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IRELAND

FINANCIAL SYSTEM STABILITY ASSESSMENT

July 2016

This report of the Financial System Stability Assessment for Ireland was prepared by a staff team of the International Monetary Fund. It is based on the information available at the time it was completed in June 2016.

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FINANCIAL SYSTEM STABILITY ASSESSMENT

July 2016

Approved By
James Morsink and Jörg Decressin
Prepared By
Monetary and Capital Markets Department

This report is based on the work of the Financial Sector Assessment Program (FSAP) mission that visited Dublin, Ireland and Frankfurt, Germany in November 2015 and March 2016. The FSAP findings were discussed with the authorities during the Article IV consultation and fifth Post Program Monitoring mission in June 2016.

- The team was led by Daniel Hardy and included Ann-Margret Westin (deputy head), Marc Dobler, Brad Jones, Heedon Kang, Nir Klein, Dinah Knight, Antonio Pancorbo, Cyril Pouvelle, and Rodolfo Wehrhahn (consultant). Meetings were held with management and staff of the Central Bank of Ireland and the Department of Finance (DoF); the Competition and Consumer Protection Commission; the Pensions Authority; the National Asset Management Agency (NAMA); the European Central Bank (ECB); the European Systemic Risk Board (ESRB); the European Insurance and Occupational Pensions Authority (EIOPA); the European Banking Authority; representatives of the banking, insurance, and asset management industries; representatives of actuarial, legal, accounting and auditing professions; rating agencies; and representatives of the commercial sector and the academic community.

- FSAPs assess the stability of the financial system as a whole and not that of individual institutions. They are intended to help countries identify key sources of systemic risk in the financial sector and implement policies to enhance its resilience to shocks and contagion. Certain categories of risk affecting financial institutions, such as operational or legal risk, or risk related to fraud, are not covered in FSAPs.

- This report was prepared by Daniel Hardy, with contributions from the FSAP team members. The report draws on several Technical Notes.

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TABLES

APPENDICES

Glossary

AML/CFT	Anti-Money Laundering and Combating the Financing of Terrorism
BCP	Basel Core Principles for Effective Banking Supervision
BRRD	Bank Recovery and Resolution Directive
CAR	Capital Asset Ratio
CBI	Central Bank of Ireland
CET1	Common Equity Tier 1
CIS	Collective Investment Scheme
CIV	Collective Investment Vehicle
CNAV	Constant Net Asset Value
CRD	Capital Requirement Directive
CRE	Commercial Real Estate
CRR	Capital Requirement Regulation
DGS	Deposit Guarantee Scheme
DoF	Department of Finance
DTI	Debt-to-income
EA	Euro Area
ECB	European Central Bank
EIOPA	European Insurance and Occupational Pensions Authority
ESRB	European Systemic Risk Board
EU	European Union
FATF	Financial Action Task Force
FDI	Foreign Direct Investment
FSAP	Financial Sector Assessment Program
FSB	Financial Stability Board
FSC	Financial Stability Committee
FVC	Financial Vehicle Corporation
GBP	Pound Sterling
GDP	Gross Domestic Product
G-SII	Global Systemically Important Insurer
IAIS	International Association of Insurance Supervisors
ICP	Insurance Core Principle
ICR	Interest Cover Ratio
IF	Investment Fund
IMF	International Monetary Fund
IOSCO	International Organization of Securities Commissions
IT	Information Technology
JST	Joint Supervisory Team
LCR	Liquidity Coverage Ratio
LSI	Less Significant Institution
LTI	Loan-to-income
LTV	Loan-to-value

MART	Mortgage Arrears Resolution Target
ML/TF	Money Laundering/Terrorist Financing
MMF	Money Market Fund
NAMA	National Asset Management Agency
NAV	Net Asset Value
NBFI	Nonbank Financial Institution
NFC	Non-financial Corporate
NPL	Non-performing Loan
NSFR	Net Stable Funding Ratio
OFI	Other Financial Intermediary
ORSA	Own Risk and Solvency Assessment
RAM	Risk Assessment Matrix
REIT	Real Estate Investment Trust
RRE	Residential Real Estate
SI	Significant Institution
SME	Small and Medium-sized Enterprise
SRB	Single Resolution Board
SRM	Single Resolution Mechanism
SSM	Single Supervisory Mechanism
VA	Variable Annuity

EXECUTIVE SUMMARY

The Irish financial system has strengthened significantly since the crisis and undergone major structural changes. The contraction and concentration of the banking system; the expansion of the funds management industry; and the establishment of the Single Supervisory Mechanism (SSM) and the Single Resolution Mechanism (SRM) have transformed the financial landscape. Most financial institutions, and in particular the major banks, have built up buffers of capital and liquidity.

Important vulnerabilities in the banking system relate to the real estate sector, some parts of the corporate sector, the sovereign, and funding in pound Sterling. Pockets of weakness remain, notably among highly leveraged households and smaller domestic firms. Connections among Irish banks and from them to other financial centers—except the UK—seem to have attenuated over time. Over the medium term, technological innovations and shifts in competitive pressures will throw up challenges to the profitability of both banks and nonbank financial institutions (NBFIs). Stability analysis should be further refined to deepen understanding of the evolution of vulnerabilities (Table 1, recommendations 3 and 4).

The UK vote to leave the EU is very likely to have negative effects on the Irish financial system, at least in the short term. The FSAP stability analysis anticipated the possibility of a vote to leave, but the referendum outcome and its immediate aftermath has shifted the probability distribution of risk factors. Adverse effects are likely to come mainly through banks' operations in the UK and a slowdown affecting Irish firms, employment, and investment, rather than short-term market volatility and funding risk. The impact could be large, but should still be manageable. The longer-term consequences will depend on the nature of the future relationship between the UK and the EU.

Cross-border connections predominate in the funds management industry, which is now of global scale. Domestic commercial banks have limited connections with the funds industry. Examination of data from the major prime money market funds (MMFs)—which in Ireland are potentially most exposed to "run" risk as they aim to maintain a constant net asset value (CNAV)—suggests they currently hold comfortable buffers of liquid assets. Nevertheless, the sector should continue to be closely monitored due to the high level of MMF portfolio turnover and ahead of changes likely to be required as a result of upcoming EU legislation, to which end remaining data gaps should be closed (Recommendations 5–7).

The authorities have been effective and vigorous in strengthening prudential regulation and supervision, implementing the lessons of the crisis, and keeping up with developments in European and international good practice. A raft of regulations strengthening controls over the financial system have been introduced. Many of the areas for improvement identified in the recent assessments of observance of the main financial standards have been addressed. Besides the introduction of new European and national regulations, the Central Bank has increased its resources in on- and off-site supervision, which has become more pro-active and directed towards systemic and emergent risks. In particular:

- In the banking area, the shift was accelerated by the implementation of the SSM; available evidence suggests that the Joint Supervisory Teams (JSTs) for Irish banks operate effectively and that supervision in Ireland is rigorous;
- Irish insurers seem to have prepared well for the application of the Solvency II regulation, but vigilance is needed for risks not covered by the regulation and attempts at regulatory arbitrage; and
- In securities market oversight, the Central Bank of Ireland is a leader in the analysis of the myriad activities conducted through collective investment vehicles.

Nonetheless, further improvements in regulation and supervision should be considered (Recommendations 10–17).

Ireland's boom-bust experience amply demonstrates the need for forward-looking action to head off incipient financial threats. Hence, the introduction of loan-to-value (LTV) and loan-to-income (LTI) limits on residential mortgages, as permanent features of the mortgage market, is well-justified, even though credit conditions have normalized and real estate prices are estimated to be close to equilibrium (Recommendations 8–9).

The Bank Recovery and Resolution Directive (BRRD) and the SRM should provide a financial safety net and a means for banks to exit with minimum disruption. Yet, some risks will persist during the transition period during which the financial buffers mandated by the SRM are accumulated. Moreover, the SRM must ensure that it can operate with the speed necessary to deal with a bank failure. Hence, efforts should continue to maintain and even strengthen operational preparedness (Recommendations 18–20).

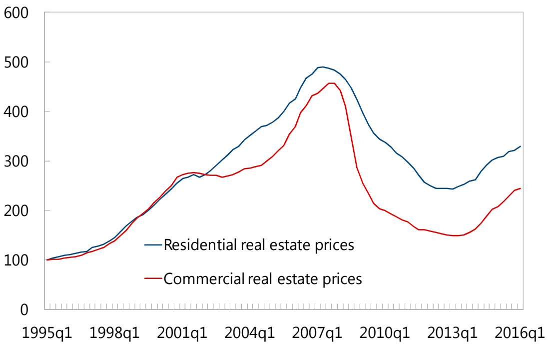
An independent, while accountable, and well-staffed Central Bank will remain key in order to continue to foster a strong financial system in Ireland. The de facto and de jure operational independence of the supervisory authorities must be maintained, matched by strong accountability and transparency (Recommendation 1). One challenge, affecting all areas of supervision, is the retention of experienced staff (Recommendation 2).

Table 1. Ireland: FSAP Key Recommendations	
Recommendations	**Time[1]**
Cross-cutting	
1. Support independence of the Central Bank by continuing to demonstrate accountability to the Oireachtas (Parliament) and enhancing public transparency (§39)	On-going
2. Revise personnel policies to attract and retain experienced staff (§39)	NT
Stability Analysis	
3. Further develop bank stress testing, including risks in UK operations (§22)	NT
4. Close data gaps on cross-border exposures, the nonbank financial sector, the commercial real estate market, and the non-financial corporate sector (§§24, 26, 28, 52, 53)	NT
5. Build internal capacity that allows for regular stress testing of MMFs (§52)	NT
6. Improve data coverage and monitoring of all special purpose vehicles (§52)	NT
7. Develop better understanding of the use of investment fund portfolio leverage (§52)	NT
Macroprudential Policy	
8. Maintain, and in due course review, LTV and LTI limits (§55)	NT
9. Operationalize the Central Credit Register as soon as possible, and, once operational, transform the LTI limit into a more comprehensive DTI limit (§55)	MT
Financial Sector Oversight	
10. Continue to streamline options under national discretion and regulations in bank supervision (§42)	MT
11. Further enhance the effectiveness and enforceability of the supervision of credit risk in banks with respect to loan classification and provisioning (§43)	NT
12. Remain vigilant that harmonization of the SSM supervisory processes is balanced by the application of the principle of proportionality (§42)	NT
13. Enhance assessment of credit risk in insurers' portfolios (§33)	NT
14. Enhance analysis of unusual reinsurance transactions to ensure that any capital relief is warranted by true risk transfer (§45)	NT
15. Coordinate among insurance supervisors to ensure due scrutiny of license application and limit improper "jurisdiction shopping" (§46)	NT
16. Require MMFs to report liquid assets and characteristics of the investor base (§52)	NT
17. Encourage existing MMFs to graduate away from the CNAV convention to one better reflecting the variability in underlying prices, and ensure appropriate risk management safeguards are in place; discourage CNAV valuation in new MMFs (§52)	NT
Financial Safety Net	
18. Continue to identify and address impediments to resolvability (§64)	On-going
19. Streamline the process for court approval of resolution measures (§61)	NT
20. Streamline the process of SRM decision making (§61)	MT
[1] "NT-near-term" denotes up to 2 years; "MT-medium-term" denotes 2–5 years.	

MACRO-FINANCIAL BACKGROUND

1. Ireland experienced an extreme boom and bust cycle in the first decade of the century. The upswing was associated with price bubbles in the commercial and residential real estate (CRE and RRE) sectors (text figure), and massive, largely bank-funded, speculative building. Banks became dependent on external wholesale funding, expanding abroad. As the downturn started in 2008, the crisis transformed into a sovereign debt crisis when a blanket guarantee was extended and banks received injections of government capital.[1] Unemployment rose to nearly 15 percent, output—especially construction activity—collapsed, and government debt ballooned, despite strenuous fiscal adjustment. A substantial share of CRE non-performing loans (NPLs) was transferred to the newly-established NAMA.

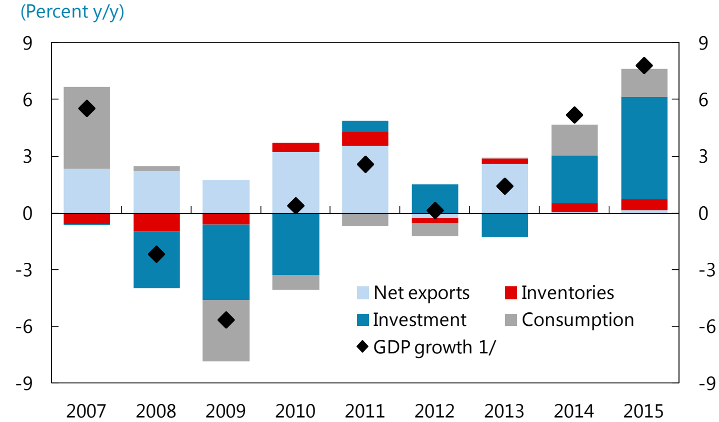
Property Prices
(Index, 1995Q1=100)



Sources: CBI; IPD; and OECD.

2. An effective policy response, supported by the IMF and European partners, and a flexible economy led to stabilization and a, by now well-entrenched, rapid recovery (Table 2, text figure and accompanying Staff Report on the 2016 Article IV consultation and fifth post-program monitoring discussions). The flexibility and extreme openness of the Irish economy, where multinationals—including offshore financial institutions—are major employers and investors, were key for the recovery.[2]

Contributions to Real GDP Growth
(Percent y/y)



Sources: Central Statistics Office; and IMF staff calculations.
1/ GDP growth accounts for statistical discrepancy as well.

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[1] Appendix I describes structural changes in the financial sector.

[2] This openness, including cross-border labor mobility, can make it difficult to isolate the purely "Irish" economy.

Table 2. Ireland: Selected Economic Indicators, 2011–17

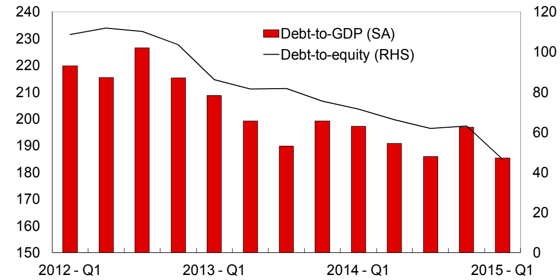
(Annual percentage change unless indicated otherwise)

	2011	2012	2013	2014	2015	2016	2017
					Prelim.	Projections	
National accounts (constant prices)							
Real GDP	2.6	0.2	1.4	5.2	7.8	4.9	3.2
Final domestic demand	-0.1	1.0	-1.5	5.2	8.6	5.3	3.8
Private consumption	-0.7	-0.8	-0.3	2.0	3.5	3.1	2.2
Public consumption	-2.0	-2.2	1.4	4.6	-0.8	4.4	2.7
Gross fixed investment	3.2	8.6	-6.6	14.3	28.2	10.2	7.3
Net exports 1/	3.6	-0.3	2.6	0.1	0.1	0.9	0.2
Exports of goods and services	2.1	2.1	2.5	12.1	13.8	6.8	5.2
Imports of goods and services	-1.5	2.9	0.0	14.7	16.4	7.0	5.8
Real GNP	-0.8	1.6	4.6	6.9	5.7	4.5	2.8
Gross national saving (in percent of GDP)	16.0	17.6	20.7	22.9	26.5	26.8	27.6
Private	22.3	23.6	24.6	24.6	26.9	25.9	26.4
Public 2/	-6.2	-6.0	-3.8	-1.7	-0.5	0.9	1.1
Gross investment (in percent of GDP)	17.2	19.1	17.7	19.3	22.0	23.0	24.0
Private	14.8	17.1	15.8	17.2	20.2	21.2	22.3
Public	2.4	2.0	1.8	2.1	1.8	1.8	1.7
Prices, wages and employment (annual average)							
Harmonized index of consumer prices	1.2	1.9	0.5	0.3	0.0	0.3	1.2
Average wage, whole economy	-0.6	0.5	-0.7	-0.2	1.8	3.2	2.6
Employment	-1.8	-0.6	2.4	1.7	2.6	2.0	1.7
Unemployment rate (in percent)	14.7	14.7	13.1	11.3	9.5	8.3	7.7
Money and credit (end-period)							
Irish resident private sector credit	-2.9	-4.0	-4.9	-4.4	-4.4	-3.5	...
Financial and asset markets (end-period)							
Three-month interbank rate	1.4	0.2	0.3	0.1	-0.1	-0.3	...
Government bond yield (in percent, 10-year)	8.5	4.5	3.5	1.2	1.2	0.8	...
Annual change in ISEQ index (in percent)	5.2	16.3	30.3	15.1	33.5	-2.6	...
House prices	-16.7	-4.5	6.4	16.3	6.6	0.2	...
Public finance (in percent of GDP)							
Net lending/borrowing (excl. one-off items)	-8.7	-8.0	-6.1	-3.9	-1.3	-0.9	-0.6
Primary balance (excl. bank support)	-5.2	-3.9	-1.4	0.2	0.8	1.8	2.0
General government gross debt	109.1	120.2	120.0	107.5	93.8	89.0	86.6
General government net debt	77.3	86.7	89.6	88.1	75.5	72.1	70.5
External trade and balance of payments (percent of GDP)							
Balance of goods and services	18.0	17.2	19.3	18.3	20.9	21.9	21.7
Balance of income and current transfers	-19.2	-18.7	-16.2	-14.7	-16.4	-18.1	-18.2
Current account	-1.2	-1.5	3.1	3.6	4.4	3.8	3.5
Effective exchange rates (1999:Q1=100, average)							
Nominal	108.5	104.1	107.3	107.7	100.1	...	...
Real (CPI based)	110.1	105.1	106.8	106.0	97.9	...	...
Memorandum items:							
Population (in millions)	4.6	4.6	4.6	4.6	4.6	4.7	4.7
GDP per capita (in euros)	38,021	38,131	39,069	41,011	46,301	49,505	51,436
GDP (in billions of euros)	173.9	174.8	179.4	189.0	214.6	231.4	242.5

Sources: Bloomberg; Central Bank of Ireland; Department of Finance; International Financial Statistics; and IMF staff projections.
1/ Contribution to growth.
2/ Excludes bank restructuring costs.

3. The household and non-financial corporate (NFC) sectors have strengthened their balance sheets, but remain highly leveraged. While credit-to-GDP has almost halved since the peak in 2010, it remains high by international standards. Almost 100,000 households were estimated to remain in negative equity on their homes at end-2015.[3] Improving profitability has supported the NFC sector's strong investment activity, with the important multinational sector mainly relying on parent funding (text figures), leading to a steady decline in the NFC debt-to-GDP ratio.

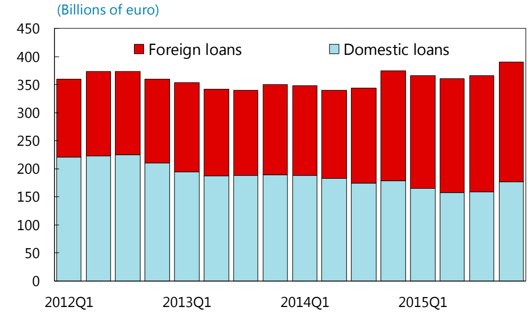
Debt of Non-Financial Corporations /1
(In percent)



1/ Debt is equal to securities other than shares, loans, and financial derivatives and employee stock options.
Sources: Central Bank of Ireland and IMF staff's calculations.

4. Despite measures undertaken, dealing with the stock of NPLs remains a challenge. The authorities have deployed various measures to accelerate the resolution of problem loans (Box 1). Nonetheless, the system still holds a large stock of NPLs, composed to a significant degree of long-overdue mortgages and CRE loans.

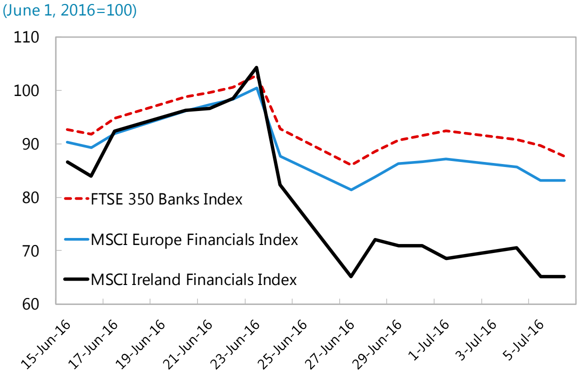
NFC Loan Financing
(Billions of euro)



Source: Central Bank of Ireland.
Notes: Last observation: 2015Q4.

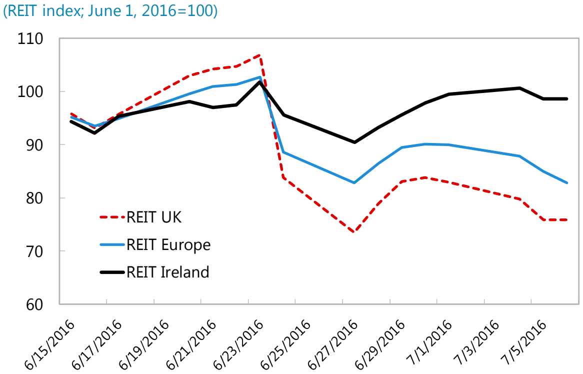
5. Heightened uncertainties following the UK vote to leave the EU ("Brexit") have been reflected in financial markets. Shares in Irish financials declined sharply after the referendum but sovereign bond spreads and bank funding costs were little changed. Irish real estate-related indicators showed gains—unlike their peers—perhaps due to the prospect of more multinationals being attracted to Ireland (text figures). The immediate impact of the market volatility on Irish banks is likely to be modest: they have little exposure to market risk, are overwhelmingly deposit-funded, and have access to central bank liquidity in euro and pound Sterling.

Financial sector indices
(June 1, 2016=100)



Source: Bloomberg LP.

Property fund indices
(REIT index; June 1, 2016=100)



Source: Bloomberg LP.

[3] Mortgages make up about 85 percent of household loans.

Box 1. Dealing with Impaired Assets

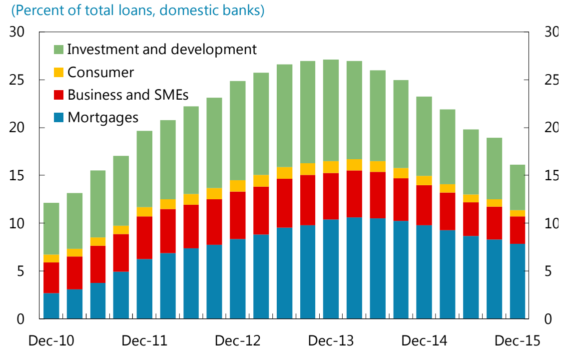
The Central Bank of Ireland has taken a range of supervisory actions to advance the resolution of the large stock of non-performing loans, a key legacy of the crisis. Banks were required to develop mortgage arrears resolution strategies in 2011; as workout implementation remained slow, in 2013 the Central Bank introduced quarterly Mortgage Arrears Resolution Targets (MART) for the six main lenders, as well as bank-specific non-public targets for the resolution of distressed SME loans for specific lenders. The Central Bank has conducted "deep dives" based on credit file reviews and several supervisory exercises—such as the 2013 Balance Sheet Assessment, the 2014 Comprehensive Assessment, and, since the commencement of the SSM, the 2015 Impairment Provisioning Review—and has strengthened its dedicated credit inspection team. While MART was concluded following the commencement of the SSM, intensive and intrusive supervision through implementation of the Distressed Credit Strategy continues to speed up loan resolution.

The supervisory efforts have been complemented by a broad set of legal reforms. The Personal Insolvency Act was enacted at end-2012, followed by the establishment of the Insolvency Service of Ireland and the shortening of the bankruptcy discharge periods in 2013 and 2015. More recently, courts were given the power to review and, where appropriate, approve proposed insolvency deals that had been rejected by banks, and court rules and procedures in relation to repossessions have been changed in order to reduce the number of adjournments.

While these measures have contributed to a decline in NPLs since late 2013, more remains to be done. Further efforts are needed to advance the cleanup of bank balance sheets with a focus on long-overdue mortgages, including streamlining the legal process; continued supervisory intervention for the resolution of commercial loans; and a faster pace of asset disposal in the SME segment.

Non-Performing Loans

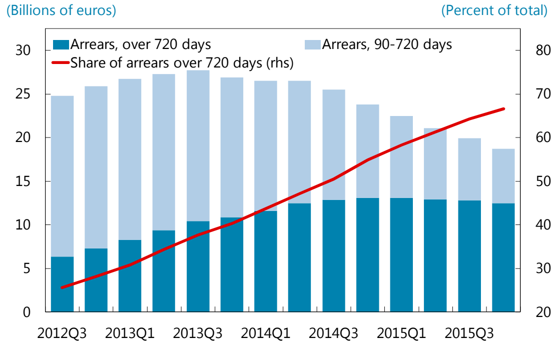
(Percent of total loans, domestic banks)



Source: Central Bank of Ireland.

Mortgages in Arrears

(Billions of euros) (Percent of total)



Source: Central Bank of Iceland.

STABILITY ANALYSIS

A. Risk Factors and Vulnerabilities

6. The vulnerabilities of the Irish financial system reflect in large part the significant openness of the sector and the economy in general (Risk Assessment Matrix, RAM, Appendix II). A severe stress scenario would involve a sustained economic slowdown, especially in Europe but also in other major trading partners such as the US; a return to pessimism on the part of international investors; elevated risk premia for European sovereigns and corporates; and feedback through price deflation. Heightened risk aversion may result in higher bank funding costs—further compressing profitability—and tighter liquidity.

7. The recent UK vote to leave the EU has created new uncertainties and higher risk of a major slowdown in Ireland, the UK, and the rest of Europe.[4] The profitability of Irish bank subsidiaries in the UK could be adversely affected by the slowdown in the UK and a depreciation of the Sterling against the euro. These conditions would also likely affect the traditional Irish corporate sector—major employers in Ireland and clients of Irish banks—proportionately much more than it would the globally-oriented multinational sector. Heightened uncertainty and financial market volatility may depress investment and activity across Europe, including Ireland. Hence, the downturn may lead to a deterioration in banks' operating profits and asset quality, reflecting in part a fall in UK and Irish property prices (particularly housing). Vulnerabilities may be persistently elevated because corporates and households will find it more difficult to strengthen their balance sheets. There may even be a return to higher risk premia on sovereign bonds. A policy reaction including more prolonged very low interest rates may have a negative side-effect on banks' and NBFIs' earnings. The severity of these effects will depend crucially on the future relationship between the UK and the EU, especially regarding trade, financial flows, and the movement of labor, and on the persistence of uncertainty on these issues.

8. Legacy issues add to vulnerability. High indebtedness and the prevalence of variable-rate loans imply that an economic slowdown, higher lending rates, or a reversal of the recovery in real estate prices could lead to the need for more provisioning and write-offs, and increase loss-given-default rates.[5] Consolidation in the domestic banking sector has led to reduced diversification; and insufficient capital investment during the crisis has left the banks with antiquated IT systems. Meanwhile, bank profitability has been squeezed, mainly because of a decline in earnings.

9. The nonbank financial sector has grown rapidly in international importance. The value of assets invested via Irish domiciled money market and investment funds (i.e., collective investment vehicles, CIVs) had risen to €2.7 trillion in Q4 2015, equivalent to 12.5 times GDP. Ireland is now the domicile of choice for more money market and hedge fund assets than any other country in the

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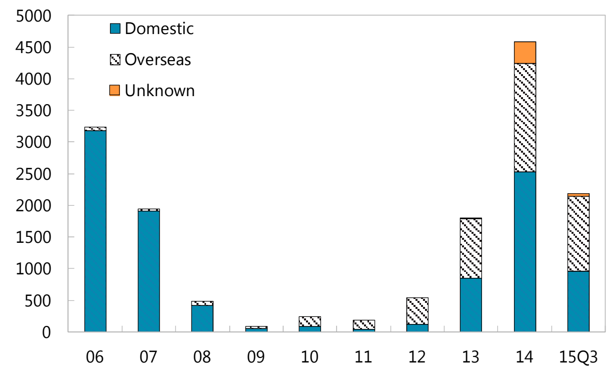
[4] See Appendix III of the accompanying Staff Report.

[5] Meanwhile, interest-only loans are currently not of significant concern, amounting to about 10 percent of total mortgage loans.

euro area. Most assets and liabilities are held offshore, and asset managers from more than 50 countries have established CIVs in Ireland. Constant changes in portfolio composition and underlying trading volumes, coupled with reporting conventions that obscure the economic risks associated with leverage used in some types of CIVs, suggest that the funds management sector needs to be closely monitored.

10. **Some mitigating factors, in large part reflecting Ireland's reaction to the global financial crisis, should be acknowledged.** The private sector is less leveraged; real estate prices are well below past peaks, and new CRE projects are largely financed by foreign nonbanks (text figure).[6] Local banks are much less dependent on market funding, and have much less international exposures. Sovereign bond spreads have come down to modest levels.[7] Regulatory reforms have strengthened prudential rules and crisis management capacity.

CRE Investment Turnover by Type of Investors
(Millions of euros)



Sources: Central Bank of Ireland.

B. Stability Analysis

Banks

Financial soundness indicators

11. **Indicators of banking sector soundness show developments are broadly positive but strongly influenced by legacy issues (Table 3).[8]** Capitalization is stronger and leverage is lower.[9] NPL ratios have declined by 10.9 percentage points since December 2013. The loan book is more focused on the Irish market, with non-Irish lending almost entirely focused on the UK, and large exposures have diminished. Liquidity indicators have improved substantially as banks have paid off wholesale funding, reflecting the recent deleveraging and shift to retail deposit funding; most banks appear well placed to meet the net stable funding ratio (NSFR) once it comes into force.[10]

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[6] For example, in the form of Real Estate Investment Trusts (REITs).

[7] Recently the Irish government has been able to raise funding at negative nominal interest rates.

[8] Market-based indicators are available for very few Irish banks.

[9] While deferred tax assets add substantially to the total, capitalization would be even higher had some banks not repaid a substantial portion of government support.

[10] The NSFR rule is still in the process of being finalized at the European level, to be implemented by 2018.

Table 3. Ireland: Bank Financial Soundness Indicators

(Percent unless indicated otherwise)

	2011	2012	2013	2014	2015	2015 Worst quartile 1/
Capital Adequacy						
Regulatory Capital to Risk-Weighted Assets	18.9	19.2	20.5	22.7	24.8	19.6
Regulatory Tier 1 Capital to Risk-Weighted Assets	16.6	16.7	17.3	20.6	22.6	18.6
Capital to Assets	6.4	7.3	7.7	12.7	14.0	9.5
Credit Risk						
Non-performing Loans Net of Provisions to Capital	63.6	81.8	78.1	56.0	42.7	67.1
Non-performing Loans to Total Gross Loans	16.1	25.0	25.7	20.6	14.8	19.7
Non-performing Loans (€bn.)	88	115	97	69	46	...
Gross Loans (€bn.)	549	459	379	335	312	...
Large Exposures to Capital	47.5	29.0	19.1	24.8	17.8	71.9
Profitability						
Return on Assets	-0.9	-0.8	-0.8	0.8	1.0	0.3
Return on Assets (before provision)	0.8	0.1	0.4	0.6	0.7	0.3
Return on Equity	-11.1	-8.4	-7.4	5.3	5.7	1.7
Interest Margin to Gross Income	40.6	64.5	51.0	54.5	57.9	28.4
Non-interest Expenses to Gross Income	45.5	93.3	69.1	45.5	42.1	71.7
Trading Income to Total Income	31.3	-10.9	8.4	4.7	0.5	12.6
Personnel Expenses to Non-interest Expenses	43.4	41.0	33.4	51.7	58.0	...
Liquidity and funding						
Liquid Assets to Total Assets	0.1	0.8	6.3	12.0	12.4	7.8
Liquid Assets to Short-term Liabilities	100.1	101.0	149.0	153.2	161.5	125.5
Liquidity Coverage Ratio	29.0	86.0	92.0	124.0	126.8	...
Net Stable Funding Ratio	104.7	82.0	116.7	109.3	111.5	...
Customer Deposits to Total Loans	43.5	51.8	58.5	66.8	73.8	17.9
Geographic Distribution of Total Loans						
Domestic Economy	70.1	78.1	77.9	87.4	85.9	...
Advanced Economies	29.0	21.4	21.7	12.3	13.8	...

Sources: Irish authorities; and IMF staff estimates.
1/ "Worst quartile" is calculated across the banking sector at end-2015.

12. **Return on assets is still low in absolute terms although higher than returns achieved by European peers (Figure 1).** Return on capital has weakened as banks have deleveraged while

still holding a large share of low-margin "tracker" loans from the pre-crisis period.[11] The ratio of interest income to total income has been among the highest in Europe, but fee income is relatively low. Irish banks have been reducing operating costs to increase profits, to which write backs of provisions have contributed significantly in recent years. The shift to retail deposit funding is likely to have reduced the level of funding costs and almost certainly reduced their short-term volatility.

Figure 1. European Banks: Revenues, Costs and Profits[1]

Sources: Bankscope; and IMF staff calculations.

[1] The sample includes fifteen European countries: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Netherlands, Norway, Portugal, Spain, Sweden, and the UK. The five largest banks in each country are selected, excluding banks with total assets less than US$20 billion at end-2014. For example, three Irish banks (i.e. AIB, BOI, and PTSB) are included. After calculating total asset weighted average of a metric in each country, a maximum, median, and minimum are computed among the 15 countries.

[11] Tracker mortgages are variable interest-rate loans that were made available in the run-up to the crisis and that carry rates that follow the ECB rate, typically hovering about 1 percent above this rate.

13. Similar to the banks, the credit unions are under pressure from low profitability, a contracting loan book, and impaired legacy loans.[12] They have ample liquidity from their retail deposit base, and low leverage (Table 4). However, despite an intense restructuring process they still face stiff competition for their traditional consumption loans and the fragmented nature of the sector makes it difficult to invest in modern information and payments technology.

Table 4. Ireland: Credit Union Financial Soundness Indicators

(Percent, except where indicated; end of period)

	2011	2012	2013	2014	2015	2015 Worst quartile
Capital to assets	13.0	14.3	14.9	15.8	16.1	13.4
Average Arrears	19.3	20.0	19.0	16.6	12.8	16.5
Return on Assets	0.6	1.9	1.7	1.7	1.1	0.7
Liquid Assets to Unattached Savings	46.8	44.6	48.8	46.7	40.6	31.6
			(Euro millions)			
Memorandum items:						
Total Loans	5,538	4,881	4,265	3,982	3,921	…
Total Assets	13,781	13,710	13,867	14,335	15,176	…

Source: Central Bank of Ireland: annual and prudential returns submitted by credit unions.

Bank Solvency Stress Tests

14. The bank solvency stress tests involve "top-down" estimates prepared by the FSAP team and the Central Bank of Ireland using publically-available and supervisory data, and "bottom-up" estimates prepared by the banks using their internal processes (Appendix III). Due to restricted access to supervisory data, the bottom-up stress tests conducted by the banks and the top-down stress tests carried out by the FSAP team covered just the 5 significant institutions, accounting for 70 percent of banking system assets; the top-down stress test conducted by the Central Bank of Ireland covered the 11 largest banks, accounting for 85 percent of banking system assets.[13] The reported results comprise three-year projections of earnings, costs, and balance sheets, and the impact on (risk-weighted) assets and capital. The results incorporate the phasing-in of Basel III capital requirements, in particular with respect to the treatment of deferred tax assets and hurdle rates.

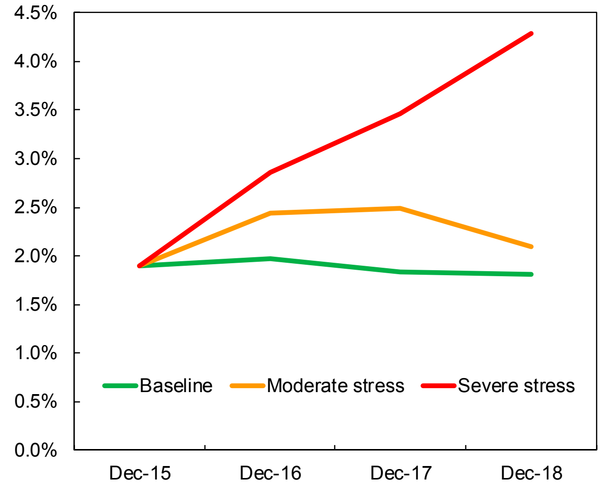
[12] More than three hundred credit unions operate, counting much of the adult population as members, and accounting for about 8 percent of total Irish retail deposits.

[13] Data access for the stress-testing exercise was constrained by the sequestration of individual data in a physical data room at the Central Bank of Ireland, the lack of a unified reporting framework, and the absence of time series on the credit quality parameters for some loan segments.

15. The tests are based on three scenarios that mainly reflect external risks and domestic vulnerabilities (Figure 2 and text figure): (i) a baseline scenario, based on the Fall 2015 World Economic Outlook, updated with information on the 2015 outturn;[14] (ii) a moderate stress, euro area-wide scenario, combining several elements from the RAM, where deteriorating sentiment reduces consumption spending and fixed investment, Irish growth slows rapidly, price deflation becomes generalized, and real interest rates rise while bond and equity prices fall; and (iii) a severe stress scenario, with amplified effects on the Irish domestic economy and stronger disruption in Ireland's European partners, in particular the UK. The severe scenario can be taken as a "reduced form" representation of what might occur should the negative effects of "Brexit" prove to be large and drawn-out (e.g., for traditional Irish exporters and real estate prices in the UK and Ireland), leading to lower bank earnings and a more persistent rise in credit default rates (also because of a rebound in unemployment, which is a major determinant of mortgage defaults).

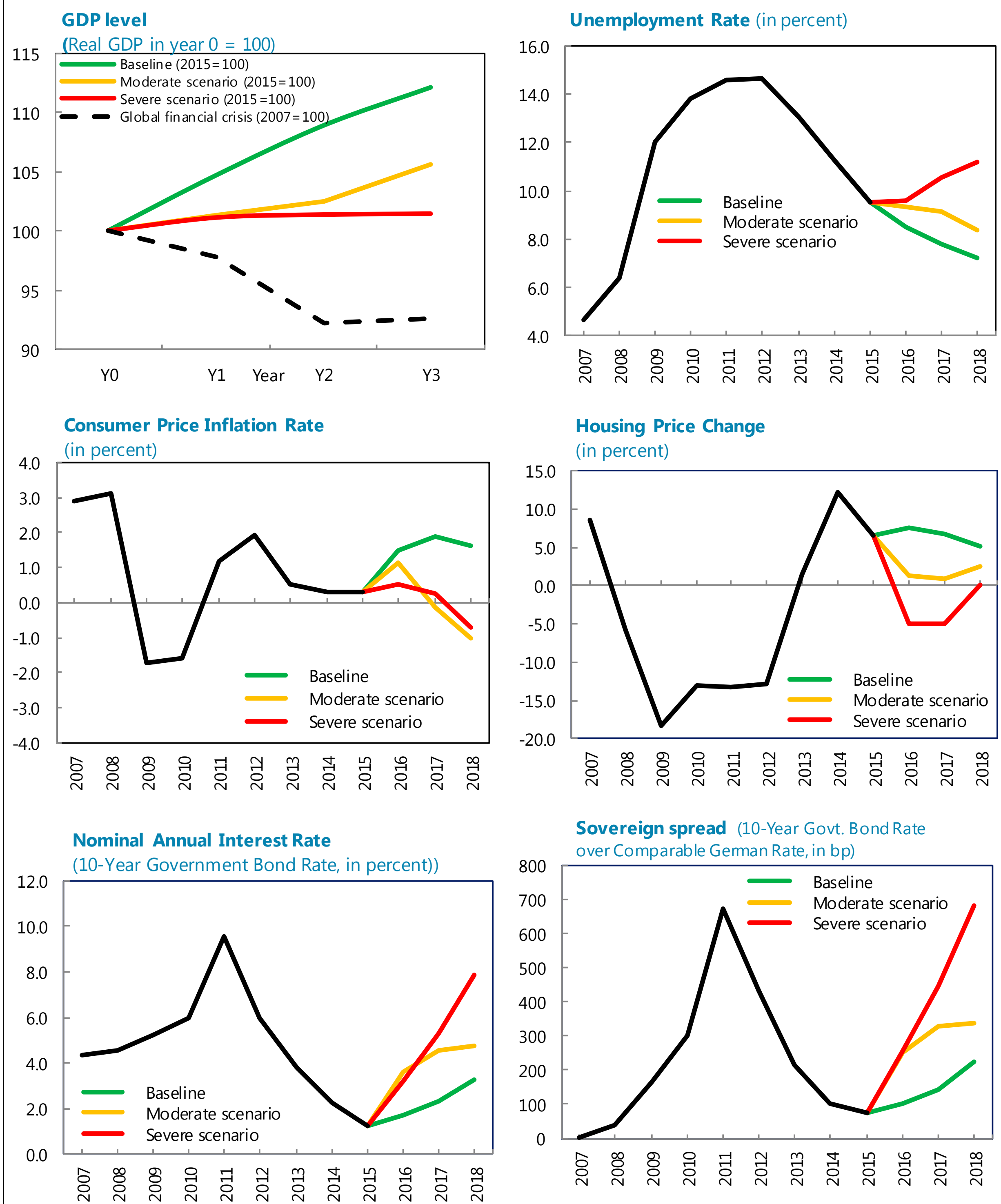
Average Probability of Default Projections

(Percent)



[14] This baseline was defined in advance of the stress testing exercise and thus does not incorporate any impact from "Brexit."

Figure 2. Ireland: Macroeconomic Baseline and Stress Scenarios

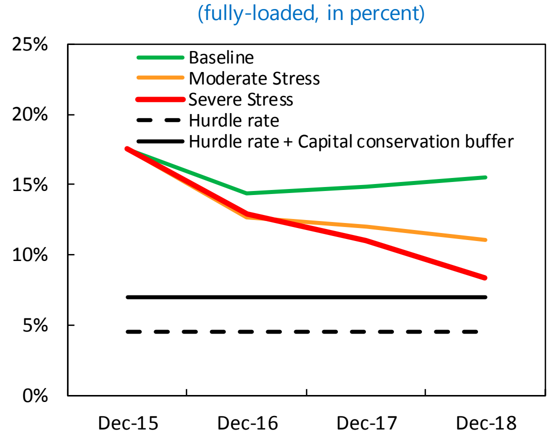


Sources: WEO, Haver, national sources, and IMF staff estimates.

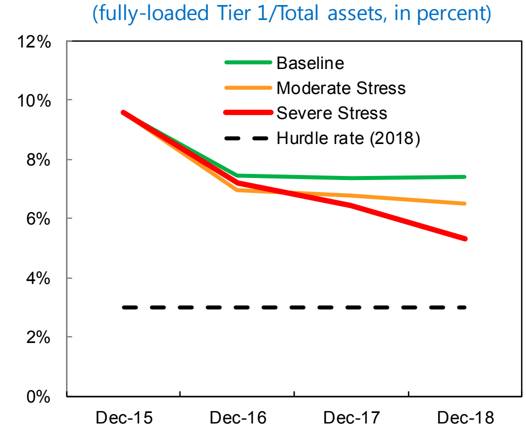
16. The scenario-based solvency stress tests are complemented by a series of sensitivity tests assessing the impact of interest rate and foreign exchange rate shocks, a decline in sovereign debt and house prices, unemployment shock, operational risk, and concentration risks.

17. The top-down solvency stress tests suggest that while the Irish banking system would be significantly impacted by the more severe scenario, the risks remain manageable (text figures and Appendix III). The main drivers of the fall in capitalization would be funding costs, loan loss provisions, Basel III capital adjustments, and valuations losses resulting from sovereign exposures in the available-for-sale portfolio. If transitional arrangements towards Basel III were used in line with European rules, in particular concerning the phase-in of the deduction of deferred tax assets from CET1, results would be similar on aggregate, with a slightly reduced capital shortfall. These results confirm the persistence of credit risks. However, they also reflect the restructuring of the banking sector and the balance sheet cleaning process evidenced in the much lower exposure to the CRE sector.

Core Tier 1 Capital Ratio
(fully-loaded, in percent)



Leverage Ratio
(fully-loaded Tier 1/Total assets, in percent)



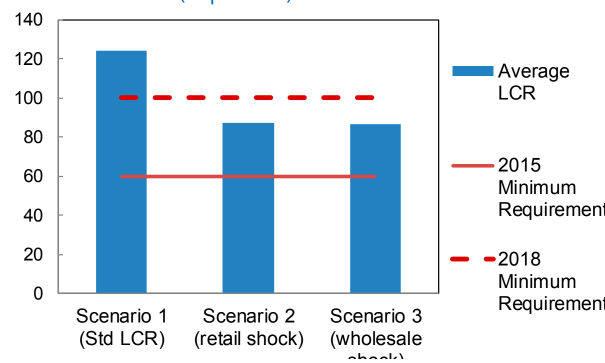
18. Results from banks' bottom-up stress test were more benign. The different result stems from the dynamic approach followed by banks in the bottom-up exercise, which allowed for restructuring of balance sheets, in contrast to the static FSAP stress test where banks' balance sheets grow in line with nominal GDP. Banks' projected pension scheme balances also contributed to the more favorable bottom-up results.

19. Sensitivity tests confirm banks' exposures to sovereign risk, property prices and credit risks arising from large corporate exposures. In the event of a default of its five largest exposures, one bank would become undercapitalized with regard to the Tier 1 capital hurdle rate of 6 percent. Market risk (including from valuation changes occasioned by exchange rate movements) appears to be well contained.

Bank Liquidity Stress Tests

20. The liquidity stresses suggested some vulnerabilities among banks (text figure). Although every bank meets the standard liquidity coverage ratio (LCR) according to the phase-in calendar, some banks would face liquidity pressures in the event of an alternative, more severe shock to retail funding, or of an additional wholesale funding shock. Liquidity stress test based on the Basel III NSFR suggests only moderate maturity transformation by Irish banks. Separate stress test on pound Sterling positions revealed potential liquidity shortfalls. These vulnerabilities underline the importance of the respective central banks making available liquidity in euro and pound Sterling during periods of potential funding stress, such as following the UK referendum on "Brexit."

Liquidity Coverage Ratio
(in percent)



Sources: Central Bank of Ireland, and IMF staff calculations.

21. Some banks seem relatively vulnerable due to their exposure to both solvency and liquidity risks. These banks need particular supervisory attention to ensure that measures taken by bank managements improve liquidity and solvency positions in parallel.

22. By further enhancing its stress testing capacity, the Central Bank of Ireland will be able to better challenge banks' risk modeling. Stress testing can complement analysis of banks' evolving business models—an area of growing significance given both technological changes over the medium term, and the limited scope for further de-provisioning.

Contagion Analyses

Cross-border Interlinkages

23. While cross-border bank linkages have declined since the pre-crisis period, tight linkages with the UK financial system warrant supervisors' ongoing attention. Ireland is exposed to financial distress in the four largest banking systems—those of the UK, the US, Germany, and France—through direct cross-border credit and funding exposures. Network analysis corroborates the stress testing results, showing that the Irish banking system would be directly hit by distress in the UK banking system while distress in the US, German, and French banking systems would generate domino effects through the UK, Belgian, and Dutch systems. In this context, the Central Bank's close monitoring of UK exposures of Irish banks is welcome, including the development of loan-loss forecasting models for stress testing.[15] Intense monitoring will have to be maintained while the uncertainties related to "Brexit" are resolved.

24. The authorities need to work with other European countries and agencies on closing data gaps on cross-border bilateral financial exposures. While data on individual banks' cross-border asset positions is available, information on foreign bilateral liability positions is still incomplete. Expanding statistics on securities holdings by euro area residents will help the monitoring of systemic risk related to cross-border linkages within the global financial system.

Domestic Financial Interconnectedness

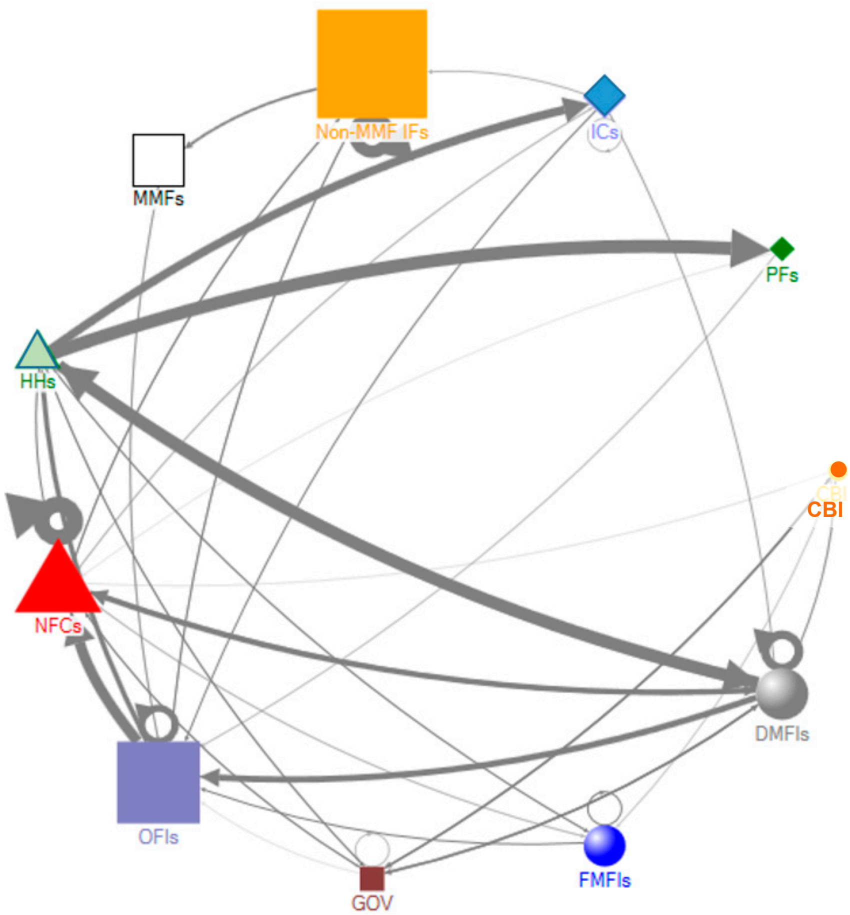
25. While the banking sector is tightly connected with the real economy, linkages with other financial sectors are limited (Figure 3). Tight bank-sovereign financial linkages are created through banks' government bond holdings and the government's holdings of bank equity. Meanwhile, linkages between the domestic banking system and the nonbank financial sector are limited. Irish-domiciled other financial intermediaries (OFIs), with the exception of Financial Vehicle Corporations (FVCs) and some asset management companies, do not have direct strong financial linkages with the domestic real sectors. The connections between the two sectors mainly reflect intra-company transactions between corporate treasuries and their parent multinational companies. Contagion risks stemming from interbank exposures among the three largest domestic banks are now very limited.

26. Nonetheless, enhanced granular, higher frequency bilateral exposure data within and across the bank and nonbank financial sectors would be helpful in detecting shifting connections. A number of relevant initiatives are underway within the Central Bank.

[15] Already Central Bank of Ireland (2015) noted that a disorderly "Brexit" could have a significant negative impact on the Irish financial sector, including banks, insurance firms and nonbank financial intermediaries; see further http://www.centralbank.ie/publications/Pages/MacroFinancialReviews.aspx.

Figure 3. Ireland: Domestic Financial Network Map[1/ 2/]

(As of 2015Q2)



Sources: Central Bank of Ireland calculation; NodeXL; and IMF staff calculation.

1/ CBI=Central Bank of Ireland; DMFI=Domestic Monetary Financial Institution; FMFI=Foreign Monetary Financial Institution; HH=Household; IC=Insurance Company; IF=Investment Fund; MMF=Money Market Fund; NFC=Non-Financial Corporation; OFI=Other Financial Institution; and PF=Pension Fund.

2/ The size of each vertex shows the size of total financial assets. The thickness of arrows depicts the volume of bilateral gross exposures from a creditor to a debtor; loops represent gross intra-sectoral claims.

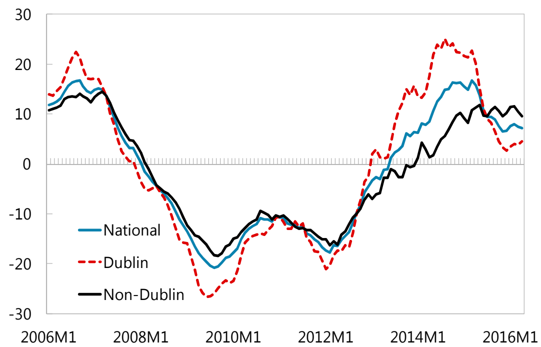
Real Estate Market

27. Real estate prices in Ireland have been rising rapidly in recent years, raising concerns about possible overvaluation and a build-up of new imbalances (Figure 4). Analysis using non-parametric and parametric methods suggests that RRE prices are close to or moderately below their equilibrium levels (Figure 5). However, the trend is strongly upward, which, if unchecked, could become problematic.

Figure 4. Ireland: Developments in the RRE and CRE Markets

House Price Growth Rate

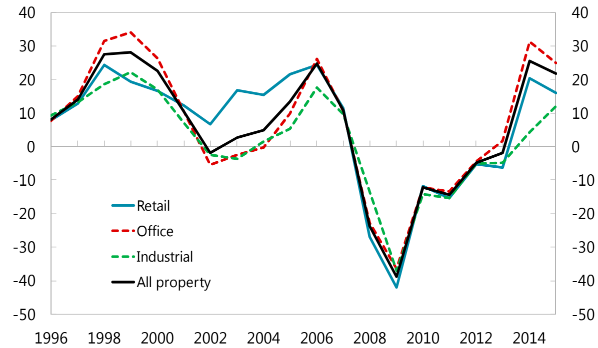
(Percent, year-on-year, nominal)



Sources: CSO; and CEIC.

Commercial Real Estate Capital Growth Rate

(Percent, y-o-y)



Source: IPD.

Figure 5. Ireland: Price-to-Income and Price-to-Rent Ratios

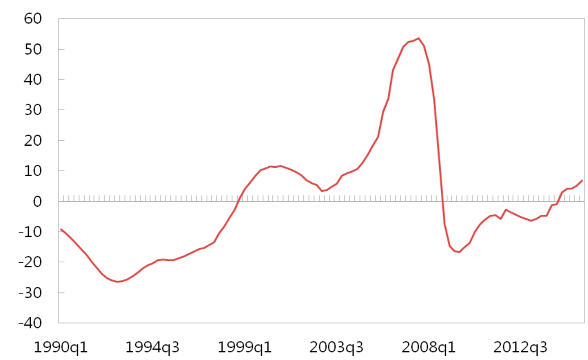
RRE: Price-to-Income and Price-to-Rent Ratio

(Percent, deviation from historical mean, 1990Q1-2015Q2)

Sources: OECD; and IMF staff calculation.

CRE: Price-to-Rent Ratio

(Percent, deviation from historical mean)



Sources: CBI; and IMF staff calculation.

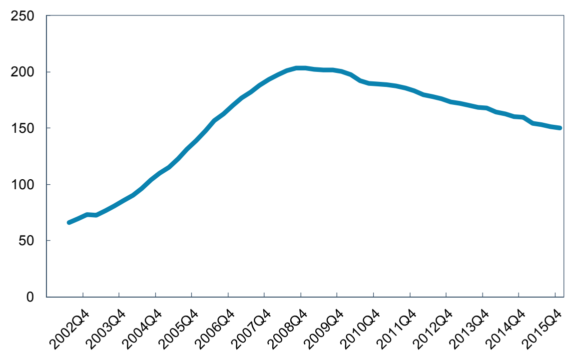
28. **While similar approaches yield mixed messages regarding the valuation of CRE prices, early signals of new imbalances in the CRE market should not be overlooked.** The price-to-rent ratio suggests that CRE prices were moderately overvalued (Figure 5). Frequency and HP filters show that the CRE prices have recently converged to their long-term trends. Still, the authorities will need to continue to closely monitor banks' exposure to the CRE market and any early signals of a build-up of new market imbalances. To this end, the authorities should enhance collection of relevant data. Foreign investment inflows or equity funding can easily reverse if market sentiment changes, which could lead to a sharp drop in CRE prices and a collapse in collateral values. While the current juncture does not suggest the need for macroprudential policy action in the CRE market, such tools should be considered if banks resume large-scale provision of CRE loans.

Household Sector

29. Households have deleveraged, but remain burdened with mortgage debt (Figures 6 and 7). While interest rates on existing tracker loans are currently very low, when interest rates start rising, interest payments will increase and some households may face difficulty servicing their debt.

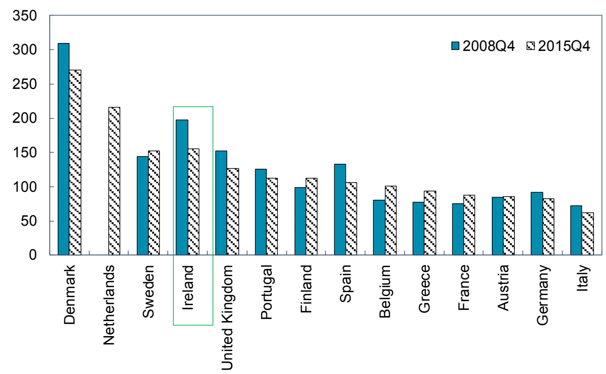
Figure 6. Ireland and Other European Countries: Household Debt and Debt-to-Disposable Income Ratio

Ireland: Household Debt
(Billions of euro)



Source: Central Bank of Ireland.

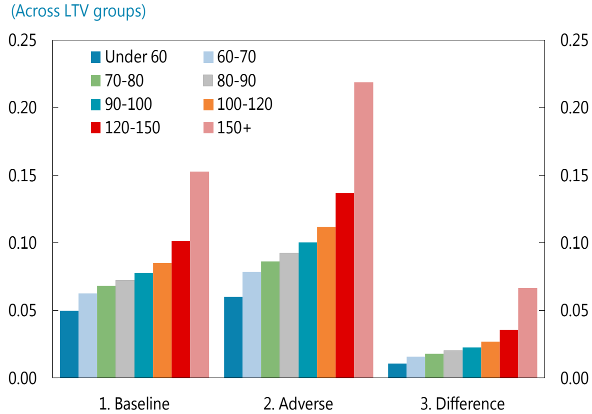
Europe: Household Debt-to-Disposable Income Ratios
(Percent of gross disposable income)



Sources: ECB; and Haver Analytics.

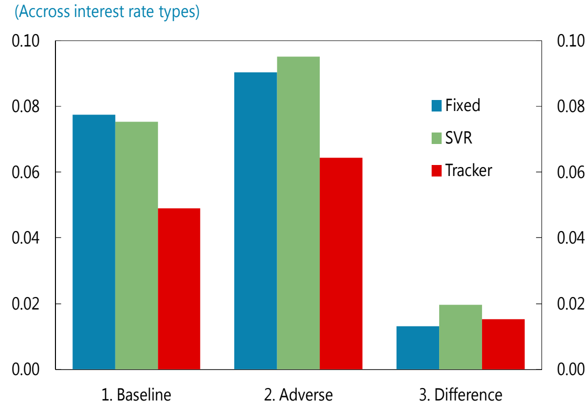
Figure 7. Ireland: Probability of Default of a Group of Households Under Stress Tests

Probability of Default by LTV Bucket
Three-year Scenario PDs for Performing Loans, end 2014
(Across LTV groups)



Source: Central Bank of Ireland.

Probability of Default by Interest Rate Type
Three-year Scenario of PDs for Performing Loans, end 2014
(Accross interest rate types)

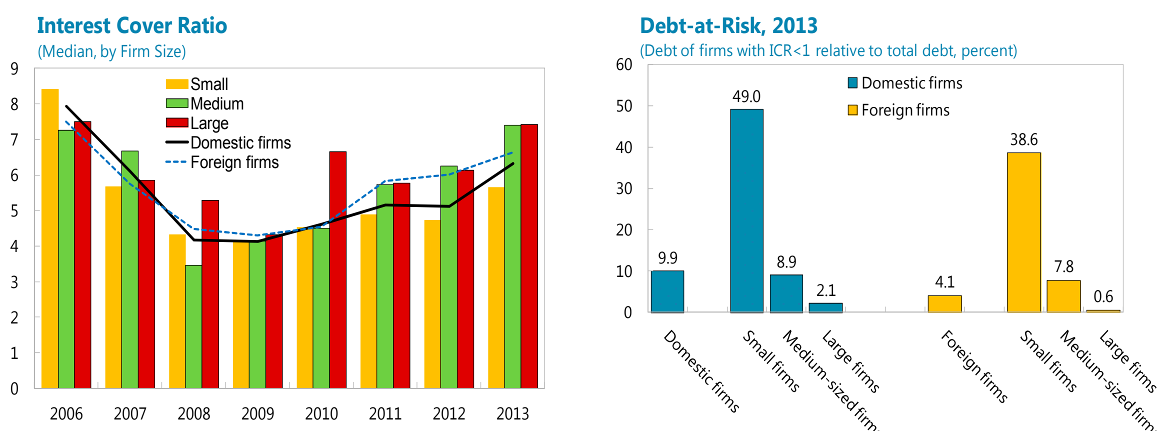


Source: Central Bank of Ireland.

Corporate Sector

30. Vulnerabilities among NFCs have moderated in recent years, but the sector—especially smaller firms—remains vulnerable. The interest coverage ratio (ICR) and the share of "risky" debt (the share of debt owned by firms with ICR lower than one) in total debt have improved to pre-crisis levels (Figure 8).[16] Nevertheless, in particular small firms remain vulnerable; they account for most of the firms that are under "technical default" (with ICR less than one). Moreover, the share of risky debt among small domestic firms constituted nearly half of their total debt, well above the respective shares among medium-sized and large enterprises (chart). In these circumstances, even a severe but not extreme shock to profitability and interest rates could push many firms into a vulnerable state.[17] In such a scenario, the share of risky debt would increase to about 15 percent, similar to the level observed during the financial crisis.[18]

Figure 8. Ireland: Interest Cover Ratio and Debt-at-Risk



Source: BvD and IMF staff's estimates.

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[16] The ORBIS data used in this exercise cover the 2006-2013 period.

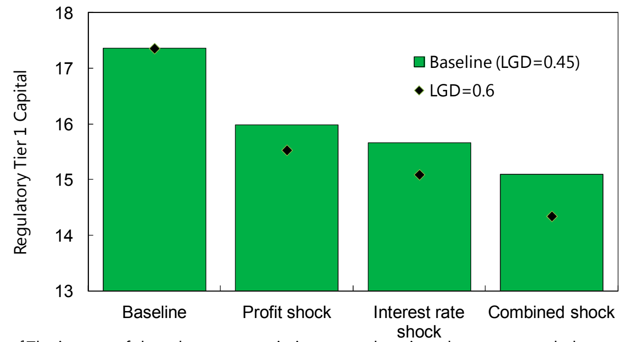
[17] The profitability and interest rate shocks in the corporate vulnerability exercise are aligned with the bank solvency stress scenarios. In particular, if "Brexit" has a severe impact, these firms would be especially exposed.

[18] Foreign subsidiaries appear to be in a better financial position than domestic firms, and—although the share of risky debt among small foreign firms is high—they do not pose much risk to the domestic financial system given their reliance on intra-company funding.

31. A deterioration in corporate balance sheets would lead to a significant increase in new corporate defaults, but, ceteris paribus, banks' regulatory capital would still be above the minimum requirement. Given the moderate share of corporate loans in banks books and their current comfortable capital position, banks would still be able to keep the regulatory Tier 1 capital well above the minimum requirement.

Impact on Banks' Tier 1 Capital[1]

(In percent of risk weighted assets)



[1]The impact of the adverse scenario is assessed against the aggregate balance sheets of the three domestic banks.

Sources: BvD and IMF staff's calculations.

Insurance and Pension Sectors

32. The overall solvency position of the insurance sector under Solvency II remains high, yet important transitional risk remains. The introduction of Solvency II has reduced the level of solvency ratios to 130 percent for nonlife insurers and 260 percent for variable annuity (VA) writers. The 2014 EIOPA stress test confirmed the strong resilience to interest rate shocks of the life sector; low interest rates are not of immediate concern for the life sector where few products carry guaranties on principal or rates of return. The authorities' VA stress tests suggest that hedging, liquidity and operational risks are contained. The complexity of Solvency II presents a challenge of implementation for supervisors and insurers alike; remaining outstanding issues with respect to certain prudential aspects are expected to be captured in the Own-Risk and Solvency Assessments (ORSA). The Central Bank should continue monitoring and ensure firms use the ORSA framework appropriately.

33. Several factors are putting pressure on nonlife sector profits. The nonlife sector traditionally has been reliant on investment return for profitability, yet these returns have declined as companies reinvest maturing assets at lower prevailing rates. Still, there has been no noticeable deterioration in the credit quality of investments. An increase in the frequency and average cost of claims has impacted underwriting results. The Central Bank should take advantage of the increased level of granularity and frequency of the Solvency II assets reporting to track any future possible deterioration in the credit quality of insurers' investments.

34. The operational pension sector is relatively large and its functioning affects the welfare of many individuals, but it does not give rise to systemic risks to the financial sector. Currently almost all open schemes operate on a defined-contribution basis, with the savers bearing the risks. The legacy defined-benefit schemes, which are still substantial, are normally not guaranteed by a sponsor or financial institution but current contributors bear the burden in the first instance; in extremis, pensioners may have to suffer reductions in income.

Funds Industry

35. While appearing contained, the possibility of future cross-border spillovers associated with Irish-domiciled CIVs cannot be excluded given their outward orientation, the CNAV

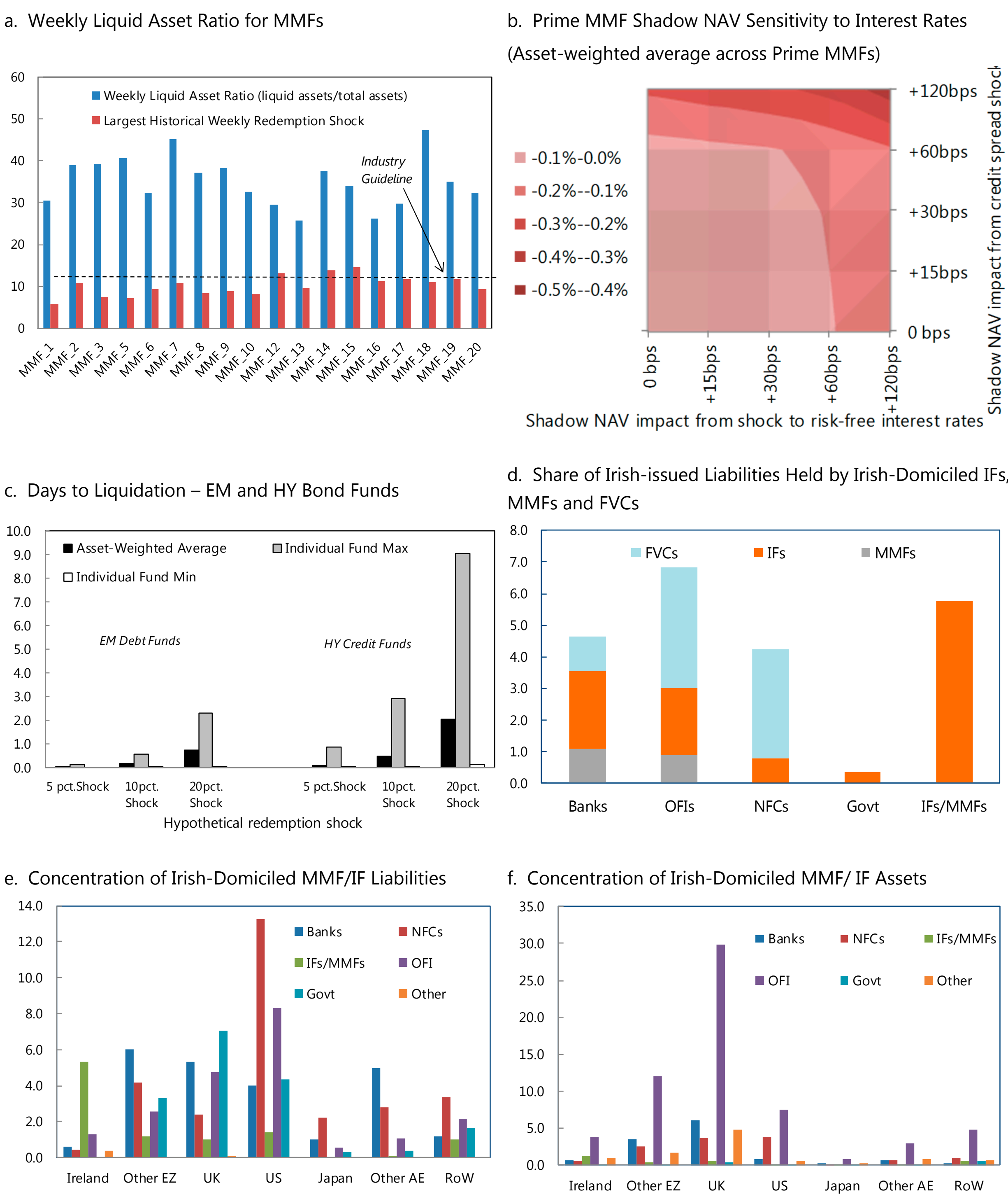
structure prevalent in high-portfolio turnover in MMFs, and current leverage reporting conventions. Large Ireland-domiciled MMFs have established substantial buffers against stress events, with strong liquidity positions relative to historical redemption shocks (Figure 9a). Stress tests performed on MMF portfolios suggest that very large increases in interest rates would be needed for "shadow" net asset values (NAVs) to depart from amortized cost (constant) NAVs (Figure 9b). Nevertheless, the high portfolio turnover associated with MMFs in general, and the prevalence of prime CNAV MMFs in Ireland in particular, suggests the risk of a widespread redemption shock cannot be ruled out. For the most part, Ireland-domiciled open end bond funds invested in emerging market debt and high-yield credit appear able to accommodate plausibly sized redemption shocks (Figure 9c).[19] The portfolio leverage in Irish-domiciled investment funds (IFs) appears concentrated in a relatively small number of bond and hedge funds, though reporting conventions make it difficult to assess the true economic risk inherent in such exposure.

36. Spillover risks from Irish-domiciled MMFs and IFs to the domestic economy appear limited. Only a small fraction of liabilities issued by Irish entities (banks, NFCs, etc.) are held by Irish domiciled CIVs (Figure 9d). Shocks could potentially be transmitted through Irish domiciled CIVs via their large holdings of US NFC claims, or on the liability side, by economic disruptions in the UK that prompt a wave of investor redemptions (Figure 9e and 9f). The implications of Brexit in this regard may be complex. While funds currently domiciled in the UK may seek to re-domicile in Ireland in order to avail of the highly advantageous "EU passport," a reduction in the flow of capital between the UK and Ireland could dampen the vibrancy of the Irish funds management industry over the medium term.

[19] The inherent volatility in trading volumes (particularly for non-G10 debt securities) suggests caution in interpreting this finding. The MMF liquidity analysis does not make assumptions on secondary market trading volumes.

Figure 9. Risks in the Ireland-Domiciled Funds Management Sector

(Percent except where indicated)



Sources: Central Bank of Ireland; and IMF staff calculation.

FINANCIAL SECTOR OVERSIGHT

37. A new strengthened oversight regime was brought forth by the financial crisis, characterized by the presence of new Irish and European institutions; strengthened regulations; a more intrusive supervisory approach; and a new focus on macroprudential issues.[20] These reforms have transformed the Irish financial policy and prudential landscape since the time of the 2006 FSAP.

38. The review of the supervisory and regulatory system focuses on developments since the assessments of observance of supervisory standards that were undertaken in 2013–2014.[21] At an institutional level, key events have been the establishment of the SSM and SRM for banks, and the commencement of the Solvency II regime for insurance. The FSAP concentrates on changes in supervisory practice.

A. Cross-cutting Issues

39. An independent, accountable and adequately resourced supervisor will continue to be essential for financial stability. Some issues will need to be addressed to this end:

- *Independence*. The area of operational independence of the supervisor, where certain deficiencies were identified, has seen no change. While there is no observed political interference, the legal framework is not fully satisfactory, for example regarding the (so far never exercised) ability of the Minister of Finance to dismiss members of the Central Bank Commission for specified reasons that are broad in nature and interpretation.

- *Accountability*. With independence comes accountability and the Central Bank needs to maintain and even strengthen its pro-active approach to explaining its actions and use of resources to the Oireachtas (parliament) and the wider public. At the same time, as the financial system continues to stabilize and immediate stability threats recede, there may be calls for supervisory tools to be used for objectives other than financial stability, e.g., demand management, and the regulatory burden may feel less obviously worth bearing. Hence, the authorities need to continue to be demonstrably committed to being accountable; the recent decision to publish the results of Commission meetings is therefore welcome. Still, opportunities should be sought for even greater transparency regarding the decision-making process, for example through the publication of summary records of the meetings of the in-house Financial Stability Committee (FSC), and enhancement of the annual regulatory performance statement.

- *Staff resources*. A striking change in recent years has been the increase in supervisory staff resources, necessitated by the more "intrusive" approach, yet growth and turnover in personnel

[20] The 2010 Central Bank Reform Act assigned all financial oversight functions (microprudential, macroprudential, and conduct supervision) to the Central Bank of Ireland.

[21] Assessments were undertaken of the Basel Core Principles for Effective Banking Supervision (BCP); the International Organization of Securities Commissions (IOSCO) objectives and principles of securities regulation; and the Insurance Core Principles (ICP) of the International Association of Insurance Supervisors (IAIS).

has generated certain challenges. Opportunities outside the Central Bank have improved with the recovery and the expansion of Euro-area-wide institutions, and so turnover has been substantial. Continuity of assignments makes supervision more effective, and indeed reduces regulatory burdens on supervised institutions. Hence, the Central Bank should examine whether aspects of its personnel policies can be adjusted to further enhance the attractiveness of a longer-term career.

B. Banking Sector

40. The prudential regulation and supervision of banks in Ireland has improved since the 2013 BCP assessment, which found that regulation and supervision were already generally effective and thorough. Nonetheless, the assessment identified some areas for improvement, most of which have since been addressed.

41. The effective operational implementation of the SSM is well established in Ireland, and the authorities are actively engaged and committed to the new ECB-led supervisory framework. Prudential regulation and supervision of banks have been further strengthened, and supervision is better shielded from undue pressures from special interests.

42. The transition to the operational implementation of the SSM has not resulted in major gaps in banking supervision, but there are some challenges:

- Current supervisory practices seem to emphasize the need for uniformity of treatment at the expense of the principle of proportionality. Although understandable in the initial stage of the banking union, this may be creating unnecessary burdens on supervisors and credit institutions. As the initial implementation phase is nearing its end, regulatory and supervisory demands can be further adjusted to the diverse profiles of individual institutions. For example, and as evidenced by the FSAP stress test results, the importance of various risk factors differs significantly across Irish banks. The Supervisory Review and Evaluation Process for each bank might be better attuned to that bank's particular risk profile.

- Remaining areas of national discretion and ancillary national regulations should be revisited with the objective of simplification and harmonization, to further enhance supervisory effectiveness and reduction in regulatory burden. In some areas, the ECB needs to take into account national legislation for significant and less significant institutions (SIs and LSIs) alike, e.g. in the case of licensing applications and "fit and proper" authorizations. Other competences are not clearly defined, for example, regarding limits to related parties.

43. The FSAP stability analysis suggests that NPLs and provisioning (especially on mortgages and loans to SMEs) should remain an area of supervisory concern. Ireland would benefit from an enhanced SSM-wide approach to effective and active supervision of credit risk and related provisioning and write-backs, and current SSM initiatives, such as the NPL task force and steps to develop timely, active, and intrusive supervisory guidelines, are welcome. Furthermore, supervisors should have effective powers to require credit institutions to adjust their classification of individual assets and increase levels of provisioning for prudential purposes. While capital add-ons constitute an alternative to enforce supervisory expectations, international experience suggests that the supervisory power to require reclassifications and increase loss provisioning is more effective and efficient.

C. Insurance and Pension Sectors

44. Several of the recommendations of the 2014 assessment of the insurance core principles have been implemented, with Solvency II now in force in Ireland. The 2014 assessment found the oversight system to be generally stringent and up-to-date, albeit with some room for improvement. Since then, the Central Bank has made significant progress on governance; risk management for solvency purposes; reporting requirements for groups and individual insurers; approval of internal models; disclosure to the public; and cross-border crisis preparedness. Implementation is ongoing and the Central Bank has reviewed and modified its prioritization model to reflect the key risk areas facing (re)insurance firms under Solvency II.

45. The shifting model of reinsurers in the light of Solvency II requires supervisory attention. In particular, putative risk reduction using reinsurance could represent regulatory arbitrage rather than risk transfer or risk mitigation. The Central Bank should analyze unusual reinsurance transactions (of substantial size) to ensure sufficient risk has been mitigated or transferred to justify the capital benefits gained.

46. The international character of the insurance sector presents challenges for its supervision. A concern exists that undertakings will locate in jurisdictions that are relatively weak in supervising overseas activities and cross-border coordination, or otherwise engage in "jurisdiction shopping." While the Central Bank is not the group supervisor of any global systemically important insurer (G-SII), in its host supervisory role it should closely follow the Financial Stability Board (FSB)/IAIS framework on G-SIIs and introduce the necessary tools to supervise the companies exposed to VA business.

47. Oversight of the very fragmented occupational pension schemes by the Pensions Authority rightly focuses on consumer protection issues, with an eye also to enhancing industry efficiency. The current review of the oversight framework is welcome, and should spur a debate among stakeholders as to whether more could be done with existing powers, and what measures might encourage consolidation so as to reap economies of scale—which would be in the interest of savers—without sacrificing too much scope to customize pensions.

D. Securities Markets

48. The size, diversity, and pace of innovation in the securities market and CIV sector, combined with the introduction of numerous EU directives and regulations, continue to place heavy demands on the Irish supervisors. These circumstances confirm the findings of the (generally favorable) 2013 IOSCO assessment on the need to strengthen implementation with respect, for example, to the regulator's powers and resources; the use of inspection and enforcement powers; the management of large exposures and disruption; and the oversight of hedge funds.

49. The regulation of securities and associated institutions and markets has been strengthened, and more changes are anticipated. Among EU legislative changes, notable has been the coming into force of CRD IV, which, inter alia, strengthens capital requirements and governance and remuneration rules for investment firms; the amendment of the Transparency Directive, which applies for example to the publication of information on sanctioning; and the forthcoming application of the Market in Financial Instruments Directive II and the associated regulation, which widens the scope of application and enhances rules on reporting, conduct of business, and investor protection. Among domestic legislative changes, the Irish Collective Asset Management regulation offers a more tailored legal framework for Irish authorized funds. The Client Assets and Investor Monies regulations should reinforce processes to safeguard client assets and investor monies, which are especially important in case a fund service provider is wound down.

50. As in other supervisory areas, the Central Bank has increased staff resources dedicated to the supervision of securities, and taken a more pro-active approach. Several specialized teams have been established, for example, to address IT-related risks. More thematic reviews, covering a wide range of issues, are undertaken, and especially lower-impact regulated entities are subject to more supervision. Enforcement powers have been actively used.

51. The Central Bank of Ireland has been innovative in developing securities sector analysis. It collects and analyzes information on a widening range of nonbank, noninsurance financial intermediaries, and monitors the regulatory perimeter, particularly regarding shadow banking and the use of new financial technologies. In these efforts the Central Bank has engaged stakeholders and actively cooperated with bilateral and multilateral partners.

52. Based on the stability analysis of the funds industry provided above, the authorities could consider the following measures in regard to Irish domiciled MMFs and IFs in order to minimize cross-border regulatory arbitrage and safeguard financial stability:

- *Liquidity and "run" risk*—increase monitoring, on the asset side, of liquidity risk in MMFs with reference to a minimum weekly liquid asset ratio and suitable indicators for other IFs; on the liability side, step up monitoring of the characteristics and concentration of the investor base.[22] More frequent liquidity-based stress tests should be informed by granular security level fund holdings.

- *Market risk*—build internal capacity to allow for more frequent stress testing with respect to market shocks for MMFs and IFs that avail of significant leverage.

[22] While concentration risk pertains to CIV assets and liabilities—and from the perspective of run risk is even more important for the latter—regulators have historically tended to focus more on the former.

- *Spillovers*—to minimize spillover and moral hazard risk, the authorities should: (i) require evidence of communication from MMFs to investors that clearly spells out the nature of contingent parental sponsor; (ii) in line with regulatory momentum in the US and EU,[23] encourage CNAV MMFs to graduate away from the CNAV accounting structure (beginning with new prime funds) to better reflect the inherent variability in the value of underlying security holdings; and (iii) ensure appropriate risk management safeguards are in place where CNAV MMFs continue to operate.

- *Remaining data gaps*—the authorities are encouraged to continue closing data gaps relating to the residual of OFIs that do not belong to familiar categories, and leverage in IFs, particularly hedge and bond funds; standardize cross-jurisdictional data sharing; and advocate at the EU level for reporting conventions on leverage that would strengthen stability related oversight of the funds management industry.

E. Macroprudential Oversight

53. The Central Bank's analyses of systemic vulnerabilities are sophisticated and timely, but there is still room for improvement, in particular as to filling data gaps. An example of such analysis is offered by the Central Bank's ex ante identification of the possible effects of "Brexit" on the financial system, in the context of the government's overall contingency planning.[24] There are still data gaps regarding bilateral liability positions among financial institutions; transactions and construction activities in the CRE market; NFC balance sheet data; and, until the establishment of a central credit register, credit information of borrowers across financial institutions.

[23] For instance, as part of the post-crisis US financial system reforms, institutional prime MMFs are to be required to maintain a floating NAV (rounded to the fourth decimal) for sales and redemptions based on the current market value of the securities in their portfolios. Additionally, in June 2016, the European Council agreed on a negotiating stance on a draft regulation on MMFs aimed at restricting the use of the CNAV convention to those MMFs that invest 99.5 percent of their assets in public debt instruments and those with a specific investor base solely outside the EU.

[24] See http://www.merrionstreet.ie/MerrionStreet/en/ImageLibrary/20160624Contingency%20Plan.pdf.

54. The recent tightening of some macroprudential measures address some of the emerging vulnerabilities identified in the FSAP. The Central Bank of Ireland and the ECB have a range of macroprudential instruments at their disposal (text table). In February 2015, the Central Bank introduced limits on the proportion of mortgage loans with high LTV and LTI ratios, in line with the practice in several other countries; from October 2015, with a phase-in until 2018, banks are obliged to maintain a minimum LCR of 60 percent; in January 2016 a counter-cyclical capital buffer was introduced, although currently set at zero; and the phase in of a 1.5 percent "other systemically important institutions" buffer (in the form of CET1) was announced in 2015.

Ireland: Macroprudential Instruments

Instruments	Availability	Implementation
Macroprudential tools under CRR and CRD IV		
Countercyclical capital buffer	January 2016	January 2016
G-SII buffer	January 2016	…
O-SII buffer	January 2016	July 2019
Systemic risk buffer 1/	…	…
Risk weight for RRE and CRE exposures	2007	2007
Loss given default for RRE and CRE exposures	January 2014	…
Flexibility measures 2/	January 2014	…
Liquidity coverage ratio	January 2014	October 2015
Pillar II	January 2014	…
Macroprudential tools under national law		
Limits on LTV and LTI ratios	2013	February 2015
Asset-to-liability ratio	1971	…

1/ The Department of Finance has discretion to transpose this provision into national law in the future.
2/ The Irish authorities have not activated flexibility measures.

55. While it is still early to evaluate the full effectiveness of the new LTV and LTI measures, there is some indication that they are having an impact on the mortgage market. The primary objective of the LTV and LTI measures are to enhance the resilience of household and bank balance sheets. They also impact the mortgage market, where loan growth has remained subdued and house price inflation expectations have moderated. Given the importance of mortgage lending to financial stability, the Central Bank should maintain the LTV and LTI limits; in this context, the ongoing impact analysis of the measures based on a new wave of loan-level data to evaluate their effectiveness and examine policy leakages is welcome and should be performed regularly. Once the Central Credit Register has been successfully implemented, the Central Bank should consider transforming the proportionate LTI limit into a debt-to-income limit, which is applied to households' consolidated debt, and therefore better captures a borrower's ability to service the loan, and is less prone to potential leakage.

56. A more streamlined EU/euro area notification system would support timely macroprudential policy action while still allowing adequate consideration of cross-border issues. While the motivation behind the notification requirements is understandable, they seem onerous. In the case of an urgent need to implement a draft measure, national authorities should be allowed to make their case by including a clause in the CRR asking for accelerating the approval process; or the European Council should have a standing delegation of the decision making power to the European Commission.

F. Anti-Money Laundering and Combating the Financing of Terrorism (AML/CFT)

57. Ireland has made significant progress since its last AML/CFT assessment. It has substantially addressed the main deficiencies identified in its 2006 Mutual Evaluation Report (e.g., with respect to the ML offense and customer due diligence measures), and disseminated good AML/CFT practice by publishing relevant guidelines. It has sought to facilitate the recovery of proceeds of crime (e.g. by reversing the burden of proof in certain circumstances), and prohibited bearer shares. It has implemented most of the AML/CFT recommendations made by the Fund in the context of the 2013–14 assessments of Ireland's observance of supervisory standards. Onsite and offsite inspections in 2013/14 revealed that the banking and credit unions sectors were not adequately assessing and mitigating ML/TF risks. As a result, the Central Bank has taken a number of general and individual actions to enhance compliance with AML/CFT requirements.

58. Ireland is in the process of bringing its AML/CFT framework in line with the 2012 FATF standard, notably with respect to the assessment of its ML/TF risks and transparency of legal persons and trusts. The authorities established the Anti-Money Laundering Steering Committee to facilitate domestic cooperation and conduct Ireland's first Money Laundering and Terrorist Financing National Risk Assessment in 2016 (ahead of Ireland's November 2016 assessment against the current standard). Ireland is also taking steps to implement, by June 2017, the European Commission's 4th Directive on Money Laundering, which notably seeks to ensure timely access by competent authorities to beneficial ownership information of legal persons, and extend the definition of politically-exposed persons. The authorities are encouraged to pursue their efforts to implement the revised standard in an effective way, and to implement the recommendation of the 2014 ICP assessment to empower the Central Bank to issue enforceable rules in this area.

BANK RESOLUTION AND FINANCIAL SAFETY NETS

A. Resolution Regime and Institutions

59. The BRRD and the SRM have transformed the Irish framework for dealing with failing banks. The new resolution tools are closely aligned with the FSB's Key Attributes of Effective Resolution Regimes for Financial Institutions. The Irish authorities did not adopt the optional government financial stabilization tools in the BRRD that would allow—as a last resort—the authorities to recapitalize or acquire the shares of a failing bank. While understandable given the recent past, the absence of this 'safety valve' places even greater importance on ensuring that systemic entities are resolvable without government support.

60. The institutional arrangements for the SRM are still being put in place. In January 2016, the Single Resolution Board (SRB) assumed responsibility for resolution planning and decision-making (together with the European Commission) for Irish banks directly supervised by the ECB under the SSM, as well as certain other banks established in Ireland.[25] The SRB is in the process of building up operational capacity (with plans to double its staff complement during 2016). The Central Bank of Ireland, which is responsible for resolution planning and resolution decision-making with respect to LSIs not covered by the SRB, as well as resolution execution for all banks, plans to increase staffing by approximately 40 percent to fulfill these responsibilities.

61. Triggering resolution under the SRM entails a complex and potentially lengthy process and measures should be taken to enhance its agility in case of a crisis. The decision-making process for triggering resolution within the SRM could usefully be streamlined. Also, the Irish authorities should reconsider requirements for ex ante court approval of bank resolution measures, or introduce expedited timeframes for judicial action (for example, 24 hours). To ensure preparedness, the authorities should also issue updated terms of reference for the Principal's Group (a domestic coordination body), and undertake simulation exercises.

B. Enhancing Recoverability and Resolvability

62. Recovery planning for Irish banks is progressing in line with Banking Union requirements. The SIs have submitted full scope recovery plans and received feedback from their JSTs. Several key issues and common themes have emerged through this process, including the need to calibrate specific indicators and recovery actions (such as divesting business lines), and the need to take steps now to make the recovery plans implementable (including with respect to shared critical services). Most of the LSIs are subject to simplified requirements for recovery planning.

63. Reaching cross-border agreement on resolution plans is a crucial objective given the significance of cross-border business. The Irish authorities are making significant progress on resolution planning. Cooperation with the UK has benefited from the formal coordination arrangements established by the BRRD. For the Irish SIs that have links to the UK, the Central Bank has worked through resolution colleges to identify preferred resolution strategies, conduct resolvability assessment processes and draft resolution plans. With the transfer of competence to the SRB, the next phase of the process—reaching joint decisions on the resolution plans—will be undertaken by the SRB and Bank of England during 2016.

64. The authorities should continue to work on identifying and addressing impediments to resolvability. In this context, single point of entry bail-in strategies are being considered for the resolution of significant banks. This approach would have the benefit of avoiding further concentration in the Irish banking system. To facilitate their implementation, significant reforms by banks would be needed, including issuing so-called minimum requirement of eligible liabilities that could be bailed in, and enhancing IT systems to allow for rapid valuation of balance sheets.

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[25] The SRB is also responsible for any Irish LSIs that operate cross-border within the EU or that will rely on the Single Resolution Fund.

C. Funding Recovery and Resolution

65. Irish banks will have access to the single resolution fund established as part of the SRM. It should reach at least one percent of covered deposits by end-2023.

66. Recent changes have improved the deposit guarantee scheme (DGS), but further reforms could be undertaken. The DGS Directive has been transposed into Irish legislation. The Irish authorities should commit themselves to be able to pay out from the DGS within 7 days earlier than the 2024 deadline provided for in the DGS Directive. Together with other participating jurisdictions, agreement should be reached on a euro area wide deposit insurance scheme.

Appendix I. Structure of the Financial System

A. Institutions

The 2010 Central Bank Reform Act assigned all financial oversight functions (microprudential, macroprudential, and conduct supervision) to the Central Bank of Ireland. The Central Bank Commission was created, with representation from the Central Bank and the DoF, and external members; the Central Bank is responsible for deciding on macroprudential measures falling under national law.

Under the SSM, the ECB has become the competent authority for banking supervision in the euro area, in collaboration with the Central Bank of Ireland as the national competent authority.

Macroprudential policy is a shared competency between the Central Bank of Ireland and the ECB in the SSM Member States. The SSM Regulation confers to the national authorities and the ECB specific tasks relating to macroprudential instruments for the banking sector, which can be set differently across member states. The ECB can apply higher requirements for capital buffers and can set more stringent measures—but not lower requirements—than those applied by national authorities ("topping-up power"). The Central Bank of Ireland has full powers over instruments outside of the CRR and CRD IV, such as limits on LTV and LTI ratios, but the ECB can suggest national authorities to use their powers over these instruments. For the nonbank financial sector, such as insurance, pension, and securities markets, the Central Bank framework for macroprudential policy is coordinated with the ESRB, the EIOPA, and the European Securities and Markets Authority.

Because of the unitary structure, there is a strong coordination of micro- and macroprudential policy within the Central Bank of Ireland. The Central Bank has a clear financial stability mandate under the Central Bank Act, and is accountable to the Houses of the Oireachtas. For checks and balances, there are two "advisory" committees, the in-house Financial Stability Committee and the Supervisory Committee.[1] There is also the "Principals Group" for discussion and coordination among other Irish agencies, including the Central Bank, DoF, and National Treasury Management Agency. The Central Bank incorporates the views of other public bodies and government agencies, including other regulators, industry participants, academics, and the public through consultation papers. Most macroprudential decision powers (except the limits on LTV and LTI ratios) are delegated to the Governor, and the FSC plays a major role in advising the Governor on financial stability issues.

Bank resolution responsibilities are split between the Irish authorities and the new Single Resolution Board. In January 2016, the SRB assumed direct responsibility for resolution planning and decision-making (in conjunction with the European Commission) for the Irish banks directly supervised by the ECB under the SSM, as well as other pan-European banks established in Ireland.

[1] The in-house FSC, chaired by the Governor, has representation from both micro- and macroprudential policy areas within the bank and advises the Governor on issues central to the fulfillment of the mandate of the Central Bank, to contribute to financial stability in Ireland and the euro area.

The Central Bank of Ireland, as the national resolution authority, is responsible for resolution planning, resolution decision-making and implementation with respect to LSIs not covered by the SRB.

B. Industry structure

The structure of the banking sector was transformed in the course of the crisis. Two of the six major banks and many smaller institutions (including in effect the entire building society sector) were closed or resolved in the course of the crisis (Table). Remaining banks have reoriented both assets and liabilities towards domestic retail business, and cut back drastically on staffing. The government retains large stakes in the major domestic banks, although there have been some disposals. The credit union sector is continuing to consolidate.

Meanwhile the nonbank financial sector, and especially fund management activity, has continued to thrive (Figure). Ireland is one of the largest international centers for CIVs, which principally take the form of: (i) MMFs; (ii) other IFs, largely bond and equity mutual funds); and (iii) financial vehicle corporations, largely securitization. Assets held in CIVs (CIS and FVCs) administered in Ireland totaled €2.7 trillion at end-2015, equivalent to 12.5 times GDP (text figures). This growth reflects several factors, including the fact that Ireland continues to be viewed as a congenial location for international providers of financial services, valuation gains during the recovery, and a structural shift towards nonbank sources of financing.

Also significant is the insurance sector, which includes a number of internationally-active undertakings and reinsurers. The Irish insurance sector has important hub and spoke operations that create interlinkages with the EU-wide financial system. The structure comprises a head office or hub in Ireland and branches across the EU. Eighty-two percent of the insurance business is written outside Ireland, making it a significant provider in the EU of unit-linked business, and the third largest reinsurance business in Europe. Insurers are connected to the financial system through their nontraditional noninsurance activities involving maturity transformation, liquidity mismatch or leverage. Currently some €20 billion of assets under management emanating from VA business is on the balance sheets of Irish regulated insurers, part of which is reinsured to other jurisdictions. Several international companies have consolidated their VA business in one company of the respective group, which is located in some cases in Ireland. The private pension fund, which consists almost entirely of occupational schemes, is relatively large.

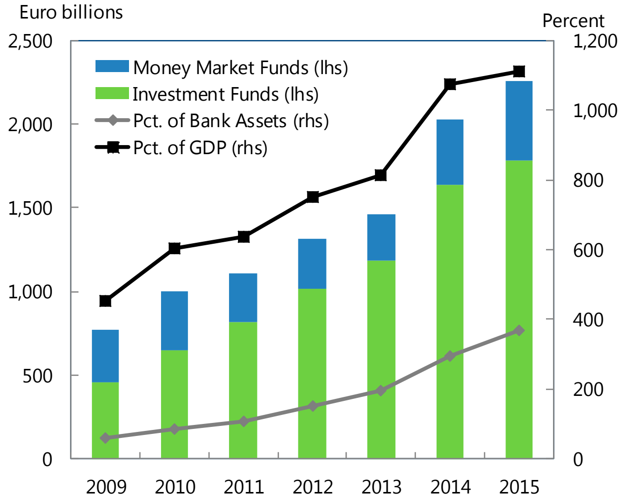
Ireland: Structure of the Financial System

	2007		2011		2014		2015Q4	
	Number	Total assets (Billions of euros)	Number	Total assets (Billions of euros)	Number	Total assets (Billions of euros)	Number	Total assets (Billions of euros)
Credit institutions	**493**	**1,536**	**467**	**1,337**	**435**	**620**	**406**	**576**
Banks licensed in Ireland 1/	41	1,346	32	1,202	24	508	22	464
Of which:								
Majority Irish state owned 2/	0	0	3	241	2	145	2	134
Majority foreign owned 3/	35	959	28	816	21	246	19	214
Branches of foreign banks 4/	28	140	31	121	28	98	30	97
Building societies 5/	2	36	0	0	0	0	0	0
Credit unions	422	14	404	14	383	14	354	15
Insurance 6/	**306**	**164**	**285**	**246**	**228**	**295**	**228**	**321**
Life	59	143	62	154	51	206	48	220
Non-life	130	21	121	35	102	32	102	35
Composite								
Reinsurance	117	...	102	57	75	57	78	66
of which: captive								
Intermediaries 7/			...		...		2744	
Private pension funds	**230,511**	**88**	**264,906**	**76**	**288,800**	**112**	**305,547**	...
Occupational pension schemes	99,802	87	66,868	73	62,195	107	67,939	...
Defined contribution	98,483	21	65,770	27	61,309	40	67,125	...
Defined benefit	1,319	66	1,098	46	886	67	814	...
Personal Retirement Savings Accounts	130,709	1	198,038	3	226,605	5	237,608	5
Retirement Annuity Contracts								
Collective investment schemes 8/, 9/	...	...	**3,456**	**1,108**	**4,156**	**2,028**	**4,492**	**2,259**
Money Market Mutual Funds	...	...	86	288	79	394	80	474
Investment Funds	...	...	3,370	820	4,077	1,634	4,412	1,785
Pure Bond & Equity Mutual Funds	...	...	1,938	596	2,472	1,102	2,701	1,227
Equity Mutual Funds	...	...	1,295	262	1,659	523	1,831	603
Bond Mutual Funds	...	...	643	334	813	579	870	624
Hedge Funds	...	...	513	75	644	269	630	222
Other (includes mixed and real estate funds)	...	...	919	149	961	263	1,081	336
Financial Vehicle Corporations	...	...	**701**	**500**	**763**	**402**	**822**	**431**
Brokerages 10/	...	...	**10**	**2**	**8**	**4**	**8**	**5**
Other 11/	**...**	...		**501**		**524**		**626**

Notes:
1/ The value and number of Banks licensed in Ireland is based on consolidated data and does not include branches.
2/ Majority Irish State Owned - Data has been amended on the basis that Majority state owned is taken as only Irish state owned.
3/ Majority Foreign Owned - Data has been completed on the basis that Majority foreign owned is taken as the banks ultimate parent is foreign.
4/ Branches of foreign banks - Data is based on the list of branches published in the Credit Institutions Register, available on Central Bank of Ireland website. Data is sourced from the resident offices of credit institutions. Data is not consolidated. This is BSI data compiled on a resident offices basis, for ECB purposes [ECB Regulation (EC) No 1071/2013 of the ECB of 24 September 2013 concerning the balance sheet of the monetary financial institutions sector (Recast) (ECB/2013/33)].
5/ Building Societies - 2007 figures are taken from the published accounts of the building societies. This information is publicly available.
6/ Insurance figures include Irish branches of foreign entities.
7/ No further information on intermediaries is available. The total number of intermediaries is as of March 2016. Total assets for a subset of approximately 1900 intermediaries is roughly estimated at €6.4bn.
8/ These figures are for total (Gross) assets rather than net asset values. For example, at end Q4 2015, the net asset value of investment funds was €1,785.2 billion.
9/ Total Asset information for Q4 2015 has been updated to reflect amendments arising from return submissions.
10/ Brokerage figures for end-2015 are interim figures as the audited figures are not yet available.
11/ Other includes Special Purpose Vehicles not primarily engaged in securitization, Finance Leasing companies, Treasury companies, Holding companies. It is calculated as the total nonbank financial sector minus investment funds, money market funds, insurance, pension funds (each category computed according to its statistical definition) and broker dealers. The large increase in 2015 is largely attributable to the restructuring of a number of companies.

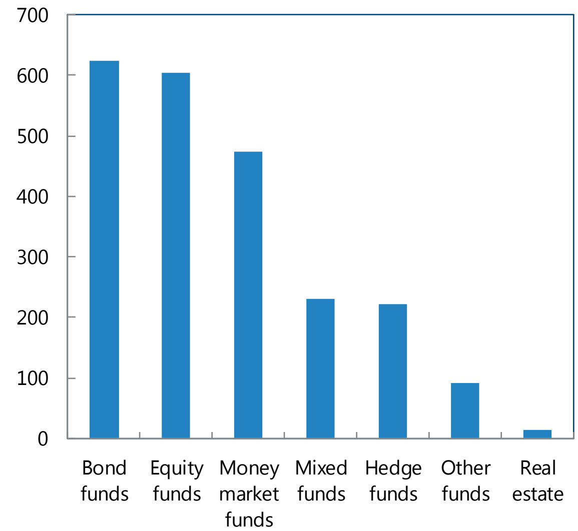
Ireland: Developments in the Funds Industry

Growth in Ireland-Domiciled CIV Assets 1/



1/ Latest estimates based on 2015Q4 data.

Ireland-Domiciled CIVs by Asset Class (Euro billions)



Sources: Central Bank of Ireland; ECB; Haver Analytics; and IMF Staff calculations.

Appendix II. Risk Assessment Matrix

Source of Risks	Overall Level of Concern	
	Relative Likelihood	**Expected Impact**
I. **Structurally weak growth in key advanced and emerging economies**.	High The Fund's recent World Economic Market Developments report noted widespread downside risk for advanced economies. The euro area remains subject to low trend growth and vulnerable to economic and political shocks. Medium The Fund's recent World Economic Market Developments report noted downside risk for emerging economies. Markets have remained volatile.	Medium Ireland's economy is extremely open. Exports were equivalent to 120 percent of GDP in 2015, with the EA taking 35 percent of the total. The export growth impact would be significant but moderated if US and UK markets remained robust. However protracted EA weakness could undermine domestic confidence, investment, and direct investment inflows. Weakness in other advanced economies could reduce investment in the multinationals sector. Low Ireland's direct trade exposure to emerging markets is limited, but the country might be affected by a contraction of world demand and trade, a reversal in investor sentiment, and flight-to-safety flows.
II. **Sharp asset price decline and decompression of interest rate spreads as investors reassess underlying risks and move to safe-haven assets**.	Medium Market developments suggest any spread widening is most likely contained by the ECB's open market transactions and quantitative easing.	Medium Ireland's high levels of private and public debt makes it susceptible to financial contagion. The impact on growth could be significant, especially if there was also a reversal of inflows into CRE. To the extent spreads widen, the impact on deficits and debt is limited by low financing needs, and substantial cash buffers.
III. **Higher-than-expected fallout from the UK referendum result**.	Medium The UK referendum on 23 June 2016 resulted in a majority for the UK leaving the EU. The initial impact on financial markets was negative, with the pound Sterling depreciating sharply, highest-rated long-term bond yields declining further, and an uptick in spreads. The vote to leave the EU is expected to lead to a period of heightened uncertainty regarding cross-border trade, financial, and migration relationships between the UK and EU, and therefore, slower overall growth. These effects could be larger than projected in the (revised) baseline, especially if the process is volatile,	High A sharper-than-expected slowdown in the UK and the rest of Europe, persistent investor uncertainty, and prolonged high financial market volatility would adversely affect the Irish economy. An increase in trade barriers and persistent depreciation of the pound Sterling would reduce exports to the UK. Irish banks' profitability would decline, given their direct and indirect exposures, and asset quality may deteriorate in Ireland and the UK. Low/Medium Some of these effects may be mitigated by possible relocation of firms that service the EU from the UK to Ireland, resulting also in an increase of FDI inflows over the medium term.

	looks likely to result in a large increase in barriers, or has significant political repercussions.	
IV. **Financial imbalances from protracted period of low interest rates**.	Medium Current Fund and market forecasts suggest that European interest rates may remain low for a prolonged period.	Low/Medium The international search for yield appears to be a significant factor driving Irish CRE markets. Further strong inflows into CRE could eventually generate over-building and risks of future slump in prices. A REE price bubble or a consumer lending boom could emerge. Low interest rates may, in due course, lead to over-investment. The high concentration of the Irish banking sector increases the likelihood that banks will follow similar strategies, making the sector as a whole less robust. Low domestic credit growth limits risks at present. Currently, the lack of construction since the crisis has led to a significant shortage of CRE in downtown Dublin, and of new REE more widely. Irish insurance companies offer mainly unit-linked savings products and are therefore not directly affected by low interest rates.
V. **Persistently lower energy prices, triggered by supply factors**.	High Current Fund and market forecasts suggest that energy prices may remain low for a prolonged period. Political turmoil in the Middle East could lead to a sudden rebound in prices.	Low Lower oil prices could further reduce inflation and inflation expectations. Low inflation could lead to high savings and lower investment, given the slower decline in private debt burdens. Conversely, an increase in commodity and energy prices due to oil supply disruptions and geopolitical tensions in the Middle East would dent households' purchasing power, reduce firms' profitability and dampen the economic recovery. Lasting low energy prices would reduce production costs and increase real incomes.
VI. **Domestic reform fatigue coupled with increased political fragmentation.**	Medium Calls to reap the fruits of the recovery have become common.	Medium Public pressure to reverse some recent prudential measures and encourage credit-based expansion may increase the economy's vulnerabilities to adverse shocks.

Note: The RAM shows events that could materially alter the baseline path (the scenario most likely to materialize in the view of IMF staff). It reflects current staff views on the sources of risk surrounding the baseline, their relative likelihood, and the overall level of concern.

Appendix III. Detailed Stress Test Results

Data access for the stress-testing exercise was constrained by the modality of a data room, lack of a unified reporting framework, and the absence of time series on the credit quality parameters (probability of default and loss given default) for some loan segments. The FSAP team therefore had to restrict its use of supervisory data to the Irish residential mortgage segment for the credit risk satellite model estimation and use publically-available data for the other segments. This might have affected the risk analysis as publically-available data are in some cases only proxies.

The solvency and the liquidity stress tests were integrated through the projection of banks' funding costs in the solvency stress test by an econometric model. The projections were based on the LCR parameters to capture the interactions between funding availability and costs, and banks' solvency (banks' funding costs rise when funding evaporates).

A. Solvency Stress Tests

The solvency tests are based on three scenarios that reflect mainly external risks and domestic vulnerabilities; the scenarios are in line with those applied in comparable EA countries that are currently undergoing FSAPs:

- **A baseline scenario,** based on the Fall 2015 World Economic Outlook, updated with information on the 2015 outturn;

- **A euro-area wide scenario resulting in a moderate stress,** combining several elements from the RAM: the scenario envisages the coincidence of structurally weak growth in advanced economies; a revival in risk aversion, especially in the European "periphery" (including for this purpose Ireland), affecting asset prices and interest rate spreads; and a sharp slowdown in emerging market economies. Deteriorating sentiment would reduce consumption spending and fixed investment. Irish growth would slow rapidly; price deflation would become generalized; real interest rates would rise; and both bond and equity prices would fall. This scenario, which is designed by staff based on the IMF Global RAM and the EA-RAM, is comparable to that used in other concurrent EA FSAPs, and facilitates an assessment of possible non-linear effects of shocks; and

- **An Ireland-specific scenario resulting in much more severe stress,** with amplified effects on the Irish domestic economy and stronger disruption in Ireland's European partners, in particular the UK, as might occur in case "Brexit" proves to be very disruptive. Under this scenario, FDI inflows would drop, growth would be persistently well below potential and unemployment would go back up. Higher financial volatility, combined with renewed sovereign stress in the EA, including Ireland, would bring about a sharp rise in banks' funding costs, in turn affecting the creditworthiness of corporates, with an imperfect pass-through to lending rates partly due to the large share of tracker loans. The decline in economic confidence and higher interest rates would dent domestic demand, resulting in a reversal in the RRE and CRE price recovery back towards the trough levels experienced during the last crisis. The collapse in property prices would in turn trigger adverse wealth effects, creating a negative feedback loop with falling domestic demand and a deflationary process. Simultaneously, the UK property market would see substantial price falls.

The two negative scenarios include milder shocks in terms of GDP growth than those experienced during the 2008/2009 global financial crisis because they take into account the still-negative output gap of the Irish economy in 2015, in sharp contrast with the pre-crisis period. Moreover, the structure of the economy has rebalanced since then, for example regarding the real estate market and construction activity. Even so, a realization of the severe scenario would have a marked negative impact across the banking system, as shown in the following table:

Top-Down and Bottom-Up Solvency Stress Test Results in the Severe Scenario

	Banking system's CET1 ratio (in percent)	Number of banks with 4.5%<CET1<7%	Number of undercapitalized banks (CET1<4.5%)	Number of undercapitalized banks (leverage ratio<3%)	Max. capital shortfall in terms of CAR, T1, CET1 or leverage ratio (percent of GDP)
Fully-loaded Basel III					
Bottom-Up Stress Test	12.4	1	0	-	0.00
CBI Top-Down Stress Test	10.1	1	1	-	0.05
IMF Top-Down Stress Test	8.3	4	0	3	0.20
European framework for transitional arrangements					
Bottom-Up Stress Test	14.3	1	0	-	0.00
CBI Top-Down Stress Test	11.9	0	1	-	0.04
IMF Top-Down Stress Test	9.4	4	0	2	0.10

Sources: Central Bank of Ireland and IMF staff calculations

B. Liquidity Stress Tests

The liquidity stress exercise consists of four tests: an LCR scenario with variants;[1] a Basel III-based NSFR scenario; a cash-flow based scenario analyzing different maturity buckets; and a reverse liquidity stress test. The exercise has been carried out by bank and by currency, with special attention paid to cases of coincident exposures to liquidity and solvency risks.

Under parameters more severe than the standard LCR, total liquidity shortfall would range between €7.1 and €7.4 billion, equivalent to between 3.3 percent and 3.4 percent of GDP (Table). It is coincidental that the "retail shock" and the "wholesale shock" have effects of comparable magnitudes.

Liquidity stress tests summary results

	LCR - Ireland Delegated Act	LCR Scenario with retail shock	LCR Scenario with wholesale shock	GBP LCR retail shock	NSFR	Outflow analysis
System-wide liq. ratio (in percent)	124	87	87	79	108	…
Liquidity shortfall 1/ 2/						
EUR billions	0.3	7.1	7.4	5.3	7.4	0.0 - 14.0
as a percent of GDP	0.1	3.3	3.4	2.5	3.4	0.0-6.5

Sources: Central Bank of Ireland and IMF staff calculations
1/ Liquidity shortfall is the amount required so that the Liq. Ratio in each bank in the sytem be equal to or above 100 percent.
2/ For the outflow analysis, the range of shortfalls under different assumptions and aggregated across maturities is reported.

[1] Liquidity Coverage Ratio in accordance with the European Commission Delegated Regulation (EU) 2015/61.