

Focus

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IRELAND'S RECOVERY FROM CRISIS

IRELAND'S EU-IMF PROGRAMME: DELIVERING WHAT IT SAID ON THE TIN

PATRICK HONOHAN¹

Delivered what it said on the tin

The EU-IMF Programme of financial support for Ireland, negotiated in November 2010 and with the final tranches of lending being completed about now, delivered what it said on the tin. It provided a safe harbour from which Ireland was able to clarify its ability and determination to deal with the financial problems that had emerged as the property bubble of the first decade of the 21st century burst against the background of recession and financial failure across most of the advanced economies. Rigorous adherence to the fiscal goals of the Programme has undoubtedly been key. Over the three years of the programme, a continuation of the momentum of fiscal adjustments already initiated in 2008 has brought the public finances back within striking distance of EU norms. The debt-to-GDP ratio has reached a peak and is on target to fall in the coming year. Economic growth has returned on a broad front; both full time and part-time employment have been growing for many months now. Residential property prices in the Capital have bounced back from their lows of two years ago, and have on average been broadly stable in the rest of the country also for some months. Reflecting both policy and general economic conditions, market confidence in Irish creditworthiness is higher than at any time since well before the Greek crisis developments of May 2010.

It was not always obvious that this was going to work out. The IMF staff appraisal of the initial programme proposal in December 2010 emphasized that the risks were high. And, after the programme began, the euro area slipped into a second dip recession which had its

effect in slowing the Irish recovery. The cumulative change in GDP, consumption and employment over the three years have been as much as 2 percent lower than projected (though GNP did not undershoot by much), and we end with an unemployment rate at around 12½ percent instead of coming in below 12 percent as was expected.

Still, compared with the experience of other countries, the macroeconomic and especially the fiscal outturn have been notably close to projection, and the macroeconomic shortfalls seem attributable to the disappointing external factors and not to any miscalculation about the inevitable extent to which the fiscal contraction would dampen the recovery (relative to the infeasible alternative of unchanged fiscal stance).

In addition to fiscal discipline, improved financing terms that emerged in the course of the programme represented a major contributing factor to the improvement in debt sustainability and in market confidence, enabling the Irish state to fund itself in the coming years.

Here I will concentrate on the matters where the Central Bank was most closely concerned, namely the broad liquidity, fiscal and debt issues and repair of the banking system. Of course, a large number of other policy areas have seen action, consistent with what was set out at the start.

Going into the programme

The contributing factors to Ireland becoming the second euro area country to seek the protection of an international loan from the IMF and European partners included fiscal and banking factors, and a market re-appraisal of Europe's attitude to sovereign bondholder bail-ins.

On the fiscal side the market began – by the second half of 2010 – to realize that, despite significant fiscal adjustment since late 2008, the Government's budget remained widely unbalanced since tax receipts had collapsed in the immediate aftermath of the property bubble bursting, and with the additional spending



¹ Central Bank of Ireland.

costs associated with the associated surge in unemployment. Announced budgetary plans were not going to close this gap.

The scale of banking losses, already acknowledged by April 2010 to imply a net budgetary cost in the tens of billions, also continued to creep up during the summer, especially noticed after the Government finally decided to wind-down Anglo Irish Bank. The degree to which property-backed lending had distorted the banks' balance sheets meant that placing a credible bound on potential future losses was hard: the potential for tail risks to generate losses that might be unaffordable for the Exchequer to cover could not be convincingly ruled out.

When a huge block of Government-guaranteed banking debt matured in September, the banks required much more central bank refinancing; not surprisingly, the ECB also began to focus on the Irish outlook with increased concern.

A cacophony of defaultist commentary from many quarters added to market anxiety and an outflow of deposits resumed, with about 100 billion euros (almost three-quarters of that year's GNP) leaving in the course of the year, the bulk of it in the last five months, and a good segment financed by emergency liquidity assistance.

With the Deauville agreement on creditor haircuts casting further doubt on the sovereign's ability to continue to underpin both the continuing part of the banking guarantee and its bond issuance, Irish credit spreads moved out to unsustainable-looking levels.

From the combination of all these factors, by early November, it was clear that the protection of an official programme would be needed to enable the Government's spending programme (which by then had been revised to deliver a convergent path for the public finances) to be maintained.

Changing terms of government debt in the programme

As initially agreed, the programme disappointed the Irish negotiators in a number of dimensions, especially the rate of interest and the other side's inability to factor in the banking risks in a way that would break the pernicious link between the sovereign and the banks, a link which continued to inhibit the funding of both. Had the stress test of 2011 obliged the

Government to inject as much as 35 billion euros into the banks (as was pencilled-in by the Troika staff) – more than twice the figure finally struck in March 2011 – the sustainability of the Government's debt profile would have been even weaker.

As we said publicly and privately at the time, alternatives financing approaches, such as an insurance scheme against extreme loan losses, or a direct recapitalization by a European entity, would have allocated risk more efficiently. But they were ruled-out by the other side, who argued that no mechanism was available at that time to accomplish this. That was certainly the case for the IMF. Arguably, though, it would have been an appropriate time for further European institutional innovation. Actually, had a European entity invested an equity stake, it could have also used its own strong balance sheet to engineer much lower funding costs of the banks; and it would have had an incentive to do so as it would thereby have generating an additional upside potential to its equity investment. This opportunity was not taken.

More generally, forgoing – or at least lacking – the enhanced risk-sharing some such mechanism would have afforded, the lenders proceeded with a programme which, at the outset, had less favourable debt sustainability than was possible to achieve. Accordingly, the lenders entered into what was in fact a riskier situation for them than necessary, although we can now say that this risk has not materialized.

The interest rate initially charged on the European funds was in part modelled on the IMF lending rate conventions, which envisage a sizable spread over the cost of funds. That is what had been set for Greece in May 2010 and it was presented to the Irish negotiators as non-negotiable. Whereas for developing countries such rates are typically attractive and sustainable given the modest debt ratios that generally prevail, applying them to the levels of indebtedness involved in the European loans was always going to be problematic. All calculations (including those published by the IMF at the Programme's outset), indicated serious sustainability concerns at the terms offered.

I will not review here again the vexed question of bank debt. Suffice it (in the present context) to say that the relevant unguaranteed Irish bank debt that was still outstanding in November 2010 matured before Europe had finally arrived at acceptance of a more incentive-compatible understanding of how the cost of

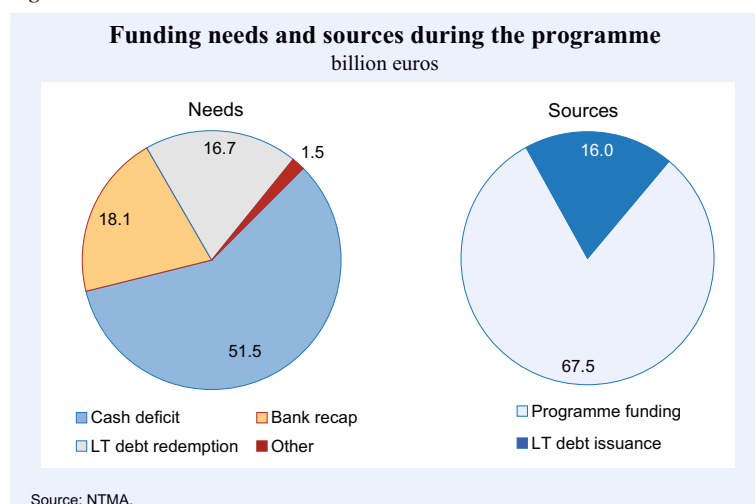
bank failures should be allocated. The bulk of the Government indebtedness attributable to the bondholder bailouts has, following the liquidation of IBRC (successor to Anglo Irish Bank), now been folded into a portfolio of very long-term floating-rate notes (issued in place of the non-transferable promissory notes, which would have been unsuitable instruments for the Central Bank to hold).

In the event, the 67.5 billion euros borrowed from the European and IMF sources almost covered the Government deficit from December 2010 to the end of 2013, of which about one-quarter represented cash bank recapitalization. There were long-term Government debt repayments also in that period, but these were roughly balanced by new issues. This pattern is seen from the ‘sources and needs’ table summarized in Figure 1.²

Gradually, Europe began to realize the broad interdependence of member states, especially among euro area members in the banking sphere: poorly performing member economies contributed to heightened systemic risk and slower growth across the entire euro area. The single banking market and the single currency implied such an interdependency and had encouraged policy thinking that focused on the euro area as a whole, and not on individual countries. Indeed many countries experienced banking failures in 2008 of comparable absolute magnitude to that of the Irish banks. Like Ireland, Britain, Germany, Netherlands, Spain, France, Belgium: all

² Which is based on the NTMA presentation at <http://www.ntma.ie/business-areas/funding-and-debt-management/funding-needs-and-sources/>. The pie chart excludes changes in cash balances and short-term borrowing; note also that ‘cash deficit’ includes promissory note instalment payments.

Figure 1



saw banking failure that required their governments to step in for 50 billion euros or even more. Given its smaller overall economy, however, such a sum, when combined with the sudden erosion of tax base, was more than Ireland’s public finances could absorb. (Banking losses in Cyprus and Iceland were smaller in absolute terms, but even larger than those of Ireland in relative terms.)

Awareness of the interdependency led, fairly early on, to a lowering of the interest rate on the official borrowings from Europe and an extension of the maturities. When combined with the lengthy maturity of the floating rate notes issued by the Government in respect of the liquidation of IBRC, these new terms for a large fraction of official indebtedness (amounting to over 50 percent of GDP) have made all the difference to debt sustainability calculations, both in terms of net present value, and also in terms of refinancing risk.

The banks: liquidity

What happened to all the money that flowed in during the 2000s? The answer can be expressed in different ways. From one point of view, the money flowed out again: the pension funds, insurance companies, sovereign wealth funds and others who had invested in Irish bank bonds and wholesale deposits were repaid, at first out of borrowings made from the eurosystem, and then increasingly out of the realization and sale of assets and the repayment of loans made by the banks.

Given all of the emphasis that has been placed on the different elements here, it is perhaps worth looking at the magnitudes. Figures 2 and 3 look at the ‘Irish headquartered group’ of credit institutions which is the most relevant for our purposes. There has been massive downsizing of this category of bank.³ (There has also been downsizing of the other banks active in Ireland, but these are less central to the fiscal-banking nexus that has been at the heart of the Irish crisis, so I will not dwell on that here.)

³ This downsizing has generally been labelled ‘deleveraging’, though I prefer not to use that term, as it could equally refer to a situation where total balance sheet size is maintained, but financed with a higher proportion of equity.

Figure 2

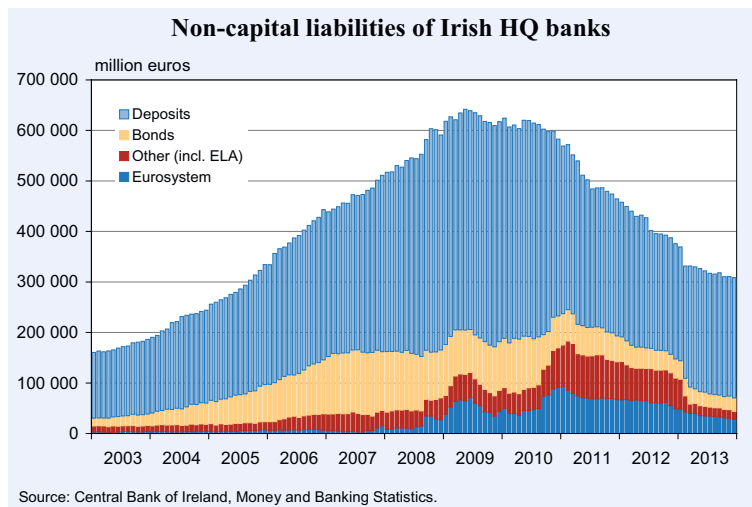
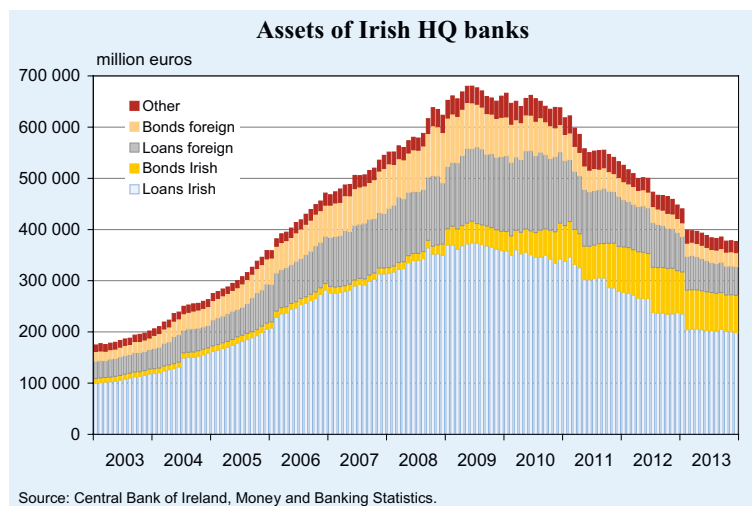


Figure 3



A few points are worth noting from these figures. First, the relative importance of bonds and deposits: deposits very much larger at all time periods; bonds⁴ disproportionately invested by foreign concerns. Second, the changing relative importance of foreign business on both asset and liability side – growing up to the beginning of 2009, shrinking thereafter. Third, the way in which central bank financing was used effectively in the classic lender of last resort function during the crisis.

The banks: troubled loans

As was already foreseen at the outset of the Programme, repairing the banks is a lengthy process. At first, negotiators on the other side were inclined to

⁴ This term includes a wide range of different instruments, such as commercial paper, certificates of deposit, and notes as well as ‘own-use’ bonds issued with a government guarantee and either held as an asset or employed in repo transactions. So there are a number of definitional complexities here.

wonder why more action had not already been taken. But already by the time the programme had been negotiated, they realized that this was going to take time. As IMF staff put it at that time: “the critically-weakened banking sector can be returned to health only at a calibrated pace”.

Indeed, the textbook first steps: triage the viable banks from the nonviable; recapitalize the former, and resolve the latter; were hampered both by the straitjacket created by the guarantee, and by the potential scale of needed recapitalization, and its threat to the Sovereign.

This meant no asset fire-sales, and the target, ultimately achieved, of sharply reducing the loan-to-deposit ratio was kept under review, not least to try to prevent the outbreak (frequently threatened) of destructive deposit price war. On the other hand, for example, the other side’s insistence that deposits should be promptly transferred out of the two fatally damaged banks, Anglo and INBS actually suited the authorities’ intention

to wind these entities down as soon as the guarantee (which had effectively precluded such action) had ended.

Had there been sufficient fiscal headroom, or if the damage had been limited to a segment of the banking system, instead of infecting it all, more drastic *de novo* approaches to establishing a well-functioning banking system might have been available options.

In the event, even injecting the proposed amount of capital in mid-2011 presented fiscal risks. Although seen as newly flush with capital, the banks still lacked the confidence of the market, which saw the fiscal situation as an over-arching threat to the banks. Paradoxically, the attempt to strengthen the banks by sharply recapitalizing was sufficiently credit negative for the sovereign as to limit at first improvement in the banks’ access to the market.

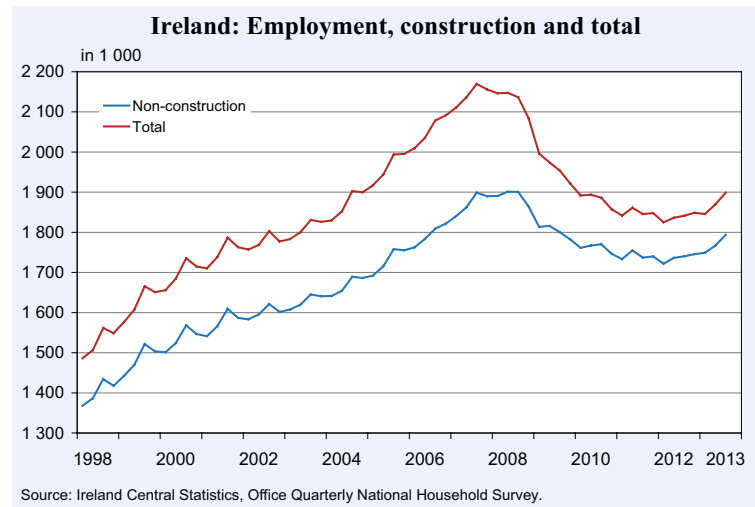
Only after sufficient further consolidation of the fiscal position (and a stabilization of the wider situation in the euro area) did the market's assessment of the credit-worthiness of both sovereign and banks improve.

That said, other parts of the banking repair have taken much longer than expected. Even with Troika pressure the complex bankruptcy law reforms have come slowly; and on the ground, the mortgage arrears and wider impaired assets problems are only now showing clear signs of coming under control. These represent the major unfinished business as we exit the Programme. Progress is being made, and more is needed before the banks can be regarded as restored to fully effective and self-reliant operation. We will not relax in this area.

Conclusion

So where have we arrived after three years of a programme? The overall picture is perhaps captured in Figure 4 which shows that aggregate employment started growing again in 2012 and suggests that this resumes a gradually slowing trend that was in place for more than a decade before interrupted by a construction related surge in the mid-2000s. To those who wish to get back to the favourable and soundly-based economic conditions of the late 1990s, this is probably the most encouraging indicator. There is plenty of scope for disagreement on the quantification, but the pattern is likely to be valid. The accumulation of debt, public and private, will continue to weigh on growth prospects in a variety of ways. The crisis will have a lengthy legacy. But the damage can be ameliorated by a variety of means, including work on labour market activation. Limiting the legacy damage is also the rationale for the Central Bank's persistence in pressing the banks to accelerate their work to ensure that non-performing loans are brought back into performing status, and dealing with over-indebtedness by moving to sustainable solutions. These are tasks which remain as work in progress, though progress that is now accelerating.

Figure 4





IRELAND'S RECOVERY FROM CRISIS

JOHN FITZGERALD¹

Introduction

The economic crisis that hit Ireland in 2008 stemmed from an uncontrolled real estate bubble that had developed over the previous five years, and the resulting collapse in the domestic financial system, which was heavily exposed to the property market. The collapse had an immediate and very severe impact on all aspects of the economy. The very large fiscal adjustment that was necessary to restore order to the public finances began in 2009 and it has continued to this day. However, there are clear signs that the economy began to grow again in 2012 and this recovery has continued through 2013 and into 2014.

This paper discusses the measures taken to turn the economy around: the domestic policy actions and their role in the adjustment. However, what is clear today is that the tradable sector of the economy was less damaged by the crisis than may have initially been thought and it has led a recovery. The growth of the tradable sector has occurred in spite of the fiscal adjustment that is still under way. While this recovery still has a long way to go, it is, by now, reasonably well established. Nonetheless there remain concerns about the robustness of the recovery elsewhere in Europe, which is crucial in underpinning the return to growth in Ireland, and there are also concerns about the ability of the domestic financial system to fund the ongoing recovery.

This paper first considers the nature of the crisis in Ireland since 2008 and the policy measures implemented to tackle it. It then considers the evidence of economic recovery, paying particular attention to the problems in interpreting data due to the exceptional

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openness of the economy. Finally, it considers how the recovery may proceed over the next few years.

The nature of the crisis

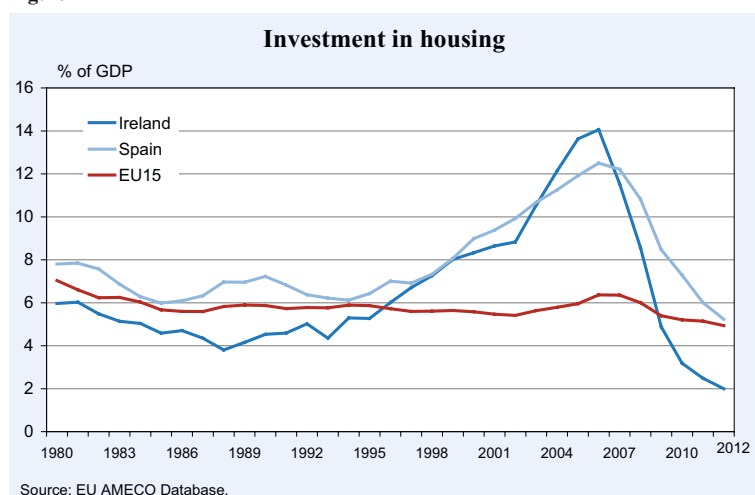
The crisis that broke in the Irish economy in 2008 was rather similar to that in Spain. A major property bubble had developed over the previous five years, which was financed by inflows of capital into the domestic banking system. The high expected returns from investment in housing in Ireland had evoked a huge supply response. The number of dwellings built in Ireland at the height of the boom was approximately 100,000. Today the number being built is less than 10,000. This meant that a very substantial part of the economy was devoted to building and construction in 2007 (Figure 1). To provide the necessary resources, including labour, the rest of the economy, especially the tradable sector, had to be squeezed through a high rate of wage inflation, which reduced competitiveness. In turn, this was reflected in a move into deficit on the current account of the balance of payments in 2003, a deficit which deteriorated rapidly thereafter.

When the crisis hit, the building and construction sector collapsed resulting in a fall in GDP from peak to trough of just under 10 percent and a fall in GNP of over 15 percent.² The unemployment rate rose very rapidly. Between 2007 and 2012 it had increased by 10 percentage points. As discussed in Fitzgerald (2012), the current account adjustment was particularly rapid in countries, such as Ireland, where there was a collapse in the construction sector, whereas in economies, such as Portugal and Greece, where there was no real estate bubble, the adjustment in the current account was slower, being driven by the fall in domestic consumption rather than the very rapid fall in domestic investment.

The real estate sector in Ireland was tax rich and employment rich so that its implosion had a very severe

² GNP is a better measure of living standards as it excludes profits of foreign firms and also national debt interest paid abroad. Here we have adjusted GNP, as described below, to exclude the additional income of some foreign owned firms that is not captured properly in the current account of the balance of payments.

Figure 1



effect on the public finances. Having run a general government surplus in 2007, the deficit reached 11.3 percent of GDP by 2009 (in spite of significant cuts in the 2009 Budget). In addition, the crisis saw the government having to pump over 40 percent of GDP into the banking system to cover its losses and to recapitalise the remaining banks. The result was that the gross debt to GDP ratio, which was under 25 percent in 2007, peaked in 2013 at over 120 percent of GDP.

Policy response

Because the severity of the impending crisis was realised in the late autumn of 2008, urgent measures were taken to deal with the deterioration in the public finances in the Budget for 2009. However, these measures were only a beginning and they did not prevent the public finance from continuing to deteriorate. Table 1 summarises the *ex ante*³ fiscal policy measures taken over the course of the crisis, including the measures pencilled in for 2015. Together, the cumulative *ex ante* adjustment amounts to just under 20 percent of GDP.

³ This is the effect of the measures taken assuming no feedback from these measures to government revenue and expenditure.

Table 1

Summary of actual and planned austerity measures over period 2008–2015 (billion euros)

	2008–2010	2011	2012	2013	2014	2015	2008–2015
Revenue	5.6	1.4	1.6	1.3	0.9	0.7	11.5
Expenditure	9.2	3.9	2.2	2.3	1.6	1.3	20.5
of which							
Capital	1.6	1.9	0.8	0.6	0.1	0.0	5.0
Total	14.7	5.3	3.8	3.5	2.5	2.0	31.8
Share of GDP	9.2%	3.3%	2.3%	2.1%	1.5%	1.1%	19.5%

Source: Department of Finance Budgets. GDP figures revised based on CSO: National Income and Expenditure, 2011 and Duffy *et al.* (2012).

When the adjustment began in 2009, the full gravity of the problem with the banking system was not realised. It was not till the autumn of 2010 that this became apparent. The revelation of these problems in 2010 saw Ireland's access to funding drying up and the result was the recourse to the support of the Troika in late November 2010. However, before assistance was sought from the Troika, the government had put in place an adjustment programme designed to bring government borrowing below 3 percent by 2015.

The adjustment programme previously agreed with the EU Commission in 2009 had planned to reach this borrowing target by 2014 but, because of the additional burden of funding the banking sector losses, the time scale for meeting the borrowing target was extended to 2015.

The adjustment programme set out by the government in early November 2010 was accepted by the Troika in December 2010 without significant change. Thus it was the Irish government's plan, rather than a plan imposed from outside, that formed the basis for the ongoing fiscal adjustment. Up to that point the forecasts for the public finances in the government's programme had consistently proved to be pessimistic. However, in drawing up the programme in late 2010 the then government aimed to under-promise.

This policy stance by the outgoing government was unusual as they were facing into an election within three months. (It is more usual for governments to over-promise in a run up to an election.) However, in this case the outgoing government anticipated a disastrous election result and, instead, of over-promising,

facilitated the incoming government by putting place an achievable set of fiscal targets.

The incoming government adopted the broad outlines of this plan. To the extent that they wanted limited modifications in the detailed measures, they received ready acceptance from the Troika. Because of the conservative nature of the original plan, even though the external environment proved less favourable than anticipated, with consequent negative consequences for domestic growth, the government has been able to outperform its fiscal targets each year. This helped restore external confidence in the Irish economy and it has also proved somewhat reassuring to the population suffering under the adjustment.

The broad composition of the large adjustments made over the period 2008–2015 is shown in Table 1. Roughly two thirds of the measures involved cuts in expenditure and one third involved increased taxation. This contrasts with the adjustment in the 1980s, when the initial measures were heavily weighted towards increased taxation and cuts in capital expenditure (Honohan 1999). Among the measures introduced were cuts in public sector pay⁴ and cuts in welfare benefits.

This approach of under-promising and over-delivering in Ireland contrasted with that of Spain. The adjustment in the Spanish public finances planned in spring 2010 was more ambitious than that of Ireland (Table 2). While beginning with a deficit at a slightly lower level in 2010, the plan was to reduce the deficit to 3 percent of GDP by 2013. The outgoing government, in the spring of 2011, raised the bar for the incoming government, committing to reduce the deficit

⁴ Hourly rates of pay in the public service pay at the end of 2013 were 6.5 percent below the peak level in 2008 (CSO, CSO survey on Earnings Hours and Employment Costs).

Table 2

Stability programme updates – Ireland and Spain

Official plans	2010	2011	2012	2013
<i>Plan of Spain</i>				
Spring 2010	9.8	7.5	5.3	3.0
Spring 2011	9.2	6	4.4	3.0
Spring 2012	9.2	8.5	5.3	3.0
Latest	9.6	9.6	10.6	7.2
<i>Plan of Ireland</i>				
Winter 2009	11.6	10	7.2	4.9
Winter 2010		10.6	8.6	7.5
Latest	10.6	8.9	8.1	7.1

Source: Stability Programme Updates for Spain and Ireland. Latest data for Spain from EU AMECO database; for Ireland Duffy *et al.* (2013).

even more rapidly in 2011 and 2012. However, the incoming Spanish government in spring 2012 found that this time path of adjustment was not realistic and it had to dramatically alter the plan.

Because of a failure to meet the more ambitious targets, the financial markets temporarily lost faith in the ability of the new Spanish government to deliver and Spanish bond yields rose above bond yields for Ireland. By contrast, in the case of Ireland, sure but steady progress was rewarded with a steady fall in bond yields. While difficult to achieve politically, the lesson from these two examples of adjustment programmes seems to be that it is better to under-promise and over-deliver.

In addition, to dealing with the public finance crisis the Irish authorities also had to tackle the crisis in the domestic banking system. The first lesson from this crisis is that having domestically owned banks can be exceptionally costly. The very rapid rebound in the Baltic countries, in spite of a massive bubble bursting, owes something to the fact that the banking system in those countries was foreign owned. In Ireland, by contrast, the banking system was largely domestic and the domestic banks had a very high share of their business in Ireland. Thus a collapse in the domestic housing market led to the collapse in the domestic banking system. This has proved to be an albatross round the neck of the economy.

Honohan (2012) has drawn some lessons from the Irish experience of tackling the banking crisis saying that, once a problem has occurred, “prompt, transparent over-capitalisation in a systemic crisis should remain the preferred option for dealing with failing banks that it is deemed necessary to save”. While the Irish process was quite transparent the lack of information on the size of the problem resulted in regulators’ initial action being inadequate. Once the size of the funding needed began to become clear it was obvious that it could put the sovereign at risk. This made it difficult to over-capitalise the banks – too big an over-capitalisation would in turn put at risk the sovereign – a lose-lose situation. In the Irish case the funding needs of the banking system placed the sovereign under such severe pressure that, without

the support of its EU partners and the IMF, Ireland would not have been able to deal with the situation in the way it did.

The banking system has been very slow to deal with the problem of the debts that had been recognised in the 2011 stress tests and for which provision had been made in the recapitalisation. As a result, as a recovery in the wider economy is under-way, there are concerns whether the banking system will be able to fund a prospective significant increase in investment (Duffy *et al.* 2013). While the evidence to date is that finance has not been a constraint on growth (O'Toole 2013), it could well prove to be a greater obstacle in late 2014 and 2015.

The recovery

While economists are not good at identifying economic turning points in real time, after the event it is more straightforward to use national accounting data to date recessions and recoveries. However, in the current Irish case, because of the extreme openness of the economy, it is difficult to interpret standard economic data to assess trends in the recent past. While it is reasonably clear from the data for GDP that the economy peaked in 2007 and that output (and employment) levels fell precipitously in 2009, it is much less clear when the recovery actually began.

There are two obvious problems in interpreting the data: one problem relates to the effects on the data of the ending of pharmaceutical patents and the second relates to the operation of some investment vehicles located in Ireland.

Because of the major importance of the pharmaceuticals sector in Ireland, the ending of patents on certain key drugs has had a major impact on national accounting aggregates in recent years. For example, one particular drug manufactured in Ireland, Lipitor, dropped out of patent in the United States at the end of 2011 and in Europe in 2012 (Fitzgerald 2013a; Dalton and Enright 2013). The effect of this change was a loss of revenue for the owner of the drug, Pfizer, of 5.5 billion US dollars in 2012.⁵ Even though the pharmaceutical compound continued to be manufactured in Ireland after the end of the patent, all of this loss of revenue is classified as a fall in volume of exports and of industrial output. To the extent that this fall in revenue resulted

in a fall in profits earned in Ireland, it also represented a fall in the volume of GDP.

However, it had only a minimal impact on GNP. As this was only one of a number of drugs produced in Ireland that are falling out of patent, and because the precise accounting treatment used by individual companies is confidential, it is difficult to unravel the full effects of these developments on GDP.

In an economy, such as Ireland's, a better measure of real activity, in so far as it affects the domestic economy, is the development of GNP. This is because of the very large and profitable multinational sector in Ireland. The large profits that these firms earn are remitted to the firms' owners and this outflow is included in net factor income paid abroad; this is subtracted from GDP to arrive at GNP. Thus GNP is largely unaffected by the loss of patent revenue as that loss of revenue only affects the profits of the multi nationals.⁶

However, even with GNP there have been significant distortions arising from unusual behaviour by foreign firms located in Ireland, which affect the interpretation of the data. Between 2009 and 2012 approximately a dozen financial firms, largely UK in origin, relocated to Ireland. These firms, referred to as 'redomiciled plcs', are liable for tax in Britain and have no domestic presence in Ireland (no employees) (Fitzgerald 2013b). They earn investment income in Ireland, which is credited as a net factor inflow, raising GNP and the measured current account surplus. However, because they do not pay dividends, their income does not flow back out to the beneficiaries on the current account. As a result, it increases GNP and Gross National Income (GNI)⁷ and the current account surplus of the balance of payments by a significant amount. The increase in the value of the firms' assets arising from the inflow of dividends shows up in the Net Foreign Liabilities of the state. Clearly this addition to GNP, which properly belongs to the foreign owners of the investment funds, does not represent an increase in Irish welfare. To deal with this problem we exclude these inflows from the published GNP figure shown in Figure 2.

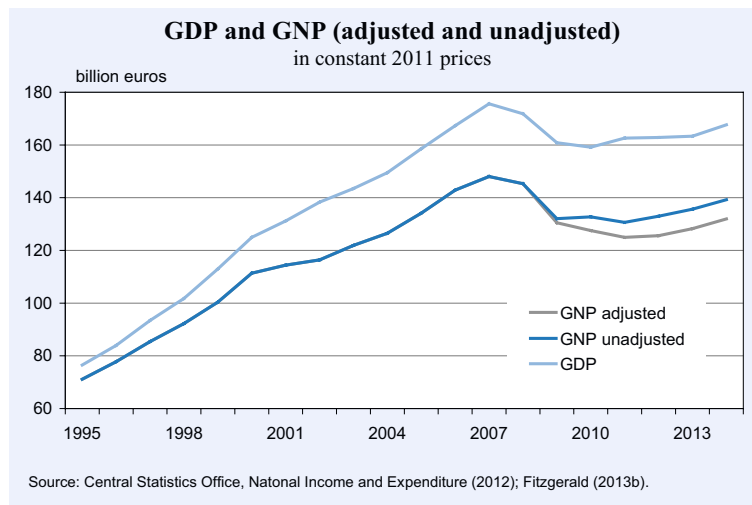
As shown in Figure 2, in the case of GDP the trough was in 2010 and there was very slow growth in 2012 and 2013. While GNP, unadjusted for redomiciled

⁶ To the extent that there is a loss of corporation tax as a result of the lower profits there would be an effect on GNP.

⁷ The rise in GNI raises Ireland's contribution to the EU Budget in spite of the fact that there is no domestic value added arising from these firms' activities.

⁵ Over 2.5 percent of the value of exports and of GDP.

Figure 2

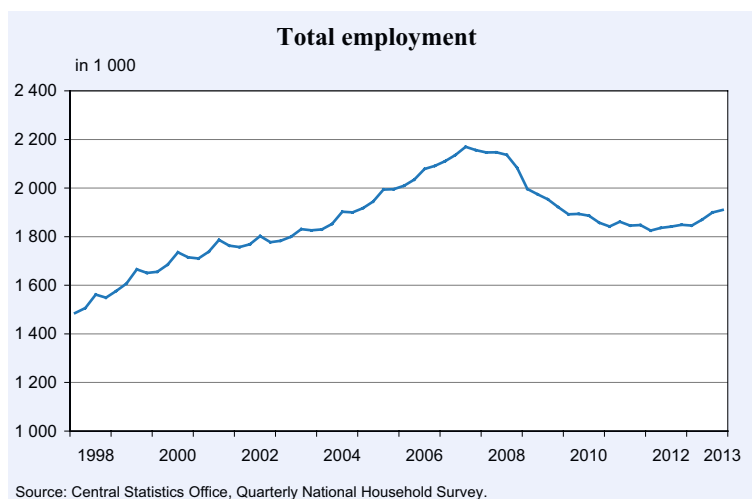


plcs., stabilised in 2010, it only returned to significant growth in 2012. Probably the best measure of domestic welfare is GNP, adjusted to exclude the redomiciled plcs. This aggregate suggests that the recession in Ireland continued through 2010 and 2011, with recovery only beginning in 2012.

The clearest signal of what is happening in the economy is probably the growth in employment (Figure 3). Beginning with the last quarter of 2012, there have been five consecutive quarters where seasonally adjusted employment grew, quarter-on-quarter, by over 0.6 percent. This suggests a very similar turning point to the GNP data – some time in 2012. Since late 2012, there has also been a significant increase in hours worked.

When considering the impact of the crisis on the distribution of income, the single biggest driver of change was the dramatic rise in the numbers unemployed.

Figure 3



However, there has also been a big impact on the incomes of a significant number of really high earners, many of whom were dependent on the property bubble for their livelihoods and the bursting of the bubble has seen a dramatic decline in their fortunes. Between 2007 and 2010 the numbers earning over 100,000 euros fell by almost 15 percent and, in addition, the average income of those who were still earning over 100,000 euros fell by around 8 percent.

While the underlying driver of change in the distribution of income (and in the numbers at risk of poverty) has been the changes in economic fortunes, public policy has also played a mildly progressive role in modifying the impact of the crisis on households. Callan *et al.* (2013) show that the effects of changes in the tax and welfare systems over the period 2009–2014 have reduced the incomes of the richest 10 percent of the population by 15.5 percent, while the decline in the incomes of the poorest 10 percent of the population was 12.5 percent.

However, while changes in public policy did not have a major impact on the distribution of income, the operation of the existing welfare system, interacting with the wider changes in the economy, shielded an increasing number of people from the risk of falling into poverty. While the ‘at risk of poverty’ rate in 2011 was 16 percent, official data indicate that, without welfare transfers, it would have been close to 50 percent. By contrast, in the boom years it would have been under 30 percent without transfers. The resulting increase in welfare payments has contributed to the problems in the public finances.

The data for Ireland for 2011 suggest that the distribution of income was rather similar to what it was in 2007 and 2008. For 2009, the first full year of the crisis, the distribution of income, measured in this way, was the most equal that it has been since the 1980s. This contrasts with Spain where the Gini coefficient has risen significantly in recent years.

Conclusions

While the Irish economy suffered a very severe recession in recent years, the collapse in output was largely confined to sectors directly related to building and construction. The tradable sector had lost competitiveness during the bubble years but the deterioration had not reached the stage where wholesale closures were inevitable. Instead the tradable sector repriced itself over the course of the recession and today private sector hourly earnings are back at their 2008 level. The tradable sector of the economy has specialised in activities that require skilled labour and where demand is income elastic. This has resulted in a very rapid growth in exports of services, which now account for over half of all exports. As a result, in spite of the poor performance of the EU economy, exports of goods and services today are around 14 percent above their previous peak in 2007.

The labour market in Ireland is very elastic. Whereas in most other EU economies labour supply changes slowly over time, in Ireland it shows very rapid changes through migration. Having grown exceptionally rapidly through immigration in the period up to the crisis, peaking at over 2 percent of the population in 2007, there has been very substantial emigration in the last five years ranging up to 0.7 percent of the population. This safety valve of migration moderated the inflationary pressures of the boom and it has also moderated the rise in unemployment in the recession.

The return to rapid growth in employment since the end of 2012 has, so far, being concentrated in jobs for graduates. There has been little recovery in employment for those with lower levels of education. This reflects the nature of the recovery so far; it has been led by relatively high tech business in the tradable sector. Nonetheless, the unemployment rate fell from 14.2 percent of the labour force at the end of 2012 to 12.1 percent at the end of 2013.

The current account surplus has continued to increase, reflecting the continuing deleveraging by the private sector. However, the population is continuing to grow and, with rising employment and the exhaustion of the stock of vacant dwellings in the main cities, demographic pressures are beginning to arise in the housing market. In the main cities house prices and rents are rising. This reflects the fact that population growth alone would require 25,000 dwellings a year whereas

currently under 10,000 are being built (Fitzgerald and Kearney 2013).

However, the deleveraging by households could continue for some considerable time if the incipient recovery stalled in the rest of the EU – resulting in a return to stagnation in Ireland. Also, even if the pressures for additional dwellings were to continue to grow, there might not be a supply response if the financial sector was unable to finance the new investment. Given the continuing high level of indebtedness a faltering recovery could result in renewed pressures on the government finances.

However, if the recovery continues to pick up pace in 2014 and 2015, with some increase in domestic investment, this could see a more rapid reduction in the numbers unemployed and a return of the public finances to a small surplus over the period 2017–2019.

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INTERNATIONAL FINANCIAL FLOWS AND THE IRISH CRISIS

PHILIP R. LANE¹

Introduction

A central analytical issue in the study of Ireland's boom-bust-recovery cycle is how to interpret the precise role played by cross-border financial flows. The dynamics of international capital flows have been widely studied in the research literature on economic crises. In particular, high levels of external debt and large and persistent current account deficits can raise vulnerability to adverse shocks (Gourinchas and Obstfeld 2012; Catao and Milesi-Ferretti 2013). One particular mechanism (which is especially relevant for Ireland) by which foreign debt inflows can contribute to domestic financial instability is by fuelling domestic credit booms (Lane and McQuade 2014). Moreover, once a crisis takes hold, capital flight by foreign investors and domestic investors can amplify crisis dynamics, with the draining of funding putting a liquidity squeeze on the banking system and an increase in risk premia resulting in the loss of bond market access for banks and the sovereign.

At the same time, international financial integration can also help to buffer a crisis, since part of the crisis-related losses may be shared by foreign investors and the repatriation of foreign assets by domestic investors can offset the exit of foreign investors from the domestic sector. In addition, the post-crisis recovery process can be accelerated by a new wave of international financial inflows that is attracted by the reduction in domestic asset values, improved competitiveness and the implementation of a post-crisis macro-financial stabilisation programme that successfully brings down risk premia.

¹ Trinity College Dublin. I thank Tony O'Connor for excellent research assistance and Karl Whelan for the kind provision of data on Target 2 balances. I also gratefully acknowledge funding from the Irish Research Council.

In examining the inter-relations between boom-bust cycles and international financial flows, Ireland is a special case for several reasons. First, it is a major international financial centre and a major location for multinational production activity, such that the scale of cross-border flows is very high compared to most other economies. Second, as a member of the euro area, cross-border eurosystem liquidity flows have been an important buffer during the crisis: this mechanism is not available to countries that are not members of a multi-country monetary union. Similarly, the absence of the currency adjustment option (short of exiting the euro area) makes the Irish crisis fundamentally different relative to earlier crises. While the euro area dimension is of course also shared by some other countries embroiled in the current wave of crises (Cyprus, Greece, Portugal, Spain), Ireland's role as an international financial centre marks it as a distinct case.²

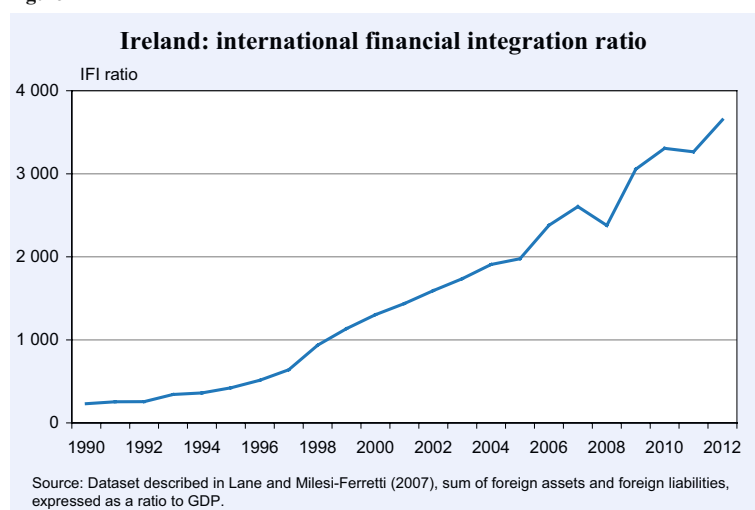
In what follows, I analyse a selection of issues that are relevant in working out the myriad contributions of international financial flows to the Irish crisis. As a starting point, the second section outlines the extreme level of international financial integration exhibited by the Irish economy and the implications for interpreting its external balance sheet. The third section turns to the net external position of Ireland, both in terms of flows (current account balance) and stocks (net international investment position). I describe the different ways in which gross international financial flows have been important in the Irish crisis in the fourth section. Finally, I offer some concluding comments in the fifth section.

Ireland and financial globalisation

In understanding the role of international financial flows in the specific context of Ireland, it is imperative to take into account Ireland's status as a major international financial centre. To illustrate this point, Figure 1 plots the ratio of foreign assets and foreign liabilities to GDP for Ireland over 1990–2012. This IFI ('international financial integration') ratio is a commonly-used

² To some extent, Cyprus also qualifies as an international financial centre, but the scale and breadth of financial activities in Ireland is much larger than in Cyprus.

Figure 1



summary index for the extent of cross-border financial trade (Lane and Milesi-Ferretti 2007). Figure 1 vividly illustrates the extreme level of financial globalisation exhibited by the Irish economy, with the IFI ratio reaching 3,600 percent of GDP by 2012 (constituting foreign assets of 1,767 percent of GDP and foreign liabilities of 1,883 percent of GDP). This very high level of international financial integration underscores Ireland's prominent role as an international financial centre, with a significant international market share in the administration of mutual funds, insurance, leasing, special purpose vehicles and some types of international banking. These international financial services are predominantly produced by global financial firms, with their pure intermediation role implying a generally-balanced position between foreign assets and foreign liabilities.

In addition to wholesale financial intermediation, Ireland is also exceptional in relation to the high representation of multinational firms in the production of tradables (typically, high-value goods and services). As reported by the Central Statistics Office (2012), sectors dominated by foreign-owned multinationals accounted for about a quarter of total gross value added in 2011. These multinational firms are highly active in cross-border financial trade, both in terms of the funding of Irish-located production activities and in the treasury management of intra-firm cash and debt pools. Along another dimension, foreign portfolio investors are highly active in the Irish stock market, while domestic institutions (pension funds, insurance firms) predominantly hold foreign securities. During 2001–2008, the Irish sovereign wealth fund (the National Pension Reserve Fund or NPRF) was also a major outward investor in

global securities markets.³ During this period, another source of large-scale private capital flows was the decision by the domestic banking system to fund rapid domestic credit growth through an expansion in foreign liabilities (Honohan 2006; Lane 2010; Kelly 2010; Whelan 2014a).⁴ These foreign liabilities were obtained through international bond issues, the gathering of foreign corporate deposits and cross-border inter-bank positions. Albeit to a lesser extent, the domestic banks also expanded foreign asset positions through an increase in the scale of foreign lending.

Of course, since 2008, foreign official funding has been an important component in Ireland's external balance sheet. The provision of liquidity by the European System of Central Banks has provided a key source of alternative funding for the domestic banking system, while the Irish government has borrowed heavily from the International Monetary and Fund, European institutions (EFSM, EFSF, ESM) and bilateral official loans (Denmark, Sweden and Britain).

Taken together, these characteristics of Ireland's external balance sheet mean that it is not very informative to examine the overall scale of foreign assets and foreign liabilities. Rather, more detailed analysis is required which takes into account the sectoral and ownership structure of cross-border positions. The lack of sufficiently-detailed disaggregated data is a major analytical problem in understanding the risk exposures in international balance sheets (see also Lane 2013a). In the next section, we turn to the analysis of the net external position.

Ireland's net external position: stock and flow imbalances

The net international investment position (NIIP) is a key state variable in open-economy macroeconomic

³ Since 2008, the NPRF was primarily redirected to holding domestic assets, including shares in domestic banks.

⁴ Since the standard banking datasets focus on the aggregate banking system, the cross-border activities of domestically-orientated banks were obscured by the much larger positions of the offshore banking sector. Since 2010, the Central Bank of Ireland publishes more disaggregated data for the different groups: the total banking system, the domestic market group (including the affiliates of foreign-headquartered banks) and the Irish-headquartered group.

models. In particular, a highly-negative NIIP is associated with projections of a sequence of future trade surpluses (to finance net investment income outflows to foreign investors) and an increase in risk premia (with a high external debt burden giving rise to fears of elevated default risk). The NIIP reflects the cumulative sum of historical current account imbalances, adjusted for the contribution of valuation effects by which shifts in asset prices and exchange rates alter the value of outstanding foreign assets and foreign liabilities (Lane and Milesi-Ferretti 2007; Gourinchas and Rey 2014).

In a given period, the measured change in the net international investment position can be written as

$$(1) NIIP_t - NIIP_{t-1} = CAB_t + SFA_t$$

where CAB_t is the current account balance and SFA_t is the stock-flow adjustment term that reconciles the change in the stock of net foreign assets and net financial outflows. The current account balance should equal the net financial outflow (that is, the net acquisition of foreign assets or net issuance of foreign liabilities), although measurement problems mean that the two concepts are not perfectly aligned in the data, with the ‘net errors and omissions’ term in the balance of payments bridging the gap.

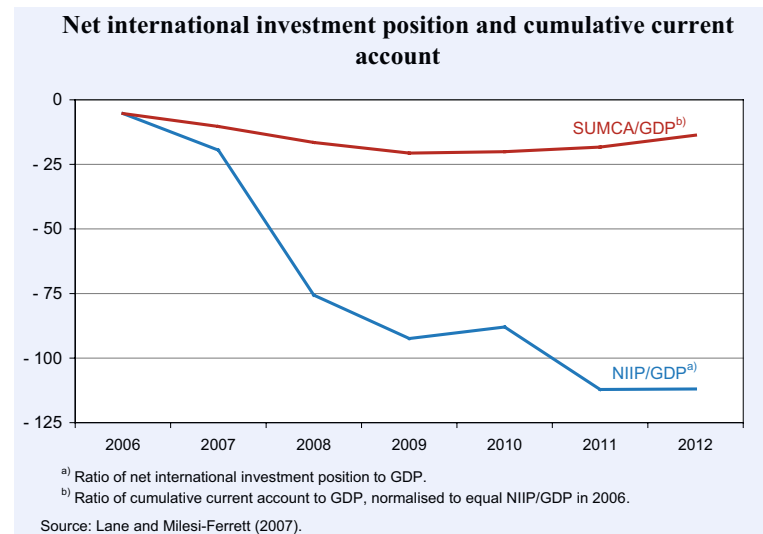
In principle, the SFA_t term can be decomposed as

$$(2) SFA_t = NET_VAL_t + NET_OTH_t$$

where NET_VAL_t are net valuation effects (net capital gains or losses on the existing stock of foreign asset and foreign liabilities) and NET_OTH_t are net other adjustments (due to data revisions and changes in data collection methods). However, many countries (including Ireland) do not report this decomposition, so that is not straightforward to interpret the behaviour of the SFA_t term.

Figure 2 shows the net international investment position and the cumulative current account balance for Ireland over 2006–2012. Over this period, the net in-

Figure 2



ternational investment position deteriorated very sharply from a net liability position of 5.3 percent of GDP in 2006 to 112 percent of GDP in 2012. This decline is mostly attributable to the stock-flow adjustment term, since the current account deficit peaked at 5.6 percent in 2008 and improved significantly since the onset of the crisis.⁵

What might explain this remarkable adverse movement in the net international investment position? It is all the more surprising since it might be expected that a country in crisis should experience positive net valuation gains, since foreign equity investors in the domestic economy would incur crisis-related declines in asset values (such that the value of external liabilities should decline). Indeed, the stock-flow adjustment term has been positive for other European peripheral countries during the crisis (Lane 2013b).

While foreign equity investors in Ireland certainly have suffered valuation losses due to the crisis, this may have been overwhelmed by the losses by Irish investors on foreign equity assets such that the net valuation term may have been negative for Ireland. In

⁵ As noted by Fitzgerald (2013), the current account surplus in recent years is overstated by a quirk in the rules of balance of payments accounting. Since 2008, a popular tax-planning strategy for multinational corporations was to redomicile in Ireland even if no substantive economic activity took place in Ireland. Since these redomiciled firms earn considerable global income, the FDI investment income credits for Ireland sharply increased. Since these firms are virtually 100 percent owned by foreign portfolio investors, these profits ultimately accrue to the non-Irish investors. However, if the redomiciled firms retain earnings rather than pay out dividends, there is no corresponding contemporaneous investment income outflow, thereby distorting the measurement of national income and the current account. By the same token, undistributed earnings that will ultimately accrue to foreign investors should add to the valuation of foreign liabilities – this can help explain some of the decline in the net international investment position over 2010–2012 but played a minor role during the main phase of the decline during 2008–2009.

turn, this can be related to the long equity, short debt international strategy of Irish national investors, with foreign debt liabilities in part used to fund foreign equity assets (the foreign equity portfolios held by Irish investment funds, foreign property assets held by Irish speculators and households). This type of strategy provided poor insulation in the event of an international financial crisis, with a steep decline in global equity and property values occurring simultaneously with a funding squeeze in debt markets.⁶

However, it is also plausible that measurement error can help to account for this large shift in the NIIP/GDP ratio (see also Lane 2012). Since foreign assets and foreign liabilities are in the range of 1,700 to 1,800 percent of GDP, relatively-small measurement errors can generate large movements relative to GDP. The complexity of the corporate structures used to facilitate international financial intermediation means that it can be difficult to track shifts in the values of inter-related assets and liabilities, especially during periods of market turmoil and if these cross over between different categories in the balance of payments (for example, ensuring the consistent valuation of a foreign-owned bank that is engaged in proprietary trading of portfolios of foreign asset-backed securities and illiquid over-the-counter foreign derivative positions).

Moreover, an additional type of measurement problem has been the growing cumulative gap between the current account balance and measured net financial flows. Historically, the cumulative value of the net errors and omissions term has been low (positive values soon followed by offsetting negative values) but the cumulative value over 2008Q1–2013Q3 has been 16.6 percent of GDP. One possible explanation is unrecorded capital flight (unrecorded accumulation of foreign assets), which is a not-unexpected pattern during a financial crisis.

Establishing the sources of the measured decline in Ireland's net international investment position is a high priority. If the measured decline is accurate, it provides a dramatic illustration of the importance of interna-

⁶ The sharp depreciation of Sterling also played a role since Irish investors were heavily exposed to Britain property market. Debt-related valuation effects played a bigger role in some other countries. Most obviously, various types of private and/or public debt default and restructuring have generated reductions in the scale of foreign liabilities for Cyprus, Greece and Iceland. This also occurred in the Irish case to a limited extent in relation to subordinated bank bonds. Since Ireland opts to value its sovereign debt liabilities at book value rather than market value, it did not incorporate fluctuations in the market value of the sovereign bonds held by foreign investors into its measurement of the stock of foreign liabilities.

tional valuation effects in driving national wealth dynamics. If, alternatively, much of the decline reflects measurement error, it calls into question the capabilities of analysts and policymakers to properly interpret the evolution of balance sheets for countries that are heavily involved in international financial trade.

International financial flows and the crisis

How should we think about the role of international financial flows in the Irish crisis? In relation to the pre-crisis period, there can be little doubt that the scale of the domestic credit boom and the associated property boom was amplified by the large-scale foreign funding raised by the domestic banking system. While the current account deficit did expand, its peak value at 5.6 percent of GDP in 2008 was relatively small compared to the double-digit levels reached in some other peripheral European economies. An important contributory factor in reconciling the large debt inflows into the banking system and the limited current account deficit is that the debt inflows were not just used to finance domestic property investment but also aggressive foreign asset acquisitions by Irish residents.

The increasing difficulties encountered by Irish banks in rolling over foreign liabilities during 2007–2008 were an important early warning indicator of crisis vulnerability. Once the international crisis took hold in September 2008, the scale of private capital outflows was mitigated by the liability guarantee provided by the AAA-rated Irish government and the availability of liquidity support from the ESCB. However, the sharp deterioration in Irish economic performance, property prices and the fiscal position during 2009–2010 saw a sustained funding drain from the domestic banking system, resulting in increasing reliance on central bank liquidity, including the Emergency Liquidity Assistance (ELA) provided by the Central Bank of Ireland. Ultimately, concerns about the sustainability of the liquidity funding, under-capitalisation of the banking system and the adverse fiscal situation saw a twin sovereign-banking crisis in Autumn 2010 and the negotiation of the EU-IMF programme, with 67.5 billion euros of official external funding to be provided over 2010–2013 (corresponding to 42.7 percent of 2010 GDP).

Relative to 'sudden stop' episodes experienced by emerging market economies, the cross-border provision of central bank liquidity was an important source

of alternative funding that moderated the impact of private-sector financial outflows on the domestic banking system, domestic asset prices and the speed of current account adjustment (see, amongst others, Sinn and Wollmershäuser 2012; Lane and Milesi-Ferretti 2012; Alcidi and Gros 2013; Auer 2014; Whelan 2014b; Fagan and McNelis 2014).⁷ The Target 2 liabilities for Ireland peaked at 91 percent of GDP in December 2010.⁸ The subsequent stabilisation and restructuring of the banking system has generated a sustained decline in scale of the Target 2 liabilities, which had declined to 32 percent of GDP by December 2013.

Some types of private-sector international financial flows have played a countervailing stabilising role during the crisis. The adverse wealth effects from the severe loan losses incurred in Ireland were partially transferred overseas, since foreign investors held a substantial proportion of the portfolio equity issued by the Irish-headquartered banks, while investors in the parent banks absorbed the losses generated by the Irish affiliates of foreign-owned operations. In related fashion, the aggressive restructuring of subordinated bank bonds (mostly held by foreign investors) has also been a significant contributor to recapitalisation, with a cumulative value of about 10 percent of GDP.

The sale of foreign assets by the banks has contributed to the deleveraging of the banking system, with foreign loan books less troubled and more liquid than the domestic counterparts.⁹ In addition, the booking of capital gains on the profitable disposal of foreign affiliates by Irish banks has added to the recapitalisation of the system. Finally, the parent banks of domestically-active foreign affiliates have been an important source of replenished capital and intra-group cross-border liquidity during the crisis.

At the sovereign level, the sale of foreign securities by the NPRF was a major source of funding for the publicly-funded component of the recapitalisation of the

banking system. Since the NPRF was designed as a long-term fund rather than a ‘rainy day’ fund, it primarily held a global equities portfolio, such that the timing of its liquidation was poorly timed in view of the large declines in equity values during the most intense phase of the global financial crisis.¹⁰

Furthermore, an important element in the recovery phase has been the resumption of private-sector capital inflows. In combination with the fiscal adjustment programme, the recapitalisation and restructuring of the banking system has induced growth in the deposit base of the domestic Irish banks and reduced reliance on central bank liquidity flows. In the property sector, global institutional investors have been major purchasers of commercial property assets sold as part of the deleveraging process by banks and the National Asset Management Agency (NAMA). In the residential housing market, the substantial appreciation in Dublin house prices since 2012 has been in part driven by foreign investors (primarily, non-resident Irish investors) that are not dependent on Irish banks for mortgage finance.

In terms of the real economy, an important driver of recovery has been Ireland’s success in attracting new FDI projects. In Ireland, multinational firms predominantly rely on external sources (such as intra-firm financial flows) to fund activities, such that the distressed state of the domestic banking system has not directly damaged funding mechanisms for this sector. The decline in commercial property rents (in conjunction with lower hiring costs in the labour market) has improved Ireland’s attractiveness as a location for multinational activities, which had been undermined by the overheating associated with the construction boom in the mid-2000s. In tandem with the decline in sovereign default risk and the improvement in global economic prospects, this has resulted in a significant surge in FDI activity since 2012.

Conclusions

The Irish crisis has multiple lessons for researchers and policymakers in relation to the properties of international financial flows. On the negative side, the scale and persistence of the Irish credit and property boom was surely fuelled by the large-scale external funding that was raised by the Irish banking system. In turn,

⁷ A key issue in evaluating the role of liquidity flows is to specify the counterfactual that would have occurred in the absence of these flows. In particular, the non-availability of such flows would have resulted in different adjustment pressures on private-sector flows and stocks of external liabilities (through declines in asset values and debt restructuring).

⁸ Whelan (2014b) and the Euro Crisis Monitor dataset (www.euro-crisismonitor.com) report similar estimates for Ireland’s Target 2 balances.

⁹ As discussed by the Committee on Global Financial Stability (2010), the acquisition of foreign assets by banks during the boom period was partly motivated by diversification but also partly by incentives to expand the size of bank balance sheets. If diversification is achieved at the cost of over-leveraging the banking system to fund the expansion, the overall level of risk exposure may have been increased by internationalisation rather than reduced.

¹⁰ Lane (1998) advocated the establishment of a liquid ‘rainy day’ fund to help absorb the fiscal costs of future banking crises under EMU.

the sharp reversal of these debt-related inflows helps to explain the severity of the Irish banking/property crash, even if partial cushioning was provided by cross-border eurosystem liquidity flows.

On the positive side, the stock of foreign equity liabilities (especially *vis-a-vis* the banking system) meant that the crisis costs were partly shared with foreign investors, which also took a hit through the restructuring of the subordinated bonds issued by banks. In addition, an important contributor to the post-crisis adjustment process has been the ability of Ireland to attract a new wave of foreign financial inflows, which facilitates recovery in the real economy through the expansion of FDI projects and the reconstruction of the domestic banking system and in asset values through the activities of foreign investors in the domestic property market, domestic stock market and the sovereign debt market.

In terms of the future research agenda, much remains to be worked out in terms of understanding the evolution of international financial flows in the Irish case. In relation to the boom phase, the relative roles played by domestic banks, foreign lenders and regulatory systems in driving the rapid growth in the external debt of the banking system remains unclear. In relation to crisis dynamics, modelling plausible counterfactuals is important in understanding the contributions of official flows (eurosystem funding of the banks, EU-IMF funding of the sovereign). In relation to the recovery phase, it is essential to identify the key reforms and policy measures that built confidence among international investors and fostered the resumption in private-sector international financial inflows.

At a policy level, it is also important to develop policy instruments that may be deployed to avert excessive debt inflows. While the new European macroeconomic imbalances procedure appropriately identifies external debt flows and external debt stocks as risk factors, the selection of the appropriate mix of fiscal and macroprudential instruments to manage such risks remains an important challenge for policymakers.

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POST-BAILOUT IRELAND AS THE POSTER CHILD FOR AUSTERITY

STEPHEN KINSELLA¹

Surely Ireland in 2014 is the poster child for austerity?

This article is an update to Kinsella (2012), which argued Ireland was not the poster child for austerity because of the remarkable degree of openness of its economy. For the avoidance of confusion, let us follow Blyth (2013) in defining austerity as a policy of cutting the state's budget to stabilise public finances, restore competitiveness through wage cuts, and create better investment expectations by lowering future tax burdens.

Kinsella (2012) argued policies that would work in Ireland could not be transplanted to other economies with any confidence in their success given Ireland's institutional specificities. Ireland's previous experience of austerity in the 1980s took place in the context of a confluence of positive and growth-enhancing internal and external factors like real wage increases, an income tax amnesty, the opening up of the single market, and a currency devaluation in 1986 detailed by Lee (1989), and Honohan and Walsh (2002). Rather than presenting Ireland as a case study for expansionary fiscal contraction as Alesina and Ardagna (2013) and others have argued, a close reading of Ireland's economic history reads in a rather Keynesian light today.

Unhelpfully for today's policy makers, the experience of the 1980s in Ireland shows it is possi-

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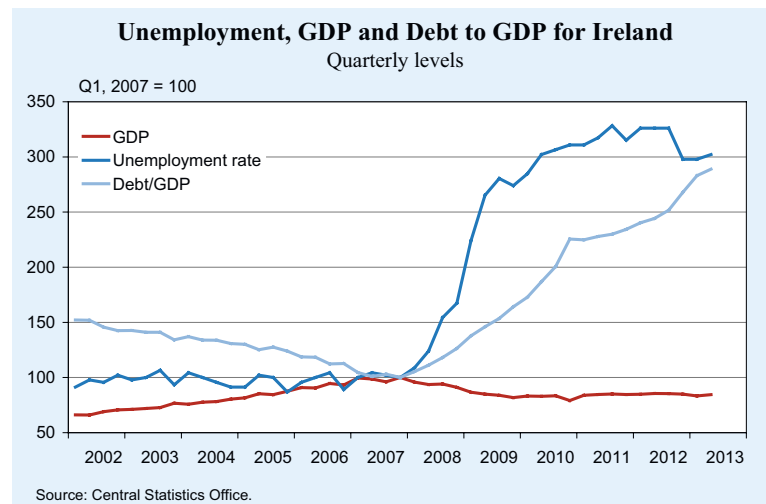
ble to reduce fiscal expenditure in a small open economy openly courting foreign direct investment with friendly taxation rates, when the rest of the world is growing, and one is receiving transfers from other states, whilst reducing costly unemployment through emigration and devaluing one's currency.

But if Ireland is not the poster child for austerity, then what explains Ireland's remarkable performance from 2010 to 2014 in terms of fiscal consolidation, structural reform, and relative normalisation of a bloated banking system? This article attempts to answer this question.

Figure 1 traces out the details of the recent boom and bust cycle in levels for GDP, unemployment, and debt to GDP. What is remarkable are the sheer increases in the levels of debt to GDP and unemployment, but also the drop in the level of GDP to 2005 levels in 2013 and 2014, and the fall in unemployment after 2011, driven mostly, it seems, by emigration.

With unemployment dropping since 2011 from a high of 15.1 percent to 12.1 percent in February 2014, a return to a positive primary balance in the government finances is on the cards. Combined with a net debt position of 99 percent of GDP once cash balances and other holdings have been taken into account, and a series of successful bond auctions completed, Ireland's

Figure 1



fiscal sustainability seems assured. Modest growth in domestic demand, as well as in overall GDP, is forecast for the next two years by all major institutions.

In the present day, Ireland is presented as a success story based on a number of outstanding achievements. The first is a remarkable degree of fiscal consolidation over a short space of time. Ireland has consolidated almost 20 per cent of its GDP over an 8 year period, with no significant industrial or social upheaval. With a ‘clean’ exit from the EU/IMF bailout programme, recent quarterly increases in domestic demand and employment, as well as the favourable borrowing costs mentioned above, Ireland aims to give the impression is on its way to resuming business as usual from a macroeconomic standpoint.

Ireland’s sectoral balances

Ireland’s sectoral balances tell a slightly different story. Figure 2 shows three sectoral balances for Ireland.

Recall the fundamental macroeconomic accounting identity equating national income (Y) to consumption, (C) government expenditure (G), investment (I), and net exports ($X - M$). It is always true that

$$(1) Y = C + I + G + X - M.$$

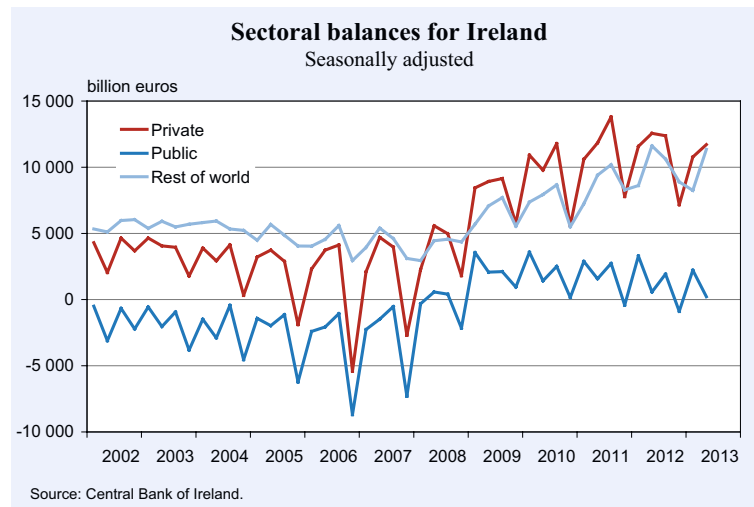
Following Godley and Cripps (1983), taking taxes (T) from both sides, and redefining $Y - T$ as disposable income YD , we have

$$(2) YD = C + I + (G - T) + (X - M).$$

Subtracting C from both sides, defining saving as $S = YD - C$ and then subtracting I from both sides we have the sectoral balance identity relating the private sector balance to the public and rest of the world’s sectoral balances:

$$(3) \overbrace{(S - I)}^{\text{Private}} = \underbrace{(G - T)}_{\text{Public}} + \overbrace{(X - M)}^{\text{World}}.$$

Figure 2



In the Irish case in 2014, we might say equation (3) represents the identity of the private sector surplus equalling Ireland’s deficit spending plus our current account surplus. In particular for Ireland it is important to note the private sector surplus is a net position, made up of the change in foreign ownership of domestic assets minus the change in domestic ownership of foreign assets.

Figure 2 shows how these three balances have evolved since 2002. The ‘public’ sectoral balance was in clearly in rude health before 2007, with $G < T$ and the private sector investing large amounts while savings remained relatively low. From 2008 onwards, the deterioration in the public finances caused by the collapse of the asset bubble caused the public sector to run a large and persistent deficit financed through borrowing, first from the markets, and then from the EU and IMF once private sources of funding the state were no longer accessible. The movement by the authorities towards a positive primary balance at the end of 2013 is clear, with G almost equalling T before interest payments are accounted for.

From an examination of gross flows into and out of Ireland, it is clear Ireland’s expansion was built on using a foreign surplus as deposits and equity. Post 2007, the relationship has changed, with the foreign surplus being used as loans and equity.

Post 2007 the expansion of saving, largely of a precautionary nature, combined with a drop in investment caused by a constriction of credit, forced the private ($S - I$) relation up, matched in this case by an expansion of holdings from the rest of the world ($X - M$) as Ireland’s trade balance improved. These two lines are

almost equal as of the time of writing as Figure 2 shows.

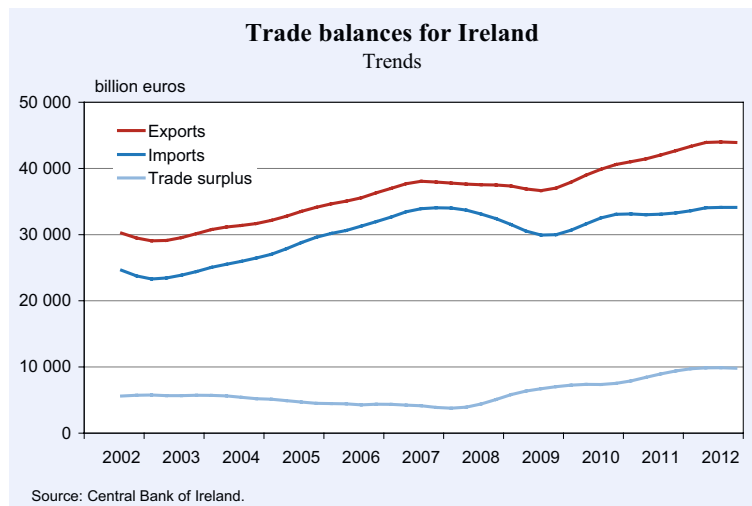
In answer to the question posed by this volume, looking to the future using the sectoral balances, post-bail-out Ireland has a choice to make. Given the Irish authorities' commitment to drive $G < T$ for some time to come in order to pay down debts in particular, only two things can happen to the relation between $S - I$ and $X - M$. Either the private sector begins to invest more and save less, driving the 'private' line down somewhat, or if this does not happen, the 'world' sector must agree to hold ever more in terms of Irish exports. The following section examines the dynamics of Ireland's trade balance to investigate whether this reliance on export-led growth is an option moving into the future.

Digging into trade flows

Figure 3 picks out a startling relation between exports and imports pre- and post- the 2007 crisis. Pre-2007, the two series move in lock step, with a correlation coefficient of 0.95. Post-2007 the series diverge dramatically, the correlation between the two series dropping to 0.71, with both series dropping from 2007 to 2009 as a result of the deterioration caused by the worldwide Great Recession.

Exports improve after 2009 almost to their pre-crisis trend. The same improvement does not take place for imports. The collapse in domestic demand caused by the popping of the asset bubble, combined with the imposition of austerity policies by the Irish authorities weakened Ireland's propensity to import,

Figure 3



with the resultant improvement in Ireland's trade balance.

Austerity was, in this balance sheet sense, made more possible because of Ireland's openness, and its status as a multinational export hub. Much of the export base can, in a sense, be considered as exogenous to the Irish economy-proper.

Rather than collapsing imports and exports by deflating the entire economy, by only acting on one 'side' of the import-export relationship, and relying on export led growth, so long the mainstay of Irish economic policy, the Irish authorities accomplished what few other economies could: to engineer a deflation in Ireland's fiscal space, while leaving exports, and hence revenues from exports, relatively untouched.

Ireland's export sector has an almost unique institutional feature when compared to other EU countries: much of its exports are from multinationals, with the largest share, approximately half of all merchandise exports, coming from pharmaceutical companies. Nine of the top ten pharmaceutical companies on Earth are located in Ireland.

Sapir *et al.* (2014) have produced a review of all four EU/IMF programmes within the eurozone to date: Greece, Ireland, Portugal and Cyprus. The authors of the report subtitle Ireland's section of the report 'a success with costs'. The authors show the EU and IMF's forecasts for the increase in debt to national output and for the gap between government spending and taxation were almost perfect, while their forecasts for unemployment were substantially

wrong, as were their forecasts for the effect of the fiscal consolidation on the domestic economy. The austerity measures affected the domestic economy much more than the EU/IMF planned, but they (and we) were saved by a better than expected export performance. Ireland could take a lot of austerity because of its openness and flexibility.

This feature of the Irish economy is unlikely to be present in other economies, meaning Ireland's usefulness as a poster child for austerity must still be questioned.

A digression for regression

I estimate the evolution of the employment level of the labour force in logs (EMP) as

$$(4) \text{ EMP} = \alpha_0 + \alpha_1 \text{Real GDP}_{t-1} + \alpha_2 \text{Nominal Wages} + \alpha_3 \text{Time} + \alpha_4 \text{Taxes.}$$

Results are shown in Table 1 for employment and household disposable income (HH). Clearly, and unsurprisingly, employment depends positively on income, output and nominal wages. What is striking is how negatively taxes affect the log of household disposable income over this period (-0.410 , significant at $p < 0.05$). Looking past the bailout, once the State's finances have been stabilised, tax decreases should help increase employment significantly.

When these data are broken into sub samples, pre- and post-2007, the findings are broadly similar, meaning the stimulative effects of tax cuts can't be ruled out as a means to increase the economic activity of post-bailout Ireland.

Turning to the financial side of the economy, we estimate relationships between financial corporate securities and a range of other assets, non-financial loans

and a range of other assets, and household deposit and a range of other assets (see Table 2).

In model 1 shown in Table 2, it is clear financial corporate holdings of securities altered, moving from government loans (-0.397) towards loans and currency from the rest of the world.

In model 2, the effect of the collapse on non-financial loans was negative, both in terms of currency outflow (-0.538 , significant at $p < 0.05$) but also in terms of a movement towards government loans (0.536 , significant at $p < 0.05$). Running these regressions in sub-samples, one sees two distinct loan regimes – pre 2007 and post 2007, but the overall trend is similar. Looking at the influence of government securities issued on non-financial loans it is clear the credit contraction affected the economy in large and uncertain ways, and the portfolio effects described by Brainard and Tobin (1968) and Tobin (1969) are clearly in evidence as households and firms switched away from government loans (-0.397) towards loans from the rest of the world (0.426 , significant at $p < 0.05$).

Household deposits were relatively unaffected during the crisis, showing us the effects on gross flows into and out of the economy, as well as portfolio reallocations, took place in the corporate and financial sectors.

Table 1

OLS Regressions for the real economy

	<i>Dependent variable</i>	
	Employment (1)	HH Gross Disposable Income (2)
Lagged Real GDP	0.897*** (0.112)	
Real Wage	0.298*** (0.079)	
Time	-0.065*** (0.007)	
Nominal Wages		0.544*** (0.029)
Taxes		-0.410** (0.188)
Constant	-4.842*** (0.773)	4,389.200*** (1,125.892)
Observations	46	46
R ²	0.888	0.898
Adjusted R ²	0.880	0.894
Residual Std. Error	0.022 (df = 42)	846.761 (df = 43)
F Statistic	111.496*** (df = 3; 42)	189.885*** (df = 2; 43)

Note: *p<0.1; **p<0.05; ***p<0.01

Source: Central Statistics Office.

The regressions are simple, but so is their message: portfolio allocations pre and post crisis differ mainly on the size and composition of their holdings, and appear to have taken place within the corporate and financial sectors.

Conclusion: post-bailout debt dynamics

One way to tell Ireland's post bailout story is to look at the likely evolution of the stock of debt and the flow of debt repayments, and their effects on the real economy when growth is sluggish. Following Godley and Rowthorn (1994), to reinforce the point of this short chapter, let us assume exports are exoge-

Table 2

A look at the financial side of the economy

	<i>Dependent variable</i>		
	FC Securities (1)	NFC Loans (2)	HH Deposits (3)
HH Loans	-0.487 (0.377)		
FC Deposits		-0.538** (0.264)	
FC Securities		0.198*** (0.024)	
FC Loans			0.067*** (0.007)
Govt Loans	-0.397 (0.401)	0.536*** (0.151)	
Govt Securities		0.254** (0.101)	
ROW Deposits	1.077*** (0.099)		
ROW Loans	0.426*** (0.146)		
ROW Securities	0.411*** (0.063)		0.084*** (0.006)
Cons.	21,803.940 (15,024.500)	-83,217.430*** (9,716.771)	46,793.680*** (2,217.848)
Observations	46	46	46
R ²	0.974	0.892	0.994
Adjusted R ²	0.970	0.879	0.993
Residual Std. Error	18,161.470 (df = 39)	10,848.910 (df = 40)	1,651.373 (df = 41)
F Statistic	244.063*** (df = 6; 39)	66.104*** (df = 5; 40)	1,600.900*** (df = 4; 41)
<i>Note:</i> *p<0.1; **p<0.05; ***p<0.01. FC: Financial corporates; ROW: Rest of world; HH: Households; Govt: Government			

Source: Central Bank of Ireland.

nous, and the net stock of both foreign and domestic bonds held by residents is B . Imports make up a fixed share m of income and the real exchange rate is fixed. Assuming a target wealth of W , and an autoregressive wealth accumulation process $W = \beta W_{-1} + \chi(G + X)$, where wealth accumulates according to a country's export profile, we can define a stability condition in government expenditure and changes in government debt such that $\Delta B = 0$. In the steady state, Godley and Rowthorn (1994) show that government expenditures evolve (relative to exports) according to:

$$(5) G^* = \frac{m(1 - \omega z) - (1 - \theta)(1 - \omega\theta)}{m(1 - \omega z) - (1 - \theta)\omega\theta} X,$$

where θ is the tax rate, m is the import propensity, z is average real post tax rate of return on net wealth, and ω is the target wealth-income ratio.

Equation (5) simply says a small open economy's 'warranted' level of government expenditure is commensurate with its trade performance. Whenever $G > G^*$, and the government must borrow to finance itself, the government can always finance itself through higher taxes.

Austerity fundamentally consists of a deflation, and, crucially, in the Irish case, a reduction of m while maintaining X at its highest level, because then the fiscal stance G/θ can take higher and higher values such that $\delta G^*/\delta\theta > 0$.

Ireland's post bailout performance in terms of debt dynamics will hinge upon its ability to trade off its trade performance and tax rates. Given that the composition of Ireland's fiscal adjustment from 2011 to 2014 was approximately $2/3$ expenditure reduction and $1/3$ taxation increase, it may be that Alesina and Ardagna (2013) have a point regarding taxation measures.

Ireland's openness is the reason austerity was able to succeed. Other countries without Ireland's institutional peculiarities, such as Spain, Portugal, Greece, and Italy, will not be able to, in a sense, play the same trick.

The portfolio switching observed in the regressions shown in Table 2 above also point to a degree of financial openness these economies do not share with Ireland, making the kind of macro-financial reversal Ireland has experienced also unique in both its scale and speed of adjustment.

All of the above should not be taken to mean Irish exports are all simply multinational transfers. However, given the austerity-induced reduction in wages it would be interesting to estimate how much of a terms of trade improvement this has given Ireland and how much of the rise in exports is therefore 'non-multinational' throughput. That would give us a better handle on the supply side of possible export growth, and is the focus of future work. The demand side is still constrained by the considerable risk of Europe (and in particular the eurozone, which accounts for 40 percent of Ireland's exports) experiencing a stagnation episode over the medium term.

Ireland is still not the poster child for austerity, but, against the odds, as it were, a lucky child. Given the simple fact that as a nation Ireland has been bankrupted three times in 50 years, Ireland's peaceful exit from its bailout programme is all the more remarkable. The post-bailout landscape is fraught with risks to the nascent recovery, but stable debt dynamics and the openness of the economy should be enough to keep Ireland from requiring another bailout in the medium term.

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WHAT EXPLAINS IRELAND'S FRAGILE RECOVERY FROM THE CRISIS? THE POLITICS OF COMPARATIVE INSTITUTIONAL ADVANTAGE

AIDAN REGAN¹

Introduction

The conventional wisdom among policymakers in Europe is that Ireland is recovering from the eurozone crisis because it successfully implemented the EMU adjustment program (or the Memorandum of Understanding, MOU). This is broadly true, if one accepts the performance indicators used by the Troika (the European Central Bank (ECB), the International Monetary Fund (IMF) and the Directorate General (DG) for Finance in the European Commission). According to these actors, the fact that Ireland has regained access to international finance markets, in-itself, illustrates that their prescribed fiscal adjustment strategy has worked. The Irish government, they argue, have reduced their budget deficit, recapitalized failed banks and improved labor cost competitiveness. This has led to an improvement in the external current account imbalance, with the implication that the Irish are now in a position to pay-off their long-term debt. The seeds of an export-led recovery have been sown. Other counties should now follow the Euro-Irish strategy and impose similar austerity measures.

This article challenges the conventional wisdom. It is perhaps true that a *proximate* cause of Ireland's export recovery can be traced to a reduced budget deficit and an improvement in labor cost competitiveness. In this sense, Ireland has successfully internalized the adjustment constraints of being a member of the Economic and Monetary Union (EMU) in Europe. But I suggest

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that the *ultimate* cause of Ireland's fragile recovery can be traced to a path dependent effect of an export-led growth regime based on US investment that has nothing to do with the fiscal adjustment. More precisely, Ireland's capacity to improve its export competitiveness (in the context of unprecedented cuts in public expenditure) can be traced to an embedded state-led industrial strategy aimed at attracting US firms into the Irish economy. These firms are institutionally located in capital-intensive industries, and have shaped the Irish government's response to the crisis. It is the comparative advantage of these firms that provide the conditions for an export-led recovery not the Maastricht criteria.

The real impact of the troika adjustment in Ireland has been to increase the growing asymmetry between the *domestic* and *export* economy, whilst ignoring the need for debt restructuring. The budgetary adjustment has amounted to approximately 16 billion euros or 20 percent of GNP. Most of this has occurred *via* cuts in current expenditure and in-direct tax increases. Given the scale of the adjustment, it is hardly controversial to suggest that there has been a negative impact on economic and employment growth. The public sector has taken, on average, a 15 percent pay cut (Hardiman and Regan 2013; Regan 2013). Those reliant on social services have had their resources reduced by a similar margin. Real household disposable incomes have declined because of direct and indirect tax increases. Private sector debt is the highest in the EU, whilst the overall national debt-GDP ratio is set to peak at 122 percent in 2014. Furthermore, unemployment and under-employment remains above 13 percent. This is the real impact of internal devaluation, and it is weakly correlated with an improvement in competitiveness.

The remainder of the paper is as follows. First, I outline a framework on the political factors that shape Ireland's specific variety of capitalism. Second, I trace the domestic impact of austerity over time. Third, I argue that the seeds of Ireland's fragile recovery are context-specific to its political economy, and cannot be replicated by other countries in the eurozone. The final section concludes.

The politics of comparative advantage

The institutional design of the EMU, which underpins the troika adjustment, operates from the rational expectations assumption that economic convergence is possible across diverse member-states of the eurozone. According to the troika, if all member-states follow a 'supply-side' adjustment strategy, in addition to the Maastricht criteria on deficit reduction, they will generate the conditions for export led growth, which will resolve their debt problems. This functionalist assumption of market convergence, to be achieved through a one-size-fits-all adjustment, is not accepted nor assumed in comparative political economy research (Hall 2012). In this tradition it is argued that different varieties of capitalism co-exist within the EU. National political economies are constructed around distinct growth regimes. This can be empirically observed in the cross-national variation in financial, corporate governance, education, training, social protection, industrial relations and labor market policies of member-states. The outcome of this institutional variation is that there are multiple paths (or equilibria) to economic and employment success.

In this research tradition it is broadly accepted that it is not possible to isolate the independent effect of a single variable, such as low public debt = higher growth, or flexible labor markets = higher employment, to explain successful strategies of adjustment. Rather the economy is modeled such that political and institutional factors interact in complex ways to provide MNC firms with different types of comparative advantage, and whose business interests are subsequently internalized by national governments. In the eurozone, MNCs in northern European countries: Germany, Austria, Netherlands and Finland benefit from their 'coordinated market' economies (CMEs). In terms of export performance, these firms benefit from centralized employer and trade union associations because the latter have the strategic capacity to coordinate wage restraint. Vocational training schemes interact with industrial production strategies to facilitate long-term investment in skills and product specialization. The outcome is that national governments in CMEs generally have a preference for counter-cyclical fiscal policies and coordinated wage restraint as a means to defend external competitiveness (Johnson *et al.* 2014).

Ireland is not a CME but it is an export-led economy. The government achieves this through attracting US

investment, and the comparative advantage provided to business firms by its liberal market economy (LME), or shareholder model of capitalism. Since the early 1990s it has been one of the most open economies in the world, with 85 percent of all production sold on international markets. Unlike the German *Mittelstand* the companies who export are predominantly foreign owned. The Irish business cycle is closer to Britain than continental Europe, with the implication that companies are more dependent on financial markets for capital investment. The labor market is the second most flexible in the EU after Britain, and there is no legal right to collective bargaining. According to IBM (2010), the level of job creation associated with US FDI is the highest in the world. In this sense Ireland's small open economy is closer to the adjustment requirements of EMU, which assumes that wages and prices adjust flexibly and automatically to exogenous shocks. The export economy been nurtured by government-agencies and built around a long-standing historical relationship between Ireland and the United States (O'Riain 2013). Furthermore it is a specific variety of capitalism that cannot be easily replicated and long preceded the Maastricht criteria, the EMU and the Troika intervention.

Virtual exports and competitiveness

US companies are responsible, remarkably, for almost 90 percent of Ireland's exports. Investment into Ireland by these companies is substantial. According to the US Bureau for Economic Statistics (BEA), US investment stock was valued at 122 billion US dollars in 2009 (54 percent of total FDI), with over 500 US subsidiary firms operating in Ireland (Walsh 2014; Barry and Bergin 2012). According to the US Chamber of Commerce, a powerful lobby group with significant influence over Irish public policy, the number of US affiliated firms is closer to 650 (many of whom are based in Ireland on paper for tax purposes). The Irish Industrial Development Authority (IDA), a government agency tasked with attracting FDI, provides data on the sectoral distribution of US investment. Most firms are located in the financial services, chemical-pharmaceuticals and information & communication technology (IT) sectors. The pharmaceutical sector, alone, accounts for approximately *one fifth* (38.7 billion euros) of Ireland's entire GDP, but employ less than 4 percent of the workforce (Finfacts 2013).

The CEO's of large MNCs such as Microsoft, Google and Facebook regularly cite three main reasons for

why US companies invest in Ireland: flexible English speaking workforce, direct access to the European single market and low-corporate taxes (in addition to the wider business-friendly regulatory environment). Ireland's external competitiveness is hugely dependent on these firms. They are capital-intensive industries and therefore, unlike German MNCs, individual employers are less concerned with coordinated wage restraint. Their profit and productivity is one of the core factors in explaining why Ireland is alone among the euro periphery to record a balance of payment surplus (see Figure 1 on the current account). The policy preference of these export-firms, much like in Germany, shapes the Irish governments position on economic policy, particularly in international organizations such as the EU. This can be observed during the fiscal adjustment period. The Irish governments bargaining position was entirely premised on defending the competitive advantage of its low corporate tax regime.

Attracting multinational investment *via* low corporate taxes has been the lynchpin of Irish industrial and economic policy for over fifty years (Barry and Bergin 2012; Hardiman and MacCarthaigh 2010). The sustainability of this strategy, however, is questionable. In 2012 service related exports associated with large MNCs such as Google and Facebook equated to 91 billion euros. But almost 40 billion euros of this was directly associated with tax-related transfer pricing (Finfacts 2013). This means that almost half of the income associated with service-exports (which now dominate overall exports) was completely unrelated to anything that is happening in the Irish economy. Transfer pricing and other corporate strategies such as the 'Dutch Sandwich' are mechanisms whereby US companies relocate profits into Ireland *via* the Netherlands and the Bermuda Islands to take advan-

tage of low taxes. The headline corporate tax rate in Ireland is 12.5 percent, whilst the Irish government maintains that the effective rate is 11.9 percent. But research carried out by Finfacts (2013) and Stewart (2013) suggests that the actual effective tax rate is closer to 2.5 percent.

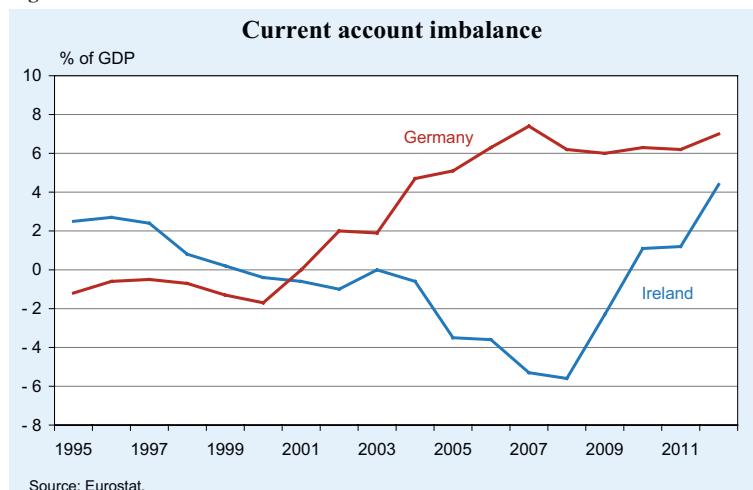
Virtual exports do not equate to an improvement in external competitiveness. The post crisis export-led recovery should, therefore, be viewed with caution. Irish exports fell in 2013 by 5.2 percent because the product patent associated with a selection of pharmaceutical companies came to an end (locally referred to as the patent cliff). As a consequence Ireland's trade surplus subsequently declined from 42 billion to 37 billion euros, and is set to decline again in 2014. This is a concern for the Irish government because they have become so fiscally dependent on the revenues generated by US corporations, who currently contribute 1.8 billion euros in corporate taxes. In 2008 total revenue associated with US companies was 4.8 billion euros (Walsh 2014). Total Irish revenue in the same year was only 41 billion euros. Hence, whilst it is true that Ireland is in the process of generating an export-led recovery, and this is the primary mechanism through which the country will improve external competitiveness, it is almost entirely dependent upon the interests of international markets and foreign owned US MNCs.

The eurozone crisis and debt restructuring

But if Ireland had the LME conditions to generate an export-led growth regime both before and after the eurozone crisis, how did the country manage to price itself out of international sovereign bond markets in 2008? This was the direct outcome of a decision by the

Irish government to give a blanket guarantee to the bad debts of its failed *domestic banks*, which have, to date, cost the Irish taxpayer 60 billion euros (Whelan 2013b). In the aftermath of this decision, and under pressure from the ECB, the public debt-to-GDP ratio increased from less than 40 to almost 100 percent; it is due to hit 122 percent at the end of 2014. It was this decision to take on all the private liabilities of the banking sector that ultimately forced the Irish government into the hands of the Troika.

Figure 1



The brief background to this is that upon entry to the EMU, and particularly in the period from 2002-2008, Irish banks borrowed recklessly on the European inter-bank money market (reflected in the scale of capital inflows into Ireland, see Figure 2 on net international investment as a proxy indicator). In 2002, Irish bank lending was 60 percent of GDP but by 2007 this had increased to over 240 percent. In a context of negative real-interest rates and light touch financial regulation this explosion in bank borrowing is unsurprising, and well documented (Whelan 2013b; Kelly 2010). The impact, however, was that it shifted the Irish growth regime away from exports to domestic demand, most of which was accounted for by an increase in household mortgages (and hence private debt, see Figure 3).

In response to house-price inflation, unit labor costs rose faster than any other eurozone country, with the implication that Ireland lost external competitiveness

(see Figure 4). However, this increase in ULCs was mostly accounted for by wage increases in the *non-traded* sectors (particularly the public sector). US companies in the traded sectors of the economy (who account for 90 percent of exports) did *not* lose competitiveness *vis-à-vis* Germany (Wood 2014). Hence the overall increase in ULCs in Ireland cannot be equated with an overall loss of export competitiveness. The export-economy was autonomous to the boom in domestic demand (which was responsible for creating full employment). Price increases in the midst of a debt-led boom in domestic demand do *not* move in tandem with ULCs, as might be assumed in manufacturing dominated CMEs such as Germany. In this regard, it is misleading to use ULCs as an indicator of improved competitiveness in a finance driven economy such as Ireland. If one uses a broader export-price based indicator of competitiveness, the traded sectors of the Irish economy (mainly US owned) remained competitive relative to Germany throughout the boom-bust period.

Figure 2

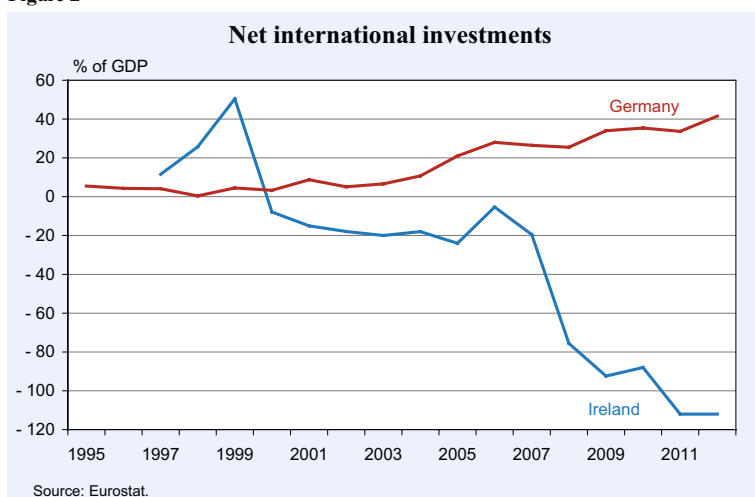
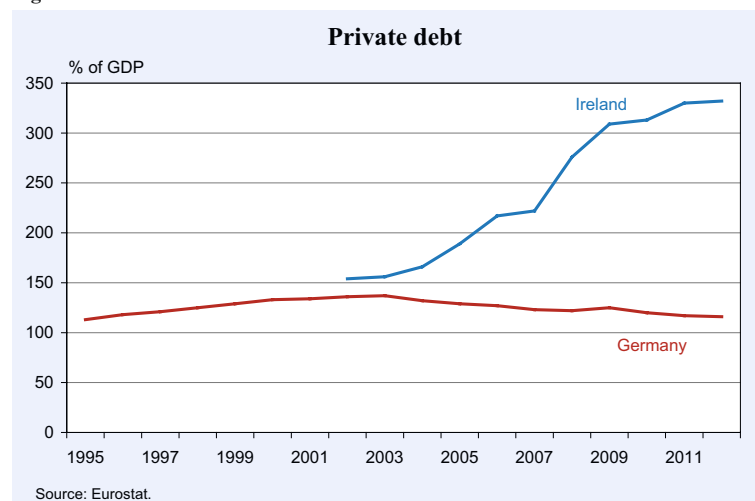
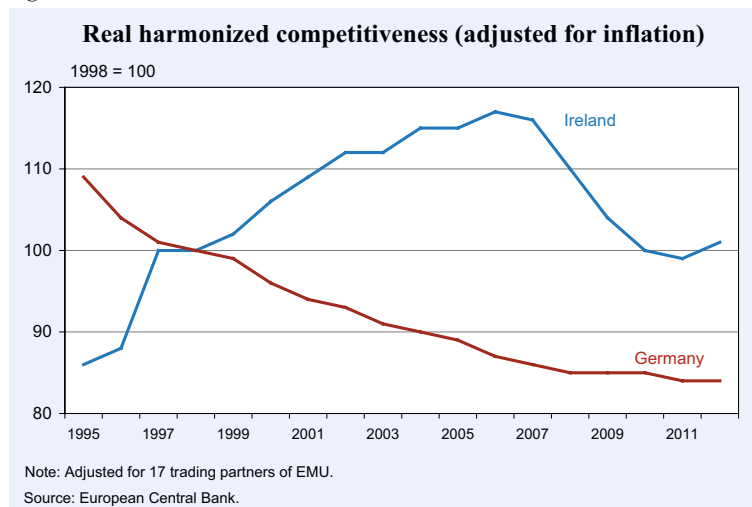


Figure 3



The decline in Irish ULCs by 22 percent, relative to the eurozone core, is primarily because of cuts to public sector wages and restructuring by Irish firms in the domestic economy. Despite this successful adjustment by Irish firms and the public sector, according to the Central Statistics Office (2013), Ireland remains overpriced by 20 percent. Ireland continues to be the fifth most expensive country in the European Union. Hence, whilst labor costs have fallen; land, energy, rental accommodation, property, legal fees, health insurance and capital all remain significantly more expensive in Ireland *vis-à-vis* Germany. The troika 'structural adjustment program' is narrowly focused on wage competitiveness and labor market flexibility but this is not where Ireland is overpriced. There has been minimal attempt to negotiate a specific national structural adjustment poli-

Figure 4



cy aimed at improving the broader cost base of the domestic economy.

But perhaps the greatest legacy of the troika adjustment has been the inability of the Irish government to renegotiate the bank debt. Irish banks are now, according to the ECB (2013), sufficiently re-capitalized. But they are not lending money into the real economy. The Irish taxpayer continues to carry the debt burden of these failed banks. To put the Irish banking *cum* sovereign debt crisis into a comparative perspective; Ireland has a population of less than 1 percent of the EU and accounts for less than 2 percent of eurozone GDP, but has paid over 41 percent of the losses associated with the Euro-banking crisis. It is highly aspirational to think US-based exports will generate the necessary economic growth to reduce a debt GDP-ratio of 122 percent.

Ireland successfully re-entered the international bond markets in late 2013. This was most likely made possible by the announcement of the ECB that it was willing, if necessary, to buy the bonds of distressed eurozone states on the secondary markets. In the absence of this decision it is highly questionable whether the markets would have continued to view the Irish debt-GDP ratio favorably. This is not because markets perceive Ireland as incapable of reducing the deficit, restructuring the labor market, generating a stable parliamentary majority or cutting the welfare state – all of which are necessary conditions to receive financial assistance from the troika. The Irish taxpayer have shown themselves more than capable of accepting this, and the government more than capable of implementing it. Financial markets reacted negatively to Ireland in 2011 because the state socialized private

bank debt in the absence of a European central bank capable of acting as a lender of last resort (De Grauwe 2013).

The implication is that the prospect for a sustained economic recovery in Ireland is conditional upon the sustainability of its banking *cum* public debt crisis. This cannot occur without a retrospective recapitalization of Irish banks from European Union (EU) funds, or the equivalent of a European wide bank resolution system (Whelan 2013a and 2013b). To achieve this type

of coordination requires a problem-solving approach that is currently non-existent at European level. This can be traced back to the politics of comparative institutional advantage. The German federal government is unwilling to accept a fully fledged banking union, or the issuance of Eurobonds, because it would undermine their national variety of capitalism, and competitive interest rate. Simultaneously, the Irish government is unwilling to accept the need for a coordinated financial transaction tax to fund a European wide banking recapitalization scheme, because it would risk undermining the comparative advantage of its low corporate tax regime. Hence, the factors that explain Ireland's fragile recovery (foreign owned export sector built on low taxes), also reduces the government's ability to support a coordinated eurozone response to the financial crisis.

Conclusion

Ireland has the capacity to generate an export-led recovery and improve its competitive position *vis-à-vis* Germany. The causal factor behind this can be traced to US foreign direct investment and a longstanding institutional relationship between Ireland and the United States, which has been nurtured by governmental state agencies. Although it is rarely described as such, this is the path dependent effect of an industrial policy built around low corporate taxes and the comparative advantage of a liberal market economy. This capacity existed before and after Ireland's entry to the EMU. But although Ireland has a strong export base, and therefore the long-term capacity to reduce the debt-GDP ratio, these sectors are relatively autonomous from the domestic economy, which has

been most affected by the fiscal adjustment. The outcome of the troika deficit-reduction strategy has been to increase the asymmetry between the foreign owned and domestically owned sectors of the economy.

Most Irish owned firms have rationalized and adapted to the fiscal adjustment (and a collapse in consumer demand) in two ways: job shedding and/or complete collapse. Domestic companies do not have access to an equivalent of a German *Kurzarbeit* scheme, whereby the adjustment is distributed *via* a reduction in working hours rather than employment. In an economic context where domestic consumer demand has collapsed, banks hoarding rather than lending credit, and households swamped in the private debt associated with underperforming mortgage loans – small and medium sized firms will struggle to recover. Hence the aggregate figures on external competitiveness, and an improvement in Ireland's current account imbalance, mask a deeper structural and employment crisis in domestic sectors of the economy.

The broader question underpinning Ireland's export-led industrial strategy, however, is whether it is replicable to other eurozone countries, particularly those in southern Europe. The research findings in comparative and international political economy would suggest no. Ireland's specific variety of capitalism is built around a set of historical institutional relationships within various sub-spheres of the economy that produce political coalitions that are relatively unique to small open liberal market economies. In this sense the adjustment lessons of the Irish model can be no more imposed on southern European countries, than the German model can be imposed on Britain.

Southern European countries have macroeconomic growth regimes built around domestic demand. This previously lent itself to an accommodating fiscal and monetary policy that is no longer available in the EMU. To put these differences in a comparative perspective; the value of Irish exports of goods and services in 2012 was 192 percent of GDP (ESRI 2013), the highest in the eurozone. In Greece it was 24.4 percent, Spain 30.2 percent and Portugal 35.5 percent. Imposing a one-size-fits-all fiscal adjustment on these countries, in the assumption that they have the domestic institutional and political capacity to generate an Irish-style export-led growth recovery will only exacerbate the imbalance of capitalisms at the heart of the eurozone.

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TTIP: A TRANSATLANTIC BRIDGE FOR WORLDWIDE GAINS

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NUNO SOUSA¹



At a time when the global economy still faces challenging headwinds and many countries continue to struggle with high unemployment, the global trade agenda is seemingly at a crossroad, more divided than ever between multilateralism and bilateralism (regionalism). This dichotomy may seem obvious to many but the contradictory policy orientation is arguably less clear-cut than many believe. Rather than a strategic fissure in the approach to trade liberalisation it may be in fact reflecting a necessary adjustment to the increasing complexity of trade relations and to the requirements of a coherent and effective trade policy agenda.

Of particular importance have been the discussions about global value chains (GVCs), notably since the launch in 2010 of the Made in the World initiative by the former WTO Director General, Pascal Lamy. They have fundamentally shifted attentions to the need to better understand how trade and investment linkages between countries are nowadays being shaped. The recently released ground-breaking global databases like WIOD and TiVA showcase well their complexity, triggering a reflection about the role of trade policy in effectively promoting both imports and exports and in responding to the needs of large and small companies that are increasingly dependent (directly or indirectly) on multiple foreign markets and suppliers.

But, while from the WTO's 'Made in the World' perspective this definitely points to an agenda grounded on the importance of multilateralism, arguably the is-

¹ European Commission. The views expressed herein are those of the authors and do not necessarily reflect an official position by the European Commission.

sue does not lend itself to a fully-fledged one-sided approach. In fact, the idea of a world economy increasingly organised along GVCs can also provide a compelling argument in favour of bilateral/regional trade arrangements that can be sufficiently comprehensive and deep in order to really make a difference in responding to the needs and aspirations of large multinational firms (that are at the forefront of GVC growth) as well as of those SMEs that see in the GVCs a means to jump onto the globalisation bandwagon. Furthermore, in some respects the growth of GVCs challenges some aspects of the long-standing rationale on the drawbacks of bilateralism. For example, the old Vinerian 'trade creation' and 'trade diversion' concepts need to be revisited in the light of the new quantification of trade according to the origin of the value added they contain (which can now and be easily gauged by looking at the WIOD and TiVA databases): in fact whenever new trade among FTA members contains value-added from non-members, there may be 'trade in value added creation' in the old concept of trade diversion.

Against this background what seems to be emerging in terms of global trade governance is what could prove to be the building blocks of a 'multilateral *cha-peau*' along with an ongoing 'bilateral *renaissance*', paving the way to what many call the 'mega-FTAs'. The ones that grab the news headlines these days are the Trans-Pacific Partnership (TPP) negotiations, spearheaded by the United States, and the Trans-Atlantic Trade and Investment Partnership (TTIP) negotiations between the EU and the United States. Several other FTAs involving large trading partners are also in the making, like for example EU-Japan or EU-Canada FTAs.

In the mind of those convinced of the importance of multilateralism to promote sustainable and inclusive trade openness this new wave of mega-FTAs raises concerns. However, in the remainder of this paper, we will argue that this needs not be the case and in many respects the opposite conclusion might be true. And the key to this insight lays in the nature of deep and comprehensive of the future mega-FTAs (such as TPP

and TTIP), and on their relationship with the multilateral rules.

Deep bilateral integration and multilateralism

For several decades, the trade literature delved into the dichotomy between bilateral and multilateral approach to trade liberalisation. The debate mainly revolved around the economic theory behind preferential tariff reductions, and was often centred on trade diversion and trade creation effects. This reasoning is also deeply anchored in WTO legal texts and several key principles and provisions, being the GATT Art. XXIV the most relevant in this context. In addition, there was also the longstanding debate on negotiation dynamics and systemic effects, and about the role of FTA rules on the future development of multilateral disciplines.

These questions often concluded with ‘it depends’ kind of answers. So, what is new in the possible future interaction between mega-FTAs and multilateralism? Some might argue that while not much is genuinely new but there is a novel angle to this that can clearly add various interesting elements to the analysis.

One fundamental difference between ‘old FTAs’ and the new mega-FTAs is the size of the parties involved. Both TPP and TTIP are set to deepen trade and investment linkages across a very large share of the world economy. Their ‘critical mass’ and associated systemic implications are now not just theoretical conjectures but an impending reality. A second fundamental difference is their declared scope and level of ambition. Unlike most old FTAs, mega-FTAs are not primarily about reducing tariffs (which in the case of the United States and the EU are on average at very low levels). Instead, they have a very ambitious agenda on ‘beyond the border’ issues that affect a whole range of regulatory and non-tariff measures that are critical for the future GVC-driven competitiveness. Given that not all non-tariff measures and regulations are discriminatory trade barriers, and that not all regulatory barriers can (or should) be negotiated away the exact boundaries of this beyond the border agenda are still unclear. But what these FTAs eventually manage to achieve in reducing the costs of diverging regulatory processes and the type of policy instruments they will favour for this, matter for the rest of the world and for avoiding the fracturing of the global economy.

One of the most important implications related to size and level of ambition of the mega-FTAs, is that they may also spur greater trade integration well beyond the confines of their jurisdictions. Petri *et al.* (2012) – one of the most comprehensive and robust analysis of the estimated TPP effects – shows clearly that the launch of the TPP process coincided with a new impetus for further regional integration in Asia that could lead to sizeable economic gains. The TTIP can also be expected to trigger similar reactions elsewhere given its impressive economic potential.

TTIP: what are the economic stakes?

The CEPR (2013) study estimates that an ambitious and comprehensive TTIP could bring significant economic gains once it is fully implemented and the economies have had the time to adjust. These would amount to a 0.5 percent and 0.4 percent increase in EU and US GDP respectively relative to their levels without the TTIP in place. And, this is mostly due to increased trade. According to the study, total exports would increase by 6 percent and of 8 percent in the EU and in the United States respectively, or in other words, TTIP would bring an additional 220 billion and 240 billion euro worth of sales of goods and services for EU and US based producers, respectively. Total imports will increase by 5 percent in the EU and the United States, or 226 billion and 200 billion euros respectively. While the increase in bilateral trade is as expected the major driver behind the growth in trade activity: EU exports to the United States go up by 28 percent (or 187 billion euros) while EU imports from the United States will also increase by 159 billion euros. But, in addition it is important to note that EU and US sales to the rest of the world would also increase by over 33 billion and 80 billion euros respectively. EU and US imports from the rest of the world would go up by 67 billion and 13 billion euros.

These impacts were computed using GTAP data combined with the regulatory data from Ecorys (2009) and a ‘traditional’ CGE-based methodology, which despite its limitations remains state-of-the art for trade policy analysis. While they point to substantial gains these could well be qualified as conservative given that they are based on relatively cautious policy scenarios. Even the ambitious simulations (which the figures quoted in this paper refer to) are based on fairly restrained expectations that that non-tariff barriers (NTBs) in goods and services would be reduced by

25 percent and that public procurement barriers would be reduced by 50 percent. The tariffs on EU-US trade would be reduced to zero. Moreover, it is also important to note that standard CGE simulations underestimate the potential gains from the liberalisation of services as they only partly cover GATS modes of supply. Therefore, the impact of the liberalisation efforts under TTIP on FDI activity, a substantial part of trans-Atlantic economic exchanges (especially in services) remained outside the scope of the CGE analysis presented in that study.

TTIP and the rest of the world

There are two important takeaways from CEPR (2013) to consider in the reflections about the wider impact of TTIP: firstly, is that reducing NTBs is the crucial driver of the expected gains. As much as 80 percent of the total potential gains could come from cutting costs imposed by bureaucracy and regulations, as well as from liberalising trade in services and public procurement. Second, the TTIP would not only boost growth in the EU and the United States but also elsewhere. The study finds that the agreement would have a positive impact on worldwide trade and income, increasing income in the rest of the world by almost 90 billion euros. The benefits to the EU and the United States will not be achieved at the expense of the rest of the world.

The two findings above are intrinsically linked to one of the modelling of the spillover effects associated to NTBs reductions. More specifically, in the CGE simulations of the impact of TTIP direct spillover effects were taken into account to capture the extent to which lowering the cost of doing trade *via* reducing NTBs that the TTIP will achieve if EU and the United States can work together towards better trade rules and less regulatory divergence in the future, will also benefit other partners. To be more precise, as many companies around the world export to both Europe and the United States for many products they currently need to comply with two sets of standards and regulations, often requiring separate production processes. Any increased regulatory compatibility between the United States and EU should thus have a direct positive impact on exporters from these countries by reducing the fixed costs of supplying an integrated transatlantic marketplace. This argument is closely linked to the reality of what happened after the creation of the

European Union's Single Market.² There is a good case to argue that the same can happen – though likely to a lesser extent – if rules across the Atlantic are made more compatible.

Moreover, the changes in regulation to allow market access to firms across the Atlantic will in some cases be bound to be *de facto* MFN in the sense that the legal changes to be introduced cannot discriminate suppliers from third countries. This is what could happen if, for example, the United States would agree to adopt UNECE car safety standards. With all this in mind, the model explicitly introduces the possibility that 20 percent of regulatory barriers are not removed for bilateral trade between the TTIP partners but also for any exporter to the EU or the United States.³ In addition, CEPR (2013) also accounts for the possibility of an indirect spillover effect of TTIP on other countries resulting from the fact that the economic size of the EU and the United States is such that partner countries will themselves have an incentive to move towards any new transatlantic standards that TTIP creates. The result would be an improvement in market access conditions between the EU, the United States and those countries. It would also reduce trade barriers between those countries themselves. These are modelled at half of the 20 percent rate assumed for direct spillovers.⁴

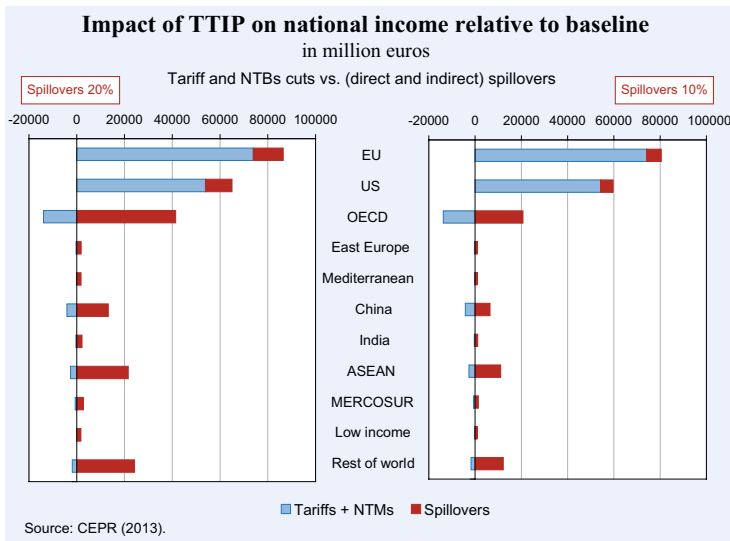
The exact magnitude of the direct and indirect spillover effect depends on many factors and in particular on the specific outcome of the ongoing TTIP negotia-

² Unfortunately, there is little empirical evidence of market access spillovers from regulatory convergence. Unsurprisingly the most telling evidence available comes from the only real example to date of a process of trade integration that was characterised by deep regulatory convergence across a significant economic block: the creation of the European Single Market. Head and Mayer (2011) show, using a gravity model approach that while the Single Market deepened the economic integration across Europe this was not achieved at the expense of third countries. On the contrary, they show that producers from Japan, and especially from the United States, also benefitted, albeit not in a uniform fashion across sectors. The authors suggest that a reduction of production costs due to the harmonisation and simplification of European standards as a probable explanation but their analysis stops short of exploring that hypothesis fully.

³ This was modelled as 20 percent of the bilateral trade barrier reductions. For example, where we have a 5 percent trade cost reduction between the EU and the United States, there will also be a 1 percent trade cost reduction for third countries exporting to the EU and the United States. Simulations were also carried out setting the direct spillovers parameter at 10 percent in order to check the robustness of the overall results to the different orders of magnitude for the spillover effects.

⁴ These indirect spillovers were modelled at 50 percent of the direct spillover rate. This means that, for example, for a 5 percent trade cost reduction between the EU and the United States, and with 20 percent corresponding direct spill-overs, we will have a 1 percent (direct spillover) reduction for third countries exporting to the United States or EU, and a 0.5 percent (indirect spillover) reduction for EU and US export costs to third countries, and for trade between third countries. If the direct spillover effects are set at 10 percent the reduction in trade costs between the EU and the United States and third countries, and for among third countries is set 0.025 percent.

Figure 1



tions. While this is hard to prejudge and assess *ex-ante*, considering two rather low spillover scenarios gives a sense of the importance of such effects and the sensitivity of the overall TTIP gains to the magnitude of spillover parameters. Beyond this *ex-ante* uncertainty, the fact remains that at least part of the cost savings achieved by the reduction of NTBs (notably those associated with the streamlining of EU-US regulations and the convergence of EU-US standards) will not be limited to the bilateral trade flows largely explains the increase of EU and US exports to the rest of the world. It is also largely driving the 1.04 percent increase of exports from the rest of the world, and for the 0.14 percent increase in the GDP in the world economy (minus the EU and the United States). Note that these gains are well spread out across the global economy but they are particularly noticeable in the regions that are most dependent on trade like the ASEAN. In contrast, CEPR (2013) clearly suggests that, if TTIP would involve a purely bilateral process of tariff reductions, the effect on certain trading partners would likely be net trade diverting, and would entail a reduction in welfare in third countries.

What are the broader implications?

The importance of the so-called '21st century regulatory agenda' in mega-FTA negotiations holds the key not only for maximising the gains from trade liberalization but also for understanding the positive contribution that the renewed bilateral impetus to trade policymaking among the world's leading economies can give to trade liberalisation efforts at the multilateral

level. Once we take into account the MFN spillover effects of deep regional integration processes, we can appreciate that mega-FTAs produce positive economic effects on non-members, something that in the 'old' Regional Trade Agreement debates did not feature prominently.

Going back to the TTIP negotiations, if for instance, as elaborated above, the process through which the regulatory costs reductions are achieved involves adhering to current or future international standards, any trading partner following such standards would see its overall trading costs with both the

United States and the EU *unilaterally* reduced, without being a TTIP member. Plus, even in cases where the EU and the United States do not decide to follow international standards, notably in new areas where the standardisation process is underdeveloped, the adoption of a common regulatory setting across the Atlantic will still allow third countries to benefit from economies of scale when deciding to supply the newly integrated marketplace. Furthermore, one can also imagine a second-round spillover effect given the economic might of an integrated EU and US market that there would be a strong incentive to non-members to gradually evolve towards greater convergence with these new standards. In doing so, the mega-FTA will reduce costs *reciprocally* both between members and non-members, and among non-members, on an MFN basis. This indirect MFN liberalisation dynamics would increase the chances for eventually 'multilateralising' the mega-FTAs, a process bound to have both economic and systemic positive effects at multilateral level.

This challenges the long-standing and well-known economic and legal arguments on the systemic implications of RTAs. The Kemp-Wan theorem of 'Pareto optimal' preferential liberalization,⁵ extended by Panagaryia and Krishna (2002) to the case of FTA formation, stated that any new FTA could enhance global welfare if, member countries within the FTA individually import the same vector of quantities from the rest of the world in the post-FTA equilibrium as in the pre-

⁵ See Kemp-Wan (1976) for the original theorem, Panagaryia and Krishna (2002) for its extension to the case of FTAs and Cernat *et al.* (2008) for an empirical assessment.

FTA equilibrium. For traditional FTAs based on tariff elimination agenda, this condition could be achieved for instance by simultaneous multilateral liberalization *vis-à-vis* the rest of the world. However, what we would like to highlight is that if they follow an ambitious regulatory agenda, mega-FTAs can satisfy the Kemp-Wan-Panagariya-Krishna condition thanks to the MFN direct and indirect spillovers effects which could ensure that trade between FTA partners and rest of the world, and potentially even among non-FTA members, would also increase (Cernat 2013).

Concluding remarks

TTIP is not the only large FTA in formation involving the EU and the United States. The existence of the spillover effects, as we argued above, hinges crucially on the strategy led by the EU and the United States in articulating coherent regulatory convergence across their various bilateral initiatives. More specifically the 'direct spillovers' from TTIP can only become a reality if the EU and the United States in their other mega-FTAs do not undermine the market access benefits awarded to third parties. Likewise, the 'indirect spillovers' hinge on the incentives given to third parties to adopt mega-FTAs standards: the clearer and more extensively used these are the more effective such incentives will be. Ultimately, the pivotal role of the EU and the United States is crucial for eventually turning mega-FTAs into stepping-stones of multilateralism. From that point of view the TTIP can be the catalyst of this transformation of the global trade governance, as it ties in the two main engines of what can be an 'open bilateralism' trade agenda that could complement and strengthen rather than replace the multilateral channel.

For this to take place full transparency about the regulatory changes to introduced mega FTAs is crucial, not only regarding how they affect trade both the member of such agreements but also for trade with third countries. Effective transparency disciplines that would reduce market opacity and increase predictability for firms bother 'within' and 'outside' could plant the seeds for endogenous multilateralisation of market access improvements.

With their ambitious negotiating agenda on regulatory barriers the newly launched FTAs among pivotal trading partners such as the EU and the United States have the potential to produce coherent results and act

as platforms for improved global trade rules while promoting deeper regional integration around the world. In doing so, TPP and TTIP may act as powerful stepping-stones for further MFN liberalisation under the *aegis* of the WTO. The latter would not take on a lesser role in global trade governance going forward but would take up an additional responsibility of one of ensuring that bilateralism would be pursued under full transparency, and with full respect for the interests of third countries.

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RECENT DEVELOPMENTS IN WIND POWER

JANA LIPPELT¹

Cartographic representations map the world in a schematic way. Since the cartographer Mercator, many projections in different coordinate systems have been available that lead to a variety of maps offering different degrees of precision. A relatively new type of map generated by Michael Gastner and Mark Newman (2004) is the so-called cartogram. Cartograms represent map units as a function of a selected variable and thereby draw a more or less distorted picture (see Gastner and Newman 2004). In this illustration, the boundaries and their topology to one another can be maintained so that only their size and shape changes. Based on this technique, about 700 maps were published in 2006 in a large project at the University of Sheffield (see Worldmapper 2009).

Wind energy constitutes the fastest growing segment of renewable energies worldwide. This example describes the application of this map, based on global

¹ Ifo Institute.

wind farms and their installed capacity. Figure 1 depicts the current wind farms around the world. However, the figures only give a brief general overview of the number of wind farms, but offer no details of the wind turbines installed there. The pioneering role played by Germany and Denmark in the development of wind energy is remarkable, especially the number of wind turbines installed in both countries. By June 2013 nearly 3,800 wind farms (onshore and offshore) were installed in Germany (see The Windpower 2013), followed by Denmark, the United States and Spain, each with 1,500, 985 and 955 wind farms respectively. Looking at the distribution of installed capacity worldwide, a different picture emerges (see Figure 2). In Germany, almost 33,000 Megawatts (MW) were installed as of 2013. By contrast, China already had over 75,000 MW of power capacity and the United States had around 62,000 MW available. Germany is followed by Spain, India and Britain. In Germany over 2,400 MW of additional electric power capacity had been installed by 2012. Further construction was estimated to boost this figure to 3,200 MW by the end of 2013, of which 400 MW was to be installed offshore (see Agrar heute 2013). The increase in the installed capacity is going to be achieved by exchanging existing plants for more efficient wind turbines, which is called repowering. Thus, the absolute number of plants in the wind parks can be reduced by

Figure 1

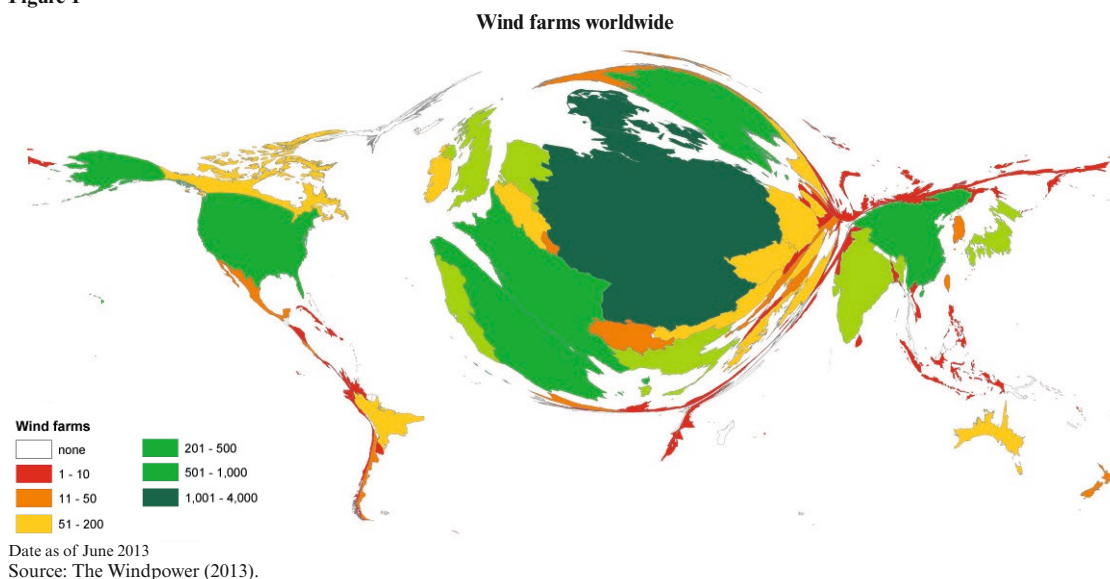
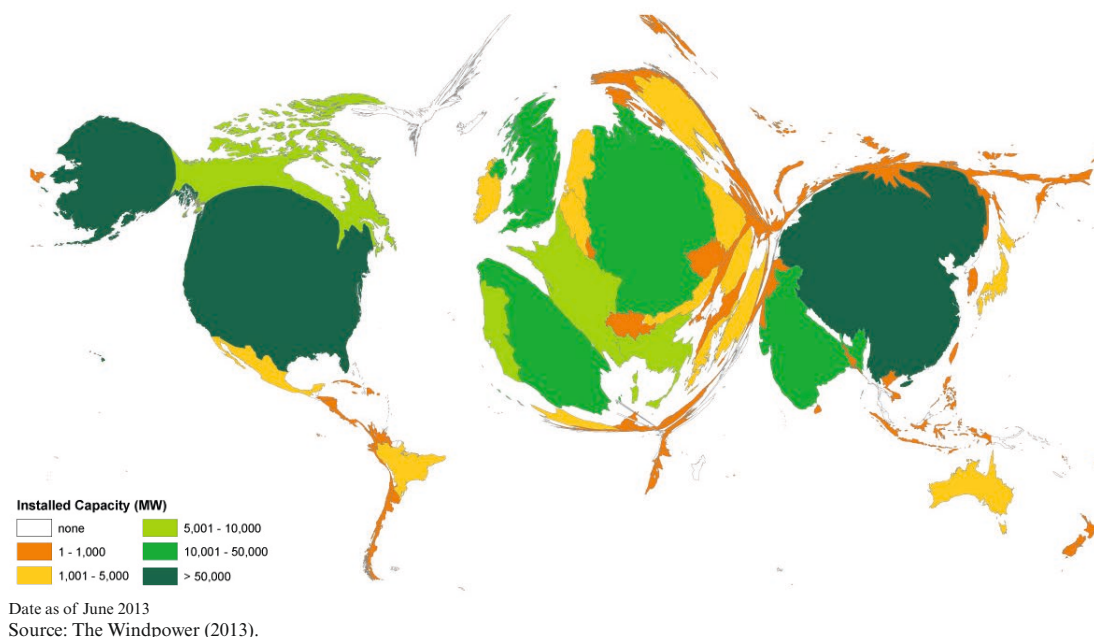


Figure 2

Worldwide installed capacity of wind energy



up to 50 percent, while achieving more than double the output power. This, in turn, should give rise to a more uniform landscape and enhanced environmental protection (see Bundesverband Windenergie 2013). In 2012, 325 old plants were replaced with 210 new plants, resulting in power almost tripling (from 196 to 531 MW – see IWR 2013b).

A total of 45 GW wind energy was installed worldwide in 2012, the total installed capacity was 828 GW at the end of that year (see World Wind Energy Association 2013). China and the United States continue to be the top leaders in the expansion of wind power. Eastern Europe and Latin America are currently among those regions with high growth rates. Even South Africa is regarded as a hopeful prospective for many companies because of its enormous wind power potential. Almost 30 percent more wind turbines than 2011 were installed in the United States in 2012. This was due mainly to the short-term extension of subsidies for wind power producers in late 2012. This caused the US wind energy industry to install about 8,000 MW in the last quarter of 2012, while a short time previously the expiry of these subsidies had been announced. In China, the development of wind power temporarily declined due to difficulties with network expansion and connection (minus 18 percent – see Klimaretter 2013). At the moment, wind power turbines from China are cheaper than European turbines, and four Chinese companies are among the industry top ten with market shares of 3 to

6 percent. Problems in China are mainly due to over-capacities and falling prices, and are similar to the difficulties encountered in the solar industry. However, threats to Europe are considered to be limited due to high transportation costs and the failure-prone nature of Chinese technology (see IWR 2013a). According to BTM Consult, the Danish company Vestas had a global market share of about 14 percent in 2012, followed by Siemens Wind Power and Enercon with 9.5 and 8.2 percent shares respectively. The world market shares were exceeded by the US GE Wind with a 15.5 percent market share (see Erneuerbare Energien 2013). In order to continue to hold their own against plant manufacturers from China, German and other European companies will have to expand and hold onto their technological advantage.

One of the current problems in the development of wind power in Germany is related to the recent completion of the first commercial offshore wind farm in the North Sea with 30 wind turbines and a total of over 100 MW installed capacity. To date the wind farm has no interconnection and power generation can, according to the operator TenneT, only be expected at the beginning of 2014 (see Süddeutsche Zeitung 2013). To avoid damages to the rotors, the plants need to be moved artificially with the help of diesel engines. The costs associated with the shutdown of power generation are passed on to consumers through the offshore liability apportionment, while the transmission

system operators (TSOs) are obliged to accept a maximum of 20 percent of the costs incurred.

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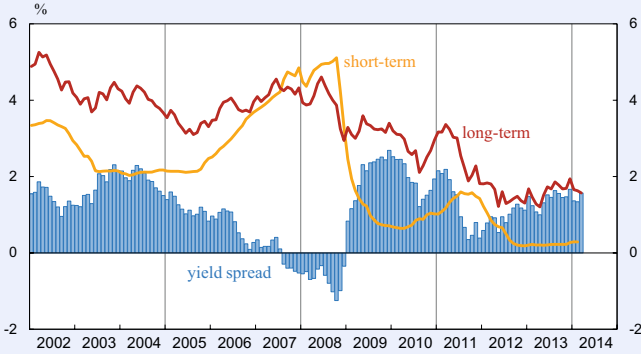
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FINANCIAL CONDITIONS IN THE EURO AREA

Nominal Interest Rates ^{a)}

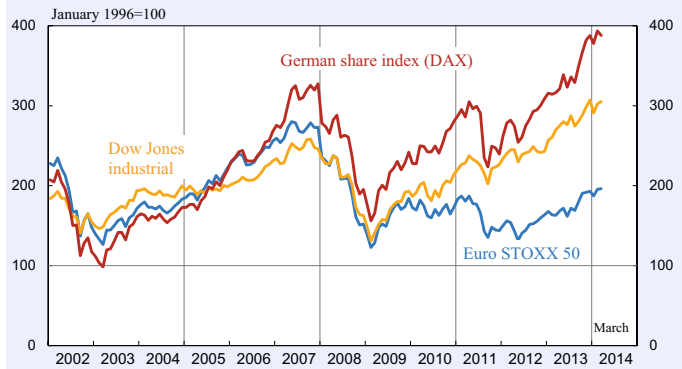


a) Weighted averages (GDP weights).

Source: European Central Bank.

In the three-month period from December 2013 to February 2014 short-term interest rates increased: the three-month EURIBOR rate grew slightly from 0.27% in December 2013 to 0.29% in February 2014. On the other hand, the ten-year bond yields decreased from 1.66% to 1.57% in the period between January 2014 and March 2014. The yield spread increased from 1.37% in January 2014 to 1.57% in March 2014.

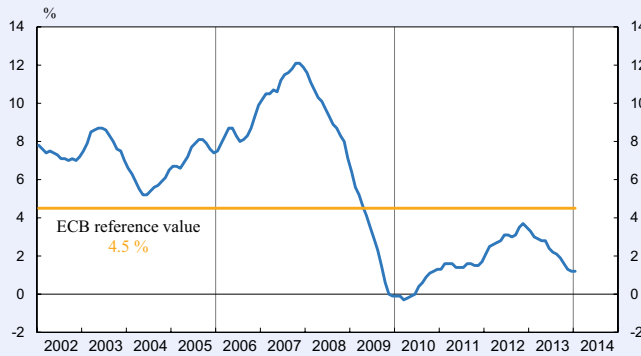
Stock Market Indices



Source: Deutsche Börse; Dow Jones; STOXX; Datastream.

The German stock index DAX decreased in March 2014, averaging 9,556 points compared to 9,692 points in February 2014. The Euro STOXX grew slightly from 3,149 to 3,162 in the same period of time. The Dow Jones International increased also, averaging 16,458 points in March 2014, compared to 16,322 points in February 2014.

Change in M3 ^{a)}

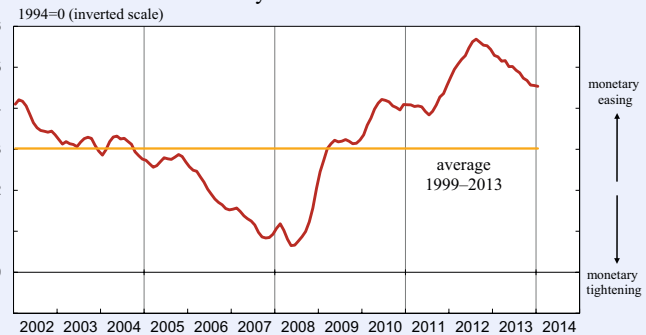


a) Annual percentage change (3-month moving average).

Source: European Central Bank.

The annual growth rate of M3 stood at 1.3% in February 2014, compared to 1.2% in January 2014. The three-month average of the annual growth rate of M3 over the period from December 2013 to February 2014 amounted to 1.2%, unchanged from the period from September 2013 to November 2013.

Monetary Conditions Index

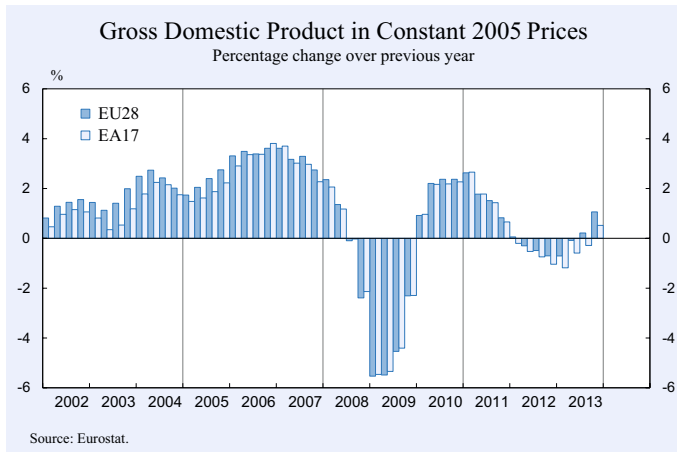


Note: MCI index is calculated as a (smoothed) weighted average of real short-term interest rates (nominal rate minus core inflation rate HCPI) and the real effective exchange rate of the euro.

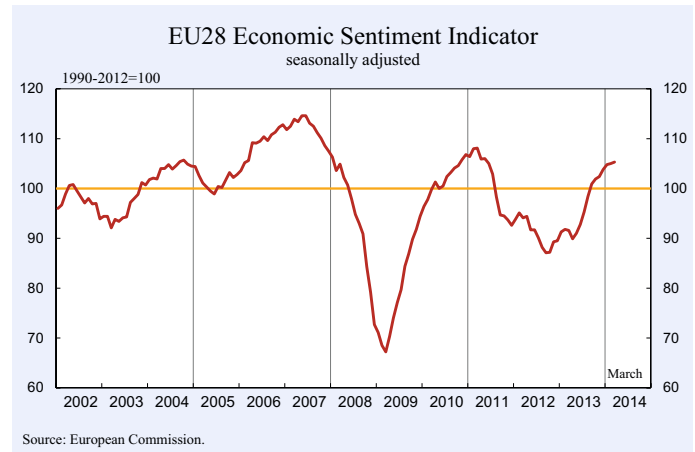
Source: European Central Bank; calculations by the Ifo Institute.

Between April 2010 and July 2011 the monetary conditions index remained rather stable. This index then continued its fast upward trend since August 2011 and reached its peak in July 2012, signalling greater monetary easing. In particular, this was the result of decreasing real short-term interest rates. In January 2014 the index continued its downward trend, initiated in August 2012.

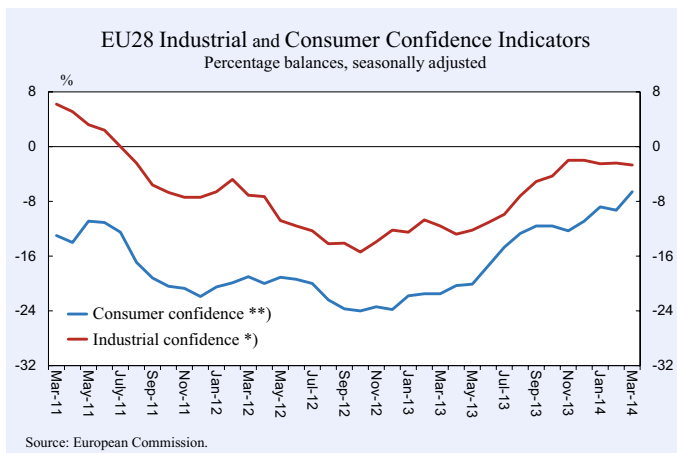
EU SURVEY RESULTS



According to the second Eurostat estimates, GDP grew by 0.3% in the euro area (EA17) and by 0.4% in the EU28 during the fourth quarter of 2013, compared to the previous quarter. In the third quarter of 2013 the growth rates were 0.1% and 0.3%, respectively. Compared to the fourth quarter of 2012, i.e. year over year, seasonally adjusted GDP rose by 0.5% in the EA17 and by 0.1% in the EU28 in the fourth quarter of 2013.



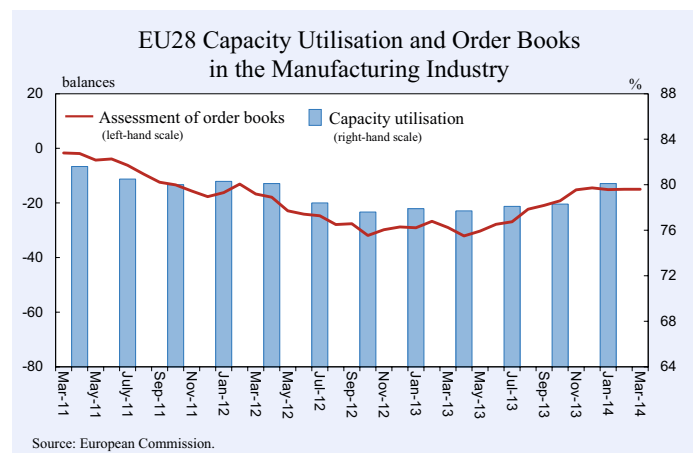
In March 2014 the Economic Sentiment Indicator (ESI) increased by 1.2 points in the euro area (to 102.4) and 0.3 points in the EU28 (to 105.3). In both the EU28 and the EA17 the ESI stands above its long-term average.



* The industrial confidence indicator is an average of responses (balances) to the questions on production expectations, order-books and stocks (the latter with inverted sign).

** New consumer confidence indicators, calculated as an arithmetic average of the following questions: financial and general economic situation (over the next 12 months), unemployment expectations (over the next 12 months) and savings (over the next 12 months). Seasonally adjusted data.

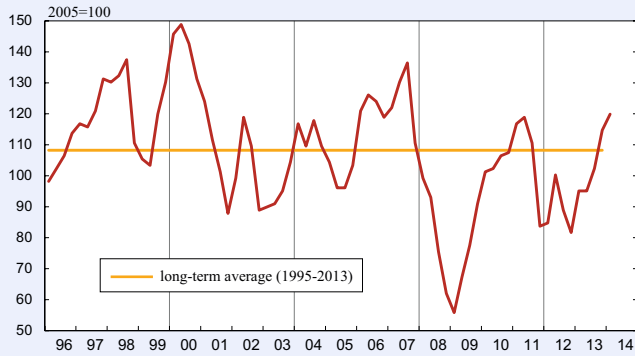
In March 2014, the *industrial confidence indicator* decreased by 0.3 in the EU28 but increased by 0.2 in the euro area (EA17). In comparison the *consumer confidence indicator* increased by 2.7 in the EU28 and by 3.4 in the EA17.



Managers' assessment of order books reached -15.0 in February 2014 and remained unchanged in March 2014. In January 2014 the indicator had amounted to -15.1. Capacity utilisation increased to 80.1 in the first quarter of 2014, from 78.3 in the previous quarter.

EURO AREA INDICATORS

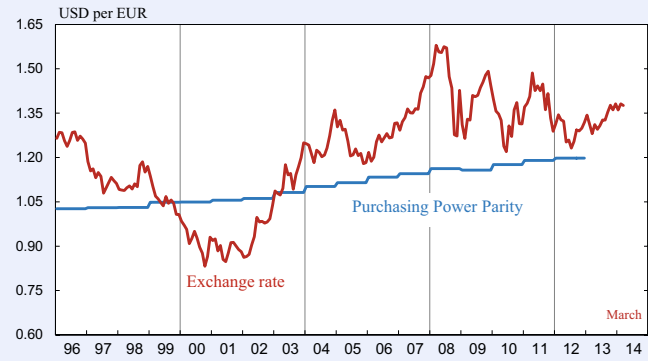
Ifo Economic Climate for the Euro Area



Source: Ifo World Economic Survey (WES) I/2014.

The Ifo Economic Climate Indicator for the euro area (EA17) continued to rise in the first quarter of 2014. The improvement was mainly due to far less unfavourable assessments of the current economic situation. The economic outlook for the next six months remains unchanged at the highest level for around three years. The economic recovery should become more marked in the months ahead.

Exchange Rate of the Euro and PPPs

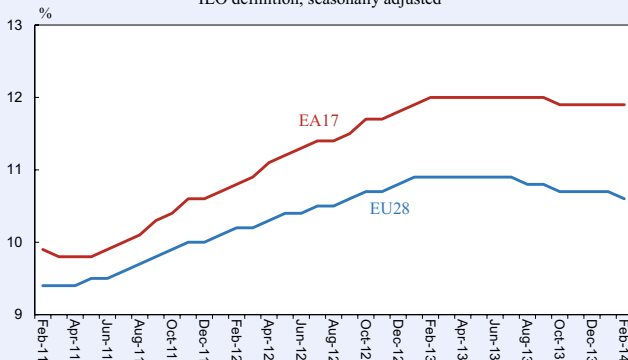


Source: European Central Bank; OECD; calculations by the Ifo Institute.

The exchange rate of the euro against the US dollar averaged approximately 1.37 \$/€ between January 2014 and March 2014. (In December 2013 the rate had amounted to around 1.38 \$/€.)

Unemployment Rate

ILO definition, seasonally adjusted

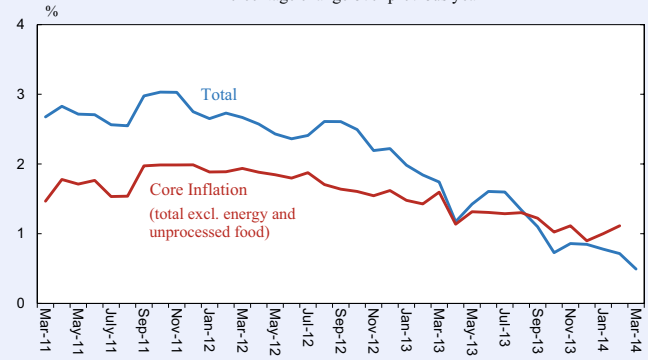


Source: Eurostat.

Euro area (EA17) unemployment (seasonally adjusted) amounted to 11.9% in February 2014, stable since October 2013. EU28 unemployment rate was 10.6% in February 2014, down from 10.7% in January 2014. In both zones, rates have slightly reduced compared to February 2013, when they were 12.0% and 10.9%, respectively. In February 2014 the lowest unemployment rate was registered in Austria (4.8%), Germany (5.1%) and Luxembourg (6.1%), while the rate was highest in Greece (27.5%) and Spain (25.6%).

Inflation Rate (HICP)

Percentage change over previous year



Source: Eurostat.

Euro area annual inflation (HICP) was 0.5% in March 2014, down from 0.7% in February 2014. A year earlier the rate had amounted to 1.7%. Year-on-year EA17 core inflation (excluding energy and unprocessed foods) increased to 1.11% in February 2014, from 1.00% in January 2014.

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