



Banc Ceannais na hÉireann
Central Bank of Ireland

Eurosystem

Financial Stability Notes

External Balance Sheet Risks in Ireland

Vahagn Galstyan and Valerie Herzberg

No. 9, 2018

External Balance Sheet Risks in Ireland

Vahagn Galstyan and Valerie Herzberg*

Central Bank of Ireland

October 18, 2018

Abstract

Large external imbalances have been a persistent feature of most advanced economies, including Ireland. This is despite significant deleveraging of the Irish banking sector since the financial crisis. Given the presence of internationally oriented activities with little Ireland-related business, early-warning indicator metrics related to the international investment position require adjustments in order to serve as useful monitoring tools. We propose to focus on a metric related to the net external debt liabilities of a narrow set of domestic Irish banks: a closer monitoring of the external balance-sheet risk is warranted when the net external debt liabilities of domestic banks exceed 17 per cent of modified gross national income.

1 Introduction

Large external stock imbalances have been a persistent feature of most advanced economies. Despite post-crisis current account reversals experienced by some countries, the net foreign liabilities of many debtor countries in the euro area have remained high and, in some cases, have deteriorated (Figure 1). This raises fundamental questions about the monitoring of external balance sheet risks and the framework for doing so.

Recent history suggests that a focus on the external balance sheet of the country is highly relevant for an economy such as Ireland. The banking sector played a decisive role in the Celtic Tiger years in channelling external funds to finance domestic property investments (Honohan 2009; Lane 2015). Amid compressed spreads, international bond placements picked up for Irish banks in the early 2000s, and the US dollar share in bank liabilities expanded markedly from 2005 onward. In 2007, Ireland ran a large current account deficit and a high negative net international investment position (NIIP) (Figure 2). As inter-bank markets seized up, Emergency Liquidity Assistance and, ultimately, an external adjustment programme became necessary to restore confidence and stability of the banking sector and economy.

There is an extensive literature that studies how large current account deficits, the build-up of negative net foreign asset positions and large real effective exchange rate misalignment

*Corresponding authors: vahagn.galstyan@centralbank.ie and valerie.herzberg@centralbank.ie. The views expressed in this note are those of the authors and do not represent the official views of the Central Bank of Ireland or the European System of Central Banks. With thanks to Lorenz Emter for excellent research assistance.

have historically been a common harbinger of financial crises, both in advanced economies and emerging markets (Kaminsky and Reinhart 1999; Reinhart and Rogoff 2010; Catão and Milesi-Ferretti 2014; Kiley 2018). In this regard, Lane and Milesi-Ferretti (2012) find that countries with current account balances in excess of what can be explained by fundamentals experienced the most significant contractions. In addition, domestic developments usually play an important role: Schularick and Taylor (2012) highlight credit growth as a key predictor of financial crises. Similarly, Kiley (2018) argues that current account deficits, together with equity and house prices, have non-negligible effects on the probability of a financial crisis.

As we fast-forward to 2018, we make a number of observations. First, the Irish current account has been corrected, yet the end-2017 net international investment position is large and negative at 150 per cent of GDP or 242 per cent of modified GNI (GNI*). Second, the country remains well embedded in the international financial and trading system: the sum of foreign assets and liabilities tops 5349 per cent of GNI* compared with a euro area average of about 482 per cent of GNI, while trade openness, measured by the sum of exports and imports as a share of gross national income, stands at 340 per cent of GNI*. Third, the international investment position is affected substantially by the activities of non-financial corporations and funds domiciled in Ireland (Lane 2017). As a result, Ireland's net international investment position is much more negative than when multinational firms are excluded (Figure 3).¹

Taking Ireland's aforementioned specifics into account, we propose a simple threshold indicator to monitor external balance sheet risks. Specifically, we adapt the tipping-point of 35 per cent for net external debt liabilities to GDP, estimated by Catão and Milesi-Ferretti (2014), to the five main Irish banks: the Bank of Ireland, AIB, KBC, Permanent TSB, Ulster Bank.²³ We hope to ensure that by concentrating on the external debt liabilities of the small subset of domestically oriented banks we provide the right signals of nascent boom conditions. Accordingly, we suggest a closer monitoring of external balance sheet risks when net external debt liabilities of domestic banks reach 17 per cent of GNI*.

2 Data and Findings

2.1 Background

It is not our intention to survey the entire literature on early-warning indicators and external imbalance. Instead, we mention some recent research that forms the core of our proposal.

Reinhart and Rogoff (2010) highlight the role of gross external debt as an early-warning indicator for a looming crisis, and estimate a threshold of 60 per cent of GDP above which the likelihood of crises increases. Lane and Milesi-Ferretti (2012) show that countries with excess current account deficits experienced the most significant contractions, with expenditure compression being the main channel of adjustment. Kiley (2018) argues that equity and house prices, as well as current account deficits have significant effects on the probability of a financial crises.

¹Galstyan (2018) provides the first attempt to adjust the Irish international investment position.

²Net external debt liabilities are defined as the difference between foreign debt liabilities and foreign debt assets.

³For historical reasons, we also include Danske Bank in our calculations. Furthermore, the composition of this group must be continuously monitored and adjusted to account for ongoing structural shifts (eg. Brexit).

Meanwhile, Schularick and Taylor (2012), using a historical dataset for 14 developed countries for 1870-2008, highlight credit growth as a key predictor of financial crises. Employing the same dataset, Jordà, Schularick and Taylor (2011) find depressed short-term interest rates (relative to the “natural rate”), as well as elevated credit growth to be prevalent in the run-up to global financial crises. Moreover, they make out credit growth to be the single best predictor of financial instability, while external imbalances are attributed only an “additional role”.

In our proposal we rely on the work of Catão and Milesi-Ferretti (2014), not least because of the Irish experience. The authors combine a multivariate probit model with a receiver operating characteristic (ROC) curve as a model selection tool and study external crises using data on 70 countries (41 EMEs, Ireland and Iceland (post 2000) dropped).⁴ Using data from 1970 to 2011, they find that crisis risk increases sharply as net foreign liabilities exceed 50 per cent of GDP, in particular when the composition of these liabilities is tilted towards debt. Based on the ROC curve, they find a threshold estimate of 35 per cent for net external debt over GDP for the whole economy.⁵ Furthermore, the authors find that current account deficits, reserves and real exchange overvaluation matter as well, but to a lesser extent.

2.2 Indicator

Irish financial and trade integration gives rise to well-known measurement issues that question the validity of transposing in a mechanical way benchmarks derived from other-country experiences. Ireland is home to 18 per cent of the euro area funds industry, intermediating European and global assets for investors (ECB 2017). Furthermore, Irish domiciled Other Financial Intermediaries (OFIs) do not tend to have significant links with the domestic economy (IMF 2016). Equally, the banking sector is composed not just of several domestically oriented firms, but also of a large internationally oriented sector, focused on global business. Finally, Ireland has recently become the host for intellectual property by multinational firms, boosting Foreign Direct Investment (FDI) liabilities but with less bearing for the domestic economy.

Taken at face value, Irish net international investment position is subject to many complexities to serve as a guiding metric for financial stability analysis.⁶ Accordingly, we concentrate on domestic banks, not least because the Irish banking sector was at the center stage during the crisis. Over the past fifteen years, Irish domestic banks have seen their external debt assets and liabilities go through a full cycle. Both assets and liabilities of the narrow domestic market group expanded sharply, reaching respectively 212 and 262 billion euro in 2008-2009 (Figure 4). The pattern observed by the broader definition of the domestic banks suggests a similar picture with a somewhat more extreme expansion in the early 2000s.

Thus, we re-weight the 35 per cent tipping-point for net external debt liabilities to GDP for the whole economy, estimated by Catão and Milesi-Ferretti (2014), towards net external debt liabilities of banks. To construct the scaling factor, we account for the size of the banking sector in external assets and liabilities of advanced European economies (Figure 5). The average of international asset/liability weights ranges from 22 per cent in the US to 73 per cent in Sweden. Re-scaling the 35 per cent of GDP threshold suggests a range of 14 to 25 per cent of net external

⁴This curve plots the true positive signals against the false positive signals along various threshold settings. Model selection is based on the trade-off between the true and false signals.

⁵It is important to note that the estimated threshold of 50 per cent for net foreign liabilities is substantially higher than the 35 per cent threshold proposed by the macroeconomic imbalance procedure.

⁶For a discussion of these complexities see Fitzgerald (2018).

debt to GDP with an average estimate of 17 per cent of GNI* for banks.⁷ Figure 6 plots the dynamics of net debt liabilities together with the modified threshold. The ratio of net external debt liabilities to GNI* of the narrow domestic market group breached the threshold in the first quarter of 2004, and continued its uptrend until peaking at 44 per cent in the third quarter of 2008. The net liability position reversed at the end of 2010, stabilizing since 2014 and reaching around -16 per cent of GNI* as of end-2017.⁸

3 Discussion

The assessment of external vulnerabilities typically focuses on three components: stock positions, flows, and relative prices. The previous section discussed the importance of stocks. Turning to flows, beyond inter-temporal consumption smoothing, large current account imbalances reflect distortions: large deficits are indicative of excessive international borrowing that face the risk of a sudden stop, while large surpluses are indicative of domestic inter-sectoral misallocation (Blanchard and Milesi-Ferretti 2012; Lane 2013). Indeed, as shown in Figure 7, the modified current account balance turned negative and deteriorated considerably in 2005-2007 from a balanced position in 2004. Importantly, the Irish current account suffers from similar measurement issues as the net international investment position.

In relation to relative prices, the real effective exchange rate appreciated significantly in the early 2000s, resulting in a loss of competitiveness (Figure 8). The figure also shows that the volatility of the real exchange rate is dominated by the volatility of the euro, leading to persistence in real effective exchange rate misalignments (Fidora, Giordano, and Schmitz 2017). It is therefore not surprising that the real exchange rate is often subject to large short-run fluctuations mostly unrelated to developments in Ireland.

Accordingly, a byproduct of our analysis is that policy procedures to prevent the build up of external imbalances at the European level need to be adjusted. The Macroeconomic Imbalances Procedure (MIP), introduced in 2011 as part of the “Six Pack” legislation, aims at addressing macroeconomic imbalances in EU member states. It involves a number of steps, including a set of relevant indicators, the “Scoreboard”, in-depth reviews and likely policy actions. The scoreboard incorporates the current account balance as a per cent of GDP, the real effective exchange rate and the net international investment position.

For the real effective exchange rate, the thresholds are deviations of five per cent up or down over a three-year period. Unsurprisingly, the Irish real effective exchange rate often exceeds these thresholds by wide margins. Turning to the net investment position, the MIP, based on the lower quartile of the historic average between 1995 and 2007, stipulates -35 per cent as a lower threshold. As shown in this note however, the current measure of Irish NIIP at -150 per cent of GDP is a poor guide to the country’s external vulnerabilities. For Ireland, currently a more relevant scoreboard indicator should focus on external debt liability positions of banks.

⁷Quarterly figures for GNI* are computed using shares of quarterly GDP figures in annual GDP.

⁸The adjustment of the official domestic market group is more extreme. After reaching 66 per cent in the second quarter of 2008, the net liability position reversed at the end of 2010, stabilizing at around -20 per cent of GNI* at the end of 2017 (-10 per cent of banks’ total liabilities).

4 Conclusions

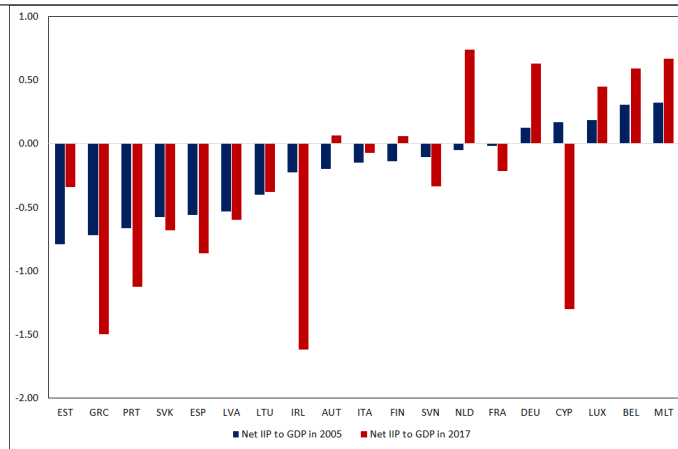
Given the complexities in the Irish net international investment position, a focus on the external balance sheet of the domestic banking sector is a more fruitful avenue to detect crisis risk. Accordingly, in this note we propose a simple threshold indicator to monitor external balance sheet risk. A closer monitoring of this risk is warranted when the net external debt liabilities of domestic banks exceed 17 per cent of GNI*. Our findings indicate that policymakers should have been wary about the build-up of external debt as early as 2004. Meanwhile, in contrast to what the official net international investment position of Ireland suggests, based on our metric alone, the risk of a financial crisis emanating from the net external debt position of the Irish banking sector appears low.

References

- Blanchard, Olivier and Gian Maria Milesi-Ferretti (2012), "(Why) Should Current Account Balances be Reduced?" *IMF Economic Review* 60, 139-150.
- Catão, Luis and Gian Maria Milesi-Ferretti (2014), "External Liabilities and Crises," *Journal of International Economics* 94, 18-32.
- ECB (2017), "Report on Financial Structures," European Central Bank.
- Fidora, Michael, Claire Giordano, and Martin Schmitz (2017), "Real Exchange Rate Misalignments in the Euro Area," ECB Working Paper No 2108.
- Fitzgerald, John (2018), "National Accounts for a Global Economy: the Case of Ireland," Trinity Economic Papers No. tep0418.
- Galstyan, Vahagn (2018), "Estimates of Foreign Assets and Liabilities for Ireland," Central Bank of Ireland, Mimeo.
- Honohan, Patrick (2009), "Resolving Ireland's Banking Crisis," *The Economic and Social Review* 40, 207-231.
- IMF (2016), "Financial System Stability Assessment - Ireland," IMF Country Report No. 16/258.
- Jordà, Oscar, Moritz Schularick and Allan Taylor (2011), "Financial Crises, Credit Booms, and External Imbalances: 140 Years of Lessons," *IMF Economic Review* 59, 340-378.
- Kaminsky, Graciela and Carmen Reinhart (1999), "The Twin Crises: the Causes of Banking and Balance-of-Payments Problems," *American Economic Review* 89, 473-500.
- Kiley, Michael (2018), "What Macroeconomic Conditions Lead Financial Crises?," Finance and Economics Discussion Series No. 2018-038.
- Lane, Philip (2013), "Capital Flows in the Euro Area," *European Economy Economic Paper* No. 497.
- Lane, Philip (2015), "The Funding of the Irish Domestic Banking System During the Boom," *Journal of the Statistical and Social Inquiry Society of Ireland* XLIV, 40-70.
- Lane, Philip (2017), "Notes on the Treatment of Global Firms in National Accounts," Central Bank of Ireland Economic Letter No. 1.
- Lane, Philip and Gian Maria Milesi-Ferretti (2012), "External Adjustment and the Global Crisis," *Journal of International Economics* 88, 252-265.
- Reinhart, Carmen and Kenneth Rogoff (2010), "Growth in a Time of Debt," NBER Working Paper No. 15639.
- Schularick, Moritz and Allan Taylor (2012), "Credit Booms Gone Bust: Monetary Policy, Leverage Cycles, and Financial Crises, 1870-2008," *American Economic Review* 102, 1029-61.

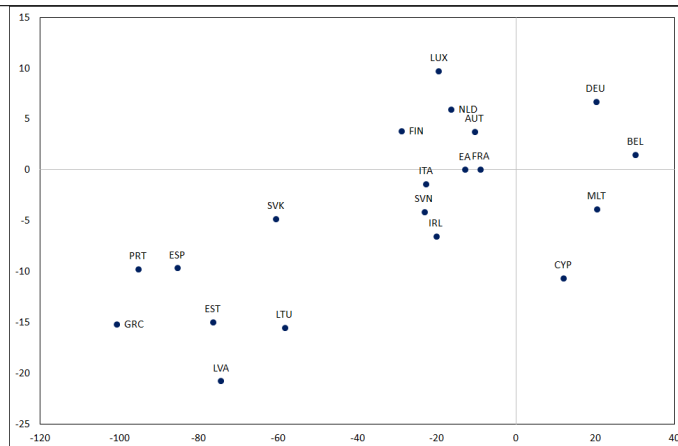
Figures

Figure 1: Net IIP to GDP Ratio
Units: share of GDP



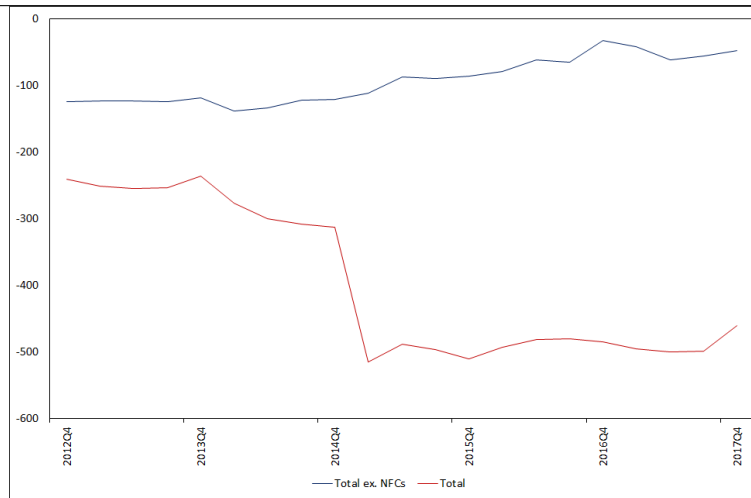
Source: Authors' calculations based on data from the IMF's BOP and the IMF's WEO databases.
Note: Net international investment position as a share of GDP.

Figure 2: Net IIPs and Current Account Balances in 2007
Units: per cent of GDP



Source: Authors' calculations based on data from the IMF's BOP and the IMF's WEO databases.
Note: Net international investment position (x-axis) and current account balance (y-axis).

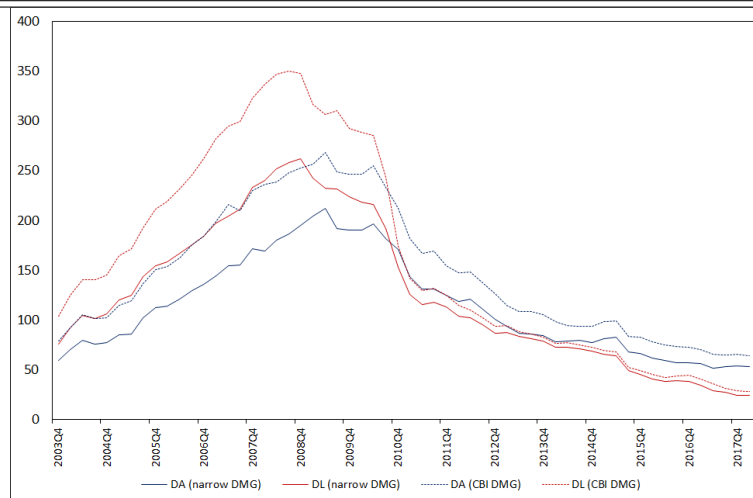
Figure 3: Net IIP of Ireland
Units: per cent



Source: Central Statistics Office.

Note: Net international investment position in EUR billions for the total economy and excluding the non-financial corporate (NFC) sector.

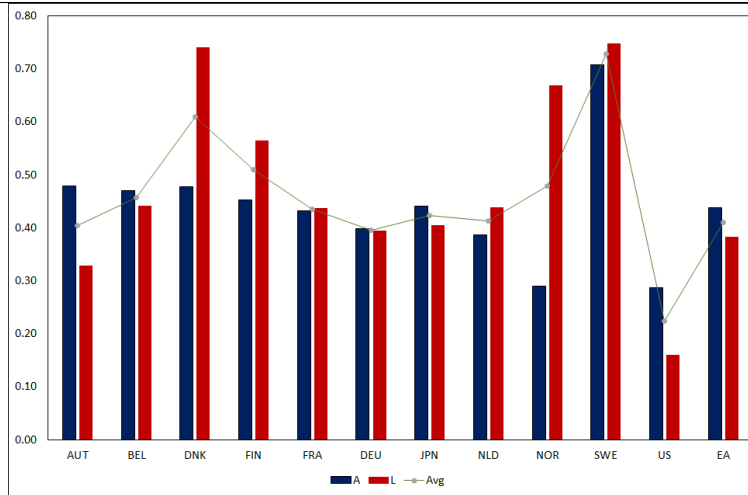
Figure 4: Foreign Debt Assets and Liabilities of Irish Banks
Units: per cent



Source: Authors' calculations based on internal data from the Central Bank of Ireland.

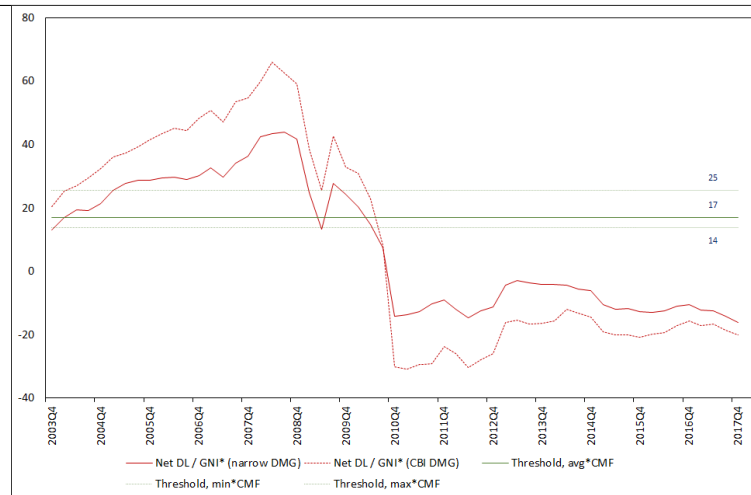
Note: Foreign debt assets (DA) and foreign debt liabilities (DL) for alternative definitions of the domestic market group (DMG) and a narrow definition of the DMG in EUR billions. Foreign debt assets are composed of loans to non-residents and portfolio debt assets issued by non-residents; foreign debt liabilities are composed of deposits from non-residents and portfolio debt liabilities issued to non-residents (first counterparty).

Figure 5: Share of Banks in External Positions
Units: per cent



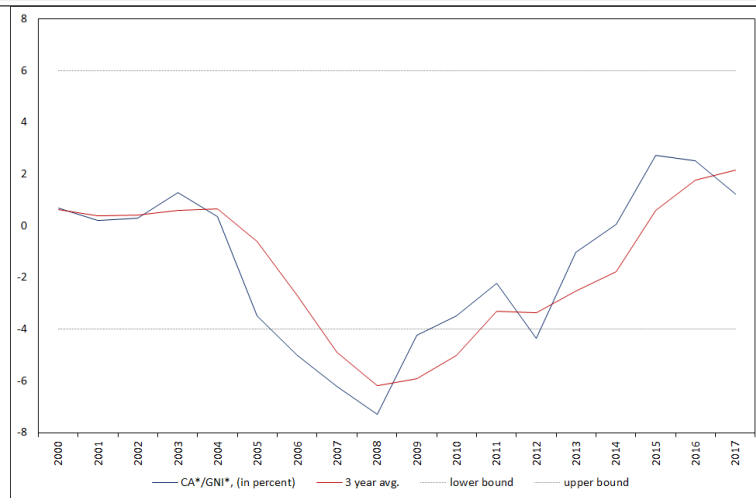
Source: Authors' calculations based on data from the IMF's BOP dataset.
Note: Share of foreign debt assets/liabilities (A/L) of banks in total foreign debt assets/liabilities. Avg is the arithmetic mean of asset/liability weights.

Figure 6: Irish Net Debt Liabilities and Threshold Indicator
Units: per cent



Source: Authors' calculations based on internal data from the Central Bank of Ireland and the IMF' BOP dataset.
Note: Net debt liabilities (DL) for the domestic market group (DMG) and the narrow set of DMG as a percentage of modified gross national income (GNI*). CMF captures the threshold of Catão and Milesi-Ferretti (2014); avg, min and max capture cross-sectional mean, minimum and maximum of banks' average asset/liability weights from Figure 5 in order to adjust the CMF threshold.

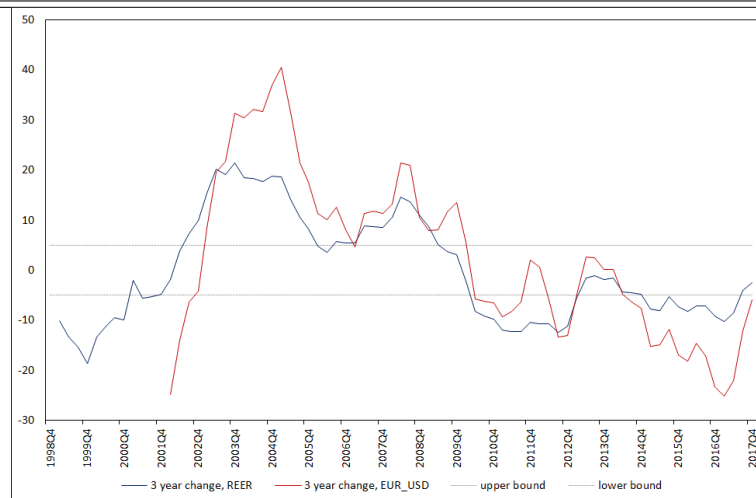
Figure 7: Dynamics of the Irish Current Account Balance
Units: per cent



Source: Authors' calculations based on data from the Central Statistics Office.

Note: Modified current account (CA*) as a percentage of modified gross national income (GNI*). Upper and lower bounds refer to the limits for the 3-year average current account balance to GDP ratio under the European Commission's MIP.

Figure 8: Exchange Rate Changes
Units: per cent



Source: Authors' calculations based on data from the IMF's IFS dataset.

Note: REER refers to the Irish real effective exchange rate, while EUR_USD refers to the bilateral nominal euro exchange rate vis-à-vis the US dollar. Upper and lower bounds (± 5 per cent) refer to the limits for the 3-year average real effective exchange rate change under the European Commission's MIP.

