

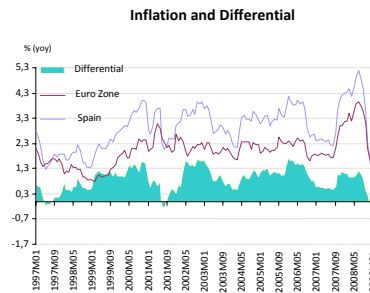
Spain in The Global Value Chain: The Competitiveness of The Spanish Economy

The Spanish Economy After The Crisis:
Towards a New Growth Model

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- From 1990, when it entered the EMU, until the current international crisis, the Spanish economy registered a positive **inflation** differential with the EMU, a rising **foreign deficit** and a poor performance in terms of labor **productivity**, compared with the U.S. and other European countries.
- Although some individual companies and sectors are very competitive internationally, the consensus is that these three problems are interrelated and are the manifestation of the **lack of competitiveness** of the Spanish economy.
- **Objective:** to analyze the empirical evidence and the causes behind this problem of competitiveness at an aggregate level.
- Some of the policies (improving human capital and R&D investment) only have **significant effects over the long term**.
- Yet, a broad range of policies (labor and product market regulation) are also available. They may have major **effects in the short term**.

- There are various **different ways** of presenting the evidence on the problem of competitiveness.
- The usual approach to the problem is using the inflation differential with the EMU countries: with a fixed nominal exchange rate a positive inflation differential implies an **appreciation of the real exchange rate**.
- This is the correct approach when using the price inflation of **tradable goods**.
- One of the stylized facts of the Spanish economy since the establishment of the single currency is the **persistence** of the inflation differential with the EMU.
- On **average**, the inflation differential stood at 0.9% annually.



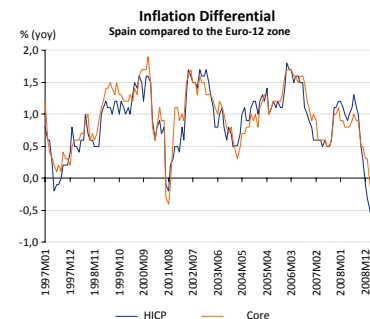
Source: Eurostat and BBVA ERD

- The pattern of behavior of the inflation differential is present whether we use the aggregate HICP measure of inflation or its core component.
- The most volatile elements of inflation (energy) are not the cause of the differential.

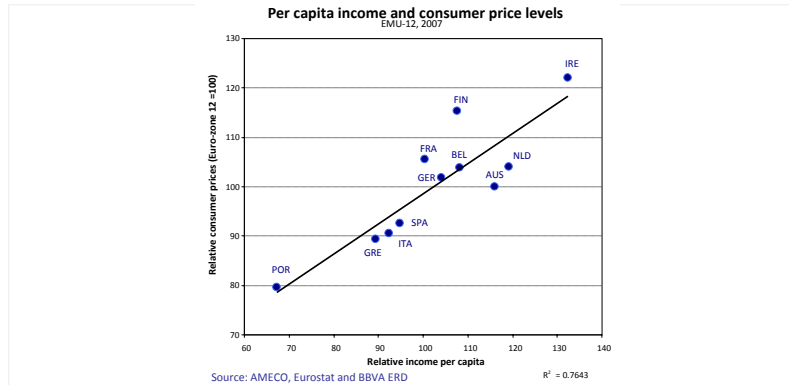
Inflation Differential
Spain compared to the Euro-12 zone

(in % p.a.)	HICP	Unprocessed foods	Energy	Core
1997	0,2	0,0	-0,2	0,4
1998	0,6	0,2	-1,2	0,7
1999	1,1	1,0	1,0	1,3
2000	1,4	2,0	0,3	1,5
2001	0,5	0,2	-2,9	0,6
2002	1,3	1,6	0,5	1,4
2003	1,0	2,4	-1,7	1,1
2004	0,9	3,0	0,4	0,7
2005	1,2	2,5	-0,4	1,2
2006	1,4	1,1	0,3	1,5
2007	0,7	1,3	-0,8	0,8
2008	0,9	0,4	1,7	0,8
2009*	-0,5	-1,0	-3,5	0,0
Average	0,8	1,1	-0,5	0,9

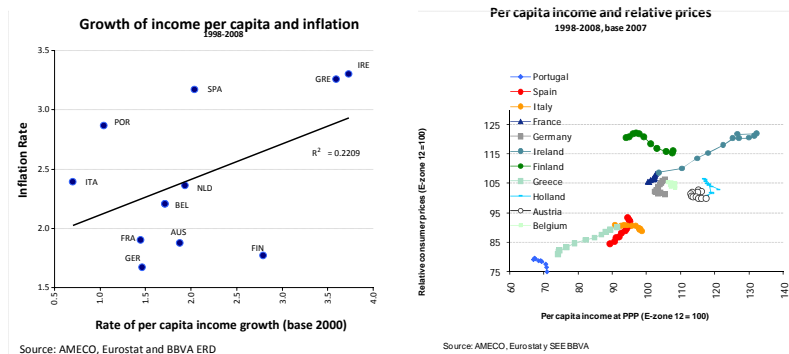
Note: * to March 2009.
Source: Eurostat and BBVA ERD



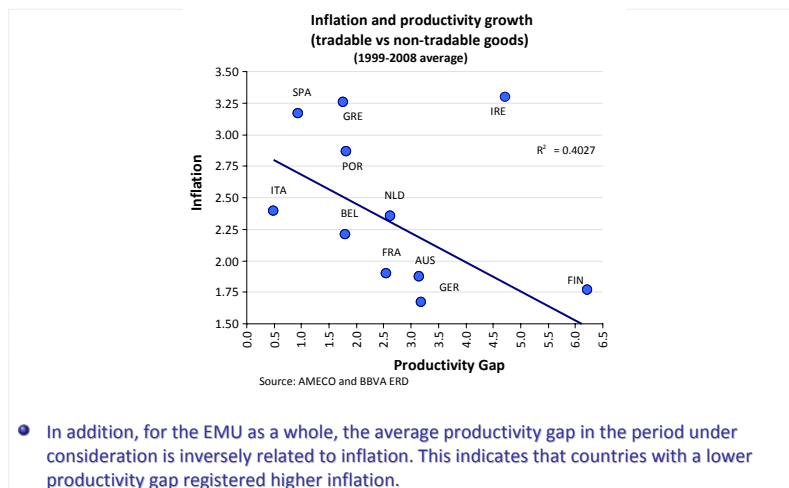
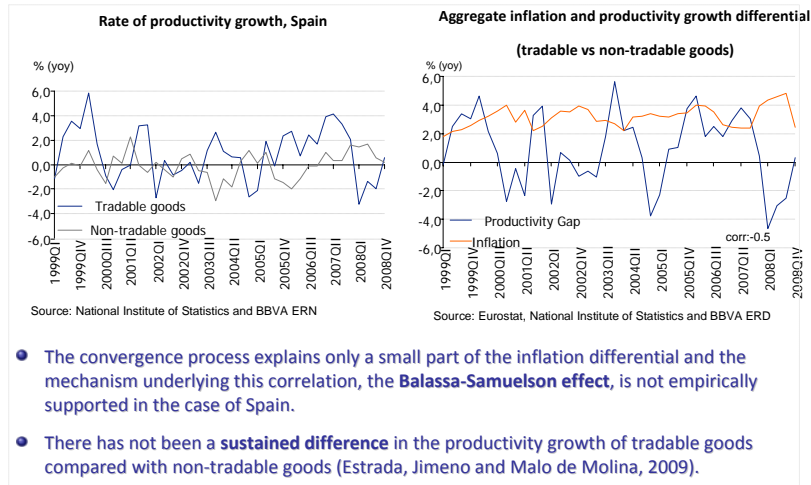
Source: Eurostat and BBVA ERD



- The positive inflation differential may be the result of the **convergence process** that is a feature of economies which start from a lower per capita income level.
- Countries with lower **relative per capita income** have lower price levels.



- However, in the period under consideration, the **process of real convergence explains only a small part** of the inflation registered in the EMU countries as a whole (<25%).
- The inflation rate in Spain was **greater** than that predicted by the growth in per capita income, as based on the correlation in other EMU countries.



- A potential explanation of the inflation differential is that is caused by imported inflation.
- Spain, Greece and Portugal: The contribution of domestic inflation to the determination of the inflation differential is significantly greater than the contribution of imported inflation.
- Germany has a decisive role in reducing average inflation in the euro zone.

Inflation Accounting. Euro-12 zone countries
Final Demand Deflator, 1999-2008
(contributions to change)
(average annual growth rates as percentage)

Euro-12 zone	Total	Domestic Costs	Imported Costs
Euro-12 zone	2,04	1,58	0,46
Deviation from the mean of the Euro-12 zone			
Belgium	0,47	-0,46	0,94
Germany	-0,63	-0,38	-0,25
Ireland	-0,03	-0,30	0,27
Greece	1,31	0,93	0,38
Spain	1,14	1,08	0,06
France	-0,36	-0,06	-0,30
Italy	0,63	0,32	0,30
Luxembourg	1,21	-0,27	1,48
Netherlands	-0,09	-0,16	0,07
Austria	-0,08	-0,19	0,11
Portugal	0,43	0,41	0,02
Finland	-0,36	-0,36	0,00

Note: The contribution of imported costs in the Euro-12 zone is calculated as the weighted average of the contributions of the countries' imported costs. In the case of Luxembourg, the contribution of domestic factors is calculated as a residual using the annual exchange rate of the deflator of final demand. The total figure is the sum of the contributions.

Sources: AMECO and BBVA ERD.

- Spain is among the countries with nominal wage growth substantially above the average. In addition there is a poor labor productivity performance.
- The growth in domestic demand placed considerable upward pressure on profit margins in Spain, Greece and Ireland.

Inflation Accounting. Euro-12 zone countries
Gross Domestic Product Deflator, 1999-2008
(contributions to change)
(average annual growth rates as percentage)

Euro-12 zone	Total	Wages	Productivity	Margins	Taxes
Euro-12 zone	1.99	1.29	0.41	0.89	0.23
Deviation from the mean of the Euro-12 zone					
Belgium	-0.10	0.17	0.02	-0.15	-0.09
Germany	-1.09	-0.34	0.42	-0.37	0.04
Ireland	1.15	1.01	0.41	0.41	0.14
Greece	1.39	0.73	0.21	0.74	0.12
Spain	1.74	0.36	-0.32	0.98	0.08
France	-0.12	0.13	-0.01	-0.18	-0.08
Italy	0.49	-0.13	-0.44	0.19	0.00
Luxembourg	1.10	0.23	-0.25	0.51	0.11
Holland	0.62	0.61	0.32	0.21	0.11
Austria	-0.39	-0.19	0.27	0.25	-0.18
Portugal	0.98	0.59	-0.09	0.07	0.22
Finland	-0.43	0.34	0.37	-0.26	-0.14

Note: The contribution of profit margins is calculated as a residual. The total is the sum of the contributions of wages, margins and taxes, minus the contribution of productivity

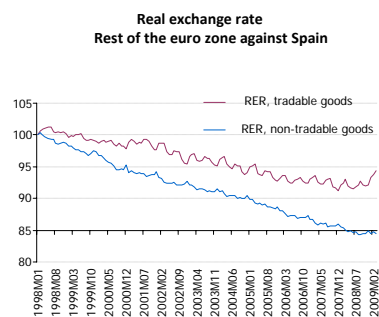
Sources: AMECO and BBVA ERD.

$$\Delta p = \sigma_w [\Delta w - (\Delta y - \Delta I)] + \sigma_\pi [\Delta \pi - \Delta y] + \sigma_\tau [\Delta \tau - \Delta y]$$

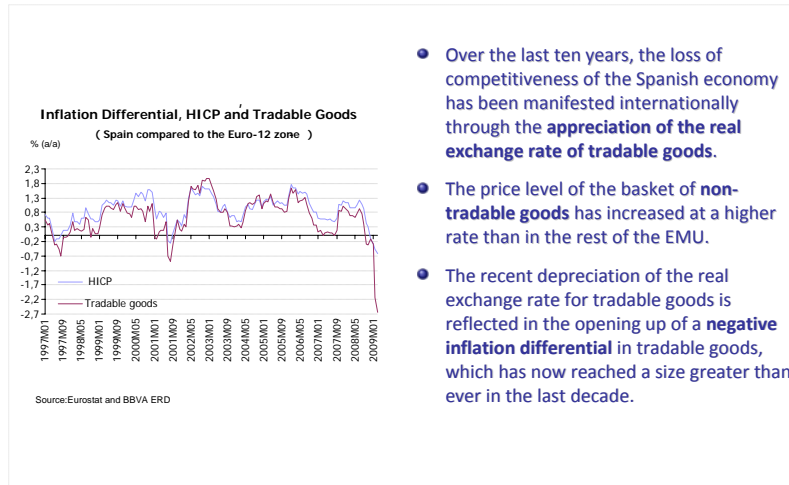
Main results:

- Persistent **positive inflation differential** in Spain compared with the EMU.
- Only part of the price convergence within the EMU is explained by **convergence in per capita income**.
- The **lack of convergence in productivity** (the Balassa-Samuelson effect) means that the inflation differential of the Spanish economy cannot be explained in this way.
- **Domestic factors** have been more important compared to imported factors when determining the persistence of a positive inflation differential.
- The current **slowdown in domestic demand** has reduced the inflation differential by easing the upward pressure of demand on profit margins and wages.

- The **appreciation of the real exchange rate** serves as an indicator of the accumulated inflation differential over the last ten years.
- The depreciation of the real exchange rate was particularly noticeable in **non-tradable goods** as a whole, even though it has slowed down in recent observations.
- Until mid 2004, the real exchange rate for **tradable goods** depreciated by more than 5% and then leveled off. This pattern of behavior would indicate that in 2004 Spain had used up the competitive advantage of joining the euro at a nominal depreciated exchange rate of around 8%.

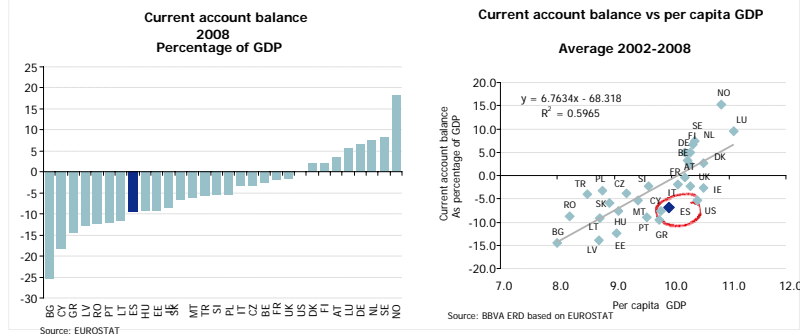


Source: Eurostat and BBVA ERD

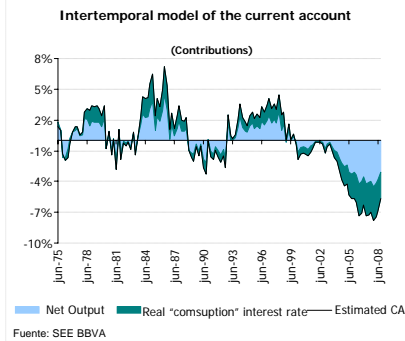


- Over the last ten years, the loss of competitiveness of the Spanish economy has been manifested internationally through the **appreciation of the real exchange rate of tradable goods**.
- The price level of the basket of **non-tradable goods** has increased at a higher rate than in the rest of the EMU.
- The recent depreciation of the real exchange rate for tradable goods is reflected in the opening up of a **negative inflation differential in tradable goods**, which has now reached a size greater than ever in the last decade.

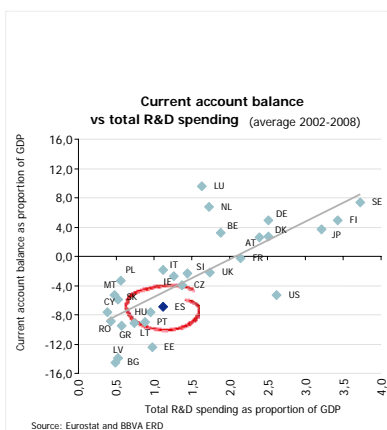
- The Spanish current account deficit was 9.5% in 2008 and continues to be one of the highest in Europe.
- Although in integrated markets, such as the EU, the foreign deficit may be the result of a process of convergence (greater expectations of per capita income), the Spanish deficit is greater than the one that would correspond to its income level.



- **The intertemporal approach to the current-account balance** (Bergin and Sheffrin, 2000, Campa and Gavilán, 2005): The expectations of changes in future income (domestically and in the rest of the world) of goods produced in Spain (net output) and of the real interest rates (inflation differential) explain the economy's current-account balance.

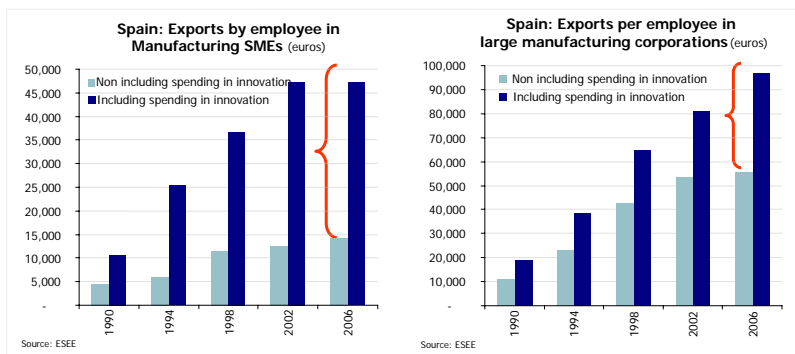
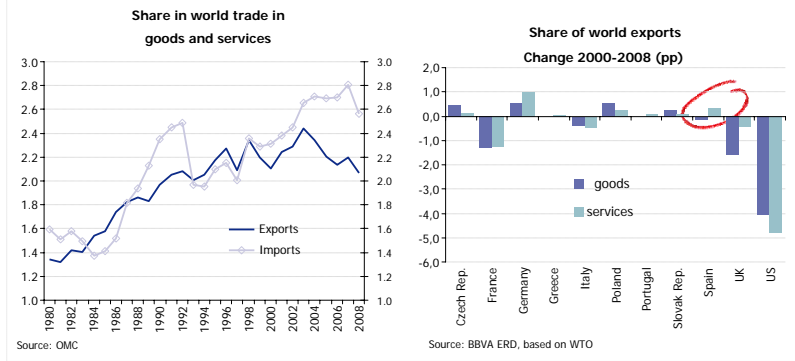


- In the current situation, the downward revision of future **growth expectations** leads to a significant adjustment of the external deficit.
- Additionally, in recent years the percentage contribution of the **real interest rate** to the foreign deficit has increased (up to nearly 50%).



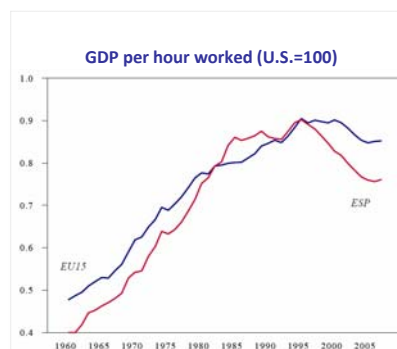
- A positive correlation between R&D investment and the current-account balance. R&D investment plays an important role in winning market share in international markets.
- The Presidency Conclusions of the Barcelona European Council of March 2002 already stressed that to achieve a more competitive economy "overall spending on R&D and innovation in the Union should be increased to 3% of GDP by 2010. Two thirds of this investment should come from the private sector."

- Spanish exports have not lost their market share in world trade of goods and services. They have performed better than those of other advanced economies, which have witnessed their market shares being reduced significantly as a result of the dominant entry of China.



- Evidence shows that **innovative companies** have an exports per employee ratio that is significantly greater than those that do not make this effort. Specifically, for SMEs the ratio is nearly four times greater, while for the major corporations it is around double.

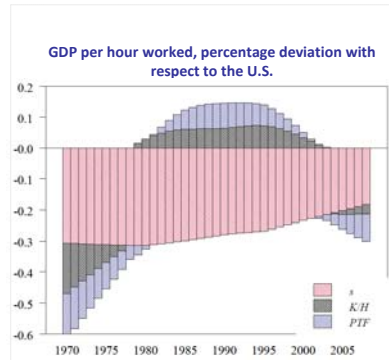
- The Spanish economy has a problem of competitiveness that is manifested in an **inflation differential** in both tradable and non-tradable goods, as well as a **high and persistent foreign deficit**.
- The inflation differential cannot be explained by the **Balassa-Samuelson** hypothesis because of the **negative correlation** between the inflation differential and the growing productivity gap between tradables and non-tradables.
- The loss of competitiveness explains **40% of the current account deficit** of recent years.
- The inflation differential can be explained by the growth of the **gross operating surplus** and the growth of **wages above productivity levels**.
- Behind the problem of competitiveness lies a problem of
 - Insufficient **productivity** growth in the expansive phase of the cycle.
 - Nominal **wages** that have grown far above real **productivity** (labor market).
 - **Margins** that have grown above real GDP (product markets).



Since 1995 Spanish productivity in relation to the U.S. has fallen from 90% to 75% while it has hardly done so in the EMU.

- Functioning of the **labor market**. Low productivity of temporary employment (Dolado and Stucchi, 2008, Sala and Silva, 2009).
- Lower **average size of Spanish companies**: Larger companies are as productive as those in the U.S.
- **Institutions and regulations**: High regulatory and administrative costs, far above those in the United States, Denmark, Canada or Ireland.
- **Technological capital**: Spending on R&D as a proportion of GDP is similar to Italy, Greece and Portugal, at below 1.5%, and far from the figure for U.S., Japan, Finland or Sweden (>2.5%).
- **Human capital** lower than in other economies.

(Doménech, 2008, and De la Fuente and Doménech, 2009)



The gap in human capital explains 2/3 of Spain's productivity gap with the U.S. (30% in 2008), and lower total factor productivity (TFP) a further 25%.

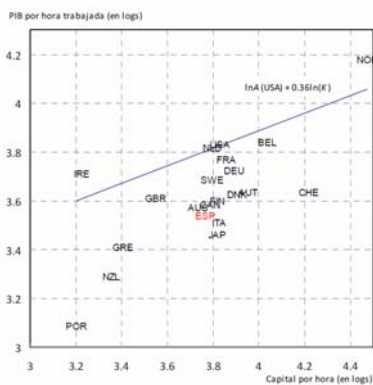
Structural and cyclical factors:

- Decomposition of **potential GDP growth**: Scarce growth with respect to TFP (A) and human capital gap per adult (s)

$$\ln PIB = \ln A + \alpha \ln K + (1 - \alpha) \ln H + \beta s$$

- Productivity is also affected by **cyclical factors**:
 - Changes in the **sectoral composition** and the greater weight of some sectors with low productivity (e.g. construction).
 - Turbulence in **demand and countercyclical productivity**. Over-use of factors of production with decreasing marginal productivity.

Distance to the technological frontier.

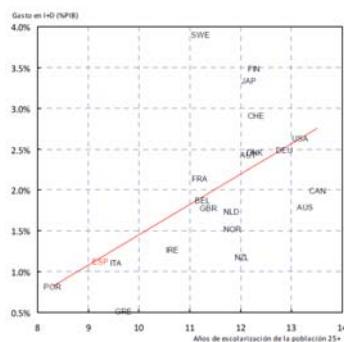


Another form of visualizing the problem of productivity in Spain is that the distance to the technological frontier is explained by TFP and human capital.

- Human and technological capital changes very slowly, so the effects of educational changes are long-term.
- In the short-term the improvement in productivity has to be based on a more efficient use of factors of production, in other words improvement in TFP.
- As a result of the economic crisis there has been an improvement in labor productivity, due to a cyclical effect (Dew-Becker and Gordon, 2008).
- The challenge for the next few years will be to reduce the unemployment rate without affecting productivity negatively, unlike what occurred in the previous expansion phase.

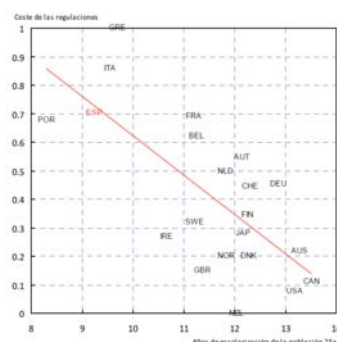
- R&D investment. Spain's public investment in R&D is similar to that of many European countries (EPO, 2008). The problem is that private R&D investment is far below that of other advanced economies.
- The labor market has also effects on TFP:
 - The high rate of temporary employment (Dolado and Stucchi, 2008)
 - Greater sensitivity of wages to productivity and corporate economic results (García, 2009).
- The sectoral composition and size of companies.
- Regulations in product markets (Nicoletti, Scarpetta and Lane, 2003, Aghion and Griffith, 2005):
 - Better assignment of productive resources.
 - Improved productive efficiency (x-efficiency).
 - Greater incentives for innovation and investment.
 - Lower unemployment (Blanchard and Giavazzi, 2003).

Human capital and R&D investment



Human capital is very closely correlated to R&D investment (0.6): it is the most important input in the innovation process.

Human capital and the cost of regulations



Human capital is also very closely correlated to the cost of regulations (0.71).

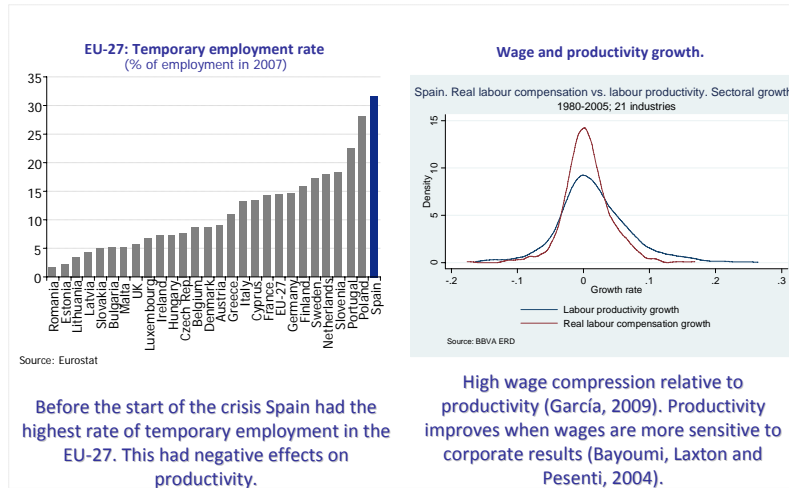


Table 1: Labor productivity and company size, 2005

Industry (% of the sector average)	Workforce				
	1-9	10-19	20-49	50-249	250
(1) Spain	53.4	67.7	77.6	101.4	165.5
(2) United States	54.1	46.8	53.8	68.3	129.8
Whole economy (% relative to the U.S. average)					
(3) Spain	40.6	51.4	58.9	77.0	125.7
(4) United States	54.1	46.8	53.8	68.3	129.8

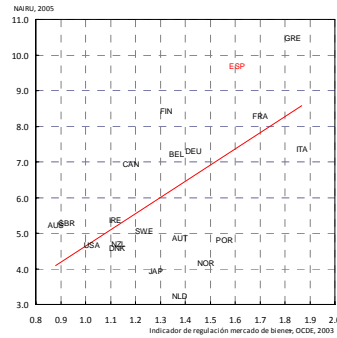
Source: OECD (2008) and in-house

- Aggregate labor productivity is lower in Spain than in the United States because of a composition effect due to the different distribution of companies by size: The productivity of companies with the same number of employees is very similar in both countries, but in Spain smaller companies are much more numerous and their productivity is lower.

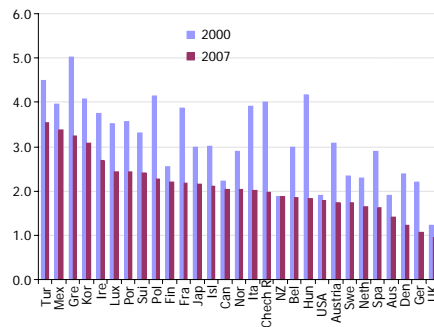
- Regulations in product markets determine entry costs and the degree of competition
- The less competitive the product markets are, the lower the demand for labor (Layard, Nickell and Jackman, 1991), thus the greater the unemployment rate.
- Blanchard and Giavazzi (2003): The liberalization of product markets lowers entry costs and increases competition (improves productivity). This reduces unemployment.

Thus, it becomes easier to introduce reforms in the labor market.

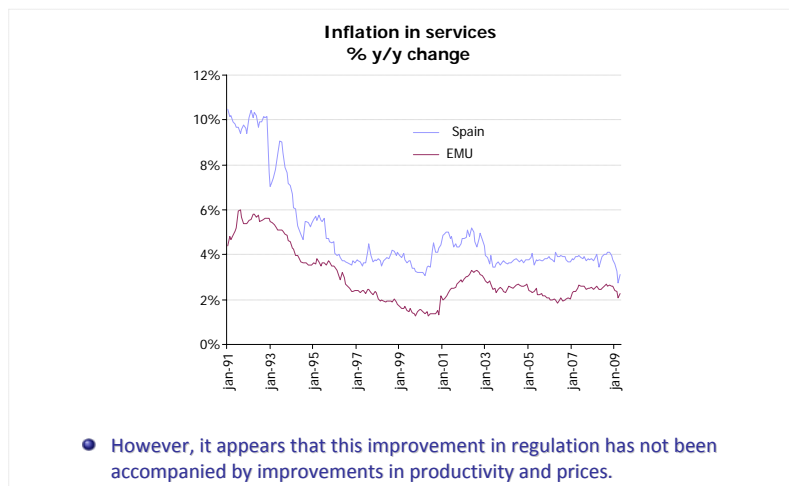
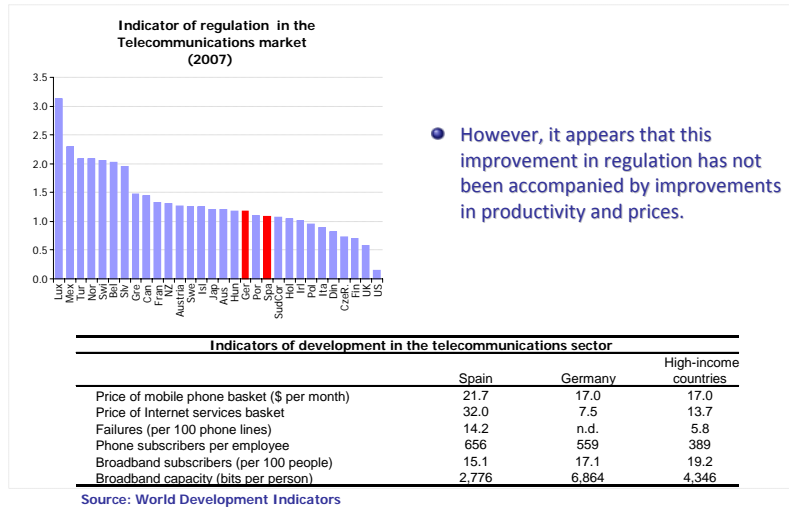
NAIRU and regulations, 2005.

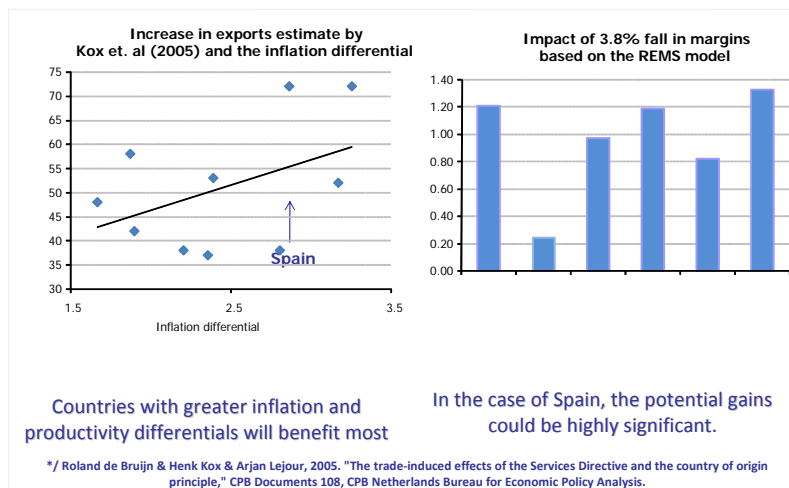
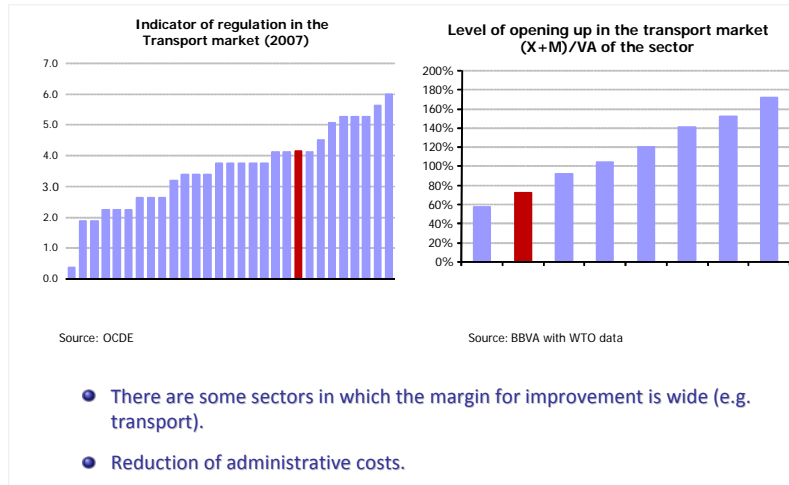


Indicator of Regulation in Services



- According to the OECD, there has been a substantial improvement in Spain over recent years. This has not been corroborated by other indicators (Doing Business, IMD World Competitiveness Indicator).





- From 1998, when Spain joined EMU, until the current international crisis, the Spanish economy registered a positive **inflation differential** with EMU, a rising **external deficit** and a poor performance in terms of labor **productivity** compared with the US and other European countries.
- Although some firms and sectors are very competitive at international level, the consensus is that these three problems are interrelated and are the manifestation of the **lack of competitiveness** of the Spanish economy.
- In the **current crisis**, the problem of competitiveness (the inflation differential and deficit) is being corrected in the most traumatic way: with an increase in the **unemployment rate** of an unprecedented size in other European countries.
- The **challenge** must be to reduce unemployment and, at the same time, improve competitiveness and productivity.
- To do so, we have to undertake **structural reforms** and reinforce the policies that improve productivity and reduce unemployment (no trade-off): human capital, R&D, regulations in product markets (Services Directive, retail trade law, etc.), the labor market (duality, wages and productivity).

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