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HOUSING RECOVERIES: CLUSTER REPORT ON DENMARK, IRELAND, KINGDOM OF THE NETHERLANDS—THE NETHERLANDS, AND SPAIN

January 2015

IMF staff regularly produces papers covering multilateral issues and cross-country analysis. The following document has been released and is included in this package:

- The **Staff Report** on Housing Recoveries: Cluster Report on Denmark, Ireland, Kingdom of the Netherlands—the Netherlands, and Spain, prepared by IMF staff and completed on November 25, 2014.

The report on Housing Recoveries: Cluster Report on Denmark, Ireland, Kingdom of the Netherlands—the Netherlands, and Spain was prepared by IMF staff and presented to the Executive Board in an informal session on December 3, 2014. Such informal sessions are used to brief Executive Directors on multilateral issues and cross-country analyses. No decisions are taken at these informal sessions. The views expressed in this paper are those of the IMF staff and do not necessarily represent the views of the IMF's Executive Board.

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HOUSING RECOVERIES: CLUSTER REPORT ON DENMARK, IRELAND, KINGDOM OF THE NETHERLANDS—THE NETHERLANDS, AND SPAIN

EXECUTIVE SUMMARY

This report examines the experiences of four European countries that have had large house-price declines in recent years. In particular, it examines the experiences of Denmark, Ireland, the Netherlands, and Spain—four countries in which the house-price cycle has been especially large and that share a similar institutional environment (a common monetary policy and the EU's institutional framework)—with a view to exploring how policies can best support economic recovery in the wake of a house-price bust. The paper draws on and synthesizes related *Selected Issues* papers that are being or have been drafted as part of the 2014 Article IV consultations with these countries.

These countries' experiences share similarities, but also important differences. Shocks to house prices, unemployment, and bank balance sheets were most severe in Ireland and Spain, reflecting in part a higher amplitude of residential construction. However, the boom-bust cycle has, together with other shocks, left all four countries facing significant output gaps, as well as elevated levels of private-sector debt that pose headwinds for growth.

Promoting recovery following a house-price bust requires a multi-pronged strategy. Large house-price busts can leave countries facing wide output gaps, a highly indebted private sector, and weaker bank balance sheets. Addressing these problems simultaneously can be challenging, as efforts often involve trade-offs (e.g., faster deleveraging can widen output gaps). A careful and multi-pronged strategy is thus required to minimize trade-offs and accelerate sustainable recovery. Important progress has been made in this regard in all four countries. Priorities going forward vary across countries, reflecting their specific circumstances.

Measures that have assisted or could assist adjustment in at least some of the four countries include the following: (i) supportive macro policies; (ii) tax and pension reforms to ease liquidity constraints; (iii) reforms to financial regulatory and supervisory policies, tax policies, and insolvency procedures to facilitate more efficient restructuring of distressed debt; (iv) increased rental market flexibility (e.g., easing rent controls) to facilitate the conversion of vacant units into rental properties, boost construction of rental units, and facilitate mortgage-to-rent conversions for distressed mortgages; and (v) measures such as dividend restrictions to bolster banks' ability to support recovery and absorb losses.

Reforms can also help reduce risks of a recurrence of the boom-bust cycle. The amplitude of future house-price cycles can be lessened by reforms to (i) reduce fiscal incentives for debt accumulation, (ii) make rental markets more flexible and efficient, and (iii) facilitate the deployment of macroprudential tools to avoid excessive debt accumulation during the upswing. To ensure that such measures do not dampen recovery but instead contribute to it, (i) macroprudential tightening could be gradual, calibrated to the pace of recovery, and offset by other supportive macro policies, as appropriate, and (ii) fiscal savings from reducing incentives for debt accumulation could, if needed, be used for high-multiplier stimulus and/or measures to boost potential output.

Approved By
Philip Gerson

Prepared by a staff team comprising K. Fletcher (head), J. Andritzky, S. Denis, M. Hassine, R. Lama, P. Lopez-Murphy, M. Mrkaic, and K. Shirono (all EUR).

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HOUSE-PRICE DECLINES IN DENMARK, IRELAND, THE NETHERLANDS, AND SPAIN

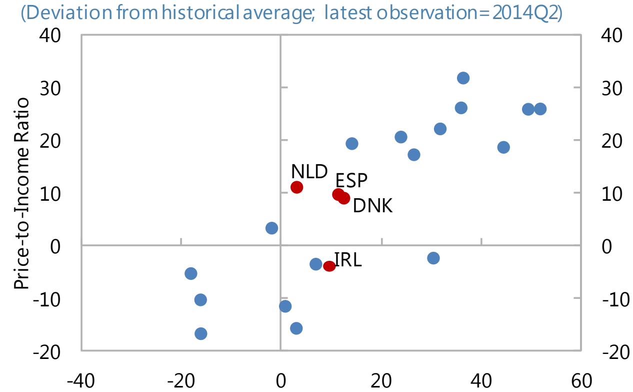
Denmark, Ireland, the Netherlands, and Spain have each recently experienced a large house-price cycle. These countries' experiences share similarities, but also important differences. Shocks to house prices, unemployment, and banks have been most severe in Ireland and Spain, reflecting in part a higher amplitude of residential construction. However, there are also commonalities across all four countries' experiences. In particular, the boom-bust cycle has—together with other shocks—left all four countries facing significant output gaps and elevated levels of private-sector debt. Going forward, these countries face the challenge of continuing to address these legacies of the boom-bust cycle while also taking steps to avoid its recurrence.

A. The House-Price Cycle

1. **Denmark, Ireland, the Netherlands, and Spain all experienced a large house-price cycle in recent years**. Each country experienced a large run-up in house prices during 2000–07, driven in part by easy financial conditions and accompanied by debt accumulation. These booms came to an end around the time of the 2007–09 global financial crisis. Real house prices in all four countries subsequently declined by 25 percent or more (Box 1). House-price declines were largest in Ireland and Spain, in part due to more overbuilding during the boom.

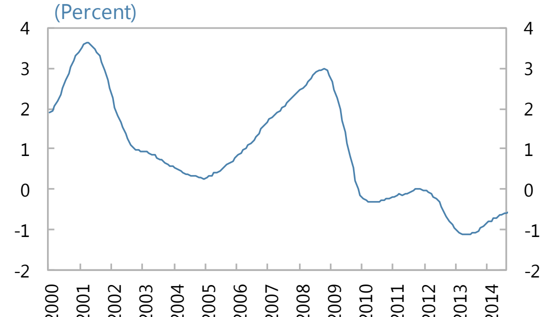
2. **Standard valuation metrics suggest that house prices may have reached or be nearing a trough in these countries**. Price-to-rent and price-to-income ratios are now only about 0-15 percent above their historical averages in all four countries. Real house prices have already begun to stabilize in the Netherlands and rise in Denmark and Ireland (Box 1). However, the pattern is uneven within countries, with prices in urban areas generally firming earlier than in rural areas (e.g., Dublin prices have surged 25 percent since last year).

Price-to-Income Ratio vs. Price-to-Rent Ratio, OECD Countries
(Deviation from historical average; latest observation=2014Q2)



Sources: OECD; and IMF staff calculations.

Euro Area: Short-Term Real Rate 1/
(Percent)



Sources: Haver; and IMF staff calculations.
1/ Defined as the 3-month money market rate minus core inflation (12-month moving averages for both).

3. **Such valuation estimates are subject to substantial uncertainties in both directions**. For example:

- On the upside for the outlook, real interest rates in these economies are below their historical averages and could at least partly justify asset prices above their historical norms.

- On the downside, there is no guarantee that real interest rates will stay at their current low levels indefinitely, and an eventual rise in interest rates to something closer to historical averages could lead to renewed drops in house prices. In some countries (e.g., Spain), a large overhang of vacant houses—especially outside major urban areas—could also cause price-to-rent and price-to-income ratios to undershoot their long-run equilibriums. Finally, the appropriate reference period for calculating equilibrium ratios is uncertain: the historical averages used in the chart above are based on an average across the entire sample period (generally starting in the 1970s) for each country; however, this includes the recent boom period, the inclusion of which could result in overstated equilibrium valuations.

B. Macroeconomic Effects

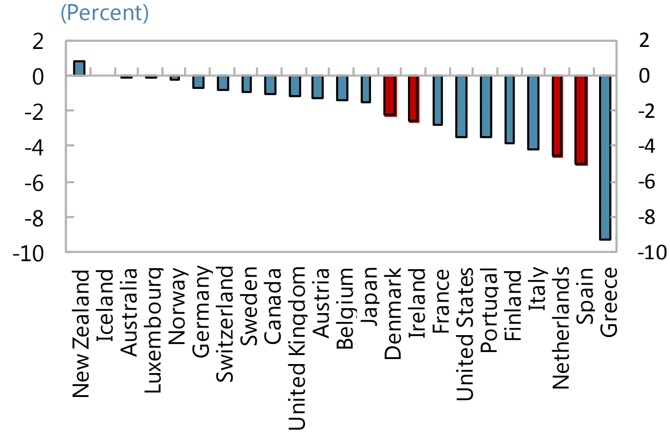
4. The house-price boom-bust cycle has left these economies facing several challenges:

Wide output gaps

- Lower house prices have reduced aggregate demand through several channels. First, they have depressed consumption via adverse wealth effects and heightened liquidity constraints due to the run-up in household debt during the boom and the reduction in housing equity during the bust. Second, lower house prices have depressed both (i) residential investment and (ii) small enterprise business investment funded by loans collateralized by the businessperson's house. Third, these effects have adversely affected bank profitability, contributing to a broader tightening of lending conditions in some countries that has added to contractionary forces. Fourth, a rise in underwater mortgages may have hampered labor mobility.

- The magnitude of these shocks and the relative importance of each channel have differed across the four countries, but they have combined with other shocks (e.g., the euro-area crisis) to produce significant output gaps in all four countries. Indeed, standard methodologies for assessing output gaps may somewhat understate output gaps in the aftermath of a financial crisis in some countries (Box 2). Uncertainty surrounding output gap estimates in these countries is also significant.

Estimated Output Gap in 2014
(Percent)



Source: October 2014 WEO.

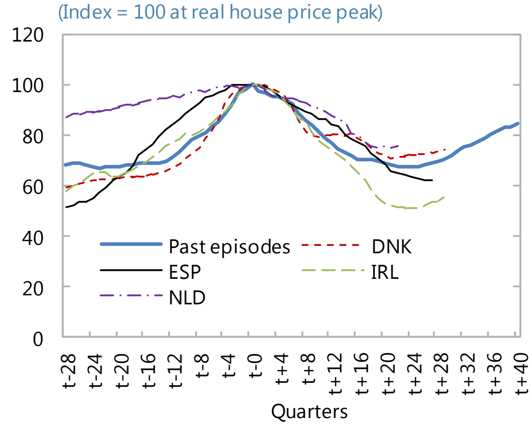
Box 1. How Do Developments Compare to Other Big House Price Declines?

The charts below show how the evolution of key variables in Denmark, Ireland, the Netherlands, and Spain compare to those in past episodes of large house-price declines. The blue lines show the path for the simple average of past episodes. Past episodes include six cases since 1970 in which real house prices declined by 30 percent or more in an advanced economy and for which data for all variables is available for seven years before and after the peak of house prices.[1]

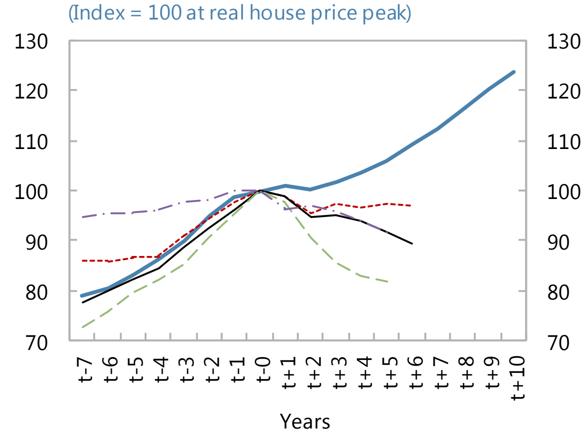
Several observations can be made from these charts:

- In past episodes, real house prices tended to reach a trough at levels near their pre-boom starting point and about 5–7 years after their peak. If this pattern holds in the current episodes, real house prices may have reached or be nearing a trough.
- Domestic demand during the bust period has been much weaker in the current episodes than in the past episodes. Consumption growth has been weak in all four countries; investment growth has also been weak, especially in countries where the building boom was largest (Ireland, Spain), reflecting less-tight supply constraints due possibly to both geographic and regulatory factors.
- High private-sector indebtedness could be one factor behind weak domestic demand, as (i) both the peak level of debt and the increase in debt during the boom were much higher in the current episodes than during past episodes and (ii) a number of studies (e.g., IMF, 2012; Mian and Sufi, 2014) find that debt overhang tends to weigh heavily on growth following financial crises.

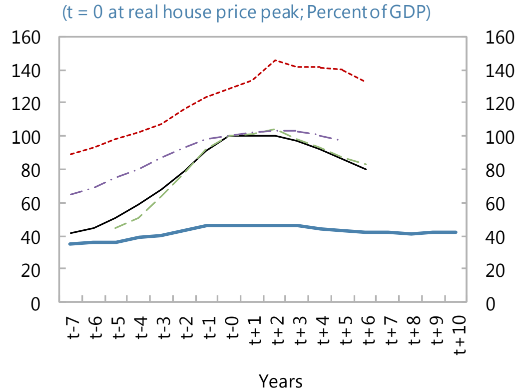
Real House Prices
(Index = 100 at real house price peak)



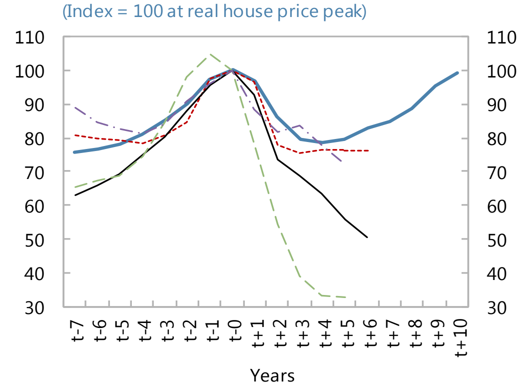
Real Private Consumption
(Index = 100 at real house price peak)



Real Credit by All Sectors to Households
(t = 0 at real house price peak; Percent of GDP)



Real Fixed Investment
(Index = 100 at real house price peak)



1/ Past episodes and the year of the house price peak were Finland 1989, Italy 1981, Italy 1991, Japan 1991, Norway 1987, and Sweden 1990.

Sources: Haver Analytics; Fund staff estimates.

Box 2. House-Price Declines and Potential GDP

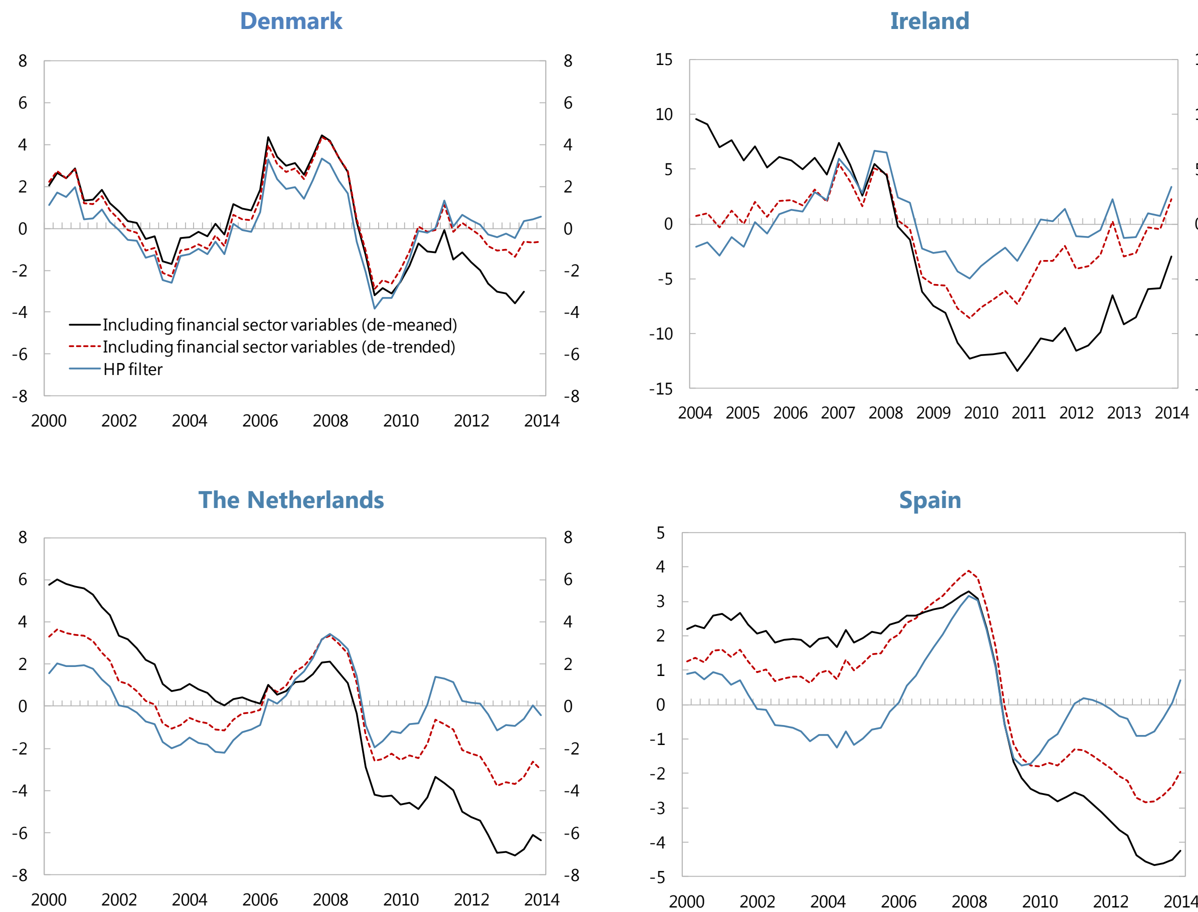
Asset prices and other financial variables can help improve estimates of potential GDP. Most methodologies for estimating potential GDP do not incorporate information about unsustainable credit developments, housing bubbles, interest-rate movements, and other financial developments that can result in longer-term deviations of GDP from its potential trend. One way to improve estimates of potential GDP is thus to broaden the set of variables that a multivariate filter takes into account to add such additional information.

To examine this issue, financial-cycle variables are included in a multivariate filter. Specifically, we add house and stock prices and the growth of credit to nonfinancial private corporations to the standard set of variables used in such filters (details of this methodology are in Berger and others, forthcoming; see also Borio and others, 2013) and compare the results to those obtained by a simple HP filter.

Results suggest that output gap estimates that ignore financial-sector variables may underestimate the width of output gaps both during the boom and the bust. This can be seen in the illustrative results below for Denmark, Ireland, the Netherlands, and Spain.

Illustrative Output Gap Estimates 1/

(percent of potential GDP)



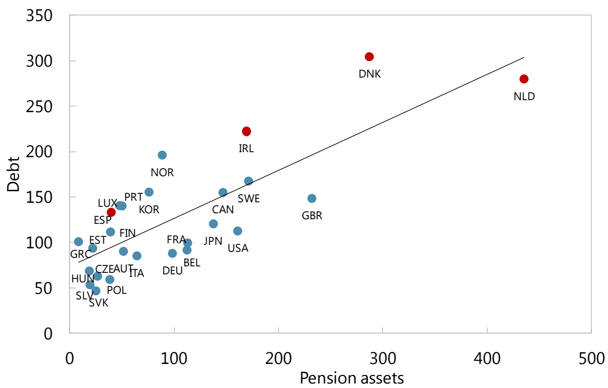
Sources: Haver Analytics; and IMF staff estimates.

1/ These output gap estimates are only meant to be illustrative of how inclusion of financial sector variables can affect results. They do not represent staff's output gap estimates for these countries, which are shown in the text chart on the previous page.

Private-sector debt overhang

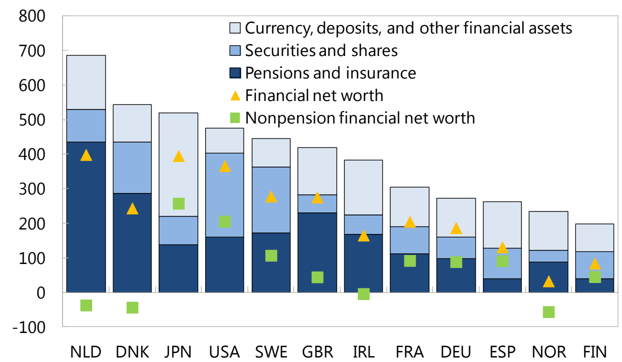
- Household debt-to-income ratios vary significantly across the four countries, reflecting in part structural factors. Denmark and the Netherlands have some of the highest household debt ratios in the world, reflecting in part low incentives to pay down debt and build housing equity, given significant saving for retirement via the accumulation of assets in fully-funded pension schemes, among other factors (Shirono, 2014). Spain has the lowest debt ratio among the four countries (though the incidence of distress is amplified by Spain's very high unemployment rate), reflecting in part relatively less saving via pension assets.

Household Pension Assets and Debt, 2012
(Percent of household gross disposable income)



Sources: OECD and Fund staff calculations.

Financial Assets and Financial Net Worth
(Percent of disposable income, 2012)



Sources: OECD and Fund staff calculations.

- What is common across all four countries is that household debt rose rapidly during the boom. These run-ups have only modestly reversed during the bust, such that household debt ratios remain well above their pre-boom levels (Box 1). Consequently, there are risks that deleveraging pressures could remain a headwind for growth for some time.

- The aggregate numbers also hide pockets of high leverage that can weigh on aggregate demand and growth. For example, in the Netherlands, aggregate household net wealth is high at 400 percent of GDP but is concentrated mainly among the older generations who benefit from high pension savings and low mortgage debt, while younger households that purchased their homes at the peak of the market have few financial assets and remain heavily in debt, with 60 percent of younger households being underwater on their mortgages. Similarly, a study by Danmarks Nationalbank found that Danish households with high loan-to-value (LTV) mortgages cut consumption more than households with low LTV mortgages during the global financial crisis, as the high LTV group had higher levels of pre-crisis consumption (Andersen and others, 2014).

Effects on the banking system

- The economic downturn and adverse balance sheet shocks also affected these countries' banks. The shocks were most severe in Ireland and Spain, where relatively more overbuilding during the boom led to larger house price declines, higher spikes in unemployment, and bigger drops in construction activity. These forces in turn prompted a larger rise in nonperforming loans in Ireland and Spain, especially on loans to construction companies. Mortgage arrears also rose to very high levels in Ireland, where the house-price bust was most severe and the increase in arrears was linked to falling incomes and a sharp rise in unemployment, as in the US.

International Comparison of Recent House Price Cycles

	Netherlands	Denmark	Ireland	Spain	UK	US
Total outstanding mortgage debt (% GDP). maximum 2001–12	108.4	103.4	91.7	64.9	87.2	101.0
Nominal house prices, relative peak-to-trough through end-2013 (%)	21.5	20.1	48.9	30.1	13.5	18.1
Unemployment rate, absolute trough-to-peak (%)	4.5	4.5	11.4	18.5	3.7	6.0
Mortgage arrears (%), end-2013	1.3	0.3	16.9	5.2	1.3	9.3
Underwater (%)	30	…	52	…	1.6-6.4	13

Sources: EMF, FRB, BEA, Dallas Fed, Council of Mortgage Lending (UK), FRB (US), DNB (NL), Central Bank of Ireland, Association of Danish Mortgage Banks, Corelogic, Financial Conduct Authority.

5. Going forward, these countries face the dual challenges of continuing to address these legacies of the boom-bust cycle while also taking steps to avoid its recurrence. All of these economies are expected to expand going forward, reflecting in part major reforms and measures already taken to address the crisis. Nonetheless, negative output gaps—entailing substantial deadweight loss and perhaps adversely affecting potential output via hysteresis effects—could remain for some time absent continued reforms and measures to ensure sustained growth.[1] At the same time, it will be important to ensure that policy distortions that helped fuel the boom-bust cycle are gradually removed so as to avoid a recurrence.

6. The following sections discuss policy options for addressing these challenges. In doing so, the sections draw on various measures that have already been undertaken in these countries, as these could be informative for others facing similar circumstances. At the same time, it is important to emphasize that there is no "one-size-fits-all" approach and that policy formulation must necessarily take into account important country-specific factors.

[1] Hysteresis effects are likely to be smaller in countries, such as Denmark, that have narrower output gaps and lower unemployment rates.

ADDRESSING THE LEGACY OF THE CRISIS

Closing output gaps while reducing private-sector debt overhang following a house-price bust requires a multi-pronged strategy, including measures to ensure supportive macro policies, promote deleveraging in ways that minimize the drag on growth, and strengthen banks' ability to support recovery. Important progress has been made in this regard in all four countries. Priorities going forward vary across countries, reflecting their specific circumstances.

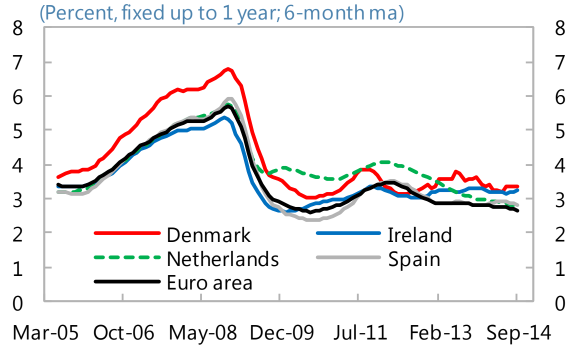
A. Macroeconomic Policies

7. **Macroeconomic policies are a critical first line of defense to help cushion the effects of a housing downturn**. Well-calibrated fiscal and monetary policies are key to supporting demand, maintaining consumer and investor confidence, and facilitating smoother adjustment of debt overhangs.

8. **Macroeconomic policies have played an important role in all four countries**.

- Discretionary fiscal policy has differed in volume and content across countries and over time, reflecting in part constraints such as fiscal rules and, in some cases, limited fiscal space and market pressure (especially for Ireland and Spain during the height of the euro crisis). However, fiscal automatic stabilizers have generally supported aggregate demand. Social safety nets (e.g., unemployment insurance) have been especially important to easing financial burdens for some of the most vulnerable households.

Interest Rates on New Mortgages 1/
(Percent, fixed up to 1 year; 6-month ma)



Sources: Haver.
1/ In some of the countries, other mortgage maturities with different rates may be more prevalent, but interest rates are shown at this maturity for all countries for comparability.

- ECB monetary easing, which Denmark imports via its currency peg, has also contributed to cushioning the shock, with lower interest rates both boosting nominal incomes and easing debt-servicing costs, thereby facilitating deleveraging.[2] The prevalence of variable-rate mortgages in Denmark, Ireland, and Spain has helped transmit these effects.[3]

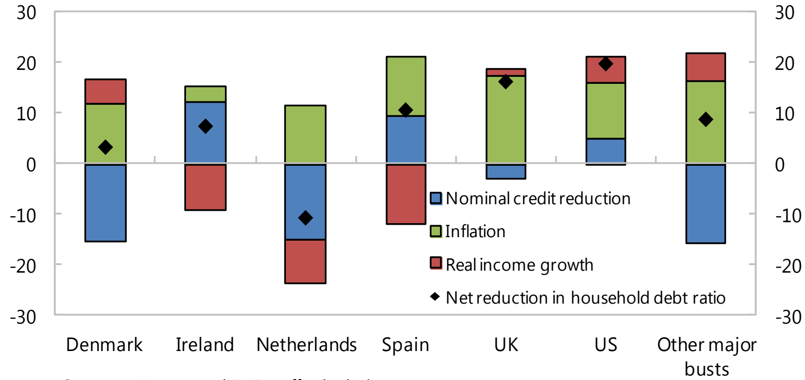
9. **That said, nominal income growth has in some cases been less supportive than during other episodes of major house price busts**. Inflation and/or real income growth have generally played bigger roles in reducing household debt-to-disposable income ratios in other major episodes of house price busts (text chart). An exception to this trend is Denmark, where nominal

[2] That said, the transmission of lower ECB policy rates into lending rates has also not been fully uniform, with credit spreads rising at times for some types of mortgages, especially in countries most affected by the crisis.

[3] However, variable-rate mortgages also increase sensitivity to upward interest-rate shocks.

income growth since 2007 has been more rapid than in the other three countries. However, Denmark's more rapid nominal income growth has been fueled in part by nominal credit growth, limiting the net reduction in the debt ratio. In contrast, credit has contracted rapidly in Ireland and Spain, but drops in nominal income have limited the reduction in the debt ratio. In the Netherlands, nominal income growth has been sluggish despite credit expansion, such that the debt ratio has increased since 2007.

Contributions to Percent Reduction in Household Debt-to-Income Ratios 1/
(Percentage points)



Sources: Haver; and IMF staff calculations.
1/ "Other major busts" are the episodes listed in Box 1. For the other countries, the figures are based on the change in the debt ratio since end-2007.

10. Constraints on fiscal and monetary policy put a premium on finding additional tools to assist adjustment. Looking forward, scope for discretionary fiscal policies is somewhat limited by fiscal rules aimed at ensuring fiscal sustainability and, in some cases, the need to maintain market confidence. Similarly, while supportive monetary policy will remain critical to facilitating adjustment, this instrument is beyond the control of the national authorities in the four countries. These constraints underscore the need to employ other policies to support adjustment. Possible approaches in this regard are discussed in the following sections.

B. Reducing Private-Sector Debt Overhang

11. As noted in the previous section, private-sector debt overhang remains, to varying degrees in each country, a headwind for growth. Measures to accelerate debt reduction could thus support economic recovery. However, the way in which debt is reduced matters:

- If the private sector reduces its debt by cutting spending, this could further widen the output gap. Attempts to increase saving by cutting back on spending could even be self-defeating at an aggregate level if such cutbacks lead to near-equivalent reductions in income ("paradox of thrift").

- In contrast, measures to (i) ease liquidity constraints by mobilizing illiquid assets and (ii) facilitate debt restructuring in ways that are mutually beneficial to both debtors and creditors could help reduce debt in ways that boost, rather than dampen, the recovery.

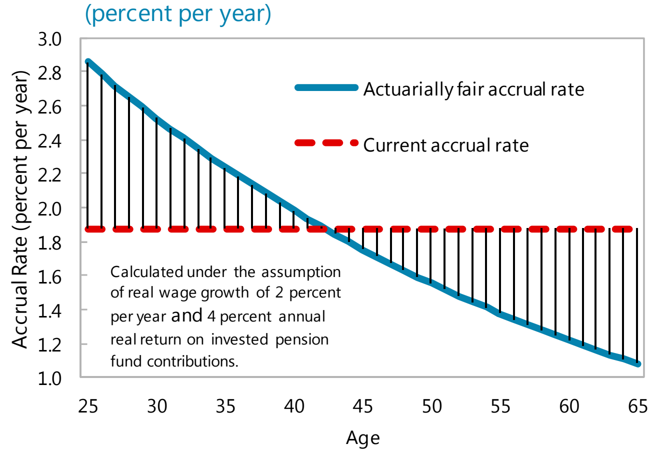
Easing liquidity constraints

12. Liquidity constraints can lead to sub-optimal consumption. In an environment of high levels of debt and illiquid assets (housing and/or pension assets), some households may be solvent but nonetheless forced to constrain consumption due to liquidity constraints, including the difficulties of borrowing against future labor income. Easing liquidity constraints for these households could thus promote more efficient consumption paths and yield positive externalities, given wide output gaps.

13. For example, temporarily reducing barriers to intergenerational transfers could facilitate deleveraging. Last year in the Netherlands, for example, the authorities introduced a temporary tax exemption for monetary gifts of up to €100,000 if the recipient used the proceeds to pay down debt on new or existing mortgages. More than 50,000 households signed up, with transfers totaling about 0.4 percent of GDP. This surge suggests that the measure could help ease liquidity constraints at limited near-term fiscal cost, given that the vast majority of transfers were unlikely to occur in the absence of the measure.[4,5] Such measures might be one avenue for encouraging more transfers between cash-rich elderly and younger liquidity-constrained households.

14. Pension reforms could also help ease liquidity constraints in some countries. For example, under the Dutch system in which occupational pension accrual rates are equal for all participants, younger employees contribute in excess of the present value of their pension benefits (i.e., the internal rate of return on contributions is lower for young contributors).[6] This implicitly transfers savings from the relatively poorer, young to the wealthier old. IMF staff simulations suggest that rebalancing pension contributions to an actuarially fair level while keeping the career-average accrual rate unchanged could shorten the duration of deleveraging for younger generations by one to three years by helping to lower debt faster and support demand (Mrkaic, 2014). Some countries have also eased constraints on access to fully-funded, defined-contribution pension schemes in a targeted and limited manner (e.g., in the US, money accumulated in 401k plans can be used for first-time home purchases; Switzerland has adopted similar measures).

Actuarially Fair and Current Accrual Rates
(percent per year)



Sources: Fund staff calculations.

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[4] Longer-term fiscal costs might be higher if the additional transfers today reduce future transfers that would have been taxed, perhaps under the inheritance tax. Such effects are likely to be mitigated by the €100,000 limit on the exemption.

[5] The precise degree to which the transfers are additional to those that would have occurred anyway is likely to become clearer as more detailed data on the transfers become available.

[6] This issue does not arise in defined-contribution schemes (e.g., as in Denmark).

Facilitating debt restructuring

15. Debtors and creditors can often both benefit from restructuring distressed housing-related debts. In some cases, foreclosure may be unavoidable and can maximize the value of a bank's claims. In other cases, however, both debtors and creditors may be able to gain from a mutually agreed restructuring of distressed debts that avoids foreclosure and its accompanying deadweight losses (e.g., legal and transaction fees, neglect of property during the foreclosure process, etc.).

16. However, various factors could prevent debtors and creditors from achieving the optimal amount of restructuring. Strategic behavior and asymmetric information regarding the debtor's ability to pay could lead to sub-optimal outcomes. If banks are not required to adequately provision for distressed debt, they may also resist its restructuring to avoid recognizing losses. Debtors and creditors may also not take into account various externalities, such as the costs that foreclosure and insolvency proceedings place on the court system, which may become especially severe during times of widespread debt distress. Individual debtors and creditors will also not consider positive effects that debt restructuring and the avoidance of foreclosure may have on boosting aggregate demand and reducing the output gap (Andritzky, 2014).

17. Measures to facilitate debt restructuring and internalize externalities can thus be helpful. The appropriate degree and extent of such measures depends in part on the severity of debt distress, with such measures being relatively more appropriate when debt distress is high (e.g., as in Ireland) and less so when it is low (e.g., as in Denmark). With that important caveat in mind, below are some measures that have been taken and further options that could be considered on this issue in countries where debt distress is significant:

- ***Regulatory incentives***. Adjustments to risk weights and/or provisioning requirements could encourage banks to restructure loans. For example, escalating the disparity between risk weights and/or provisioning for short-maturity bullet loans and those for longer-term loans could encourage more reprofiling to lengthen loan maturity (without reducing NPVs), helping to ease liquidity pressures for distressed but solvent households. Similarly, higher risk weights and provisioning requirements for high LTV and debt service-to-income loans (DSTI) and reductions in risk weights and provisioning requirements following loan restructuring that reduces these ratios could encourage the restructuring of distressed debt, as well as increase incentives to price in risks under normal economic circumstances, bolstering the system's future resilience. At the same time, regulatory incentives should be coupled with stepped up monitoring and reporting of restructured loans to ensure that only viable loans that have been restructured qualify for lower risk weights or provisioning requirements. Spain's efforts in 2013 to enhance publication of data on restructured loans and ensure evenhanded application of their classification across banks is a useful example in this regard (further information on this exercise can be found here).

- ***Supervisory incentives***. In countries where debt distress is especially acute, supervisors can play an active role by closely monitoring and reporting on lenders' workout capacities and outcomes in order to overcome coordination failures that may arise in a systemic crisis. For example, in Ireland, a supervisory framework of Mortgage Arrears Resolution Targets provides benchmarks to banks, which rise each quarter, to propose and conclude durable resolutions for over 100,000 mortgages in arrears, through a combination of restructuring and foreclosures.

- ***Insolvency framework***[7]

  - A well-crafted insolvency framework is key to promoting efficient debt restructuring, both by providing a last-resort solution (such as a fresh-start/discharge) and by facilitating out-of-court workouts to avoid such an outcome.[8] The latter are an appropriate tool to restructure distressed and over-indebted but current mortgage claims.

  - Toward these ends, Ireland undertook a major reform of its personal insolvency system in 2012 (Box 3). Spain also amended its insolvency framework during the crisis, including to provide a limited "partial discharge" after foreclosure of the primary residence of an individual debtor. Although a step in the right direction, this measure only provides residential mortgage debtors a partial discharge (20 to 35 percent) after they have paid a considerable part of the remaining debt (80 percent or 65 percent) within a relatively long period (5 or 10 years).[9] Consideration could thus be given to further reforming the insolvency system for natural persons to move it closer to the European Commission's Recommendation of March 2014 to grant a fresh-start/discharge after a three-year payment period (although the Recommendation focuses on entrepreneurs, it applies also to individuals). Similarly, in the Netherlands, an easing of work restrictions or constraints on financial services for persons undergoing bankruptcy could reduce stigma and encourage greater use of the system.

  - It is also important to ensure adequate institutional capacity, so that legal systems do not become clogged.[10] Reforms to streamline procedures and boost capacity and administrative support for public mediators, courts, and administrators can help avoid costly delays.[11]

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[7] This section focuses on the insolvency regimes in Ireland and Spain, as mortgage arrears are more elevated in these countries than in Denmark and the Netherlands. Given the recent adoption of the reforms in Ireland and Spain, it is also still early to draw strong conclusions regarding whether such reforms have achieved the intended objectives.

[8] This report does not discuss the extent to which an involuntary modification of a mortgage claim in the insolvency process would be appropriate.

[9] The amendment also (i) established that 50 percent of any capital gain in the sale of the foreclosed property, over the next 10 years after foreclosure, should be devoted to reducing the remaining debt of the borrower, thereby increasing the amount of potential debt discharge; (ii) capped the interest rate on mortgage defaults to three times the statutory interest rate; and (iii) limited foreclosure legal fees to 5 percent of the amount claimed, among other measures.

[10] For example, in Spain corporate insolvency proceedings on average last about 650 days.

[11] For more specific suggestions on reforming Spain's insolvency framework and information on recent reforms, see Chapter 6 in the 2013 Spain—Selected Issues paper and Chapter 3 in 2014 Spain—Selected Issues paper.

- ***Tax reform and other fiscal measures***

  - In many countries, debt relief granted to borrowers is taxed as income. In many cases, this creates a new tax liability that the debtor cannot afford and that can only be handled through bankruptcy. This can add unnecessarily to strains on debtors and the courts for little fiscal gain. Easing or eliminating the taxation of debt relief—at least as a temporary crisis measure and accompanied by safeguards to limit its abuse—could thus facilitate debt restructuring.[12]

  - Tax reform could also promote alternatives to foreclosure sales, such as mortgage-to-rent conversions, at minimal fiscal cost by temporarily reducing associated fees and transfer taxes.

  - Reforms to increase the scope to include tax liabilities in debt restructuring agreements could facilitate such agreements. For example, in Spain, reforms in 2014 allowed tax liabilities to be included in Out-of-Court Agreements on Payments for small businesses (see DeLong, Balz, and Tirado, 2014 for further discussion of this issue in Spain). The reforms also introduced the possibility of haircuts and payment delays for tax liabilities in insolvency procedures for small businesses, subject to certain majority rules.

  - Fiscal subsidies for loan counseling have also been found to improve the likelihood of loan cures (Collins and others, 2010).

- ***Innovative loan modification***. Ensuring there are no legal or regulatory barriers to innovative loan terms that effectively swap debt for equity (e.g., shared-appreciation loans) could also facilitate their use in debt restructuring. Deed-in-lieu and short sales could in some cases also be cost-effective alternatives to foreclosure.

- ***Codes of good conduct for debt restructuring and targeted relief***

  - Countries that have faced severe crises, such as Ireland and Spain, have also adopted codes of good conduct for debt restructuring and temporary debt relief measures, such as moratoria on foreclosures (Box 4). In the Netherlands, the authorities adopted a code of good practices for mortgage providers on how to deal with cases of financial distress.

  - Experience suggests that it is important for relief measures to be well-targeted in order to strike an appropriate balance between the goals of facilitating efficient debt restructuring, protecting the most vulnerable, and avoiding moral hazard. That said, it can be challenging for policymakers to identify the proper balance in real time, especially taking into account also political economy constraints.

[12] In Spain, taxation of debt relief was eliminated for eligible borrowers restructuring their debt under the "Code of Good Practices" (Box 4).

Box 3. The Personal Insolvency Reforms in Ireland 1/

Ireland adopted comprehensive personal insolvency reforms during the crisis. Following the Law Reform Commission's report, the Personal Insolvency Act reformed bankruptcy terms and introduced new procedures to address personal debt distress in December 2012. The new arrangements became effective in the second half of 2013 when the Insolvency Service Ireland opened its doors.

The reform introduced three new debt resolution processes:

- **Debt Relief Notices** allow for the discharge of debt of up to €20,000 for persons with essentially no income or assets.
- **Debt Settlement Arrangements** (DSA) for unsecured debts provide for the adoption of revised payment arrangements, normally over a five-year period, with remaining debts written off. DSAs are broadly comparable to the Individual Voluntary Agreements in the UK.
- **Personal Insolvency Arrangements** (PIA) for secured debt, including mortgages of up to €3 million (or higher if agreed by creditors), and unsecured debt (no limit) provide for the adoption of a revised payment arrangement over a six-to-seven year period.

Majority creditor approval is required to conclude a DSA or PIA. Upon application for a DSA or PIA, a debtor will be granted a protective certificate against enforcement actions for a 70-day period (with possible extension). A proposed payment arrangement is then prepared by a personal insolvency practitioner appointed by the debtor. Any arrangement must be approved by both the debtor and a qualified majority of creditors. For the DSA, creditors representing 65 percent of all claims must approve. For the PIA, two thresholds apply: 65 percent overall, as well as more than 50 percent of secured creditors and 50 percent of unsecured creditors. For secured creditors, any difference between loan principal outstanding and collateral value can be classified as unsecured debt, which affects the vote of the unsecured debt class when a mortgage is in significant negative equity.

The arrangements are administered by the Insolvency Service and approved by courts. The Insolvency Service of Ireland provides guidance and regulates personal insolvency practitioners. Court approval is required for the granting of the protective certificate and also of the final arrangements.

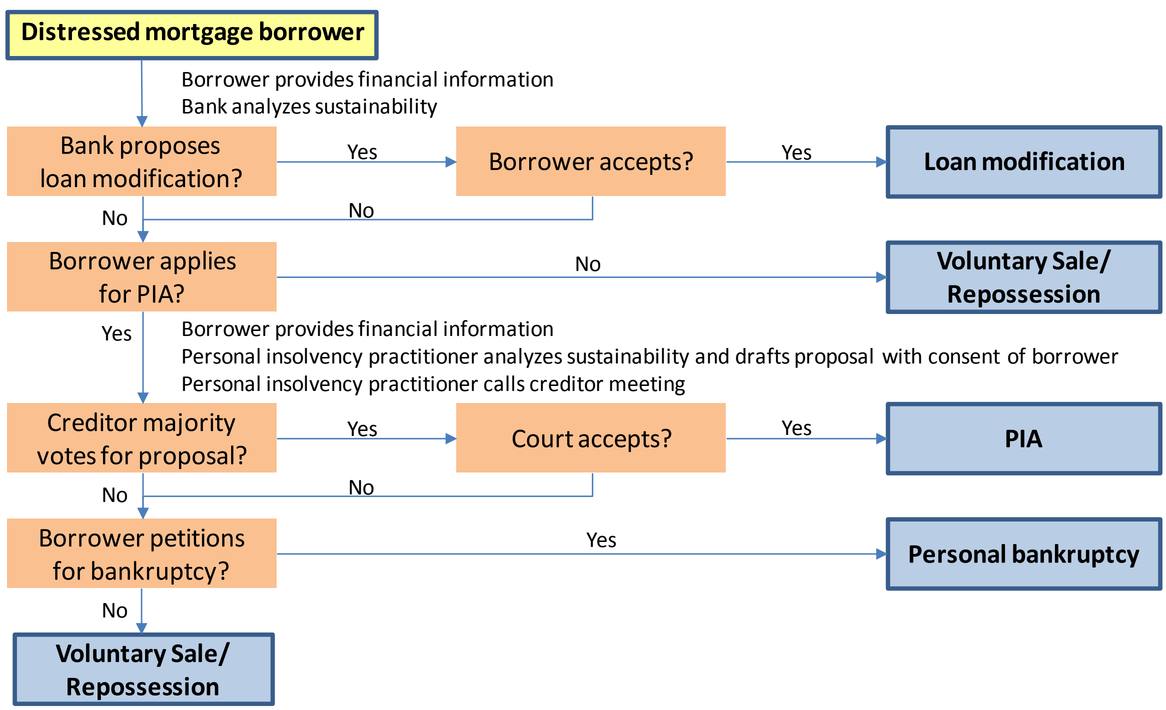
The PIA is specifically tailored to facilitate resolution of household debt distress involving mortgages alongside other debts. The aim of the PIA is to resolve any unsecured debt over a period of up to seven years and to restructure secured debt on a sustainable path thereafter. Eligibility for a PIA requires that borrowers cannot meet current debt payments in full and that restructured debt payments are consistent with guidelines on income and allowable living expenditures. To encourage debtors to adhere to the arrangement, the PIA may only be engaged in once. A 20-year clawback provision provides for sharing of capital gains if the property is sold at a profit.

The reform also introduced substantial changes to the Bankruptcy Act. The Bankruptcy Act of 1988 provided for discharge after an onerous 12-year period and was barely used in practice. The 2012 reforms shortened discharge from bankruptcy to three years, with payment plans for up to five years.

Box 3. The Personal Insolvency Reforms in Ireland (continued)

The Code of Conduct for Mortgage Arrears (CCMA, Box 4) and personal insolvency reforms created a two-step framework for the case-by-case workout of home mortgages and other household debt. The framework is illustrated in the chronological flow chart below. In a first step, lenders and distressed borrowers engage bilaterally to conclude suitable solutions with banks guided by the borrower protections set out in the CCMA. If the bilateral approach does not lead to an agreement, borrowers can apply for a PIA. In case neither leads to an acceptable solution or the borrower is not cooperating, lenders and borrowers can pursue repossession or bankruptcy. The full recourse nature of mortgage loans means that banks can seek to collect any shortfall between the outstanding loan amount and collateral value. In this case, borrowers can apply for a DSA, or avail of personal bankruptcy.

Case-By-Case Workout of Distressed Household Debt in Ireland
(Stylized flow chart for distressed holders of mortgages on principal residences)



Source: Andritzky (forthcoming).

1/ Drawn from Andritzky (2014).

Box 4. Codes for Borrower Protections in Ireland and Spain 1/

Ireland and Spain introduced codes to strengthen borrower protections in response to the crises. These codes aimed to protect vulnerable borrowers and built on existing consumer protection regulations, such as on loan collection. The code of conduct on mortgage lenders introduced in Ireland at the start of the crisis reflected the Irish central bank's mandate for consumer protection. The "Code of Good Practices" in Spain was introduced midway in the crisis mainly to protect the most vulnerable households.

Ireland

In 2009, Ireland introduced the Code of Conduct for Mortgage Arrears (CCMA). The first version of the CCMA protected defaulting borrowers from repossession for a period of six months, later extended to 12 months. In January 2011, following an expert report, a new CCMA became effective that regulated the interaction between borrowers and lenders through a Mortgage Arrears Resolution Process (MARP). The MARP aimed at facilitating agreements on alternative repayment terms and protects borrowers from inappropriate collection practices. For the duration of the MARP, lenders are barred from pursuing repossession. Compliance with the CCMA has been supervised by the central bank, though courts have also taken compliance with the CCMA into account during repossession proceedings.

In 2013, a comprehensive review addressed significant obstacles to collection and resolution posed by the CCMA:

- **Contact rules**. The CCMA's limit on unsolicited contacts to three per month was found to unduly constrain banks' ability to engage with borrowers and was abandoned. Instead, the revised CCMA required lenders to develop a contacts policy and record all calls.
- **Cooperation and engagement**. The protections under the CCMA were intended to extend only to cooperating borrowers, and the 2013 changes provide for a clear framework to distinguish between borrowers who are deemed to be "cooperating" and "not cooperating". The revised CCMA required meaningful engagement by the borrower, in particular with regard to provision of required information.

Spain

In Spain, the authorities tailored new protections to the most vulnerable.

- In March 2012, the authorities introduced a "Code of Good Practices" for lenders. Adherence to the code is voluntary. But once a lender agrees to adhere, the code becomes mandatory for two years (renewable). Among other elements, the Code introduces the option of *dación en pago*, under which eligible borrowers are granted a two-year right of tenancy following foreclosure and any remaining mortgage debt is forgiven. More than 6,500 mortgages have been restructured under the Code so far, and another 6,100 have opted for *dación en pago*.

- In late 2012, the authorities passed an emergency decree to introduce a moratorium on evictions for vulnerable homeowners. Eligible households must have an annual income of less than €19,200 and mortgage payments exceeding 50 percent of income. Emphasizing the importance of maintaining debt-servicing discipline, the authorities were careful to restrict the circle of beneficiaries of these measures to the most vulnerable.

1/ Drawn from Andritzky (2014).

18. More generally, any measures should be careful to strike an appropriate balance between facilitating debt restructuring and maintaining a strong payment culture. It is important to ensure that measures do not incentivize solvent households to suspend mortgage payments, as the consequent hit to bank capital could have significant contractionary effects on lending conditions and thus economic activity. Careful targeting of measures may be helpful in reducing such adverse moral hazard effects. The precision of such targeting is in turn likely to benefit from careful compilation and analysis of data on the distribution of households' assets and liabilities. Policy design will also need to take into account tradeoffs between achieving optimality (e.g., in terms of optimizing incentives and targeting) and operational challenges arising from specific institutional and legal contexts that might increase with the complexity of a measure.

C. Ensuring the Financial System is Able to Support Recovery

19. It is critical also to keep banks well-capitalized and well-provisioned so that they can support the recovery. Highly capitalized and well-provisioned banks will reduce the risk that banks become reluctant to restructure distressed debt simply to avoid loss recognition (although banks may still have incentives to delay if they hope improving economic conditions mean that resolution costs will be lower in future). Similarly, increased capital bolsters banks' lending ability. This in turn helps keep lending rates low, thereby easing debt-servicing costs and supporting growth.

20. A number of helpful initiatives have been taken or are underway to bolster banks' balance sheets and ensure transparent accounting. These include independent asset-quality reviews and stress tests undertaken at both the country (Ireland, Spain) and European levels, followed by recapitalization exercises for banks that failed them. The Spanish authorities also helpfully (i) required banks to significantly boost provisioning (including generic provisioning) in 2012 on loans to real-estate developers and (ii) limited bank dividends to 25 percent of profits in 2013–14 (with an exception in 2014 for very highly capitalized banks). More generally, it is helpful to focus capital-raising plans on tapping private sources and suspending dividend payments, rather than cutting credit, in order to avoid adding to contractionary forces.

REDUCING RISKS FROM FUTURE HOUSE-PRICE CYCLES

The amplitude of future house-price cycles could be lessened by reforms to reduce fiscal incentives for debt accumulation, make rental markets more flexible and efficient, and employ macroprudential tools to avoid excessive debt accumulation during the upswing. To ensure that such measures do not dampen recovery but instead contribute to it, fiscal savings from tax reforms could be used for high-multiplier stimulus and/or measures to boost potential output, and macroprudential tightening should be gradual, calibrated to the pace of recovery, and offset by other supportive macro policies (e.g., more delayed normalization of monetary policy) as appropriate. Rental market reform can also assist economic recovery by facilitating mortgage-to-rent conversions for distressed mortgages, boosting construction of rental units, and encouraging the conversion of vacant units into rental properties.

A. Reducing Fiscal Incentives for Excessive Debt

21. Gradually reducing tax incentives for excessive leverage can reduce risks of future crises. Prior to the crisis, all four countries allowed mortgage interest deductibility, but did not fully tax imputed rents on owner-occupied housing as income. This created significant incentives for households to (i) leverage themselves and (ii) consume owner-occupied housing rather than rental housing, with both effects increasing the economy's vulnerability to house-price cycles. Following the crisis, several countries have taken steps to reduce these distortions (Table 1). For example, Ireland and Spain have eliminated mortgage interest deductibility on new loans, and it is being gradually reduced in Denmark and the Netherlands. Looking forward, consideration could be given to extending and/or gradually accelerating reductions in mortgage interest deductibility over the medium term, with the fiscal proceeds used to fund high-multiplier stimulus measures and/or measures that boost potential output (e.g., higher infrastructure spending or reductions in distortionary taxes).[13] In this way, reforms could simultaneously reduce financial vulnerabilities while boosting growth. Reducing mortgage interest deductibility also increases the progressivity of the tax system, as a significant portion of the benefits of deductibility go to higher-income individuals.

22. Better updating house valuations for property tax purposes would also help lean against the wind of housing cycles. For example, in Spain, property tax assessments can stay on the books for 8 years or more.[14] Similarly, in Denmark the taxable value for property tax purposes is effectively frozen at the assessed value in 2001, so that a rise in property values does not increase tax payments for the home owner. These limits on property tax payments not only serve as an implicit subsidy for housing, but also amplify economic cycles through their pro-cyclicality. More regularly updating assessed values could reduce these problems. It could also provide additional tax revenue that could be used in the near term to fund high-multiplier measures, thereby providing a balanced-budget stimulus. Better aligning assessed values with actual values would also enhance the fairness of the system.

23. In the Netherlands, reforms to the government-owned National Mortgage Guarantee (NHG) are also needed to reduce contingent liabilities. The NHG scheme insures lenders against shocks that could result in default. NHG premiums are paid by mortgage borrowers and set at flat, below-market rates, independent of borrower risk, with the government guaranteeing 90 percent of the payout. Gradually shifting to risk-based pricing and lowering the maximum guarantee threshold would reduce distortions in mortgage financing and contingent liabilities for the government.

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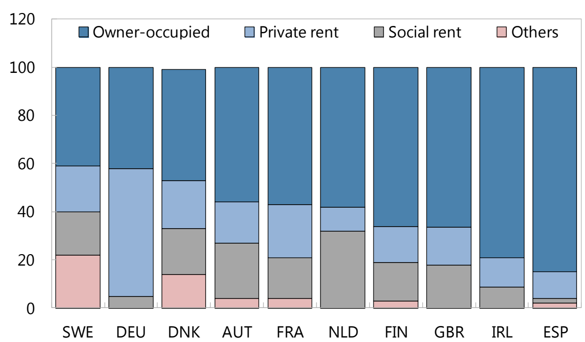
[13] One interim approach could also be to convert interest expense from a tax deduction to a credit, with a fixed cap. This would reduce the regressivity of deductibility and limit the incentive to take on new debt (once the cap is reached) while still addressing some of the affordability concerns that would arise if interest deductibility were eliminated.

[14] Administrative appraisal values can be updated five years after the last valuation, but in practice the average valuation update is much longer.

B. Making Rental Markets More Flexible

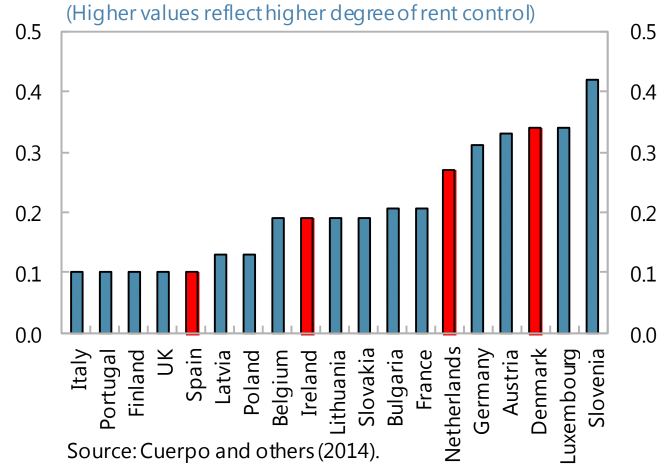
24. Rental markets are somewhat distorted in all four countries. Rent controls and other restrictions of private rental markets are most prevalent in Denmark and the Netherlands and were also extensive in Spain at the start of the crisis. Social housing—which is rationed based on long waiting lists—also forms a significant part of the housing sector in Denmark and the Netherlands. Such constraints on the development of private rental markets increase incentives for debt-financed homeownership.

Home Ownership, 2008
(Percent of total dwelling stock)



Sources: CECODHAS Housing Europe Review, 2012 and Fund staff calculations.
For Ireland, the data are as of 2004.

Degree of Rent Control
(Higher values reflect higher degree of rent control)



Source: Cuerpo and others (2014).

25. Some countries have recently adopted rental market reforms. For example, in 2013, Spain adopted a reform to significantly increase the flexibility of its rental markets. Among other reforms, rent increases for new leases are now set freely by the contractual parties without the need to explicitly index the increases to the consumer price index, and the minimum contract duration was reduced from five to three years.

26. Further reforms to make rental markets more flexible could both facilitate adjustment to the current bust and lessen the amplitude of future cycles. Rental reforms could be especially useful in the Netherlands and Denmark, where the degree of rent control remains significant. In all four countries, increased rental market flexibility could assist economic recovery by facilitating mortgage-to-rent conversions for distressed mortgages, boosting construction of rental units, and facilitating the conversion of vacant units into rental properties. Such reforms could also increase the share of housing that is rental rather than owner-occupied, thereby lessening the need for households to leverage themselves via high mortgage debt and reducing these economies' vulnerability to house-price cycles.

27. Reforms could also facilitate private financing of rental housing. In some countries, legal and regulatory reforms could facilitate private investment in rental housing (e.g., via well-regulated real-estate investment trusts (REITS) focused on rental housing). Reforms along these lines have been adopted in recent years in Ireland and Spain. Proper regulation of REITs is also important to mitigate risks.[15]

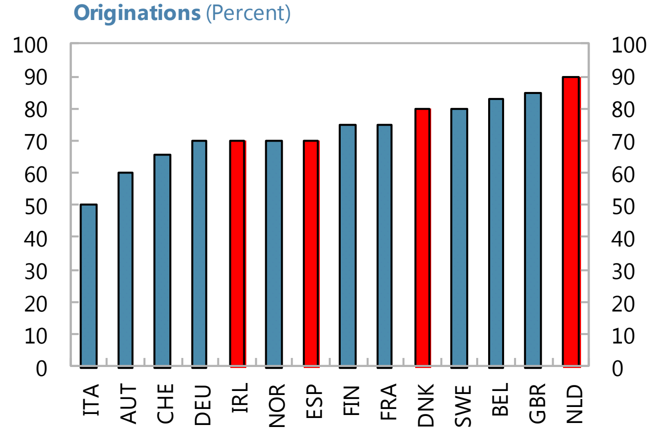
28. In some countries, social housing could also be reformed to make it more efficient and better targeted. For example, in the Netherlands, tighter and more frequent screening of occupants' income and wealth and a shift from administered prices to more market-based rents, especially for higher-income occupants, could help social housing corporations achieve their social objectives more efficiently and facilitate expansion of the private rental market. The authorities have already taken some steps along the lines above, including by raising rents for higher-income dwellers. To reduce fiscal contingent risks, public support of social housing corporations through loans and guarantees could be phased out and replaced with a more targeted system of direct subsidies to lower-income groups (Hassine, 2014).

C. Using Macroprudential Tools to Avoid Excessive Debt

29. As the recovery proceeds, macroprudential tools (e.g., tighter LTV/DTI limits) could be used to help prevent a re-accumulation of excessive debt. Specific measures that have been and/or could be considered in this regard include the following:

- In the Netherlands, the authorities are gradually reducing the maximum LTV ratio on new mortgages from 106 percent in 2013 to 100 percent by 2018. Reducing this ratio further after 2018 could further reduce financial stability risks from house-price cycles. Lower LTVs in the Netherlands should be paired with other supportive reforms to promote intergenerational transfers, rebalance pension burdens, and expand the private rental market.

Loan-to-Value Ratios of New Mortgage Loan Originations (Percent)



Sources: Calza, Monacelli, and Stracca (2013).

- In Denmark, the financial supervisor has published its proposal for a "supervisory diamond" for mortgage-credit institutions. The supervisory diamond contains five indicators with corresponding limits on the risk of the institutions. Amongst the initiatives proposed is an indicator for the proportion of loans without amortization (interest-only) along with an indicator regarding the proportion of loans with frequent refinancing. The indicators for interest-only loans and loans with short-term funding will be phased in so that they apply from 2020. The other indicators will apply from 2018. Parallel to the supervisory diamond, two additional initiatives will be launched to counter risk of price bubbles on the property market. One of these initiatives is a requirement that home buyers will generally have to make at least a 5 percent down payment (own financing) when purchasing

[15] See IMF (2013) for further discussion of regulatory issues associated with some types of REITs.

a home. In addition to these proposals, it could be helpful to lower LTV ceilings (and/or introduce DTI ceilings) for interest-only loans, which are especially prevalent in Denmark and entail elevated refinancing risks, as recommended by the recent FSAP.

- The Central Bank of Ireland has proposed to introduce LTV ceilings of 80 percent on mortgages for primary dwelling homes (PDHs) and LTV ceilings of 70 percent on buy-to-lets (BTLs), applying to at least 85 (90) percent of new PDH (BTL) mortgages, with mortgage value not to exceed 3½ times borrower income for at least 80 percent of new PDH loans.

30. As macroprudential tightening will be contractionary, it should occur gradually, be calibrated and adjusted according to the pace of economic recovery, and be offset by other supportive macroeconomic policies if possible. For example, if such macroprudential tools are applied widely across the euro area during the upswing, their contractionary effects could be at least partially offset by a less-rapid-than-otherwise normalization of policy rates, in line with achieving the ECB's inflation target. Such a mix of macroprudential tightening to constrain excessive borrowing (and associated financial stability risks) while keeping interest rates muted on existing variable-rate debt should be especially supportive of rapid deleveraging. Indeed, this is one way in which good macroprudential policies at the country level can yield positive spillovers within the currency union.

31. The careful design of macroprudential tools will also be important to maximizing their efficacy. Some possible considerations in this regard:

- An LTI limit in isolation might prove ineffective if borrowers can evade it by taking out multiple loans from multiple banks. A DTI limit based on all of a borrower's debt might be more effective, though this in turn might require a comprehensive debt registry to be enforceable.

- In contrast to absolute limits, LTV/DTI limits applicable to a percentage of a bank's portfolio (as proposed in Ireland and as adopted in New Zealand and the UK) allow more flexibility for exceptional cases in which exceeding the limits may be appropriate (e.g., a high LTV loan may be safe if a borrower has a high and stable income), possibly reducing the efficiency costs of such limits.

- LTV/DTI limits could also be varied by geographic region to be more binding where housing recovery is the strongest (e.g., urban areas).

- The uncertain effects of any single tool also suggests value in gradual implementation and deployment of a combination of tools—subject to a clear analysis of possible side effects—to increase policy diversification. For example, a DSTI limit could reduce risks of an increase in unsecured loans following the tightening of LTV limits. Other macroprudential tools could include countercyclical variation in capital requirements, including at the sectoral level.

- Careful communication of future macroprudential policy will help banks and borrowers adjust to changes and reduce policy uncertainty.

KEY CONCLUSIONS

32. In sum, key conclusions from this report include the following:

- Large house-price cycles have recently occurred in all four countries that are the focus of this report. Standard valuation metrics suggest that house prices in these countries have reached or may be nearing a trough, though such estimates are uncertain.

- To varying degrees, the house-price cycle has left all four countries with significant output gaps and elevated levels of private-sector debt.

- All four countries have undertaken important measures to facilitate recovery from these legacies of the cycle. Further reforms could help continue and accelerate the recovery process. Measures already taken and reform priorities differ across the four countries according to country-specific circumstances. However, key elements of the recovery strategy in at least some of the countries have included or could include:

  - sufficiently supportive monetary and fiscal policies, where consistent with macroeconomic conditions, to boost nominal income growth and contain debt-servicing costs;

  - tax and pension reforms to ease liquidity constraints;

  - reforms to financial regulatory and supervisory policies, insolvency procedures (including a fresh-start/discharge), and tax policies to facilitate more efficient restructuring of distressed debt (especially in countries such as Ireland and Spain in which loan arrears are more elevated);

  - increased rental market flexibility to facilitate the conversion of vacant units into rental properties, boost construction of rental units, and facilitate mortgage-to-rent conversions for distressed mortgages; and

  - measures such as bank dividend restrictions to bolster banks' ability to support recovery, absorb losses, and restructure distressed debt.

- The amplitude of future house-price cycles can also be lessened by reforms to

  - reduce fiscal incentives for debt accumulation;

  - make rental markets more flexible and efficient; and

  - deploy macroprudential tools to avoid excessive debt accumulation during the upswing.

- To ensure that such measures do not dampen recovery but instead contribute to it, (i) macroprudential tightening could be gradual, calibrated to the pace of recovery, and offset by other supportive macro policies (e.g., monetary policy) as appropriate, and (ii) fiscal savings from reducing incentives for debt accumulation could be used for high-multiplier stimulus and/or measures to boost potential output.

33. During a recent conference on these issues, participants from the four countries broadly agreed with much of the above analysis. IMF staff organized a conference on these issues on September 30, 2014, in Amsterdam. Conference participants from the four countries broadly supported the themes above, adding additional points of emphasis and caveats. In particular:

- Several participants underscored the point that the main channel of contagion from household debt to the rest of the economy occurred not through mortgage arrears (given the strong payment culture in many countries) and banking system losses, but rather through depressed consumption by highly indebted households. At the same time, some participants considered that the consumption drag from high household debt was now mostly in the past.

- Some participants also stressed the need to move steadily but cautiously on macroprudential measures, given their uncertain effects and the still-early stage of recovery.

- Similarly, some noted that offsetting the contractionary effects of accelerated phase-out of mortgage interest deductibility through other fiscal measures may be difficult in practice or that any revenue gain could be equally used for fiscal consolidation in countries with structural fiscal deficits. They noted also that government mortgage guarantees (e.g., via the NHG) had helped stabilize the market during the crisis.

- Some participants saw little appetite for innovative loan terms (e.g., shared appreciation loans) among either borrowers or lenders.

- Rental market reform was broadly supported by participants, but some cautioned also that reform of rental markets and social housing must also take due account of social objectives.

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Table 1. Taxes on Housing

	Denmark	Ireland	Spain 1/	Netherlands
Mortgage interest tax deductibility	32.7% of mortgage interest payments can be deducted from personal income tax. For interest payments exceeding DKK 50,000 per person, the value of the deduction is reduced by one percentage point per year between 2012–19 to 25%. (33% during 2002–12)	Up to 30% of mortgage interest paid for first-time buyers, and 15% for others up to a certain number of years and up to an absolute ceiling. Only mortgages taken out before end-2012 qualify, and all relief terminates at end-2017.	Mortgage interest payments are not PIT-deductible for properties purchased after January 1st 2013	Fully deductible with no cap (since Jan 20 new loans qualify only if they are fully amortizing; earlier non-amortizing loans continue to be eligible for full deductibilit
Capital gains tax	Exempt if the owner lived in the house	33% unless owner-occupied, with special exemptions for properties purchased in 2012–14	Exempted for reinvestment in the primary residence	Exempted if dwelling is main fiscal residence
Inheritance tax (inheritance to family members)	15% of the estate exceeding DKK 264,100 (2012). No tax on spouse.	33% >EUR225,000 (to children). No tax for transfer to spouse or family members living in the dwelling.	0.8%-36.5% (2013), regional specific tax	€100,000 exempted if donated to reduc mortgage debt (temporary)
Property tax				
Municipal tax	*Municipal real estate tax (land tax)* 1.6–3.4%	*Local property tax* 0.18–0.25%	Temporary surcharges of up to 10% for 2014 and 2015	0.1–0.3% of property value
Municipal tax valuation	Levied on the land value. A limit of 5 percent for the annual increase in payments of land taxes introduced in 2002.	Self-assessed market value	Levied on the cadastral value, which is adjusted periodically with respect to the property's market value	
State tax	Property value tax 1% < DKK3,040,000 (taxable value) 3% > DKK3,040,000 (taxable value)			
State tax valuation	The taxable value is the lowest of (i) the assessed value as of Jan 1 of the current tax year; (ii) 105% of the assessed value as of Jan 1, 2001; or (iii) the assessed value as of Jan 1, 2002.			
Wealth tax	No wealth tax, but property value tax, see above	No wealth tax (abolished in 1978)	Net wealth tax was reinstated for years 2011–15.	No wealth tax
Tax on imputed rents			Applies to secondary dwellings.	Taxable; rates increased from 0.6 to 0.7 percent for houses <€1,040k, from 1. to 1.8 percent, for houses above €1,040

Sources: Deloitte international tax highlights, www.kpmg.com, National tax authorities websites, Sveriges Riksbank (2014), Citizens Information (Ireland). Countries may also have substantial real-estate transaction taxes, including VA and stamp duty.

1/The recent tax reform that will be implemented from 2015 entails changes in taxes on capital gains and rental income, among others.