2023 marks nine years since the publication of the first National Risk Assessment, and three years since the start of the pandemic. During this time, we have also seen the return of war in Europe, with Russia's full scale invasion of Ukraine and its effects playing out on a global level. Given all this, our appreciation for the unpredictability and precarious nature of risks has certainly deepened in recent years.

Despite the risk of a pandemic and a breakdown in international peace having been included in previous iterations of the National Risk Assessment, the occurrence of such risks remained almost inconceivable in our minds as they were something many of us had not experienced in our lifetimes. However, life has taught us the lesson of not underestimating the likelihood or the impact of risks, no matter how implausible they may initially seem. This highlights the value of the National Risk Assessment exercise.

The National Risk Assessment 2023 is a systematic overview of national level risks we face as a country. It outlines the many events or threats which may or may not come to pass in the months and years ahead. The National Risk Assessment is an exercise which has the wellbeing of our society at its heart. It seeks to identify the national level strategic risks we may face, in order that they be appropriately considered, pre-empted, and planned for, to ensure the best possible outcomes for our country.

The list of 25 risks outlined in this year's National Risk Assessment vary in nature, ranging from unavoidable global risks, such as climate change, to acute hazards, such as chemical, biological, radiological and nuclear threats. Many of the risks identified for 2023 have been identified in previous iterations of the National Risk Assessment, however many of these have evolved, given a changed social and economic context. Some risks have increased in significance, including those related to the security of our energy supply, fiscal sustainability, and protectionism and deglobalisation, and
there are newer risks relating to the proliferation of disruptive technology, such as Artificial Intelligence. Despite the varying nature of the identified risks, all require our awareness and our consideration, so that we can better prepare for their possible occurrence.

Leo Varadkar T.D.
Taoiseach
July 2023
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Introduction

The purpose of the National Risk Assessment is to identify and discuss significant risks, with a particular focus on strategic or structural risks, which may arise for Ireland over the short, medium and long term.

Since its inception in 2014, the National Risk Assessment has provided an overview of national-level risks, drawing attention, at an early stage, to emerging trends and developments which could impact Ireland. This has included identification of risks such as the UK’s departure from the EU (Brexit) (highlighted first in the National Risk Assessment 2014), the housing challenge (highlighted first in the National Risk Assessment 2015) and pandemics (highlighted in the first National Risk Assessment 2014).

By identifying risks, the National Risk Assessment can prompt discussion, reflection, debate and analysis amongst policy makers, politicians, the general public, and others, on the future of our country.

The identified risks can occur over different time horizons and have very different impacts in terms of immediacy, reach and costs. They can also be within varying degrees of national control. What is common however is that they present potentially significant risks to Ireland, our society and our economy – these are risks that could impact upon us all.

The National Risk Assessment is not a risk management exercise. It is not intended to replace the detailed risk management and preparedness work carried out by individual Government Departments and Agencies, by the private sector, or by other institutions. Instead, by identifying potential strategic risks it seeks to inform risk management exercises and strategic planning carried out by these bodies.

Development of the National Risk Assessment

Central to the development of the National Risk Assessment is the need to safeguard against ‘group think’ in identifying strategic risks to our country. For the development process to be robust and comprehensive, it is important that a wide range of views, including dissenting or minority ones, feed into the National Risk Assessment.

To facilitate this, the development of the National Risk Assessment is overseen by an interdepartmental group which is chaired by the Department of the Taoiseach and is made up of members from Government Departments and relevant Agencies. This group facilitates the drafting of a proposed list of strategic risks, which is then published for public consultation. At this juncture, members of the public, representative groups, the private sector, and the Oireachtas have the opportunity to say whether the proposed risks accurately reflect the risks facing Ireland, whether
there have been significant risks omitted, or whether any of the proposed risks do not warrant inclusion. The consultation phase for the National Risk Assessment 2023 took place from 7 December 2022 to 17 February 2023.

On conclusion of the public consultation, the responses received, and the proposed risks were reviewed and further considered by Government Departments and Agencies. The final list of risks for the National Risk Assessment 2023 was then developed and formally considered by Government on Tuesday 25 July 2023 prior to publication.

The Categorisation and Nature of Risks

Risks by their nature are not confined to neat or simple categories. To ensure a comprehensive approach to identifying and documenting risk, it is helpful to provide a structure for the National Risk Assessment. As in previous years, the risks for the National Risk Assessment 2023 have been arranged in five categories, based on the categories used by the World Economic Forum in their Global Risks Report: Geopolitical, Economic, Societal, Environmental and Technological. The list of twenty-five risks for Ireland for 2023 is outlined in Table 1 below, arranged under each of these five categories.

The order in which the categories and risks are presented, or the level of detail provided for a risk, does not imply any rank order or assessment regarding the relative scale or importance of the risks. The National Risk Assessment does not seek to address in full detail the nature of the various risks identified or how they can be mitigated or managed. Instead, the purpose of the National Risk Assessment is to identify risks which, were they to occur, or when they will occur, will have a significant impact on our country.

While the risks have been arranged in five categories, it is important to emphasise their cross-cutting and integrated nature. Developments in one risk category may impact on others. It is important that any policy or risk management responses be cognisant of this. For example, the war in Ukraine impacts on inflationary pressures and the economic outlook, but also on social cohesion and integration; the impact of disruption to energy markets in Europe compounds the challenge of ensuring security of supply while also exacerbating inflationary pressures; or raising interest rates to combat inflation reduces investment, impacting on efforts to increase housing supply.

The twenty-five risks identified vary in their nature. Some can be classified as potentially acute, in that they could occur suddenly, such as extreme weather events or other disasters, others can be considered chronic, in that they could occur and develop over an extended period of time, such as demographic change. The identified risks also range from those with certainty of occurring, such as climate change, to those that have a lower probability of occurring, such as chemical, biological, radiological and nuclear threats.
A number of the risks identified may also give rise to opportunities, for example disruptive technologies, while possibly displacing jobs, also offers the prospect of new jobs and new, more effective ways of addressing some of the challenges we face. However, this is not the main focus of the National Risk Assessment.

The sources of the risks identified vary greatly. Many of the most extreme risks identified are not domestic in nature or are outside exclusive national control. As such, engagement and management of these risks must, in part, be conducted through international alliances and processes. Ireland’s membership of the EU, multilateral organisations and wider international relations are important in this regard.

Major strategic risks which pose a threat to Ireland are dealt with in a host of ways by different public and private organisations, as well as in some cases at EU or international level. The National Risk Assessment is part of the overall structure for managing risk in Ireland – some examples of other aspects of these structures and more specific risk management measures in place are provided in Box 1 below.

### Box 1: Risk identification and management by Departments and Agencies

Some examples of risk management processes undertaken by Government or other public organisations include:

- Detailed risk management and analysis in relation to financial and macro-prudential risks carried out by the Department of Finance, the Central Bank of Ireland and the Irish Fiscal Advisory Council.

- The work of the Government Task Force on Emergency Planning, supported by the Office of Emergency Planning, which produces a separate National Risk Assessment centered on risks relating to potential civil emergencies at national level. This is conducted in the context of the Strategic Emergency Management National Structures and Framework and Ireland’s reporting commitments under the EU Civil Protection Mechanism.

All Departments and Agencies carry out their own risk assessment processes as part of their own strategic planning and management responsibilities.
Overview of Strategic Risks

The list of 25 strategic risks for 2023 is outlined below in Table 1. These risks are further elaborated upon in the sections which follow.

| Geopolitical Risks | Disruption of the multilateral system  
                      | Future direction of the European Union  
                      | Northern Ireland  
                      | Armed conflict, terrorism and hybrid security threats  |
|--------------------|----------------------------------------------------------------------------------|
| Economic Risks     | Fiscal Sustainability  
                      | Inflation and the transition to higher interest rates  
                      | Disruption to a secure and sustainable energy supply  
                      | Concentration in Ireland's enterprise mix  
                      | Protectionism and deglobalisation  
                      | Capacity constraints and infrastructure deficits  |
| Societal Risks      | Social cohesion  
                      | Housing  
                      | Migration and integration  
                      | Demographic change  
                      | Digital exclusion  |
| Environmental Risks | Climate Change  
                      | Biodiversity loss  
                      | Extreme weather events and other disasters  
                      | Pandemics  
                      | Antimicrobial resistance  
                      | Food safety and security  |
| Technological Risks | Data flows, storage and security  
                      | Disruptive technology  
                      | Cybersecurity  
                      | Chemical, Biological, Radiological and Nuclear Threats  |
Geopolitical Risks

The nature of geopolitical risks facing Ireland remains broadly the same as those identified in the National Risk Assessment 2021/22. However, the significance and magnitude of the geopolitical risks has grown markedly as the geopolitical situation has deteriorated, driven in particular by Russia's full-scale invasion of Ukraine and growing rivalry between the US and China.

Russia's invasion of Ukraine has profoundly altered the security and defence environment in Europe. Over 6 million Ukrainians have fled from Ukraine, with the expectation that more will be forced to flee as long as the war continues.¹ The war has also brought huge disruption to international energy and food markets.

The changing geopolitical order, demonstrated by growing multipolarity, the potential for the breakdown in multilateral approaches to addressing global challenges, and increased trade tensions between trading blocs, has also corresponded, in some cases, with a more assertive nationalism. The COVID-19 pandemic, and more recently the energy crisis, have also highlighted Ireland's dependence on global supply chains.

In contrast to the first few years after their adoption in 2015, recent years, particularly since the COVID-19 pandemic, have seen a reversal of progress towards achieving some of the UN Sustainable Development Goals (SDGs), both in Ireland and most acutely in the poorest parts of the world. A number of the risks in this assessment are exacerbated by the fundamental inequalities that the SDGs aim to address.

1. Disruption of the multilateral system

The multilateral, rules-based system that underpinned international co-operation and trade, and of which Ireland had been a strong beneficiary, has been challenged and undermined in recent years by growing trade tensions and protectionism, the weakening of international cooperation, and more recently through fundamental shifts in the international political and security environment.

Russia's full-scale invasion of Ukraine has brought about changes to the European security context, including significant policy changes in a number of EU Member States. It has also led to an energy crisis in Europe. As fighting continues, and with little immediate prospect of a peace agreement, there is a risk the conflict will become protracted, that Russia's actions could significantly destabilise other

¹ UNHCR Ukraine Situation Flash Update #49, UNHCR Operational Data Portal
countries in the region, or that the unpredictable nature of armed conflict could cause an unforeseen escalation, with further serious impacts.

Meanwhile, the rivalry between the US and China continues to dominate many areas of international relations, including technology and trade. There is also the risk of heightened geopolitical tensions in Asia, including in relation to Taiwan, with associated negative impacts.

Competition with regards to regulatory authority and international rules risks undermining multilateralism and existing international institutions; arrangements which have benefited a small country such as Ireland. Increased competition for Critical Raw Materials, in particular those necessary to support the green and digital transitions, can be anticipated.

If disruptions and challenges such as these continue, the rules of the long-established multilateral system, which have offered protection and underpinned our prosperity, may evolve in a manner which makes it more difficult for our country to operate, co-operate and co-ordinate internationally to bring about our economic, political and social goals.

2. Future direction of the European Union

Ireland’s political and economic strategic interests are intrinsically linked to the EU. Our EU membership gives us a reach and an influence that we would not otherwise enjoy.

The UK’s departure from the EU, the legacy of the COVID-19 pandemic and the Russian invasion of Ukraine have changed the EU. This has included new dynamics in EU decision making, and a renewed focus on institutional arrangements and the balance between national and European level competencies. The war in Ukraine has also led to a new momentum on enlargement in respect of the Western Balkans and some Eastern neighbourhood countries. While Ireland is a strong supporter of enlargement of the Union, it should be recognised that it could add to risks to cohesion across the bloc and may lead to changes in how the EU operates. The war in Ukraine has also brought about considerable new urgency to European security and defence issues.

The COVID-19 pandemic, war in Ukraine, and developments in the EU’s international trading partners, has also resulted in the EU placing a greater emphasis on advancing open strategic autonomy, including through a more active industrial policy, in order to secure Europe’s competitiveness, economic capacity, resilience and global leadership into the future. There is a risk however that these developments may lead to a rise in protectionism and that some aspects may not fully be to the benefit of smaller Member States.
While the EU has responded well to recent crises, divisions between members, including in relation to the rule of law and democracy, values, migration, the green transition, relations with external countries, and economic and industrial policy, could serve to undermine the Union's effectiveness and cohesion in the future. Such divisions could pose a risk to the ability of the EU to cohere and set strategic policy that will represent and benefit all Member States.

3. Northern Ireland

The UK’s departure from the EU introduced a destabilising element into the politics of Northern Ireland. However, the Windsor Framework, agreed between the EU and the UK, sets out practical solutions to address issues on the island of Ireland arising from this decision. It provides a pathway for progress in Northern Ireland, in terms of Executive restoration while, also offering the potential for stability and an improved economic outlook for communities in Northern Ireland.

The continued absence of the Northern Ireland Assembly and Executive is a risk to effective governance and power-sharing in Northern Ireland which is at the heart of the Good Friday Agreement. Its restoration, on a sustainable basis, remains a priority for the Government as does a strengthened British-Irish partnership to support the Agreement.

Restoring the devolved institutions following the May 2022 elections is vital in supporting political stability in Northern Ireland, including to address the legacy of the past and ongoing work to tackle residual paramilitarism.

Failure of post-Brexit arrangements or the continued absence of the Northern Ireland institutions would present a risk to political stability and its economic outlook, with potential significant implications for Ireland. Strengthening relationships both on the island of Ireland, including through the Shared Island Initiative and between Britain and Ireland in a post-Brexit context remain key to this.

4. Armed conflict, terrorism and hybrid security threats

The risks arising from terrorist incidents and armed conflicts, as highlighted in previous assessments, have become considerably more relevant in the context of Russia’s full-scale invasion of Ukraine and the threat that this poses to European security and prosperity.

The prospects for armed conflict, within and between countries, is an increased risk. The Russian invasion of Ukraine has already had significant repercussions for Ireland, the EU, and the international security environment, with implications for the rules-
based international order with the UN Charter at its heart, to which Ireland is strongly committed, alongside our traditional policy of military neutrality.

Concerns about related threats to strategic infrastructure, cybersecurity and maritime security, including the risk to telecommunications and energy transmission infrastructure from acts of sabotage, have become more pressing. The presence of significant communication and cloud infrastructure in Ireland exposes our country to an additional degree of risk from both State and non-State actors.

The potential disruptive effect of cyber-attacks was starkly demonstrated by the HSE cyber security incident in May 2021. Furthermore, the emergence of hybrid threats, utilising a mix of cyber and other methods, has expanded the potential vectors of attack. Foreign information manipulation and interference also poses a risk to the security of the State.

Like other countries, Ireland and its citizens could be negatively affected by terrorist incidents, which could have different motivations or causes, including ideological or religious extremism. Terrorist events can take a number of different forms, including mass shooting incidences. 28 completed, failed, and foiled terrorist attacks were reported by EU Member States in 2022. This represented an increase compared to 2021 (18 attacks) but remained below the number of attacks reported in 2020 (56)\(^2\).

On the island of Ireland, the Good Friday Agreement has delivered a stable peace process that commands overwhelming community support. Nonetheless, certain groups, albeit with very limited levels of support within communities, remain intent on disrupting the significant progress which has been achieved.

The risks to Ireland posed by armed conflict, terrorism and hybrid security threats are potentially compounded by our having one of the lowest levels of investment in military and defence capabilities within Europe.

\(^2\) European Union Terrorism Situation and Trend Report 2023, June 2023
Economic Risks

Following the full easing of the COVID-19 pandemic-related restrictions in 2022, the economy, as can be seen in the exceptional growth in employment, rebounded strongly with little, if any, evidence of permanent ‘scarring’. However, the full-scale invasion of Ukraine and Russia’s weaponisation of energy supplies triggered a large energy price shock, catalysed a cost-of-living crisis and undermined global economic prospects.

These developments taken together highlight the risk of a material deterioration in Ireland’s economic outlook in the coming years. The nature of any downturn would be largely determined by developments in the global economy. Legacy infrastructural deficits, especially in energy, transport and housing, also have the potential to act as a drag on our economic performance.

The significant increase in inflation, both in Ireland and across our main trading partners, arising from the energy crisis and COVID-19 pandemic related supply chain disruptions, represents a substantial and immediate economic risk to our economy. The rapid change in the monetary policy environment, as a response to inflation, in Europe and elsewhere, also has risks and implications for the public finances and the financial system.

Recent job losses in the tech sector, since Autumn 2022, re-affirm concerns regarding the relative concentration of foreign direct investment (FDI) in a small number of high value sectors and markets. The concentration of Ireland’s exports in a small number of sectors, dominated by multinational enterprises, leaves us vulnerable to broader global shifts, as well as company/sector specific shocks and decisions.

Concerns about energy security have come to the fore since the Russian invasion of Ukraine. Ireland’s geographic position renders us particularly vulnerable to disruptions to supply or price developments with significant economic, social and competitiveness impacts.

Ireland’s post-Brexit relationship with Great Britain will continue to present challenges, in particular as it diverges from the European Union. These risks could impact upon trade and investment in both directions, even though mitigated by proximity, and interdependency such as in the area of renewable energy policy. Brexit will also continue to have an impact on Ireland’s trade with Great Britain, as the UK moves to introduce checks and controls on imports.
5. Fiscal Sustainability

Ireland has a public debt burden that, on a per capita basis, is among the highest in the developed world. After a prolonged period of record low interest rates, borrowing costs are quickly rising, increasing debt servicing costs and placing pressure on the public finances. Due to the relatively long maturity profile of Ireland’s debt, the State is unlikely to face substantially higher debt service costs before the latter part of the decade. However, a high public debt burden, at a time of elevated interest rates, will reduce our fiscal capacity.

The change in the monetary policy environment comes during an unprecedented period for the public finances. The Government has intervened on a significant scale over the last three years to insulate households and businesses from both the impact of the COVID-19 pandemic and then the cost-of-living challenge. The fiscal intervention during the COVID-19 restrictions laid the groundwork for a robust and broadly-based economic recovery, which has been reflected in the public finances, particularly through strong growth in income tax and VAT receipts.

Substantial resources have been allocated to support the humanitarian response to the war in Ukraine, Brexit and cost-of-living pressures facing households and businesses alike. Once no longer required, a careful phased approach to the withdrawal of these supports will be essential to ensuring our public finances remain sustainable into the future.

Our public finances are increasingly reliant on corporate tax receipts, which accounted over €1 in every €4 in tax revenue collected in 2022. Estimates by the Department of Finance indicate that almost €11 billion of corporate tax receipts in 2022 could be ‘windfall’ in nature.

It is imperative that long term, permanent increases in public expenditure are not funded by windfall taxation receipts of any nature, in this case corporation tax receipts, to ensure the long-term fiscal sustainability of the State.

The Irish Fiscal Advisory Council has also published research indicating a high level of concentration in our corporation tax receipts. Leading corporate tax contributors are also significant contributors to other revenues, such as income tax.³

In an elevated inflationary environment, where the economy is operating at or beyond full-employment, fiscal policy must also be calibrated so as to avoid adding to inflationary pressures. Excess, or poorly targeted, interventions could potentially backfire, with fiscal policy itself becoming part of the problem. This could result in fiscal and monetary policies working at cross-purposes.

³ Irish Fiscal Advisory Council, Fiscal Assessment Report June 2023
Over the medium term, higher interest rates, in particular when associated with elevated levels of public debt, reduces the fiscal scope to stimulate growth. Our capacity to respond to adverse shocks and ability to respond to investment and expenditure demands is also reduced.

As noted in the Climate Change section, climate action failure will have far reaching impacts on the economy and the public finances. Our transition to a low-carbon economic model must happen at a sufficient rate to engage with the economy of the future and to benefit from future opportunities.

6. Inflation and the transition to higher interest rates

Inflation picked up sharply in 2022. As of June 2023, the annual rate of HICP (Harmonised Index of Consumer Prices) inflation was 4.8 per cent. This trend is being seen across most advanced economies, with euro area inflation of 5.5 recorded in June. Over the past year, inflationary pressures have become increasingly broad-based, with higher energy, transportation, food and other costs being passed through onto prices across the wider economy. These inflationary pressures disproportionately impact the lower paid, those on fixed incomes, and other vulnerable sections of society, including older, rural households. While the rate of inflation is expected to moderate over the course of 2023, there remains considerable uncertainty surrounding the outlook. The emergence of a stagflationary environment remains a risk.

Persistent inflation risks detrimentally impacting critical areas of the economy. For example, the rise in the cost of building materials hampers efforts to address Ireland’s housing challenges or acts as a constraint on the delivery of critical infrastructure. Similarly, the rising cost of Critical Raw Materials, such as rare earth metals, risks slowing the green and digital transitions. A continued erosion of competitiveness as wages and prices rise would also challenge Ireland’s relative competitiveness and ability to compete on global markets over the medium term.

Vulnerabilities in global financial markets have grown more pressing amid a deteriorating global economy and high levels of sovereign and corporate indebtedness. There are also heightened concerns about risk-taking and over-leveraging in financial markets, including in the non-bank financial sector, as assets are repriced, and losses arise.

Developments in recent months in the US, UK and China suggest that at least some asset markets are already at risk. Eurozone challenges may also re-emerge in the context of a weaker economic outlook for the bloc and divergent prospects for Eurozone members.

4 European Central Bank, Financial Stability Review, May 2023
In response to rising inflation, central banks in most advanced economies have quickly tightened monetary policy. The European Central Bank has raised interest rates to a 15-year high to temper inflation. Tightening monetary policy, alongside the wider global economic slowdown, will act as significant headwinds for the domestic economy over the near term.

The rapid transition to high interest rates risks exposing a wide range of financial vulnerabilities and elevated uncertainty, in particular at a time of deterioration in the global economy and high levels of sovereign and corporate indebtedness. Sectors where elevated risk-taking was present in the decade preceding the inflationary shock have the potential to be particularly vulnerable, such as in Commercial Real Estate, the cases of certain banks that were ill-equipped to handle the rapid transition to higher interest rates, as well as pockets of the non-bank financial sector. Ireland is host to one of the largest non-bank financial sectors in the EU. While direct linkages between the non-bank and local sectors are limited, contained to a large presence in commercial real estate investment, and a small but recently growing share of new lending to mortgage and real estate SME lending markets (though there is some evidence this is now contracting given the change in interest rates and the viability of the non-bank model), broader risks may arise relating to external spillovers from the large funds domiciled in Ireland.

7. Disruption to a secure and sustainable energy supply

Due to our geographic location and our current high reliance on imports to meet the majority of our energy needs, Ireland is highly vulnerable to the impact of disruptions in the supply of energy. In addition, there are increasing energy demands from a growing population and economy with overall demand for electricity expected to increase 37 per cent by 2031. As part of measures to meet our climate change obligations, Ireland is also working to electrify parts of the transport and heat sectors, which will further increase reliance on the electricity network.

The majority of natural gas currently consumed in Ireland is imported from a single source in Scotland. Unlike other European countries, Ireland has limited diversity of supply and no gas storage. By 2030, with the continued reduction in production from the Corrib Gas Field, Ireland's dependence on natural gas imports, and associated undersea infrastructure, via Scotland is expected to increase to over 90 per cent. Notwithstanding the increased use of renewables and energy efficiencies to be achieved over this time, Ireland will continue to rely on gas as we remove coal and peat from the electricity system in the first half of this decade. The lack of diversity of supply sources and storage is a risk for security of supply.

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5 All-Island Generation Capacity Statement, 2022-2031, 2022, EirGrid Group
Risks in relation to secure and sustainable energy supplies have been heightened and intensified by the war in Ukraine and sanctions on Russian supply resulting in a considerable price shock on global energy markets.

In addition, a combination of deteriorating performance of the stock of existing thermal electricity generating power plants, the recent problems of delivery of planned thermal generation capacity through auction processes and unanticipated planning and technical difficulties, has left the outlook for Ireland’s electricity supply in a very challenging state.

Failure to reconcile increasing demand, decarbonisation and our climate and energy commitments, with associated investment requirements, and the need to ensure a secure and sustainable energy supply, remains a risk.

8. Concentration in Ireland’s enterprise mix

Ireland’s base of more than 1,600 multinationals plays a major and positive role in the economy. This is enabled by Ireland’s competitive strengths; attractiveness as a location of choice for mobile investment, a skilled workforce and the continued ability to adapt to new technologies and emerging business models. However, this base does give rise to a number of risks.

A recent OECD report, outlined that the lack of diversification among Ireland’s FDI base, in terms of sector, geography and region, could expose the economy to risks related to macroeconomic trends in trade and investment and to policy changes in partner countries. The concentration of more than half of Ireland’s corporation tax (CT) revenues amongst ten large foreign-owned multinational companies (MNCs) means that Ireland is exposed to considerable company and sector specific risks – there is also the considerable risk that the State comes to overly rely on transitory or windfall corporation tax revenues to fund current expenditure.

In late 2022, several high profile foreign multinational enterprises in the ICT sector resident in Ireland announced redundancies. While this may raise some opportunities with regards to reallocation within the labour market, allowing other sectors access to talent, it represents a mild negative shock to the most productive and innovative parts of the Irish economy. The Central Bank holds that this contraction is currently not indicative of a widespread economic downturn, however, it highlights a concentration of economic activity within a sub section of the economy, and the corresponding structural vulnerability of the public finances in the case of any future sectoral contraction.}

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6 OECD, FDI Qualities Assessment of Ireland, 2022
7 Central Bank of Ireland Quarterly Bulletin No.1 2023 – The Role of ICT Services Sector in the Irish Economy
Additionally, significant parts of the domestic economy are also reliant directly, through the provision of goods and services, or indirectly, for example as providers of services to those employed with multinationals, on the FDI sector. There are also particular geographic risks associated with the sector.

While Ireland has benefited considerably from the role of foreign investment in our economy, future developments are more uncertain – this includes the changing nature of enterprise and investment, where economic activity is increasingly intangible in nature and not necessarily defined by "bricks and mortar", alongside the growing importance of talent and ideas. The situation is further complicated by changing dynamics in the global economy. These developments, in particular if Ireland does not adapt and evolve, could pose a risk to both our economic model and to the public finances. These changing dynamics will also make international cooperation, in areas such as tax, all the more challenging.

9. Protectionism and deglobalisation

The disruptions caused to global trade, first by the COVID-19 pandemic, followed by Russia's full-scale invasion of Ukraine, and tensions between the US and China, are resulting in permanent shifts in patterns of trade and globalisation, intensifying previous trade tensions and trends, with adverse implications for a small, open economy such as Ireland.

It is likely that protectionist tendencies with a greater emphasis on economic self-sufficiency, diversification, and less reliance on extended global supply chains, will persist at least in the short term. More interventionist industrial policies are being pursued, policies which historically have served to benefit larger economies. It will be important for Ireland, the EU and international institutions that efforts are maintained to preserve and promote balanced international trade.

As a small, trading economy Ireland depends on, and has prospered from, free trade supported by an international rules-based system. Increased protectionism and a greater focus on security concerns in trade and industrial policy represent a significant risk to Ireland's economic model.

Additionally, in relation to the UK, regulatory divergence from the EU could pose competition and supply chain challenges for Ireland over time. The UK is also set to introduce further import controls on EU imports to Great Britain in Autumn 2023. These new controls are expected to impact on exporters of goods from Ireland to Great Britain, particularly exporters of agri-food goods, and pose a risk to exporters who don't or can't adapt.
10. Capacity constraints and infrastructure deficits

While supply chain bottlenecks, which emerged initially during the COVID-19 pandemic and then as a result of the full-scale invasion of Ukraine, are showing signs of easing, persistent higher price levels for some commodities risk dampening economic activity through demand and investment channels. Of particular concern are higher prices for construction materials acting as a constraint on the delivery of housing and critical infrastructures.

Demand exceeding the carrying capacity of the State and our economy is a risk. The insufficient availability of labour and skills, or inflexibility in the labour market, may impact on our competitiveness, and our ability to deliver key priorities. Risks created by a lack of certainty regarding processes and timelines in relation to the planning and the judicial system, and the extent of legal involvement in planning processes, can lead to longer timelines, greater uncertainty and relatedly an upward pressure on costs.

The carrying capacity of the State and overall capacity to effectively manage and deliver large infrastructure projects is of particular importance in the context of our changing demographics and population growth, and the projected increased demand for infrastructure and services. Further risks arise where infrastructure, such as the housing supply, energy grid, water infrastructure and broadband, are not sufficiently developed to meet growing demand or to ensure our continued relative competitiveness.

The deliverability of the States commitments, from climate change to energy to housing and beyond, is a growing risk, particularly given that many such projects will draw upon the same pool of capital, both public and private, skills and labour. At the same time, our European and global partners are also rapidly increasing investment, in particular in the energy and climate transition.

Our country is also unavoidably reliant on certain key infrastructure, such as Dublin Port, for trade, national and international supply chains. Failure to ensure the continued effective operation of such infrastructure is a risk to our economy and society.
Societal Risks

Social cohesion, intergenerational and other forms of inequality, and migration and integration, remain as societal risks in this year’s assessment. Issues undermining the cohesion and inclusiveness of society identified in this section include cost-of-living challenges, trust in government, institutions, and media, and the legacy effects of the COVID-19 pandemic on various social groups and age cohorts.

The rising cost-of-living has the potential to increase the level of poverty and deprivation amongst the population, particularly amongst already vulnerable cohorts, namely older people, children, people with disabilities and migrants. This presents a risk to social cohesion.

The supply and affordability of housing persists as a significant risk in the National Risk Assessment, with a range of economic, social and environmental implications.

Ireland’s demographic profile is set to change significantly over the coming decades, as our population ages. This will result in increased expenditure demands for health, pension provision and social care services, while the dependency ratio rises simultaneously.

Recent increases in the number of migrants; with large numbers of people fleeing the war in Ukraine and availing of temporary protection, as well as growing numbers of international protection applicants, alongside growing numbers of non-Irish citizens employed in Ireland, underlines the importance of social cohesion and integration efforts.

Over the long term, large numbers of people around the world are expected to be displaced by climate change. This means regions which are less impacted by climate change or are more resilient to impacts, can expect to experience increased flows of migrants from areas where climate damage is more severe.

11. Social Cohesion

Ensuring adequate social cohesion, the objective of having an inclusive and equitable society, has been a priority of successive Governments. Social cohesion risks being undermined by a wide range of factors, including any decline in economic prospects, intergenerational and other inequalities, and increased prevalence of mis/disinformation and extremist exclusionary rhetoric.

As was the case in previous shocks, there is a risk that younger and migrant cohorts are more likely to face ongoing negative impacts from economic and societal shocks. While the economic scarring of the COVID-19 pandemic has been limited, there
remain risks to certain cohorts whose lives and opportunities have been disrupted by the pandemic.

The COVID-19 pandemic continues to have a broader impact on the provision of public services, particularly in areas where backlogs have built up, which can both undermine trust in these services and lead to individuals being excluded or marginalised as their needs are not met.

While Ireland, relatively, enjoys high levels of equity and fairness, the challenges faced by particular cohorts, including those on lower incomes, migrants and young people, are a risk to social cohesion. This includes increased exposure to higher housing and rental costs, the impact of demographic changes on the young which may result in higher future prospective taxation, and that younger cohorts and migrants are more likely to be exposed to the use of temporary contracts, casual work, or more limited entitlements and protections.

The spread of mis/disinformation, including via social media and other digital platforms, has the potential to undermine the State, the integrity of elections, social cohesion, and the functioning of the economy. A lack of trust in Government and in institutions brought about by mis/disinformation, anti-establishment sentiments or social divides, can undermine our national capacity to bring about positive change and ensure inclusivity – in any prospective downturn situation, lower levels of trust or social cohesion may undermine the ability of Government to navigate the situation, undermining the effective management of such a crisis and potentially compounding it.

12. Housing

An inability to effectively and efficiently bring about an increase in the supply of housing risks creating a chronic situation, with associated implications for our society and economy.

Delivering a step change in housing supply is complicated by the other significant challenges facing our country, including addressing climate change, the transition to a low carbon economy, increasing population and changing demographics, and the need to address other infrastructure needs such as transport, water and electricity, all within the context of national and EU obligations, and the overall resource capacity of our country.

Housing shortages and pricing issues are unlikely to rectify themselves over the short term with the COVID-19 pandemic having impacted housing completions and now increased construction material inflation, shortages in skilled labour, and rising viability challenges, all having an impact on supply. Russia's full-scale invasion of Ukraine has exacerbated supply chain and inflationary issues, further undermining deliverability of an adequate housing stock.
In the rental market, rents continue to rise alongside growing numbers of renters; this, compounded with housing market constraints, risks a ‘locked-out’ generation, with many who would like to buy a home either unable or struggling to. Rental availability is also impacting homelessness, rough sleeping, and those in emergency accommodation, with particular long-term impacts for highly vulnerable cohorts such as children. The housing challenge risks increasing social exclusion and impairing labour mobility.

The additional short and medium-term housing demand associated with the Ukrainian refugee crisis and growing numbers of international protection applicants, in addition to natural demographic demands and rising migration, has further highlighted the undersupply of appropriate housing and the inflexibility of the sector.

High levels of rent and a lack of access to affordable and high-quality housing impacts Ireland’s overall competitiveness and attractiveness as a place to live and work. A lack of affordable housing may impact on the availability of labour and skills to support Ireland’s economy and society, including in relation to the provision of public services.

### 13. Migration and integration

Globally, ongoing challenges regarding development and equity are being exacerbated by climate change, civil and cross border conflict, which in turn are influencing patterns of migration, now and into the future.

Ireland has become a much more multi-ethnic society in slightly over a generation; a transformation reflected in both urban and rural communities. In terms of internal integration risks, this creates a requirement to be cognisant of the changes within society, for example in the provision of services such as labour market activation or education and skills supports. Integration not only allows immigrants to contribute to the economic, social, cultural and political life of their host country, but is also important for social cohesion and inclusive growth. Such efforts will need to be maintained as second and third generation migrant communities emerge. Failure to support integration efforts risks the rise of inequality and marginalisation.

The increase in the immigrant population in Ireland has occurred in a short time frame and with relatively limited upheaval compared to other countries. However, social tensions can be exploited by extremist groups, such as through the spread of mis/disinformation, including by malevolent actors.

Furthermore, Ireland will need to remain an attractive and competitive country for migration, as long-term demographic changes will require a level of skilled migration into the country to support our economy and societal needs. Attracting skilled migrants will likely be subject to growing competition between countries in the future.
14. Demographic change

Ireland’s demographic profile is set to change significantly over the coming decades due to increases in life expectancy and falling fertility rates. The population aged 65 years and over is projected to grow at a higher rate than the working age population, with significant consequences for the funding, sustainability and adequacy of the pensions system, provision of social and healthcare services and the public finances overall.

There is a real risk of intergenerational inequality in this regard, as the burden of funding this demographic change falls upon younger generations.

In 2019, there were around 4 persons of working age to support each person aged 65 and over. This number is expected to fall to just over 2 by 2050. The Department of Finance estimated that age related expenditure is set to be €17 billion higher in 2050 (in 2019 terms), than in 2019 (€21 billion by 2070).  

The moderating pace of population growth also presents a challenge for ensuring an adequate labour supply and maintaining living standards, with implications, as outlined above, in relation to migration and integration.

15. Digital exclusion

The digital transition has been accelerated by the COVID-19 pandemic, with many public and private services increasingly offered online. As the digital transition progresses, there is a risk that significant parts of the population do not have access to digital technology and do not obtain and maintain a level of digital literacy. As a result, they will not be able to engage with digital technologies, nor benefit from the range of opportunities presented by the digitalised economy, finding themselves effectively excluded from both public and private services.

This is of particular importance in the context of demographic change, with a growing older population over time, as older people have been less likely to engage with the online world and are more vulnerable to mis/dis-information and cybercrime. Ensuring older generations are appropriately prepared to utilise digital technologies will also enable them to continue to engage with an increasingly digitalised labour market.

Digital exclusion can also impact those with disabilities, a lower level of education, those on the lower end of the income scale and those living in rural areas.  

9 NECS, 2021, Digital Inclusion in Ireland: Connectivity, Devices & Skills
upskilling or risk exclusion. A lack of digital inclusion and literacy within the population has the potential to isolate citizens from both society and the economy, and to undermine social cohesion across society.
Environmental Risks

As in previous National Risk Assessments, the risks outlined in this section are amongst the most diverse and complex.

Climate change and biodiversity loss represent the biggest challenges facing the world. Like many of the risks covered by the National Risk Assessment, the integrated nature of these risks makes them challenging to quantify and analyse in isolation. Regardless, it is well understood that the costs of inaction far exceed those of the necessary remedial and preventative action, in terms of risks to human health, economic development, preservation of infrastructure and ecosystems, as well as risks to food, water and energy security and population displacement/mass migration.

The most recent Intergovernmental Panel on Climate Change (IPCC) report indicates that these interlocking risks are even more significant than previously thought and demand a stronger, more ambitious global response within a shorter timeframe.\(^\text{10}\)

Additionally, and directly related to the climate change risk, natural disasters and extreme weather events remain a risk for Ireland. This may take the form of storms, flooding, coastal inundation and erosion, extreme temperatures and prolonged periods of drought. In addition, Irish biodiversity is highly vulnerable to the impacts of climate change and has a low adaptive capacity compared to other vulnerable sectors.

The COVID-19 pandemic has shown the profound impacts a pandemic can have both globally and locally. The next pandemic cannot be predicted with any certainty regarding severity or what demographic or morbidity groups may be affected.

Antimicrobial resistance is an increasing concern globally, with the extensive use, misuse, and overuse of antimicrobials in human health, animal health, agriculture and the environment, resulting in increased levels of resistance in a wide range of pathogens, in all countries and impacting patients of all age groups. In addition, risks around food supply and food safety continue to be relevant, as in previous years.

\(^{16}\) Climate Change

Climate change is happening at an accelerating and alarming rate, increasing the urgency for countries, including Ireland, to step up efforts to mitigate greenhouse gas emissions across all sectors of the economy, as well as further progress adaptation planning and management in order to build resilience. Ireland’s transition will require that we provide or attract investment of the scale commensurate to the challenge.

\(^{10}\) IPCC, Climate Change 2023: Synthesis Report on the IPCC Sixth Assessment Report (AR6)
Inaction or insufficient funding and progress, risks severely worsening the impacts of climate change on our way of life, as well as being damaging to the international reputation and credibility of Ireland.

Changes in Ireland’s climate are in line with global trends, and extreme weather events domestically in recent years have demonstrated the potential far-reaching risks to Irish society and the economy.

Ireland will face increased risk of rising sea levels and coastal change. We will also face an increased likelihood and magnitude of river and coastal flooding. Average temperatures will continue to increase. Drier summers could lead to more frequent droughts and adverse impacts to water supply and quality in summer, particularly in the eastern half of our country where existing water infrastructure is stressed. Periods of drought will have negative economic and societal impacts.

Some communities will be more directly and severely impacted by climate change than others, exacerbating issues around social cohesion and equity. There is the risk that severe and repeated climate related impacts could cause displacement of local populations.

Failure to rapidly move to a carbon-neutral economic model and progress adaptation measures will have far reaching negative impacts on the economy and the public finances, it will undermine the long-term, sustainable competitiveness of the economy, and risks locking Ireland into a redundant fossil-fuel based economic model. An inability to transition to a low-carbon economic model at a sufficient rate is a risk to our ability to engage with the economy of the future, and to partake in and benefit from future opportunities.

Finally, failure to meet obligations and targets on emissions, energy usage, and renewable energy, set both by the EU and in national legislation, is a risk. Inertia and resistance to change risks Ireland’s efforts at adaptation and mitigation.

17. Biodiversity loss

Irish biodiversity is a unique and priceless natural resource which is a fundamental part of what makes Ireland an attractive place to live. It also plays a vital role in supporting our rural economy. However, it is highly vulnerable to the impacts of climate change, industrial, agriculture and planning policies, and it has a low adaptive capacity compared to other vulnerable sectors.

Risks to our biodiversity include degradation and habitat loss, fragmentation, invasive species, declining water and air quality and declines in pollinator populations. More than half of global economic output alone is dependent upon a safe, viable and
sustainable natural world. Failure to adequately fund, implement and enforce existing national legislation, national policies, EU biodiversity related laws and directives related to biodiversity is also a significant risk to protecting our biodiversity.

The Irish economy has a large agri-food sector that produces food crop types that rely on pollination services, which highlights the importance of ensuring that protecting nature and our biodiversity is understood as being the predominant concern.

Biodiversity loss will result in economic loss due to reduced ecosystem services, including diminished crop yields and fish catches and increased susceptibility to flooding, wildfires and disease, all of which have the potential to severely impact on people’s quality of lives. Biodiversity loss may be exacerbated by climate change, with climate change itself impacting upon existing land use patterns.

Invasive species, particularly flora species, are a risk that is undermining the resilience of our habitats. Climate change will also bring increased risk of new invasive species and diseases, with negative impacts on our native species and habitats.

18. Extreme weather events and other disasters

In recent years there have been a number of severe weather events in Ireland, particularly those leading to flooding, coastal inundation and erosion, severe temperature events and longer periods of drought.

These events have major impacts on the local environment and economy, and in particular on the people living and working in the impacted areas. Coastal erosion, which can impact upon infrastructure and human settlement, will accelerate in the coming years. In this regard, it is notable that much critical infrastructure, such as power stations, wastewater treatment plants, and rail infrastructure can be found along our coastline. Very significant investment, with associated delivery risks, will be necessary to build climate resilience into flood defences and water management systems, in order to secure communities and the infrastructure they depend on. Trade-offs and public expenditure choices will be required.

Disruptions to the availability of critical infrastructure such as clean water and energy as well as inhibited access to the transport and telecommunications networks due to the occurrence of extreme weather events remains a considerable risk, and substantive planning and emergency frameworks will be required to ensure their continued operation.

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Additionally, another risk to our increasingly networked society is space weather, which, in its more severe forms, can cause significant disruption to the electricity grid and transportation networks. Space weather is a global phenomenon, and the impacts span international boundaries. In many cases, mitigating these impacts requires a coordinated international effort adding to the complexity of adequately addressing associated risks.

As an island nation, Ireland is highly dependent on international connectivity. Disasters which could impact on Ireland in this area include major transport accidents such as an air crash or incidences at sea.

19. Pandemics

The experience of the COVID-19 pandemic has shown that in addition to the potential for a pandemic to cause death and illness on a significant scale and increase morbidity and mortality, pathogens with pandemic potential can result in severe disruption to social and economic activity.

New and emerging pathogens (and new emerging variants of existing pathogens) can spread rapidly across the globe due to the speed and reach of human mobility and travel, increasing volumes of trade and tourism, and climate-associated changes in the geographic distributions of disease vectors, such as mosquitoes.

The experience and lessons learned from COVID-19 will need to inform, enhance and strengthen future emergency preparedness and mitigation plans for any future pandemic. Surveillance of infection and disease, appropriate immunisation of the population and advance preparedness planning will be critical to help mitigate the impact of any future pandemic.

20. Antimicrobial Resistance

Antimicrobials are medicines such as antibiotics used to prevent and treat infectious diseases in humans, animals, plants and crops. Increasing levels of antimicrobial resistance (AMR) in micro-organisms that cause infection and disease is making some of the most common infections more difficult to treat. The global growth in AMR is being driven by a range of factors including overuse and misuse of antimicrobials, lack of access to adequate sanitation, as well as suboptimal infection and disease prevention and control practices in both health-care facilities and on farms.

AMR increases risks to individual human health, patient care, and longer-term community healthcare. The risks presented by AMR are compounded by there being relatively few new antimicrobials coming to market, limitations on diagnostic tools,
along with the lack of alternatives to antimicrobials for the treatment and control of infectious diseases.

21. Food Safety and Security

Food safety is essential to public health. A food or drink incident, such as the emergence of a new pathogen, would have adverse consequences for consumer health, national food supply, the international trade of Irish food, and international movement of live animals. A secure supply of safe, nutritious, and wholesome food is vital for human health and well-being. Animal health is also a critical factor in food safety. Incidents can occasionally occur along the food-chain that impact on food supply and/or food safety such as a major disease in food-producing animals or chemical or microbial contamination of food.

Ireland's food supply is highly internationalised and dependent on the continued smooth functioning of international trade flows. Nationally, food production is export dependent (Irish agri-food exports for 2022 were valued at €18.7 billion\(^{12}\)) and Ireland's strong reputation as a provider of high quality, safe and reliable food is centrally important to Ireland’s offering. An adverse incident along the food chain nationally could therefore lead to immediate exclusion from certain markets, and it could take considerable time to recover confidence and market share.

The agri-sector is also heavily reliant on imported goods such as fertiliser, feed and fossil fuels. Food imports to Ireland in 2022 amounted to €12.3 billion\(^{13}\). Our vulnerability to international supply chain disruptions has been highlighted by Brexit and the COVID-19 pandemic and remains a risk to food supply and food security. Russia's full-scale invasion of Ukraine has also had a detrimental impact on global food security and availability of fertilizers.

Safeguarding the food supply chain, in the face of bottlenecks and a recent increased tendency for protectionism and instrumentalization of trade flows, along with ensuring the health and welfare of food-producing animals across borders is of critical importance. Failing to do so could pose a significant threat to public health and national food security.

\(^{12}\) Bord Bia's Export Performance and Prospects report 2022/23
\(^{13}\) Bord Bia's Export Performance and Prospects report 2022/23
Technological Risks

COVID-19 accelerated the digital transformation across all areas of the economy and society. Modern societies are reliant on digital infrastructure and resultant data flows. Data is an intrinsic part of how modern economies function, meaning that the secure and reliable storage and transfer of data, which is increasingly stored in cross-border, cloud-based infrastructure concentrated across a small number of hyper-scale service providers, is a critical necessity.

The risk of failures in cybersecurity can lead to disruption to critical infrastructure, data fraud, or theft. The necessity to address this risk rises as the extent to which society relies on digital technology increases. With Ireland positioning itself as a digital leader, with a growing adoption of online services, the risks associated with an attack or incident on the provision of services, and on the reputation of organisations is significant. Ireland is an attractive target in respect to cyberattacks due to the presence of significant data infrastructure.

Disruptive technology trends continue to advance. These advances create a range of opportunities; however, they also give rise to risks that need to be considered including the potential for automation to displace or reshape existing jobs and sectors, or the potential for the malign use of new technologies. Accelerating developments in high performance computing, quantum computing as well as artificial intelligence (AI) also may pose risks to security, data and regulatory compliance and capabilities.

In relation to chemical, biological, radiological and nuclear (CBRN) threats, while the probability for Ireland is low, the risks to public health and well-being, as well as negative economic impacts are clear and far-reaching, therefore awareness and planning for this risk remain important.

22. Data flows, storage and security

Data is a critical enabler for our economy and society. Our use of data, and data flows, are underpinned by the absolute necessity for secure and reliable digital infrastructure to facilitate data storage, access, processing and transfers. Failure to adequately ensure the security and regulation of data is a significant risk, for both our economy and society.

Digital connectivity brings increased risk of cyberattacks and network outages and increased requirements around reliable and secure international transfers. Cross-border transfers of data and the corresponding use of decentralised cloud infrastructure are an intrinsic part of how modern economies and societies function.
The increased digitalisation of banking and finance further underlines the absolute criticality of secure data for our day-to-day lives.

International co-operation in relation to ensuring the secure and continued transfer of data, the storage of data in appropriate locations, and the security of these host sites and other infrastructure, including maritime infrastructure, is integral to counteract the risks associated with increased reliance on digital infrastructure and hyper-connectivity.

Within the EU, meeting our obligations for a strong, coherent and stable digital regulatory framework will be central to our place in Europe’s digital economy. A failure to ensure a strong well-resourced network of regulators to effectively oversee and enforce current and forthcoming EU digital regulations is a risk.

23. Disruptive Technology

Advances in science and technology are driving and enabling significant changes in our society and economy. These advances create opportunities for increased productivity and growth, job creation, job specialisation, as well as the emergence of entirely new sectors. However, the pace of technological change and advances gives rise to a range of risks.

The exponential development of AI and associated processing tools raise security, data, regulatory agility, and regulatory compliance concerns. Generative AI systems, which make the rapid production of content based on a variety of source material (text, moving or still images, computer code) easily available to the public, will bring extraordinary change, but will also pose a challenge for societal resilience, in particular how we counter the harms that could flow from their malicious use. This could include the use of AI to generate disinformation and misinformation, deepfakes, or conspiracy theories, with the potential to distort markets, undermine cohesion or cause political instability. At this stage the limits of AI are unquantifiable along with the full extent of future risks and opportunities.

While emerging technology will bring many opportunities for society and the economy, automation and emerging technologies could negatively impact social cohesion by exacerbating existing inequality, this may include the disruption of existing jobs or sectors, including sectors where Ireland may currently have a comparative advantage.

Technological advances also have implications for the security of data flows, for cybersecurity and for law enforcement. The dependence of an increasing share of the economy and society on technology also raises concerns regarding sovereignty and autonomy. Much of the technology we use daily is dependent upon global supply chains and networks, this creates risks that have to be managed such as reliance on a dominant supplier of products or services.
24. Cybersecurity

Cybersecurity, the protection of IT systems, data centres, services and communication networks, is vitally important to the economy and society. The trend towards an increased use of digital and cloud technologies in both the public and private sectors has been underway for some time, however, COVID-19 has accelerated this trend, transforming much of how we live and work.

This reliance opens up various new and unpredictable threat vectors, and a wide range of significant risks for major national infrastructure including energy, transport, telecoms, health and financial systems. Breakdowns in cybersecurity have the potential to be very disruptive and expensive but also to undermine trust and confidence in our digital systems.

The cyber threat landscape has changed significantly in a few short years, with the COVID-19 pandemic, the HSE cyber incident, Russia's full-scale invasion of Ukraine, and the risk of supply chain attacks highlighting new and unpredictable threat vectors. With Ireland positioning itself as a technological society, the impact of an attack or incident on the provision of services, and on the reputation of businesses and the public service is significant.

Our reliance on complicated digital networks also makes us vulnerable to unintended system failures, this risk is particularly important for Ireland given our role as a host to data centres and other data infrastructure which plays a critical role in international digital services.

25. Chemical, Biological, Radiological and Nuclear Threats

Chemical, biological, radiological and nuclear (CBRN) threats can originate from both accidental (lost or stolen) or malign incidents. Such an event, whether in Ireland or overseas (but impacting upon us), could have a major public health impact in addition to innumerable associated societal and financial costs – responding to any such event would also be a considerable and complex challenge.

The nature of CBRN risks demands significant cross-border cooperation with European states and the UK in relation to the monitoring and sharing of data. Given the potentially devastating impacts of nuclear detonation or accidents, continued international engagement regarding nuclear safety and security, nuclear disarmament and non-proliferation of nuclear weapons remains critical.

Russia’s invasion of and the ongoing war in Ukraine has resurrected concerns about the increased proliferation, use and threat of nuclear weapons. Any use of any nuclear weapon would have profound humanitarian, environmental, societal, financial, and public health consequences, not just in Ukraine but in the wider region.
Moreover, such a development would represent an alarming escalation of the war in Ukraine and set a dangerous precedent in the conduct of warfare in the future.

Ireland is also host to a number of significant commercial manufacturing and research and innovation sites, which, as part of their processes, may rely on chemical or biological materials and other inputs which, were there to be an uncontrolled release, for any reason, could pose a threat to individuals or the environment.
Annex – Summary of the public consultation process and feedback

1. Summary of public consultation process and responses

The public consultation on the National Risk Assessment 2023 – Draft List of Strategic Risks opened on 7 December 2022. Stakeholders were asked to assess whether the twenty-five draft risks identified accurately represented the major risks facing our country, whether there were any significant risks that should be added, or whether any of the proposed risks did not warrant inclusion.

Responses were received by email, online survey and through in person engagement at workshops before the public consultation closed on 17 February 2023. Submissions were received from a broad range of stakeholders including Government Departments and Agencies, NGOs, business groups and trade unions, and political parties, as well as individuals. A discussion on the draft risks also took place at an Irish Government Economic and Evaluation Service (IGEES) strategic policy event in January 2023.

The responses received throughout the public consultation were analysed by the Department of the Taoiseach and presented to the interdepartmental group for consideration, and where appropriate, the National Risk Assessment was amended to integrate elements of the feedback. In a similar fashion to the consultation document, consultation feedback has been categorised under Geopolitical, Economic, Social, Environmental or Technological. A summary of the feedback and contributions received on the proposed risks is below.

Geopolitical Risks

In terms of the geopolitical feedback received, a number of submissions outlined the capacity for previously long-standing relationships, in particular with the United Kingdom and the United States, to evolve. This is especially important in the context of the recent increasing propensity of States to engage with nationalistic policy. This shift in ideology has also been witnessed amongst EU member states, and such a shift away from supporting a coherent single European market may negatively impact the internal cohesion of the EU, but also has the capacity to have impacts beyond the political and economic agenda and can impact markets as fundamental to society such as energy and food sectors.

The failed protection of critical assets such as undersea communication cables was also a risk identified through the public consultation, as well as the requirement to protect air connectivity.
A final sub-theme raised by the public consultation related to the political system in Ireland, and the risk of any election or referendum interference, were that to occur. Similarly, Ireland’s current stance on military neutrality was raised, particularly given recent changes to the international geopolitical system, and Russia’s full-scale invasion of Ukraine.

**Economic Risks**

An economic risk raised by a large proportion of responses to the public consultation related to the skills and labour shortage currently present in the economy, and the risk of not rectifying such a skills and labour shortage over the medium term.

In relation to the sub-theme of enterprise and enterprise policy, concerns were raised relating to the concentration of corporation tax receipts received by the State, as well as the divergence of productivity levels of indigenous SMEs relative to multinational corporations. The risk of overreliance on the MNC sector more generally, and the corporation tax receipts received more specifically, is compounded by recent security of energy supply issues, as many MNCs located in Ireland are reliant on a steady and secure energy supply.

In relation to locational choices, the exit of a number of retail banks from the sector recently has resulted in diminished competition across the banking sector, and this is a further risk highlighted by the consultation.

The UK and Ireland currently benefit from regulatory alignment in relation to energy transmission. However, with Brexit, the UK now has the capacity to shift away from this alignment.

The sourcing of semi-conductors and other raw materials is a risk to the economy, but also technological change, as their abundance diminishes, creating cost and supply chain pressures. This is particularly important given the recent shift in the form of economic activity occurring within the economy, from a ‘bricks and mortar’ model, to one which relies more heavily on digital and online inputs.

**Societal Risks**

A considerable number of respondents raised the issue of delivery of housing infrastructure throughout the public consultation process, as well as the importance of other critical infrastructure such as water and grid infrastructure. The impact of the current shortage of housing is a risk to the competitiveness, staff attraction and retention capacity of the enterprise sector.
Another social risk which was highlighted in the consultation was that of intergenerational inequalities, submissions agreed with the inclusion of this within the National Risk Assessment, however requested that it and the corresponding implications be more clearly laid out.

The risks associated with mis/disinformation were also raised, and the ability to enable a far right/exclusionary rhetoric within society.

Environmental Risks

In relation to the environmental risks proposed in the consultation, submissions highlighted the uncertain nature of any future pandemic, and that while the previous pandemic has impacted older people more adversely, it is not certain to be the case were another pandemic to occur. This is a risk to pandemic contingency planning. Furthermore, it was noted in the consultation that measures used by Government to manage the COVID-19 pandemic, may now be less effective, receiving less support from the general public, further risking pandemic planning.

The ability of space weather to considerably impact and damage the electricity network was highlighted as a risk, as well as the vulnerability of the gas network and other infrastructure to floods, against the backdrop of rising sea levels.

An over-reliance of the greater Dublin area on the River Liffey as a water supply was outlined as a risk to supply, as well as overall diminishing quality of water supply.

Technological Risks

The risk of cyberthreats to the national digital infrastructure was reiterated as a technological risk by the public consultation, and a failure to enable the capacity of telecommunications operators to invest in protective cybersecurity measures further compounds this risk.

Our transition to a green and digital economy will also require an ‘always on’ telecommunications infrastructure, supplying uninterrupted connectivity, power outages risks undermining this, with societal and economic impacts.
2. Organisations and public representatives which input to the public consultation.

- Age Action Ireland
- American Chambers
- Central Bank of Ireland
- Chambers Ireland
- Ciarán Cuffe
- Conradh na Gaeilge
- Cope Galway
- Cork Chambers
- Department of Housing, Local Government and Heritage
- Disability Federation Ireland
- EDF Renewables
- Enterprise Ireland
- Environmental Protection Agency
- ESB
- European Movement Ireland
- Family Business Network
- Feasta
- Gas Networks Ireland
- Health Service Executive
- Irish Congress of Trade Unions
- Irish Council for Social Housing
- Irish Creamery Milk Suppliers Association
- Irish Exporters Association
- Irish Nurses and Midwives Organisation
- Irish Rural Link
- ISME
- Microsoft Ireland
- National Capital Ireland
- Office of Public Works
- Shannon LNG
- Sinn Féin
- Skillnet Ireland
- Social Justice Ireland
- Tusla
- Vodafone Ireland
- Voice of Vision Impairment