MACROECONOMIC ADJUSTMENT IN IRELAND UNDER THE EMU*

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1. Introduction

Membership in a monetary union entails both benefits and costs. The expected benefits are long term gains in trade and growth due to the elimination of exchange rate uncertainty, falling risk premium and the reduction of transaction costs; the costs are related to foregoing independence over nominal interest and exchange rates as stabilisation tools.

In a monetary union, the single monetary policy can only address common shocks. In theory,[1] the adjustment to asymmetric shocks – country specific shocks, or idiosyncratic effects of common shocks and return to equilibrium can take place through four channels:

(a) market-driven price and wage adjustment;
(b) policy induced adjustment (fiscal and structural policies);
(c) insurance against country-specific shocks through fiscal transfers and financial integration;
(d) labour mobility.

The efficiency and speed of the adjustment is determined by complex interactions of developments in the product, labour, financial markets, fiscal and structural policies.

Market-driven price and wage adjustment to asymmetric shocks works through two channels: *the competitiveness channel* and *the real interest rate channel*. The real exchange and interest rates are the main channels

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[1] For an extensive discussion of the theoretical framework see Alesina *et al.* (2001); De Grauwe (2003); Baldwin and Wyplosz (2004).

for the transmission of the common monetary policy. The competitiveness channel, i.e. the real exchange rate adjustment reflects changes in relative price and cost competitiveness following wage and productivity developments. In a country with output growth above its potential, inflation higher than the average inflation rate for the monetary union leads to a deterioration of its relative competitiveness and a shift from external to domestic demand. Restoring competitiveness in a downturn requires a depreciation of the real exchange rate through a decline of relative prices and costs.

The real interest rate channel reflects the difference between nominal interest rates and the inflation expectations of households and economic agents. It links developments in the financial sector and real economy and plays an important role in driving consumption and investment decisions. In contrast to the competitiveness channel, the adjustment through real interest rates is pro-cyclical. In a boom, real interest rates lower than the average for the monetary union stimulate economic activity through increased investment and consumption, while in a downturn, higher real interest rates slowdown the economic activity. To the extent that, in the context of increased economic, financial and monetary integration, economic agents and households base their decisions not only on national economic and financial developments but they also take into account developments in other countries, the adjustment through the real interest rate is expected to become less important in the monetary union.

Wage and price flexibility is essential for an efficient and fast adjustment in a monetary union. In reality, the speed of the adjustment is different over the economic cycle, with a much slower adjustment speed in a downturn due to the downward rigidity of wages and prices. Furthermore, the interaction between the real exchange rate adjustment and the real interest rate developments can lead to poor macroeconomic performance (overheating or overcooling).[2]

Given the lack of nominal interest and exchange rates as policy instruments in a monetary union, *fiscal policy* can play an important role in adjusting to macroeconomic shocks. Model based simulations suggest that discretionary policy is more effective in large countries, while in small open economies it is limited due to import leakages.[3] *Structural policy*, aimed at improving the functioning of product, labour and financial markets can enhance the efficiency of the adjustment capacity in the monetary union.

Countries sharing a common currency have an interest in alleviating the impact of asymmetric shocks. One option to mitigate the effects of asymmetric shocks is to agree on a mechanism of *fiscal transfers*. *Financial integration* can act as an adjustment mechanism to country-specific shocks by smoothing consumption over time

[2]See Deroose *et al.* (2004) for a model-based analysis of adjustment to competitiveness and demand shocks in the Euro Area.

[3] See, for example, Hoeller *et al.* (2004) and Al-Eyd *et al.* (2006).

through cross-border portfolio diversification[4]. Furthermore, financial integration plays an important role in the transmission of the common monetary policy.

Labour mobility can help the adjustment to asymmetric shocks in a monetary union.[5] A shift of labour from a country experiencing a negative demand shock and unemployment to a country facing inflationary pressures due to a tight labour market can bring cyclical conditions in both countries in line with the monetary union average.

While it is still too early to formally assess the benefits and costs of the EMU, the eight year experience of the single currency offers important lessons about the macroeconomic adjustment in the EMU.[6]

This paper draws on a recent analysis[7] of macroeconomic differentials and adjustment in the Euro Area over the period 1992-2005. We extend the above analysis and examine in more detail the experience of Ireland in the EMU with the aim to draw lessons and policy implications for a more efficient adjustment of the Irish economy under the EMU. In particular, we focus on the following four issues:

(i) output growth differential;
(ii) inflation differential and competitiveness;
(iii) real interest rate differential and the housing market;
(iv) trade linkages and ability to cope with asymmetric shocks.

Our analysis shows that until now the macroeconomic performance of Ireland in the EMU has been successful. Favourable domestic supply factors and external conditions as well as the reduction of risk premium associated with the single currency have contributed to this positive experience.

We identify four main challenges in the future that will test the ability of the Irish economy to adjust under the EMU:

(a) maintaining a high potential growth rate;
(b) restoring competitiveness;
(c) managing potential risks to macroeconomic and financial stability from the housing market;
(d) adjustment to a slowdown in the United States – a major trade and investment partner for Ireland, and an expected appreciation of the euro against the dollar.

To respond to these challenges, a combination of fiscal measures and a further promotion of flexibility of product and labour markets are suggested.

[4] See Kalemli-Ozcan *et al.* (2001).

[5] The role of labour mobility as adjustment mechanism in an optimum currency area is documented in Mundell (1961).

[6] For a detailed analysis of the impact of EMU on member countries see also Honohan and Lane (2003); Lane (2006); Mongelli and Vega (2006; and Wyplosz (2006).

[7] See Traistaru-Siedschlag (2006).

2. Output Growth Differential

Since the adoption of the single currency, average annual growth of real gross domestic product (GDP) in Ireland has been the highest in the Euro Area, 6.6 per cent over the period 1999-2006, 4.6 percentage points above the Euro Area average (Table 1). Average annual growth of real gross national income (GNI), albeit lower, has also been the highest, 3.9 percentage points above the Euro Area average.

This outstanding growth performance reflects primarily favourable supply conditions, in particular higher growth rates of the capital stock, working age population ratio, activity rate, labour and total factor productivity. As a result, the potential growth rate in Ireland has been the highest in the Euro Area. However, positive deviations of supply factors from the Euro Area have narrowed. In particular, since 2004 labour and total factor productivity growth have been lower than the Euro Area average. Over the period 2001-2003, the activity rate growth has been below the Euro Area average. Net migration, in particular from Central European countries which joined the EU in 2004 has contributed to the growth of the activity rate above the Euro Area average in recent years.[8]

Table 1: Output and Supply Factors' Growth in Ireland, 1999-2006: Deviation from Euro Area Average (Percentage Points)

	1999-2006	1999	2000	2001	2002	2003	2004	2005	2006*
Real GDP	4.6	8.6	6.3	3.9	5.1	3.5	2.3	4.1	2.7
Real GNI	3.9	4.8	6.0	2.1	3.4	6.1	1.8	4.4	2.2
Population	1.2	0.8	0.9	1.1	1.2	1.0	1.1	1.6	2.1
Real GDP per capita	3.4	7.6	5.7	3.2	3.9	2.5	1.3	2.4	0.6
Working age ratio[a]	0.6	0.8	0.8	0.8	0.6	0.4	0.5	0.3	0.5
Activity rate[b]	0.4	1.5	0.0	-0.2	-0.7	-0.3	0.4	1.8	0.9
Employment rate[c]	-0.1	0.8	0.2	-0.4	-0.3	-0.1	0.1	-0.3	-0.8
Real net capital stock	3.3	3.4	3.0	2.8	2.9	3.0	3.3	4.0	4.0
Labour productivity[d]	1.8	3.6	3.6	2.3	3.8	1.5	-0.4	0.0	-0.4
Total factor productivity	1.5	3.3	3.5	1.9	3.2	1.2	-0.7	0.1	-0.7

* Estimates of November 2006.

[a] The share of population aged 15-64 years in total population; [b] the share of labour force in population aged 15-64 years; [c] the share of employed in total labour force; [d] real GDP per employed.

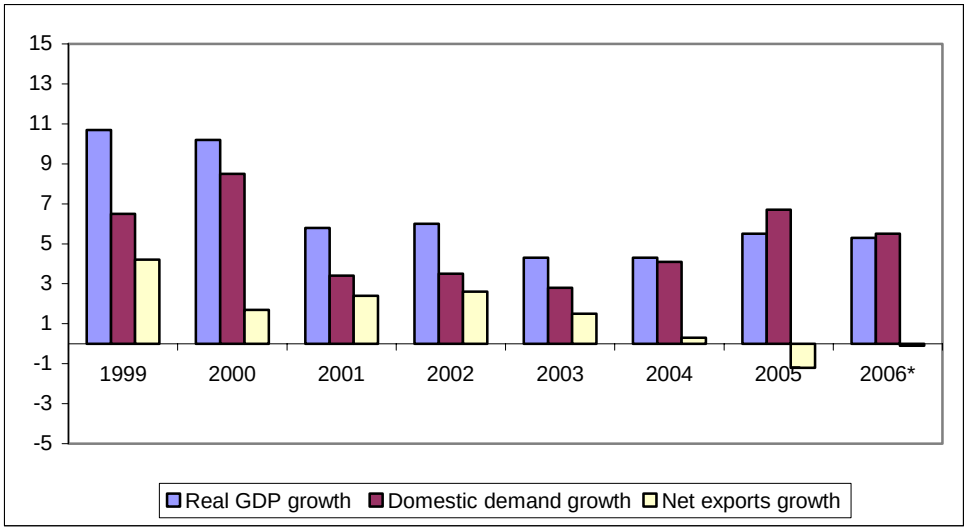
Source: Own calculations based on the European Commission's "Annual Macroeconomic Indicators" (AMECO) database.

On the demand side, on average, over the period 1999-2006 real GDP growth in Ireland has been driven both by domestic demand and net exports. While the contribution of domestic demand growth over this period was 5.1 per cent, average net exports growth was 1.4 per cent. The contribution of net exports has declined since 2002, being negative in 2005 (-1.2 per cent) and 2006

[8] Honohan and Leddin (2006) suggest that inward migration has been the major channel of labour market adjustment in Ireland under the EMU.

(-0.1 per cent). In 2005 and 2006, domestic demand grew faster than the real GDP (see Figure 1).

Figure 1: The Contribution of Demand Components to Changes in Real GDP, Ireland, 1999-2006 (Per Cent)



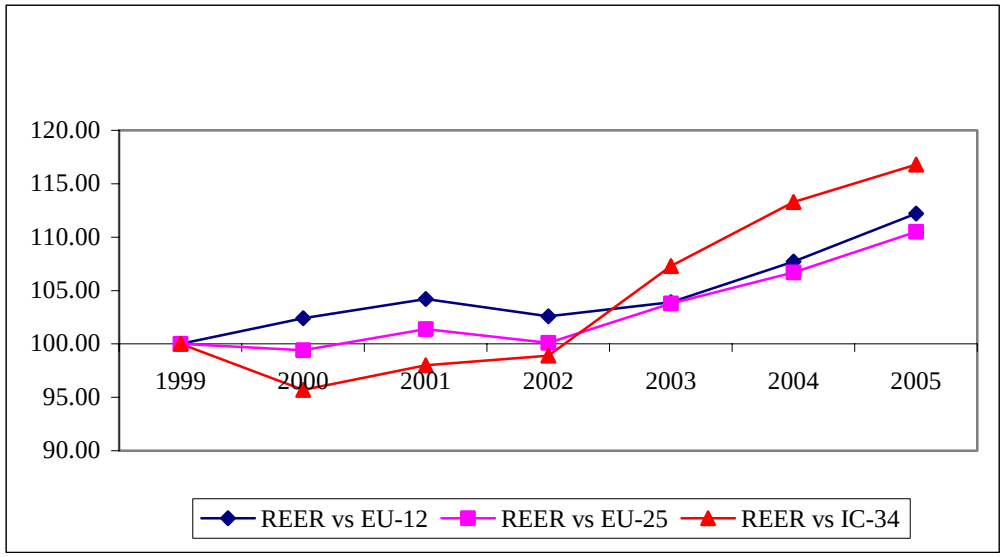
* Estimates of November 2006.
Source: Own calculations based on the AMECO database.

Demand pressures from low real interest rates and a sharp appreciation of the real exchange rate of Ireland vis-à-vis its trading partners (Figure 2) can explain this imbalance.

A continuing deterioration of the competitiveness could lead to poor macroeconomic performance and increasing current account imbalances. Restoring competitiveness requires a depreciation of the real exchange rate, i.e. a decline in relative prices and costs. This can be achieved for example through an increase in the gross wages below the labour productivity growth. Increasing competition by facilitating the entry and exit of firms can foster an efficient allocation of resources and increase productivity. To achieve the necessary wage adjustment, co-ordination of wage agreements at national level should be balanced with wage setting at firm level.

Continuing pressures from domestic demand can lead to overheating in the Irish economy. To restore equilibrium in the economy, a temporary fiscal contraction to reduce domestic demand pressures may be necessary. To achieve this objective, one option that can be considered is a restraint of wages in the public sector.

Figure 2: Ireland: Real Effective Exchange Rate (REER)[a] 1999-2005 (1999=100)



[a] Calculated on the basis of unit labour cost in the economy (ULCE)
EU – 12: Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain.

EU – 25: EU 12 + Denmark , Sweden, United Kingdom, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, Slovenia.

IC-34: EU – 25 + USA, Japan, Mexico, Canada, Switzerland, Norway, Australia, New Zealand, Turkey

Source: European Commission, "Annual Macroeconomic Indicators" (AMECO) database.

In summary, since the adoption of the single currency, the Irish economy has performed well with respect to output growth. This good macroeconomic performance reflects mainly favourable supply conditions. However, slower potential output growth, competitiveness losses and domestic demand pressures may result in future poor macroeconomic performance and imbalances. Managing these potential risks requires a combination of policy measures. In the long term, increasing productivity is key to maintaining a high potential growth. A temporary fiscal contraction to reduce demand pressures and/or a decline in unit labour costs to restore competitiveness may be required.

3. Inflation Differential and Competitiveness

Over the period 1999-2006, average annual inflation rate in Ireland measured by the Harmonised Index of Consumer Prices (HICP) was the highest in the Euro Area, 3.5 per cent, 1.4 percentage points above the Euro Area average (Table 2). On average, domestic costs were higher than the Euro Area average by 1.9 percentage points while import costs were 0.2 percentage points below the Euro Area average. Nominal wages grew faster than the Euro Area average by 3.4 percentage points. Average annual unit

labour costs grew faster than the Euro Area average by 1.7 percentage points.

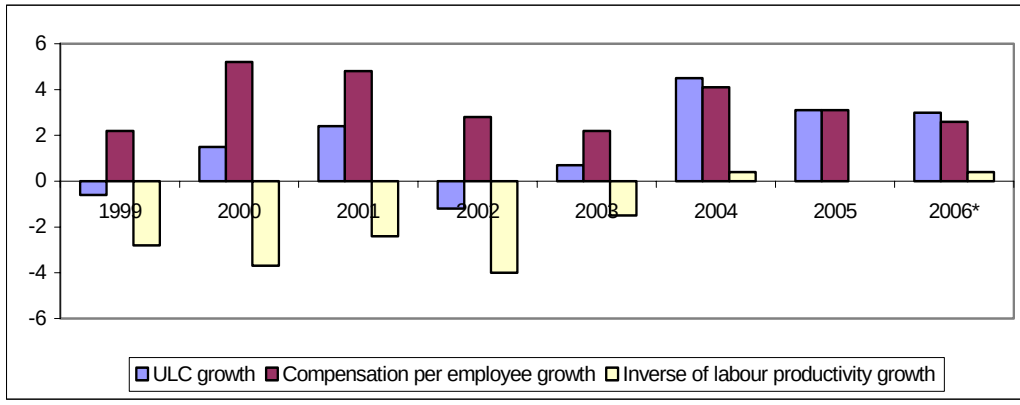
Table 2: Price and Wage Inflation in Ireland, 1999-2006: Deviation from the Euro Area Average (Percentage Points)

	1999-2006	1999	2000	2001	2002	2003	2004	2005	2006*
HICP	1.4	1.4	3.2	1.6	2.4	1.9	0.2	0.0	0.7
GDP deflator	1.9	3.1	4.1	3.1	2.4	0.4	-0.1	1.6	0.6
Price deflator of imports	-0.2	2.7	-1.5	2.8	1.2	-2.3	-2.1	-2.9	0.3
Wage inflation	3.4	2.2	5.2	4.8	2.8	2.2	4.1	3.1	2.6
Unit labour costs	1.7	-0.6	1.5	2.4	-1.2	0.7	4.5	3.1	3.0

* Estimates of November 2006.
Source: Own calculations based on the AMECO database.

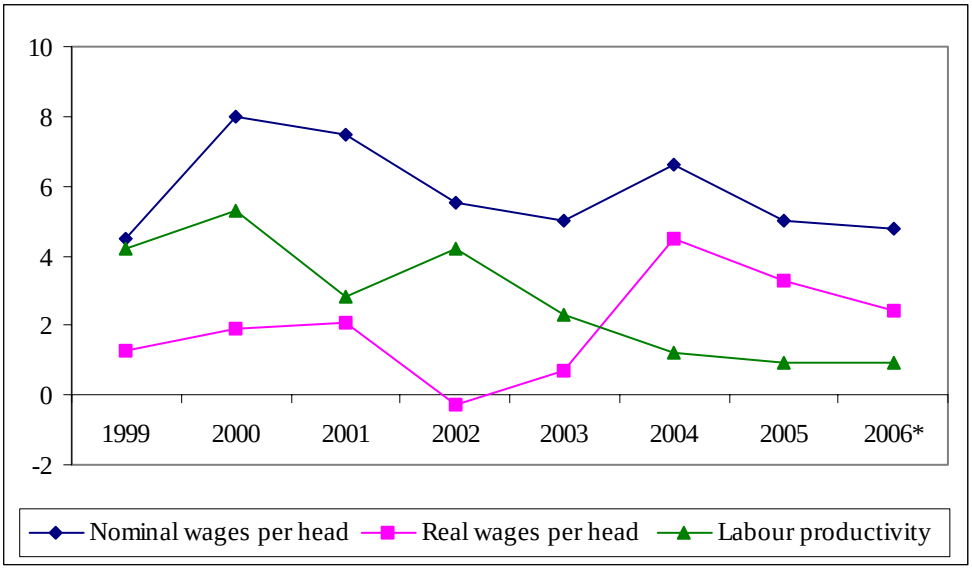
The deviation of unit labour costs growth from the Euro Area dynamics was mainly due to the dynamics of the compensation per employee while labour productivity growth has been less important except in 1999 and 2002 (Figure 3). As shown in Figure 4, since 2004, real wage growth has been higher than the growth of labour productivity which explains the deterioration of relative competitiveness of the Irish economy since 2004.

Figure 3: Unit Labour Costs Growth (ULC) and their Components in Ireland: Deviations from the Euro Area Average (Percentage Points)



* Estimates of November 2006.
Source: Own calculations based on the AMECO database.

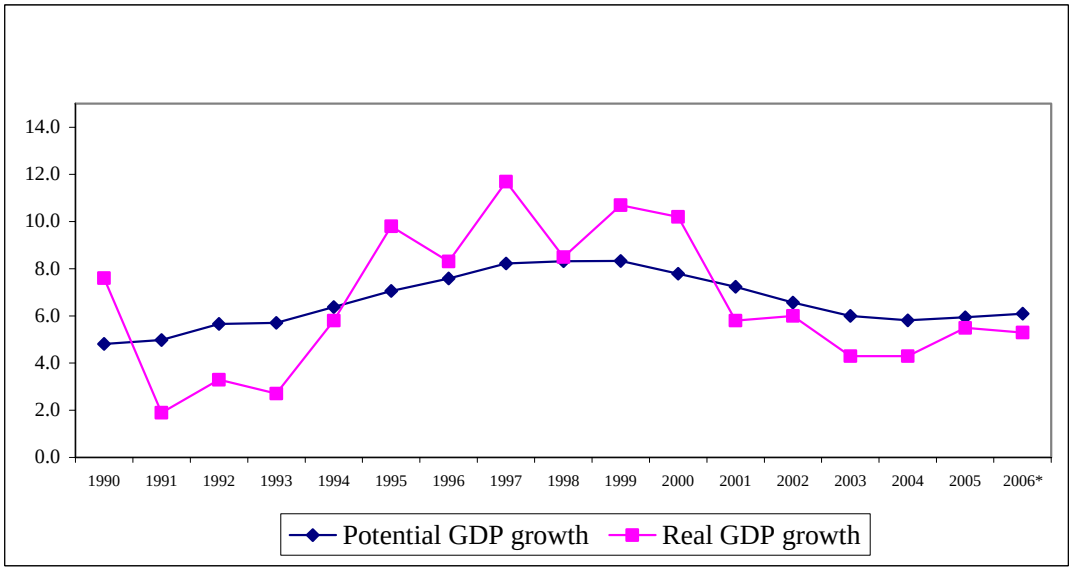
Figure 4: Nominal, Real Wages and Labour Productivity Growth in Ireland, 1999-2006



* Estimates of November 2006.
Source: Own calculations based on the AMECO database.

Inflation above the Euro Area in the first years of EMU was required to restore equilibrium since the Irish economy was growing above its potential and the labour market was tight (Figure 5).

Figure 5: Real and Potential GDP Growth in Ireland, 1990-2006



* Estimates of November 2006.
Source: Own calculations based on the AMECO database.

Productivity growth above the Euro Area average has made possible wage increases without a loss in competitiveness. However, a slowdown in productivity growth and continuous wage increases

could lead to poor macroeconomic performance and growing imbalances.

In a downturn, a decline in relative prices and costs will be required to restore equilibrium. Given the expected downward rigidity of nominal wages, the adjustment of real wages is likely to be brought about through rising unemployment.

In summary, inflation higher than the Euro Area average has been justified in the first years of the EMU when output growth was above its potential. Productivity growth above the Euro Area average has made possible wage increases without competitiveness loss. However, a slowdown in productivity growth and continuous wage increases could lead to poor macroeconomic performance. Domestic demand is now growing faster than the real GDP. This suggests that fiscal tightening may be needed to reduce domestic demand pressures.

4. Real Interest Rates Differential and the Housing Market

Average annual short and long-term real interest rates in Ireland since the adoption of the single currency have been the lowest in the Euro Area. Over the period 1999-2005, they were 1.6 percentage points and 1.5 percentage points, respectively, below the Euro Area average. This real interest rate differential is likely to have had pro-cyclical effects on the domestic demand. Domestic demand growth over the period 1999-2005 was indeed negatively correlated with the real interest rate differential. The correlation coefficients were however low (-0.14 for short-term real interest rate differential and -0.17 for the long-term real interest rate differential).

Declining real interest rates which have accompanied the adoption of the single currency in Ireland have affected the demand for housing and house prices. The increases in house prices in Ireland both in real and nominal terms have been the highest in the OECD since the mid-1990s (Rae and van den Noord, 2006). However, house prices are also driven by other factors, including the growth of real disposable income, demographic trends and the stock of dwellings.[9] Favourable tax treatment[10] and less restrictive access to mortgage finance than in other countries have also contributed to increased demand for housing in Ireland. The strong housing demand has triggered a rise in housing supply driving up construction costs and land prices.

These are good reasons to believe that house prices are explained by fundamentals. However, recent analyses[11] suggest that property prices in Ireland may be overvalued by 10-20 per cent. This implies that a fall in housing prices may be required to restore equilibrium.

[9] See also ECB (2006), EUROFRAME-European Forecasting Network, Autumn Report 2006.

[10] Ireland is the only OECD country where mortgage interest payments are tax deductible while property values, capital gains or imputed rent are not taxed (Rae and van den Noord, 2006).

[11] Rae and van den Noord (2006), IMF (2004).

A gradual correction of house prices may not cause a major disruption. However, a sudden and sharp correction of house prices could disrupt macroeconomic and financial stability. One potential risk for financial stability is the fall in the value of property used as collateral. One way to insure against this risk is by linking the value of loans to the property value. For example, the Zürich Cantonal Bank offers two new products to cover the risk of a fall in house prices.[12] One option consists in buying an insurance linked to the regional house price allowing the decline of the size of the loan if house prices fell. A second product links the level of the mortgage rate to the house-price index.

Limits on the use of real estate as collateral can serve to protect the banking system against over lending and bad loans.

To promote investment diversification and reduce the risks from over-investment in residential property, a range of fiscal measures could be considered. For example, phasing out the tax relief on mortgage interest payments, or a tax on imputed rent or a broader capital gains tax or a property tax on vacant or secondary dwellings may be considered.[13]

In summary, low real interest rates in Ireland have contributed to the housing boom. However, in the long term other factors have probably been more important such as the increase in real disposable income, population growth and the available stock of dwellings. A possible sharp correction of house prices and slowdown of residential construction may be sources of macroeconomic and financial instability. Fiscal measures could help to promote investment diversification and reduce the risks from over-investment in residential property. For example, phasing out the tax relief on mortgage interest payments, or a tax on imputed rent or a broader capital gains tax or property tax on vacant or secondary dwellings may be considered.

5. Trade Linkages and Exposure to External Shocks

The analysis of trade integration patterns is important for assessing the transmission of shocks in the Euro Area for at least three reasons. First, trade integration between similar and open economies reduces the cost of losing flexibility over the exchange rate. As shown by McKinnon (1963), in theory, this follows from the equalisation of prices[14] of most traded goods when expressed in the same currency as a result of increased competition. In this case, exchange rate changes will have relatively small effects. Second, the higher the degree of trade openness, the higher the benefits from adopting a common currency as a result of reduction of transaction costs. Third, increased trade integration fosters the transmission of common shocks across countries and the synchronisation of business cycles.[15]

[12] See "Collateral thinking", *The Economist*, September 23-29 (2006) p. 76.

[13] See also Rae and van den Noord (2006).

[14] The law of one price.

[15] For recent empirical evidence see Canova and Marrinan (1998); Frankel and Rose (1998); Baxter and Kouparitsas (2003); Imbs (2004).

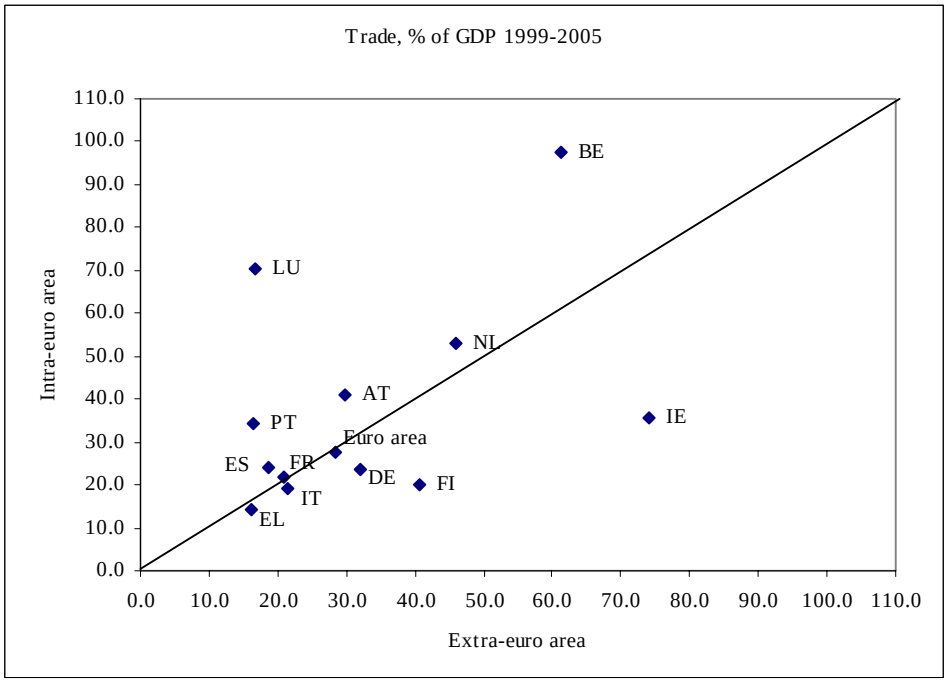
In the context of exposure to and transmission of shocks in the Euro Area economies it is important to distinguish between intra- and extra-Euro Area trade patterns. The extent of extra-Euro Area trade has implications for the exposure to external shocks and the volatility of the nominal effective exchange rate.

Figure 6 shows that Ireland stands out in comparison to the other Euro Area countries for its much higher trade with countries outside the Euro Area. Over the period 1999-2005, Ireland's intra-Euro Area trade represented 35.5 per cent of GDP while its extra-Euro Area trade amounted to 74.0 per cent of GDP. For the Euro Area as a whole, intra-Euro Area trade was 27.8 per cent of GDP, almost the same as extra-Euro Area trade, 28.4 per cent of GDP. The single currency has not yet brought a significant change in the Irish trade with the Euro Area. On average, over the period 1999-2005, in comparison with the period 1992-1998, intra-Euro Area exports as per cent of GDP grew by 0.2 percentage points, while imports from the Euro Area as per cent of GDP were lower by 0.4 percentage points. In the case of trade with countries outside the Euro Area, exports as per cent of GDP grew by 4.3 percentage points, while imports as per cent of GDP were lower by 4.4 percentage points.

The fact that the major trading partners of Ireland are outside the Euro Area (the United Kingdom, and United States) implies that an external shock originating outside the Euro Area may affect Ireland while the effect on the Euro Area itself may be more limited. In particular, a slowdown in the US and a significant depreciation of the US dollar vis-à-vis the euro can have a stronger effect on the Irish economy than on the Euro Area as a whole.[16]

[16] See also Lane and Milesi-Ferretti (2006) and EUROFRAME-European Forecasting Network, Autumn Report 2006.

Figure 6: Trade*, Per Cent of GDP, Euro Area Countries, 1999-2005



* Imports and exports of goods.
Source: Own calculations based on the OECD International Trade database.

In the absence of nominal interest and exchange rates as policy instruments, fiscal policy can help to cushion the effects of such a shock on the aggregate demand. However, in a small and open economy such as Ireland, the effectiveness of discretionary fiscal policy may be limited due to import leakage.[17] This suggests that the adjustment to this idiosyncratic shock will depend to a great extent on the flexibility of product and labour markets. A business environment enabling enterprise and investment should be further promoted.

In summary, Ireland has a high exposure to shocks originating outside the Euro Area. The resilience of the economy to such idiosyncratic shocks will very likely rely to a large extent on the flexibility of product and labour markets. An effective countercyclical fiscal expansion in response to a slowdown of the economy depends on achieving a large fiscal surplus during the current boom.

6. Concluding Remarks

The macroeconomic performance of the Irish economy in the EMU until now has been successful, primarily due to favourable domestic supply factors and external conditions as well as the reduction of the risk premium. Over the last decade, Ireland has

[17] This result is obtained in model-based simulations of fiscal shocks, see for example Hoeller *et al.* (2004), Al-Eyd *et al.* (2006).

experienced a productivity boom and large capital inflows. Given these positive shocks, a real appreciation was expected under any exchange rate regime. Outside the EMU this would have been brought about by nominal appreciation. Under the EMU the macroeconomic adjustment has relied mainly on the upward flexibility of prices and wages. The resilience of the Irish economy under the EMU will be fully tested by a downturn.

This analysis identifies four main macroeconomic challenges to the Irish economy in the future:

(a) maintaining a high potential growth rate;
(b) restoring competitiveness;
(c) managing potential risks to macroeconomic and financial stability from the housing market;
(d) adjusting to shocks originating outside the Euro Area.

To respond to these challenges a combination of policy measures are suggested. In the long run, productivity growth is key to maintaining a high potential output growth. A temporary fiscal contraction to reduce domestic demand pressures and/or a decline in relative unit labour costs to restore competitiveness may be required.

Fiscal measures could help to promote investment diversification and reduce the risks from over-investment in residential property. For example, phasing out the tax relief on mortgage interest payments, or a tax on imputed rent or a broader capital gains tax or property tax on vacant or secondary dwellings could be considered.

Limits on the use of real estate as collateral can serve to protect the banking system against over lending. In the banking sector, financial products linking the value of loans to the property value could also be considered.

The resilience of the economy to idiosyncratic shocks will most likely rely to a large extent on the flexibility of product and labour markets and an enabling business environment to enterprise and investment. An effective countercyclical fiscal expansion in response to a slowdown of the economy depends on achieving a large fiscal surplus during the current boom.

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