Sharon Donnery: Macroprudential policy – action in the face of uncertainty

Address by Ms Sharon Donnery, Deputy Governor of the Central Bank of Ireland, at the Dublin Economic Workshop Annual Economic Policy Conference, Dublin, 23 September 2016.

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Introduction

Good evening. I am delighted to address the Dublin Economic Workshop. This annual conference has always been a key policy forum and the subject of this year's conference – "Policymaking for an Uncertain Future" is timely.

The recent vote by the UK to leave the European Union has led to heightened risks and uncertainties for the euro area and the Union more generally.

Ireland is the most exposed European economy to the potential effects of Brexit. This is because the UK accounts for a large percentage of Irish imports and exports.[i] Labour flows and cross-border investment linkages are considerable. In addition, certain domestic Irish banks have large exposures to the UK.

There is considerable uncertainty regarding the specific political and institutional construct which may emerge once the UK decides to trigger Article 50 of the Treaty. This makes it challenging to estimate the impact on the Irish economy. This impact will be determined by a wide range of factors including: the conditions of the UK's exit – in particular its degree of access to the Single Market; the resulting effect on the UK and the extent to which this is transmitted to Irish firms and institutions and the wide range of potential regulatory outcomes resulting from the UK's new arrangements.

Sentiment and hard data releases point to a mixed picture so far but the short and medium term impact on Ireland is likely to be negative. In this context, the Bank recently published forecasts that revised down projected Irish GDP growth by 0.2 per cent in 2016 and 0.6 per cent in 2017.[ii] However, quantifying the potential impact of such a protracted period of uncertainty and risk aversion with much precision is difficult.

Small open economies like Ireland are especially vulnerable to such shocks, particularly in the context of the legacies of the crisis. As highlighted in the recent Macro-Financial Review, household debt remains high, standing at 150 billion euro. This is equivalent to 160 per cent of disposable income. Such high levels of debt leave households vulnerable, particularly to adverse movements in income or interest rates. [iii]

The SME sector also remains highly indebted. This can act as a drag on economic activity, given it can restrict the ability of firms to borrow and invest. It also leaves the sector vulnerable to changes in financing conditions.

In the financial sector, despite returning to profitability, levels of provisions and non-performing loans in domestic banks remain elevated.[iv]

Uncertainty is a challenge faced not only by policy makers, but it is the backdrop against which many decisions are made. Frank Knight in his seminal 1921 book formalised a distinction between the concept of risk and uncertainty which has found common use in mainstream economics. Risk, he suggested, refers to situations where the distribution of future outcomes is known, and hence measurable. Uncertainty, by contrast and by definition, is "not susceptible to measurement" and hence cannot be predicted.[v]

This distinction captures many of the challenges we policymakers face today. For some risks, we can measure with some degree of confidence, their likelihood of occurrence and design policies accordingly. Some outcomes however are unknown. Policymaking under such uncertainty is more challenging.

The Central Bank of Ireland has an explicit mandate to protect financial stability and, as the designated macroprudential authority, has a range of tools to target emerging risks in the domestic financial system.[vi] In this context, this evening, I would like to take this opportunity to speak about the Bank's framework for macroprudential policymaking for this uncertain future.

The Bank's policy framework follows four key steps in the policy cycle. [vii] First, I will discuss the assessment and identification of systemic risk. Second, I will elaborate on how we select and calibrate our instruments. Third, I will discuss policy implementation and issues surrounding inaction bias, decision-making under uncertainty, and communication. The fourth and final critical step in the cycle is policy evaluation. I will conclude by giving you some insights into our ongoing review of the mortgage measures – one of our key macroprudential instruments.

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Identifying and assessing systemic risk

Macroprudential action is just one component of a wider set of macroeconomic and financial sector policies. The underlying rationale for macroprudential policy lies in the divergence between financial and business cycles. Financial cycles have been shown to have different frequencies and amplifications to business cycles. Financial cycles can be self-reinforcing and can magnify fluctuations in the economy. They can lead to financial distress and severe economic dislocations, as we have seen.[viii]

The ultimate objective of macroprudential policy is to prevent and mitigate systemic risk. Major disturbances to the financial system can disrupt the provision of financial services. This can have serious negative consequences for the real economy.

There are several externalities which can give rise to systemic risk. A commonly used classification groups these into three distinct types.[ix]

First, externalities relating to so-called "strategic complementarities". These cause a build-up of vulnerabilities during the upswing phase of a financial cycle. Sometimes, because of competitive dynamics in the market, banks for example adopt similar strategies in asset choice or liquidity risk (i.e. they have common exposures).[x] This can lead to self-reinforcing effects, because returns increase, in the short term, as more banks follow suit. These dynamics can affect credit standards, loss recognition, and portfolio quality. It can also lead to additional asset price volatility.

Such "herding behaviour" of both the domestic and international banks is well documented in the Nyberg Report into the Irish banking crisis.[xi] Herding behaviour by households can also contribute to systemic risk through greater risk taking, for example in mortgage markets. Therefore, even if systemic risks were not emerging in the financial sector, borrower-based measures may still be necessary.

The second set of externalities relates to sell-offs during the downswing phase of a financial cycle. Fire sales, for example, can amplify financial distress due to loss spirals resulting from pro-cyclical asset price effects, margin or haircut spirals.[xii] This occurs because a decline in the price of an asset leads to an erosion of capital. Self-reinforcing feedback effects on leverage can force banks to further shed assets to repay debt and restore equity. Credit crunches can have a similar effect causing a deterioration in balance sheets and a drying up of financing.

Finally, externalities related to interconnectedness can result in the propagation of shocks throughout the financial system. Interconnectedness can arise through the many complex transactions and bilateral relationships between institutions. It can also result from feedback from the real economy.

These externalities were clearly evident in Ireland before and during the crisis. Examination of Ireland's experience since the crisis provides ample justification for the introduction of macroprudential measures.[xiii]

However, in order for macroprudential policy to limit such systemic risks, policymakers must first be able to identify and assess them. To do this we must be able measure these risks, both in the cross-sectional dimension (measuring the distribution of risk at a point in time) and the temporal dimension (measuring the evolution of aggregate risk). This is a challenging pursuit for a number of reasons, not least because systemic events are, by their very nature, rare tail events.

Furthermore, regardless of all the indicators we have to identify, measure and assess systemic risk, in the future, risks may arise from very different sources that are not fully captured by existing indicators.

The constant evolution and innovation of the financial system, which has changed fundamentally over recent decades, further complicates the task of measuring systemic risk. Thus, macroprudential policymakers face Knightian uncertainty under which it is impossible to predict what some outcomes will be.[xiv]

Against this backdrop, it is vital that research on systemic risk indicators continues and evolves with financial sector developments. Enhancements are continually being made to systemic risk assessments. For example, on-going developments in measuring the key properties of financial cycles, such as their length and persistence, will enhance the ability of policymakers to implement counter-cyclical macroprudential policy.[xv]

Much progress has already been made and the Bank makes full use of the data and models available to measure systemic risk emerging from various sectors of the financial system, also drawing on developments at a European level. The European Systemic Risk Board, for example, publishes quarterly risk assessments on European developments and the ECB monitors systemic risk and communicates on this via its Financial Stability Review.[xvi]

To enhance the Bank's assessment and identification of systemic risks, last week we announced a new stand-alone directorate for financial stability. In line with our mandate and Strategic Plan, this will ensure enhanced analysis and coverage of insurance, shadow banking, funds and credit union sector from a financial stability perspective. This will complement our already comprehensive body of work in relation to the banking sector.

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Instrument selection and calibration

Following identification and assessment of the risks, the second step in our macroprudential policy framework is to select and calibrate the appropriate instruments.[xvii]

The Bank's toolkit has been under constant development since the crisis and includes *inter alia* a range of capital buffers as well as borrower-based measures. These can be used to mitigate both structural risks – emerging from segments of the financial system, and cyclical risks – emanating from the financial cycle. These can be combined with other microprudential instruments which target bank specific exposures or maturity mismatches, for example.[xviii] The most appropriate combination of instruments will depend on our assessment of the emerging risks.

The macroprudential assessment is multifaceted. Financial stability does not have an explicit target like is often the case in monetary policy. Therefore the different instruments at our disposal have different objectives and different transmission channels.

For example, the Other Systemically Important Institutions (O-SII) buffer is a capital buffer. Its aim is to reduce the potential impact of the failure of a systemically important financial institution on the domestic economy.

Last year, two Irish banks were identified as domestically systemically important due to their particular role in the Irish financial sector, domestic economy and to the payments system. In this context, the Bank decided that a capital surcharge rate of 1.5 per cent of their (CET1) capital be applied to these institutions.[xix]

The Countercyclical Capital Buffer (CCyB) is a different type of buffer and one of a range of instruments we can use to mitigate and prevent excessive credit growth. Via the CCyB we can require banks to set aside additional capital during periods of strong credit growth and growing systemic risk. This buffer can then be released during economic downturns to prevent undue restrictions in the supply of credit to the private sector. The buffer therefore aims to promote banking sector resilience by protecting it against potential losses and ensuring a stable provision of credit over the economic cycle.[xx] In view of current conditions in the credit market, the Bank decided last year to set this buffer to zero.

These buffers can be combined with other capital instruments which can target sectoral exposures should we deem them excessive.

The macroprudential toolkit is broad and not solely focussed on capital. A leverage ratio will also come into force in 2018 and will be further developed as a macroprudential tool. This will prevent against excessive leverage building up in the banking sector during the upswing phase of a financial cycle. It will also stop destabilising deleveraging during a downturn. Liquidity charges can also be designed to target the resilience of funding bases to outflows in stressed periods.

Whilst the intermediate impacts of the instruments may differ, they all aim to enhance the resilience of banks, and hence protect the system as a whole.

In addition to targeting the resilience of banks, the Central Bank also has powers available, such as those that affect the conditions under which mortgage lending occurs. The aim of these is to protect borrowers and banks against adverse movements in credit and property prices, and other economic shocks. I will return to the mortgage regulations later.

Finally, under so-called Pillar 2, other micro-prudential instruments can also be used to ensure a holistic approach to mitigating systemic risk. Therefore close collaboration is needed between those assessing systemic risk, and those supervising individual institutions.

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Implementation and communication

Despite the rich set of indicators, instruments and sophisticated methods to calibrate them, the third step of our macroprudential policy framework – implementation – is particularly challenging for the Bank. This is because although the costs of the measures can be immediately felt and quantifiable to the banks or borrowers to which they apply, the benefits are often unobservable.

For example, the benefit of the reduced probability of a crisis or increased stability in the financial system is difficult to measure, although some analytical frameworks have been developed to help assess policy trade-offs.[xxi] This is also because uncertainty surrounds the indicators which are used to identify the risks.

Take the countercyclical capital buffer I mentioned. If credit supply increases excessively, our capital charges will pose a direct cost on the banks. However, this ensures the bank holds

extra CET1 capital in upswing of the financial cycle, and provides a cushion when the cycle turns.

Similarly, the mortgage regulations impact individuals' ability to access credit and purchase houses. As one of the public submissions to the review of the mortgage regulations stated – "I don't want a larger mortgage, I want a cheaper house".

This is a perfectly reasonable wish. However prices are determined by a complex interaction of supply and demand side factors and the instruments at our disposal can only do so much. We don't aim to target house prices, although an impact on prices can be a by-product of the measures.

Others argue for caution in using macroprudential instruments, given the associated uncertainty about their impact and the changing macro-financial environment. However, there is a danger that such thinking can also lead to inaction bias on the part of policymakers.

In theory, a rules-based approach, which would automatically trigger action if a set of indicators is breached, would mitigate the risk of inaction bias.[xxii] However, some degree of judgement from policymakers is needed to calibrate them efficiently, and once they are implemented, to respond quickly to evolving risks.[xxiii] Thus, in practice, it is recognised that some judgment is needed given individual indicators and thresholds cannot fully capture the emerging risks.

Our policy framework is therefore designed so we operate under a system of "guided discretion". For example, Member States in the European Union are required to use a standardised benchmark to calculate the countercyclical capital buffer rate. This acts as a common guide to designated authorities across jurisdictions. Similarly, the O-SII buffer has a cap of 2% of Risk Weighted Assets, to guide our decisions.

Recent work by staff at the Bank of England considers whether a cautious stance to macroprudential policy is justified when faced with Knightian uncertainty. It finds that this is not the case. A macroprudential policy targeting resilience of the financial system favours actions that avoid large losses across scenarios, regardless of how likely these scenarios are. Rather, their analysis suggests this should lead to more active policy in the face of uncertainty.[xxiv]

Experience of the recent crisis has illustrated starkly the cost of inaction and policymakers around the world have thus embraced the need for macroprudential instruments. In the European Union, sixteen Member States now have some form of loan-to-value and / or debt-service-to-income or loan-to-income measures in place. Learning from the recent past, the Bank has also been proactive in using these tools.

Communication is also a central element of implementation. We are committed to transparency around all the measures we implement. Bank staff actively publish insights from our analysis of the risks in our biannual Macro-Financial Review, Research Technical Papers and other publications. With regard to the mortgage regulations, the Bank published an *Economic Letter* in July that presented insights on new mortgage lending in 2015, following the introduction of the regulations.[xxv]

Furthermore, the Bank will publish the submissions to its public call for evidence on the impact of the measures at the time of the publication of the review in November. This will be accompanied by a feedback statement covering the key issues raised. Such moves should help to improve dialogue on the impact of the rules including the distinction between the operation of the rules and wider issues, for example relating to the supply of housing. In a further bid to foster greater understanding of our decisions, we also intend to publish in October the first account of the meeting of the internal Macroprudential Measures Committee, where these issues are discussed.

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Macroprudential policy evaluation

Evidence-based policymaking is a central principle of the Bank's work. Given the uncertainty about the future evolution of the financial system and of the precise impact of macroprudential instruments, it is important that all the measures be reviewed on a regular basis. The final step in our macroprudential policy framework – namely evaluation – is therefore critical.

The countercyclical capital buffer is reviewed on a quarterly basis, while the O-SII buffer and mortgage regulations are reviewed annually. However these reviews should not be seen as an indication that the Bank intends to make a change to the measures.

The first review of the mortgage regulations will be published in November. This will examine the effectiveness of the measures against their stated objectives and discuss potential side effects.

Let me briefly reiterate that the objective of the measures is to enhance the resilience of both borrowers and the banking sector. As I have stated previously, the mortgage regulations are designed to be a permanent feature of the Irish system.

The evidence threshold to justify a material loosening or tightening of the rules is significant for two reasons. First, stable rules are valuable for both households and mortgage lenders in eliminating avoidable uncertainty about the regulatory regime. Second, the noisy and volatile nature of macro-financial data means that it would be unwise to seek to adjust the rules in response to minor and temporary fluctuations in the state of the financial cycle: such a fine-tuning approach could actually aggravate financial instability if revisions proved to be unwarranted or badly timed.

There has been much public focus of late on the ongoing review, so I would like to take a few moments now to focus specifically on this.

A body of empirical work is underway to inform this and future reviews. This includes analysis covering household resilience and borrower types, banking resilience and bank lending practices, and house price and credit dynamics. In addition we are examining the impact on the rental market, housing supply and unsecured lending. The review is also informed by recent international evidence and by public submissions on the impact of the regulations.

The call for public submissions closed on 31 August. The Bank received fifty submissions in total. These came from a wide range of individuals, industry experts, and other interested parties and are currently being analysed. A number of submissions highlighted the need to improve awareness on the calibration of the measures and on the availability of allowances under the proportionate cap system.

Early insights which were published in the July *Economic Letter* capture a period when banks and borrowers were transitioning to the new regulatory environment. [xxvi] However, a number of key points emerged over this period.

As mentioned, an impact on prices can be a by-product of the measures. In this context we have seen a moderation in Dublin house price increases since end-2014, although house price growth remains strong in commuter counties and some other cities.

The latest data on house purchase prices for first-time buyers nationally suggests the median house price was €210,000 in 2015.[xxvii] Under our rules, assuming use was not made of the available exemptions, this would imply a minimum deposit requirement of 10 per cent of the purchase price.

For first-time buyers in Dublin, the median purchase price over the period was €270,000; the deposit requirement in this case is 11.9 per cent.

These requirements are broadly in line with those observed in the market for first time buyers in the period preceding the introduction of the regulations, as financial institutions had already adjusted their lending standards to more prudent levels after the financial crisis.

Second, price expectations have also moderated following the introduction of the measures – although survey participants continue to expect house prices to rise over the short to medium term. Median price expectations have moderated, for both the national and Dublin markets. The mortgage regulations are also reported as influencing these expectations.

Through our review, we also noted a number of differences in the characteristics of borrowers in the data. Under the regulations, a proportion of lending is allowed to take place in excess of the loan-to-value and loan-to-income limits.[xxviii]

Among first-time buyers, borrowers with an allowance for the loan-to-value ratio had, on average, a higher income relative to borrowers without an allowance. Couples and borrowers in Dublin also had a higher share of this allowance.

With regard to the loan-to-income ratio, borrowers with an allowance on average had a lower income and were slightly younger. There was also a higher share of single borrowers with a loan-to-income allowance. These aspects give us a greater understanding of the effect of the regulations and of how, and to what extent the allowances have been used. This also suggests initial fears regarding the use of the allowances may be unfounded.

As new data and insights on lending developments and the use of allowances to exceed the parameters of the rules become available, these will be released on a periodic basis. For example, another *Economic Letter* on lending in the first half of 2016 will be published in a matter of weeks. Similarly, the forthcoming *Quarterly Bulletin* will include an article entitled "Rental markets, savings and the accumulation of mortgage down-payments" which will give further insights into these dynamics.

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Conclusion

In the years ahead, Knightian uncertainty will remain a central feature of the backdrop against which policy makers must make difficult decisions. With regard to macroprudential policy, we must be prepared to take action in the face of such uncertainty.

Learning from the crisis, the Bank has taken clear and decisive action through the introduction of the mortgage measures and other macroprudential instruments. These were implemented in the interests of safeguarding financial stability and protecting the system as a whole. We are still early in the life of the mortgage measures which have a medium term focus. It would be unwise to seek to adjust the rules in response to minor and temporary fluctuations in the state of the financial cycle. Therefore, the evidence threshold to justify a material loosening or tightening of the rules is significant.

It is important that we strive to continue to enhance our knowledge on economic and financial developments, on their potential impact under various scenarios and on our frameworks for assessing, calibrating, and implementing macroprudential policies. I hope that the work of the Central Bank of Ireland can contribute to developments in this field.

Thank you.

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[i] This amounts to 14% of Irish goods and 20% of Irish services exports, and about a quarter of Irish goods and around 10% of services imports.

[ii] See the Central Bank of Ireland Quarterly Bulletin Q3, July 2016, available here

[iii] As of end-year 2015, publicly available data shows the total balance of PDH loans in negative equity, for AIB, Bank of Ireland and Permanent TSB, represents 23.5 per cent of lending. For BTLs, the share of total loan balances in negative equity was 41.0 per cent at end of year 2015.

[iv] See the Central Bank of Ireland, "Macro-Financial Review 2016:1", available here. Also see the recent International Monetary Fund, "Financial System Stability Assessment – Ireland", IMF Country Report 26/258, July 2016, available here.

[v] Knight, Frank (1921, 1964 p232), "Risk, Uncertainty and Profit", New York: Sentry Press.

[vi] See "A Macroprudential Policy Framework for Ireland", Central Bank of Ireland, 2014, available here.

[vii] This follows the standard European framework for macroprudential policy – see European Systemic Risk Board (2014), "Flagship Report on Macro-Prudential Policy in the Banking Sector "March 2014.

[viii] See Borio, Claudio (2012), "The financial cycle and macroeconomics: What have we learnt?", BIS Working Papers No 395, December 2012.

[ix] See De Nicolò, Gianni, Favara, Giovanni, and Lev, Ratnovski (2012), "Externalities and macroprudential policy", IMF Staff Discussion Note, June 7, 2012 (SDN/12/05), International Monetary Fund, for a full discussion. An overview is also discussed in Claessens, Stijn (2014), "An Overview of Macroprudential Policy Tools", IMF Working Paper, WP/14/24.

[x] See Silva, André, (2016), "Strategic complementarity in banks' funding liquidity choices and financial stability", European Systemic Risk Board Working Paper Series, No 19/ July 2016.

[xi] See "Misjudging Risk: Causes of the Systemic Banking Crisis in Ireland", Report of the Commission of Investigation into the banking sector in Ireland, March 2011.

[xii] See Brunnermeier, Markus, Crockett, Andrew, Goodhart, Charles, Persaud, Avinash D., and Shin, Hyun Song, (2009), "The Fundamental principles of Financial Regulation", Genera Reports on the World Economy 11, June 2009 International Center for Monetary and Banking Studies.

[xiii] See The Irish Banking Crisis Regulatory and Financial Stability Policy 2003–2008, A Report to the Minister for Finance by the Governor of the Central Bank, and Regling, Klaus and Watson, Max (2010), A Preliminary Report on The Sources of Ireland's Banking Crisis for a full description of the origins of the Irish crisis.

[xiv] Agur, Itai and Sharma, Sunil (2013), "Rules, Discretion, and Macro-Prudential Policy", IMF WP/13/65.

[xv] See for example, Rünstler, Gerhard and Vlekke, Marente (2016), "Business, housing and credit cycles", Working Paper Series, No 1915, ECB, June.

[xvi] The European Systemic Risk Board is responsible for oversight of the European financial system and for preventing and mitigating systemic risk. Constâncio, Vitor (2016) "Principles of Macroprudential Policy" provides a useful recent discussion of the indicators available at the ECB to measure systemic risk. The European Commission has also launched a review of the EU macroprudential framework. Details are available here

[xvii] These instruments are derived from both European and national legislation.

[xviii] See European Systemic Risk Board (2014), "The ESRB Handbook on operationalizing macroprudential policy in the banking sector", 3 March (ESRB/2014).

[xix] This requirement will be phased in over the period 1 July 2019 to 1 July 2021. A decision on the scope for this year's O-SII buffer will be taken later this year.

[xx] See "A Macroprudential Policy Framework for Ireland", Central Bank of Ireland, 2014, available here for a full list of instruments and their intermediate objectives. A full description of the countercyclical capital buffer is explained in Creedon, Con and O'Brien, Eoin, "Indicators For Setting the Countercyclical Capital Buffer" Economic Letter, Vol. 2016 No. 2 available here. Also see Central Bank of Ireland Countercyclical capital buffer rate announcement of 1 July 2016, available here

[xxi] Arregui, Nicolas, Benes, Jaromír, Krznar, Ivo, Mitra, Srobona, and Andre Oliveira Santos (2013),"Evaluating the Net Benefits of Macroprudential Policy: A Cookbook", IMF/13/167.

[xxii] Ibid.

[xxiii] See IMF (2013), "Key Aspects of Macroprudential Policy", International Monetary Fund, June 2013.

[xxiv] Saleem Bahaj and Foulis, Angus, (2016), "Macroprudential policy under uncertainty", Bank of England Staff Working Paper No. 584.

[xxv] Keenan, Enda, Kinghan, Christina, McCarthy, Yvonne and Conor O'Toole,(2016). "Macroprudential Measures and Irish Mortgage Lending: A Review of Recent Data", Economic Letter Series, Vol. 2016, No.3.

[xxvi] Ibid.

[xxvii] Figures are from a loan-level dataset held at the Central Bank of Ireland.

[xxviii] See footnote xxvii.