Resilience through transitions: facing the tumult - Governor Gabriel Makhlouf

20 November 2019 **Speech**

Speech delivered at Waterford Institute of Technology

Dia dhaoibh,

It is a pleasure to be here with you at the Waterford Institute of Technology (WIT) today, for my first formal speech as Governor of the Central Bank.[i]

I am nearly 3 months into my new job.

Some of you may have joined the workforce already; others might be in your final year of college, or thinking about entering the job market. When you start any new job, there is a lot to learn.

This is also true for me, with an institution like the Central Bank that has a wide mandate. We have a broad mission to serve the public interest by safeguarding monetary and financial stability and by working to ensure that the financial system operates in the best interests of consumers and the wider economy.

In this sense, the Central Bank has a number of roles. We take decisions as the macroprudential authority, on the mortgage measures for example. We act as the regulator and supervisor for banks, credit unions, payment institutions, insurance companies and the funds sector. Embedded in our approach to financial regulation is our role as part of the State's consumer protection framework ensuring that the best interests of consumers of financial services are protected.

We work closely with other bodies – both national and international – to deliver on our objectives. And we have, as a result, many stakeholders.

I have quite deliberately spent my first few weeks listening – inside and outside the Central Bank – to understand better the key challenges as people see them. I visited Dundalk last month, Waterford today, the Ploughing Championships in Carlow in September, and was even lucky enough to make the replay of the All Ireland (Senior Men's Football Championship).

But I really wanted my first speech to be to students.

The reason why is pretty simple. You and your peers are our future. Today, I'll touch upon a number of key challenges we face as a country, and as a global community. These challenges are not only short-term ones. They will require sustained, strategic focus and innovative thinking. Your lives will be affected by those challenges, and so I would expect you to want to affect them too.

The late Czech statesman and playwright, Vaclav Havel, said that it is "only by looking outwards, and throwing ourselves repeatedly into the tumult of the world, with the intention of making our voices count – only in this way do we really become human beings".[ii]

It is you, and counterparts like you, who will take up the challenge in the years ahead, who will devise new approaches and new solutions for tomorrow's world and who will oversee and manage the great transitions of our time. Amid the tumult of global shifts, you will be at the vanguard of further progress.

But today, it is people like me, and my colleagues in the Central Bank who have an important role to play. We have a responsibility to understand and help to explain the transitions that are shaping the world we live in, to assess the risks and to take action where we can.

It is these transitions that I really want to talk to you about today.

Specifically I want to talk to you about economic resilience through transitions.

We naturally see a dynamic and evolving economy as a positive. But dynamism and evolution also involve change, and change – whether unexpected or planned – requires resilience.

Economic resilience is in essence the ability of an economy to manage change, whether it is to withstand or recover from the effects of shocks or the more gradual evolution to a different state.

Much has been said about Ireland's specific need to be resilient.[iii]

Today I want to focus on resilience through some of the big changes we as a society are facing, in particular climate change, technological change, the changing financial system and Brexit.

Finally, I will outline how I think we should meet some of the challenges these transitions bring, as well as discussing the role the Central Bank can play at home, as part of the Eurosystem, and globally.

But first let me begin by saying a few words about Waterford.

A long history of looking outward

Since taking the job of Governor, I've spent a lot of time reading about Ireland. And I've enjoyed learning about the rich history of the Déise: its megalithic tombs,[iv] Vikings, and Anglo-Norman invasion and occupancy.[v] I've learned that "the earliest incursions into Ireland were associated with Waterford, and these hardy mariners were original free-traders".[vi]

More recent medieval history shows, that after repelling two pretenders to the English throne, Henry VII granted Waterford its motto *Urbs Intacta Manet Waterfordia* – 'Waterford remains the untaken city'.[vii]

The people of Waterford are therefore most definitely a resilient bunch. And have a long history of looking outward too.

In the early 1600s, Waterford was considered the second city for trade to Dublin and hence a centre of trade and commerce in an increasingly interconnected Ireland.[viii]

Some trade occurred with English towns like Bristol but "by far the greater part of its commercial intercourse seems to have been with the Netherlands, with Southern and Western France, and particularly with Spain and Portugal".[ix] A timely reminder that Ireland's high integration with the European continent is not just a recent development as a result of being part of the European Union, but something that we can see throughout history.

The Port here in Waterford Harbour was critical to this trade.

Interestingly, I read a note that in 1785 the body of merchants, who voluntarily taxed themselves by rates on goods and dues on ships, used the revenue to enhance the quays and Port. In 1815 that body of merchants became the Chamber of Commerce and was established by Royal Charter.[x]

I will come back to this later. But it is a pleasure to welcome the Chamber here today.

Of course many of you will know the history much better than me. History, however, provides good context for understanding the many transitions economies, communities and societies have made through time. We can learn from this shared history as we face new challenges, starting with the need for resilience.

But why is resilience so important for a country like Ireland?

Macroeconomic outlook and challenges

First off, today, the Irish economy is one of the most open economies in the world for trade and finance.[xi]

Europe and the United States buy the bulk of Irish exports.[xii] The presence of many foreign-owned multinational companies in Ireland also reflects this openness. And they make a significant contribution to the Irish economy. One in seven jobs in Ireland are in multinational companies, many of which are highly skilled.[xiii] This is reflected in the comparatively higher wages earned by workers in multinational firms.[xiv]

Ireland hosts all of the world's top ten pharmaceutical companies, some of which are here in Waterford, and nine of the top ten medical technology firms. The production of computer hardware was, early-on, a significant contributor to trade and employment in Ireland. However, competitive pressures have seen a significant relocation of computer hardware manufacturing from Ireland to lower-cost countries.[xv] The shift towards a services-based technology sector means a sizeable presence of firms in Ireland such as Google, Apple, Microsoft and Facebook.

Foreign investment boosts economic activity both directly and indirectly. The presence of these firms also benefits the Irish exchequer, with employees in foreign multinationals contributing 40 per cent of both income tax and the Universal Social Charge (USC) in 2018, on top of significant contributions to other tax receipts such as corporation tax (77 per cent of the total in 2018).[xvi]

Multinational enterprises in Ireland also contribute the largest share of output relative to our European peers.[xvii] However, as the profits flow to foreign owners, the contribution to national income through taxes and wages is somewhat lower than output figures suggest.

So Ireland has clearly benefited from opening itself up to the world and this openness has become a defining feature of the Irish economy.

However, this openness can also be a source of vulnerability.

This idea of openness as a trade-off between the benefits of higher productivity (i.e. higher *average* incomes) and the costs of higher volatility (income varies more around this average) is a long-researched issue in trade economics.[xviii]

It means we are more vulnerable to the 'the shifts and the shocks' in the global economy, or as Havel put it, the "tumult of the world".[xix]

The small and open nature of the Irish economy means that it is always particularly vulnerable to shocks stemming from abroad. External risks are heightened at the moment, both due to structural developments – including the ongoing possibility of a disorderly Brexit and the risk of an escalation of trade wars – as well as cyclical developments, such as a sudden change in global financial conditions.

The size and complexity of multinationals combined with the concentrated nature of the sector, presents challenges not just for statisticians in compiling national accounts but also for policymakers when assessing risks. It is important to understand the profile of such multinationals, and their sensitivity to changes in the global environment.

And today the macroeconomic outlook is mixed with the global economy experiencing a synchronised slowdown as a result of rising trade barriers and geopolitical uncertainty.[xx]

Structural factors such as low productivity growth and ageing demographics in advanced economies are also contributing to the sluggish dynamics.[xxi] There is a risk that weaknesses in the manufacturing sector spreads to services.[xxii]

As a result, the International Monetary Fund (IMF) for example recently downgraded its outlook for 2019, with global growth now looking to be about 3 per cent this year.[xxiii]

In the euro area we are also seeing protracted weakness. Both hard and soft data for the second half of the year point to continuing, moderate growth. While the economy is still growing, this growth has remained weak at 0.2 per cent (as of the third quarter of 2019).

The trade tensions I mentioned and the uncertainty that this causes have had an effect on the manufacturing sector, particularly in Germany, the European Union's largest economy. But, despite this slowdown, the services and construction sectors continue to support growth. The labour market has also held up although many of you will know that employment and wages are often lagging indicators.

As Governor of the Central Bank of Ireland, I am also a member of the Governing Council of the European Central Bank (ECB), where one of our main responsibilities is formulating monetary policy to keep prices stable in the euro area. We define price stability as an inflation rate of below, but close to, 2 per cent over the medium term.[xxiv] Price stability enhances economic growth and welfare by ensuring that households and firms can make consumption and investment decisions without the uncertainty of volatile prices.

The adverse economic developments that I described earlier affect inflation. In March this year the ECB revised its outlook for growth and inflation significantly downwards, and in June projected inflation was revised down again to 1.4 per cent for next year.[xxv]

When we saw no improvement by September, we – the Governing Council – took action. Our aim is to see a stronger economy with price stability. In September we judged that in order to get to that point, a range of monetary policy measures were needed including lowering interest rates.[xxvi]

Even though factors at a global and European level affect us, the Irish economy continued to grow at a strong pace in the first half of 2019.[xxvii] Employment increased by 2.6 per cent in 2018 in comparison to 1.2 per cent in the euro area.[xxviii]

Looking ahead, however, trade and ongoing geopolitical tensions as well as Brexit pose risks to growth.

Building economic resilience

Irrespective of the particular 'shift' or 'shock', rapid change in the world around us and our openness and international interconnectedness mean we need to build resilience.

Ireland knows this better than most, given the depth of the financial crisis the country endured and the resulting societal impacts.

Many of your families will still be affected from the legacies of the crisis.

To me, building economic resilience is not like building a bulwark and then assuming the job is done. There is no one-off solution to the challenge of building resilience. It is a continuous process, involving individuals, households, businesses, institutions and authorities (such as the Central Bank), both at home and abroad, adapting to – and shaping – the context in which they live and operate.

The good news is that we've made progress.

For example, looking back over the last decade, public and private sector indebtedness ratios have reduced significantly.

Irish households now have lower debt repayments and are less sensitive to shocks to interest rates or incomes.

Since its peak of €202.9 billion in Q3 2008, household debt has decreased by 32.5 per cent, or €66 billion.[xxix] However, notwithstanding the significant reduction in recent years, Ireland's household debt-to-income ratio remains the fifth highest in the EU.[xxx]

Most household debt is in mortgages. We are currently reviewing our calibration of the mortgage measures so I will not discuss them in great detail today. However, I want to emphasise that the measures are aimed at strengthening borrower and bank resilience. And our focus remains on avoiding a return to the credit-house price spirals of the past.

Irish firms have also reduced their debt relative to their assets, and debt repayment burdens have fallen.[xxxi]

Ireland's public finances have also improved significantly in recent years and favourable financing conditions have reduced debt-servicing costs. At the same time, the crisis has left a legacy of high government debt that, in 2018, was larger than the level of national income (GNI*).

Analysis from Central Bank economists shows that a disorderly Brexit or a permanent loss of corporation tax revenue could result in the level of debt remaining above 90 per cent of national income well into the middle of the next decade.[xxxii] Therefore reducing the level of public debt can help to improve the capacity of the public finances to withstand negative shocks.

Finally, Irish banks and credit unions have become better able to absorb shocks, rather than amplify them.[xxxiii] Well-functioning credit institutions are important platforms for economic prosperity. Banks now have higher capital ratios and more stable sources of funding, and the banking system is smaller. Mortgage arrears have also fallen significantly.[xxxiv]

Yes, of course there is more work to be done. And different banks are in different places. But we have all come a long way over the last decade and I recognise that.

When I read about the history of the Chamber of Commerce here in Waterford, I was reminded of the establishment of the Irish Banking Culture Board. As I mentioned earlier, in 1785 the predecessors to the Chamber voluntarily taxed themselves to enhance the quays of the Port.[xxxv] They did this to enhance the flow of trade to Waterford, so more ships could dock, and more goods could be bought and sold. They took responsibility. And like the 18th century merchants of Waterford who fixed the quays themselves to enhance trade, I see parallels with the creation of the Irish Banking Culture Board (IBCB). The IBCB is an independent industry initiative established and funded by the five retail banks in Ireland with the aim of rebuilding trust in the sector through demonstrating a change in behaviour and overall culture.[xxxvi] It is a welcome development. It is in all our interests to have an efficient, sustainable, fair and trusted financial system.

Resilience through transitions

The Irish economy has seen a remarkable transition over the past century or so, moving from a quite closed economy to one of the most open in the world.

A predecessor of mine was instrumental in this transition, particularly while at the Department of Finance. Ken Whitaker famously authored the Programme for Economic Development, which became the blueprint for Ireland's transition in the 1960s. The programme "lowered the barriers Ireland had erected around itself and allowed the Irish people to look at their country and themselves, not from some mystic, historically idealised vantage point, but from eye level."[xxxvii]

The benefits to becoming such an open economy really became apparent in the 1990s. Ireland experienced a period of sustained growth as living standards converged to European levels. Measures such as GDP per capita have remained above the European Union and Euro Area averages since the late 1990s.[xxxviii]

This transition was not without difficulty however.

The period from 1993-2018 saw more stable prices and greater average employment growth than previously but the period was also punctuated by an extremely damaging crisis.[xxxix]

This was clearly an extremely difficult time. The number of people in employment fell by over 350,000 from the beginning of 2008 to 2012.[xl] Net migration for Ireland turned negative from 2010 to 2014 as more people left Ireland than came here.[xli]

Some of your brothers, sisters, cousins or friends, may have had to emigrate from Ireland to find opportunities in places like

Canada, Australia and New Zealand.

So while the economy has benefited greatly from its openness, the crisis showed just how vulnerable we are to shifts in global economic and financial conditions, in particular when large domestic imbalances are allowed to build up.

Looked at from 'eye-level,' recognising the risks we face and building resilience to inevitable downturns is a key lesson to learn from this difficult past.

Looking ahead, I want to talk about four particular transitions that we need to be prepared for: the UK's withdrawal from the EU, climate change, technological change and change in the financial system.

Brexit

Let me start with the UK's withdrawal from the EU.

Brexit represents an enormous change – and transition – for the citizens of Ireland, for many Irish firms and for the economy as a whole. Our work on Brexit has spanned across our mandates, and we have published extensive analysis of, and advice on, the risks and the steps required to mitigate them.[xlii]

Ensuring that people, households, firms and the country adapt, adjust, and manage this change is a constant process. Brexit will inevitably bring disruption – even with a 'deal' – which, by its very nature, will dissipate over time. But we must not lose sight of the inevitable long-term costs. Any form of Brexit will be damaging for Ireland.

Our work will continue over the coming weeks, months, and indeed years as we all transition to the new arrangements, whatever they may be. The fact is that the process is far from over; simply having a Withdrawal Agreement is not the end of the road but only the end of the beginning.[xliii]

Climate change

Climate change is having a profound effect on our planet, societies and economies. And the transition to a low-carbon economy will require adjustments by all of us: consumers, businesses and policymakers.

Central banks have become acutely aware that understanding the impacts of climate change and the transition to a low-carbon economy is important to delivering our mandates.

I should be clear that central banks do not have a mandate to address the causes of climate change or the transition to a low-carbon economy. Those policy decisions rest with elected representatives.

But we do have a role to play. In fact, the Central Bank's building is the first of its type in Ireland to receive a rating of 'Outstanding' for its sustainability.[xliv]

In terms of our mandates we are strengthening our own in-house understanding of how climate-related factors translate into financial risks. I want to mention three things, in particular, that we will be doing.

First, we will increasingly be embedding climate risk issues into our financial stability assessments and supervision. That will include mapping the many ways through which either physical or transition risks can affect the Irish financial system or different parts within it.[xlv]

We are not alone. We have joined the Network for Greening the Financial System, a network of 42 members and eight observers, representing central banks and supervisors from five continents. "The Network's purpose is to help strengthening the global response required to meet the goals of the Paris agreement and to enhance the role of the financial system to manage risks and to mobilize capital for green and low-carbon investments in the broader context of environmentally sustainable development."[xlvi]

Second, we will ensure that appropriate data is available to assess the exposures of the financial system to climate-related risks over time and across sectors.

Third, we are engaging with regulated firms and ensuring that they themselves are aware of their exposures and that they are incorporating climate-related risks into prudent risk management and investment practices. As a result of the European Commission's Sustainable Finance action plan, new requirements are being imposed on financial firms – particularly in respect of disclosure and due diligence – designed to enhance their contribution to a achieving a sustainable economy.[xlvii]

The pace of technological change

It won't surprise you to hear that technological change is another major transition which society has to manage.

One example of such change is the very money in your pocket.

From a central banking perspective, we are seeing a significant change – across the world – in how people interact with money. Less of us pay with cash. Instead we tap our cards, or our smart watch, and we transfer money to our friends using apps. The pace of technological change is significant but, having said that, cash usage remains high.[xlviii]

In Ireland cash accounts for over 70 per cent of point of sale transactions although this is on the decline.[xlix] The number of ATM terminals for example reduced from 3,630 in 2014 to 3,014 in 2018.[l] This decline is happening more rapidly in other countries. In the UK, for example, cash accounted for 34 per cent of all payments in 2017 while in Sweden cash accounts for less than 20 per cent of transactions.[li].[lii]

Having an adequate supply of cash in the economy remains part of an effective payments system and protects the best interests of consumers.[liii]

This will become more challenging over time as technology pushes us further away from cash.

New technologies are re-shaping the financial sector, and present challenges to banks – and people – alike.

Many questions remain around data, cyber risks, and the resilience of the payments system.

These are high on the agenda of central banks around the world.

But the pace of technological change is obviously wider than payments systems.

Technology is not only shaping the very way we engage and interact with each other, but it is also having a structural impact on our economies.

For example, artificial intelligence will have a profound impact on routine tasks, as well as relatively complex ones.

However only focusing on the displacement of jobs involved in such tasks risks missing the positive welfare outcomes from the greater productivity associated with technological gains. Technological improvements can boost income for workers who can increase their productivity by using machines and technology. The long-run historical evidence appears to support this view.[liv]

Financial institutions have little option but to adapt to these changes if they want to remain competitive. But they will also need to provide services to all their customers and ensure that technological change is inclusive.

Society has already started to adapt to these changes, if the take-up of new payment apps is anything to go by. Of course the important word here is 'started'. At the Central Bank, we have already established an Innovation Hub to provide a platform for us to listen to innovators in the FinTech sector.

In my view, the Central Bank has a role in helping the community understand and adapt to these changes. It is firmly within our mandate of ensuring a financial system that operates in the best interests of consumers and the wider economy as a whole.

The changing financial system

The fourth key transition is the changing nature of the financial system itself.

Since the crisis we have seen large growth in the financial sector outside the traditional banking system. Market-based finance plays an important role in economic activity but can be a source of risk.

The relative size of Ireland's market-based finance sector (to the domestic economy) is among the largest globally and it has a predominantly international focus. It is dominated by investment funds and money market funds, which account for around two thirds of total assets.

The figures are significant, reflecting Ireland's position as a global financial hub:

- Ireland is the world's sixth largest jurisdiction for non-bank financial intermediation.[lv]
- The size of the sector more than doubled from approximately €1.8 trillion at the end of 2009 to more than €4.4 trillion in the first quarter of 2019 (broadly consistent with international trends, although faster than the euro area).
- We have the largest Exchange-Traded Funds sector in the euro area.
- We have the largest securitisation vehicle sector in the euro area.
- We host the second largest investment fund sector in the euro area.
- A large proportion of the outstanding value of European Collateralised Loan Obligations (CLOs) are located in Ireland.[lvi]

Market-based finance provides a valuable alternative to bank financing for many businesses and households, supporting economic activity. But these activities may also give rise to financial vulnerabilities, which need to be understood, monitored and addressed.

We must ensure that we have a good handle on the risks – domestic, European, or global – that could emanate from non-bank financial intermediation.

For example, data from the Central Bank shows that resident investment funds hold the largest share of physical Irish commercial property assets among non-banks, at some €18 billion reflecting the links of the funds sector to the domestic economy.[lvii] Some of the funds that invest in Irish commercial real estate have increased their leverage, with a small number being highly leveraged.[lviii]

Moreover, yesterday, the Central Bank's Statistics team published interesting research on the characteristics of CLOs resident in Ireland. CLOs are structured finance vehicles which re-package the credit risk of underlying assets.[lix] Among other things, it shows that a very small proportion (around 2 per cent) of the loans these vehicles own were given to Irish firms so the direct 'real economy' role of CLOs for Irish firms is small.[lx]

The Central Bank does not prudentially regulate CLOs but that does not mean that they are without risk. CLOs may amplify the spread of risk throughout the financial system due to uncertainty over who is exposed to them.

The key point is that the resilience of market-based finance at the current scale – both in Ireland and internationally – remains untested in times of stress. I am particularly interested in understanding and assessing the risks in the non-bank sector as are many of my colleagues around the world.

Ireland is – and has to be – at the forefront of these policy discussions.

I will give a much wider assessment of both the macrofinancial environment and the resilience of the financial system when we publish our Financial Stability Review next month.

In summary, changes are taking place in our financial system. Given our international interconnectedness, building resilience through this transition is essential.

How do we meet these challenges?

So, how do we meet the challenges posed by these transitions?

For me it's about continuing to focus on the fundamentals, about managing the short term while planning for the medium term, ensuring our frameworks are fit-for-purpose and learning the lessons of the past while preparing for the future. It's also about being prepared to challenge ourselves.

First, we must continue to focus on fundamentals. Successful economies need stable and sustainable macroeconomic frameworks and sound monetary policy that delivers predictable prices. They also need stable and well-regulated financial systems and well-functioning markets. The Central Bank will continue to focus on its core mandates of price stability, a stable financial system and the protection of consumers.

Second, we need to focus on the medium term while managing the short term. Focussing excessively on short-term issues risks losing sight of both the fundamentals and our overarching objectives.

Third, regular reviews of frameworks are good practice and we need to ensure our frameworks are fit-for-purpose.

Macroprudential policy

One such area where this applies is macroprudential policy.

One of the key lessons from the crisis was that focusing on monetary stability and the safety and soundness of individual institutions was not enough. A key missing plank of the macroeconomic framework were policies designed to strengthen the resilience of the system as a whole. Since the crisis, one of the main innovations has been the introduction of a macroprudential framework and toolkit.

Ireland has been at the forefront here. To promote financial stability, macroprudential policy aims to strengthen the resilience of the financial system so that it can withstand macroeconomic shocks, including adverse movements in credit and property prices.

Next year marks five years since the introduction of the mortgage measures – which are a permanent feature of the mortgage market. They have been key to enabling sustainable lending and are a core component of our macroprudential toolkit. The annual review of the measures allows us to challenge ourselves to ensure they are set in a way that ensures bank and borrower resilience is maintained and that we don't see a damaging credit-house price spiral emerging.

The framework is still evolving. Shortly, for example, we will move to complete the macroprudential framework for bank capital with the introduction of the Systemic Risk Buffer (SyRB).[lxi] This complements other macroprudential capital buffers, like the counter-cyclical capital buffer (CCyB) and buffers for systemically important institutions.

Each of these buffers address a key source of systemic risk. For example, the risks posed to our small and highly interconnected economy requires the CCyB to provide resilience to negative developments in the global financial cycle and the SyRB to address structural risks, such as abrupt shifts in international trading arrangements.

The complementary nature of these buffers highlights the maturing of our framework. But it is important to take stock, learn lessons and continue to develop.

In particular it is important to consider how the suite of macroprudential buffers interact not only with each other but also with those of microprudential supervision – arriving at a consistent and holistic view of capital for the banking sector – and the other key macroprudential tools in operation. We must continue to look at whether the objectives and scope of our wider macroprudential framework remains appropriate to the current environment.

Moreover, given the growth in market-based finance in recent years, there is an increasing focus on understanding the financial stability risks posed by these developments. This is particularly important given the 'lower for longer' monetary policy environment we find ourselves in. It is important for our macroprudential framework to grow and widen to reflect these developments with policies to promote financial stability and to mitigate the impact of negative shocks on the real economy.

Monetary Policy

I also endorse the calls for a formal review of our monetary policy strategy. It is now over a decade since the ECB last reviewed its strategy and a review will provide an opportunity to take on board the lessons of the financial crisis as well as our experience of a low-inflation environment.

Fourth, we must learn the lessons of the past and prepare ourselves for the challenges of the future. As Mark Twain apparently said, history may not repeat itself, but it often rhymes. Leverage, maturity and liquidity mismatches have, for example, been at the heart of many previous financial crises. For example, although we may find less of that in the banking sector now, similar mismatches could create vulnerabilities if they emerge in the non-bank sector.

Fifth, we must be ready to challenge familiar paradigms and theories, however uncomfortable this may be. I don't just mean with respect to how we think about economic policy, but our openness to different ways of thinking, even where we find it challenging. We saw in the financial crisis how "the simultaneous failures of Irish institutions resulted from "bandwagon effects both between institutions ("herding") and within them ("groupthink"), reinforced by a widespread international belief in the efficiency of financial markets.[lxii]

We must constantly challenge ourselves, our thinking and our beliefs. As Keynes wrote, "the difficulty lies, not in the new ideas, but in escaping from the old ones, which ramify, for those brought up as most of us have been, into every corner of our minds".[lxiii]

In the face of structural changes and big transitions, history may not be a good guide to the future. Information will inevitably be imperfect and can lead to inaction bias. But we have to remember that not taking action is a policy decision too.

Conclusion

Economic transitions have been a feature of society throughout history. Building economic resilience is the most effective way to help societies manage them. Arguably a distinguishing feature of the transitions we are currently experiencing – and will experience in the future – is the pace of change. In my view, a further way to meet the challenge of fast-moving transitions is to develop a narrative that helps communities understand the changes happening around them. This isn't a task for central bankers alone and we all need to get better at developing narratives that societies understand.[lxiv]

Let me finish where I began.

Every year, the Central Bank hires a sizeable number of graduates, exceptional students interested in our work, motivated by public service.

They give me immense optimism about our capacity – as a country, as a global community – to tackle the challenges we face. They understand the value of working together, and they bring critical new thinking to complex issues.

They throw themselves into the tumult.

And that is the best way to deal with the challenges ahead of us.

Go raibh maith agat.

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[i] I would like to thank all the colleagues in the Central Bank of Ireland who contributed to the preparation of my remarks.

[ii] Keane, J. 2008. Václav Havel: a political tragedy in six acts. *Hachette UK*, pp. 333.

[iii] See remarks from my colleague, Sharon Donnery, Risks and Resilience in Uncertain Times.

[iv] See Waterford County Museum, 'Waterford Geology and Prehistoric Dungarvan.'

[v] See Waterford County Museum, 'Early Waterford History.'

[vi] Brophy, A. J. 2004. Port of Waterford: Extracts from the Records of the Waterford Harbour Commissioners from their Establishment in 1816 to the Report of the Ports and Harbours Tribunal. *Journal of the Waterford Archaeological and Historical Society,* No. 60, pp 151-169. Available here.

[vii] See Waterford Medieval Museum, 'King Henry VIII's Cap of Maintenance.'

[viii] Lough, S.M., 1916. Trade and Industry in Ireland in the Sixteenth Century. *Journal of Political Economy, 24(7)*, pp.713-730.

[ix] Ibid, pp. 718.

[x] Brophy, A. J. 2004. Port of Waterford: Extracts from the Records of the Waterford Harbour Commissioners from their Establishment in 1816 to the Report of the Ports and Harbours Tribunal. *Journal of the Waterford Archaeological and Historical Society,* No. 60, pp 151-169. Available here.

[xi] See remarks from my colleague, Sharon Donnery, Small Open Economies – Vulnerabilities in a Changing World.

[xii] Ibid.

[xiii] See Foreign Direct Investment in Ireland 2017, Central Statistics Office.

[xiv] Ibid.

[xv] Barry, F. and Van Egeraat, C., 2008. The decline of the computer hardware sector: how Ireland adjusted. *Quarterly Economic Commentary*, pp.38-57.

[xvi] See Corporation Tax 2018 Payments and 2017 Returns, Revenue Commissioners.

[xvii] Source: Eurostat.

[xviii] Caselli, F., Koren, M., Lisicky, M. and Tenreyro, S., 2019. Diversification through trade. *The Quarterly Journal of Economics.*

[xix] The 'shifts and shocks' refers to a book by Martin Wolf. See Wolf, M., 2014. The shifts and the shocks: What we've learned--and have still to learn--from the financial crisis. Penguin.

[xx] See IMF World Economic Outlook, October 2019.

[xxi] Ibid.

[xxii] Ibid.

[xxiii] Ibid.

[xxiv] See The definition of price stability, European Central Bank, for further details.

[xxv] See European Central Bank Macroeconomic Projections, June 2019.

[xxvi] See European Central Bank Press Conference, September 2019.

[xxvii] See Central Bank of Ireland Quarterly Bulletin No.4 2019 for further discussion.

[xxviii] Source: Eurostat, Labour Force Survey.

[xxix] See Central Bank of Ireland Quarterly Financial Accounts.

[xxx] See Central Bank of Ireland Household Credit Market Report 2019. The debt-to-income (DTI) ratio declined from 128.8 per cent in Q1 2018 to 119.8 per cent in Q1 2019, the lowest level since 2003.

[xxxi] See Central Bank of Ireland Financial Stability Review 2019:1. Debts owed by small and medium-sized enterprises (SMEs) to Irish banks have fallen by more than a third during the last five years. Instead of borrowing, many Irish SMEs use retained earnings to fund spending and investment

[xxxii] See Conefrey, T., Hickey, R. and Walsh, G., 2019. Debt and Uncertainty: Managing Risks to the Public Finances. *Central Bank*

of Ireland Economic Letter, Vol. 2019, No. 11.

[xxxiii] See Central Bank of Ireland Financial Stability Review 2019:1.

[xxxiv]The number of mortgage accounts for principal dwelling houses (PDHs) in arrears over 90 days was broadly unchanged in Q2 2019 with a minor decline of 340 accounts. This marks the twenty-third consecutive quarter of a fall in the number of accounts in this category. See Central Bank Residential Mortgage Arrears & Repossessions Statistics: Q2 2019

[xxxv] Brophy, A. J. 2004. Port of Waterford: Extracts from the Records of the Waterford Harbour Commissioners from their Establishment in 1816 to the Report of the Ports and Harbours Tribunal. *Journal of the Waterford Archaeological and Historical Society*, No. 60, pp 151-169. Available here.

[xxxvi] See the Irish Banking Culture Board website for further details.

[xxxvii] Chambers, A. 2014. T.K. Whitaker: Portrait of a Patriot. Random House.

[xxxviii] See remarks from my colleague, Sharon Donnery, The departure of the UK from the EU – implications for the Irish economy and financial system, for further details.

[xxxix] See Honohan, P., 2018. Three Quarter-Centuries of Central Banking in Ireland. *Central Bank of Ireland Economic Letter*, Vol. 2018, No. 3.

[xl] Source: CSO Labour Force Series

[xli] Source: CSO Population and Migration Estimates

[xlii] See Central Bank of Ireland Brexit Task Force Reports for greater detail.

[xliii] See Central Bank of Ireland Quarterly Bulletin No.4 2019 for further discussion.

[xliv] The Building Research Establishment Environmental Assessment Method (BREEAM) is an international independent benchmark to measure and verify the sustainability credentials of a building. The Bank operates an energy management system at each of its sites, to the ISO 50001 international energy performance standard.

[xlv] See Lane, P. R., 2019. Climate Change and the Irish Financial System. *Central Bank of Ireland Economic Letter*, Vol. 2019, No. 1.

[xlvi] See Network for Greening the Financial System for further details.

[xlvii] See European Commission Action Plan: Financing Sustainable Growth, 2018.

[xlviii] See IMF Policy Paper, Fintech: The Experience So Far, for further details on the pace of innovation in the financial sector.

[xlix] See The European Consumer Organisation, Cash versus Cashless: Consumers need a right to use cash.

[l] Source: ECB Statistical Data Warehouse Payment Statistics.

[li] See UK Payments Market Report.

[lii] See The European Consumer Organisation, Cash versus Cashless: Consumers need a right to use cash.

[liii] See Central Bank of Ireland Banknotes and Coins for further information.

[liv] See European Commission Flagship Report Artificial Intelligence: A European Perspective, 2018.

[lv] See Financial Stability Board Global Monitoring Report on Non-Bank Financial Intermediation 2018.

[lvi] Based on the Financial Stability Board definition. As at the first quarter of 2019, the total assets outstanding of CLO vehicles domiciled in Ireland stood at €78bn, up more than €8bn since end-2018.

[lvii] See Coates, D., Daly, P., Keenan, E., Kennedy, G. and McCarthy, B. 2019. Who invests in the Irish commercial real estate market?: An overview of non-bank institutional ownership of Irish CRE. *Central Bank of Ireland Economic Letter*, Vol. 2019, No. 6.

[lviii] Ibid.

[lix] Corporate loans are issued to (often) highly-leveraged firms, prior to being bundled together by the issuing lender(s) and divided into investment tranches which are rated and sold separately.

[lx] See McCarthy, B., Elbay, T., Daly, P. and Cima, S. 2019. The Who's Who of Irish Collateralised Loan Obligations. *Central Bank of*

Ireland, Behind the Data.

[lxi] See Department of Finance announcement for further details.

[lxii] See Nyberg, P., 2011. Misjudging risk: Causes of the systemic banking crisis in Ireland. *Ministry of Finance, Dublin*, 2011.

[lxiii] Keynes, J.M., 1936. The general theory of employment, interest, and money.

[lxiv] Shiller, R.J., 2019. Narrative Economics: How Stories Go Viral and Drive Major Economic Events. Princeton University Press.