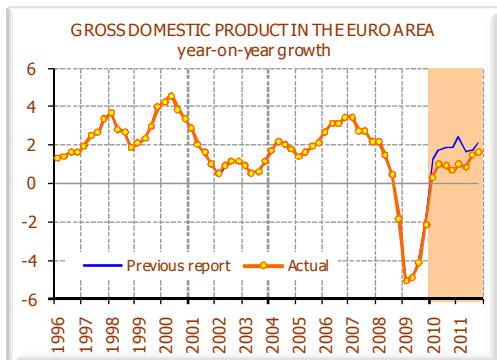
* Year-on-year rates

Source: EUROSTAT & IFL (UC3M)

Date: March 4, 2010



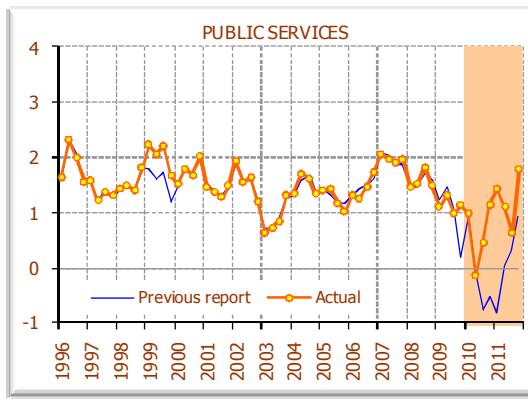
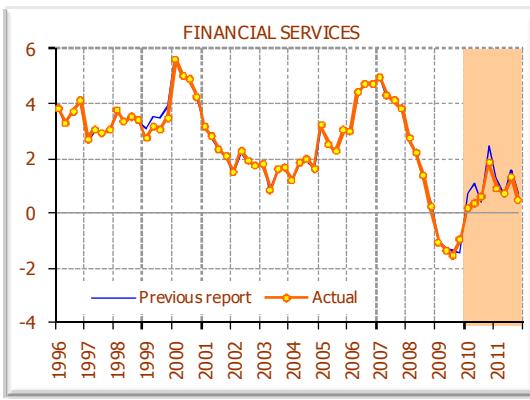
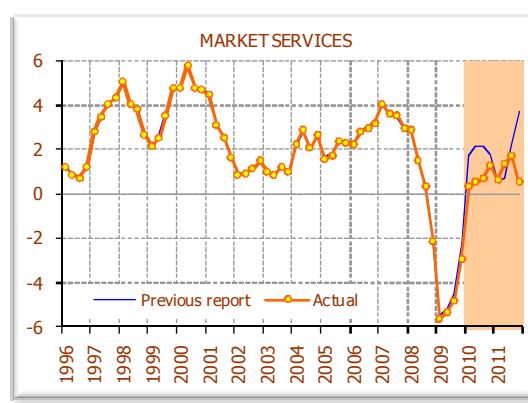
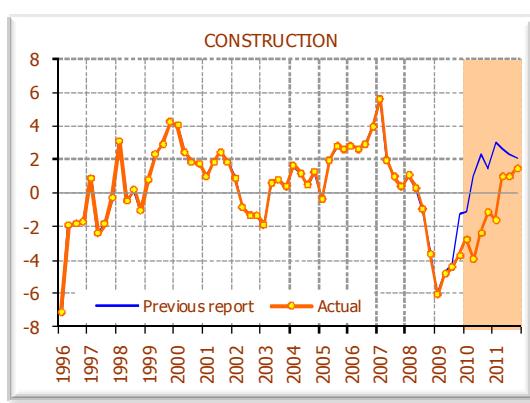
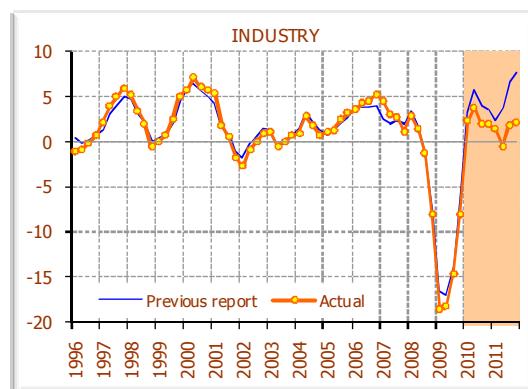
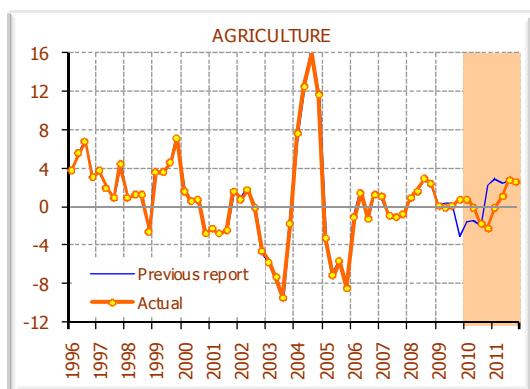
CHANGE IN FORECASTS AND DATA REVISION FOR THE COMPONENTS OF GROSS DOMESTIC PRODUCT DEMAND IN THE EURO AREA



Source: EUROSTAT & IFL (UC3M)
Date actual report: March 4, 2010
Date previous report: January 27, 2010



CHANGE IN FORECASTS AND DATA REVISION FOR THE COMPONENTS OF GROSS DOMESTIC PRODUCT SUPPLY IN THE EURO AREA



Source: EUROSTAT & IFL (UC3M)
 Date actual report: March 4, 2010
 Date previous report: January 27, 2010



INDUSTRIAL PRODUCTION INDEX IN THE EURO AREA

INDUSTRIAL PRODUCTION INDEX AND SECTORS IN THE EURO AREA*								
Annual rates of growth								
ANNUAL AVERAGE RATES	Consumer Goods			Capital Goods	Intermediate Goods	Energy	TOTAL	
	Durable	Non Durable	Total					
	2005	-0,8	1,1	0,8	2,5	0,6	1,4	1,3
	2006	4,7	2,7	3,0	6,0	4,8	0,6	4,2
	2007	1,4	2,5	2,3	6,7	3,7	-0,9	3,7
	2008	-5,7	-1,4	-2,0	-0,1	-3,3	0,3	-1,7
	2009	-17,3	-3,0	-5,0	-20,9	-19,2	-5,9	-14,9
	2010	1,8	1,1	1,2	3,4	2,7	3,5	2,6
	2011	-0,8	0,3	0,2	4,1	2,6	-2,3	1,8

INDUSTRIAL PRODUCTION INDEX IN THE EURO AREA*							
year-on-year rates of growth							
	2005	2006	2007	2008	2009	2010	2011
January	1,2	3,1	4,1	3,9	-16,6	1,4	2,2
February	0,5	3,3	4,7	3,5	-19,3	0,0	4,8
March	0,4	4,4	4,5	1,3	-19,4	1,6	4,6
April	1,0	2,4	3,3	4,8	-21,4	2,2	4,0
May	0,1	6,3	3,4	-0,7	-17,8	3,1	2,8
June	0,9	4,8	3,2	-0,5	-16,7	3,5	2,0
July	0,6	4,0	4,2	-0,9	-15,9	3,3	1,6
August	2,1	6,3	4,5	-1,1	-15,1	3,5	1,0
September	1,8	4,0	3,2	-2,2	-12,7	3,8	0,4
October	1,1	4,3	4,9	-5,7	-11,1	3,3	0,1
November	3,5	3,3	3,1	-9,1	-6,9	3,2	-0,4
December	2,7	5,1	1,6	-12,4	-4,0	2,3	-0,8

Data adjusted for seasonality and working days effect

The figures in the shaded area are forecasts

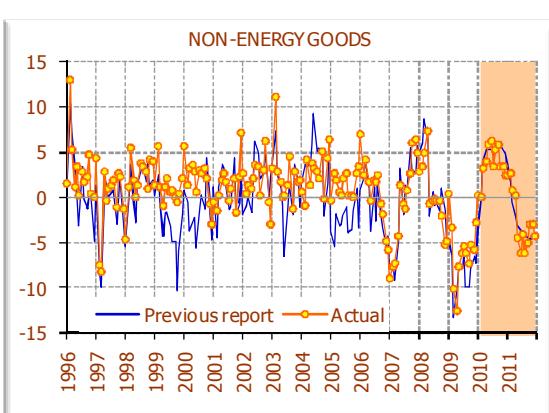
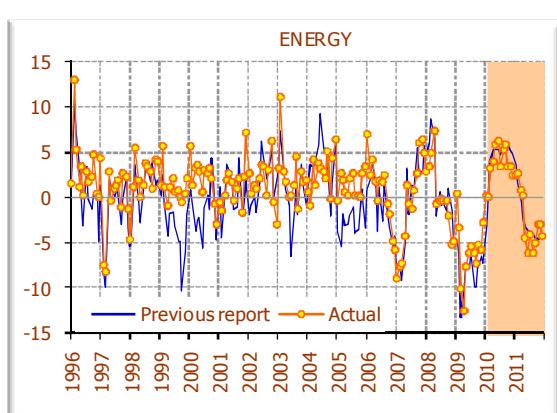
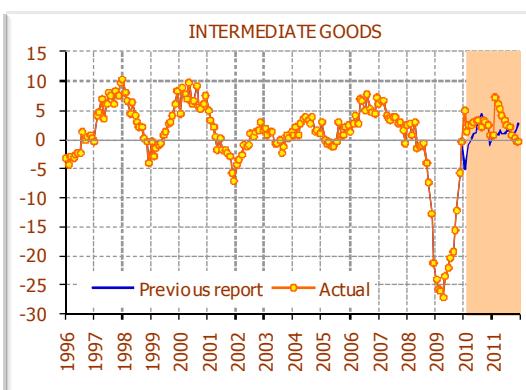
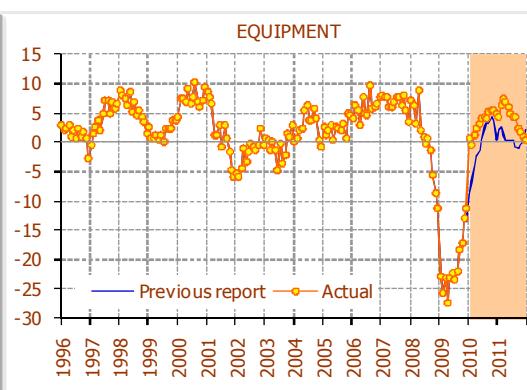
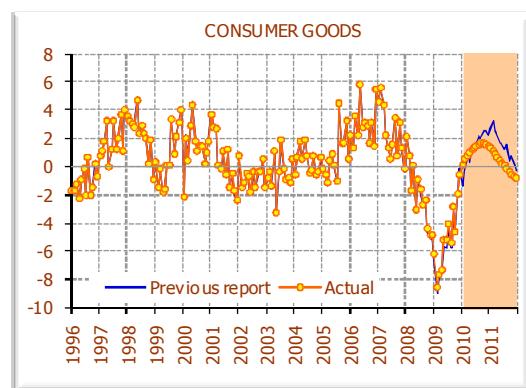
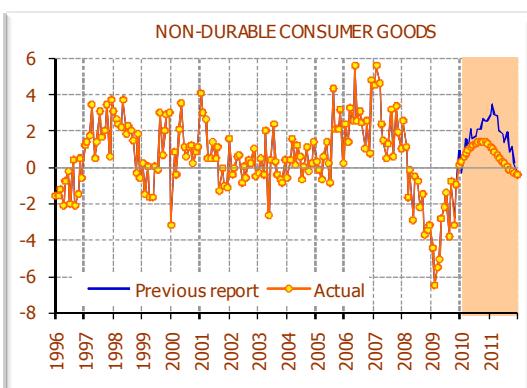
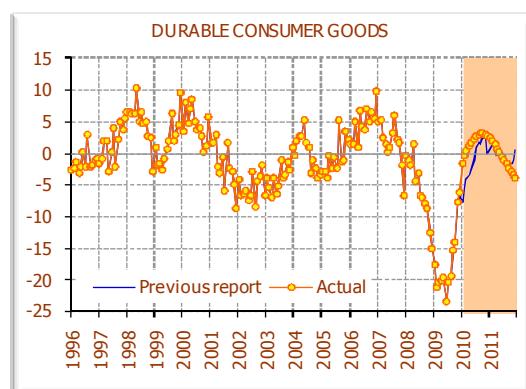
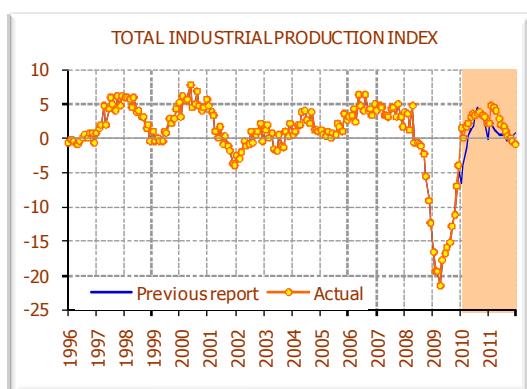
*Year-on-year rates

Source: EUROSTAT & IFL (UC3M)

Date: March 12, 2010



CHANGE IN FORECASTS AND DATA REVISION FOR THE COMPONENTS OF INDUSTRIAL PRODUCTION INDEX DEMAND IN THE EURO AREA



Source: EUROSTAT & IFL (UC3M)
Date actual report: March 12, 2010
Date previous report: February 12, 2010



II.2. INFLATION

The new inflation forecasts for the euro area show an average annual rate of 1.3% and 1.2% for 2010 and 2011, respectively.

Core inflation in these two years will fall to 0.7% and 0.9%, with a downwards revision of two and one tenths of a percentage point.

With regards to headline inflation, the rise in energy prices has maintained the annual forecasts stable, with only a small cut in expectations for 2011.

services, processed food and non-energy industrial goods, which reduce their growth expectations. Inflation in unprocessed food, however, was much as forecast, with a significant increase in energy prices.

In February, manufactured goods prices decelerated faster, registering a zero annual rate. Used industrial capacity in the euro area is now 72%, after dropping below 70% in mid-2009. Although it remained moderate but positive in most of 2009, since last September, inflation in this item has clearly been falling, interrupted by a considerable rise in December. The figures for the first two months of 2010 confirm the weak evolution of consumer prices in the sector which, according to our estimates, will continue throughout the forecasting period. We are expecting an average annual rate of -0.2% for this year and -0.5% for the next, with a downwards revision of 2 and three tenths of a percentage point relative to our previous forecasts. From March on, the annual rates are expected to remain constantly at negative values.

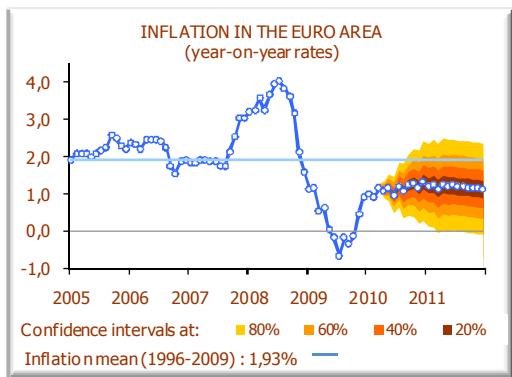
annual forecasts stable, with only a small cut in expectations for 2011.

In services and processed food, the evolution was similar with cuts of two and three tenths of a point in the average rates expected for this year and the next.

According to our estimates, service inflation will be 1.4% this year, rising slightly to 1.5% in 2011. In processed food, however, we are expecting a rate of -0.8% for this year and 0.5% for the next.

The moderation in the core inflation forecast has been compensated this month by a significant rise in energy prices, which could register positive inflation rates of 5.0% and 3.6% in 2010 and 2011. The weakness of the euro in relation to the dollar and the evolution of crude oil prices, under the pressure of a greater than expected world economy recovery, are responsible for this increase.

Graph II.2.1



Source: EUROSTAT & IFL(UC3M)
Date: March 16, 2010

All core inflation components have been revised downwards, and the annual rate could fall to 0.6% in April.

The weak economy and doubts concerning the intensity of recovery continue to push non-energy consumer prices down, bringing the annual core rate to the lowest in the series. The euro area unemployment rate is around 10% of the active population, but is expected to register an average of 10.7% in 2010. Household credit has risen slightly in the last quarter, returning to positive annual rates. However, this rise is largely due to mortgage loans, with consumer loans

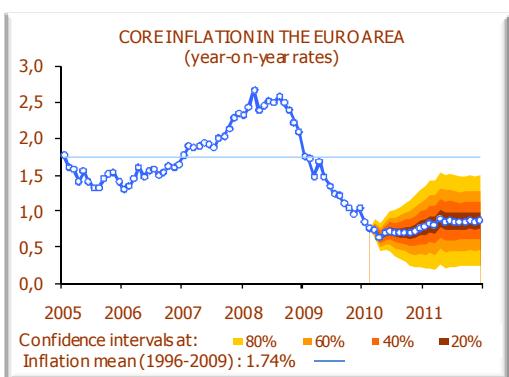
Core inflation expectations have fallen again to an average annual rate of 0.7% and 0.9% for 2010 and 2011, respectively.

falling together with credit to the rest of the private sector. Public expenditure has also started to reduce its downwards pressure on aggregate demand.

February registered new downwards innovation in the prices of

The rise in energy price expectations leaves the headline inflation forecast at 1.3% and 1.2%.

Graph II.2.2



Source: EUROSTAT & IFL(UC3M)
Date: March 16, 2010



Brent prices grew in March by more than 32% relative to the average in 2009. Energy prices are expected to grow by an average of 6,7% in 2010 and around 3,7% in 2011.

In all, headline inflation forecasts remain practically unchanged. Brent prices in March are around 80\$, with a 29% increase relative to the average price in 2009. In euros, the price increase is more than 32%. The increase in and instability of energy prices is not protecting the European economy from a deflationist risk, but

making economic recovery more difficult. It also worsens the situation for countries like Spain which are already burdened with a significant foreign deficit.

The moderation in core inflation, however, could have a diverse effect on different euro area economies. Countries capable of adjusting asset prices and salaries to the economic situation could be favoured by the present situation, gaining competitiveness on the international markets and strengthening their global position. Countries with a rigid labour market and private sector with too much debt could find it more difficult to recover and adjust.

The annual inflation rate for manufactured goods is expected to be negative from March on, throughout the forecasting horizon.

Table II.2.1

INFLATION IN THE EURO AREA						
HICP	Annual rates ¹		Annual average rates ²			
	2010		2010 2011			
	February	March	2008	2009	2010	2011
Core 82,6%	0,8	0,8 ±0,13	2,4	1,3	0,7 ±0,25	0,9 ±0,56
Total 100%	0,9	1,3 ±0,12	3,3	0,3	1,3 ±0,47	1,2 ±0,96

* Intervals at 80% of confidence calculated with historical errors.

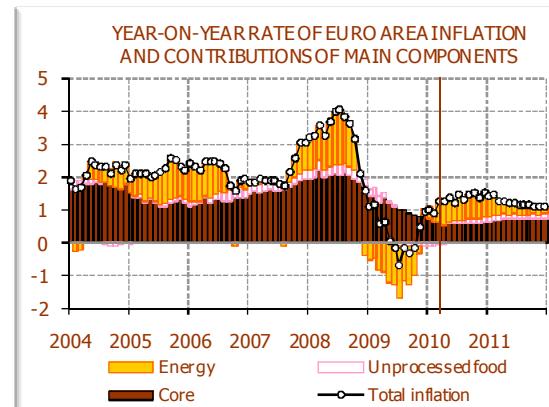
(1) Year-on-year rate anterior

(2) Yearly average rate

Source: EUROSTAT & IFL(UC3M)

Date: March 16, 2010

Graph II.2.3



Source: EUROSTAT & IFL(UC3M)

Date: March 16, 2010

Processed food prices also continued to fall, with expectations remaining stable for unprocessed food.



FORECASTS ERRORS BY SECTORS, COUNTRIES IN THE EURO AREA, UNITED KINGDOM, SWEDEN AND DENMARK

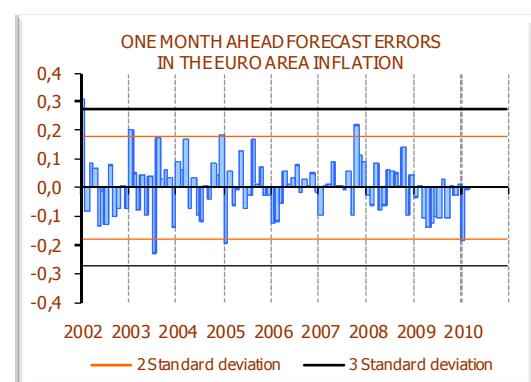
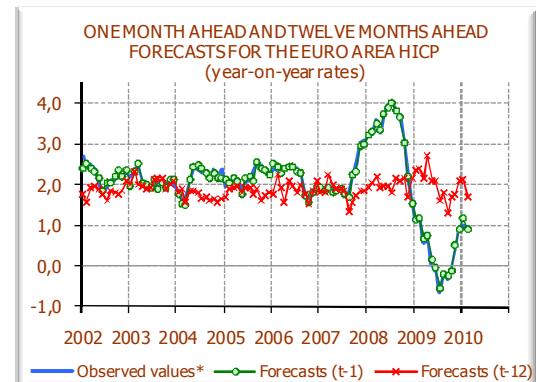
INFLATION IN THE EURO AREA Annual rates, February, 2010				
Harmonized Index of Consumer Prices HICP	Weights 2010	Observed	Forecasts	Confidence Intervals*
Processed Food	118,64	0,56	0,63	± 0,38
Tobacco	23,77	6,33	6,41	
Processed food excluding tobacco	94,87	-0,81	-0,73	
Non-energy Industrial goods	292,76	0,01	0,16	± 0,21
Services	419,55	1,32	1,44	± 0,14
CORE	830,95	0,76	0,88	± 0,13
Non-processed food	72,93	-1,18	-1,14	± 0,72
Energy	96,12	3,15	2,78	± 0,86
RESIDUAL	169,05	1,25	1,06	± 0,57
TOTAL	1000	0,90	0,91	± 0,12

Core inflation expectations have fallen again to an average annual rate of 0.7% and 0.9% for 2010 and 2011, respectively.

The rise in energy price expectations leaves the headline inflation forecast practically unaltered at 1.1% and 1.2%.

All core inflation components have been revised downwards, and the annual rate could fall to 0.6% in April.

HARMONIZED INDICES OF CONSUMER PRICES BY COUNTRIES IN THE EURO AREA, UNITED KINGDOM, SWEDEN AND DENMARK year-on-year rates, February, 2010			
Weights 2010 Euro area	Observed Monthly Rate	Forecast	Confidence Intervals at 80%
Germany	262,06	0,5	0,4
France	207,61	1,4	1,1
Italy	182,32	1,1	1,5
Spain	126,43	0,9	1,0
Netherlands	50,76	0,4	0,3
Belgium	32,47	0,8	1,0
Austria	30,40	0,9	1,1
Greece	36,33	2,9	2,4
Portugal	22,18	0,2	0,0
Finland	17,25	1,3	1,5
Ireland	14,71	-2,4	-1,9
Slovakia	7,22	-0,2	-0,1
Slovenia	3,90	1,6	1,6
Luxembourg	2,76	2,3	2,4
Cyprus	2,79	2,8	2,6
Malta	0,81	0,7	1,0
United Kingdom	3,0	3,3	± 0,33
Sweden	2,8	2,6	± 0,50
Denmark	1,8	1,5	± 0,27



Source: EUROSTAT & IFL(UC3M)

Date: March 31, 2010



Euro Area. Inflation

HARMONIZED INDEX OF CONSUMER PRICES AND COMPONENTS IN THE EURO AREA											
Annual rates of growth											
		HICP									
		Core			Residual					80 % Confidence Intervals*	
		Processed food excluding tobacco	Tobacco	Non energy industrial goods	Services	TOTAL	80 % Confidence Intervals*	Non processed food	Energy	TOTAL	
Weights 2009		9,6%	2,3%	29,7%	41,4%	83,0%		7,5%	9,6%	17,0%	100%
ANNUAL AVERAGE RATE	2001	2,7	3,8	0,9	2,5	1,9		7,0	2,2	4,4	2,3
	2002	2,4	5,9	1,5	3,1	2,5		3,1	-0,6	1,2	2,2
	2003	2,1	8,4	0,8	2,5	2,0		2,1	3,0	2,6	2,1
	2004	1,3	12,2	0,8	2,6	2,1		0,6	4,5	2,6	2,1
	2005	0,5	7,8	0,3	2,3	1,5		0,8	10,1	5,7	2,2
	2006	1,6	3,9	0,6	2,0	1,5		2,8	7,7	5,5	2,2
	2007	2,3	4,5	1,0	2,5	2,0		3,0	2,6	2,8	2,1
	2008	6,8	3,2	0,8	2,6	2,4		3,5	10,3	7,3	3,3
	2009	0,2	4,7	0,6	2,0	1,3		0,2	-8,1	-4,5	0,3
	2010	-0,8	5,8	-0,2	1,4	0,7	± 0,25	0,7	6,7	4,1	1,3 ± 0,47
	2011	0,5	6,3	-0,5	1,5	0,9	± 0,56	2,1	3,7	3,0	1,2 ± 0,96
ANNUAL RATES (year-on-year rates)	January	2,7	2,8	0,5	2,4	1,8		2,6	-5,3	-1,8	1,1
	February	1,7	2,9	0,7	2,4	1,7		3,3	-4,9	-1,3	1,2
	March	1,2	3,2	0,8	1,9	1,5		2,4	-8,1	-3,6	0,6
	April	0,7	3,4	0,8	2,5	1,7		1,6	-8,8	-4,4	0,6
	May	0,4	3,5	0,8	2,1	1,5		0,7	-11,6	-6,4	0,0
	June	0,0	5,4	0,6	2,0	1,3		0,0	-11,7	-6,8	-0,1
	July	-0,3	5,6	0,5	1,9	1,2		-1,1	-14,4	-8,9	-0,7
	August	-0,6	5,8	0,6	1,8	1,2		-1,2	-10,2	-6,4	-0,2
	September	-0,7	5,7	0,5	1,8	1,1		-1,3	-11,0	-6,9	-0,3
	October	-0,9	5,8	0,3	1,8	1,0		-1,6	-8,5	-5,5	-0,1
	November	-0,8	6,0	0,2	1,6	1,0		-1,3	-2,4	-1,8	0,5
	December	-0,7	6,6	0,4	1,6	1,0		-1,6	1,8	0,4	0,9
ANNUAL RATES (year-on-year rates)	January	-0,8	6,5	0,1	1,4	0,9		-1,3	4,0	1,7	1,0
	February	-0,8	6,3	0,0	1,3	0,8		-1,2	3,1	1,2	0,9
	March	-0,9	6,8	-0,1	1,4	0,8	± 0,13	-0,7	7,2	3,7	1,3 ± 0,12
	April	-0,9	6,9	-0,1	1,2	0,6	± 0,19	0,0	8,0	4,5	1,3 ± 0,23
	May	-0,8	6,9	-0,2	1,3	0,7	± 0,24	0,5	8,0	4,7	1,4 ± 0,35
	June	-0,8	5,2	-0,1	1,4	0,7	± 0,28	0,8	5,5	3,5	1,2 ± 0,48
	July	-0,8	4,8	-0,2	1,4	0,7	± 0,32	1,4	7,9	5,1	1,5 ± 0,61
	August	-0,8	4,8	-0,3	1,5	0,7	± 0,36	1,6	6,1	4,2	1,3 ± 0,72
	September	-0,7	5,1	-0,3	1,5	0,7	± 0,41	1,7	7,8	5,2	1,5 ± 0,82
	October	-0,6	5,6	-0,3	1,5	0,7	± 0,45	1,8	8,2	5,5	1,5 ± 0,91
	November	-0,7	5,3	-0,4	1,5	0,7	± 0,50	1,6	6,9	4,7	1,4 ± 1,00
	December	-0,6	5,4	-0,3	1,6	0,8	± 0,54	2,0	7,8	5,3	1,5 ± 1,06
ANNUAL RATES (year-on-year rates)	January	-0,4	6,1	-0,4	1,6	0,8	± 0,58	2,0	6,5	4,6	1,4 ± 1,12
	February	-0,1	6,2	-0,4	1,6	0,8	± 0,61	2,1	7,2	5,0	1,5 ± 1,17
	March	0,1	6,3	-0,4	1,5	0,8	± 0,63	2,1	4,3	3,4	1,2 ± 1,21
	April	0,2	6,3	-0,4	1,7	0,9	± 0,64	2,1	3,5	2,9	1,2 ± 1,22
	May	0,4	6,3	-0,4	1,6	0,9	± 0,65	2,1	3,3	2,8	1,2 ± 1,22
	June	0,5	6,3	-0,4	1,5	0,9	± 0,65	2,1	3,3	2,8	1,2 ± 1,22
	July	0,6	6,3	-0,5	1,5	0,9	± 0,64	2,1	3,0	2,6	1,2 ± 1,22
	August	0,7	6,3	-0,5	1,5	0,9	± 0,62	2,1	3,1	2,6	1,2 ± 1,22
	September	0,8	6,4	-0,5	1,5	0,9	± 0,62	2,1	2,8	2,5	1,1 ± 1,22
	October	0,9	6,4	-0,5	1,5	0,9	± 0,62	2,1	2,6	2,4	1,1 ± 1,22
	November	1,0	6,5	-0,5	1,5	0,9	± 0,62	2,1	2,6	2,4	1,1 ± 1,22
	December	1,0	6,5	-0,5	1,5	0,9	± 0,62	2,1	2,3	2,2	1,1 ± 1,22

* Confidence intervals calculated with historical errors

The figures in the shaded area are forecasts

Source: EUROSTAT & IFL(UC3M)

Date: March 31, 2010



HARMONIZED INDEX OF CONSUMER PRICES AND COMPONENTS IN THE EURO AREA											
Monthly rates of growth											
Weights 2009		Harmonized Index of Consumer Prices								TOTAL	
		Core				Residual		TOTAL			
		Processed food excluding tobacco	Tobacco	Non energy industrial goods	Services	TOTAL	Non processed food	Energy	TOTAL		
		9,6%	2,3%	29,7%	41,4%	83,0%	7,5%	9,6%	17,0 %	10,0%	
MONTHLY RATES (Growth of the month over the previous month)	January	2008	1,0	0,9	-2,3	-0,2	-0,8	1,2	1,6	1,4	-0,4
		2009	0,2	0,4	-2,6	-0,4	-1,1	1,0	0,0	0,4	-0,8
		2010	0,0	0,4	-2,9	-0,5	-1,3	1,3	2,1	1,7	-0,8
		2011	0,2	1,0	-3,0	-0,5	-1,3	1,3	0,9	1,0	-0,9
	February	2008	0,9	0,3	0,3	0,5	0,5	-0,6	0,1	-0,2	0,3
		2009	-0,1	0,5	0,5	0,5	0,4	0,0	0,5	0,3	0,4
		2010	-0,1	0,3	0,4	0,4	0,3	0,1	-0,3	-0,1	0,3
		2011	0,2	0,4	0,4	0,4	0,4	0,2	0,3	0,3	0,4
	March	2008	0,4	0,2	1,7	0,4	0,9	0,5	2,3	1,5	1,0
		2009	-0,1	0,5	1,8	0,0	0,6	-0,3	-1,2	-0,8	0,4
		2010	-0,2	0,9	1,8	0,0	0,6	0,2	2,7	1,6	0,7
		2011	0,0	1,0	1,7	-0,1	0,6	0,2	-0,1	0,0	0,5
	April	2008	0,4	0,2	0,6	-0,2	0,2	0,7	1,0	0,9	0,3
		2009	-0,1	0,4	0,6	0,4	0,4	-0,1	0,2	0,1	0,4
		2010	-0,1	0,5	0,6	0,2	0,3	0,6	1,0	0,8	0,4
		2011	0,0	0,4	0,6	0,3	0,4	0,6	0,2	0,4	0,4
	May	2008	0,1	0,1	0,1	0,4	0,2	0,9	3,6	2,4	0,6
		2009	-0,2	0,2	0,0	0,0	0,0	0,0	0,4	0,2	0,1
		2010	-0,1	0,2	0,0	0,2	0,1	0,5	0,4	0,5	0,1
		2011	0,0	0,2	0,0	0,1	0,0	0,5	0,2	0,3	0,1
	June	2008	0,2	0,1	-0,2	0,3	0,1	0,2	2,6	1,6	0,4
		2009	-0,2	2,0	-0,3	0,1	0,0	-0,5	2,5	1,2	0,2
		2010	-0,1	0,4	-0,2	0,2	0,0	-0,2	0,1	0,0	0,0
		2011	0,0	0,4	-0,2	0,2	0,0	-0,2	0,2	0,0	0,0
	July	2008	0,3	0,5	-2,4	0,9	-0,4	-0,1	1,3	0,7	-0,2
		2009	-0,1	0,7	-2,5	0,8	-0,5	-1,2	-1,8	-1,5	-0,7
		2010	-0,1	0,3	-2,6	0,8	-0,5	-0,7	0,5	0,0	-0,4
		2011	0,0	0,3	-2,7	0,8	-0,5	-0,7	0,1	-0,2	-0,5
	August	2008	0,3	0,1	0,4	0,3	0,3	-1,0	-3,0	-2,2	-0,1
		2009	0,0	0,2	0,5	0,2	0,3	-1,1	1,8	0,5	0,3
		2010	0,0	0,2	0,5	0,3	0,3	-0,9	0,1	-0,3	0,2
		2011	0,1	0,2	0,5	0,2	0,3	-0,9	0,2	-0,3	0,2
	September	2008	0,1	0,1	1,7	-0,7	0,3	0,1	-0,4	-0,2	0,2
		2009	-0,1	0,0	1,5	-0,7	0,2	0,1	-1,2	-0,7	0,0
		2010	0,0	0,4	1,5	-0,7	0,2	0,2	0,4	0,3	0,2
		2011	0,1	0,4	1,5	-0,7	0,2	0,2	0,1	0,1	0,2
	October	2008	0,2	0,0	0,9	0,1	0,4	0,4	-2,9	-1,5	0,0
		2009	0,0	0,1	0,7	0,1	0,3	0,1	-0,2	-0,1	0,2
		2010	0,0	0,4	0,7	0,1	0,3	0,2	0,2	0,2	0,3
		2011	0,1	0,5	0,7	0,1	0,3	0,2	0,1	0,1	0,3
	November	2008	-0,1	0,5	0,2	-0,1	0,0	0,0	-4,9	-2,8	-0,5
		2009	0,0	0,8	0,1	-0,2	0,0	0,3	1,4	0,9	0,1
		2010	0,0	0,5	0,1	-0,2	0,0	0,2	0,1	0,2	0,0
		2011	0,1	0,6	0,1	-0,2	0,0	0,2	0,1	0,1	0,0
	December	2008	-0,1	0,1	-0,2	0,8	0,3	0,5	-4,7	-2,4	-0,1
		2009	-0,1	0,7	0,0	0,8	0,4	0,2	-0,5	-0,2	0,3
		2010	0,0	0,8	0,0	0,8	0,5	0,5	0,3	0,4	0,5
		2011	0,1	0,9	0,0	0,8	0,5	0,5	0,1	0,3	0,4

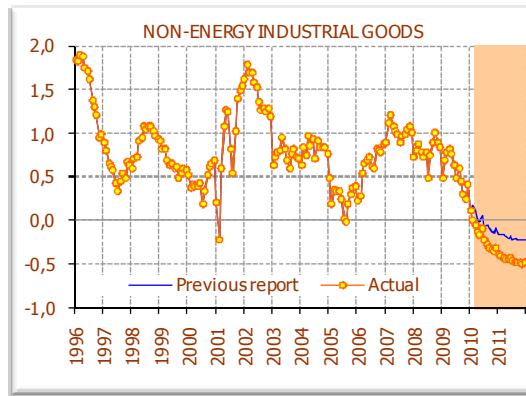
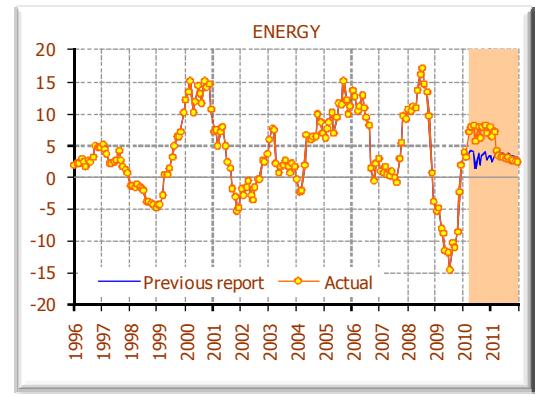
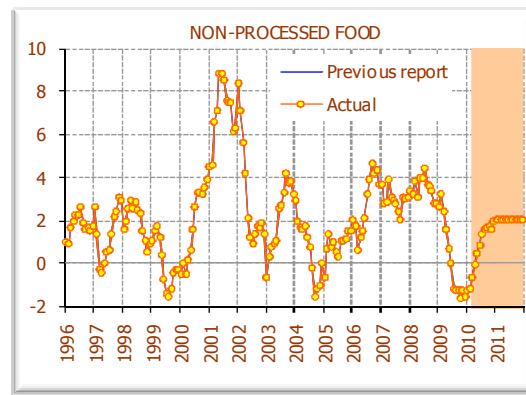
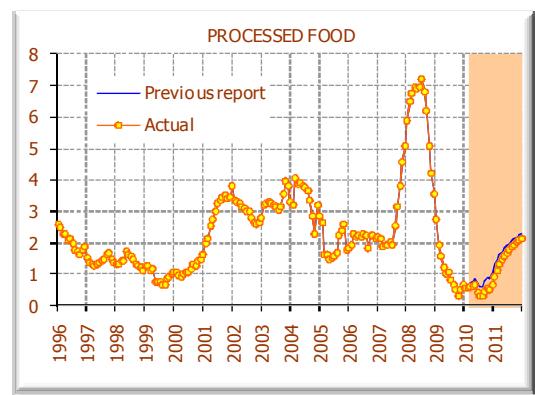
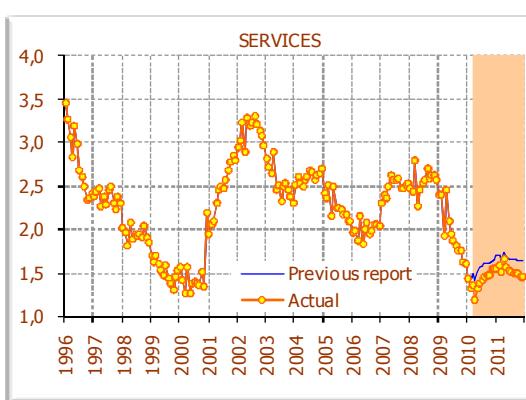
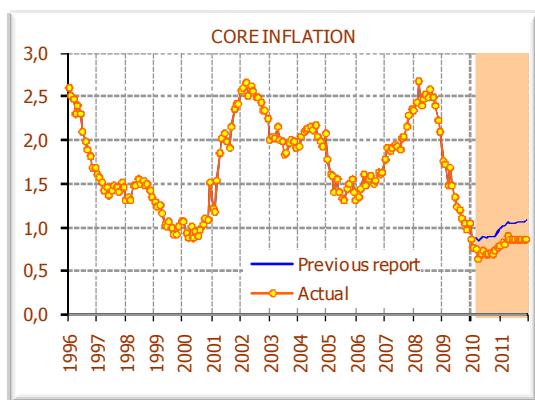
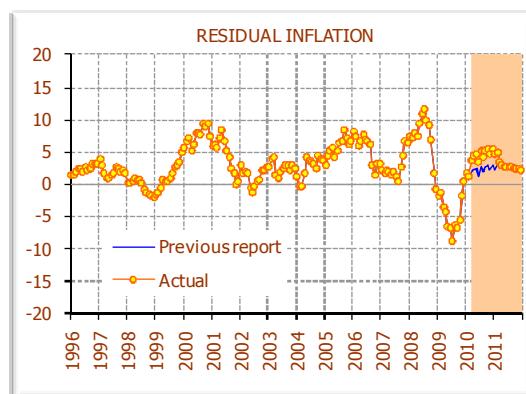
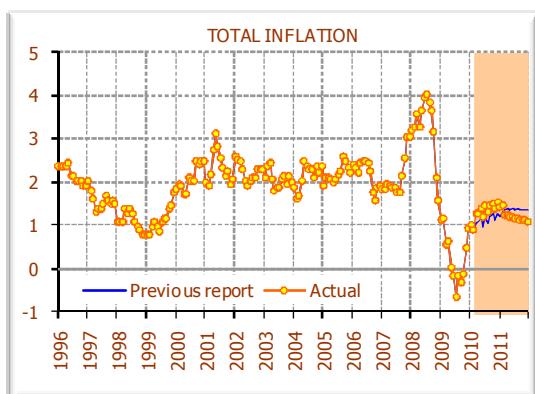
*The figures in the shaded area are forecasts

Source: EUROSTAT & IFL(UC3M)

Date: March 31, 2010



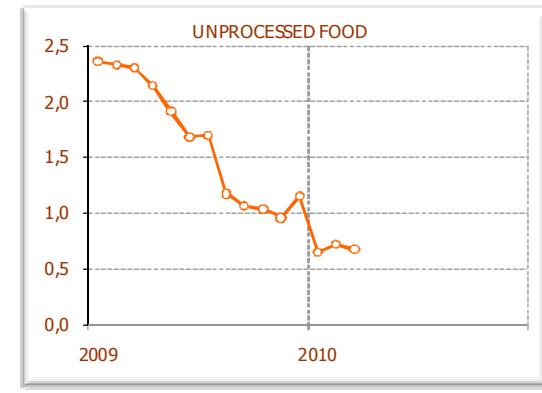
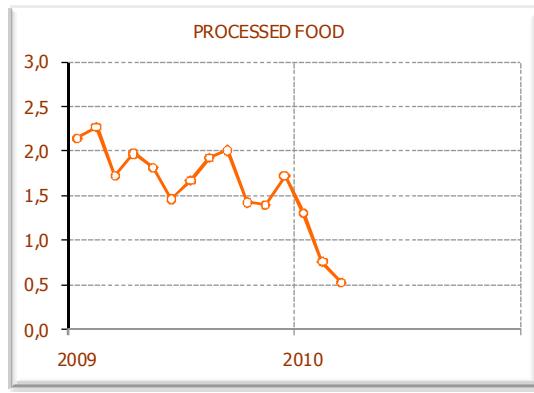
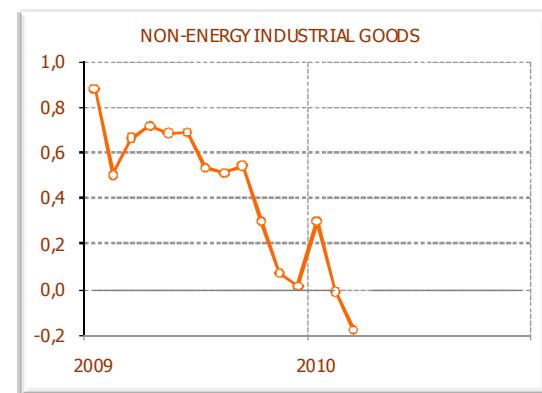
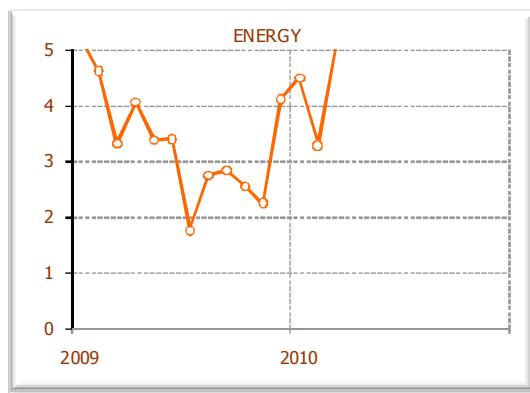
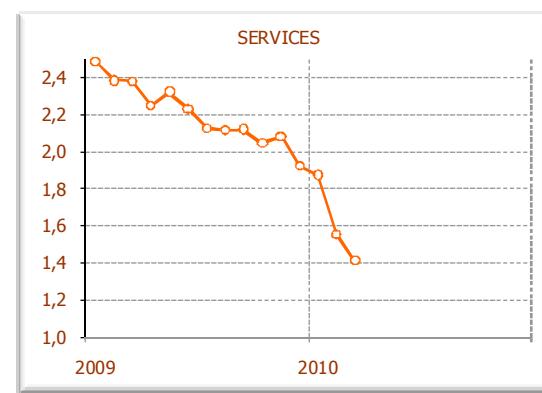
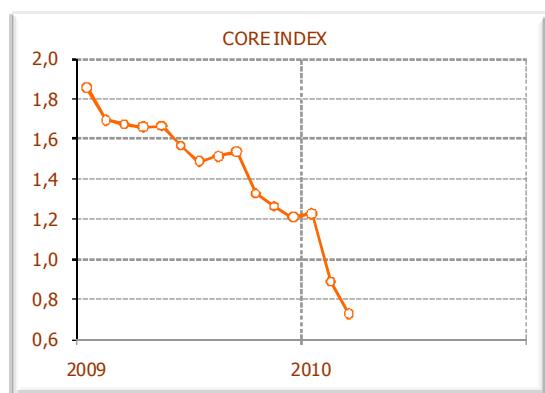
CHANGE IN FORECASTS FOR THE COMPONENTS OF HARMONISED INDEX OF CONSUMER PRICES IN THE EURO AREA



Source: EUROSTAT & IFL (UC3M)
 Date actual report: March 31, 2010
 Date previous report: February 26, 2010



EURO AREA INFLATION FORECASTS BY SPECIAL GROUP CHANGES OF EXPECTATIONS FOR THE AVERAGE 2010 RATE

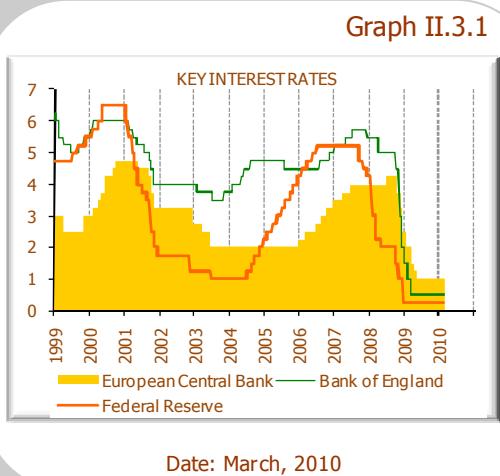


Source: EUROSTAT & IFL (UC3M)
Date: March 31, 2010



II.3. MONETARY POLICY

The most important aspect of monetary policy in the last month was the European Central Bank's decision not to increase the lowest rating for an asset to be used as collateral in euro area banks to A-. This change of mind is due to the difficult situation of the Greek economy, whose ability to use public debt would have been severely reduced by this change, which could also have threatened the stability of the entire banking system.



With regards to non-financial firms, we finally see a turning point in the annual rate, which rose from -2.7% to -2.5%. It is too soon to know whether this variable has finally reached its lowest point. Economic recovery continues to be fragile and many firms continue to adjust their capacity and costs, as shown by the new rise in the unemployment rate.

In sum, monetary policy continues along its course, with no major upsets. The Greek problem was the focus of all debate in march. Although the ECB's decisions appear to be correct in their attempt to guarantee the financial system's stability, the central bank's prestige and authority have been affected by the lack of coordination in the salvage negotiations and the IMF intervention. With regards to the currency markets, the euro's depreciation relative to the dollar is a symptom of more important underlying problems, but in itself is no cause for concern. Exporting countries, starting with Germany, will welcome subsequent adjustments in this direction.

The Greek problem was the focus of all debate in march. Although the ECB's decisions appear to be correct in their attempt to guarantee the financial system's stability, the central bank's prestige and authority have been affected by the lack of coordination in the salvage negotiations and the IMF intervention.

The ECB's new approach has been welcomed by the markets and represents significant relief for Greece, in view of the inconsistency of the negotiations concerning a possible salvage plan. The euro area's financial stability does not seem to be threatened, although the central bank itself has warned about the fragile nature of the present economic recovery process. As in the previous months, both board members' declarations and the evolution of the principal macroeconomic variables suggest that there will be no change in the interest rate policy in the short term. The euro's financial markets will continue to enjoy enormous liquidity until at least July, when banks will have to return the 500,000 million euros of last year's annual liquidity auction.

Monetary masses registered some significant changes in February. Annual M3 growth was negative for the first time, due to a heavy reduction in credit granted to governments. The private sector, however, consolidated its position, with a zero annual rate. Household credit continues to improve its annual growth rate, going from 1.6% to 1.8%. The increase was largely due to mortgage loans and "other credits", as consumer credit continued deep in an adjustment process.



III. UNITED STATES

III.1. INDUSTRIAL PRODUCTION INDEX

INDUSTRIAL PRODUCTION INDEX AND SECTORS IN U.S.						
Annual rates of growth						
ANNUAL AVERAGE RATES	Consumer Goods			Capital Goods	Intermediate Goods	TOTAL
	Durable	Non Durable				
	2006	-1,0	0,9	4,2	2,4	2,3
	2007	0,4	1,1	1,5	2,0	1,5
	2008	-9,9	-0,5	-2,4	-1,9	-2,2
	2009	-17,0	-2,0	-11,6	-11,0	-9,8
	2010	10,5	1,2	2,1	5,0	3,6
	2011	7,0	2,0	5,4	6,0	5,1
ANNUAL RATES*	2009	QI	-25,2	-2,2	-12,4	-11,5
	2009	QII	-24,3	-3,5	-14,9	-13,5
	2009	QIII	-13,1	-1,3	-11,7	-9,2
	2009	QIV	-3,5	-0,9	-7,2	-4,9
	2010	QI	11,3	0,4	-0,9	1,5
	2010	QII	10,6	1,1	1,7	3,3
	2010	QIII	10,4	1,5	3,3	4,4
	2010	QIV	9,7	1,7	4,4	5,1
	2011	QI	8,7	1,9	5,1	5,3
	2011	QII	7,6	2,0	5,5	5,3
	2011	QIII	6,5	2,0	5,6	5,1
	2011	QIV	5,5	2,0	5,4	4,8

INDUSTRIAL PRODUCTION INDEX AND SECTORS IN U.S.							
Annual rates of growth							
	2005	2006	2007	2008	2009	2010	2011
January	3,8	2,1	1,2	2,3	-10,5	0,5	5,3
February	3,1	1,7	1,7	0,9	-11,3	1,6	5,3
March	3,4	2,6	1,0	0,5	-12,5	2,4	5,3
April	4,3	1,3	1,9	0,5	-13,6	3,0	5,3
May	3,0	2,4	1,5	-0,4	-13,4	3,3	5,3
June	4,2	2,4	1,2	-0,8	-13,4	3,6	5,2
July	3,9	3,1	1,3	-0,6	-11,6	4,0	5,2
August	3,7	2,7	1,1	-2,4	-9,8	4,4	5,1
September	2,0	3,9	1,8	-6,5	-6,2	4,7	5,0
October	1,9	2,6	1,4	-5,0	-7,0	5,0	4,9
November	2,8	1,3	2,3	-6,6	-4,9	5,1	4,8
December	3,1	1,3	1,7	-8,4	-2,5	5,2	4,6

Source: Federal Reserve & IFL(UC3M)

Date: March 15, 2010



III.2. INFLATION

In aggregate terms, the general CPI was a little lower than expected.

Core inflation registered a significant downwards innovation due to home rentals, apparel, footwear, mobile telephony, cable and some recreational services.

In February in the US, the general consumer price index rose by a monthly rate of 0.02%¹, instead of the expected 0.15%. The annual rate fell from 2.63% to 2.14%.

The core index registered a month-on-month increase of 0.23% instead of the expected 0.31%. The annual rate fell from 1.55% to 1.34%.

Within core inflation, non-energy industrial goods registered a downwards surprise, with a month-on-month increase of 0.41% instead of the expected 0.59%, with the annual rate falling from 2.89% to 2.45%. This was due to both durable and non-durable goods, with the exception of second hand car prices,

which registered an upwards surprise, increasing their annual rate from 11.46% to 14.15%.

The production and import prices of durable goods were exactly as expected, whereas for non-durables they registered lower values than forecast.

With regards to services, the figure was somewhat better than expected, with a monthly increase of 0.17% instead of 0.20%. The annual rate went from 1.05% to 0.91%. Although the forecasting error was small in this group, there was a significant

Core inflation expectations have fallen, especially for the medium term. However, for the general CPI, the rise in oil prices partially compensated for the expected moderation in the core index.

The figures confirm our forecasts for the core PCE, which continue to be below the lower limit of the central tendency established by the Fed in its January meeting.

downwards innovation in real home rental prices. As this is a leading indicator of owner's estimated rent of primary residence, it has an important impact on the future dynamic of service prices. The annual rates for real and estimated rents were 0.29% and 0.28%, respectively, in February, the lowest ever. Both indices are likely to become negative in the next few months (see Graph III.2.2).

Other services with downwards movements are mobile telephony which, after prices remaining stable for years, have fallen by 2.8% in the last few months, and 1% in February. The same can be said of recreational services and cable TV.

As mentioned in other reports, in this crisis there is an unexpected behaviour in prices, with non-energy industrial goods rising and services falling. Indeed, in February, the annual rate for non-energy industrial goods was 2.45% compared to 0.91% for services, although they have both reduced their annual rate this month. However, if we do not include tobacco (little weight but high rates) in non-energy industrial goods or owner's equivalent rent of primary residence (not included in European statistics and significantly weighted), we find goods at 1.47% and services at 1.39%.

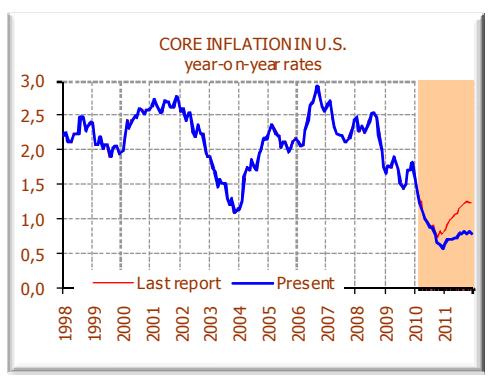
Based on all the above, core inflation expectations have improved considerably in the medium term (see Graph III.2.1).

With regards to prices not included in the core index, food prices evolved a little better than expected. The forecasts for food prices have improved not only because of the CPI figure but also because of falling food prices on the international markets.

With regards to energy prices, the monthly fall of 1.72% was larger than expected (1.16%) and the annual rate fell from 19.13% to 14.39%. For the next few months, we expect new rises in energy prices, due to rising oil prices, although the rate will fall to 6% at the end of the year.

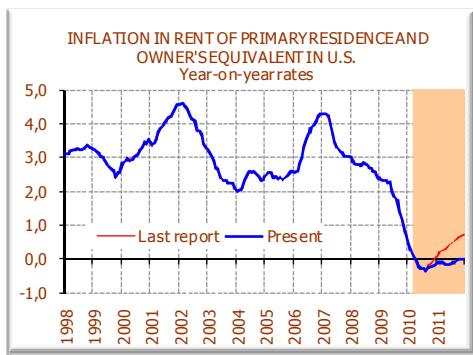
Indeed, crude oil prices have risen by an

Graph III.2.1



Source: BLS & IFL
Date: March 18, 2010

Graph III.2.2



Source: BLS & IFL
Date: March 18, 2010

1. In our reports, unless differently specified, only non-seasonally adjusted data are used.



Core inflation expectations have improved considerably in the medium term, particularly due to home rental prices, which are near to negative annual rates.

The general CPI forecast, however, has improved to a lesser extent due to rising oil prices.

III.2.3).

For March, the general CPI is expected to register a monthly increase of 0.47% (± 0.13), with the annual rate temporarily increased to 2.37% due to energy prices.

Indeed, for core inflation, the forecast is a monthly increase of 0.33% (± 0.12), with the annual rate falling from 1.34% to 1.23%.

For **2010 and 2011** we are expecting average annual core inflation rates of 0.97% (± 0.26)² and 0.76% (± 0.46), respectively, representing 0.35% less than last month's forecasts for 2010 (Table III.2.1 and Graph III.2.1).

The average annual headline inflation rate is forecast at 1.83% (± 1.05) for 2010 and 1.16% (± 1.67) for 2011, representing 0.04% and 0.32% less, respectively, than last month (see Table III.2.1).

In terms of the core personal consumption expenditure index –core PCE³–, which is the inflation indicator most closely monitored by the Fed, our forecast for February is 1.29% – it will be published at the end of this month. For this year and the next, our

2. Considering an 80% confidence interval for all indices

3. The PCE (Personal Consumption Expenditure) is a price index which has the advantage relative to the consumer price index (CPI) that instead of the shopping basket remaining unaltered, it is adjusted to actual expenditure and shows changes in its composition between the periods compared.

4. <http://www.federalreserve.gov/monetarypolicy/files/fomcminutes20100127.pdf>

forecasts are below the lower limit of the central tendency established by the Fed in its February meeting (see report⁴).

In sum, this month was more moderate than expected in core inflation, particularly apparel and footwear, home rentals, mobile telephony, cable TV and other services.

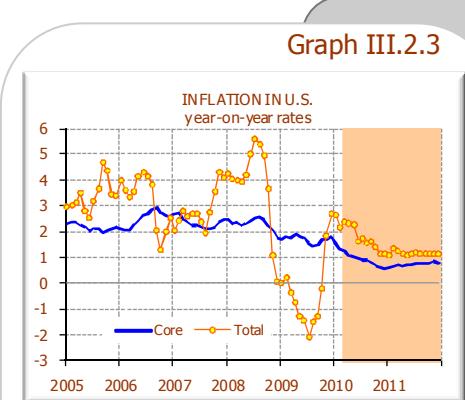
International oil prices have risen and only partly compensate for the downwards expectations generated for the core index.

Moreover, as oil prices are more temporary than core inflation innovations, especially home rental prices, expectations have improved considerably in the medium term.

Finally, the figures continue to confirm our core PCE forecasts, which continue below the lower limit of the central tendency established by the Fed at the end of January.

The profile expected for the general CPI in the next three months is stability at around 2.3%, subsequently falling to nearly 1.0% at the end of the year.

The figures confirm our core PCE forecast, which continues to be below the lower limit of the central tendency established by the Fed in its January meeting.

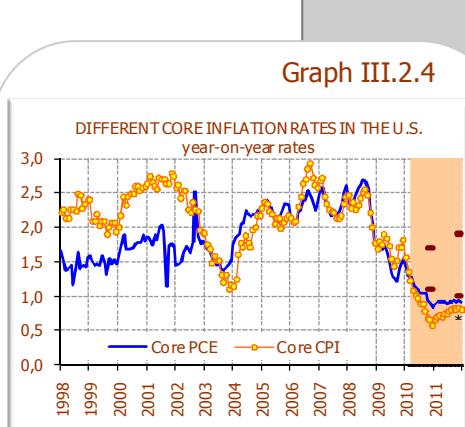


Source: BLS & IFL
Date: March 18, 2010

Table III.2.1

DIFFERENT MEASURES OF INFLATION IN THE U.S. Annual rates of growth				
	Total	Core		
		CPI	PCE	MB-PCE
Annual Average Rates	2007	2,9	2,3	2,1
	2008	3,8	2,3	2,3
	2009	-0,4	1,7	1,5
	2010	1,8	1,0	1,1
	2011	1,2	0,8	0,9
YEAR-ON-YEAR RATES	2009	-0,2	1,7	1,4
		1,8	1,7	1,5
		2,7	1,8	1,6
	2010	2,6	1,6	1,4
		2,1	1,3	1,3
		2,4	1,2	1,3
	2011	2,3	1,1	1,1
		2,3	1,0	1,0
		1,6	1,0	0,9
	2012	1,7	0,9	1,0
		1,6	0,9	1,0
		1,6	0,8	0,8

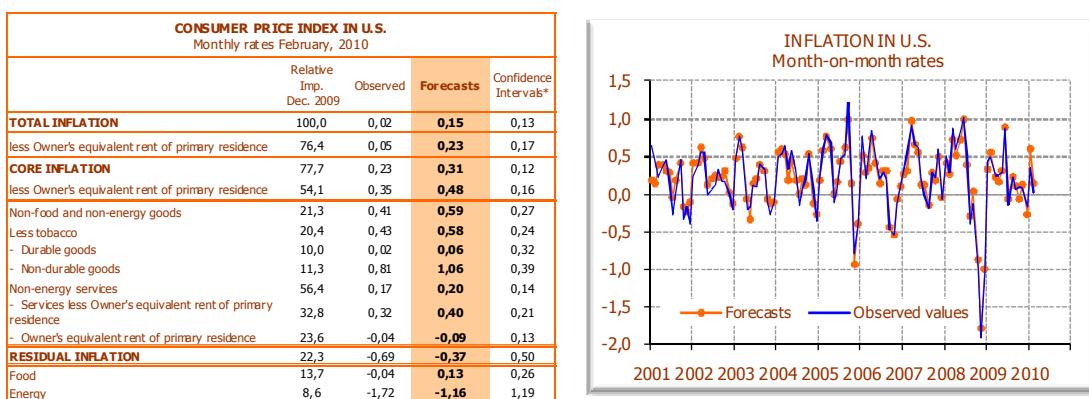
The shaded values are forecasts
(1) PCE: chain-type price index for personal consumption expenditures
(2) MB-PCE: Market-based components of PCE prices
Source: BLS & IFL
Date: March 18, 2010



Source: BLS & IFL
Date: March 18, 2010



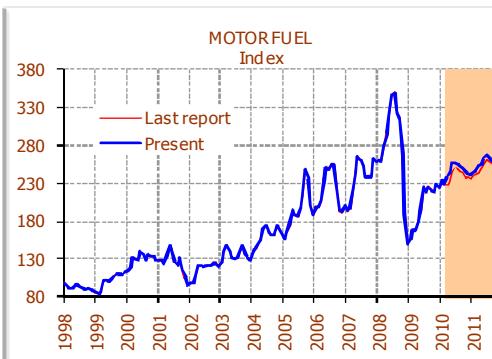
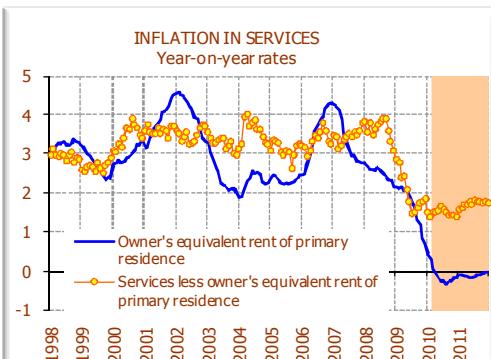
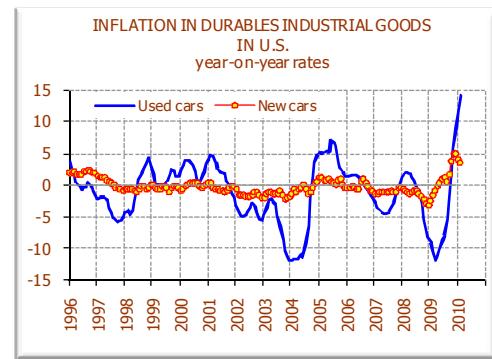
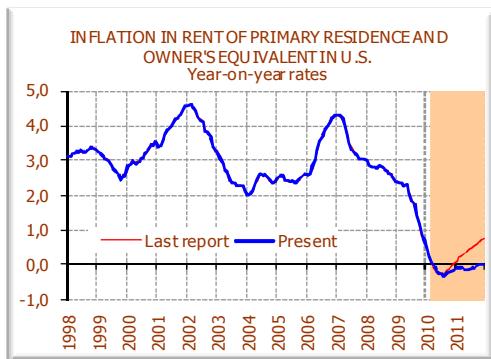
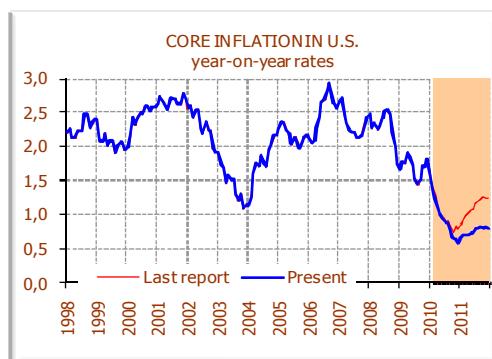
FORECASTING ERRORS IN U.S. INFLATION



Source: BLS & IFL(UC3M)

Date: March 18, 2010

OTHER GRAPHS ON U.S. INFLATION FORECASTS



Source: BLS & IFL(UC3M)

Date: March 18, 2010



The American residential sector figures in February were much as expected.

There is still no solid sign of the sector's recovery.

The figures in February were much as expected.

However, public aid to facilitate home purchases, poor weather conditions, mortgage foreclosures, credit restrictions and unemployment are all preventing us from seeing the core signal, making forecasting difficult.

Housing stock (both new and second hand) has been increasing in the last few months.

III.3. PROPERTY SECTOR

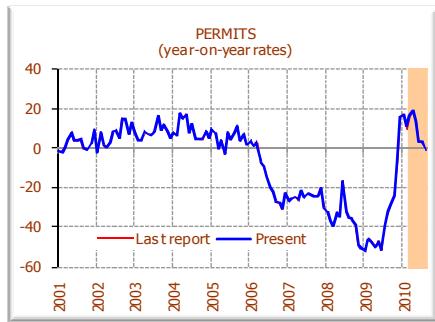
Building permits registered better figures than expected with a monthly reduction of 1.6%¹, versus the forecast 3%. On the other hand, **housing starts** fell by 5.9% instead of the forecast 2%. The poor housing start figures in January and February are partly explained by poor weather conditions (see Graphs III.3.1, III.3.1b, III.3.2 and III.3.2b).

New home sales also registered a significant downwards deviation: 308,000 homes sold instead of the forecast 342,000. Prices, however, have registered slightly higher than expected annual rates (see Graphs III.3.3, III.3.3b, III.3.4 and III.3.4b).

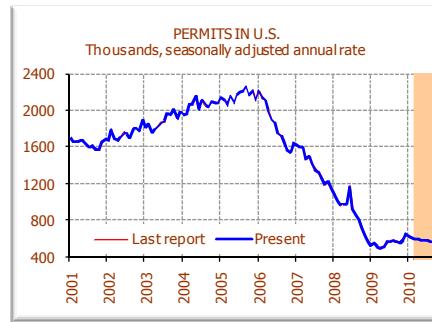
The number of **second hand home** sales registered a month-on-month reduction of 0.6%, similar to the forecast 1.2%. On the other hand, the annual rate of prices was slightly higher than expected (see Graphs III.3.5, III.3.5b, III.3.6 and III.3.6b).

March is expected to register similar figures, except new home sales which are expected to rise to 335,000 units.

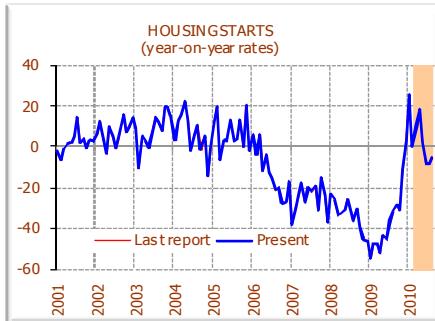
Graph III.3.1



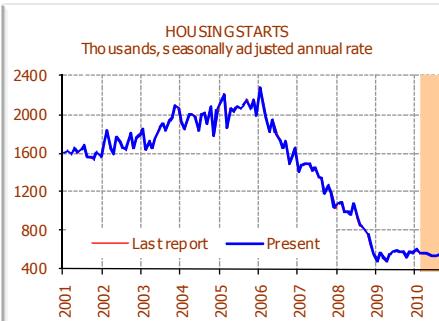
Graph III.3.1b



Graph III.3.2



Graph III.3.2b



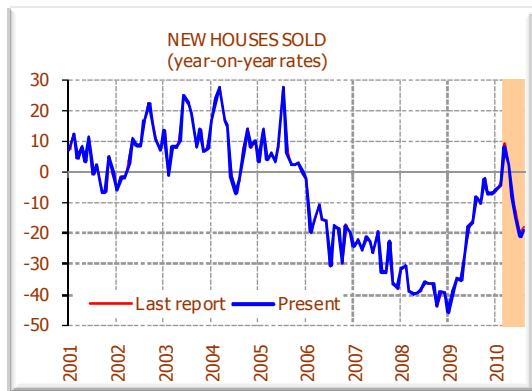
Source: U.S. Census Bureau & IFL (UC3M)

Date: March 24, 2010

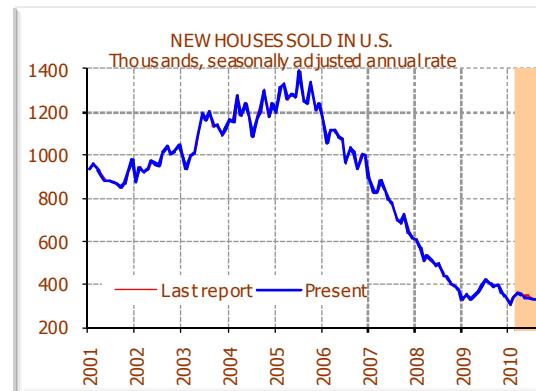
1. Seasonally adjusted and annualized.



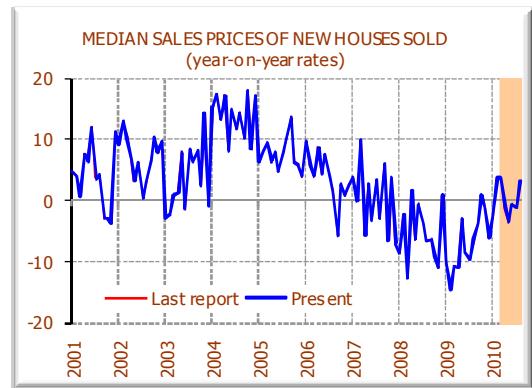
Graph III.3.3



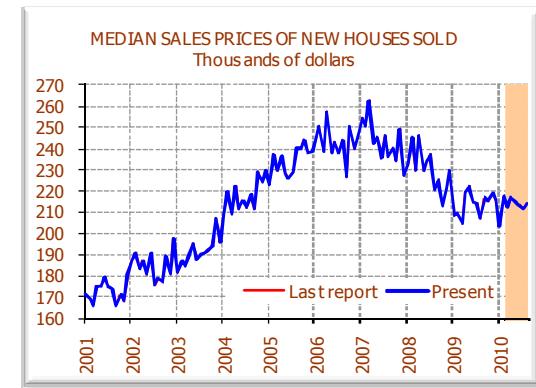
Graph III.3.3b



Graph III.3.4



Graph III.3.4b



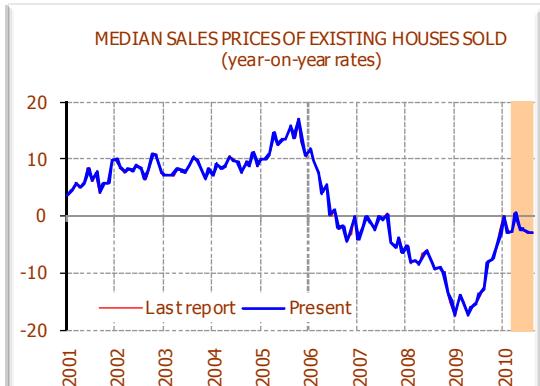
Graph III.3.5



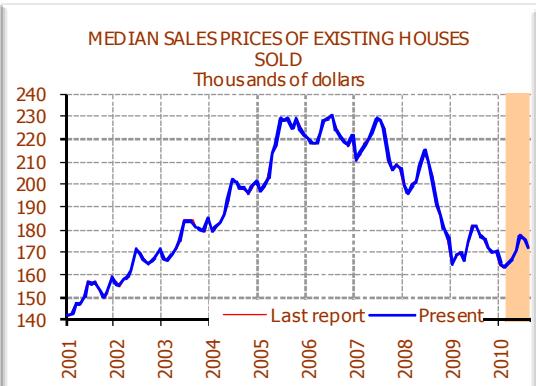
Graph III.3.5b



Graph III.3.6



Graph III.3.6b

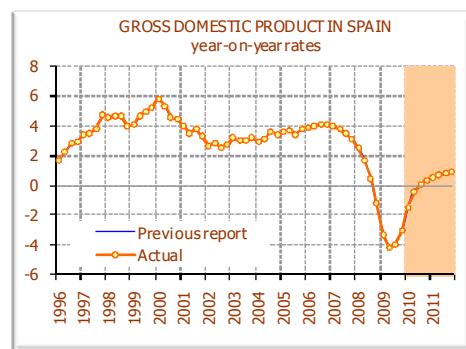


IV. SPAIN

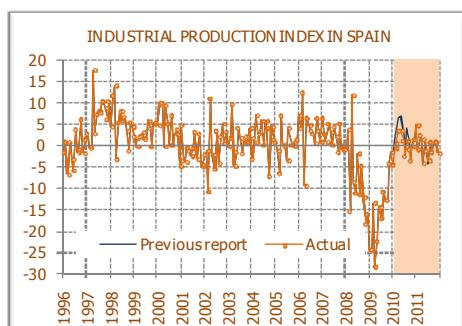
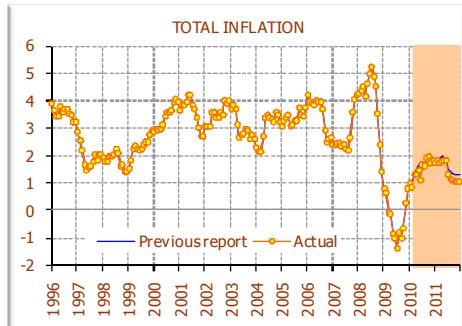
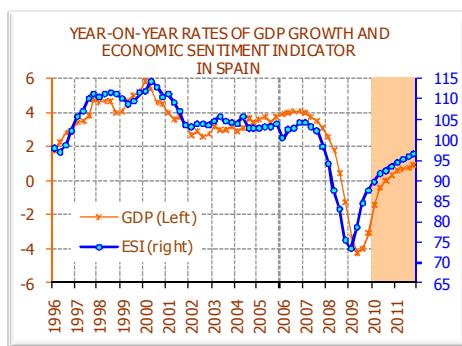
New drop in core inflation expectations, showing an average annual rate for 2010 and 2011 of 0.5% (± 0.46) and 1.0% (± 0.71), respectively.

The forecasts for Spanish economic growth remain relatively stable. The average annual growth rate for 2010 has gone from -0.31% to -0.36%.

Industrial sector recovery slows down again in February. Average growth of practically zero is expected until 2011.



MAIN VARIABLES AND INDICATORS						
	Average annual rates					
	2006	2007	2008	2009	Forecasts	
					2010	2011
GDP mpc.¹	4,0	3,6	0,9	-3,6	-0,4	0,7
Demand						
Private final consumption	3,8	3,6	-0,6	-5,0	-0,2	0,9
Public final consumption	4,6	5,5	5,5	3,8	0,1	1,5
Gross fixed capital formation	7,2	4,6	-4,4	-15,3	-5,0	-2,0
Equipment	9,9	9,0	-1,8	-23,1	4,5	4,4
Construction	6,0	3,2	-5,5	-11,2	-7,6	-4,9
Other products	7,5	3,6	-4,3	-17,2	-8,1	0,6
Contribution domestic demand*	5,5	4,4	-0,6	-6,8	-1,3	0,3
Exports of goods and services	6,7	6,6	-1,0	-11,5	6,0	3,9
Imports of goods and services	10,2	8,0	-4,9	-17,9	2,0	2,0
Contribution foreign demand*	-1,4	-0,9	1,4	3,0	0,9	0,4
Supply GVA						
Agriculture	5,8	1,8	-0,8	-2,4	0,4	1,8
Energy	1,3	0,9	1,9	-8,2	-0,8	-0,9
Industry	1,9	0,9	-2,1	-14,7	-1,6	0,3
Construction	4,7	2,3	-1,3	-6,3	-3,8	-1,8
Trade services	4,6	5,1	1,6	-2,0	0,3	1,3
Non-trade services	4,0	4,8	4,4	2,6	0,5	0,4
Total	4,1	3,9	1,1	-3,8	-0,4	0,7
Tax	3,7	1,0	-1,0	-2,0	0,0	1,6
Prices CPI²						
Total	3,5	2,8	4,1	-0,3	1,4	1,4
Core	2,9	2,7	3,2	0,8	0,5	1,0
dec / dec	2,7	4,2	1,4	0,8	1,7	1,1
Labour market³						
Active population (% change)	3,3	2,8	3,0	0,8	0,0	0,1
Employment EPA (Aver. year-on year)	4,1	3,1	-0,5	-6,8	-2,8	0,2
Unemployment rate	8,5	8,3	11,3	18,0	20,3	20,2
Basic Balances¹						
Foreign sector						
Balance of current account (m€)	-88872	-105441	-103917	-49297	-43096	-39164
Net lending or borrowing (% of GDP)	-8,4	-9,6	-9,1	-4,7	-4,1	-3,7
Public Administration						
Net lending or borrowing (% of GDP)	2,0	1,9	-4,1	-11,2	-8,5	-7,2
Industrial production index (excluding construction)⁴						
Total	3,7	2,4	-7,1	-16,2	0,0	-0,1



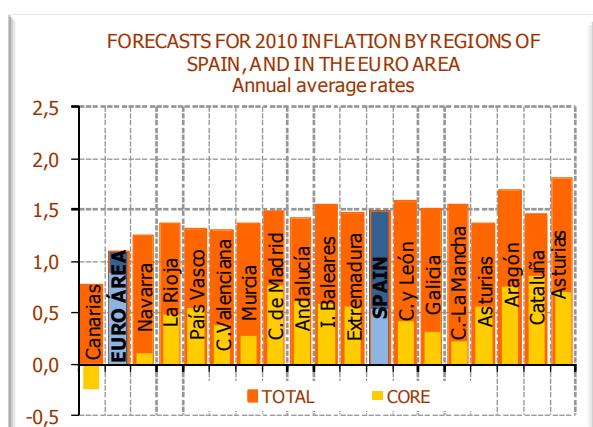
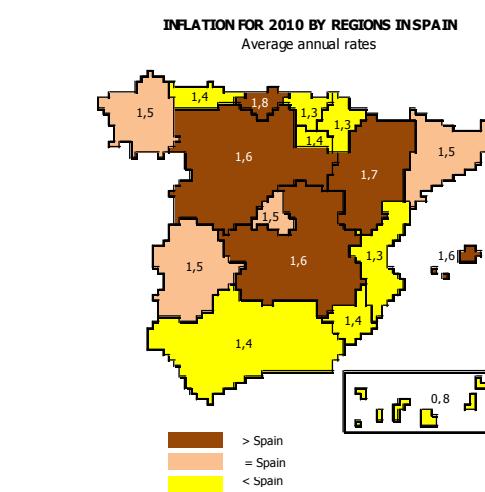
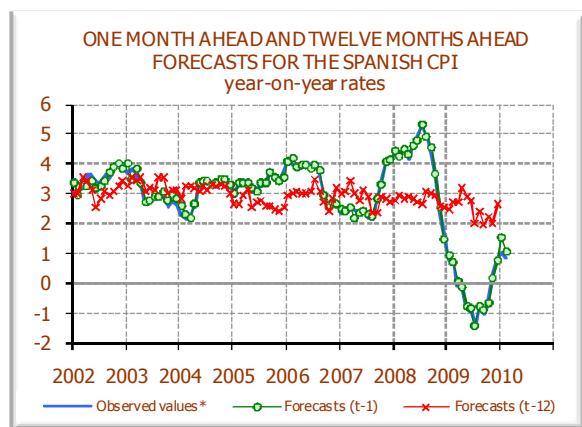
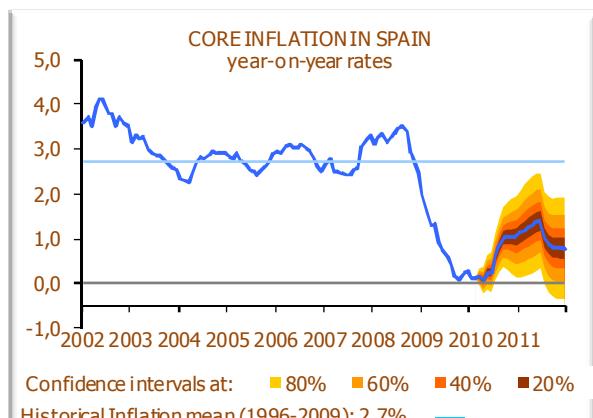
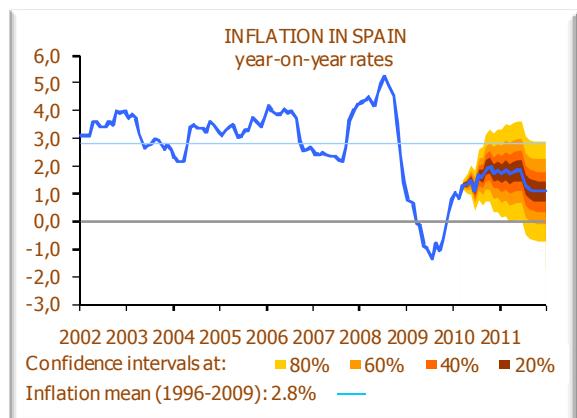
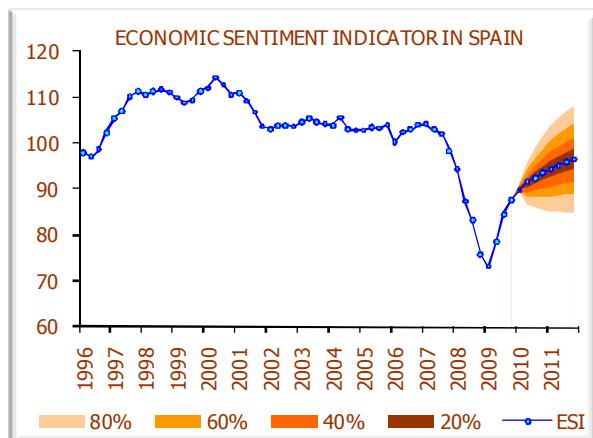
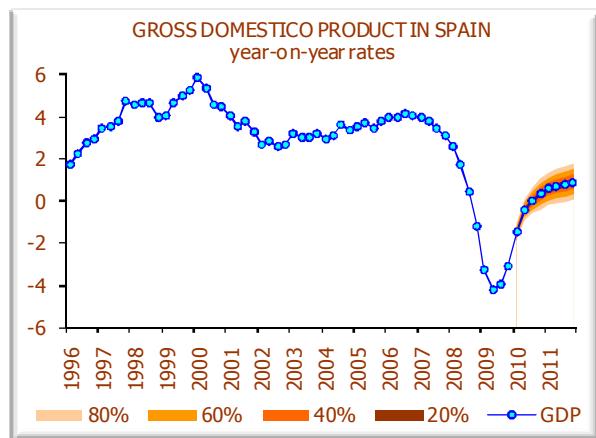
The figures in the shaded area are forecasts

(1) Data adjusted for seasonality and working days effect.

Source: EUROSTAT & IFL (UC3M)

Dates: (1) March 25, 2010 (2) March 30, 2010
(3) February 26, 2010 (4) March 5, 2010



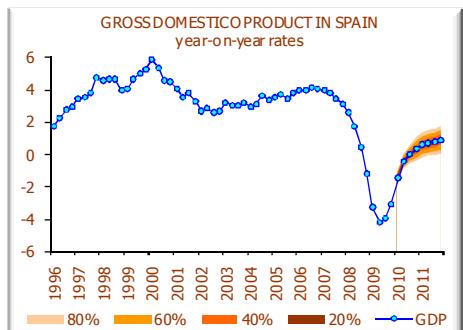


IV.1. MACROECONOMIC FORECASTS

The latest available indicators, largely referring to the first two months of this year, show that the Spanish recession will probably continue in the first quarter. The information available shows that nothing has changed since the last quarter of last year, when the economy registered a quarter-on-quarter rate of -0.1%. Unlike the euro area economy, which registered clear progress in the third and fourth quarters, Spain's recovery

some GDP growth in the second quarter, which will be consolidated in the third, with the Spanish economy technically leaving the recession behind. The profile, however, is not strong enough to create employment in the forecasting horizon.

Graph IV.1.1



Source: INE & IFL (UC3M)
Date: March 26, 2010

Our latest headline forecast anticipates that the GDP will register a quarter-on-quarter rate of -0.1% for the first quarter, similar to the rate seen in the last quarter of last year.

from the recession is still questioned. Our latest headline forecast anticipates that the GDP will register a quarter-on-quarter rate of -0.1% for the first quarter, similar to the rate seen in the last quarter of last year.

Indeed, the most significant indicators, including the January Industrial Production Index, the January and February Social Security contributors and confidence indicators, show that economic activity is weak. This is supported by the recent performance of core inflation which, after falling for more than 18 months, has recently been close to deflation and there is certainly some risk of this in the next few months.

For 2010, we are expected an average annual GDP growth rate of -0.4%, with 0.7% growth forecast for 2011, as before.

The perspectives derived from the revision of our forecasts estimated with the most recent figures, show that expectations for the Spanish economy in the first quarter of this year remain practically the same. Indeed, for 2010, we are expected an average annual GDP growth rate of -0.4%, with 0.7% growth forecast for 2011, as before. In turn, for the first quarter of this year, the forecast for the quarter-on-quarter GDP rate has been revised downwards by one tenth of a point and it is now expected to fall by 0.1%. However, we continue to expect

On the demand side, the most significant changes are found in private consumption and capital investment. Forecast household consumption for 2010 has fallen by two tenths of a point. We are now expecting a reduction of 0.2% for 2010 and 0.9% for 2011, due to the poor performance of retail sales last December and January. The weak private consumption derived from these forecasts responds to several factors, the most important of which is the expected evolution of the labour market in this period. With regards to capital investment, the recovery forecast for 2010 is now more moderate, with an average annual growth rate of 4.5% instead of 5.3%. For 2011, however, the forecast growth rate (4.4%) is nearly 2 pp higher than the previous estimates.

As a result of these changes and the private consumption situation, the negative contribution of domestic demand to GDP growth in 2010 has fallen by two tenths of a point to -1.3 pp, remaining at 0.3pp for 2011. This slight upwards revision in domestic demand for 2010 is partly compensated by a slight increase in the foreign sector's contribution, due to less expected growth in imports.

On the supply side, the forecasts are slightly worse for industrial GVA in 2010, with an average annual rate of -1.6%. Expectations for 2011 have risen to 0.2%, however. Energy sector expectations have also been revised downwards, while market services have risen slightly for 2010.

The weak private consumption derived from these forecasts responds to several factors, the most important of which is the expected evolution of the labour market in this period.



The January industrial production index (*IPI*) registered a year-on-year growth rate of -4.6%, after falling less intensely the previous month (1.5%). This negative figure becomes -2.5% when corrected for the calendar effect. This rate is 1.1 points less than last month's. The IPI figure was worse than forecast with information up to December and represents significant downwards innovations in most of the groups in this index, except for energy.

By economic destination, consumer goods fell by 2.2% relative to a year earlier, after growing by 1% in the previous month; this was due to durable consumer goods and, to a lesser extent, non-durable consumer goods. The capital goods index fell by 3.5% relative to a year earlier, nearly 4.5pp less than the previous month. Energy fell by 4.7%, after a 8.1% reduction in the previous month, and intermediate goods fell by 1%, in contrast with 4.9% growth the previous month.

With the latest information about the industrial sector, we have updated our IPI forecasts, resulting in downwards revisions. For 2010, we expect the IPI to register a zero average annual rate, followed by -1% in the following year. By sector, consumer goods will register the greatest growth, as we forecast 1.1% in 2010 and 0.8% in 2011. Capital goods are expected to grow slightly this year and decline somewhat next year. Both energy and intermediate goods, however, are expected to continue to fall during the forecasting period.

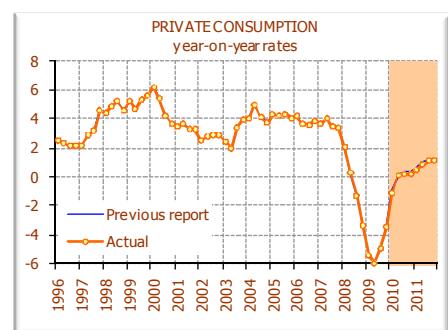
The Spanish Economic Sentiment Indicator (*ESI*) edited by the European Commission for February rose by 1.1 points to a total of 90.1. This is 18.2 points higher than the lowest point, registered in December 2008, and confirms the rising trend that started in March 2009. By sector, evolution was varied. Confidence increased in services and the retail trade, remained stable in industry and fell in construction and consumers.

The labour market continued to decline in the first few months of 2010, but at a slower pace since the second quarter of 2009. The economic crisis is affecting the labour market much more than in other euro area countries, due to peculiar aspects of the Spanish market. The latest information refers to

Social Security contributors and registered unemployment in February. SS contributors registered a month-on-month increase of 26,300 people. When corrected for seasonality, however, this represents a reduction of 30,000, or 0.2%, the same as the previous month. Relative to a year earlier, there are

540,300 less contributors, representing a year-on-year reduction rate of 3%, less than the rate registered the previous month (3.5%). These employment figures show that the rate at which jobs are lost continues to slow down, as it has been doing since the second quarter of last year. Consistent with the evolution of SS contributors, registered unemployment at the end of February affected 4,130,600 people, 82,100 more than the previous month. When corrected for seasonality, this represents a month-on-month reduction of 2% compared with the previous month's stability.

Graph IV.1.2

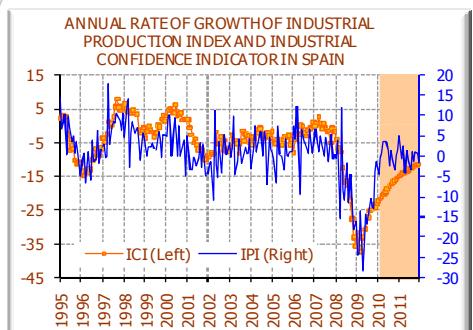


Source: INE & IFL (UC3M)
Date: March 26, 2010

The IPI figure was worse than forecast with information up to December and represents significant downwards innovations in most of the groups in this index

SS contributors registered a month-on-month increase of 26,300 people. When corrected for seasonality, however, this represents a reduction of 30,000, or 0.2%, the same as the previous month.

Graph IV.1.3



Source: EUROPEAN COMMISSION (UC3M)
Date: March 23, 2010

GROSS DOMESTIC PRODUCT IN THE SPAIN: SUPPLY

GROSS DOMESTIC PRODUCT IN SPAIN								
Annual rates of growth								
		Gross Value Added						
ANNUAL AVERAGE	2005	-8,2	1,2	1,1	5,2	4,4	3,9	3,3
	2006	5,8	1,3	1,9	4,7	4,6	4,0	4,1
	2007	1,8	0,9	0,9	2,3	5,1	4,8	3,9
	2008	-0,8	1,9	-2,1	-1,3	1,6	4,4	1,1
	2009	-2,4	-8,2	-14,7	-6,3	-2,0	2,6	-3,8
	2010	0,4	-0,8	-1,6	-3,8	0,3	0,5	-0,4
	2011	1,8	-0,9	0,3	-1,8	1,3	0,4	0,7
ANNUAL RATES	QI	-3,0	-7,6	-15,3	-5,8	-1,3	3,0	-3,4
	QII	-2,5	-9,3	-16,7	-6,7	-2,6	3,3	-4,4
	QIII	-2,2	-7,6	-15,5	-6,8	-2,4	2,8	-4,1
	QIV	-1,9	-8,3	-10,9	-5,8	-1,8	1,2	-3,3
	QI	-1,6	-1,5	-6,1	-4,7	-0,5	1,5	-1,4
	QII	0,0	-1,1	-1,3	-4,1	0,4	-0,2	-0,4
	QIII	0,6	-2,8	0,8	-3,6	0,5	-0,1	0,9
	QIV	2,6	2,2	0,3	-2,9	0,6	0,7	0,6
	QI	2,4	-0,8	0,9	-2,2	1,0	0,2	0,5
	QII	2,0	-0,8	0,4	-1,9	1,2	0,5	0,6
2011	QIII	1,7	-0,9	-0,1	-1,6	1,4	0,6	0,7
	QIV	0,9	-0,9	0,0	-1,4	1,6	0,5	0,9
	QI							1,8
	QII							0,9
	QIII							0,8

* Year-on-year rates.

GROSS DOMESTIC PRODUCT IN SPAIN								
Annual and quarterly rates of growth								
		Gross Value Added						
ANNUAL AVERAGE	2005	-8,2	1,2	1,1	5,2	4,4	3,9	3,3
	2006	5,8	1,3	1,9	4,7	4,6	4,0	4,1
	2007	1,8	0,9	0,9	2,3	5,1	4,8	3,9
	2008	-0,8	1,9	-2,1	-1,3	1,6	4,4	1,1
	2009	-2,4	-8,2	-14,7	-6,3	-2,0	2,6	-3,8
	2010	0,4	-0,8	-1,6	-3,8	0,3	0,5	-0,4
	2011	1,8	-0,9	0,3	-1,8	1,3	0,4	0,7
QUARTERLY RATES	QI	-0,6	-4,4	-5,2	-2,2	-1,3	0,3	-1,8
	QII	-0,2	-0,6	-4,5	-1,3	-0,8	1,6	-1,0
	QIII	0,4	1,6	-1,7	-1,2	0,1	-0,1	-0,3
	QIV	-1,5	-5,0	0,5	-1,2	0,2	-0,5	-0,2
	QI	-0,3	2,7	-0,5	-1,1	0,0	0,6	0,0
	QII	1,4	-0,2	0,4	-0,7	0,1	-0,1	0,1
	QIII	0,9	-0,2	0,4	-0,7	0,3	0,0	0,1
	QIV	0,5	-0,2	0,0	-0,5	0,3	0,2	0,1
	QI	-0,4	-0,2	0,1	-0,4	0,4	0,0	0,2
	QII	1,1	-0,2	-0,1	-0,4	0,4	0,2	0,3
2011	QIII	0,6	-0,3	-0,2	-0,3	0,4	0,2	0,6
	QIV	-0,3	-0,2	0,1	-0,3	0,5	0,2	0,5

Data adjusted for seasonality and working days effect

The figures in the shaded area are forecasts

(1)Contribution to GDP growth

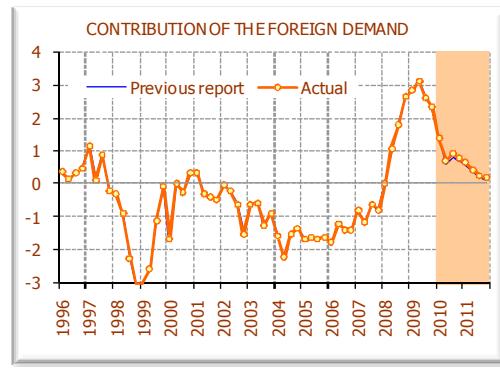
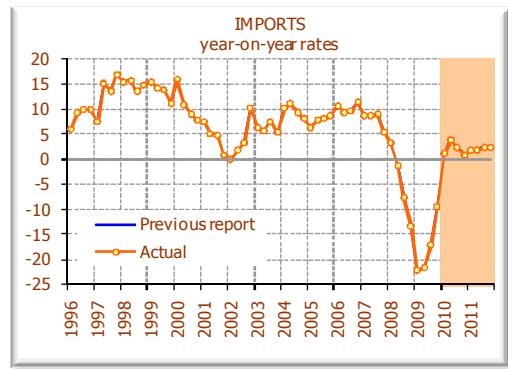
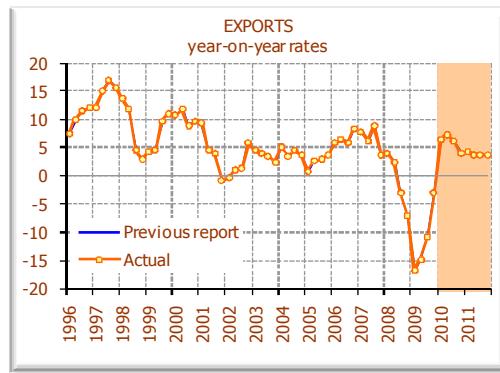
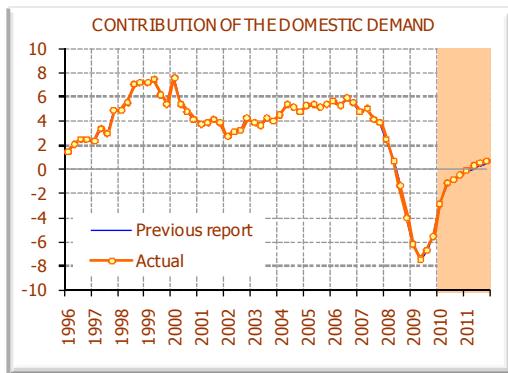
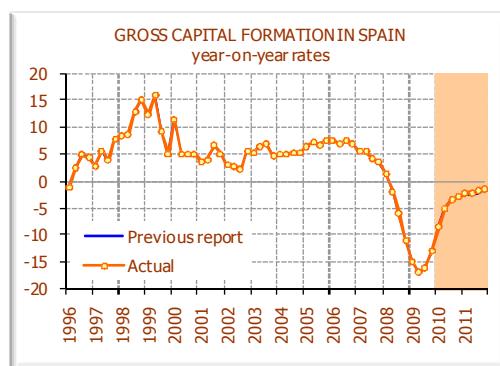
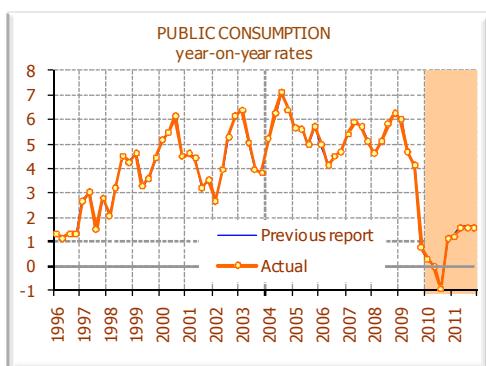
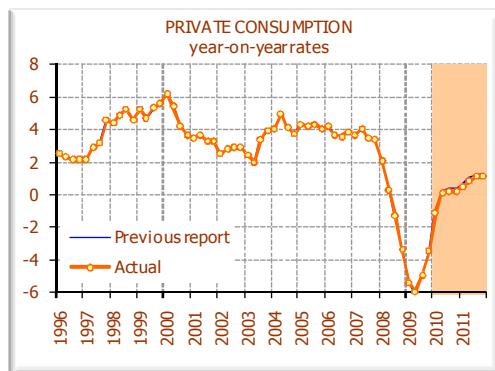
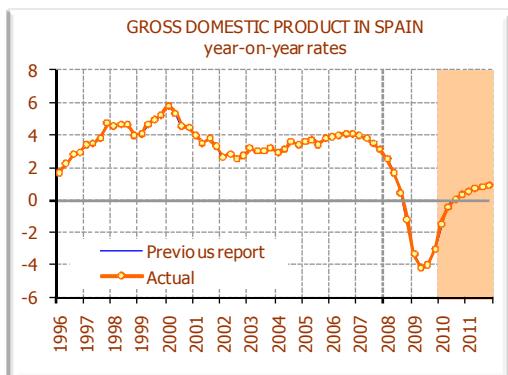
Quarter-on-quarter rates

Source: EUROSTAT & IFL (UC3M)

Date: March 25, 2010



CHANGE IN FORECASTS AND DATA REVISION FOR THE COMPONENTS OF GROSS DOMESTIC PRODUCT DEMAND IN SPAIN



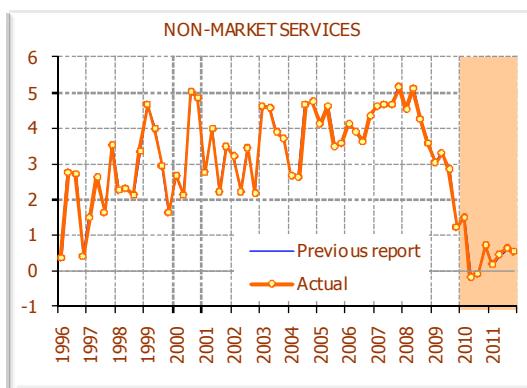
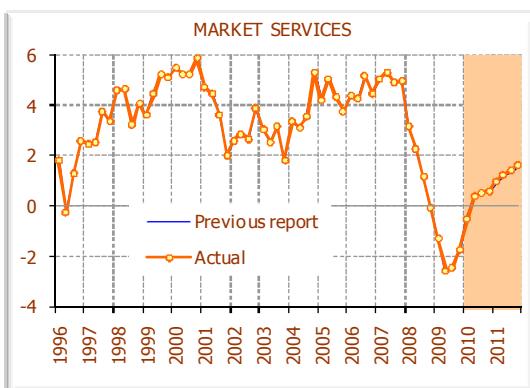
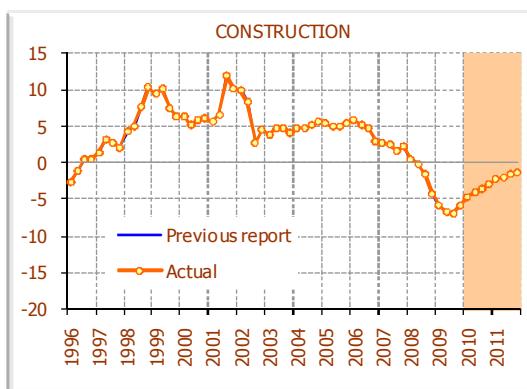
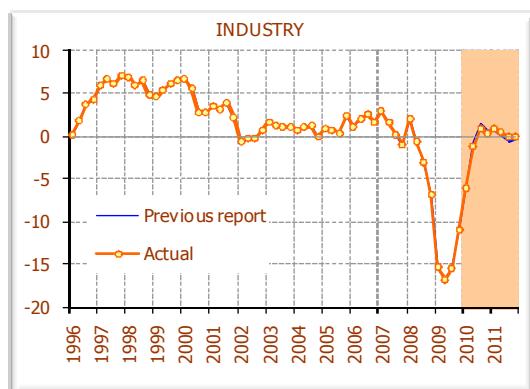
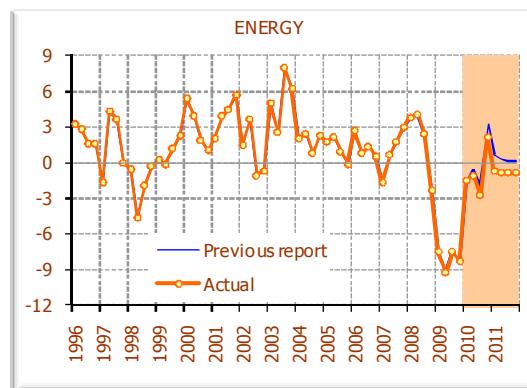
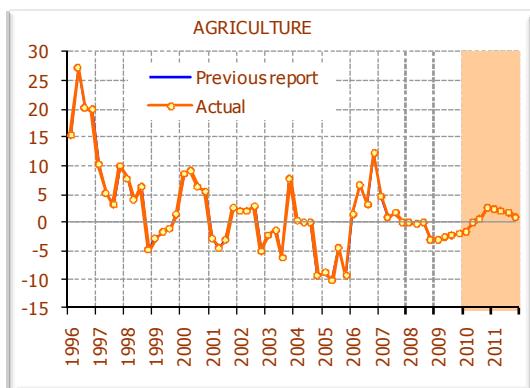
Source: INE & IFL (UC3M)

Date actual report: March 25, 2010

Date previous report: February 26, 2010



CHANGE IN FORECASTS AND DATA REVISION FOR THE COMPONENTS OF GROSS DOMESTIC PRODUCT SUPPLY IN SPAIN



Source: INE & IFL (UC3M)

Date actual report: March 25, 2010

Date previous report: February 26, 2010



INDUSTRIAL PRODUCTION INDEX IN SPAIN

INDUSTRIAL PRODUCTION INDEX AND SECTORS IN SPAIN									
		Annual rates of growth							
		Consumer Goods							
ANNUAL AVERAGE	Durable	Non Durable	Total	Capital Goods	Intermediate Goods	Energy	Energy	TOTAL	
	2005	-1,6	0,3	0,1	-1,1	-0,3	3,1	-0,3	0,2
	2006	8,3	0,9	2,1	7,7	3,6	0,9	4,1	3,7
	2007	3,4	2,0	2,2	5,0	1,6	0,8	2,6	2,4
	2008	-16,5	-2,2	-4,6	-8,7	-11,0	1,6	-8,4	-7,1
	2009	-28,3	-5,5	-8,8	-22,5	-21,4	-8,6	-17,4	-16,2
	2010	1,0	1,1	1,1	0,2	-0,4	-1,5	0,2	0,0
2011	2,0	0,6	0,8	-0,1	-0,2	-1,9	0,2	-0,1	
ANNUAL RATES*	QI	-14,1	-1,7	-3,7	-4,9	-7,8	4,7	4,7	-4,5
	QII	-10,1	-0,4	-2,1	-3,3	-5,3	2,0	2,0	-3,1
	QIII	-16,8	-1,1	-3,5	-6,8	-8,6	1,6	1,6	-5,4
	QIV	-25,1	-5,6	-8,9	-19,7	-22,7	-1,7	-1,7	-15,4
	QI	-29,6	-8,2	-11,4	-28,3	-28,9	-8,3	-8,3	-21,0
	QII	-35,9	-8,6	-12,9	-28,6	-28,2	-10,5	-10,5	-21,9
	QIII	-28,8	-4,2	-7,5	-19,6	-18,6	-6,8	-6,8	-13,9
2010	QIV	-17,1	-0,6	-2,9	-11,2	-6,0	-8,7	-8,7	-6,5
	QI	-10,5	0,1	-1,2	-2,0	-0,7	-2,0	-2,0	-1,3
	QII	7,1	3,6	4,0	3,6	2,7	-0,9	-0,9	2,8
	QIII	5,4	0,5	1,1	-0,6	-1,9	-2,4	-2,4	-0,8
	QIV	2,8	0,2	0,6	-0,5	-2,0	-0,6	-0,6	-0,7
	QI	10,3	3,3	4,1	2,9	1,7	-1,4	-1,4	2,2
	QII	0,8	-0,7	-0,5	-1,4	-1,4	-2,0	-2,0	-1,2
2011	QIII	-2,4	-1,0	-1,1	-2,0	-1,5	-2,2	-2,2	-1,6
	QIV	-0,2	0,8	0,7	0,3	0,3	-1,9	-1,9	0,1

INDUSTRIAL PRODUCTION INDEX AND SECTORS IN SPAIN							
Annual rates of growth							
	2005	2006	2007	2008	2009	2010	2011
January	0,9	7,2	6,6	-0,8	-24,5	-4,5	4,9
February	-1,0	4,1	3,0	3,8	-24,3	-0,3	-0,8
March	-6,6	12,4	1,0	-15,3	-13,5	0,7	2,5
April	7,3	-9,4	5,1	12,0	-28,4	3,6	-4,1
May	0,3	6,7	3,3	-8,4	-22,3	3,6	1,5
June	-0,1	4,8	0,1	-10,9	-14,3	1,3	-1,1
July	-3,4	3,7	4,5	-1,9	-16,9	-2,5	-3,6
August	4,1	3,0	2,4	-11,5	-10,6	1,4	1,0
September	0,3	0,6	-1,3	-4,7	-12,7	-0,7	-1,4
October	0,0	6,6	5,3	-12,2	-12,8	-3,5	0,9
November	1,0	3,6	-0,8	-18,3	-4,0	0,1	0,9
December	1,5	0,8	0,2	-16,0	-1,5	1,5	-1,6

- Data adjusted for seasonality and working days effect

The figures in the shaded area are forecasts.

Source: INE & IFL (UC3M)

Date: March 5, 2010



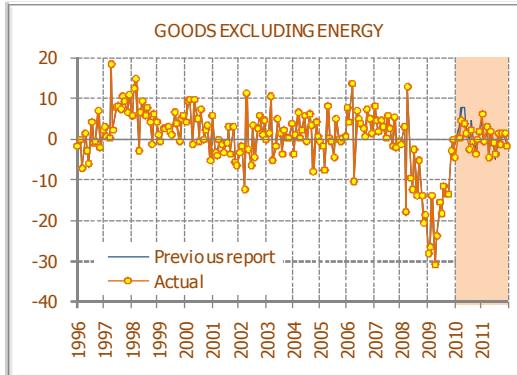
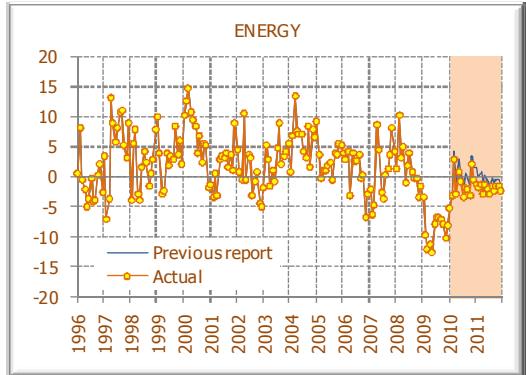
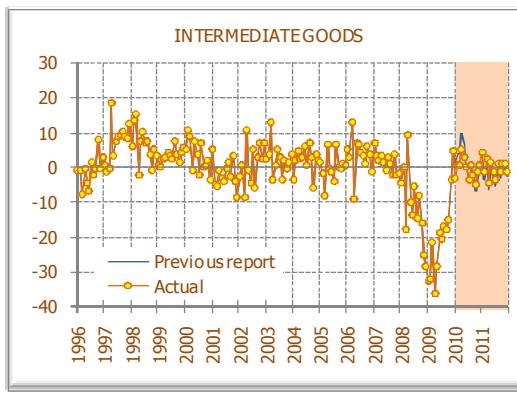
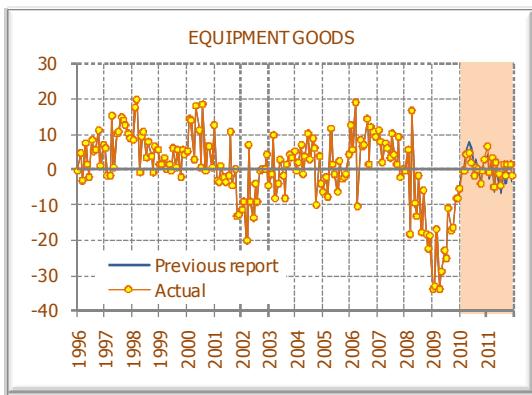
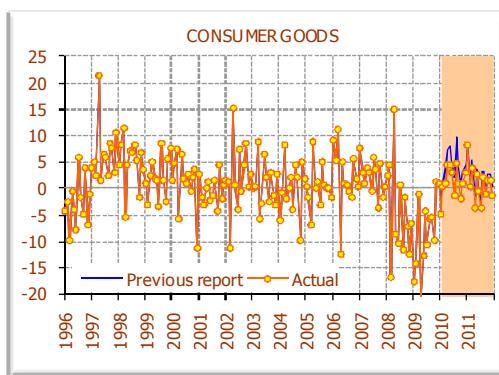
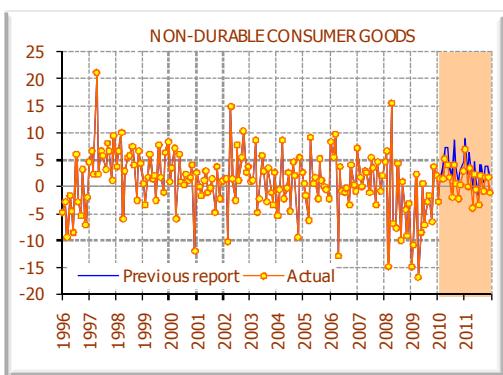
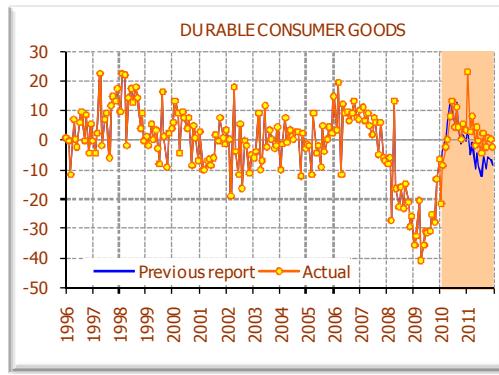
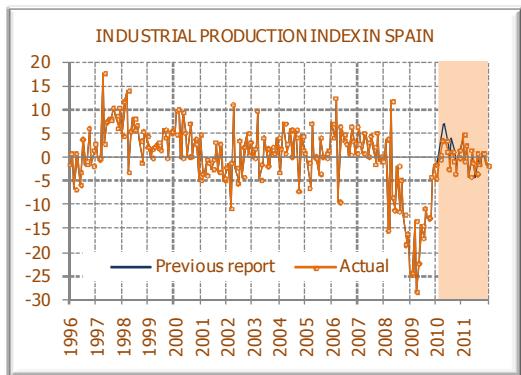
INDUSTRIAL PRODUCTION INDEX BY ECONOMIC ACTIVITIES IN SPAIN Average annual rates of growth									
		Weights 2009	2005	2006	2007	2008	2009	2010	2011
	B Mining and quarrying								
	05 Mining of coal and lignite	0,4	-9,6	2,8	-4,0	-3,7	-15,3	1,3	2,2
	08 Other mining and quarrying	1,4	1,7	4,3	2,7	-15,4	-25,8	-17,0	-20,8
		1,8	-3,8	3,1	0,9	-13,3	-23,5	-11,0	-15,2
	D Industrias manufactureras								
IPI Total	10 Manufacture of food products	10,7	1,8	0,6	2,1	-0,8	-0,4	1,9	7,7
	11 Manufacture of beverages	3,3	0,8	1,6	0,6	1,4	-4,7	1,6	8,0
	12 Manufacture of tobacco products	0,4	-2,1	-14,8	5,4	-2,4	-10,1	-3,2	-0,5
	13 Manufacture of textiles	1,7	-10,9	-2,3	-4,4	-17,7	-18,4	7,4	13,0
	14 Manufacture of wearing apparel	1,8	-9,9	-2,9	-1,2	-9,1	-18,8	-13,5	-11,3
	15 Manufacture of leather and related products	0,9	-12,9	-6,1	-8,2	-7,9	-19,5	-11,5	-10,1
	16 Manufacture of wood and of products of wood and cork, except furniture; manufacture	2,1	-0,8	1,3	-2,4	-22,0	-23,2	-16,4	-22,2
	17 Manufacture of paper and paper products	2,6	-0,3	1,2	1,7	-1,8	-8,7	4,6	6,4
	18 Printing and reproduction of recorded media	2,3	8,8	0,6	5,4	-10,8	-12,2	-7,7	-2,7
	19 Manufacture of coke and refined petroleum products	3,5	2,8	2,2	-1,7	4,2	-10,4	-4,2	3,9
	20 Manufacture of chemicals and chemical products	5,8	0,8	1,4	2,3	-5,4	-0,8	2,2	7,7
	21 Manufacture of basic pharmaceutical products and pharmaceutical preparations	2,4	0,5	10,1	7,6	8,0	0,6	5,8	10,3
	22 Manufacture of rubber and plastic products	3,4	1,0	2,2	2,1	-10,9	-14,3	3,2	0,6
	23 Manufacture of other non-metallic mineral products	8,0	2,0	3,9	-1,2	-21,3	-27,7	-19,1	-23,6
	24 Manufacture of basic metals	4,3	-1,8	6,3	0,7	-6,6	-21,5	7,7	-3,8
	25 Manufacture of fabricated metal products, except machinery and equipment	10,7	5,7	4,5	4,5	-9,5	-22,1	-8,9	-7,8
	26 Manufacture of computer, electronic and optical products	1,6	-8,1	3,4	7,5	4,1	-26,1	-1,6	-10,2
	27 Manufacture of electrical equipment	3,7	-0,5	11,5	3,0	-6,2	-26,2	7,0	9,9
	28 Manufacture of machinery and equipment n.e.c.	5,4	-0,6	15,4	9,4	-8,4	-26,1	-18,0	-7,0
	29 Manufacture of motor vehicles, trailers and semi-trailers	7,4	-5,0	5,7	4,2	-16,1	-19,0	13,6	3,3
	30 Manufacture of other transport equipment	2,1	0,4	0,6	7,7	6,6	-12,4	-0,5	6,8
	31 Manufacture of furniture	2,8	0,7	8,9	4,7	-19,6	-29,1	-2,0	7,7
	32 Other manufacturing	1,8	-4,5	3,9	0,5	-8,1	-14,0	10,8	9,0
	33 Repair and installation of machinery and equipment	0,3	-9,0	55,6	-4,2	12,8	-16,2	-5,9	4,9
		89,0	0,0	4,0	2,6	-7,8	-16,2	-0,5	-0,4
	D Electricity, gas, steam and air conditioning supply	9,2	1,8	0,6	2,1	-0,8	-0,4	1,9	3,1
		100	0,4	3,7	2,5	-7,0	-15,5	0,0	-0,1

Source: INE & IFL (UC3M)

Date: March 5, 2010



CHANGE IN FORECASTS AND DATA REVISION FOR THE COMPONENTS OF



Source: EUROSTAT & IFL (UC3M)
 Date actual report: March 5, 2010
 Date previous report February 8, 2010



IV.2. INFLATION

The new Spanish inflation forecasts show an average annual rate of 1.4% for 2010 and 2011. The core inflation rate expected for this year is 0.5%, with 1.0% next year, with a downwards revision of three and two tenths of a point, respectively.

As usual in our recent reports, we have to remember that these forecasts include the VAT increase scheduled for July. In the last week, however, the increase approved by parliament at the end of last year has returned to the centre of a heavy political debate that adds further uncertainty to the complicated situation of the Spanish CPI. As currently formulated, the impact of the increase is estimated as 0.6pp on the annual rate from July on, and 0.3pp on the average annual rates in 2010 and 2011. In core inflation, the impact is estimated as 4 and 2 tenths of a point.

New drop in core inflation expectations, showing an average annual rate for 2010 and 2011 of 0.5% (± 0.46) and 1.0% (± 0.71), respectively.

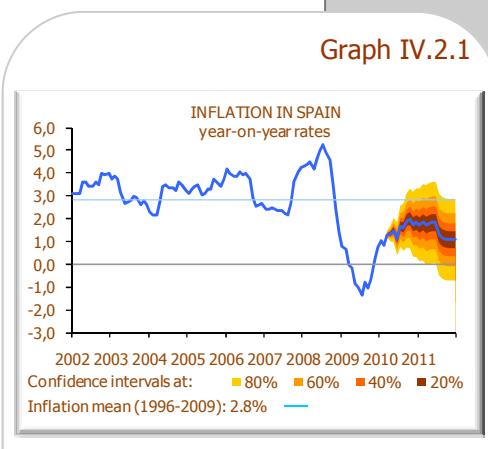
In the 2010 forecasts, the downwards revisions in core inflation were compensated by rising oil prices and a weak euro relative to the dollar. The average annual rate expected for this year in headline inflation therefore remains unaltered (1.4%). The average inflation rate expected in 2010 for energy products has risen to 9.7%, 1.6pp more than our previous forecasts. For 2011, the forecast remains at 4.4%, practically the same as our previous estimation.

The downwards innovations in core inflation were compensated by a significant rise in energy price inflation expectations. The average annual rate expected for the headline CPI in 2010 remains at 1.4%.

significant distortion caused by public aid to encourage car purchases. They have been approved up to September (or until a total of 200,000 subsidised vehicles is reached) on the one hand and, on the other, the government has repeated that they will be extended for "as long as necessary", although the European Commission has started to ask governments

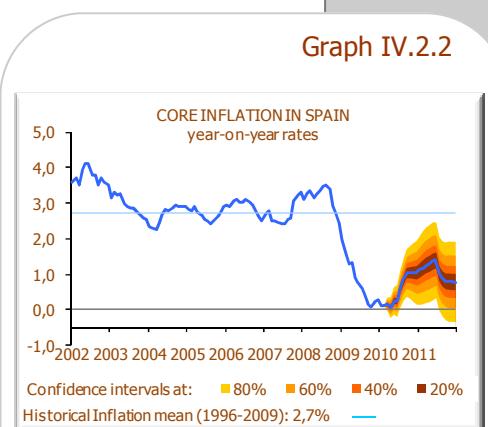
to withdraw this type of subsidy as soon as possible. In such a confusing context, it is important to define the assumptions made in our model. In the car price forecasts (representing 17% of all manufactured goods), subsidies are expected to be fully effective until September this year. However, we then assume a gradual reduction of their impact during the next 15 months. Although such an evolution is highly unlikely, it is a reasonable approximation to two scenarios (a sudden withdrawal on the announced date and an extension throughout 2011), which are just as likely at this time. The inflation expected for non-energy industrial goods in 2010 and 2011 is an average annual rate of -0.6% followed by 0.2%.

With regards to food, the observed figures show that the downwards adjustment is becoming more intense. In processed food, the monthly rate in February was -0.4% versus



Source: INE & IFL(UC3M)
Date: March 12, 2010

The downwards movement in food prices has become more intense. In both processed and unprocessed food, we expect an inflation differential relative to the euro area that is clearly favourable to Spain.

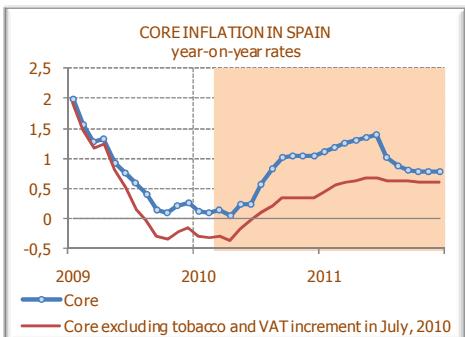


Source: INE & IFL(UC3M)
Date: March 12, 2010



Spain. Inflation

Graph IV.2.3



Source: INE & IFL(UC3M)
Date: March 12, 2010

Confusion concerning the VAT increase and the possible extension of car purchasing incentives add further uncertainty to price dynamics in Spain.

January's 0.2% and the -0.3% rate observed in February, 2009. The annual inflation rate in processed food (not including tobacco) has fallen again to -2.0%. In unprocessed food, the price index registered a monthly fall of 1.4%, double the 2009 figure.

The external causes behind the adjustment process in food

prices, which started at the end of 2008, have become less important in the last few months as the heavy price increase found in 2008 was cancelled out by the recent reductions. The processed food index in January and February 2010 is as

would be expected without the 2008 situation or the subsequent drops. On the other hand, the moderation in unprocessed food prices is incapable of compensating exceptional rises in a given time period, but affects a set of prices which grew much more in Spain than on average in the euro area in the last ten years. Unprocessed food prices in Spain are now falling at an annual rate of 3.8% versus the 1.1% drop expected for February in the euro area. For 2010 and 2011, as in 2009, Spain is expected to register a favourable inflation differential in this respect of 1.8pp and 0.4pp, respectively. A smaller but also favourable differential is also expected for processed food inflation.

Discounting the effect of the VAT and tobacco tax increases, for 2010 the average annual core inflation rate expected is practically zero.

Table IV.2.1

INFLATION IN SPAIN							
CPI	Annual rates		Annual average rates				
	2010		2008 2009 2010 2011				
	February	March					
Core 82.7%	0,1	0,1 ±0,19	3,2	0,8	0,5 ±0,46	1 ±0,71	
Total 100%	0,8	1,31 ±0,18	4,1	-0,3	1,5 ±0,8	1,5 ±1,49	

* The figures in the shaded area are forecasts

Source: INE & IFL(UC3M)
Date: March 12, 2010



		Consumer Price Index and Components in Spain									
		Consumer Prices Index					Residual				
Weights 2010		Core				TOTAL	Non processed food	Energy	TOTAL	TOTAL 100%	
		Processed food excluding tobacco	Tobacco	Non energy industrial goods	Services						
		12,0%	2,0%	29,2%	39,6%	82,7%	7,1%	10,1%	17,3%		
MONTHLY RATES (Growth of the month over the previous month)	January	2008	0,5	2,4	-3,8	0,5	-1,0	0,6	1,4	1,1	-0,6
		2009	-0,1	2,7	-4,4	0,3	-1,4	0,3	-0,8	-0,4	-1,2
		2010	-0,2	1,8	-4,4	-0,1	-1,6	0,2	2,8	1,8	-1,0
		2011	0,0	1,2	-4,4	0,1	-1,5	0,2	1,1	0,7	-1,1
	February	2008	0,7	0,9	-0,2	0,5	0,3	-1,6	0,0	-0,7	0,2
		2009	-0,3	1,6	-0,6	0,2	-0,1	-0,7	1,3	0,5	0,0
		2010	-0,4	2,1	-0,4	0,1	-0,1	-1,4	0,0	-0,6	-0,2
		2011	0,0	0,0	-0,4	0,2	0,0	-1,0	0,3	-0,2	-0,1
	March	2008	0,4	0,1	0,9	0,8	0,7	0,1	2,8	1,7	0,9
		2009	-0,3	0,0	1,0	0,3	0,4	-1,3	-1,1	-1,2	0,2
		2010	-0,2	0,0	1,0	0,4	0,5	-0,1	2,4	1,4	0,6
		2011	0,0	1,2	1,0	0,3	0,5	0,2	0,5	0,4	0,5
MONTHLY RATES (Growth of the month over the previous month)	April	2008	0,3	0,1	2,9	0,2	1,1	0,4	1,2	0,9	1,1
		2009	-0,3	0,1	2,7	0,6	1,2	-0,4	0,3	0,0	1,0
		2010	0,0	0,0	2,8	0,2	1,1	0,3	0,8	0,6	1,0
		2011	0,0	0,8	2,9	0,3	1,1	0,6	1,0	0,8	1,1
	May	2008	0,3	0,0	0,3	0,2	0,3	0,1	4,3	2,6	0,7
		2009	-0,5	0,1	0,3	-0,3	-0,1	-0,5	0,9	0,3	0,0
		2010	-0,2	0,0	0,4	-0,1	0,1	0,0	0,6	0,4	0,1
		2011	-0,1	0,8	0,4	0,0	0,1	0,0	0,4	0,3	0,2
	June	2008	0,3	0,0	-0,2	0,5	0,2	1,3	3,1	2,4	0,6
		2009	-0,2	6,1	-0,5	0,3	0,0	-0,8	4,4	2,4	0,4
		2010	0,0	0,0	-0,2	0,2	0,0	-0,1	0,4	0,2	0,1
		2011	0,0	1,1	-0,2	0,2	0,1	-0,2	0,1	0,0	0,1
MONTHLY RATES (Growth of the month over the previous month)	July	2008	0,2	0,0	-3,6	0,7	-0,9	-0,1	2,3	1,4	-0,5
		2009	-0,3	6,0	-3,9	0,5	-1,1	-0,1	0,3	0,1	-0,9
		2010	0,1	4,0	-3,6	0,9	-0,7	0,5	2,3	1,6	-0,3
		2011	-0,1	1,0	-3,9	0,5	-1,1	0,3	0,7	0,5	-0,8
	August	2008	0,2	0,0	-0,2	0,6	0,3	0,0	-3,9	-2,4	-0,2
		2009	0,1	0,0	-0,5	0,5	0,1	0,2	2,5	1,7	0,3
		2010	0,1	0,0	0,0	0,6	0,3	0,4	0,2	0,3	0,3
		2011	0,0	0,0	-0,2	0,5	0,2	0,3	0,0	0,1	0,2
	September	2008	0,2	0,0	1,1	-0,5	0,2	0,4	-1,8	-0,9	0,0
		2009	-0,2	0,0	0,8	-0,7	-0,1	0,3	-1,7	-1,0	-0,2
		2010	-0,1	0,0	1,3	-0,6	0,1	0,2	-0,5	-0,2	0,1
		2011	-0,1	0,1	1,1	-0,6	0,0	0,1	-0,5	-0,2	0,0
MONTHLY RATES (Growth of the month over the previous month)	October	2008	0,1	0,0	2,7	0,0	0,9	-0,4	-3,9	-2,4	0,3
		2009	0,0	0,0	2,7	-0,1	0,9	-0,5	0,0	-0,2	0,7
		2010	-0,1	0,0	2,8	0,0	0,9	0,0	0,3	0,2	0,8
		2011	-0,1	0,0	2,8	0,0	0,9	0,0	0,1	0,1	0,8
	November	2008	0,0	0,0	1,0	-0,2	0,3	0,1	-6,6	-3,8	-0,4
		2009	0,1	0,0	1,4	-0,2	0,4	-0,1	1,9	1,2	0,5
		2010	0,1	0,0	1,4	-0,2	0,4	0,3	-0,5	-0,2	0,3
		2011	0,1	0,0	1,4	-0,2	0,4	0,4	-0,6	-0,2	0,3
	December	2008	-0,1	0,0	-0,5	0,3	0,0	0,6	-5,8	-3,0	-0,5
		2009	0,1	0,0	-0,4	0,3	0,0	0,2	-0,6	-0,3	0,0
		2010	0,1	0,0	-0,4	0,3	0,0	0,7	-0,2	0,1	0,0
		2011	0,1	0,2	-0,4	0,3	0,0	0,8	-0,3	0,2	0,0

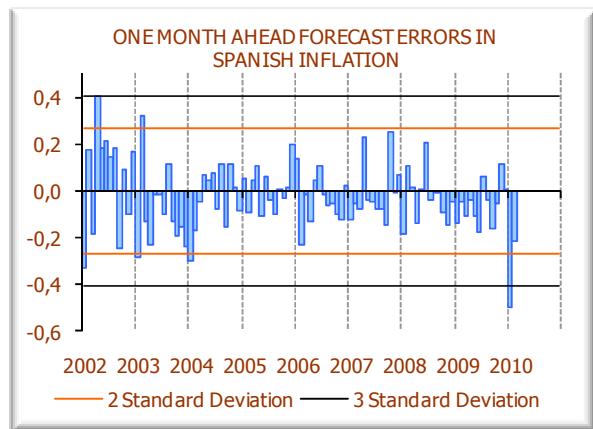
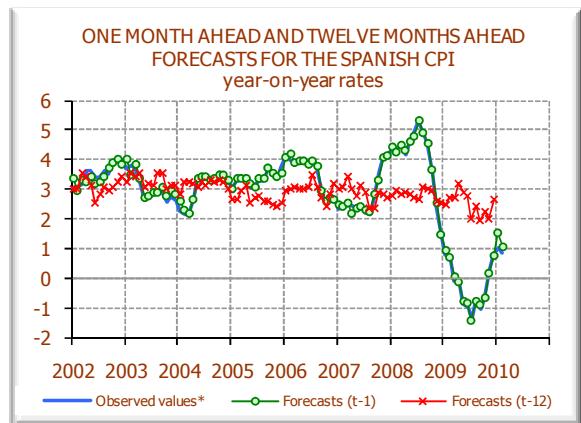
* The figures in the shaded area are Forecasts

Source: INE & IFL(UC3M)

Date: March 30, 2010



FORECASTS ERRORS IN SPAIN



INFLATION IN SPAIN				
Annual rates, February, 2010				
Consumer Price Index CPI	Weights 2010	Observed	Forecasts	Confidence Intervals at 80%
Processed food	14,54	0,50	0,69	0,49
Non-energy industrial goods	29,02	-1,53	-1,29	0,31
Services	39,80	1,09	1,23	0,16
CORE	83,36	0,10	0,26	0,18
Non-processed food	6,55	-3,82	-3,42	1,00
Energy	10,09	9,92	9,82	0,74
RESIDUAL	16,64	4,48	4,52	0,76
TOTAL	100	0,83	0,99	0,16

Source: INE & IFL (UC3M)

Date: March 30, 2010



INFLATION BY COMPONENTS IN THE CONSUMER PRICE INDEX OF SPAIN									
Annual average rates									
			Weights 2009	2006	2007	2008	2009	2010	2011
CPI Total	Core Inflation	Processed food	AE less tobacco & fats	9,8	2,8	4,5	7,4	-0,1	-1,1 -0,2
			Oils & Fats	0,6	23,4	-16,8	2,2	-11,4	-1,2 0,2
			Tobacco	1,6	1,5	8,8	3,5	11,7	11,8 6,9
				12,0	3,6	3,7	6,5	0,9	0,6 0,8
		Non energy industrial goods	Vehicles	5,6	2,3	1,4	-0,5	-3,8	-2,2 1,5
			Footwear	1,8	1,6	1,3	1,4	-0,4	0,2 0,1
			Clothing	6,6	1,1	0,9	0,4	-2,1	-0,5 -0,5
			Rest	15,1	1,2	0,3	0,3	-0,1	-0,1 0,2
				29,2	1,4	0,7	0,3	-1,3	-0,6 0,2
		Services	Postal services	0,0	5,7	3,6	2,8	2,8	4,4 2,0
			Cultural services	1,9	2,4	3,1	2,8	2,7	0,2 1,3
			Education	0,9	3,5	4,1	3,4	2,5	2,4 2,6
			Hotels	0,8	3,6	5,5	4,2	-1,4	0,0 -0,5
			Health	2,4	4,1	4,2	4,1	3,9	2,9 3,0
			Household equipment	1,9	4,4	4,2	4,4	3,4	2,6 1,8
			Restaurants	11,8	4,5	4,8	4,7	2,2	1,5 2,1
			Telephone	3,7	-1,4	0,3	0,6	0,1	0,0 0,2
			Transports	5,5	4,2	3,1	4,1	3,1	1,9 1,7
			Package holidays	1,4	3,1	0,6	4,5	0,2	-4,5 0,7
			University	0,5	5,0	5,3	5,2	5,3	3,5 4,0
			Housing	5,4	4,7	4,6	4,1	3,0	1,9 1,9
			Rest	3,3	4,3	3,9	3,8	2,4	1,3 1,4
				39,6	3,9	3,9	3,9	2,4	1,3 1,7
				82,7	2,9	2,7	3,2	0,8	0,5 1,0
	Residual Inflation	Non processed foods	Meat	2,7	6,0	5,2	3,9	-0,6	-1,2 2,7
			Fruits	1,3	0,1	4,5	9,4	0,3	-2,1 1,5
			Eggs	0,2	2,8	4,3	10,7	1,2	-0,3 -0,1
			Vegetables	0,8	-0,8	6,4	2,4	2,1	-0,2 4,2
			Mollusc	0,6	2,3	0,1	-0,2	-2,2	0,1 2,9
			Potatoes	0,3	17,6	8,4	-1,7	-7,0	-3,8 1,6
			Fish	1,3	5,7	2,5	1,2	-4,6	-0,9 -2,1
				7,1	4,4	4,7	4,0	-1,3	-1,1 1,7
		Energy	Heat energy	5,9	6,6	1,4	13,0	-15,2	15,7 3,5
			Fuels	0,5	11,8	-0,8	23,5	-32,7	24,1 5,2
			Electricity and gas	3,7	9,6	2,1	8,7	2,1	2,3 6,1
				10,1	8,0	1,7	11,9	-9,0	11,1 4,5
				17,3	6,3	3,2	8,5	-5,4	6,1 3,4
				100,0	3,5	2,8	4,1	-0,3	1,5 1,5

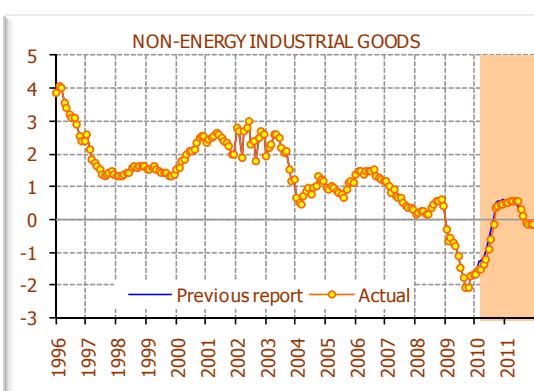
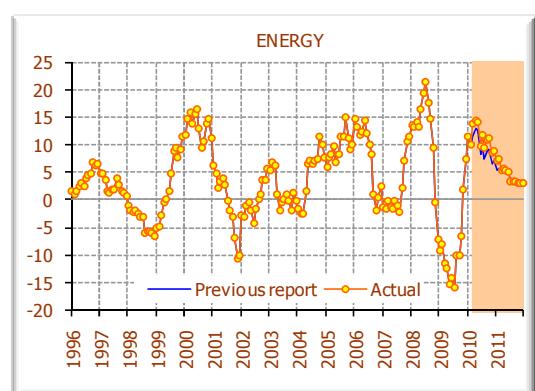
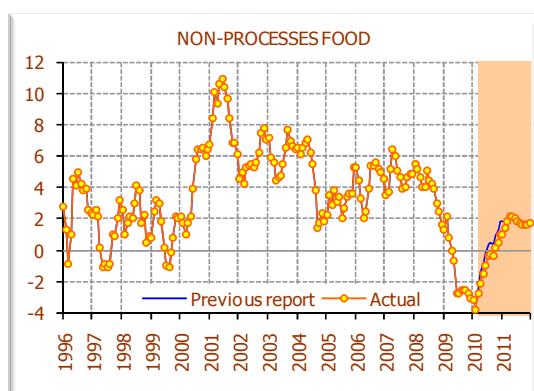
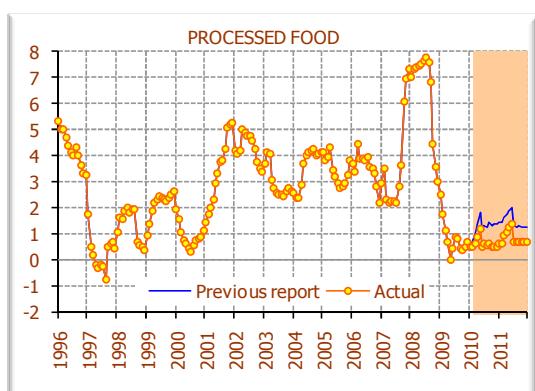
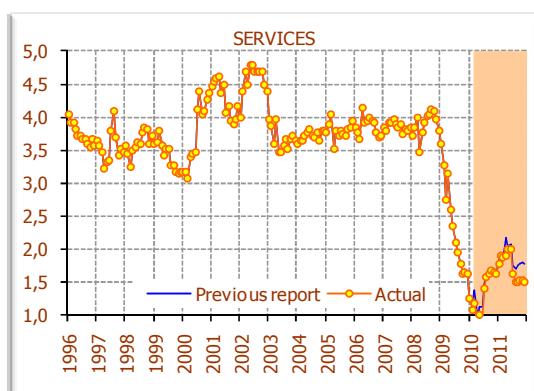
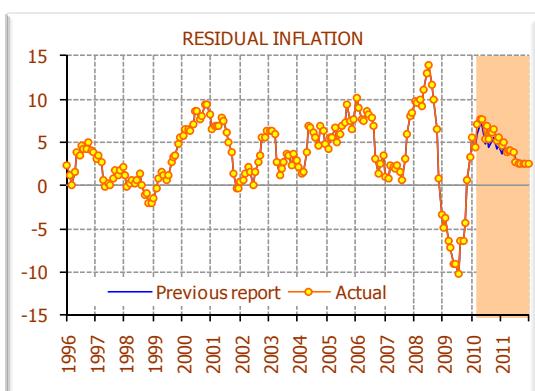
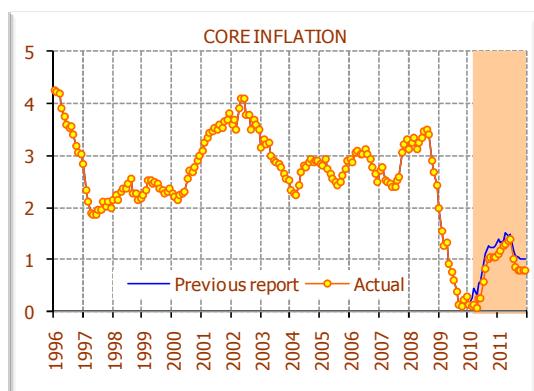
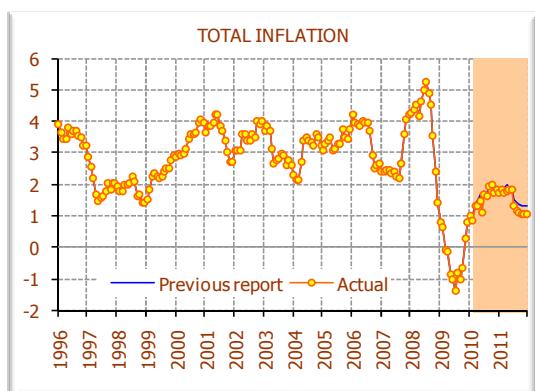
* The figures in the shaded area are forecasts

Source: INE & IFL(UC3M)

Date: March 30, 2010



CHANGE IN FORECASTS OF ANNUAL RATE OF INFLATION BY SPECIAL GROUPS IN SPAIN



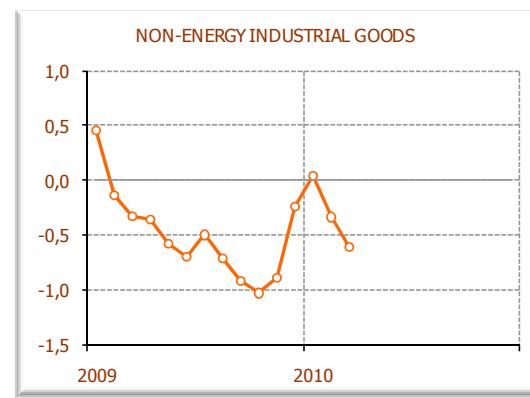
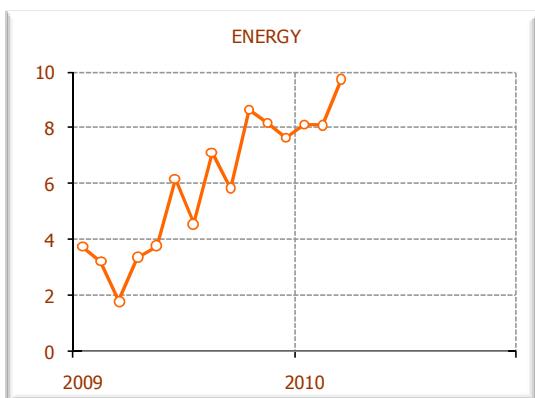
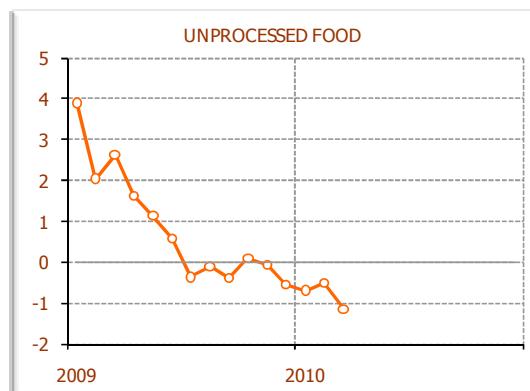
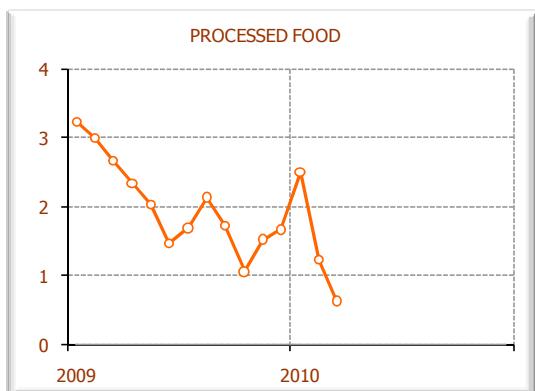
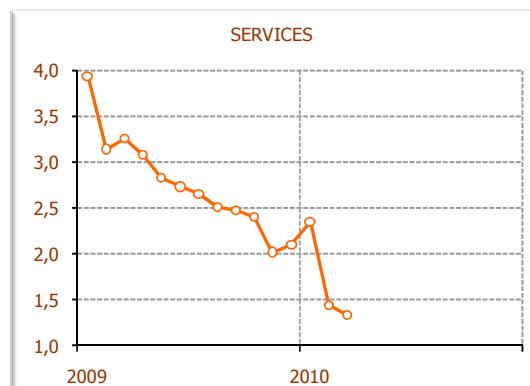
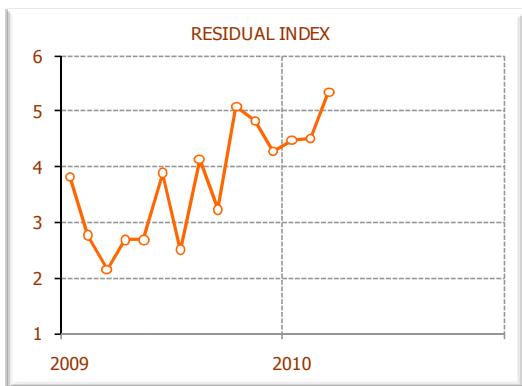
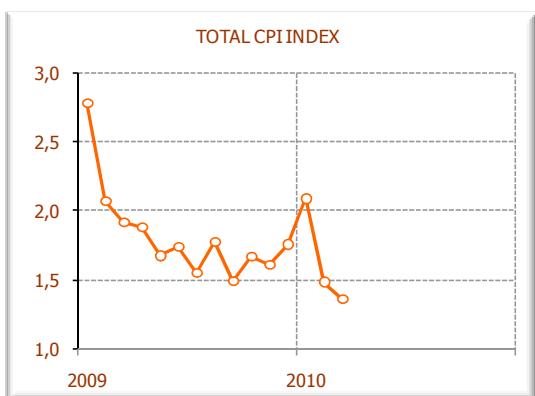
Source: INE & IFL (UC3M).

Date actual report: March 30, 2010

Date previous report: February 12, 2010



FORECASTS FOR 2009 ANNUAL AVERAGE CPI GROWTH RATE BY COMPONENT

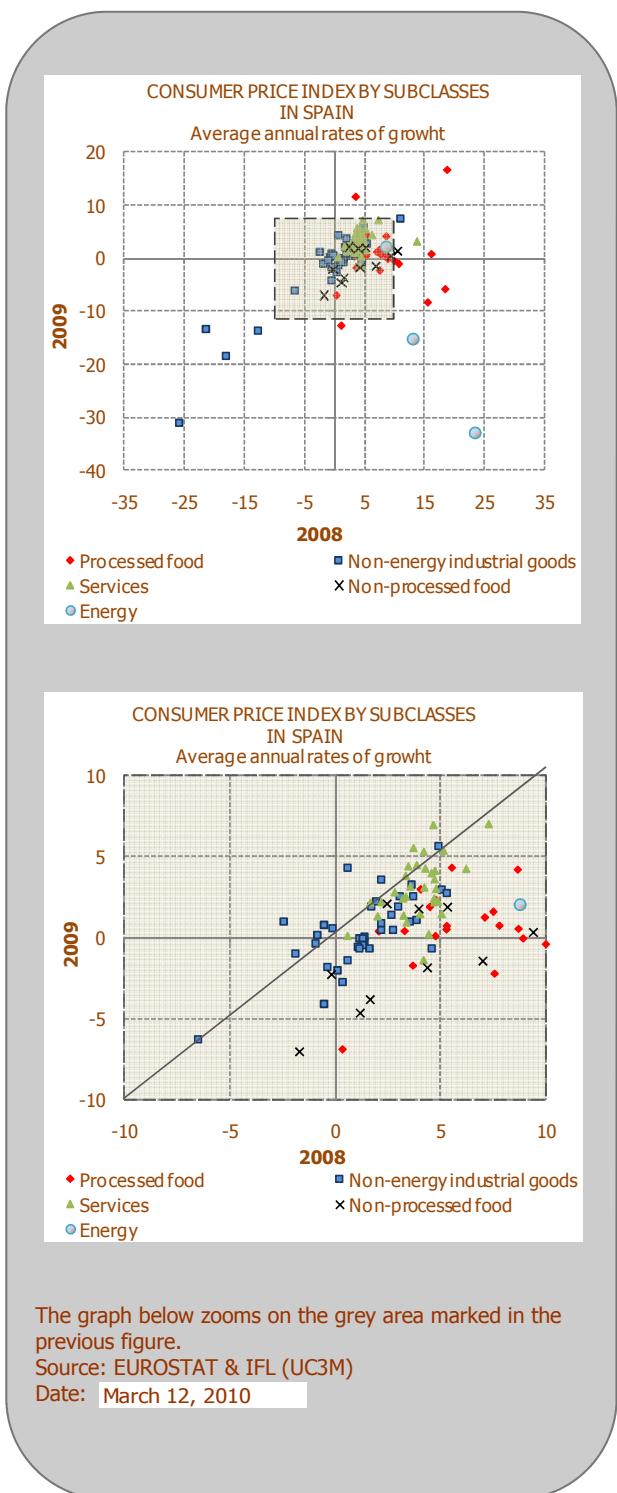


Note: These graphs show the average annual CPI growth rates forecast in the Bulletin published in the month on the abscissa
Source: INE & IFL (UC3M)
Date: March 30, 2010



INFLATION FORECASTING BY SUB-GROUPS IN SPAIN

The tables and graphs show the observed and forecast annual rates for 2009, according to the five special groups.

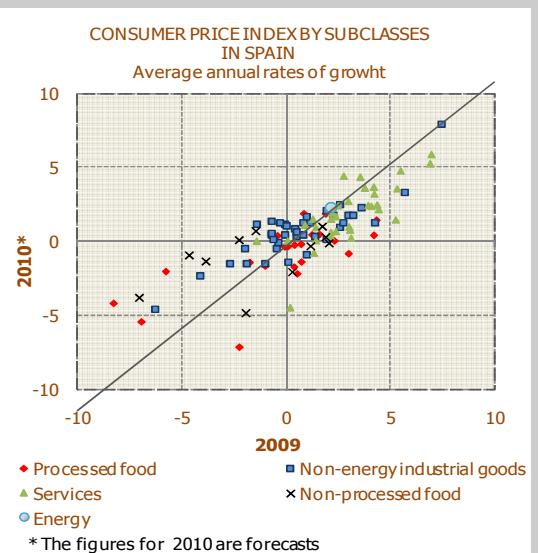
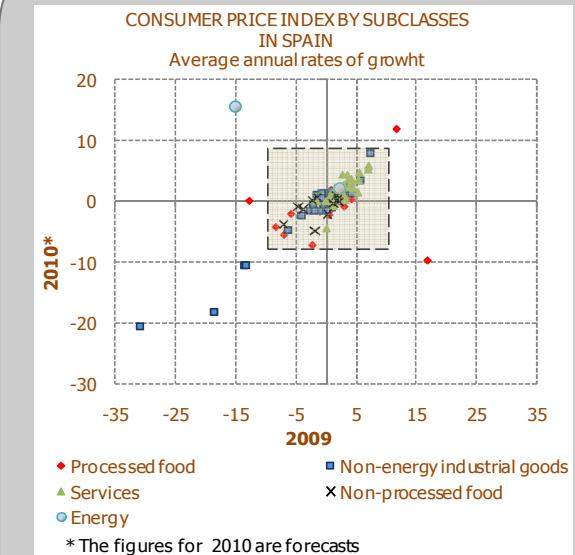


CONSUMER PRICE INDEX BY SUBCLASSES IN SPAIN					
Annual average rates of growth					
	2007	2008	2009	2010	2011
PROCESSED FOOD					
Rice	2,7	18,8	16,8	-9,6	-2,4
Flours and cereals	3,7	8,7	0,5	-2,2	0,8
Bread	8,2	8,9	0,0	-0,4	-0,7
Pastry goods, cakes, mixes and doughs for bakery products	2,6	7,5	1,6	0,4	2,0
Farinaceous-based products	3,9	18,5	-5,8	-2,1	-1,2
Delicatessen type meat products	3,9	3,3	0,4	-0,3	-0,5
Processed meat products	2,3	4,8	2,3	0,0	1,0
Preserved and processed fish	3,7	5,3	0,7	-0,2	1,8
Milk	10,0	15,6	-8,3	-4,2	-1,0
Other dairy products	3,1	7,6	-2,2	-7,1	-7,7
Cheeses	3,7	10,0	-0,4	0,4	1,7
Preserved fruits, nuts and dried fruits	0,5	2,1	0,4	-1,8	-1,4
Dried pulses and vegetables	3,8	10,8	-1,0	-1,7	-0,5
Frozen and preserved pulses and vegetables	6,3	7,8	0,7	-1,4	-0,8
Sugar	1,6	0,3	-6,9	-5,4	-1,0
Chocolates and confectionery	2,8	5,3	0,5	0,8	2,5
Other food products	3,5	8,7	4,2	0,4	-0,8
Baby food		3,7	-1,7	-1,4	-1,8
Coffee, cocoa and infusions	4,7	7,1	1,3	0,4	1,8
Mineral water, soft drinks, fruit and vegetable juices	2,5	4,0	3,0	-0,9	0,6
Spirits and liqueurs	2,5	4,5	1,9	1,8	2,3
Wines	2,5	4,7	0,1	-0,4	0,5
Beer	3,6	5,5	4,3	1,4	3,3
Tobacco	8,8	3,5	11,7	11,8	6,9
Butter and margarine	4,6	16,2	0,9	1,8	2,4
Oils	-18,4	1,1	-12,6	0,1	0,2
NON-ENERGY INDUSTRIAL GOODS					
Men's outerwear	0,4	0,1	-2,0	-0,4	0,3
Men's underwear	1,9	1,2	0,0	1,2	1,4
Women's outerwear	1,4	0,3	-2,7	-1,6	-0,9
Women's underwear	1,1	1,4	0,0	1,1	-1,4
Children's and infants' garments	1,5	0,6	-1,4	1,1	-0,8
Clothing accessories of garments	-7,2	1,4	-0,2	1,3	-1,2
Men's footwear	1,9	1,3	0,0	0,4	1,3
Women's footwear	0,7	1,6	-0,7	0,4	-0,2
Children's and infants' footwear	1,6	1,3	-0,5	-0,5	-1,3
Motor vehicles	1,4	-0,5	-4,1	-2,3	1,4
Other vehicles	-0,6	-2,4	1,0	-0,9	1,3
Spare parts and maintenance accessories	3,9	4,6	-0,7	1,4	4,0
Materials for the maintenance and repair of the dwelling	5,7	5,1	3,0	1,8	3,1
Water supply	5,4	4,9	5,7	3,4	4,7
Furniture	3,9	3,9	1,1	1,3	3,1
Other equipments	4,8	2,7	0,5	0,8	2,5
Household textiles	2,1	2,2	0,5	0,4	0,9
Refrigerators, washing machines and dishwashers	-1,3	-1,9	-1,0	-1,5	-1,3
Cookers and ovens	0,5	-0,8	0,1	-1,4	-0,9
Heating and air conditioning	-1,1	-0,5	0,8	1,2	0,0
Other household appliances	0,3	-0,2	0,5	0,6	0,4
Glassware, crockery and cutlery	1,6	3,1	2,6	1,0	1,5
Other kitchen utensils and furnishing	4,2	3,7	2,6	2,5	2,6
Tools and accessories for house and garden	4,1	3,0	1,9	2,0	2,3
Cleaning household articles	1,4	1,7	1,9	0,2	1,2
Other non-durable household articles	2,7	2,7	1,4	0,3	0,9
Medicines and other pharmaceutical products	-9,0	-6,5	-6,3	-4,6	-3,3
Therapeutic appliances and equipment	1,7	3,6	1,0	1,6	1,9
Telephone equipments	-5,2	-25,7	-30,9	-20,6	-25,1
Equip. for the reception, recording and reproduction	-11,4	-12,7	-13,7	-10,5	-13,0
Photographic and cinematographic equipments	-14,5	-18,0	-18,5	-18,0	-22,7
Information processing equipments	-20,0	-21,5	-13,3	-10,6	-18,3
Recording media	-1,3	-0,9	-0,4	-0,1	0,0
Games and toys	-0,8	-0,4	-1,8	-1,5	-1,1
Large sports equipment	-0,5	0,6	4,3	1,2	2,0
Other recreational and sporting articles	0,0	1,1	-0,6	0,1	-0,1
Gardens, plants, flowers and pets	4,1	5,3	2,8	1,3	2,3
Books	2,9	2,0	2,2	1,8	2,0
Newspapers and magazines	1,4	2,2	3,6	2,3	1,8
Material de papelería	2,7	3,7	3,2	1,8	2,3
Personal care articles	2,1	2,2	0,8	0,5	1,3
Jewellery, costume jewellery, clocks and watches	9,7	11,1	7,5	7,9	6,5
Other articles for personal use	0,8	1,1	-0,6	0,6	0,4

- There exists a small aggregation caused by the fact that some sub-group contains goods and services that belong to different spatial groups.



CONSUMER PRICE INDEX BY SUBCLASSES IN SPAIN					
	Annual average rates of growth				
	2007	2008	2009	2010	2011
SERVICES					
Maintenance and repair services	4,5	4,8	4,1	2,4	2,7
Other services related to vehicles	3,7	3,3	1,3	-0,8	-0,6
Railway transport	4,2	3,7	5,5	4,7	4,2
Road transport	3,9	4,2	5,3	1,4	1,7
Air transport	3,0	13,7	3,0	1,0	1,9
Other transport services	3,9	7,3	7,0	5,9	3,7
Insurances connected with transport	1,7	2,0	1,3	1,5	0,6
Restaurants, bars, coffee bars, canteens	4,8	4,7	2,2	1,5	2,1
Hotels and other lodgings	5,5	4,2	-1,4	0,0	-0,5
Package holidays	0,6	4,5	0,2	-4,5	0,7
Higher education	5,3	5,2	5,3	3,5	4,0
Postal services	3,6	2,8	2,8	4,4	2,0
Telephone services	0,3	0,6	0,1	0,0	0,2
Rentals for housing	4,4	4,2	3,1	0,7	-0,1
Services for the maintenance and repair of the dwelling	5,5	5,1	1,4	0,0	0,1
Sewerage collection	4,6	3,4	3,8	3,6	4,0
Out-of-hospital medical and paramedical services	4,0	4,9	2,2	1,9	2,8
Dental services	3,2	3,2	2,4	1,6	1,8
Hospital services	3,6	3,4	0,9	1,1	2,6
Medical services	5,3	4,7	6,9	5,2	4,6
Recreational and sporting services	2,8	1,7	2,1	0,3	1,7
Cultural services	3,4	3,6	3,1	0,2	1,1
Education	4,1	3,4	2,5	2,4	2,6
Repair of footwear	5,8	6,2	4,2	3,6	4,0
Domestic service and other household services	4,4	4,8	3,0	2,7	2,2
Insurances connected with the dwelling	3,6	3,5	4,4	2,4	0,8
Personal care services	4,1	4,0	1,4	0,9	0,8
Social services	5,2	4,6	4,0	2,4	2,7
Other insurances	3,9	3,9	4,5	2,1	2,9
Financial services	7,8	4,7	3,6	4,3	0,5
Other services	2,2	2,2	2,2	0,6	1,2
Repair of household appliances	3,9	4,3	4,2	3,2	4,0
Repairs and cleaning of garments	3,8	4,7	2,4	0,6	0,1
NON-PROCESSED FOOD					
Beef	6,0	4,0	1,7	1,0	4,2
Pork	2,7	1,6	-3,8	-1,3	1,5
Mutton	-0,7	5,3	1,9	0,3	3,8
Poultry	9,7	4,3	-1,9	-4,9	1,0
Other meats, viscera and other non-meat edibles	0,1	7,0	-1,5	0,7	4,3
Fresh fish	2,5	1,2	-4,6	-0,9	-1,9
Crustaceans and molluscs	0,1	-0,2	-2,2	0,1	2,9
Eggs	4,3	10,7	1,2	-0,3	-0,1
Fresh fruits	4,5	9,4	0,3	-2,1	1,5
Fresh pulses and vegetables	6,4	2,4	2,1	-0,2	4,2
Potatoes and processed potato products	8,4	-1,7	-7,0	-3,8	1,6
ENERGY					
Electricity and gas	2,1	8,7	2,1	2,3	6,1
Other fuels	-0,8	23,5	-32,7	24,1	5,2
Fuels and lubricants	1,4	13,0	-15,2	15,7	3,5



The graph below zooms on the grey area marked in the previous figure.

Source: EUROSTAT & IFL (UC3M)

Date: March 12, 2010

IV.3. THE RECENT EVOLUTION OF PRODUCTIVITY IN THE SPANISH ECONOMY

The economic crisis is leading to many job losses in the Spanish economy, a much more severe impact than on the GDP, so apparent labour productivity is steadily recovering.

The limited productivity growth traditionally present in the Spanish economy has always been one of its weak points, particularly in the period of growth since the late 1990s. Productivity is a key factor in an economy, as real salaries, payment for other productive factors, competitiveness and potential long-term growth all depend on it. In the current economic context, therefore, recovery of productivity should continue to be one of the priority objectives of Spanish economic policy. Jobs are being destroyed rapidly since mid-2008, and employment is falling faster than the GDP, leading to considerable recovery of productivity, which has increased its growth rate to 3.3% in 2009 from the 0.7% registered in the year before the crisis, 2007. This improvement in productivity is due to a drop in employment. It is only temporary and responds to the anti-cyclical nature of productivity in the Spanish economy since the late 1980s (unlike other western economies). What is required is an increase in labour productivity that is not based on employment but on product growth.

number of hours worked; estimations of the latter, however, present some homogeneity problems and are not very precise, so we use employment. When quantifying employment, the most suitable of all the available indicators is equivalent to full-time employment as estimated in the National Accounts. The use of this indicator attempts to overcome the implicit bias derived from the use of other employment indicators such as the active population survey, which does not homogenise employment with different working hours.

Our productivity forecasts for this year and the next show that this rate of growth will decrease, to 2.5% in 2010 and 0.7% in 2011, returning to the growth rates prior to the present economic crisis.

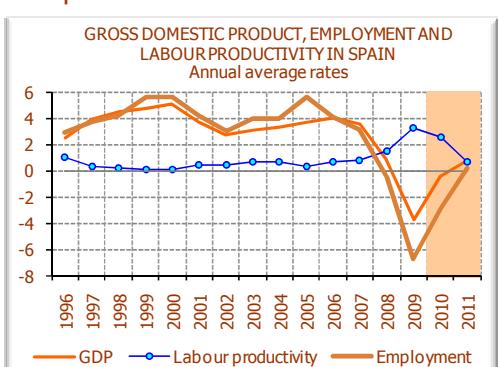
This way of measuring productivity per worker or apparent labour productivity presents several well known limitations, although it continues to be the most commonly used procedure in practice. These limitations include the fact that it attributes all production to a single productive factor, thus reflecting the productivity of other factors too.

Also, part of production is not attributable to the labour and capital production factors but depends on multiple factors, such as the impact of factors such as organisational improvements, technical progress, R&D investment, etc., on production. This measurement is known as total factor productivity in the context of growth accounting. Within the neoclassic approach, it is known as Solow's residual and usually provided as information supplementary to ALP analyses.

IV.3.1. The evolution of productivity

Labour productivity defined as the ratio between real product and the labour factor used in its production is usually estimated by the real GDP/employment ratio. Employment is normally quantified as the number of employed individuals or the

Graph IV.3.1.1



Source: INE & IFL

The information on graph IV.3.1.1 shows that, since the mid-1990s, high GDP growth has been based on heavy growth in employment, while productivity grew but moderately with a small contribution to GDP growth. The economic crisis is leading to many job losses in the Spanish economy, a much more severe impact than on the GDP, so apparent labour productivity is steadily recovering.



Indeed, in 2009 the ALP growth rate was 3.3%, more than double that of 2008 (1.5%) and nearly five times that of 2006 and 2007 (0.7%). This increase in productivity is due to the heavy adjustment of employment due to the economic crisis and to the fact that employment has fallen much more than the GDP. Last year, equivalent to full-time employment registered a fall of 6.7%, with the GDP falling much less (3.6%). Our productivity forecasts for this year and the next show that this rate of growth will decrease, to 2.5% in 2010 and 0.7% in 2011, returning to the growth rates prior to the present economic crisis.

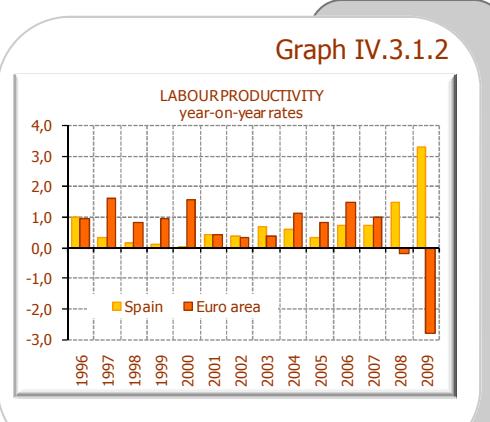
The quantitative information regarding the evolution of ALP and TFP for Spain and the euro area in 1995-2009 is provided in table IV.3.1.1 and graphs IV.3.1.2 and IV.3.1.3. An analysis of this information reveals some characteristic features of the performance of productivity from the mid-1990s to date.

The following can be seen:

- Labour productivity in the Spanish economy has registered very low growth since 1995, bordering on stagnation in some years (1997-2000). It improved slightly in 2001-2007 and has recovered steadily in the two years of this crisis.
- Labour productivity shows a clear anti-cyclical pattern that is not found in the euro area or other developed economies.
- TFP tends to decrease, with lower growth rates than ALP. It has been clearly declining since 2001.
- In Spain, both labour productivity and TFP grow less than in the euro area, except ALP in 2001, 2002 and 2003. TFP decreased in the euro area.

According to table IV.3.1.1, labour productivity in the Spanish economy in 1995-2000 registered a low average annual growth rate (0.3%) and recovered slightly in 2001-2007, when the average annual rate was 0.6%. In 2008, with

1.5% growth, and particularly in 2009 (3.3%), productivity recovered considerably. For 2010 and 2011, however, the growth rate will be lower, 2.5% in 2010 and 0.7% in 2011, following a pro-cyclical pattern, thus returning to 2007 levels.



Source: INE & Eurostat

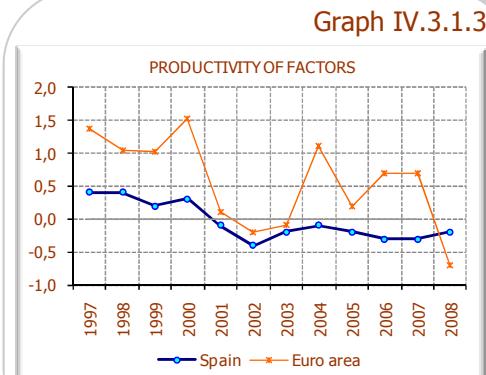
ALP growth in Spain is considerably lower than in the euro area in most of the years considered, except for 2008 and 2009 when, due to the contra-cyclical performance of productivity in Spain and the opposite in the euro area, Spanish ALP growth was higher than in the euro area. TFP also grew less than ALP and has been clearly declining since 2001; it also registers less growth than in the euro area. This is surprising in this period, when new technologies boomed, as their principal effects on productivity should be seen in this indicator.

Unlike Spanish productivity during the crisis, in the euro area productivity has fallen from slightly negative in 2008 (-0.2%) to much more negative (-2.8%) in 2009. This drop in productivity reflects that GDP contraction, even more so than in Spain (4% in 2009) was not accompanied by respective job losses.

Indeed, employment has not been much affected, largely due to the high level of protection in place for employees with indefinite contracts, which are much more than in Spain, and working hour reductions in

ALP growth in Spain is considerably lower than in the euro area in most of the years considered, except for 2008 and 2009 when, due to the contra-cyclical performance of productivity in Spain and the opposite in the euro area, Spanish ALP growth was higher than in the euro area.

In most western economies productivity is pro-cyclical,



Source: European Commission (AMECO)

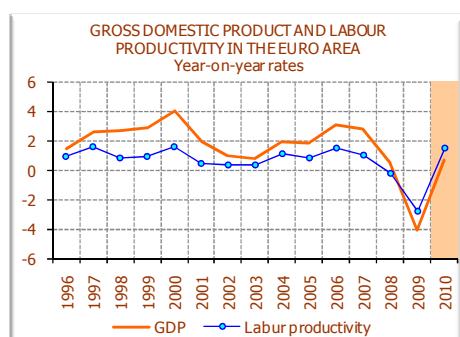


Graph IV.3.1.4



Source: INE (CNTR)

Graph IV.3.1.5



Source: INE (CNTR)

this country, represents around a third of all employment, double the euro area figure; dismissal costs are significantly

many jobs, instead of dismissal. This partly reflects the support given by different national governments to plans to reduce working hours in response to the crisis. This increase in part-time work is not found in our labour market.

The recovery of ALP in 2008 and 2009 was due to the contra-cyclical nature of productivity in the Spanish economy, primarily because employment is falling much more than the GDP in this period. This also occurred in previous recessions. Note that the high rate of destruction of employment in the current phase is largely due to temporary employment which, in

lower than for indefinite employment contracts. In this respect, most of the net employment destroyed in Spain last year was temporary.

This cyclical profile of ALP in the Spanish economy is unlike what occurs in the other western economies and the euro area, where it is usually pro-cyclical (see graphs IV.3.1.4 and IV.3.1.5). Indeed, as table IV.3.1.1 and graph IV.3.1.5 show, ALP in the euro area fell in 2008 and 2009, while it was growing considerably in Spain (see graph IV.3.1.4). This characteristic of labour productivity in Spain has been present since 1985, but not before.

In most western economies productivity is pro-cyclical, as shown on graph IV.3.1.5 for the euro area. This is largely due to the adjustment costs involved in employment variations, with labour accumulating in recessive periods. In these phases of the cycle, employment usually decreases less than product, so productivity growth slows down as a result of the GDP falling more than employment. At other times, product accelerates and so does employment, but at a lower rate, as labour was accumulated in the previous phase, so the ALP growth rate increases.

Table IV.3.1.1

	Evolution of productivity			
	Spain		Euro area	
	Productivity per employed individual	Total factor productivity (TFP)	Productivity per employed individual	Total factor productivity (TFP)
Mean rate of variation as %				
1995-2000	0.3	0.4	1.1	1.1
2000-2007	0.6	-0.2	0.8	0.5
Annual rates of variation as %				
2001	0.4	-0.1	0.4	0.1
2002	0.4	-0.4	0.3	-0.2
2003	0.7	-0.2	0.4	-0.1
2004	0.6	-0.1	1.1	1.1
2005	0.4	-0.2	0.9	0.2
2006	0.7	-0.3	1.5	0.7
2007	0.7	-0.3	1.0	0.7
2008	1.5	-0.2	-0.2	-0.7
2009	3.1	-	-2.8	-

Sources: INE and European Commission



The contra-cyclical pattern in the Spanish economy is found since 1985 but not before, when it was pro-cyclical.

The contra-cyclical pattern in the Spanish economy is found since 1985 but not before, when it was pro-cyclical. This change is probably due to the introduction of a series of temporary employment measures in 1984, included in the reform of the Workers' Statute. This reform promoted temporary employment and probably led employment to grow more than necessary in growth phases, as dismissal is simple in recessive periods, due to the lower dismissal costs for temporary employees. The large volume of temporary employment on the labour market, which is usually 30% of the total, although it has now fallen to 25% is easily dismissed in slow growth periods, so employment decreases more than product.

IV.3.2. Causes of low productivity growth

Labour factor productivity directly depends on capital equipment per employee and total factor productivity (TFP). The above tables and graphs show the disadvantage of this variable. The causes of this low productivity growth in Spain compared with the euro area are multiple and varied. They include:

1. The sectoral structure of the Spanish economy, with great importance given to construction and some service fields such as tourism and catering, which are labour-intensive, have low productivity and represent an important part of total production of goods and services. Furthermore, they are not the best sectors for using capital of high technological content.

2. The low capital equipment per employee (K/L), significantly lower than in the euro area. In a way, this is due to our excessive dependence on construction and some service fields, as mentioned above (see graph IV.3.2.1).

3. The structure of the Spanish labour market and how it operates, especially the segmentation between indefinite

and temporary employees. The high proportion of temporary contract employees, who represented a third of the total in 2009, double the rate in the euro area, involves a system in which there are high protected indefinite employees with high dismissal costs and temporary

workers with low dismissal costs. According to different studies, this is another of the factors responsible for the Spanish economy's low productivity. Due to this heavy segmentation of the labour market, firms have no incentives for investing in training temporary employees, who might not be working for them for very long.

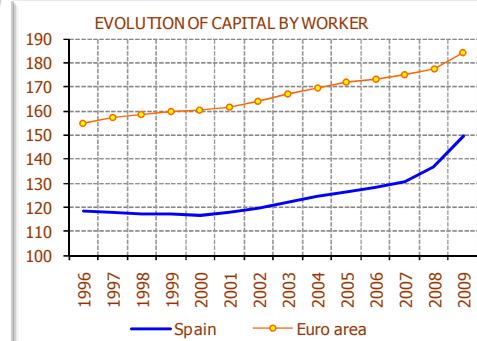
According to different assessments by institutions such as the OECD, the low quality of our educational and research systems. Furthermore, insufficient competition in many sectors could also be limiting productivity growth.

Another factor that could have helped to discourage investment in capital equipment in the last ten years, and hence lead to low productivity, could be the relative lower cost of the labour factor relative to capital, resulting from a considerable increase in the labour supply, largely from immigration. These workers could well receive lower salaries than others.

Most of the employment created since the late 1990s was for people with little experience and less qualifications, most of whom were young immigrants.

Low investment in R&D and workers' qualifications compared with other countries, leading to a lower TFP and, therefore, less ALP growth.

Graph IV.3.2.1



Source: AMECO

The evolution of labour factor productivity in the Spanish economy presents large sectoral differences.



IV.3.3. Sectoral productivity rates

The evolution of labour factor productivity in the Spanish economy presents large sectoral differences. Graph IV.3.3.1 clearly shows the heterogeneity of productivity growth in non-agrarian productive fields. What the graph first shows is the greater growth of industrial productivity (including energy) in 1998-2007 than in construction and services. Productivity growth in these two sectors was either very low or negative in this period; however, since the start of the crisis, productivity has grown in these sectors due to their heavy job losses. There are reasons for greater ALP growth in industry, starting with the fact that most industrial fields are more likely to register technological innovation and more likely to benefit from technical progress than the tertiary sector and construction.

Graph IV.3.3.1



Source: INE (CNTR)

Graph IV.3.3.2



Source: INE (CNTR)

Graph IV.3.3.3



Source: INE (CNTR)

In 1998-2007, industrial productivity tended to grow, showing a clear increase in the last two years; this growth was systematically greater than that of the economy as a whole, which grew by an average annual rate of

1.5%, with ALP growing by just 0.5%. Indeed, the annual growth rate in 2007 was more than 1.2% and 1.6% in 2006, considerably greater than in 2005 (1.1%). This evolution of industrial productivity justified the improvement in the economy's total productivity in these two years (2006 and 2007) and was due to both the dynamic nature of its value added and the sector's moderation in the creation of employment. Indeed, employment declined in 2007, possibly due to the need of industrial firms to increase productivity in a context of growing competition. In 2008, however, productivity fell considerably, by 0.5%, as a result of a greater drop in activity (1.5%) than in employment (1%); this fall was more intense in 2009, to 2.7%, because the GVA fell by 13.7% and employment did so by 11.3%.

Services registered very modest productivity growth rates in 2001-2007, with an average annual growth rate of 0.4%, after small decreases in the previous few years. In 2007 they started to grow slightly, with productivity rising to 1.3% from the 0.2% registered in 2006; growth was more moderate in 2008 (0.6%), but rose heavily in 2009 (1.8%) due to heavy job losses (-3.7%). Low productivity growth in services, however, fails to show the high rate of dispersion between different sectoral branches, where there is low productivity in bars and restaurants and high productivity in communications and banking services. The latter are very likely to use technological innovations and therefore register much greater productivity growth than industrial branches. If productivity is broken down into market and non-market services, the former grew much less than the latter in most years of the 2001-2009 period, except for 2009, when productivity in the former was 2.5% and 0.9% in the latter. This was because employment in market services fell by an annual 4.4%, while

Services registered very modest productivity growth rates in 2001-2007, with an average annual growth rate of 0.4%, after small decreases in the previous few years.



increasing by 1.7% in non-market (public sector) services. Irrespective of other factors, the low productivity of market services in the last decade, with negative growth in some years, stability in others and slight increases in others, can partly be explained by the fact that this sector made considerable use of immigrant hand labour, which registers less productivity.

With regards to the evolution of productivity in construction from 1998 to 2007, it fell in nearly all these years, coinciding with the property boom and the immigration flows that lowered labour

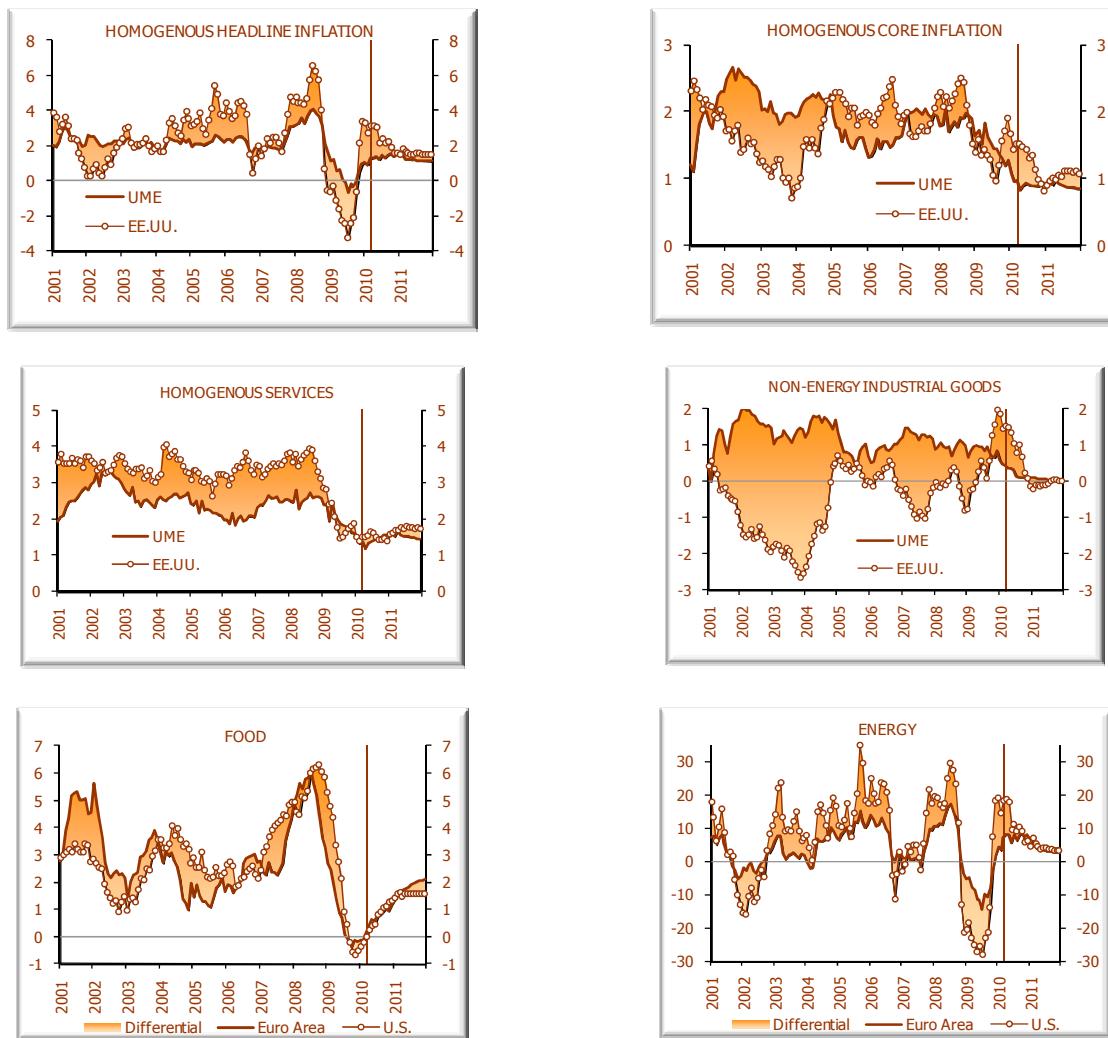
costs. The only exception was 2002, when it grew slightly. The fall was significant in 2007, 1.8%, after 1% registered in the previous year. The adjustment of employment in this sector, however, which started in mid-2007 and is still continuing to date, has generated a considerable rise in productivity, up to 21.9%, and this explains most of the overall improvement in productivity in the Spanish economy (see graphs IV.3.3.1 IV.3.3.2 IV.3.3.3). This evolution is due to the over one million jobs lost in the sector since the start of the crisis, over a third of its total employees.

With regards to the evolution of productivity in construction from 1998 to 2007, it fell in nearly all these years, coinciding with the property boom.



V. SUMMARY OF FORECASTS FOR DIFFERENT AREAS

HOMOGENOUS INFLATION IN THE EURO AREA AND U.S.										
Weights 2009	Annual average rates								Forecasts	
	2003	2004	2005	2006	2007	2008	2009		2010	2011
TOTAL										
less Owner's equivalent rent of primary residence										
Euro area	100,0	2,1	2,1	2,2	2,2	2,1	3,3	0,3	1,3	1,2
U.S. ⁽¹⁾	76,4	2,2	2,8	3,7	3,1	2,7	4,3	-1,0	2,4	1,5
CORE										
Services less Owner's equivalent rent of primary residence and Non-energy industrial goods less Food and Tobacco										
Euro area	73,4	2,0	2,2	1,6	1,5	2,0	1,9	1,5	0,9	0,9
U.S. ⁽¹⁾	54,1	1,1	1,6	2,1	2,1	1,8	2,1	2,1	1,3	1,0
COMPONENTS OF CORE INFLATION										
Services less Owner's equivalent rent of primary residence										
Euro area	41,4	2,5	2,6	2,3	2,0	2,5	2,6	2,0	1,4	1,5
U.S. ⁽¹⁾	32,8	3,3	3,6	3,1	3,3	3,4	3,6	2,0	1,5	1,7
Non-energy industrial goods less Food and Tobacco										
Euro area	29,7	0,8	0,8	0,3	0,6	1,0	0,8	0,6	-0,2	-0,5
U.S.	21,3	-2,1	-1,0	0,3	0,1	-0,7	-0,1	-0,1	1,0	-0,1
EXCLUDED COMPONENTS FROM CORE INFLATION										
Food										
Euro area	19,3	2,8	2,3	1,5	2,4	2,8	5,1	0,7	0,6	1,8
U.S.	13,7	2,1	3,4	2,4	2,3	4,0	5,5	1,8	0,6	1,5
Energy										
Euro area	9,6	3,0	4,5	10,1	7,7	2,6	10,3	-8,1	6,7	3,7
U.S.	8,6	12,2	10,9	16,9	11,2	5,5	13,9	-18,4	12,0	4,0



- Excluding owner's equivalent rent of primary residence.
- This homogeneous measure of core inflation does not coincide with the usual measure of core inflation for the euro area nor for the USA. It has been constructed in order to compare the data in the euro area and in the USA.

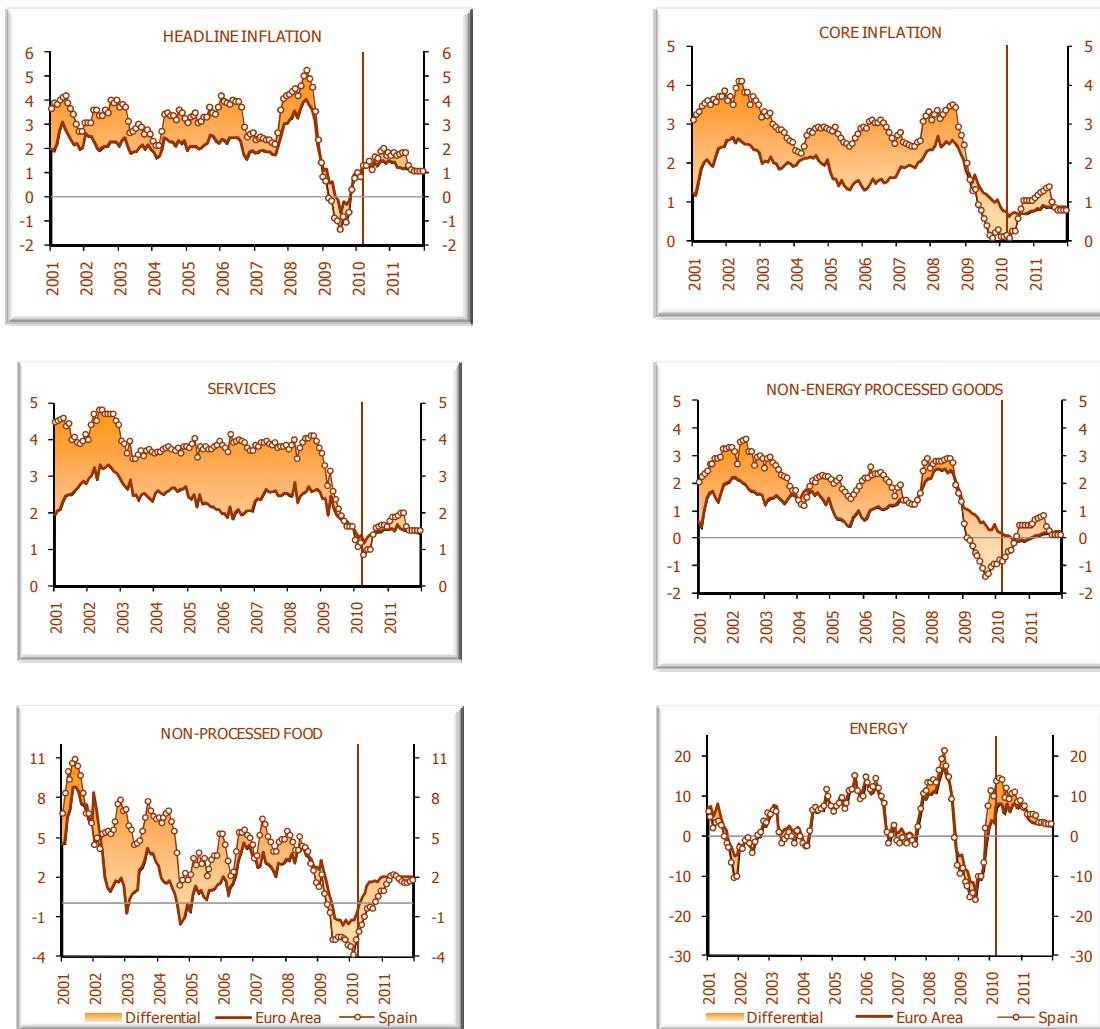
Source: EUROSTAT, BLS & IFL (UC3M)

Date: March 31, 2010



Summary of Forecasts for Different Areas

INFLATION IN SPAIN AND IN THE EURO AREA										
Annual average rates										
Weights 2009	2003	2004	2005	2006	2007	2008	2009	Forecasts		
TOTAL										
Spain	100,0	3,0	3,0	3,4	3,5	2,8	4,1	-0,3	1,5	1,5
Euro area	100,0	2,1	2,1	2,2	2,2	2,1	3,3	0,3	1,3	1,2
CORE INFLATION										
Services and Non-energy industrial goods										
Spain	82,5	2,9	2,7	2,7	2,9	2,7	3,2	0,8	0,5	1,0
Euro area	83,0	2,0	2,1	1,5	1,5	2,0	2,4	1,3	0,7	0,9
COMPONENTS OF CORE INFLATION										
Processed food										
Spain	13,4	3,0	3,6	3,4	3,6	3,7	6,5	0,9	0,6	0,8
Euro area	11,9	3,3	3,4	2,0	2,1	2,8	6,1	1,1	0,5	1,7
Non-energy industrial goods										
Spain	30,1	2,0	0,9	0,9	1,4	0,7	0,3	-1,3	-0,6	0,2
Euro area	29,7	0,8	0,8	0,3	0,6	1,0	0,8	0,6	-0,2	-0,5
Services										
Spain	38,9	3,7	3,7	3,8	3,9	3,9	3,9	2,4	1,3	1,7
Euro area	41,4	2,5	2,6	2,3	2,0	2,5	2,6	2,0	1,4	1,5
COMPONENTS OF RESIDUAL INFLATION										
Non-processed food										
Spain	7,2	6,0	4,6	3,3	4,4	4,7	4,0	-1,3	-1,1	1,7
Euro area	7,5	2,1	0,6	0,8	2,8	3,0	3,5	0,2	0,7	2,1
Energy										
Spain	10,3	1,4	4,8	9,6	8,0	1,7	11,9	-9,0	11,1	4,5
Euro area	9,6	3,0	4,5	10,1	7,7	2,6	10,3	-8,1	6,7	3,7



Source: EUROSTAT, BLS & IFL (UC3M)

Date: March 31, 2010



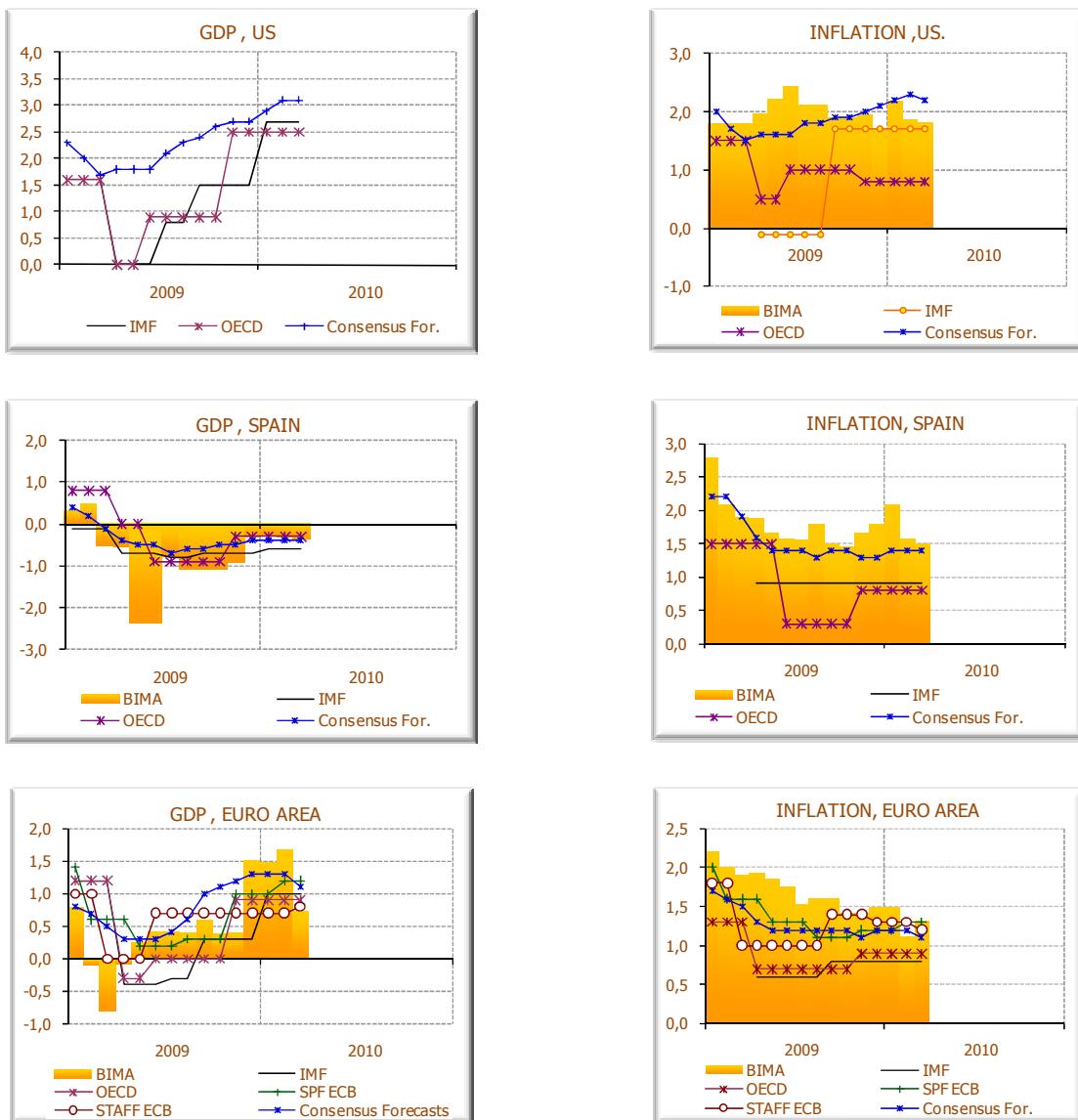
VI. FORECASTS OF DIFFERENT INSTITUTIONS

FORECASTS FOR DIFFERENT INSTITUTIONS														
Annual average rates														
		UNITED STATES				SPAIN				EURO AREA				
		Consensus Forecasts ¹	BIMA ²	IMF ³	OECD ⁴	Consensus Forecasts	BIMA	IMF	OECD	Consensus Forecasts	BIMA	IMF	ECB SPF ⁵	ECB Staff ⁶
GDP	2010	3,1	-	2,7	2,5	-0,4	-0,4	-0,6	-0,3	1,1	0,7	1,0	1,2	0,8
	2011	3,0	-	2,4	2,8	1,1	0,7	0,9	0,9	1,5	1,3	1,6	1,6	1,5
CPI	2010	2,2	1,8	1,7	0,8	1,4	1,5	0,9	0,8	1,1	1,3	0,8	1,3	1,2
	2011	1,9	1,2	-	1,2	1,7	1,5	-	-0,1	1,4	1,2	-	1,5	1,5
														0,9
														0,7

1. Consensus Forecasts, February, 2010.
2. BIMA. Bulletin of EU & US Inflation and Macroeconomic Analysis, February, 2010.
3. FMI. World Economic Outlook. GDP: January, 2010.
4. OCDE. Euro area and US: Interim Economic Outlook, November, 2009
5. BCE SPF, "Survey of Professional Forecasters", February, 2010.
6. BCE STAFF, staff macroeconomic projection for the Euro Área. December, 2009. Point forecast for interval.

EVOLUTION OF FORECASTS FOR 2009

Annual average rates



THE HOUSING MARKET IN SPAIN. THE DIFFICULT RETURN TO NORMAL

Julio Rodriguez López¹

Introduction

In Spain, the housing market registered cyclical fluctuations from 1997 to 2009. This evolution had a significant impact on the global Spanish economy. We start this paper by analysing what occurred in the 1997-2007 period of growth, and the factors behind that period. We then go on to describe the intense recession affecting the housing market from 2007 to 2009, a process that does not yet appear to have ceased in the first few months of 2010, in spite of partial evidence of greater activity on the market.

1. 1997-2007. Exceptional growth

In the last 50 years, the most important cycles of productive activity in Spain were derived from housing market fluctuations. The graph of officially approved housing projects (Graph 1) shows three clear periods of growth after 1950, identified as 1960-1974, 1985-1990 and 1997-2007.

The first growth period affecting the housing market was after the 1959 Stabilisation Plan. A total of 553,400 building projects were approved in 1973, and this figure was not exceeded until 26 years later. The profound change involved in more flexible mortgage financing in the mid-80s led to the second period of growth, in 1985-1990. The greater integration of mortgage loans in national financial systems generated a mortgage "banalisation" process.

The 1997-2007 period of growth was characterised by both its duration and simultaneous occurrence in a large number of developed countries. During this time, the housing market reached the highest level ever, with 920,000 building projects approved in 2006.

The construction of numerous new homes in Spain gave rise to high stock figures, with residential construction representing a

large part of the productive activity in the Spanish economy. The last housing census, of 1 November 2001, registered 21 million households in Spain, 14.2 million (67.7%) of which were first homes, and around 6.5 million (30.9% of the total) were either second or summer homes or empty (Graph 2). In the different autonomous regions, the percentage of first homes in 2001 ranged from 38.6% in Valencia to 15.1% in the Basque Country.

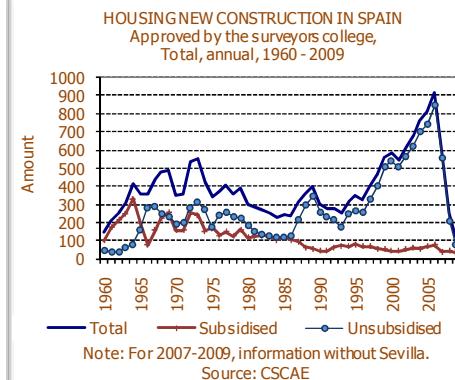
In the last 50 years, the most important cycles of productive activity in Spain were derived from housing market fluctuations.

It is interesting to note that, in Spain, only a small number of these first homes are rented, 11.4% according to the census, the lowest figure in the OECD. This was not always the case in the past. In 1950, 51.4% of the first homes registered were rented, in line with other continental European countries. The census counts following 1950 showed that

more and more people were living in their own homes, as a result of the housing policy of the political regime of the time and subsequent fiscal policies, which were very favourable to home ownership.

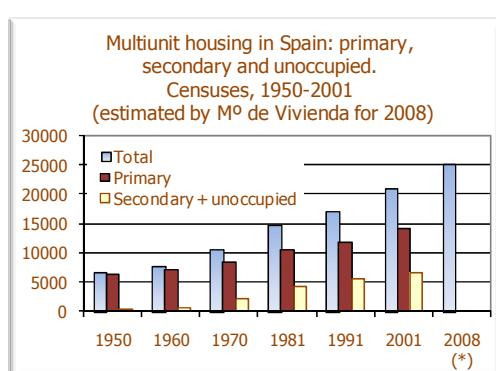
In 2003, in Spain there were 1.48 homes per household, versus 1.17 in the euro area. Housing sales represented 3.85% of the total, compared

Graph 1



It is interesting to note that, in Spain, only a small number of these first homes are rented, 11.4%

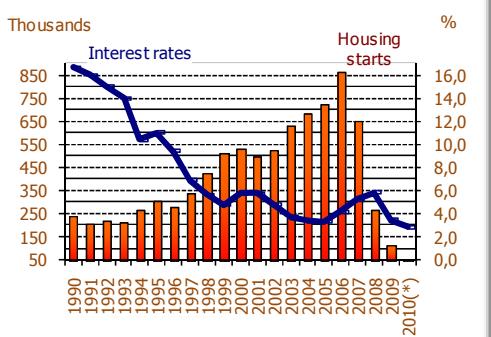
Graph 2



1. Economist. Ex-chairman of the board of BHE and Caja Granada. Professor of Urban Economy in the Town Planning master's course at the UC3M

Graph 3

Interest rates and housing starts, 1990-2010 (Information until January. Source: Mº de Fomento y Banco de España)



The intense urbanisation process supported by local councils and regional governments often meant the loss of sustainable productive activities in favour of new property developments that would be difficult to sell.

This process not only reduced Spain's potential production, but also occupied large tracts of land with homes that remain empty.

with 2.17% in the euro area, showing that residential construction in the country was greater than in the other members of the economic area.

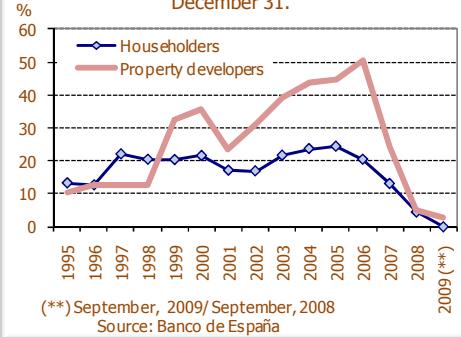
Returning to the 1997-2007 period, the introduction of the euro initially added security to the Spanish economy. It had a decisive impact on the economy's performance from the mid-90s on, with the adjustments required to return to a more balanced foreign position seeming unnecessary.

The property boom lasted for a long time, supported by exceptional financing conditions and falling interest rates (Graph 3). The increase in credit balances derived to the residential property sub-sector was spectacular, particularly loans to property developers (Graph 4). Dynamic demographics, with immigration growing, and greater household indebtedness also helped to increase the demand for housing.

No action was taken to correct the foreign deficit, so the housing market boom lasted for a decade. There were also large numbers of people buying homes as investments, encouraged by a long period of constantly increasing property prices.

Graph 4

Credit to property developers and to house purchasers, 1995-2009. Annual variations, December 31.



The increase in bank loans issued to the property sub-sector, favoured by the permissive monetary policy applied by the central banks, forced banks to seek financing elsewhere. Spain's domestic savings were not sufficient to finance such

large credit growth. Abundant financing from outside Spain at low interest rates and long terms, with a higher loan/value ratio than before, gave rise to the most important and longest property boom of the last 50 years in Spain.

Financial innovation helped to increase the demand for housing. In this context, mortgage loan securitisation became an important instrument with which banks attracted foreign resources. The fact that the Spanish authorities did not allow the lenders to remain risk-free in loan portfolio sale processes, limited the scope of this bank re-financing mechanism in Spain.

The growing demand for housing was accompanied by significant property price increases (Graph 5) and a spectacular reaction by the new property supply. Housing prices grew by 196.7% between the 4th quarter of 1997 and the same period in 2007, an average annual rate of nearly 11.4% in nominal terms and 8.1% in real terms. The greatest price increases were found in "Mediterranean Arch" regions, especially the Balearic Islands (270.2%), Murcia (258.9%) and Andalusia (240.7%).

No serious land availability problems arose. All the necessary land, and indeed a lot more than was necessary, was classified as suitable for residential use. At the same time, immigration provided the hand labour required to maintain a high rate of construction of new homes.

The intense urbanisation process supported by local councils and regional governments often meant the loss of sustainable productive activities in favour of new property developments that would be difficult to sell. This process not only reduced Spain's potential production, but also occupied large tracts of land with homes that remain empty.

During the 1997-2007 period, an average of 850,000 homes were sold each year (Graph 6), 55% of them second hand and the remaining 45% new. Building started on an average of 607,000 homes per year, with around 507,000 being completed. Housing investment rose at an average annual rate of 7.8% at constant prices. This contributed an average

The growing demand for housing was accompanied by significant property price increases and a spectacular reaction by the new property supply.



of 0.5 percentage points per year to economic growth in Spain (Table 1).

In 1997, housing investment represented 4.7% of the GDP, and this figure had risen to 9.3% by 2007. The weight of housing in construction rose from 40.9% to 52.3% in the same period. The share of the construction sector grew to nearly 18% in 2006-2007, much higher than in other euro area and European Union countries.

In spite of a total of more than 25 million homes in 2008, and many more per thousand inhabitants and household than in the European Union, access to housing became much more costly in the boom period. In 1996, the price of a 90 m² home was the equivalent to 4.3 annual salaries, rising to 9.16 in 2007. In spite of the low interest rates, this made it difficult for new households to access the market, as the cost involved represented much more than 50% of their total income.

2. The difficult adjustment following the cycle change

The housing crisis that started in 2007 soon caused a heavy cut in the demand for housing. From 2005 to 2007, rising interest rates, and lower GDP and employment growth rates, helped to moderate the demand in 2006 and the first half of 2007. Housing prices rose less in 2006-07 because of a slightly tighter monetary policy and significant stock of unsold homes. Our central banks rose interest rates before the start of the sub-prime crisis in the United States in the summer of 2007.

The shocks on the capital markets after that time caused numerous liquidity and solvency crises for banks. This was followed by a long period of credit rationing on the housing market, a situation that last well into 2009. The greatest restrictions were found in the autumn of 2008, especially after the collapse of the Lehman Brothers investment bank and intervention of the AIG insurance company in September.

The expression "credit rationing" is used to refer to the failure of interest rates to rapidly adjust to balance the financial markets. The presence of credit rationing implies instability in banks' sources of financing. At the beginning of housing market recessions, as occurred in Spain in 2007-2008, credit rationing is responsible

for much of the restrictive effect on demand, the impact of which is reduced slightly over time.

At the beginning of 2009, the central banks reacted to the crisis by sharply cutting interest rates and quantitative easing. The greater liquidity thus provided to banks failed to give rise to the establishment of "normal"

financing flows in 2009. Money circulates slower, although variable income assets have increased in value. The cuts in housing prices and lower interest rates in 2009 reduced the cost of accessing a home in Spain in relation to 2007. But further cuts are still necessary to obtain a greater adjustment of the housing market.

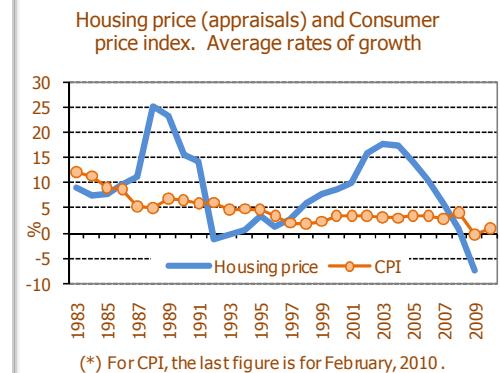
The stock of unsold homes in Spain is still high in the first quarter of 2010. They may well have totalled more than 900,000 at the beginning of 2009, and must have increased by a further 100,000 during the year. Particularly, there were numerous unsold homes in the regions of Valencia (228,500), Andalusia (126,300), Castilla-La Mancha (110,000) and Madrid (95,900) (Graph 6).

The end of rising housing prices eliminated investors from the market, and they had represented nearly 50% of all sales during the boom. However, housing prices in 2010 are still high relative to income.

Adjustment of the housing market will be a long process, and prices will continue to fall for some time.

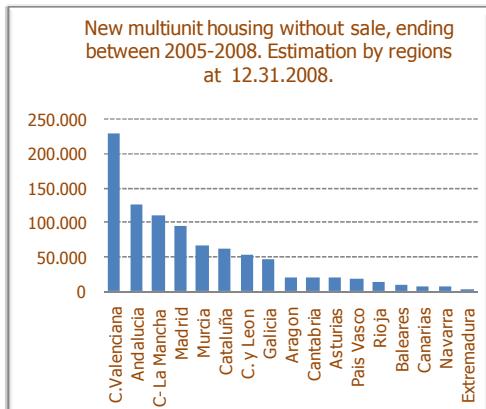
In the two years of the property crisis, 2008-2009, the average level of housing

Graph 5



The shocks on the capital markets after that time caused numerous liquidity and solvency crises for banks.

Graph 6



New construction has suddenly fallen to around 70% the average level during the boom, and 80% less than the levels registered during the highest levels of the cycle.

In 2010, sales will rise and housing starts will reach their lowest point. The reduction in the large stock of unsold new housing will continue to be the variable on which housing policy depends. The housing market's recovery could have been faster if housing prices had fallen further.

sales fell by 40% relative to the boom period, home prices fell by around 10%² and the increases in the pending balances of credit to the property sub-sector decelerated sharply.

New construction has suddenly fallen to around 70% the average level during the boom, and 80% less than the levels registered during the highest levels of the cycle (Table 1). The sudden fall in housing investment subtracted more than one and a half points from GDP growth in 2008-09 and significantly contributed to the heavy job losses found in Spain since the start of the crisis. The equivalent to 1,800,000 jobs were lost, and nearly 60% of them were derived from the adjustment process in the construction sector.

The low interest rates in 2009 and slow recovery in credit assignments led to a more optimistic end of the year, and beginning of 2010. The market's adjustment was based on the sharp cut in the supply of new housing.

In 2010, sales will rise and housing starts will reach their lowest point. The reduction in the large stock of unsold new housing will continue to be the variable on which housing policy depends. The housing market's recovery could have been faster if housing prices had fallen further. This will not prevent housing investment from falling by more than 10% again in 2010, with an additional negative impact on the labour market. The 2007-2009 housing market recession will last for more than three years and recovery will be slow, subject to fluctuating interest rates and the level of employment.

Table 1

Housing. Boom (1998-2007) and crisis (2008 and 2009)
Main indicators

	1998-2007 Average annual	2008-2009 Average annual
DEMAND		
1. Mortgage	847.500	497.700 (*)
2. House purchase transactions	902.400(**)	483.450
3. Employment EPA. Annual rates	540.400	-758.500
4. GDP, constant prices	3,8	-1,5
5. Interest rates, credit to households (nominal, annual average) (%)	4,66	4,67
SUPPLY		
6. Housing starts	607.780	185.800
7. Housing completions	506.460	504.300
Annual rates of growth	1997 a 2007	2007 a 2009
SUPPLY, NATIONAL ACCOUNTS		
8. Housing investment, constant price (%)	7,8	-17,7
PRICES		
9. Residential property prices		
9.1 Appraisals. (%) Q-4	11,5	-4,7
9.2 Housing prices Ind. INE. Total		-5,0
9.3 Housing prices Ind. INE. Second hand.		-8,3
9.4 Housing prices Ind. INE. New.		-1,0
CREDIT		
10. Total mortgage credit (**) (%)	22,5	1,3
11. Credit to house purchasers (%)	19,9	2,1
12. Credit to property developers (%)	33,0	3,8

(*) Estimated for 2009

(**) Average 2004-2007

Source: Mº de Fomento, INE, Mº de Vivienda, Banco de España

2. Between "peak" and "valley", the INE housing price index fell by -10.2% in the housing market recession, with a -16.1% drop in the second hand home index. The reduction in the average appraisal prices published by the Ministry of Housing was more moderate, -9.6%



The effect of the crisis on the volatility and risk of the IBEX35 index

Esther Ruiz* and María Rosa Nieto**

*Instituto Flores de Lemus and Statistics Department, Universidad Carlos III de Madrid

** Statistics Department, Universidad Carlos III de Madrid

February 2010

This paper analyses the evolution of the volatility and risk associated to the daily yield of the IBEX35 index from 2007 to 2009. Both the volatility and risk have increased greatly with the crisis, so they could be classified as its indicators. We also analyse the robustness of the econometric models used to estimate volatility and risk associated to the crisis, finding that they have not undergone major changes in the analysed period.

1. Introduction

The evolution of uncertainty and risk on the financial markets is largely of interest since the financial crisis reared its head in the last quarter of 2008. The uncertainty associated to the yield of a given financial asset is popularly known as volatility. It is important to note that volatility is not a tangible quality of which we can obtain observations. Volatility is a measure of the dispersion of a financial asset's yield around its mean yield. But this measure can be obtained in different ways. Something similar is applicable to financial risk, which cannot be directly observed. Although they are occasionally mistaken for each other, volatility and risk are not the same things. There is volatility whenever a yield deviated from the mean, but such a deviation can be positive or negative, and we only usually refer to risk in relation to negative yields. As neither volatility nor risk can be directly observed, in practice there are different definitions and different ways of measuring the two. In this note, we will be focusing on volatility and risk measurements obtained from econometric models. We will specifically be analysing the evolution of the volatility and risk associated to the Madrid Stock Market index, IBEX35, observed on a daily basis at closing from 1/9/2003 to 19/1/2009. Our first objective is to analyse the robustness of the models used to represent the dynamic evolution of volatility and risk in relation to the financial crisis. In particular, we will analyse whether the model's characteristics have changed since the start of the crisis and whether the values of their parameters have remained constant or not throughout the analysed period. As

well as analysing the effects of the crisis on the models, we will also be studying the dynamic evolution of the volatility and risk estimations obtained.

2. Empirical characteristics of IBEX35

A widespread belief among the financial press is that, in the last two years, there has been increased volatility on the financial markets, which are evident if we consider the evolution of the yield of any financial asset over time; in other words, the relative increase in its price between two consecutive observations). The evolution of IBEX35 is shown on graph 1, where we can see a clear drop in prices since mid-December 2007 with slight recovery starting in the first quarter of 2009. However, volatility and risk are concepts that are not associated to prices but to the daily yields as shown in graph 2.

Graph 2 shows the increase in volatility generated in the last two years, since the financial crisis was broadly acknowledged. It also shows a phenomenon known as "volatility grouping", according to which days on which market uncertainty is high are usually followed by other days of high uncertainty, while the dispersion of yields around their mean is smaller at other times. Volatility grouping results from temporary dependence on daily volatility. Considering that daily yields have a mean that is approximately equal to zero throughout the analysed period, dependence in volatility leads to the deviation of yield values around their mean (that is, absolute yield values) being autocorrelated. Autocorrelations between

We will be focusing on volatility and risk measurements obtained from econometric models. We will specifically be analysing the evolution of the volatility and risk associated to the Madrid Stock Market index, IBEX35, observed on a daily basis at closing from 1/9/2003 to 19/1/2009.

Considering that daily yields have a mean that is approximately equal to zero throughout the analysed period, dependence in volatility leads to the deviation of yield values around their mean (that is, absolute yield values) being autocorrelated.



There is a different volatility response depending on whether past yields were positive or negative. As is to be expected, a drop in prices, and therefore a negative yield, causes a greater variation in volatility than a price increase, and therefore a positive yield, of the same magnitude.

absolute yields, that is the correlation between $|y_t|$ and $|y_{t-h}|$, where y_t represents the yield on day t, are shown on graph 3 for lags $h=1,\dots,100$. This graph shows that the autocorrelations of absolute yields with their own past absolute yields are positive and very persistent, which could mean that volatility shocks persist for long periods of time.

Another characteristic of the daily IBEX35 yields during the period considered is that there is a different volatility response depending on whether past yields were positive or negative. As is to be expected, a drop in prices, and therefore a negative yield, causes a greater variation in volatility than a price increase, and therefore a positive yield, of the same magnitude. This effect can be seen on graph 4, which shows the correlation between IBEX35 yields, y_t , and future yields squared, y_{t+h}^2 , which are a measure of variance, and therefore of volatility, for $h=1,\dots,100$. These correlations are negative, especially in the first lags, meaning that when there is a negative yield, we expect greater increases in squared yields, that is volatility, than when the yield is positive.

The third empirical characteristic of the IBEX35 yields shown on graph 1 is that

there is a relatively large number of extreme, positive or negative yields far from the mean value. This shows that the daily yield values cannot be represented by a normal distribution, but that we have to assume distributions with wide tails, where the likelihood of obtaining extreme values is greater than normal. Figure 5 shows the histogram of the yields together with the normal density corresponding to the mean, and the estimated variance of the yields. The figure shows that the left-hand yield distribution tail (which corresponds to negative yields) is wider than the normal. Consequently, we will have more negative yields than we would expect with a normal distribution. This effect is much smaller on the right-hand distribution tail, which corresponds to positive yields. The asymmetry coefficient of the distribution of the yield values is -0.14, showing that we are more likely to obtain negative yields than positive values. The kurtosis represents the measure associated to the presence of extreme values. When a variable is distributed with a normal distribution, the kurtosis is 3, and this is the value often taken as reference. In the case of the IBEX35 index, the kurtosis is 12.22, clearly greater than if the distribution of the yield values were normal.

Figure 1. Daily IBEX35 prices from 1/9/2003 to 19/1/2010

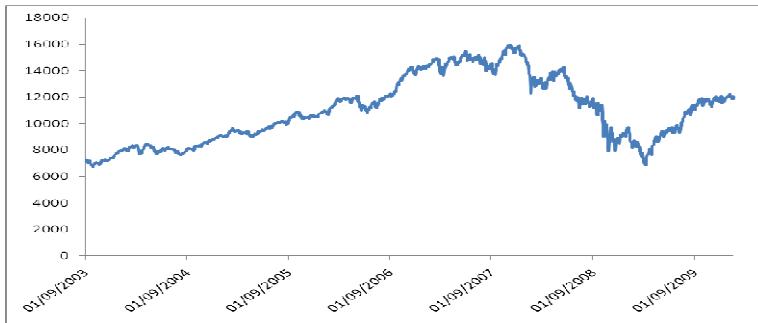


Figure 2. Daily yield of IBEX35 observed from 2/9/2003 to 19/1/2010

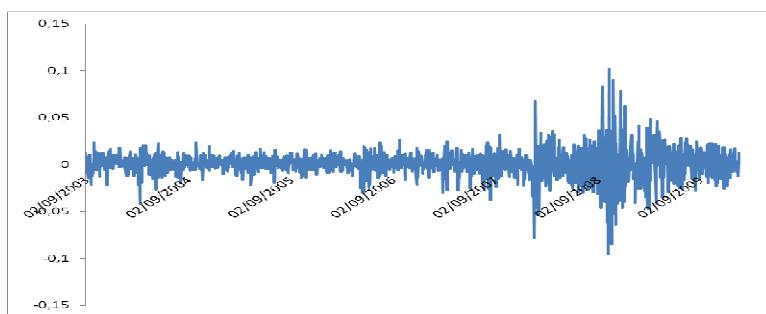


Figure 3. Autocorrelations of the absolute IBEX35 yields observed daily from 2/9/2003 to 19/1/2010

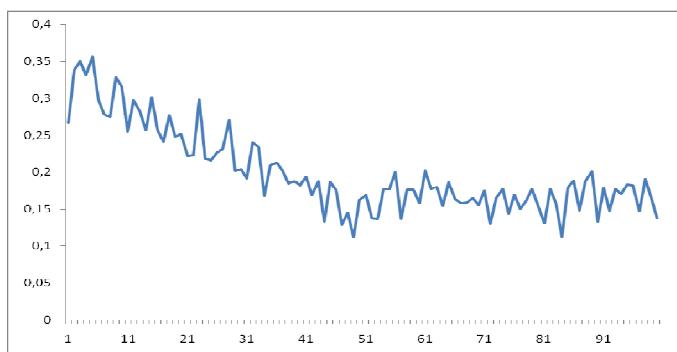
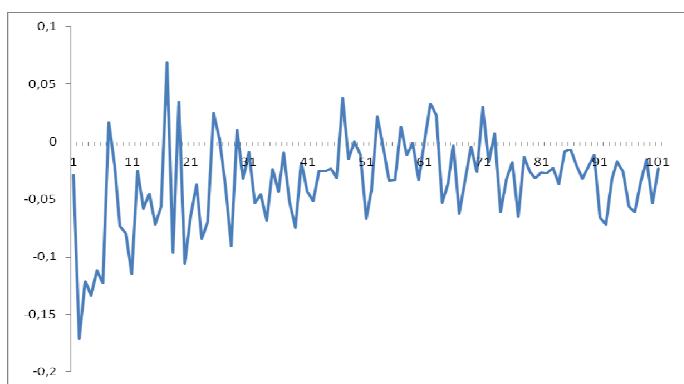
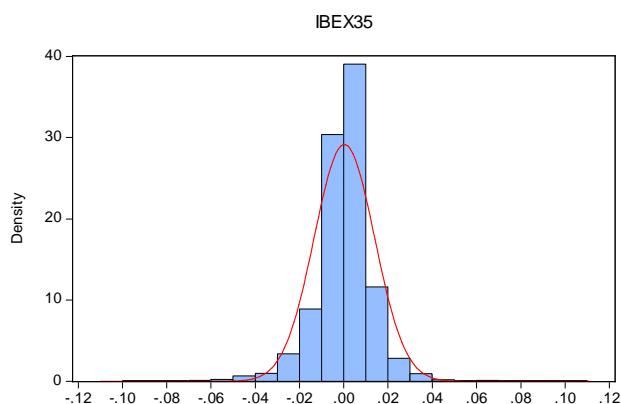


Figure 4. Cross correlations between yields and future yields squared.



The daily yield values cannot be represented by a normal distribution, but that we have to assume distributions with wide tails, where the likelihood of obtaining extreme values is greater than normal.

Figure 5. Histogram and normal density of daily IBEX35 yield values observed from 2/1/2003 to 19/1/2010.



We will have more negative yields than we would expect with a normal distribution.

The daily yields of the IBEX 35 index from 2/1/2003 to 19/1/2010, like many other series of financial yields, have positive and persistent correlations of the positive absolute values, correlations of the yields with negatively correlated future volatilities and excess kurtosis, that is a non-normal distribution with wide tails.

If the model is suitable for representing the dynamic evolution of volatility, σ_t , the residuals squared should have no time autocorrelation other than zero and, moreover, they should not be correlated with residuals in the past.

Finally, the residuals should have the distribution assumed for shocks, that is a Student distribution with the degrees of freedom estimated in each case.

3. A model to represent volatility

In sum, the daily yields of the IBEX 35 index from 2/1/2003 to 19/1/2010, like many other series of financial yields, have positive and persistent correlations of the positive absolute values, correlations of the yields with negatively correlated future volatilities and excess kurtosis, that is a non-normal distribution with wide tails. A very popular model in the econometric literature, which has been shown to be suitable to represent these three characteristics, is the EGARCH (Exponential Generalized Autoregressive Conditional Heteroscedasticity) model which, in its simplest version, is given by:

$$y_t = \varepsilon_t \sigma_t$$

$$\log \sigma_t^2 = \omega + \beta \log \sigma_{t-1}^2 + \alpha [\varepsilon_{t-1} - E(\varepsilon_{t-1})] + \gamma \varepsilon_{t-1}$$

Where y_t is the daily yield on day t, σ_t is the same day's volatility and ε_t is a serially independent shock the distribution of which has zero mean and a variance of 1. The EGARCH model has 4 parameters. The first, ω , is related to the mean volatility of the daily yields during the analysed period, known as marginal variance. The second, α , measures the dependence over time of the volatility shown in the correlations of the absolute yields. Another parameter is γ , which is related to the asymmetrical response of volatility to negative and positive yields. Finally, β is related to the persistence of shocks to volatility. The closer this parameter is to 1, the longer is volatility affected by the shock. The EGARCH model represents the evolution of volatility over time, but if we want to describe the distribution of the daily yields, we also have to make an assumption concerning the probability distribution of the yields of a specific day given past history. In other words, we have to assume a given distribution for ε_t . We assume here that this distribution is Student-like with v degrees of freedom. The greater the degrees of freedom, the closer the Student distribution to normal. When the degrees of freedom are relatively small, the Student distribution has wide tails and, therefore, kurtosis greater than 3. The degrees of freedom of the Student distribution is the fifth parameter estimated in the EGARCH model.

We first consider how the financial crisis has affected the model representing the dynamic evolution of volatility in the last two years. We want to know whether the

estimations of its parameters have remained approximately constant over this time, and then whether the model is suitable throughout the period. In relation with the first point, to investigate whether the estimation of the five parameters has remained constant over time, we adjust the EGARCH model, which is estimated with data up to 11/12/2007. We then eliminate the first observation in the sample and add a new observation at the end until we reach 19/1/2010. The estimations of the parameters obtained are shown on graph 6 together with the respective 95% confidence intervals. This graph shows that parameters α , γ and v have not undergone significant changes since December 2007, remaining approximately constant throughout 2008 and 2009. Parameters ω and β , however, have gradually increased in this period, showing an increase in the market's mean volatility, together with greater persistence of volatility shocks. Parameter β has gone from just under 0.9 in December 2007 to very close to 1, showing that mean volatility is not constant. In any event, note that the confidence intervals of the five parameters of the EGARCH model contain straight lines, showing that the model's parameters did not significantly vary during the period considered.

With regards to the analysis of whether, during the crisis, the model remained suitable for representing the dependence of volatility on time, in each sample, once the parameters were estimated, we calculated the standard residuals, that is the yield values divided by estimated volatility,

$$\hat{\varepsilon}_t = y_t / \hat{\sigma}_t$$

If the model is suitable for representing the dynamic evolution of volatility, σ_t , the residuals squared should have no time autocorrelation other than zero and, moreover, they should not be correlated with residuals in the past. Finally, the residuals should have the distribution assumed for shocks, that is a Student distribution with the degrees of freedom estimated in each case. To verify whether the model is suitable we calculated the Box-Ljung statistic of the autocorrelations of the squares of the residuals to discover whether said autocorrelations are significantly different from zero, that is, whether there is volatility dependence not explained by the model. We also calculated



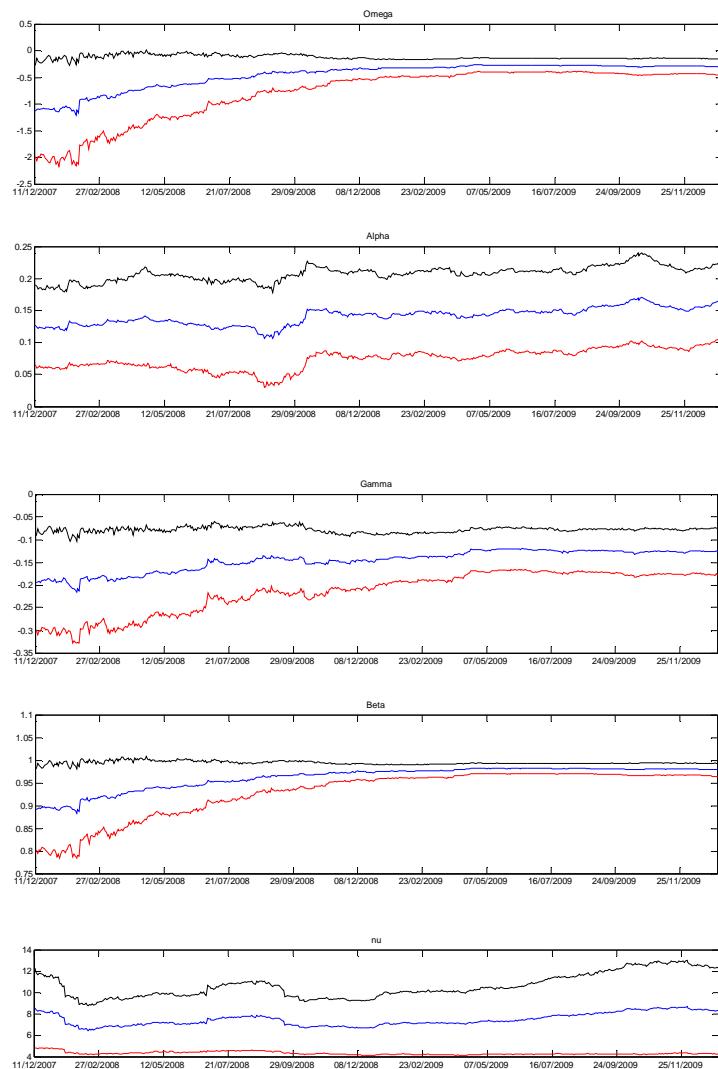
the Box-Ljung statistic of the cross correlations to discover whether the model is suitable for representing the asymmetrical response of volatility to positive and negative price movements. Finally, a test was performed to compare the kurtosis of the residuals with the kurtosis of the estimated Student distribution. The results are shown in graphs 7 to 9. Graph 7 represents the evolution of the ratio between the Box-Ljung statistic of the correlations of the squares and its respective critical value during the period considered. When this ratio is less than 1, the model correctly describes dependence, so the above graph appears to show that the EGARCH model was appropriate for representing the dependence between absolute yields shown on graph 3 throughout 2008 and 2009.

We can see that, in the first three quarters of 2008, the asymmetrical response of

volatility to positive and negative yields was not suitably represented by the EGARCH model. Starting in the 4th quarter of 2008, however, the model again correctly predicts this asymmetry.

Finally, graph 9 represents the ratio between the statistic to test whether the kurtosis of the residuals and the kurtosis of the distribution estimated in the EGARCH model are the same. We can see that the Student distribution is rejected from May 2009 on, and that we have to assume distributions with a larger number of extreme yields than are traditionally assumed. It is important to note, however, that in this period, although the ratio between the statistic and its critical value is more than 1, and the Student distribution is therefore rejected, the ratio is only just over 1. Considering that the tests are asymptotic, that is, valid in very large samples, the Student distribution would not appear to be firmly rejected.

Figure 6. Estimations of the parameters of the EGARCH model from 11/12/2007 to
19/1/2010



In the first three quarters of 2008, the asymmetrical response of volatility to positive and negative yields was not suitably represented by the EGARCH model. Starting in the 4th quarter of 2008, however, the model again correctly predicts this asymmetry.

We can see that the Student distribution is rejected from May 2009 on, and that we have to assume distributions with a larger number of extreme yields than are traditionally assumed. It is important to note.

Figure 7. Ratios between the Box-Ljung statistic and its critical value for squared residual autocorrelations.

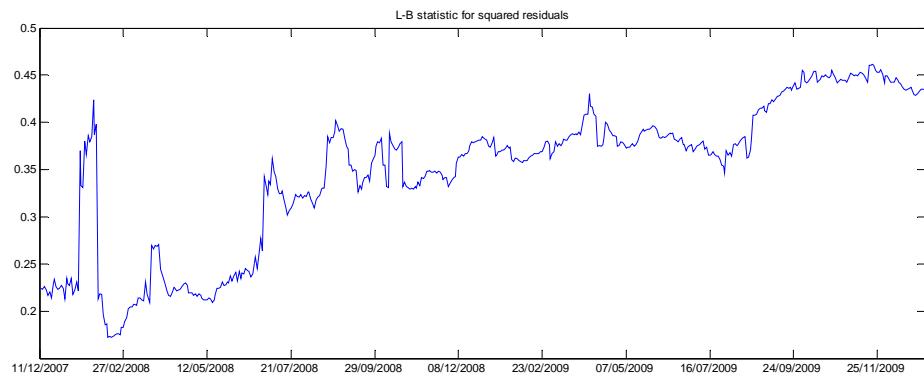


Figure 8. Ratio between the Box-Ljung statistic and its critical value for correlations between squared residuals and residuals.

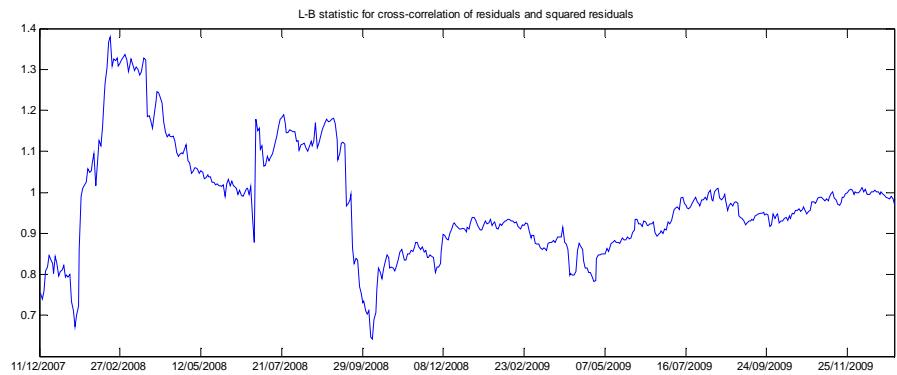
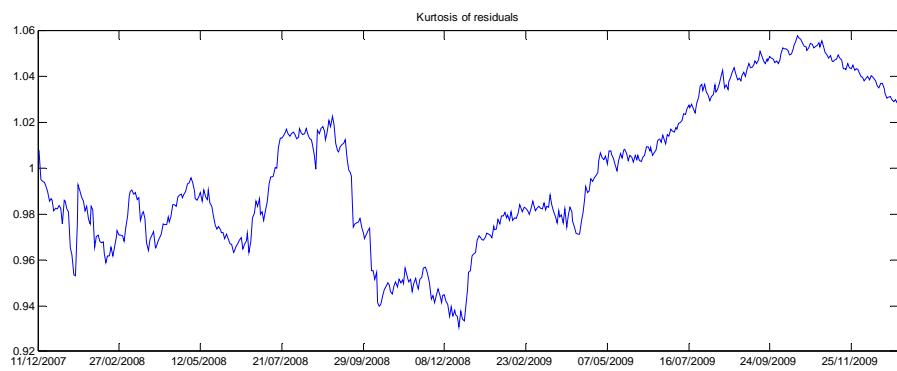


Figure 9. Ratio between the statistic to test equality of kurtosis of residuals and kurtosis of estimated Student distribution.



4. The evolution of the volatility and risk of the IBEX35 index

In conclusion, the three previous graphs support the robustness of the EGARCH model throughout the crisis for explaining the evolution of volatility. Moreover, the model's parameters appear to have remained approximately constant throughout the period considered. The EGARCH model appears to be relatively solid in the financial crisis. Using this model, we will now analyse how daily volatility forecasts, that is the predicted uncertainty and risk associated to the Madrid Stock Market, have changed in 2008 and 2009.

Graph 10, which represents the daily volatility forecasts, shows that the market's volatility grew considerably in the last quarter of 2008, but returned to pre-crisis levels after the second quarter of 2009.

Although volatility is a very important factor in market risk, there are other measurements more directly related to risk. In particular, we will be focusing on the VaR (Value at Risk) of 1%, which is defined as the yield such that there is a 1% likelihood of obtaining a lower daily yield. The VaR is usually negative, that is a loss, and the smaller it is, more risk will there be as, the losses could even be greater with a likelihood of 1%. From a probabilistic perspective, VaR is defined as the 0.01 quartile of the yield distribution. This distribution can be obtained by using

re-sampling procedures in the previously estimated EGARCH model. To illustrate the type of distributions than can be estimated, graph 11 represents the densities of the yield values estimated for three specific days in 2007, 2008 and 2010. In particular, it shows the densities of the yield values estimated for 12/12/2007, 12/10/2008 and 19/1/2010. Although we chose these specific days as an example, the conclusions are similar if we compare other days in each of these years. Graph 11 shows that the dispersion of the densities of the yields around the mean daily yield clearly increased when we compare the density of the yields of 12/12/2007 with those of 12/10/2008, but the increase is even greater if we compare the density of the yields of the latter with those of 19/1/2010.

Evidently, these changes in the yield density forecasts affect the forecasts for VaR and other risk measurements. Graph 12 shows the estimations of the daily VaR of 1% obtained from the previously described bootstrap densities for the entire sample period.

Graph 12 shows that the VaR, and therefore the risk associated to IBEX 35, remained more or less constant at around -2%, up to the third quarter of 2008. The VaR then registered a spectacular increase, occasionally reaching values of over -15%. From 2009, the risk increased from its 2008 level, to approximately -4%.

The daily volatility forecasts, shows that the market's volatility grew considerably in the last quarter of 2008, but returned to pre-crisis levels after the second quarter of 2009.

The risk associated to IBEX 35, remained more or less constant at around -2%, up to the third quarter of 2008. The VaR then registered a spectacular increase, occasionally reaching values of over -15%. From 2009, the risk increased from its 2008 level, to approximately -4%.

Figure 10. Daily volatility forecasts generated by the EGARCH model.

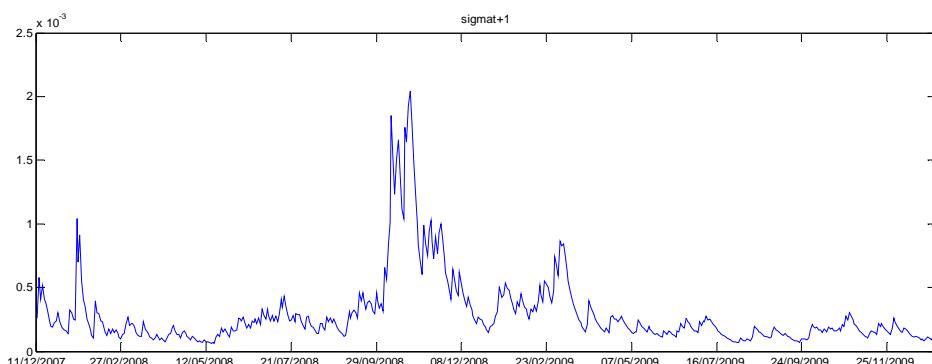


Figure 11. Bootstrap densities of the daily yield values for three selected days.

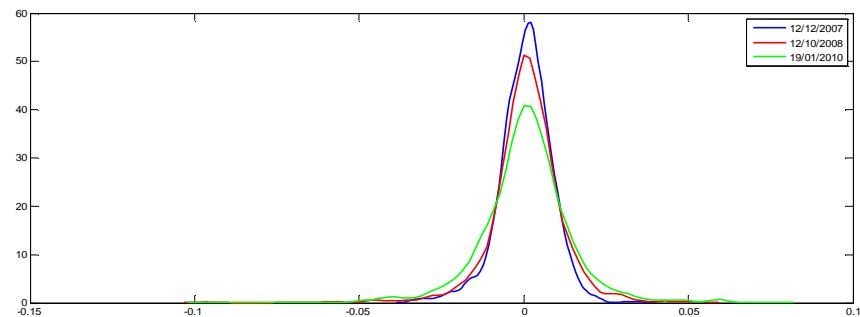
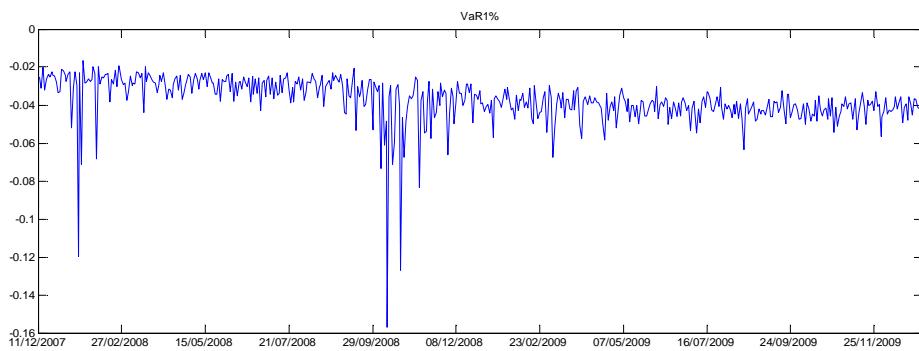


Figure 12. Daily estimations of the IBEX35 VaR 1%.



The EGARCH model was valid for representing the evolution of volatility in the IBEX35 index throughout 2008 and 2009.

The risk associated to the Madrid Stock Market remained approximately stable at values greater than those observed before that quarter.

5. Conclusion

We can conclude that the EGARCH model was valid for representing the evolution of volatility in the IBEX35 index throughout 2008 and 2009. Its parameters do not appear to have undergone a significant change during the financial crisis. The daily estimations of volatility (the uncertainty associated to IBEX35) obtained with the

EGARCH model, clearly increased in the last quarter of 2008, subsequently returning to pre-crisis levels. We have also estimated the risk associated to IBEX35 through VaR, finding that said risk increased spectacularly in the last quarter of 2008. Since then, the risk associated to the Madrid Stock Market remained approximately stable at values greater than those observed before that quarter.





BULLETIN OF E.U. AND U.S. INFLATION AND MACROECONOMIC ANALYSIS



Universidad
Carlos III de Madrid

Instituto Flores de Lemus

Second Phase

SUBSCRIPTION FORM FOR 2010

Full Name:.....
Company:.....
Address of sending:.....

Fiscal Address:.....

VAT Number:.....
Telephone:.....Fax:.....E-Mail:.....

PAYMENT TERM

(All prices included VAT and delivery costs)

Bank cheque

Made out to: Fundación Universidad Carlos III.
VAT: 79852257-G - Domicile: C/ Madrid, 126. 28903 Getafe (Madrid)
(Send cheque to: Fundación Universidad Carlos III. Dpto. Contabilidad. Avda. de la Universidad, 20. 28911 Leganés (Madrid)).

Bank transfer

To: Fundación Universidad Carlos III C.C.C.: 2096-0630-18-2839372704

Tarjeta de Crédito: **VISA.....AMERICAN EXPRESS.....MASTERCARD.....CREDIT CARD.....** (rellenar con una X)
Number:..... Expiry date:.....

Authorised signature:

Date:

BIMA, Bulletin of E.U. and US Inflation and Macroeconomic Analysis (monthly edition)

- via e-mail **€ 400 ⁽¹⁾**
- via regular mail (2) **€ 500**

- Inflation forecasts broken down into a small number of sectors using econometric leading indicator and changing regime models when necessary, for EURO AREA, EU COUNTRIES and the US.
- Forecasts of the macroeconomic table, industrial indicators and economic sentiment in the Euro Area.
- Inflation forecasts for all the autonomous regions.
- Forecasts of the Spanish macroeconomic table.

Forecast and diagnosis update service **€ 2.000**

- a) Forecast update service (via E-MAIL)
 - 12 hours after the Spanish CPI is published.
 - 12 hours after the euro area HCPI is published.
 - 12 hours after the US CPI is published.
- b) Diagnosis update service (via E-MAIL):
 - E-mail notification of updates to the Bulletin's web page.
 - E-mail update of the diagnosis of European inflation, 4 hours after the European harmonised inflation figure is published.
 - Updated macroeconomic forecasts and Spanish and European economic indicators.

Joint subscription **€ 2.100**

- + Subscription to the BULLETIN OF EU AND US INFLATION AND MACROECONOMIC ANALYSIS
+ Forecast and diagnosis update service.

Subscription to the bulletin, updates, consultancy service and support for research **€ 4.500**

- + Subscription to the BULLETIN OF EU AND US INFLATION AND MACROECONOMIC ANALYSIS
+ Forecast and diagnosis update service
+ Immediate access to the working papers developed in relation to the Bulletin.
+ Access to the Bulletin's data bank upon individual request.
+ Consultancy service provided by the Bulletin's experts in related issues.
+ Inclusion of logo in the Bulletin and on the Internet in the list of collaborators supporting the research conducted by the Bulletin (optional).

(1) THESE SUBSCRIBERS WILL ALSO RECEIVE THE ELECTRONIC VERSION, PROVIDING THE TYPE OF DISTRIBUTION REMAINS UNALTERED
NOTA: payment must be made before February 15 to ensure continued delivery of the Bulletin.

INDICATORS CALENDAR

MARCH

1 USA PCE (February)	2 Euro Area HICP (A.D February)	3	4	5 Spain IPI (January)	6	7
8	9	10	11	12 Spain CPI (February) Euro Area IPI (January)	13	14
15	16 Euro Area HICP (February)	17	18	19 USA CPI (February)	20	21
22	23	24	25 Spain ESI Euro Area ESI (February)	26	27	28
29 Spain ESI Euro Area ESI (March) USA PCE (March)	30 Spain HICP (A.D March)	31 Euro Area HICP (A.D March)				

APRIL

			1	2	3	4
5	6	7	8 Spain IPI (February)	9	10	11
12	13	14 Euro Area IPI (February) USA CPI (March)	15 Spain CPI (March)	16 Euro Area HICP (March)	17	18
19	20	21	22	23	24	25
26	27	28	29 Spain HICP (A.D April) Spain ESI Euro Area ESI (April)	30 Spain EAPS (1º Quarter) Euro Area HICP (A.D April)		

* ESI: Economic Sentiment Indicator

CPI: Consumer Prices Index

HICP: Harmonised Index of Consumer Price

QNA: Quarterly National Accounts

PCE: The Personal Consumption Expenditure Price Index

EAPS: Economically Active Population Survey

IPI: Industrial Production Index

A.D.: Advanced Indicator



BULLETIN OF EU AND US INFLATION AND MACROECONOMIC ANALYSIS

www.uc3m.es/boletin



Universidad
Carlos III de Madrid

Instituto Flores de Lemus

FORECASTS FOR DIFFERENT INSTITUTIONS															
Annual average rates															
	UNITED STATES				SPAIN				EURO AREA						
	Consensus Forecasts ¹	BIMA ²	IMF ³	OECD ⁴	Consensus Forecasts	BIMA	IMF	OECD	Consensus Forecasts	BIMA	IMF	ECB SPF ⁵	ECB Staff ⁶	OECD ⁴	
GDP	2010	3,1	-	2,7	2,5	-0,4	-0,4	-0,6	-0,3	1,1	0,7	1,0	1,2	0,8	0,9
	2011	3,0	-	2,4	2,8	1,1	0,7	0,9	0,9	1,5	1,3	1,6	1,6	1,5	1,7
CPI	2010	2,2	1,8	1,7	0,8	1,4	1,5	0,9	0,8	1,1	1,3	0,8	1,3	1,2	0,9
	2011	1,9	1,2	-	1,2	1,7	1,5	-	-0,1	1,4	1,2	-	1,5	1,5	0,7

1. Consensus Forecasts, February, 2010.
2. BIMA. Bulletin of EU & US Inflation and Macroeconomic Analysis, February, 2010.
3. FMI. World Economic Outlook. GDP: January, 2010.
4. OCDE. Euro area and US: Interim Economic Outlook, November, 2009
5. BCE SPF, "Survey of Professional Forecasters", February, 2010.
6. BCE STAFF, staff macroeconomic projection for the Euro Área. December, 2009. Point forecast for interval.

In the next issue

- The new Michele Boldrin's macroeconomic debate
- Market competition in the Spanish economy.
- Spanish labour market analysis: the economically active population survey of the first quarter of 2010.
- Professors Gunnar Bardsen and Ragnar Nymoen update their forecasts for the Norwegian economy commenting about the recent developments in their modelling strategies.

For information about subscriptions see SUBSCRIPTION FORM inside this issue

www.uc3m.es/boletin



Comunidad de Madrid