

Jean-Claude Trichet: Competitiveness and the smooth functioning of the Economic and Monetary Union (EMU)

Speech by Mr Jean-Claude Trichet, President of the European Central Bank, at the University of Liège, Liège, 23 February 2011.

* * *

I. Introduction

What should we understand by the concept of competitiveness, what does it mean in particular for the euro area – and how should we act upon it? These are the questions I would like to explore with you today. They are questions I have been contemplating all my life as an economic policy-maker.¹ And they are questions that are central to the future of the national economies of Europe – and of particular importance among those that constitute our Economic and Monetary Union.

Competitiveness is a difficult idea to nail down decisively and is commonly used to depict very different things – from securing export market shares, through taxation of corporate profits, indexation of wages and investment in high-tech, to boosting productivity growth.

In my view, the appropriate definition of competitiveness is a country's ability to achieve sustainable improvements in the economic living standards and job opportunities of its citizens in an open economy. Therefore, competitiveness is about the entirety of our economic lives in a time of globalisation.

It is obvious that being successful in terms of price and cost competitiveness is one key condition for enhancing living standards and job creation in open economies. Exports are naturally an important part of the picture. But all sectors of our economies are involved in competitiveness. Public goods and services – and private goods and services. Tradable goods and services – and non-tradable goods and services. Financial services firms – firms active in all parts of the real economy – and households and governments.

As diverse and multifaceted as our countries are, as manifold are the means of achieving sustainable long-term economic growth and job creation.

The objective of achieving sustainable long-term growth in an open economy is both European and global. It has to do with the thriving of nations within Europe, as well as within the global economy that is undergoing very rapid structural changes.

The European Union is the world's largest economy and trading partner. It is therefore very appropriate that it has designed its own strategy of developing its growth potential in tomorrow's global economy. This strategy, called Europe 2020, is focusing on three main areas: education, research and innovation; resource efficiency; and high employment and social cohesion. These elements are all relevant for Europe's competitiveness in a global economy, and the ECB fully supports the Europe 2020 strategy.

Today, I would like to focus on the aspect of competitiveness that is internal to Europe's Economic and Monetary Union, i.e. the euro area. In such a union, competitiveness must be examined at national levels, with a view to take into account in particular the very high level of interdependence between economies created by the single currency. Therefore, competitiveness is not only about raising our economic living standards: it is also about strengthening the cohesion of the economic union. I will therefore focus my remarks on what arrangements of competitiveness surveillance we need in the euro area, and how this could

¹ See Trichet (1992) for an analysis of the strategy of competitive disinflation in France at the time.

be further enshrined in the current economic governance framework that is examined by the EU Council and the European Parliament.

In an economic and monetary union, it is of the essence, by implementing sound economic and fiscal policies, to avoid too large and too sustained divergences. That is why the Treaty devotes an entire chapter to the “economic policies” of the union, with a particular focus on countries that have adopted the single currency.

In an economic and monetary union, the Member States must develop and share a common economic understanding of mutual surveillance. This common understanding of the implications of being members of a currency union should ensure that structural features of the economies help them to preserve their relative competitive position in an open environment while ensuring collective stability. Such collective stability, as opposed to sustained and large imbalances, implies in particular that macroeconomic policies need to be fully consistent with a stability-oriented monetary policy.

I should emphasise that this in no way means that competitiveness or avoiding internal imbalances is about making everybody look the same. The economic diversity that we enjoy in Europe is an asset that we should seek to strengthen rather than dissipate.

What matters, however, is that diversity does not lead to large, persistent divergences. To prevent such divergences from arising, we need a common framework that ensures that all Member States – within their specific national settings – stay committed to regain, when necessary, consolidate and preserve their relative competitiveness.

Misguided national economic policies can lead to the emergence of excessive competitiveness gaps between the members of the currency union. The primary symptoms of such competitive gaps are usually mounting current account deficits, significant accumulated differences in indicators of price and cost competitiveness, leading, in particular, to inflation rates persistently above the euro area common objective.

Such developments are also associated with tensions, painful adjustment processes and spillovers for other members.

It is for these reasons that the European Central Bank (ECB) regularly provides analysis and insight into the importance of competitiveness for Economic and Monetary Union.

Indeed, it is now five and a half years since the ECB injected an analysis of relative competitiveness into the European policy surveillance.

When, around 2005, the signs of imbalances and divergences in key nominal developments, in particular in prices, costs and wages, started to accumulate significantly, the Governing Council sent the first analysis to the Eurogroup. The focus was on price and cost developments in individual countries; the message was one of divergence that warranted interpretation, assessment and policy action. At the same time, an ESCB Task Force was set up to look more deeply into competitiveness issues of the individual euro area countries.²

Ever since, the ECB has provided updates of the analysis to the Eurogroup. The information on unit labour costs, productivity and sectoral wage developments in euro area countries have become a recurrent theme distributed at these meetings.

Since 2007, the ECB has undertaken regular, comprehensive competitiveness reviews of developments in individual euro area countries. And in 2010, the ECB provided a detailed outline of how the Governing Council envisages a competitiveness framework for the euro area.

² Task Force of the Monetary Policy Committee of the ESCB, “Competitiveness and the export performance of the euro area”, *Occasional Paper Series*, No 30, ECB, Frankfurt am Main, 2005.

In my remarks tonight, I would like to focus on the main issues at stake – for national economies in general and for members of the euro area in particular.

I will begin by reminding you of some of the stylised facts that have characterised economic developments in the euro area over the past 12 years, as well as some of the fallacies about competitiveness that I have encountered over the years.

I will then outline the key elements of a framework for analysis and action on competitiveness, and subsequently discuss the implications for the current proposals on the strengthening of macroeconomic surveillance from a euro area perspective.

II. Some empirical evidence

Let me give you some stylised facts about macroeconomic developments in the euro area over the past decade or so. For now, I will just provide you with the data, without going into their causes and policy implications.³

1. Between 1999 and 2009, nominal **unit labour costs** grew by 24% in cumulative terms in the euro area as a whole. In Austria and Germany they grew by 13% and 8%, respectively; in Greece and Ireland, they grew by 34% and 38%, respectively.
2. Between 1999 and 2009, public sector wages **in the euro area** grew by close to 40%. In Germany, they grew by 19%; in Ireland and in Greece, they grew by more than 100%, roughly 50 percentage points more than private sector wages.
3. Between 1999 and 2007, residential **property prices** in the euro area rose on average by around 6% per year. In Greece they rose on average by 9.5% each year; in Ireland they rose each year by almost 12%.
4. **Household indebtedness** in the euro area average rose from about 50% of GDP in 1999 to about 65% of GDP in 2009, an increase of about 30% over the period. It doubled in the economies with the highest increase.

These are some illustrative facts. Let me now turn to some fallacies that I hear sometimes when discussing these and similar facts.

III. Fallacies on competitiveness

Discussions on competitiveness often reveal misconceptions or fallacies that, in my view, are wrongly guiding the debate.

Fallacy No 1: “Only the tradable sector matters for competitiveness”, some say. “There is no problem with the competitiveness of our economy: companies in the exporting sector are doing well, prices are low and profits are good.”

Fallacy No 2: “Public wage developments do not affect an economy’s competitiveness”, some say. “Since the public sector is sheltered from international competition, developments in public sector pay have little connection with the private sector and certainly not with the international competitiveness of companies.”

Fallacy No 3: “Let’s discount wage and cost developments with the (relatively) high current domestic inflation rate and we get a benign picture”, some say. “Our wage increases of 6%

³ Unit labour costs are computed for the whole economy based on Eurostat data. Public sector wages refers to total compensation per government employee based on the OECD Economic Outlook database. The property prices are obtained from national sources as computed by the ECB. The coverage definition differs across countries. Household indebtedness is the sum of short and long-term loans to residents.

are fully justified because we have 2% productivity and 4% inflation; moreover, the higher inflation rate is purely a catching-up phenomenon because we are growing so fast.”

Fallacy No 4: “Intra-euro area current accounts don’t matter”, some say. “The current account balance reflects inter-temporal optimisation of savers and investors; moreover, current account deficits are good as they reflect capital inflows, attracted by higher returns.”

Fallacy No 5: “Fiscal consolidation can harm competitiveness”, some say. “Fiscal consolidation is going to have dampening effects on growth and can weaken competitiveness, which requires substantial government expenditure.”

IV. Key elements of a competitiveness strategy

So if these points are fallacies, what is the right strategy for economies in general and the euro area in particular? Let me share with you my reflections on five key elements of what I think is the correct diagnosis:

1. First, ***the non-tradable sector is essential*** for the competitiveness of an economy. Hence, we must look at all sectors when assessing competitiveness.
2. Second, ***wage developments in the public sector*** are much more important than is generally realised. Therefore, the public sector must set its compensation levels with the implications for the whole economy in mind; it must be aware of its role model.
3. Third, less than ***2% but close to 2% over the medium term*** – namely the level of medium-term inflation that is ensured as an average in the euro area by the ECB – is the right benchmark to use for all countries to calculate competitiveness indicators in real terms. Hence, one must not be misled into price-wage spirals by temporary inflation differentials.
4. Fourth, the ***current account balance*** is an important summary indicator that may signal losses of competitiveness and emerging imbalances. As a result, policy-makers should monitor this balance closely, and especially the related external debt accumulation.
5. And finally, ***sound public finances*** are a pre-condition for sustained competitiveness. This is yet a further reason for fiscal solidity.

Let me elaborate on each of these elements.

1. ***The non-tradable sector is essential for the competitiveness of an economy***

There are two main reasons why the non-tradable sector is essential for an economy’s competitiveness. First, non-tradable goods and non-tradable services are important inputs for the production of tradable goods. Hence, rising prices in the non-tradable sector push up costs in the tradable sector. Second, price and unit labour cost increases in the non-tradable sector will ultimately lead to upward pressure on unit labour costs in the tradable sector (López-Salido et al., 2005). This second-round effect pushes up the productions costs of tradable goods and reduces the competitiveness of the tradable sector.

There is some recent evidence that those countries with higher growth of unit labour costs in services and construction than in industry and manufacturing have experienced a worsening of their current accounts (see, for example, Zemanek et al., 2010).

If unit labour costs in the non-tradable sector persistently exceed those in the tradable sector, firms in export industries may see themselves forced to squeeze their profit margins because they are unable to pass on higher input prices to world prices. Price and cost pressures from an expanding non-tradable sector induce exporters to reduce their margins. Thus, at first, the exporting industry might not be doing too badly and export prices remain unaffected. But the

industry is gradually getting squeezed, rather than expanding. This not only reduces the relative weight of exporters in the economy, but also the overall growth potential.

2. *Public sector wages are much more important for competitiveness than is generally realised*

In the euro area, the government wage bill accounts, on average, for more than 10% of GDP and more than 20% of the total compensation of employees. It is already clear from the sheer size of this sector that public wage increases can have a very important signalling effect for private sector wage negotiations.

The larger the public sector is, compared with the tradable sector, the stronger will be the signal for wages in the private sector, and therefore the influence on the unit labour costs in the private sector, taking due account of productivity developments. Hence, the larger the public sector, the more important, and the more challenging, will be its role in the overall evolution of cost competitiveness.

Evidence reveals an important influence from public sector wages to private wages in many euro area countries. Public wage spillovers seem to be particularly important in countries that have experienced high and volatile public wage growth. Thus, rapid increases in unit labour costs and severe losses in intra-euro area competitiveness do not come as a surprise in these countries (Pérez and Sanchez, 2010 and Holm-Hadulla et al., 2010).

3. *Less than 2% but close to 2% over the medium term is the right benchmark to use for euro area countries to calculate competitiveness indicators in real terms.*

In the euro area, the average annual inflation rate over the first 12 years of the euro was 1.97%. This outcome is in line with the ECB's definition of price stability of below, but close to, 2%. This definition is deeply entrenched in medium to long-term inflation expectations, which confirms the ECB's credibility and the public's confidence in the ECB's ability to deliver price stability over the medium term. The ECB therefore provides the nominal anchor for future price developments in the euro area as a whole.

Now, in a currency union, it is a natural phenomenon that Member States, at times, have different inflation rates. These differences can result from some differences in the economic development level of Member States, their position in the business cycle or their dependence on trade and hence global developments.

So temporary deviations from the euro area-wide inflation average should not be a matter of concern. Indeed, they constitute an important potential adjustment channel within a currency union where exchange rates are fixed. But inflation differentials can turn into a source of concern when they become large and persistent.

For a significant period of time, persistent above area-wide inflation rates in some Member States had been regarded by some as justified on the grounds of catching-up effects. The argument is that lower-income countries usually import productivity gains in the tradable sector, which in turn leads to higher economy-wide inflation due to the adjustment of nominal wages across sectors. This is the Balassa-Samuelson effect.

But increasingly evidence suggests that this effect has been overstressed as an explanation for inflation differentials in the euro area. In some cases, these differentials were not driven by healthy catching-up effects, but were largely the outcome of inappropriate macroeconomic policies and debt-financed booms in domestic demand.

Thus a medium-term inflation rate of somewhat below 2% over the medium term is the appropriate benchmark also at the national level. Unit labour costs, and therefore wage developments, after having taken due account of the labour productivity increases, need to be consistent with this.

Moreover, using contemporaneous (or lagged) inflation as a benchmark for wages can lead to a nominal persistent spiralling of both wages and inflation over and above the average of the euro area. This would lead to a progressive loss of cost competitiveness. This is why central bankers are against wage indexation, particularly in a single currency area.

4. *The current account balance is an important summary indicator that may signal emerging imbalances and losses of competitiveness.*

For the record, let me first stress that a current account deficit, just like a current account surplus, does not necessarily point to economic malfunctioning. Indeed, it can be optimal for a country, given the macroeconomic conditions. This is also true in a monetary union, where some differences in national current account balances are a normal feature.

Capital flows, for example, may be favouring Member States with better growth prospects and higher expected returns, related to catching-up processes and successful structural reforms, and current account balances may diverge across countries as a natural result of responses to asymmetric shocks.

Increasingly, however, larger current account deficits, in combination with significant losses in competitiveness, high levels of private and public indebtedness and overheating in non-tradable sectors, may signal domestic macroeconomic imbalances and deeper structural problems.

Countries with large current account deficits or worsening current account balances, for example, often exhibit cumulated losses in price competitiveness, and vice versa, which again, in turn may be related to price and cost developments that are not economically justified. Rather than financing productive investment in the tradable sector and fostering the export performance, capital inflows in deficit countries might fuel asset prices and household and corporate debt.

Hence, even if inter-euro area current account balances do not matter because of the same currency and will not trigger exchange rate crises, at the euro area level, internal current account imbalances are relevant for policy-makers, as one of the major indicators of the fundamental functioning of their economies.

5. *Sound fiscal policy is a pre-condition for sustained competitiveness*

Some observers are concerned that fiscal consolidation at the current juncture might dampen economic growth and also provide negative externalities by constraining demand for trading partners. I disagree with this view.⁴ On the contrary, I see three main reasons for fiscal consolidation being presently positive for medium-term economic growth and competitiveness.

First, experience from past episodes of fiscal consolidation suggests that, in a situation of sizeable fiscal imbalances, short-term costs of fiscal adjustment in terms of forgone economic growth tend to be contained or very limited, provided that consolidation is pursued as part of a comprehensive reform strategy. Experience also suggests that the success of a fiscal consolidation strategy strongly depends on its design. Adjustment on the spending side, accompanied by structural reforms to promote long-term growth, has typically been the best strategy, especially when combined with a credible long-term commitment to fiscal consolidation.

Second, in a situation where fiscal sustainability is being questioned, consolidation boosts confidence, which is a pre-condition for the consolidation of the present recovery and for sustainable medium-term growth.

⁴ See also Trichet (2010).

Third, public authorities need to preserve the ultimate capacity of public finances to intervene in difficult circumstances. This is already true when our economies are going through the usual business cycle. The reconstitution of fiscal buffers is always necessary. It is even more necessary when our economies are coping with exceptional circumstances, such as the recovery from the deepest economic crisis in over 60 years. The soundness of public finances and the creditworthiness of the sovereign signatures are therefore a decisive component of economic and financial stability in a medium and long-term perspective.

V. Implications for the reform of the European surveillance framework

Let me now discuss what the implications of these insights are for the surveillance of economic policies in Europe, and in particular how the above five elements should be reflected best in the existing European framework of macroeconomic surveillance and in the envisaged new elements of this framework.

Within an economic and monetary union, national economies form an interdependent system, in which spillovers are important for the cohesion of the union. It is not straightforward for countries to take account of these spillovers sufficiently on their own. This is the reason why strengthened surveillance at the euro area level is needed to prevent economies from falling behind by losing competitiveness and becoming subject to macroeconomic imbalances.

I have already mentioned developments in prices, costs and wages, current account deficits and indicators of private and public sector indebtedness as well as countries' external debt position.

For many years, I have strongly advocated in various European fora that the accumulation of substantial losses of competitiveness, as revealed by developments in unit labour costs among other indicators was not sustainable. Therefore, I trust that this is where a surveillance framework aimed at preventing and correcting macroeconomic imbalances has to start.

Of course, these elements are not the only ones we have to analyse carefully. As I have said before, economic reality is much more complex than just a pure set of indicators. Nevertheless such basic indicators are central for starting the analysis and for understanding the policy considerations.

Let me therefore briefly sketch out the key indicators that ECB staff have been selecting after reviewing and assessing the relevance of a much wider set of variables. These indicators shall provide early warning signals when macroeconomic imbalances emerge and when countries are experiencing significant losses in competitiveness, or when there are risks thereof. The seven key indicators in the view of ECB staff are as follows:

- a long-term measure of the growth of **unit labour costs**;
- the stock of a country's **net external debt** as a ratio to GDP;
- the national **inflation rate**;
- the current account deficit as a ratio to GDP;
- the private and government debt ratios;
- and the stock of private sector credit.

These variables are all common economic indicators, they are easily available from official statistics and they are broad based. They have been selected to keep the first diagnosis as simple as possible, while still covering the most relevant dimensions of economic fitness.

Such a scoreboard of indicators can help focus our attention on the key issues and trigger more detailed surveillance procedures in cases in which indicators rise beyond certain pre-defined threshold levels.

The European Commission and the related Council working group have been working intensively on such a framework, including an alert mechanism on the basis of a limited set of macroeconomic indicators – similar to those I have just presented – which would initiate more detailed surveillance procedures.

The current discussions are based on the Commission's proposal for a new framework that will apply to all 27 EU Member States with a preventive and a corrective arm.

Without going into all the technical details, let me make very clear once again which fundamental elements in its design should be improved. The ECB's Governing Council, being responsible for ensuring price stability, has a major interest in the smooth functioning of the euro area economy. In this respect, the ECB considers it fundamental to set up an effective surveillance mechanism in the euro area that avoids the challenges that some countries are currently facing. The ECB published yesterday its opinion on the proposals made by the European Commission (ECB, 2011). It regards these proposals as appropriate for the Single Market, but considers that they need to be strengthened as regards the euro area. With respect to the new macroeconomic surveillance framework, the ECB calls, in particular, for the following specific measures to strengthen the framework for the euro area:

First, the specific nature of membership of a monetary union should be indicated more explicitly. This should be reflected in differentiated indicators and thresholds of the scoreboard for the members of the euro area, in comparison with the other members of the European Union. Tighter thresholds for competitiveness indicators in the scoreboard are required for the euro area countries. The set of indicators for the euro area countries should focus on the detection of macroeconomic imbalances, and therefore they should refer to losses of price competitiveness, private and public sector indebtedness and external indebtedness indicators. They differ by nature from the much wider set of indicators reviewed to assess progress in structural reforms in the context of the Europe 2020 strategy to enhance sustainable growth and employment in Europe. These are the concepts that will address the "thriving of nations in the dynamic global economy" which I alluded to at the outset.

Second, a clear focus of the surveillance framework can be maintained best if only cases of macroeconomic imbalances that hamper the smooth functioning of monetary union are addressed. The framework proposed by the European Commission is symmetric with respect to detecting, preventing and correcting both excessive losses as well as gains in competitiveness. I think that a totally symmetric approach misses an important point: the European Union and the euro area are not closed economies. On the contrary, they are amongst the most open economies in the world. Gaining more competitiveness through the improvements in one particular economy is a win-win game for all members: we are not playing a zero sum game. Therefore, a totally symmetric approach runs the risk that the surveillance lacks focus and becomes distracted from the most serious challenges to the monetary union, which are significant losses of competitiveness, persistent current account deficits, unsustainable increases in asset prices, including real estate prices, and high external and internal levels of indebtedness. Given the magnitude of the imbalances accumulated, the required policy action is urgent in some Member States.

Third, a much greater degree of automatism should be introduced into the macroeconomic surveillance framework. A substantial discretionary power puts the credibility of the macroeconomic surveillance mechanism at risk, if the rules and enforcement measures are not consistently applied. Therefore, the possibility of derogation from the imposition of sanctions on the grounds of exceptional economic circumstances or at the request of a Member State should be avoided.

Fourth, in the same vein as the reforms introduced in the Stability and Growth Pact, financial sanctions in the macroeconomic surveillance framework need to be applied at an earlier stage and gradually, to provide Member States with the right incentives to comply with the policy recommendations. This implies that financial incentives – such as an interest bearing deposit – should be applied after the first instance of non-compliance or non-cooperation by a Member State, while the current proposals foresee fines only after a repeated failure of a Member State to comply with Council recommendations.

I am convinced that the European Parliament, with its co-decision power, will improve the framework very significantly and trust that the proposals above are helpful in this respect.

VI. Conclusion

Let me draw to a conclusion. Competitiveness improvements will enhance a country's ability to achieve sustainable improvements in the economic living standards and job opportunities of its citizens.

Europe's 2020 strategy is fully part of the overall concept of competitiveness. It is, in a way, the "external" angle of competitiveness in the global economy. Today, I focused more on the "internal" angle of competitiveness, to strengthen the economic management of the Single Market and, more specifically, of the euro area.

When the data are analysed within an appropriately comprehensive framework, several fallacies become evident. We know that we must look carefully at the non-tradable sector when assessing competitiveness. We must monitor public wage developments very closely. We also understand – and this is absolutely fundamental – that a euro-wide price perspective must dominate over national computations when discounting nominal evolutions including revenues and wages. We see that the current account provides an important summary indicator. And finally, we trust that appropriate fiscal consolidation will lay the foundations for sustained competitiveness of our economies.

Figuratively speaking, competitiveness is not about becoming athletes in a world sprint competition. It is about staying fit and thriving for the long term. It is also about avoiding falling behind and ultimately becoming more dependent on others.

Because the community benefits, competitiveness is not about becoming richer at the expense of others – the infamous beggar-thy-neighbour philosophy. Competitiveness is about individual and collective health, with the two of them being mutually reinforcing.

We also need a commitment to sound and sustainable public finances and sound national economic policies. Both must be monitored by a rigorous, credible and focused surveillance framework.

A rigorously implemented Europe 2020 strategy, coupled with a reinforcement of the governance framework before the European Parliament that we are calling for, will pave the way for prosperity and stability of the EU and the euro area in tomorrow's global economy.

The contribution of the single monetary policy to this process is clear. Monetary policy provides a reliable nominal anchor for households, enterprises, savers and investors that euro area-wide consumer prices will increase, as in the past 12 years, in line with the ECB's definition of price stability over the medium term.

Our 331 million fellow citizens can rest assured that the ECB is fully faithful to its primary mandate. By maintaining price stability over the medium term and by solidly anchoring inflation expectations at a level consistent with our definition of price stability, monetary policy can make the best contribution to the achievement of sustainable long-term economic growth and job creation.

Thank you for your attention.

References

- Afonso, A. and P. Gomes (2008), *“Interactions between private and public sector wages”*, ECB Working Paper no. 971, November.
- Bernard, A. B., Jensen, J. B., Redding, S. J. and P. K. Schott (2007), *“Firms in international trade”*, *Journal of Economic Perspectives*, 21, 3, pp. 106–130.
- Deutsche Bundesbank (2010), *“The cyclical effects of concurrent fiscal consolidation with the euro area”*, *Monthly Report*, July, pp. 30–31.
- Di Mauro, F. and K. Forster (2008), *“Globalisation and the competitiveness of the euro area”*, ECB Occasional Paper No. 97, September.
- European Central Bank (2011), *“Opinion of the European Central Bank on economic governance reform in the European Union”*, CON/2011/13, February 2011 (Legal framework)
- Estrada, J. and M. de Molina (2009), *“The Spanish economy in EMU: the first ten years”*, Banco de España Occasional Paper 0901.
- Hofmann, B. and H. Remsperger (2005), *“Inflation differentials among the euro area countries: potential causes and consequences”*, conference paper presented at the ASSA annual meeting 2005.
- Holm-Hadulla, F., Kamath, K., Lamo, A., Pérez, J. J. and L. Schuknecht (2010), *“Public wages in the euro area – towards securing stability and competitiveness”*, ECB Occasional Paper no. 112, June.
- Katsimi (2004), *“Inflation divergence in the euro area: the Balassa-Samuelson effect”*, *Applied Economics Letters*, 11, pp. 329–332.
- Lamo, A., J. J. Pérez and L. Schuknecht (2008), *“Public and private sector wages – co-movement and causality”*, ECB Working Paper no. 963, November.
- Laubach, T. (2009), *“New evidence on the interest rate impacts of budget deficits and debt”*, *Journal of the European Economic Association*, 7 (4), pp. 858–885.
- Lommatzsch, K. and S. Tober (2006), *“Euro area inflation: does the Balassa-Samuelson effect matter?”*, *International Economic Policy*, pp. 105–136.
- López-Salido, D. J., Restoy, F. and J. Vallés (2005), *“Inflation differentials in EMU: the Spanish case”*, Banco de España Working Paper 514.
- Melitz, M. and G. Ottaviano (2008), *“Market size, trade and productivity”*, *Review of Economic Studies*, 75, 295–316.
- Ottaviano, G., Taglioni, D. and F. di Mauro (2009), *“The euro and the competitiveness of European firms”*, *Economic Policy*, January, pp. 5–53.
- Pérez, J. J. and A. J. Sanchez (2010), *“Is there a signalling role for public wages? Evidence for the euro area based on macro data”*, ECB Working Paper No 1148. Forthcoming in *Empirical Economics*.
- Rabanal, P. (2009), *“Inflation differentials between Spain and EMU: a DSGE perspective”*, *Journal of Money, Credit and Banking*, 27, pp. 975–984.
- Rother, P., Schuknecht, L. and J. Stark (2010), *“The benefits of fiscal consolidation in unchartered waters”*, ECB Occasional Paper Series no. 121, November.
- Task Force of the Monetary Policy Committee of the ESCB (2005) *“Competitiveness and the export performance of the euro area”*, ECB Occasional Paper no. 30.
- Trichet, Jean-Claude (1992), *“Dix ans de disinflation compétitive”*, *Les notes bleues de Bercy*, p. 1–12.

Trichet, Jean-Claude (2010), “Stimulate no more – it is now time for all to tighten”, *Financial Times*, 22 July.

Wagner, M. (2005), “*The Balassa-Samuelson-effect in East and West, differences and similarities*”, Reihe Ökonomie, no. 180, Institute for Advanced Studies, Wien.

Zemanek, H., Belke, A. and G. Schnabl (2010), “*Current account balances and structural adjustment in the euro area*”, *International Economic Policy*, 7, pp. 83–127.