

Department of Economics and Centre for Macroeconomics public lecture

Debt and austerity: post-crisis lessons from Ireland

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Check against delivery

I am delighted to have been invited back to the LSE over forty years since I embarked on my PhD studies under Michio Morishima and Cliff Wymer, having first taken the M.Sc. in Econometrics and Mathematical Economics anchored then by Terence Gorman and Denis Sargan, ably supported by up-and-coming stars such as Partha Dasgupta, David Hendry, Steve Nickell and Amartya Sen.

My topic then was “Uncertainty, Portfolio Choice and Economic Fluctuations”, a theme which has not proved irrelevant to someone involved in macroeconomic and financial sector policy in subsequent years! I still draw on the framework taught at the LSE in the 1970s, with its emphasis on solid data analysis and time series econometrics as well as attention to distributional issues and welfare economics. Certainly all of this and more is needed to understand and respond to the required economic adjustments that emerge following a financial crisis.

The challenge

From late 2008 the inevitability of a devastating economic downturn in Ireland, entailing massive job losses and acute indebtedness difficulties, became increasingly clear. The task for the Irish authorities from then on was to minimise the aggregate damage and navigate through the coming years in such a way as to maximise the chances of a strong recovery of employment and incomes. In parallel this would entail choices that would influence the allocation of the heightened risks that had become evident as well as how the looming burden would be distributed.

And recovery is under way. Having jumped from about 4 to 15 per cent, unemployment is back in single digits. The decline is partly attributable to migration, but job growth has also returned. The Irish downturn hit bottom in mid-2012, and the recovery since then has been solid: employment grew by a cumulative 7 per cent in the following three years. [Three Charts: unemployment and employment.]

Origins of the Irish crisis

The origins of the Irish financial and economic crisis of 2008-12 are well understood. The strong economic performance of Ireland in the years running up to euro area membership (a performance which had been based on a sustainable expansion of competitiveness-driven exports) combined with the sharp lowering of interest rates at the time of entry created the preconditions for a property bubble, not least a subversive overconfidence in the continuity of growth and a complacent market-trusting regulatory and policy environment. From 2004-7, easily financed by the plentiful supply of international liquidity, Irish and foreign-owned banks advanced vast sums to Irish property developers and final purchasers of residential and commercial real estate at home and abroad.

By 2007, 13 per cent of Irish workers were engaged in the country's construction industry –twice as many as normal – and, as the boom fed other domestic sectors, the Government's tax revenue soared with swollen inflows from capital gains tax and corporation profits tax as well as property transaction-related receipts. The additional revenue allowed the Government to lower the income tax schedule substantially over the years (as well as offering many property-investment related tax concessions) and to increase social benefits and public spending generally.

Overall real GDP growth rates – previously flattered significantly by the activities of multinational corporations – were in the early 2000s being recorded at around 5 per cent per annum, levels which, by this stage, were now attained largely because of the construction boom.[\[1\]](#)

Role of bank credit

Qualitatively similar features to the Irish boom were also in evidence in other countries in those years. What made Ireland distinctive was the scale of credit expansion, and the fact that a bank credit-fuelled property-price bubble was accompanied—yet not noticeably moderated by—a construction boom, exacerbating the scale of losses.

As far as the local banks are concerned,[\[2\]](#) it is worth recalling that their growth and their losses were entirely conventional and traditional in nature. For example, in contrast to the US case, Irish banks did not rely extensively on an “originate, package and sell” model for their lending; almost all of what they lent was kept on their balance sheets. And the Irish banks did not invest much in the notorious US-based securitisations.[\[3\]](#)

After a record-breaking run-up to the point where Dublin residential property prices deflated by the CPI were about 3½ times the level of a decade before, property prices in Ireland peaked around the turn of 2006-7 and started falling quite sharply soon thereafter. [2 Charts House prices] By the Autumn of 2008, it was clear that a major economic correction was under way. Employment in construction was falling, with knock-on effects throughout the economy. The fiscal position was suddenly deteriorating. While there had been on average a

general government surplus for the previous decade, with gross government debt shrinking to below 25 per cent of GDP by 2007, reliance on the boom-time revenue sources that were now evaporating had been so large that a sizable deficit was now emerging, augmented by the increased cost of social protection spending. The deficit was growing both in absolute terms and especially as a percentage of GDP, which was already shrinking alarmingly. Total Government spending jumped from 39 per cent of GDP in 2007 to 58 per cent two years later as measured at the time.^[4] Tax revenue fell by 30 per cent in the same period. While the tax and spending movements had the merit of being a strong automatic stabiliser – the general government position moved from balance to a deficit of about 14 per cent of GDP in the same period (and would have been 11½% in the absence of bank rescue spending), this would not be sustainable for long.

Initial policy response

Although a deficit of 14 or even 11 per cent of GDP can hardly be considered austere, Government had already begun a programme of fiscal adjustment in 2008, without which the deficit would have been even wider. The taxation of income in particular was increased, and a four-year plan of tax and expenditure changes designed to restore stability to the public finances was under way.

Additional fiscal pressure was emerging from the banking system. Initially interpreted as merely part of the global liquidity tightening that emanated from the US subprime problems, the Irish banks were encountering increasing difficulties in rolling over their international borrowings: maturities were shortening and the geographical spread of the providers of funds narrowing (Lane 2015). Eventually, at the end of September 2008, just after the bankruptcy of Lehman, the third largest bank (Anglo) was on the eve of being unable to meet its obligations when the Government stepped-in with a blanket guarantee for the liabilities of the locally controlled banks. At first it was not expected by the national financial authorities that the guarantee (which was copper-fastened in legislation) would entail a significant budgetary outlay, but they had not built in any safety-first mechanism to limit the State's exposure to the pig-in-poke they had acquired. It soon transpired that supervisory awareness of the vulnerability of the banks to the property turn-down had been very limited.

The sudden stop

The combination of the loss of tax revenue and increased spending on social transfers with the emergence of a large contingent liability on foot of the bank guarantee was what created the vulnerability of the Irish sovereign to a sudden stop in its access to international funding. With market attention focused on Greece in the Autumn and Winter of 2009-10, and in the absence of clarity on the likely loan losses of the Irish banks, the sudden stop was somehow deferred. However, these conditions changed. The scale of the embedded bank losses began to crystallise as the larger property-related loans were purchased at a market-related “long-term economic value” by the Government-created asset management agency NAMA. That the Government would have to meet either a

large recapitalisation bill or an even larger cash call on the guarantee became clearer in the third quarter of 2010. With the ECB reluctant to envisage a long-term substitution of central bank funding for the private bank funding that was not now being renewed (despite the Government guarantee^[5]) the scene was set for an international rescue, engineered with the IMF and a new European lending mechanism.

Worried that funding costs were moving higher than the cost of borrowing at the IMF, the Government's borrowing arm (the National Treasury Management Agency) withdrew from the market at the end of September 2010, hoping that conditions would improve before its sizable cash balances would run out in the middle of the following year. But the banks were no longer able to fund themselves and did not even have sufficient eligible collateral to refinance at the ECB's normal operations: one-by-one they had to fall back on emergency liquidity assistance from the Central Bank of Ireland, a facility tolerated by the ECB only for the short-term.

Had the ECB convinced the market that the Irish banks would be provided with sufficient liquidity for as long as needed, the Government might perhaps have been able to formulate and implement a renewed and deepened budgetary adjustment without the need for recourse to official financing. Absent such statements of support, it was clear that an IMF programme could not be avoided and this was negotiated in November 2010.

Austerity and macroeconomic adjustment

The fiscal plan embedded in the EU-IMF programme fully recognised the deterioration in economic and fiscal conditions that had occurred since the Government's own four year adjustment programme had been launched back in early 2009. The deterioration of conditions at home and abroad meant that further belt-tightening would be needed, though in fact most of the heavy lifting had already been done in 2008-10. The new plan envisaged reaching a 3 per cent deficit by 2015. This could have seemed a stretch to a naïve observer noting the recorded deficit of 31 per cent in 2010 (about two thirds of which related to bank recapitalisation), but in fact it was more than achieved. [Chart: deficit]

Unlike the situation with Greece, and to a lesser extent other stressed countries making fiscal adjustments at the time, the Irish programme employed a realistic set of macroeconomic spending multipliers from the outset (November 2010) and, while the forecasts did prove to be somewhat optimistic for the early years of the programme, this was wholly due to underperformance of Ireland's trading partners (not least in the double-dip euro area recession of 2012). All in all, the programme delivered what it said on the tin, and so did the Irish authorities, who adopted a policy of seeking to promise only what could surely be delivered and then over-delivering.

The fact that it was external macro conditions in 2011 and 2012 that underperformed what was projected at the outset of the Irish programme reminds us of the interdependence of European economies and justifies raising the

question here of whether the euro area fiscal stance as a whole was not unduly contractionary in those years; I believe that it was. While many euro area governments were also concerned about the rapid rise in their indebtedness during the first phase of the crisis, it is easy to argue, especially given the sizable international balance of payments surplus of the euro area as a whole, as well as the very low interest costs of borrowing, that the aggregate euro area fiscal stance -- with fiscal consolidation of as much as two per cent of GDP in 2011, for example -- was too tight.

But with Ireland's gross government debt soaring to 120 per cent of GDP by 2012, and with much punditry at first about the apparent attractions of a sovereign default or debt restructuring, Ireland's unilateral ability to run a more relaxed fiscal stance was extremely limited. Indeed, I would argue that the speed of the subsequent recovery from about the middle of 2012 was enhanced by the way in which fiscal policy halted and then reversed the growth in the debt ratio. Delaying this dynamic would probably have slowed the economic recovery because it would have deferred the return of business and market confidence in Ireland's financial stability. [Charts: debt]

Not incidentally, it is important to bear in mind that the debt ratio figure of 120 per cent of GDP needs to take account of the very large difference in Ireland between GDP (which includes the profits of multinational corporations) and GNP. As has often been observed (IFAC, 2012) a more internationally comparable ratio for debt sustainability calculations would use a number closer to GNP than to GDP as numerator. So, comparing Ireland's 120 with figures for other countries understates the relative scale of the Irish exposure.[\[6\]](#)

Still, servicing costs are also relevant in assessing debt sustainability, and these improved dramatically from mid-2011, when the surcharges over cost of funds were greatly reduced in respect of the borrowings from the European official creditors. Repayment of most of the higher cost IMF borrowings in 2013 and 2014, and their substitution by market borrowings (now again available at spreads of 100 basis points or less above Germany) also greatly eased debt servicing costs, as did the general lowering of long-term interest rates in the euro area, and the arrangements around the collateral seized by the Central Bank when the successor to Anglo Irish Bank (IBRC) was liquidated in early 2013. In the view of many, including myself, these servicing cost improvements made the difference between a sustainable programme and one which would have had to be prolonged or renegotiated.

Q1: Should the fiscal plan built into the Irish programme have involved larger deficits?

Could fiscal adjustment have been slowed sufficiently to reduce the employment loss without this simply postponing an inevitable adjustment and potentially making the long-run effect of the needed adjustment even worse?

To slow the fiscal adjustment would clearly have entailed a higher rate of primary deficit, thereby contributing to the accumulation of debt. But would there have been offsetting effects, for example through the avoidance of hysteresis in

unemployment reducing future unemployment-related fiscal spending? What would the medium-term effect on the cost of borrowing have been? And what might the impact have been on capital formation and saving?

These are not easy questions to answer. Macroeconomic models that work well through the crisis and recovery are hard to find, and calibration must be rather speculative. But in the range where Ireland has found itself, it is simply not the case that fiscal contractions are self-defeating: corrective action does work: the deficit ratio was reduced substantially and, in due course, the debt ratio was placed on a downward trajectory.

I agree that some mechanisms arguing against accumulation of debt may tend to be exaggerated in some quarters. The empirical growth impact of higher debt burdens is not as great as has sometimes been claimed. And both optimal and safe transitory levels of national debt are surely not insensitive to the medium term prospect for interest rates.

Let us imagine some simple counterfactuals. Suppose the programme had envisaged a higher deficit path, thereby requiring the deficit to be reduced by, say, 2 percentage points of GDP less than the actual path in each of the three years of the programme. Under such a counterfactual, mechanically and assuming all other things equal, by the end of the three years of the programme the deficit would have been running at 6 percent of the baseline GDP more than it was and the debt ratio at that point would have been 12 percentage points higher. The somewhat higher GDP levels which might have been attained in the counterfactual (as a result of the higher fiscal deficit) would not have altered these ratios by much.^[7] Besides, GDP might not have been much higher despite more net Government spending: doubts about the chances of the Government recovering access to market financing on any reasonable terms at the end of the programme would likely have constrained business investment and household consumption. Undoubtedly, such a programme could not have delivered debt sustainability; official lenders could surely not have endorsed such a plan.

But even if they had, could a path closer to full employment have been maintained at the cost of a more gradual adjustment of the deficit and accumulation of more debt? That too must be doubted: after all, the bulk of the peak-to-trough employment fall of 327,000 (over 15 per cent) had happened in the eleven quarters before the programme came into effect. Only a decline of 25,000 (seasonally adjusted) occurred between the fourth quarter of 2010 and the trough seven quarters later (chart).^[8]

Clearly, this sharp fall in employment – half of them construction jobs – in the first three years of the downturn would have been hard to eliminate with aggregate fiscal demand. I think we can rule out any Keynesian mechanism strong enough to re-employ workers who had lost their jobs as a result of this combination of a sectoral shock (construction) with an externally-driven macroeconomic demand contraction.

Anyone wishing to assert that a significantly better aggregate fiscal adjustment path, in terms of the attained output and employment path, than the one actually negotiated by one Irish Government – and implemented by its successor – in the EU-IMF programme of 2010 thus has their work cut out for them. I would go further and suggest (but not prove) that, all other things being equal (and I will come in a minute to the matters that might have been better not being equal) the adjustment path was close to the best available to Ireland. Indeed, the recovery might have consolidated somewhat faster if the Government had moved a little more ahead of the curve, as in my expressed opinion at the time, though there was probably not much in it.

Q2: How important was the bank guarantee in creating the need for fiscal contraction?

To be sure, in any assessment of the overall cost of the Irish boom and bust there are other questions that can be asked about counterfactuals that track back to earlier decisions. Most often discussed is the question of the bank guarantee. I have repeatedly observed that this guarantee was too wide and too unconditional; I will not repeat here the details of what might have been done differently. But, while it is often correctly emphasised that the Irish Government's guarantee socialised private bank losses, any overall assessment needs to consider a comprehensive alternative path, and not simply fixate on the direct fiscal long-term costs of making good on the guarantee, costs that have been variously estimated at between €35 and €43bn, or between 22 and 27 per cent of 2008 GNP.

One approach is to consider a counterfactual in which Ireland would not have provided as extensive an unilateral bank guarantee in September 2008, either hoping to persuade European partner countries to share in the cost or risk of such a guarantee, or resolving the two weakest banks with heavy losses to senior bank creditors (as would be implied by the BRRD legislation just now coming into effect in Europe). Of course the decision makers of the time did not consider such options, because they did not think there was a significant risk of losses on the scale that actually occurred. If they had pursued this course, it is clear that economic disruption could have been greater. The net costs would have been lower, but arguably only by a sum in single digits of billions.

To be sure, the larger policy errors were made long before the bank guarantee. Perhaps the most interesting counterfactual to be considered is to imagine that the bank lending excesses of 2004-2007 could have been eliminated by effective bank regulation. If so, the post-crisis period of fiscal contraction could have been wholly avoided. (Chart)

Inequality in boom and bust (i) income

It's one thing to say that aggregate economic activity was protected by the Irish Government as well as might be, but another to say that the income and capital losses were distributed in an equitable manner.

At first sight, the situation here might not seem too inegalitarian. For example, while the Gini coefficient of market income jumped in 2008 and 2009 and by 2012 was still notably higher than it had been during the boom, the Gini for disposable income, after taking account of income-related taxes and social payments, hardly moved and indeed reached a lower level by 2012 than it had eight years earlier. [Charts: Gini and poverty]

Likewise for relative poverty lines: while the poverty count (at the 50% threshold) measured on market income increased in the crisis; poverty rates measured on disposable income fell.

The contrasting movements of the Gini on gross and net income reflect the degree to which reductions in social payments were limited in the fiscal cutback, and also the progressive tone of income-related tax changes in the downturn. The Irish tax-and-welfare system held relative poverty rates to levels comparable to those of the UK, for example, despite a much steeper increase in comparable market divergences in Ireland (likely reflecting the much steeper jump in unemployment to almost 15 per cent in Ireland by 2012.)

Still, a proportional lowering of income surely means a more severe welfare impact on lower income groups. The fact that the Irish macroeconomic correction has not worsened measures such as Gini or relative inequality should not be interpreted as saying that the burden has been shared equitably.

Inequality in boom and bust (ii) wealth

And these income calculations do not take account of the capital losses incurred especially by those who had leveraged themselves near the top of the market to buy residential property and other assets (such as bank shares!) that subsequently slumped in price.

There are areas of concentration. Households too uncreditworthy to have access to borrowing escaped this dimension of the boom and bust: this dimension to the downturn is not evidently correlated with that of income changes. Residential property losses are disproportionately found in certain age groups, notably those now in their late 30s and early 40s.

Not everyone lost in the bust: after all, sellers of real estate in the boom period had a gain to fall back on when the downturn came.

The first extensive household wealth survey for Ireland in over a quarter century was carried out during 2013 for the Central Bank of Ireland. Using this data and imputations based on independent sources of data on house prices and mortgage credit it is possible to quantify some of the main features of household wealth and indebtedness during the boom and bust. (Charts from Lydon et al).

The movements here are large but they affected all classes of individual and household. Attempts to measure the movements in Gini of wealth during the crisis suggest that these were small relative to the trend in the Gini of wealth over the previous quarter century.[\[9\]](#)

Personal over-indebtedness

Personal over-indebtedness remains a significant problem for many households, albeit a small minority. Everyone agrees that this situation is suboptimal, but analysts are divided as to whether the ideal solution involved more collateral repossessions or deeper debt write-downs. The number of repossessions is very small if compared with the experience of the UK or US, for example, so we may take it that Ireland has escaped the error of levels of repossession that are so high as to be economically inefficient. On the other hand the banks have been too slow, despite sticks and carrots from the Central Bank, to recognise situations where deep debt restructurings involving some element of financial engineering (e.g. split mortgage solution) would result in debt sustainability and better loan-loss performance over time. Progress has been made, but still the level of unresolved non-performing loans remains too high. As the economy recovers, so too will the debt servicing on some of these loans, but probably not as many as the banks hope. All available policy tools to improve the situation have been energetically deployed, but on the whole have proved somewhat lacking.

Q3: The role of international solidarity – could it have done more?

Were some other options potentially available at the level of the European Union to reduce the damaging output and activity effects of the fiscal contraction, thereby potentially accelerating the recovery in Ireland (and why were they not implemented)?

Ireland did lose access to the financial markets in late 2010 and would have had to implement a drastic and sudden fiscal contraction in the absence of international financial assistance. The Irish authorities were not entirely passive in the decisions about the speed of adjustment that would have to be implemented, but (as already indicated) they could not have negotiated a more gradual adjustment than actually happened. Still, perhaps other things should not have been equal. What factors, if implemented differently by partner countries, could have eased the situation and allowed a more gradual adjustment, without damaging longer term growth prospects?

(a) Financial engineering (i) bank recap – could have been profitable

The EU-IMF Programme as negotiated included a sum of €35 billion – about one fifth of annual GNP – to be provided by the Government for additional capitalisation of the banks if needed to meet the higher capital requirements of the programme and to cover deleveraging costs and more aggressive stress test assumptions that could result from a new and intensive capital adequacy review to be carried out in the early months of the programme. In the end, less than half of this €35 billion was needed – and much of what was injected in this phase will eventually be recovered by the Government as it sells off its stake in the three surviving banks. But would it not have been better for these sums to have been injected directly by the ESM directly? The ESM could, for example have taken an equity stake in the relevant banks, or it could have offered a tail-risk insurance on the banks' assets, rather than adding to the debt overhanging the

Government. This point was argued by the Irish authorities at the time, but received a stony response.

A smaller debt overhang for the Irish Government in 2011 would surely have hastened the restoration of market confidence, the recovery of productive investment and consumption spending (sustaining domestic economic activity) and the recovery of the public finances.

And the ESM could well have made a higher return on the capital injection than it has on the Government loan.

(b) Financial engineering (ii) GDP growth-linked loan – could have enabled faster growth response with lower servicing at first.

The Irish Government did have to borrow on a scale which threatened debt sustainability. Could the debt have been structured in a way that reduced that threat? Clearly: yes. A GDP-growth linked loan could have substituted for part of the debt. Such a contract would have transformed the consequences of a slower-than-hoped recovery by limiting or eliminating debt servicing payments in an orderly and pre-agreed way until GDP recovered sufficiently. This too would have accelerated the return of private sector confidence and boosted economic activity. Servicing of the indebtedness would not in fact have been interrupted and here again the ESM could, depending on the parameterisation of the contract, have cleared a larger profit in a win-win result. This too was floated to an unresponsive ESM and IMF, neither of which had such tools available.

(c) Stronger EU demand policy from countries with headroom.

Even if stressed countries like Ireland had no headroom for relaxing fiscal adjustment, this is not the case for the euro area as a whole. While debt ratios increased a lot during the crisis, they were still well away from a danger point, not least when the low level of long-term government bond yields on the unstressed countries are taken into account. Aggregate fiscal policy in the euro area was strongly contractionary, and this adversely affected stressed countries. The scale of the favourable demand spillover may not have been uniform or large, but it would have been advantageous.^[10] The increase in ECB policy rates in 2011, announced to head-off what proved to be a short-lived, largely oil-price driven, uptick in inflation, didn't help either.

(d) ECB promises

Could the ECB have prevented the need for an EU-IMF programme? Two suggestions have been made in this direction. One proposition is that reassuring statements from the ECB about the continued availability of funding for the Irish banks would have stemmed the deposit outflow and reduced the urgency of entering a Programme. That may be the case, but it can also be argued that attempting to struggle on with bond yields at 7 or 8 per cent (because of the remaining concerns of the market about Government debt sustainability) would not ultimately have reduced the burden on the average Irish citizen even if the Government had indeed followed the same tightening of fiscal policy as it did in

fact pursue. Probably a programme would have become inevitable within months anyway.

The second proposition is that the Mario Draghi's announcement and the ECB's Outright Monetary Transactions (OMT) programme came two years late, and would have prevented the Irish crisis. This simply misunderstands the nature of OMT, which kicks in only for countries that are entering a programme (and is only really needed to protect the system as a whole when the pressure is coming on very large countries). By the way, one can recall that, even in 2010, quite significant volumes of Government bonds of Greece, Portugal and Ireland were bought in the secondary market by the ECB in its SMP programme (extended in 2011 to Italy and Spain).

(e) Holders of unguaranteed senior bank debt

Finally I need to include the very widely discussed issue of the holders of senior bank debt. It is well known that the Irish Government was leaned upon in late 2010 and mid-2011 to avoid burden-sharing with the holders of unguaranteed senior debt in the failed banks Anglo and INBS. The sum involved was about €5 billion or around 3% of Ireland's GNP. From Ireland's point of view, saving even a fraction of this amount would have been a valuable contribution to the fiscal adjustment and the Irish authorities were, by late 2010, prepared to take the risk of a potential adverse effect on funding costs, especially now that the Sovereign's financing was under the protection of the Programme.

I think it's fair to say that European decision makers subsequently had misgivings about having blocked this bail-in (not least when they eventually came around to the view, now embodied in the European bank resolution legislation, that Governments should be largely insulated from the costs of failing banks). This may well have influenced their willingness to acquiesce in the subsequent arrangements around the liquidation of the relevant institutions in early 2013, arrangements which had considerable financial advantages to Ireland.

Restructuring and engineering

It should be clear that bailing-in unguaranteed creditors of a failed bank is entirely different from restructuring of Government debt. The latter only comes into play when sustainability of the existing sovereign debt comes into question. Unfortunately, assessing debt sustainability is far from being a quantitatively precise science, with the result, I believe, that unsustainable situations are allowed to fester far too long, resulting in avoidable debt overhang situations. European official institutions have suddenly become among the largest claimants on weak sovereign Governments without having developed a sufficient methodology to deal with these problems.

The sustainability of Ireland's official debt came into question in 2010. Fortunately, European official creditors did respond relatively quickly to this situation by eliminating the penalty surcharges on the interest rates at which they lent to Ireland and extending maturities. (The arrangements around the bank liquidation in early 2013 also helped).

But the unused potential of financial engineering (e.g. GDP-linked contracts; direct recapitalisation) points towards a better way of dealing with doubtfully sustainable situations. At debt burdens well below what would be indisputably unsustainable, official lending could embody state-contingent payment plans that would reduce the overhang and pre-arrange the response to unfavourable shocks. This thinking should be brought to bear on the Greek situation: careful design of such contracts would limit the spillover to other indebted countries whose situation is much less acute.

Concluding remarks: trust

Dealing with the different categories of over-indebtedness, public or private, that emerged in crisis, has been far from straightforward.

In the case of overhangs related to mortgaged principal private residences the debt is long-term and the value of the collateral, even if low in the crisis when borrowers' income is also stressed, can be expected to recover over time—as can borrower income. These considerations can cause banks to be reluctant to deal conclusively with distressed mortgage debt (whether by repossession or by deep restructuring). This situation has proved difficult to resolve fully in Ireland despite energetic regulatory initiatives, some financial engineering and far-reaching reforms in insolvency law.

Dealing with sovereign debt, especially intergovernmental, poses even greater challenges. Official international lending in Europe is not operated by the maximiser of a social welfare function (of the type which I studied at the LSE four decades ago), but operates in a political environment where trust among senior politicians against the background of well-founded concerns about moral hazard is a decisive element.

Distracted by the Greek crisis in 2010, financial markets woke up late to the scale of Ireland's twin fiscal and banking imbalances, which the Irish authorities had already been tackling with fiscal contraction, bank loss recognition and recapitalisation. This delayed recognition temporarily undermined market confidence and – against a background of defaultist rhetoric – also induced official lenders to seek to protect themselves with a programme which was unduly creditor-friendly and whose initial lending terms and conditions were not reflective of the collegiality appropriate to the European Union.

Trust was, however, quickly restored, thanks to the credible performance of the successive Irish governments in the early months of the Programme, and the lending terms were soon adjusted.

Trust, and the fear of moral hazard, has remained a pre-occupation of the official lenders, and has inhibited the employment of more innovative contracts that could help restore fiscal balance with less damage to economic performance in the process. Financial engineering helped create the global financial crisis, even if it contributed little to the Irish bubble: it is time to use more of it to get us out of the unduly protracted tail to that crisis.

Trust of the general public in the intentions and judgement of policymakers is also vital in ensuring that society as a whole accepts the constraints and hardships of needed fiscal adjustment. A patently unfair distribution of the burden will not long be tolerated in any democratic society. While there is plenty of room for disagreement on whether enough was done to shelter the most vulnerable, the Irish social safety net at least prevented any sizable deterioration in overall measures of inequality during the adjustment.

[1] Indeed these measured growth rates greatly exaggerated the degree to which sustainable income was being generated, given the future loan losses that were being embedded.

[2] In addition to the banks active in lending to domestic borrowers (and this included half a dozen foreign-controlled entities as well as the six main locally-controlled banks), almost half of the total assets of the Irish banking system on the eve of the crisis related to export-oriented banks located in what had been known as the Dublin International Financial Services Centre. These included sizable operations by banks such as DePfa/Hypo, Merrill Lynch, State Street, and Citi. Thus, to say that the Irish banking system amounted to about 8 times GDP in 2008 is correct, but exaggerates the size relevant to the Irish crisis by up to about half. (DePfa did fail in the crisis, as did a small number of other German-owned bank or nearbank entities, but the assets, liabilities and overall business of these entities were essentially all offshore, and their losses were not assumed by the Irish Government).

[3] Furthermore, there was only a modest involvement of Irish banks in explicit equity-type risk-sharing with their borrowers, in contrast to the case of Iceland, whose banking system imploded within days of the dramatic Irish guarantee of September 2008. Another contrast in pre-crisis banker behaviour with the situation in Iceland is reflected in the fact that, in post crisis Ireland, criminal proceedings have to date been taken only in respect of persons in one bank. Several other banks, including the two largest, were, however, sanctioned for administrative breaches.

[4] These are the figures as reported in 2010. The latest data give 37 and 54 per cent.

[5] The initial guarantee had been for two years and as a result there was a large bunching of maturities in September 2010. The Government continued until March 2013 to offer a guarantee on new bank funding.

[6] On the other hand, the Irish treasury managers have operated with a sizable cushion of liquidity: this means that net debt has been a lot lower than gross debt.

[7] In as small and open an economy as Ireland, fiscal multipliers are small, and much of any stimulus is spent on imports.

[8] Unemployment had reached 14.7 per cent by the time of the programme; it peaked a little higher at 15.1 five quarters later.

[9] Gini of wealth is estimated to have fluctuated between 0.63 and 0.65 between 2006 and 2013, whereas it was only 0.52 in 1987 (Lydon et al, 2015).

[10] There is still room for collective action in this direction, as suggested on a modest scale by the so-called Juncker Investment plan of 2014.