

Review of Industrial & Enterprise Policy in Small Advanced Economies and Implications for Irish Enterprise Policy

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EXECUTIVE SUMMARY

The small economy context

As a group, small advanced economies have out-performed larger advanced economies over the past few decades in terms of economic outcomes as well as broader social outcomes. Although there is no single small advanced economy policy model, there are several characteristics that are commonly associated with high-performing small advanced economies: strong international orientation, heavy investment in innovation, and strategic policy coherence behind core areas of competitive advantage.

Industrial policy and enterprise policy in small advanced economies are central to overall economic strategy and performance, because of the distinctive characteristics of small economies. Building competitive advantage in externally-oriented clusters, the productivity growth engines of small advanced economies, is a common policy focus in high-performing small advanced economies.

An important shared feature across small advanced economies is their deep external exposure. In a structural sense, small advanced economy performance is sensitive to the international economic and political system – which has been favourable over the past few decades, but is becoming more challenging as geopolitical competition increases. Small economies are also exposed to the global business cycle, with GDP growth sensitive to variation in world GDP and trade growth. And small economies are also exposed to specific international changes on dimensions from policy (climate change, corporate tax) to technology and new sources of international competition.

Small advanced economy exposure to global developments

There are several vectors of global change that are relevant to small advanced economies, many of which have been accelerated by Covid. I focus on five global developments.

- *shifting patterns of globalisation*

After a few decades of intense globalisation, there has been a flattening profile of trade and capital flows to GDP over the past decade. This is partly for economic reasons (building supply chain resilience, reduced labour cost arbitrage) as well as for political reasons (a drive for strategic autonomy; geopolitical pressures for decoupling from China; and reduced domestic political support for globalisation). My assessment is that we are moving towards a more fragmented, regional, and political model of globalisation. These dynamics have been further accelerated by the Western response to the Russian invasion of Ukraine.

Globalisation is not ending. And history shows that small economies have been resilient to previous global regime changes. But small advanced economies will need to adapt their global engagement models, building distinctive capabilities rather than simply being leveraged to global flows.

- *technology development & new business models*

Covid rapidly accelerated business investment in technology and innovation, and the adoption of new business models (e.g. digital), across many advanced economies. The competitive pressures on firms to upgrade, combined with rapid technological progress, likely means that we are entering a period of disruptive change. There is the potential for a productivity renaissance across advanced economies in response to new technologies and accompanying investments. And the emergence of new growth sectors likely means significant movements of labour across sectors in response.

Many small advanced economies operate close to the innovation frontier and have a demonstrated ability to deploy new technologies and business models effectively. These external dynamics will create added competitive pressure in key sectors for small economies, but could strengthen productivity.

- *the net zero transition*

National commitments to net zero will result in disruptive change across advanced economies as energy, transport, and industrial systems are transformed. Beyond these government requirements, consumer and investor preferences are also shifting rapidly towards low emissions goods and services. Economies and firms that can operate in a low emissions manner will strengthen their competitive advantage, being better able to attract FDI and to grow market share. Substantial amounts of capital are flowing into renewable energy and green technologies, a dynamic seemingly accelerated by Covid.

This creates substantial challenges and opportunities across small advanced economies. Many (not all) small advanced economies have been reducing emissions intensity and are moving actively to capture emerging economic opportunities in this space – as well as to strengthen economic resilience.

- *macro policy and the role of the state*

There is a shifting consensus on the conduct of macro policy and the role of the state in a post-Covid world. There is greater comfort with larger fiscal deficits and higher stocks of public debt, because of low interest rates and an apparently weaker government budget constraint. Small advanced economies will likely remain fiscally conservative, but are exposed to changing large economy fiscal policy (and tax) preferences in regional and international institutions.

There is also greater demand for a more hands-on role for governments in areas from strategic autonomy to the net zero transition. This will change the global competitive landscape for small advanced economies as they compete with state-owned/influenced institutions to a greater extent.

- *changing economic geography*

Both within and across countries, Covid has led to changes in the strength of the agglomeration effect. Technology and more flexible working models are leading to changes in the location of workers (from cities to regions, 'digital nomads'); and are potentially making small economy locations with good intrinsics more attractive to people and firms.

Small advanced economy policy responses

A structurally different global environment is emerging. Across small economy governments, there is a recognition that a structural economic policy response is required to this changed strategic context. I identify five classes of economic policy response that are seen across high-performing small advanced economies, from Singapore to the Netherlands.

First, small advanced economies are responding to a changing globalisation by strengthening competitive advantage (investment in skills, innovation), by strengthening domestic capabilities (enterprise policy, migration policy), and by working to rebalance the portfolio of external markets. Second, small economies are also looking to develop positions in emerging growth sectors, and supporting the reallocation of labour across the economy (skills and training, labour market policy). Third, aggressive investments are being made in the net zero transition, expanding renewable energy and green technology potential, to secure economic opportunities.

Fourth, small economy governments are strengthening national economic resilience in areas from supply chains and key commodities to ongoing caution on public debt accumulation. And fifth, small advanced economies are looking to capture opportunities around a changing domestic geography: attracting mobile talent and managing a more distributed profile of domestic economic activity.

Despite the challenges to globalisation, small economies are not backing away from externally-oriented growth models – but are seeking to adapt these models to a new global environment. The fundamental small economy model remains fit for purpose.

Implications for Ireland

Strengths and weaknesses of the Irish economy

Ireland's strong economic performance has been based on an FDI-intensive economy strategy, which it has pursued in a coherent, sustained manner. Ireland has very high levels of internationalisation (exports, FDI) as well as very high investment rates. It also has good rankings in terms of policy foundations, a high level of human capital/skills, and so on.

However, Ireland has one of the weakest innovation records of the small advanced economy group: low total and business R&D spending as a share of GDP, and a weak overall ranking on the Global Innovation Index. Although Ireland scores reasonably well in terms of economic complexity, and has a strong presence in sophisticated exports (pharmaceuticals, electronics, medtech), this is the consequence of imported innovation capabilities.

My assessment is that the strengths of Ireland's economic model (FDI-driven internationalisation) have also contributed to its weaknesses. The FDI driven model has negative spillovers for the competitive strength (and incentives to innovate, export) in other externally-oriented parts of the economy: MNC-dominated sectors attract labour and other resources, and raise the overall wage and cost structure of the economy, which makes the expansion of other sectors more challenging. These dynamics are similar to 'Dutch Disease'.

There are also issues with the extent of domestic value capture: to an increasing extent, MNCs have weak linkages into the Irish economy, and are not supporting dense, knowledge-intensive clusters. This limits a key way in which MNCs can enhance the productivity and innovation strength of the economy. And without these dense, hard to replicate features, the exit of MNCs to other locations is more likely.

Policy needs to respond to these structural issues, as well as changes in the global economy that may constrain cross-border trade and investment flows. These policy responses are seen in other small advanced economies with similar characteristics, such as Singapore.

Ireland also has major exposures in terms of its relatively high emissions intensity and its low share of renewable electricity generation. This will make the transition to net zero more challenging, and is a source of competitive disadvantage for Ireland as a location and for externally-oriented Irish firms.

Ireland's exposure to global developments

Despite Ireland's high level of international economic engagement, Ireland is not very sensitive to variation in the overall strength of global flows or of the global economy. Rather, its concentrated

export structure means that it is more sensitive to sector or firm-specific shocks in its key sectors (such as changes in business models or the geography of supply chains).

Its Europe and US-heavy portfolio of export markets also means that Ireland is not highly exposed to geopolitical developments. However, there is a material exposure to changing domestic US politics around globalisation (such as policies to require/encourage reshoring of activity by US MNCs); and geopolitical risks will increase as Ireland grows its economic relationship with China.

There are some potential opportunities for Ireland from these global changes. For example, a shift towards more knowledge and technology intensive activity may benefit Ireland given its strong human capital and firm capabilities. And there are potential opportunities from changing economic geography in terms of attracting and retaining talent and firms.

The shifting consumer/firm preferences around the emissions intensity of activities is currently an exposure for Ireland, given its high emissions intensity – making it harder to attract some types of FDI and increasing exit risk. But there are some economic opportunities for Ireland if it can leverage its considerable renewable energy assets.

Priorities for policy action

There are several policy priorities to strengthen Ireland’s performance potential, with particular focus on industrial and enterprise policy, that respond to the emerging strategic context as well as various weaknesses in the Irish economic model. These measures are aimed at boosting productivity and innovation, and delivering more broadly-based growth, in a changed global context. Ireland has continued to perform well, but without policy adjustments, Ireland’s historically strong economic performance may not be able to be sustained.

- *Strategic clusters*

Ireland should actively develop dense clusters of firms that are externally-oriented and innovation-intensive, with deep linkages across the economy. Ireland already has areas of distinctive strength, but these clusters should be deepened. These clusters are the productivity and innovation growth engines in high-performing small advanced economies; and are a key way of anchoring MNCs in Ireland.

Small advanced economies can only develop distinctive competitive advantage in a limited number of areas; resource constraints mean that they are ‘doomed to choose’. An assessment should be made in areas in which Ireland can be distinctive in a post-Covid world; coupled with an assessment of the appropriate level of sectoral concentration in a fast-changing and uncertain economic environment. Policy support should be provided to these strategic priority areas, with a particular focus on stepped-up investment in research and innovation (including through research universities).

Ireland should also support the movement of labour and capital across the economy to reflect changes in the sectoral growth outlook (including from the net zero transition). Active labour market policy and skills policy, should be a priority to support this adjustment towards high value/high skills areas.

- *Domestic value capture/rebalancing enterprise policy*

A greater emphasis should be placed on domestic value capture to respond to the challenges associated with Ireland’s FDI-intensive growth model. Part of this can be achieved by integrating MNCs into

clusters (as above), but enterprise policy also needs to be rebalanced to focus more on creating more at-scale Irish innovation driven enterprises.

Large firms matter in a small economy context; Ireland has some, but the pipeline of high-growth Irish firms needs to be expanded. In addition to support from operating in knowledge intensive clusters, deliberate design of policies (export promotion, innovation grants, capability building) can be useful. Over time, this will rebalance the contributions to economic outcomes between MNCs and domestic firms – leading to a broader-base of growth, which is more sustainable and ‘stickier’.

- *Net zero transition*

In addition to the legislative commitment to net zero, rapidly reducing emissions should be a core part of Ireland’s economic strategy in order to capture economic benefits. Investment in renewable energy can strengthen Ireland’s value proposition for inward FDI, can strengthen the competitive position of Irish firms, can strengthen economic resilience, and generate direct benefits from the construction process. There are also significant economic costs and risks in the status quo: Ireland will become less competitive if it lags on reducing emissions, as firms and consumers are increasingly sensitive to emissions intensity.

- *External posture*

Although Ireland’s external economic posture (its exposure to markets, supply chains) does not create substantial risks, there are political risk exposures to the US, China (and the UK) that will need to be managed. This will require consideration of a measure of diversification of markets and supply chains, as well as building greater energy resilience through investing in renewable energy capacity. Ireland can’t run a fair weather global engagement model in the emerging global context.

- *Institutional support*

Ireland’s institutional arrangements should also be reviewed to ensure that they support strategic coherence across a wide range of policy domains, ensuring that there is alignment across the economic (and other) policy agencies. Even in a small economy context, this requires deliberate, sustained attention. This institutional support/alignment is particularly important given that meaningful policy changes are being suggested.

Concluding remarks

Overall, I remain positive on the outlook for small advanced economies even in the context of a more challenging global environment. Similarly for Ireland, there is a positive outlook: the challenges posed by changes in the global economy are not existential for Ireland and its current growth model. Although the changes in the global environment create challenges and costs for Ireland, they can also be seen as a forcing event to make structural policy changes in ways that will strengthen Ireland’s economy: from industrial and enterprise policy to integrating emissions reduction into Ireland’s economic strategy.

A key reason that small advanced economies have been able to sustain superior performance is that they adapt to a changing context quickly. Indeed, in periods of disruptive change, small economy attributes of agility and flexibility can be a powerful source of competitive advantage. Ireland will need to overcome the policy-makers’ dilemma: the resistance to policy change that can be caused by the sustained success of a particular economic model. But if Ireland can adapt, it can continue to perform strongly even in a more challenging global context.

INTRODUCTION

This paper provides an analysis of enterprise and industrial policy developments in other small advanced economies in the context of a disruptively changing global economic and political environment. This will provide a basis for identifying medium-term policy priorities for Ireland. The paper highlights factors that will influence success in terms of developing an Irish enterprise sector that provides sustainable, inclusive, and resilient growth.

This paper is structured in four Parts.

Part I provides a brief overview of the performance of small advanced economies, the characteristics of high quality industrial and enterprise policy in small advanced economies, and the nature of small advanced economy sensitivity to global developments.

Part II discusses several important global economic, geopolitical, and political dynamics in the post-Covid world, and the nature of small exposures to these dynamics.

Part III then considers the way in which small advanced economies around the world are responding to structural changes in the post-Covid global economy, particularly in terms of industrial and enterprise policy, and distils some common policy themes.

Part IV assesses the strengths and weakness of Ireland's economic model, describes the nature of Ireland's exposure to the global dynamics, and identifies several policy priorities for Ireland – with a focus on industrial and enterprise policy.

An accompanying deck of Exhibits provides supporting context and data for this analysis.

I. THE SMALL ADVANCED ECONOMY CONTEXT

Introduction

This introductory discussion provides a brief overview of the performance of small advanced economies, and the factors that have supported strong performance. I then discuss the characteristics of high quality industrial policy and enterprise policy in small advanced economies. I also discuss the nature of small advanced economy sensitivity to global economic and political developments.

This discussion provides a basis for the discussion of small economy exposures and policy responses to emerging global dynamics; as well as for an analysis of the strengths and weaknesses of the Irish economic model.

In this analysis, I define small advanced economies as IMF advanced economies with populations of more than 1 million and less than 20 million and with a per capita income above USD30,000. This generates a group of 12 small advanced economies: Austria, Belgium, Denmark, Finland, Ireland, Israel, the Netherlands, New Zealand, Norway, Singapore, Sweden, and Switzerland. I also construct a comparator group of 10 larger advanced economies; IMF advanced economies with populations of more than 20 million people.

The group of small advanced economies is a diverse group of countries that on the surface have significant differences in economic approaches: Singapore has a different economic model from Denmark; Switzerland is very different from New Zealand; and so on. But there are some common policy and contextual characteristics that are shared across these small advanced economies.

1. Small advanced economy performance

As a group, small advanced economies have out-performed larger advanced economies over the past few decades in terms of economic outcomes such as GDP growth, as well as broader social outcomes.

Small advanced economies have relatively high levels of per capita income: the small economy average per capita income is about 30% higher than that of larger advanced economies, and a few small advanced economies have particularly high per capita income levels. Although there is broad distribution of income levels across the small advanced economies group, the top-performing small advanced economies dominate the per capita income rankings.

These strong per capita income measures are the result of strong small country GDP growth rates over the past few decades, and particularly over the past 25 years. There has been a distinctive edge in annual GDP growth, of around half a percentage point, in small advanced economies over their larger counterparts. This strong performance has continued through the post-global financial crisis period.

And small advanced economies have out-performed larger economies through the pandemic in terms of GDP growth as well as health outcomes. Many small economies (including Ireland) rank near the top of Landfall's Covid performance index, a composite measure of GDP performance through Covid, average stringency of Covid restrictions, and excess deaths per capita.

This small economy per capita income advantage over their larger counterparts is due to both higher levels of labour productivity as well as stronger hours worked per capita.

And it is stronger labour market performance that has given small advanced economies the edge in terms of GDP growth over the past few decades. Small economies do well at productively deploying a large share of the working age population. Growth in hours worked in small advanced economies has consistently run well ahead of larger economies over much of the past 25 years. In contrast, labour productivity growth rates have been approximately the same over this period between the small and large economy groups.

Small advanced economies have consistently lower unemployment rates and higher labour force participation rates. Taken together, the overall employment rate (the share of the working age population that is in employment) is higher in small economies than in larger economies. These strong labour market outcomes are an important contributor to the strong inclusive growth outcomes that are generated by small economies.

Small economies performance in terms of the income distribution is also due to relatively generous and well-targeted tax and transfer policy measures. Small governments buffer households from relatively high small economy exposure to external shocks (Singapore is an exception: much of its support system operates through asset transfers (public housing, pensions, and so on) rather than income transfers).

Small advanced economies also dominate the top of the rankings on other composite measures of social outcomes, such as the UN Human Development Index, the Social Progress Index, and so on. And survey measures of happiness also report strong small economy outcomes. These social outcomes are the result of deliberate policy choice: inclusive growth is embedded into strategic economic policy.

Drivers of strong performance

There are several reasons for this strong economic performance by small advanced economies. Although there is no single policy template for small economy success – New Zealand, Singapore, and the Nordics, for example, have clear differences in specific policy settings – there are some common factors.

To structure this conversation, I draw on the findings from Landfall's Economic Strength Index (ESI), a proprietary tool that I have developed to capture the drivers of small advanced economy success. The ESI is built around a range of small advanced economy characteristics that contribute meaningfully to small economy economic performance. I structure the ESI around seven pillars: internationalisation, skills and innovation, investment, inclusive growth, institutions, and policy foundations. Selected metrics are used to capture performance on each of these pillars.

The resulting ESI score have a tight relationship with per capita GNI. And this measure has stronger explanatory power than other measures such as the World Economic Forum's Global Competitiveness Report – because it focuses directly on small advanced economies. Small advanced economies are not scaled-down versions of large economies, and have different drivers of performance.

The ESI shows that the most important pillars for small advanced economies in terms of explaining variation in performance are internationalisation, innovation, and institutions. This is consistent with my qualitative assessment of the drivers of small economy success. There is no high-performing small advanced economy that does not have a growth model that is based around innovation/knowledge intensive externally-oriented activities. And strong state capability is needed to deliver strategic policy coherence across a range of policy domains.

On that basis, I discuss these three key elements in more detail: active international engagement; strong, sustained investment in knowledge, innovation and human capital; and strong institutions that support strategic coherence in economic policy.

- International engagement

The levels of international engagement by small advanced economies are substantially higher than in larger economies, in terms of exports of goods and services, foreign direct investment (FDI), and so on. Even after controlling for outliers (such as Singapore and Ireland), the average exports/GDP share in small advanced economies is about 2x that of large economies; and the outward FDI/GDP share is also about 2x higher.

There was an increase in the growth of international economic activity across the small economy group from the mid-late 1990s, partly reflecting strong global growth and the integration of emerging markets into the global economy, as well as a change in the nature of the export structure of small economies into higher growth export categories. The nature of the international engagement model in small advanced economies shifted over this period, with an increased focus on exports of knowledge intensive good, exports of services, and on outward direct investment.

This externally-driven growth has been the foundation of strong economic performance by small advanced economies. This is because of the strong productivity gradient across sectors in small advanced economies: labour productivity levels (and labour productivity growth rates) are higher in externally-oriented sectors (such as manufacturing) than in domestically-oriented sectors (such as retail or construction). A difference in productivity levels between domestic and externally oriented sectors is seen across all advanced economies, but is particularly marked for small advanced economies. This is because external engagement enables small economies to overcome the limited domestic market, in which there is less potential for scale economies and weaker competitive intensity.

Small economies need to develop a well-performing external sector in order to generate strong economic outcomes. Indeed, the intensity of external engagement maps well onto productivity outcomes in small advanced economies. And every episode of meaningful income convergence by small advanced economies are due to growth in external sectors rather than domestic factors. It is the small advanced economies that are more externally engaged that tend to perform better in terms of GDP growth and proximity to the income frontier.

There are some relatively exogenous factors that support international economic performance, such as geography, regional integration opportunities, resource endowments, and so on. But at least as important are whether the economy has a meaningful presence in high growth export categories – and the extent to which it can reallocate resources towards these sectors over time. Over the past couple of decades in particular, these export categories have had high levels of skill and innovation embedded in them (e.g. advanced manufacturing, or professional and financial services).

- Investing in innovation & human capital

Successful small advanced economies are characterised by heavy investments in knowledge, innovation, and human capital. It is commonly observed that small economies, because they often have limited resources in an absolute sense, act to ensure that they make the most of their people. This focus on knowledge and human capital has been central to the way in which small advanced economies, from

Switzerland to Singapore, have built distinctive international competitive positions. This capability is necessary to support the competitive positioning of relatively high cost small advanced economies in the global economy. Without significant investments in research and innovation, small economies will find it very difficult to generate and sustain strong economic performance.

Many small advanced economies, notably economies like Finland and Israel, invest very heavily in R&D. However, there is variation across the small economy group (New Zealand has relatively low R&D intensity), as well as in the way in which innovation is undertaken (the balance between business and government-funded R&D). High rates of business R&D spending suggests strong positions of competitive advantage.

However, because of differences in average firm size between small and large advanced economies, government-funded R&D spending has a more central role in small advanced economies: governments can act to crowd-in R&D spending, by supporting the development of an innovation ecosystem. Another distinctive element of the small advanced economy approach to innovation is in terms of research universities: small economy governments invest more in HERD, spend more on higher education, and have a relatively high number of world-class research universities per capita. The connections between research universities and firms are critical in driving innovation in a small economy context.

The time series of R&D spending suggests an increased investment in R&D from the mid-late 1990s, which enabled small economies to transform their export structure (moving into higher value, higher growth categories). More recently, there has been an increasing track in R&D/GDP spending by the small advanced economy group. However, a gap is opening up between the high and low R&D spenders: over the past decade, the high R&D intensity small economies have grown R&D spending further, while the low R&D intensity small economies have a flatter profile.

There are several other measures of the domestic innovative capacity of small advanced economies. In the Global Innovation Index, small advanced economies take 8 of the top 10 places on the rankings. Interestingly, however, the innovation efficiency ratio – a measure of innovation outcomes normalised by innovation inputs, such as R&D spending – is lower in many small advanced economies than in larger advanced economies. This suggests that greater investment effort is required in small advanced economies to generate strong innovation outcomes.

Small advanced economies also tend to perform well in the World Economic Forum's Global Competitiveness Index. Many of the high performing small economies, such as Switzerland and several Nordics, perform particularly well on the innovation pillar of this index.

In addition, small countries also prioritise investment in human capital. Consider the strong performance of small advanced economies on the World Economic Forum's Human Capital Index, a composite measure of multiple dimensions of human capital. This performance is due to a combination of strong formal education systems (note the relatively strong PISA scores in small economies), as well as technical/vocational training and high quality schools, universities, and research institutions. Many small economies are currently investing in initiatives to prepare their existing and future workforce for the workplace of the future, recognising that disruptive change is on the way.

One measure of the strength of the skills system in small advanced economies is that they have been able to productively employ large shares of the population in externally-focused sectors, even in periods of competitive intensity and rapid change in technologies and business models. As noted above, a key dimension of the performance edge of small advanced economies over the past few decades is due to strong labour market performance.

- Institutions

The ‘good luck’ of a supportive global economic environment has helped small advanced economies over the past few decades, enabling them to grow their external sectors. But it is the ability of small economies to position themselves in this environment with high-quality policy choices, and to respond/adapt as appropriate, that has made the difference.

The quality of political and social institutions matters for the sustained success of small advanced economies. In terms of political institutions, small advanced economies rank well on measures such as the effectiveness of governance, the absence of corruption, voice and accountability, as well as democracy, press freedom, and so on. These institutions support high functioning, responsive governments, which are able to make tough choices. Similarly, small advanced economies have high scores on various social institution measures – such as high levels of social capital and trust – that also support policy agility and responsiveness. This institutional strength demonstrably mattered in supporting small advanced economy performance through the pandemic.

- Other factors

In addition to these three highlighted factors, there are other characteristics of small advanced economies that support their performance. Small advanced economies tend to have strong policy foundations: fiscal discipline, efficient business environments, flexible labour and product markets, and so on. And they have high levels of national saving and investment, both in the public and private sectors; there is broad variation across small advanced economies on these measures, but in general they perform well.

And as mentioned above, small advanced economies also generate strong inclusive growth outcomes – and for many, this is a core part of how they design economic policy. One of the intuitions is that inclusive growth creates the political support necessary to sustain open, market-oriented policies.

2. Characteristics of high quality industrial policy & enterprise policy

This discussion describes the key characteristics of industrial policy and enterprise policy that matter in small advanced economies.

For the purposes of this paper, I define industrial and enterprise policy broadly. Enterprise policy works with firms (and clusters of firms) to support their growth: building capabilities, export promotion, FDI attraction, and so on. Industrial policy focuses on the broader strategic economic context: innovation policy, building competitive strengths into the economy, and has a view on the overall profile of the economy. Of course, these two policy domains overlap and interact.

Industrial and enterprise policy in small advanced economies is central to overall economic strategy and performance, because of the distinctive characteristics of the small economy context. Small advanced

economies are not scaled-down versions of larger economies; more so than in large economies, deliberate policy action is required to deliver strong outcomes. Whereas macro policy/demand-side measures are more central to economic policy in larger economies, small advanced economies are focused on supply-side measures such as industry and enterprise policy that support the development of competitive advantage in externally-oriented sectors.

There are several characteristics of high quality industry policy and enterprise policy in small advanced economies.

- External focus

Externally-oriented sectors are the productivity growth engines of small advanced economies; it is important that these external firms/sectors take priority in the overall economic strategy. Small advanced economies cannot be sector agnostic; industry policy needs to focus on strengthening externally-oriented sectors.

This external focus also involves deliberate enterprise policy support. International expansion is costly and risky for small economy firms, requires new capabilities, and also requires a relatively high initial level of productivity to be competitive in international markets. Particularly given that many small country firms will internationalise at an early stage in their business life cycle, enterprise support can be particularly valuable: capability building, in-market support, financial assistance, and so on.

- Cluster focus

Clusters of related and supporting firms are an important engine in small advanced economies for innovation and productivity growth, as well as international engagement. Deep, sophisticated clusters support innovation, tacit knowledge transfer, can better absorb shocks, and so on. Clusters enable small economies (and small economy firms) to offset the absence of internal scale economies with external scale economies, such as strong backward and forward (supply chain) linkages, a deep pool of specialist labour, skills, and supporting firms, strong relationships with universities and research institutions, and so on. In turn, this supports successful international expansion by firms.

Across small advanced economies, international engagement and productivity performance comes disproportionately from these clusters. Internationally oriented firms are frequently embedded in deep clusters. For example, Switzerland (finance, pharma, precision engineering), the Netherlands (logistics, environment, agriculture and food), Denmark (shipping, renewable energy, pharma), and Israel (high tech). These clusters provide a hard to replicate ecosystem, which increases the 'stickiness' of small advanced economies and provides economic resilience.

The importance of clusters is important in large economies as well, but they provide particularly important services in small advanced economies – supporting firm-level and aggregate productivity performance. Industry and enterprise policy have an important role in developing knowledge and innovation-intensive clusters.

Note that there is a well-developed literature around clusters, which often emphasise their geographic nature.¹ The term is used in a more informal sense in this paper to capture activities that are broader than a sector vertical, and which includes a set of related, supporting, and adjacent activities that together are material as a share of GDP, and from which frontier firms are likely to exist and to be developed. In this context, clusters are not a small, localised set of related activities, but something more like the examples of clusters described above. This framing captures a coherent set of related activities, in which external scale economies exist, and which can make a material contribution to national productivity performance.

- Strategic choice

Small advanced economies only have the national scale to be able to develop strong competitive advantage in a limited number of internationally-oriented sectors/clusters across the economy. Indeed, small economies tend to have relatively concentrated export structures. Informal examination of the competitive strengths across high-performing small advanced economies from Switzerland to Sweden and Finland shows that their competitive strengths lie in a limited number of areas (but which generate substantial economic value to the economy). Sub-scale clusters or isolated groups of firms are less likely to generate economic value on a sustained basis.

This concentration is both a function of choice in some economies (such as Singapore); a function of organic evolution (in many small European economies); or a matter of resource endowments (New Zealand, Norway). Industry and enterprise policy needs to have a view on sector/cluster composition; this needs to be approached deliberately in a way that is not the case in larger economies where competitive strengths can be developed across the economy.

This means that small economies are ‘doomed to choose’; policy support needs to be provided in a more deliberate manner. Industry and enterprise policy can play an important role by providing a coordination function and helping to develop the selected clusters by building distinctive capabilities and networks.

The need to generate competitive strength in these externally-oriented sectors means that investing in research and innovation is important. Outside of exports such as commodities and international tourism, competitive advantage in externally-oriented sectors will be built on investments in knowledge and innovation. Governments in small advanced economies have an important role in shaping the research and innovation ecosystem; from world-class research universities to the scale of the research and innovation funding system.

- Materiality

The centrality of industrial policy and enterprise policy in small advanced economies means that these policy areas need to be approached in a way that can generate material improvements in economic aggregates.

In terms of enterprise policy, for example, it is important to have a focus on supporting high growth firms that can scale up into large firms. Many enterprise agencies are increasing their focus on high

¹ Masahisa Fujita, Paul Krugman, and Anthony Venables, *The Spatial Economy: Cities, Regions and International Trade*, MIT Press, 1999; Michael Porter, *The Competitive Advantage of Nations*, MacMillan Press, 1990.

growth firms that have the potential/capabilities to grow. A focus on SMEs can lead to an under-powered growth model, with firms that lack the ability to break into international markets at scale.

Indeed, large firms play an important role in small advanced economies in driving international expansion, as well as contributing significantly to productivity and innovation. Small advanced economies produce more large companies per million population than do their larger economy counterparts. The international activity of these large firms in small country firms is a central part of strong external engagement by small advanced economies.

Sub-scale interventions are a common risk for small advanced economies, in which resources are thinly spread across a broad range of interventions – and that lack an ability to create real impact (for example, defining clusters very narrowly, numerous micro interventions).

3. Exposures to external shocks

Small advanced economies are deeply exposed to the external economic and political environment through a few transmission mechanisms. This external exposure is a key reason that small advanced economy GDP growth is more volatile (but also higher) than in larger economies. There are a few vectors of exposure that are particularly important.

First, in a structural sense, small advanced economies are exposed to the nature of the underlying economic and political environment. Small advanced economies have prospered in the open, rules-based global economic and political system that has generally prevailed over the past several decades – and particularly from the 1990s. This supports both global economic engagement as well as provides protection against being subjected to unwelcome big power politics.

Small economy over-performance has been much more pronounced over the past several decades than it was in previous periods – when the global economy was less open and small advanced economies were more exposed to big power politics. Indeed, the number of independent small states increased around the world from WWII, as global conditions became more supportive of small economies.

Second, small economy GDP growth is sensitive to the global business cycle and variation in the strength of global demand and globalisation. The large export sectors in small advanced economies (and the importance of international investment income) creates exposures to the strength of the global economy. Small advanced economy GDP growth moves with the global business cycle; periods of strong global GDP and trade growth are good for small advanced economies.

As a group, variation in GDP growth in small advanced economies maps against variation in world GDP growth and in world trade growth. In general, the larger the size of external sectors the higher the correlation between economic activity in small economies and the overall global economy. Small open economies are high beta plays on the global economy.

However, the strength of this relationship is shaped by the sectoral mix. For example, Ireland has one of the lowest correlations with global GDP despite its high exports/GDP share, because of the strong contribution from MNC-dominated sectors (and the idiosyncratic characteristics of this MNC activity, and market exposure). Commodity exporters like Norway also have similar outcomes, being more impacted by variation in oil and gas prices than by world GDP growth.

Third, small advanced economies are exposed to specific external shocks. For example, shifting consumer preferences, new technologies and business models, as well as new sources of competition, can lead to idiosyncratic shocks for small advanced economies. The high external exposures and the tendency towards relatively concentrated economic structures in small advanced economies means that these specific shocks can have major impacts on economic aggregates. The market capitalisation of the top handful of large firms in small advanced economies often represent substantial shares of GDP (and markedly larger than in large advanced economies); a shock to these firms can have a meaningful impact on national GDP.

Nokia is the canonical example of an idiosyncratic shock to a small advanced economy. Estimates suggest that Nokia accounted for a quarter of Finland's growth from 1998-2007, 20% of its exports, 30% of its R&D, and over 15% of its corporate tax revenue in 2007. The decline of Nokia due to its inability to compete with Apple has had a pronounced effect: a drag of 1% of GDP on Finland's growth in 2009, and a reduction in corporate tax receipts from €1.3 billion in 2007 to about €100 million in 2009.

More recently, the hard stop to international tourism flows through the pandemic generated a significant economic shock on small advanced economies that had a high exposure to tourism revenues (Greece and Austria as well as Singapore, Hong Kong, and New Zealand).

Overall, it is these common deep exposures to the global environment that create meaningful similarities across small advanced economies in terms of their worldview and economic strategy design. These external exposures have a profound influence on how small advanced economies approach economic policy: they are trying to respond to position themselves for competitive advantage in the global economy, and to manage the accompanying exposures; even though the specific ways in which they do so vary according to local context.

II. SMALL ADVANCED ECONOMY EXPOSURE TO GLOBAL DEVELOPMENTS

What are the main likely international economic trends, geopolitical developments, industrial/enterprise and trade policy developments, and technological changes that will affect small, advanced economies over the next decade?

Small advanced economies are deeply exposed to external economic and political developments because of their high levels of openness to the global economy. This external exposure occurs through multiple channels: variation in the strength of the global economy and global flows; changes in technology, consumer preferences, business models, consumer preferences, and policy choices (e.g. emissions, corporate tax); as well as structural changes in the global economic and political order on which small advanced economies depend.

These external developments matter for small economy performance because externally-oriented sectors are the productivity growth engines of small advanced economies. Ireland's economic experience shows that it is deeply exposed to these dynamics as well.

There are several vectors of global change that are relevant to small advanced economies, many of which have been accelerated and strengthened by Covid – and more recently by the economic impact of the Russian invasion of Ukraine. Covid-19 was much more than a demand-side shock to the global economy, of the type that the global financial crisis largely was. The magnitude and duration of the Covid-19 shock will generate a broader and more enduring impact on the global economy.

I focus on five global developments that I consider to be particularly relevant to small advanced economies – and to Ireland.

1. Shifting patterns of globalisation

After a few decades of intense globalisation, there has been a flattening/weakening profile of world trade and capital flows to GDP over the past decade. Some types of cross-border flows are clearly under pressure, an increasing number of restrictions on cross-border trade and investment are being implemented, and there are growing warnings on an unwinding of globalisation.

This needs to be kept in proportion. Many obituaries for globalisation have been written over the past two decades. And yet world trade as a share of GDP has declined only modestly over the past decade, after several decades of strong increases. Globalisation has also been resilient through Covid. World trade volumes are above their pre-Covid levels, and continue to grow, partly due to the rotation of consumer demand towards goods during Covid: the bounce-back has been so strong that global supply chain disruptions have been caused. Exports of services that relate to people movements (international tourism, export education) fell substantially during Covid, and FDI flows weakened, but these are likely to recover over time.

But structural change is underway. After 30 years of 'hyper-globalisation' we are moving into a new globalisation regime, a transition accelerated by the pandemic. History shows that globalisation is a joint function of the global economic and political regime. Hyper-globalisation was enabled by the extension of the of rules-based multilateral system after the Cold War, the emergence of China and other emerging markets, the development of technology-enabled global supply chains, and so on.

But this international economic and political context is changing. And recent developments, notably the Western response to the Russian invasion of Ukraine, has crystallised a rupture in the global economic and political system. This new globalisation regime will be more fragmented, with a globalisation that is more regional, more political, and shaped by big power rivalry.²

To understand the emerging shape of globalisation, and the implications for small advanced economies, it is useful to consider the economic and political drivers of the changes to globalisation.

Economic drivers

Global flows increased over the past several decades because of powerful economic incentives. A combination of trade liberalisation, strong global growth, massive reductions in transport and communication costs, and the integration into the global economy of low cost emerging markets in Asia, enabled an explosion of cross-border trade and investment flows – and the deployment of far-flung supply chains. Advanced economy firms were able to expand into foreign markets more aggressively, and to develop new global business models. And this footprint has moved from manufacturing into a range of internationally traded services.

But the economic drivers of ongoing increases in the intensity of global flows have been weakening – and are likely to continue to do so.

First, the economics of globalisation are shifting. Labour costs have been rising in many emerging market production platforms, making the labour cost arbitrage opportunity less compelling. Unit labour costs in China have converged rapidly towards those of advanced economies. And technologies like automation and 3D printing are reducing the importance of labour costs.

Globalisation can be seen as a production technology. And so the development of other technologies (automation, AI) can act as a substitute. Automation reduces the case for labour intensive production in lower cost locations; and similarly artificial intelligence can reduce the need for offshored business services. In many cases, these will benefit advanced economies and impose costs on emerging markets.

These incentives are reinforced by the growth in regional trade deals (CPTPP, RCEP, NAFTA, and others) that preference regional trade and investment flows.

There is also an increased commercial focus on supply chain resilience: having key inputs available on a ‘just in time’ basis from distant production facilities introduces economic risk into firm operations. The ongoing global supply chain disruptions through the pandemic, together with events like the Suez Canal blockage last year, have caused many firms to re-assess the balance of efficiency and resilience. Some responses are to build inventories or to diversify suppliers.

This is likely to lead to greater localisation and the geographic compression of supply chains. The high water mark in far-flung supply chains has likely been reached. But re/near-shoring will be sector specific, and gradual. Indeed, there has been relatively little at-scale relocation of activity – and the average distance of trade has not yet reduced markedly.

Indeed, the powerful economic incentives around globalisation mean that many firms will look to maintain an international footprint. Firms may substitute FDI for trade, with investment in offshore

² For an extended discussion of these issues, refer to my recent notes at: <https://davidskilling.substack.com>

production capability that is closer to the end consumer (e.g. European firms manufacturing in Asia for Asian consumers). There may also be a different composition of global flows: a reduced share of goods, but more services, investment, and knowledge/data flows. Globalisation may look different, but it is not going away.

Political drivers

There are also political dimensions for the flattening intensity of globalisation. And if the economic factors operate gradually, the political factors are likely to be more disruptive.

The domestic political consensus in many large advanced economies around globalisation has weakened. National governments are imposing more restrictions on trade, investment, and migration flows, from 'America First' to China's dual circulation policy and the EU's 'strategic autonomy' agenda (as well as Brexit). Governments are also more inclined to promote national champions in areas from pharmaceuticals to sensitive technology. Covid-19 has reinforced the broader political mood towards erecting barriers to global flows.

These political frictions will increasingly constrain the ability of firms to operate across global markets, increasing costs and reducing efficiency. For example, consider the impact of Brexit frictions: total UK trade with the EU is well below pre-Brexit levels, whereas non-EU trade has recovered more strongly.

Geopolitical rivalry between the West and China is also driving changes in globalisation. We have likely reached the high water mark in China's integration into the global economy: China is adopting a more inward-looking set of economic policies, and Western economies (the US, Europe, and in Asia) are adopting tougher stances on trade and investment flows with China. There are also growing examples of large economies (notably China) applying trade and investment sanctions on countries with whom they have political disputes.

A decoupling has been underway over the past several years. This will be accelerated by the aggressive Western response to Russia's invasion of Ukraine. This will lead to the development of blocs, and a more fragmented global economy. Cross-border flows will increasingly be shaped by shared values to reduce geopolitical risk exposures. These geopolitical tensions are structural, and are deepening in intensity and broadening in coverage.

The absence of global leadership continues to weaken the rules-based system: the US is undermining the ability of the WTO to function, the G20 is absent, and so on. And neither the US nor China have the political appetite to provide effective global leadership.

Emerging shape of globalisation

Although world trade intensity has likely peaked (due to China's domestic focus, contraction of global supply chains, political frictions), a pronounced unwinding of globalisation is unlikely. Trade flows will tend to be diverted as opposed to destroyed. And there is some globalisation upside in terms of increased cross-border flows of FDI as well as knowledge and data.

But there will be powerful changes in the nature of globalisation. It will be a more regional, fragmented model of globalisation: trade and investment flows will be shaped increasingly by geography, geopolitical alignment, and so on.

This will be reinforced by political pressures to localise supply chains in strategic sectors (pharma, technology), as well as the ongoing trade wars. US Treasury Secretary Janet Yellen recently talked of ‘friend-shoring’, the development of supply chains with partners that reflect shared values.³

The average distance of trade is likely to reduce, with an increasingly regional dimension to the global economy. The post-Covid-19 world will not be flat and the location of supply chains and FDI will change to reflect the greater policy and corporate focus on resilience. Although I do not think this marks the end or reversal of globalisation, globalisation will certainly change its shape. However, there are some bright spots. Growth in commercial services has been stronger, and global flows of technology and knowledge, capital flows, and data, will continue.

Small economy exposures

Small advanced economies are deeply exposed to the intensity of globalisation, given their very high external shares (exports, outward and inward FDI). The intense globalisation of the past few decades has been supportive of small advanced economy performance. Indeed, a longer time series shows that small economy out-performance is largest in periods of strong globalisation. And convergence towards the per capita income frontier (including by Ireland) has been strongest during periods of intense globalisation.

Although small economies have continued to perform relatively well over the past decade, with slower world trade growth and various trade wars, small economies are advantaged when trade and investment flows can proceed smoothly. Additional costs and frictions on global flows may make it more difficult for small advanced economy firms to expand into international markets.

The geopolitical frictions, and the pressures for economic decoupling, will also constrain external market opportunities for small advanced economies: external demand will increasingly come from a regional global economy (or of values-aligned economies), rather than the full global economy. This will have a particular impact on small advanced economies that are outside major groupings like the EU/EFTA, or that are physically located between the competing blocs (such as New Zealand and Singapore) where economic and political relationships conflict.

The interaction between international economics and politics means that strategic choices will need to be made on alignment. There are many examples of small economies being squeezed by China, for example, from Lithuania and Norway to Taiwan.

The historical record over the past two centuries suggests that small advanced economies are resilient to changes in the global economic and political system. But small economies will need to adapt their growth models to reflect these new realities, building distinctive capabilities in specific areas rather than being leveraged to global flows. Growth models that rely on being a hub for trade and capital flows will likely be challenged.

Small advanced economies will need to respond to these growing challenges and opportunities in the global economy, requiring investment to maintain relevance and competitive positions. One of the advantages of being small is that it is possible to prosper by developing strong positions in specific areas

³ <https://home.treasury.gov/news/press-releases/jy0714>

of the global economy. If small economies can sustain competitive advantage in these specific areas, they can continue to perform well even in the context of relatively subdued aggregate global flows.

2. Technology development & new business models

Technology has been a dominant force in the global economy over the past few decades. Firms and economies on the technology frontier have assumed positions on the commanding heights of the global economy, and have out-performed. There have been ‘winner take all dynamics’, with growing economic concentration as a consequence of the economic rents that have been generated. This is particularly the case for the US. And more broadly, globalisation has become more technology and knowledge intensive.

The pandemic has rapidly accelerated business investment in technology and innovation, and created the conditions for the adoption of new business models (digital, automation, and so on), across many advanced economies. There has been a shift to digital/online modes of engagement (in retail, health, education, and so on), investment in automation (response to labour shortages, preference for ‘contactless’ operations), and so on. And the deployment of technologies like AI has been accelerated.

Particularly in the US, business investment – particularly in technology – has increased very rapidly through the pandemic. And across the G7, there is an expectation of stepped-up business investment. Some of this investment would have been made in any case, but the pandemic has accelerated it – the unusual circumstances have required new ways of doing business. Covid has been a forcing event for investment in technology for many firms.

The competitive pressures on firms to upgrade, combined with rapid technological progress underway, likely means that we are entering a period of disruptive change. Firms and countries that are already operating close to the innovation and knowledge frontier will be well-placed to capture economic value from these dynamics.

Increased capital intensity of operations in existing sectors, as well as in emerging growth sectors. And although capital intensity is likely to increase in the post-Covid period, there will also be an increase in the centrality of intangibles (branding, IP, and so on).

There is the potential for a productivity renaissance across advanced economies in response to new technologies and the accompanying investments. Labour productivity growth has been in secular decline across advanced economies over the past several decades. However, a marked increase in business investment – notably in technology – and in upgrading business models, is likely to make a positive contribution to labour productivity growth.

It is too early to say anything definitive on the basis of the productivity data over the pandemic period, because the data are too noisy (both the GDP track, but also due to volatility in the hours worked growth series). But there is the potential for higher trend labour productivity growth if current investment trends are sustained.

These dynamics around technology and changes in consumer preferences are likely to lead to markedly different sectoral growth profiles across the economy: some sectors will contract (perhaps physical retail, office real estate) while others will grow (digital, cyber). Indeed, we are seeing substantial change in labour markets: jobs being created/lost in different sectors, high quit rates as people look for new

opportunities, and so on. These dynamics will likely lead to significant movements in labour and capital across sectors in advanced economies.

Concerns have often been raised about the extent of potential labour market disruption and jobs destruction that may be caused by disruptive technologies. These concerns existed before the pandemic, but the acceleration of these dynamics over the past few years has strengthened these concerns. Rapid adoption of automation and AI in some sectors may have an impact on labour market aggregates if these pressures are not managed well.

Implications for small advanced economies

These dynamics will create added competitive pressure in key sectors for small advanced economies, but could strengthen labour productivity. And small advanced economies are well-positioned to benefit from these dynamics.

Many small advanced economies operate close to the innovation frontier. Small advanced economies perform well on technology and innovation measures, with high levels of investment in R&D and human capital, often have high knowledge/technology intensity of exports of goods and services, and they have produced many high technology firms.

Although small advanced economies are unlikely to produce platform companies (like Amazon or Alibaba), they have a demonstrated ability to deploy new technologies and business models effectively (which is important because most new ideas and technologies are developed outside small economies). In previous periods of disruptive technology change (e.g. from the mid-1990s), small advanced economies responded effectively: investing in skills and innovation, and moving into export categories with higher growth profiles.

A study from the World Economic Forum found that many small advanced economies are well-positioned to benefit from new disruptive technologies.⁴ Indeed, advances in industrial automation and green technology may be better fits for many small economies than the consumer platforms that have dominated over the past few decades.

Small advanced economies have tight labour markets, relatively high wages, with high levels of human capital – this makes them well-positioned to benefit from disruptive technologies. Indeed, these capital intensive technologies are likely useful in the context of aging populations and reduced working age population growth that we see across small advanced economies. Investing in these technologies – and the supporting capabilities (notably human capital) – offers the prospect of improved labour productivity growth – after a few decades of secular decline in labour productivity growth.

However, disruptive technologies and new business models will also create some challenges for the small economy model. Given the relatively concentrated export structures of small advanced economies (with strong competitive positions in a limited number of areas), a shift in technology or business model that impacts on one of these areas can have a material aggregate economic impact.

⁴ World Economic Forum, 'Readiness for the Future of Production Report 2018', 2018 (<https://www.weforum.org/reports/readiness-for-the-future-of-production-report-2018>)

Nokia provides an example of how a technology/business model shift can have a substantial impact on national economic performance in a small advanced economy.

The implication is that small advanced economies need to ensure that they have an appropriate measure of sectoral diversification in order to protect against idiosyncratic shocks. However, too much diversification can weaken the ability to generate strong positions of competitive advantage because it makes it harder to achieve critical mass in any particular sector. A balance needs to be struck.

3. The net zero transition

The net zero transition has become an increasingly prominent global dynamic, strengthened further through the pandemic. The reason for the strengthening is partly due to the incoming scientific evidence; as well as the commitments made in international negotiations through the COP process. Over the past few years, many advanced economies have committed to net zero emissions by 2050, with intermediate targets in the interim. These targets are frequently embedded in domestic legislation.

There are some exceptions; the US, for example, has not signed onto the Paris Accord nor made any binding commitments. And the rhetoric runs ahead of reality in many advanced economies. But there is a clear direction of travel. For example, one of the notable features of the Covid recovery plans announced in many European countries (and by the European Commission) has been the prominence of funding for green initiatives (discussed in more detail in Part III).

This transition to net zero will be very demanding, and will result in disruptive change across advanced economies as energy, transport, and industrial systems are transformed. McKinsey estimate additional annual investments of \$3.5 trillion are required until 2050; and the ECB estimate that the net zero transition will lead to higher trend inflation.⁵ There will be substantial transition costs, including stranded assets in emissions intensive activities. Early positioning for this transition likely means that there will be less investment in legacy infrastructure, and that firms will more rapidly adjust to new modes of activity. Substantial new growth sectors in the low carbon economy will also emerge.⁶

Beyond these government commitments to net zero, countries and firms need to take this agenda seriously. Citizen, consumer, and investor preferences are shifting rapidly towards firms that provide low emissions goods and services.⁷ Countries and firms that can operate in a low emissions manner will strengthen positions of competitive advantage, and vice versa: this creates substantial challenges and opportunities across small advanced economies.

These changing consumer preferences on emissions intensity have become much sharper through the pandemic, moving into the mainstream (perhaps partly because of the lockdown experience). Firms and investors are allocating capital and changing business models in this direction, from directly sourcing renewable energy to making their own net zero commitments.

⁵ <https://www.mckinsey.com/business-functions/sustainability/our-insights/the-net-zero-transition-what-it-would-cost-what-it-could-bring>; <https://www.ecb.europa.eu/press/key/date/2022/html/ecb.sp220108~0425a24eb7.en.html>

⁶ <https://www.mckinsey.com/business-functions/sustainability/our-insights/playing-offense-to-create-value-in-the-net-zero-transition>

⁷ See for example: <https://www.eib.org/en/surveys/climate-survey/3rd-climate-survey/index.htm>

An additional economic benefit is due to the changing economics of renewable energy. The costs of various forms of renewables (onshore and offshore wind, solar) have been reducing rapidly, and are likely to continue to do so. In many cases, they are cheaper than non-renewables (particularly at the moment, with high gas prices) and this cost advantage is likely to widen. Similarly, the costs of green hydrogen production are expected to reduce rapidly over the next decade and beyond. This growing cost advantage for renewables will be reinforced by the increasing tendency for governments around the world to implement emissions pricing schemes.

The implication is that access to renewable energy is an increasingly important source of competitive advantage for firms. Renewable energy will also strengthen national economic resilience, removing or reducing exposure to international energy prices.

A combination of the changing economics and changing preferences are leading to substantial amounts of capital flowing into renewable energy and other green technologies, a dynamic accelerated in the post-Covid world. Installed renewable capacity is growing strongly. Many (not all) small advanced economies are moving actively in this space, to capture emerging economic opportunities and manage risks.

Changing preferences on emissions will likely lead to substantial variation in the growth outlook across sectors in the aftermath of Covid-19. For example, (emissions intensive) international tourism is likely to be negatively impacted – as are some parts of agriculture (red meat, dairy). In contrast, low emissions activities are likely to be better positioned, with substantial growth potential. There will both be stranded assets, as well as meaningful new growth sectors.

These sectoral dynamics will require substantial reallocations of labour and capital across the economy, away from emissions intensive activity towards greener sectors. This is why a growing number of economies have implemented ‘just transition’ policies to support workers move to new employment opportunities.

Exposure of small advanced economies

There is significant variation across small advanced economies to these dynamics. Many – but not all – small advanced economies have relatively low emissions intensity levels, have made progress in reducing emissions intensity over the past decade, and have strong positions in installed renewable energy capacity (and related green technologies). These small economies are well positioned for the net zero transition.

However, there are some small economies that have limited resources for renewable energy production (such as Singapore) where the costs of the net zero transition currently dominate. Even so, as discussed in Part III, Singapore is moving to capture benefits and manage risks by adapting its energy mix and economic structure. And it may also be that some small advanced economies are able to develop leading positions in new growth sectors in the low carbon economy (transport, carbon markets, sustainable food production, and so on).

Small advanced economies are particularly exposed to the net zero transition because of the critical importance of maintaining competitive positions in external sectors. This matters much less for large economies. The risks associated with the net zero transition relate to the risk of a higher cost structure

(that will weaken competitiveness) as well as shifting consumer preferences that could adversely impact external demand in key externally-oriented sectors, such as agriculture and international tourism.

The concentrated nature of economic/export structures in small advanced economies – and the growing importance of low emissions – means that there is little margin for error. High emissions small advanced economies may lose competitive advantage in attracting capital and people; and specific firms with a high emissions profile may lose their positions of competitive advantage.

Conversely, strong performance in reducing emissions intensity offers the potential for strengthened competitive advantage (better aligned with consumer preferences), reduced exposure to external shocks of energy prices and supply, lower energy prices over time, as well as additional economic activity that is associated with the production of renewable energy and green technology (particularly if a leading position can be developed).

There are several recent examples in the Nordics of industrial activity expanding near sources of renewable energy. In northern Sweden, hydroelectricity is powering a large Northvolt factory that will supply batteries for much of Europe’s electric-vehicle industry. And a coal-less ‘green steel’ plant is also opening.⁸ Proximity to renewable energy is a valuable asset for industry.⁹ Similarly there are examples of renewable energy used to power data centres in Iceland, and a similar proposed facility in New Zealand. There are substantial opportunities for many small advanced economies to integrate reducing emissions intensity with economic strategy.

4. Macro policy regime change (and change in the role of the state)

There is a shifting consensus on the conduct of macro policy and the role of the state in a post-Covid world. There is greater comfort with larger fiscal deficits and higher stocks of public debt. The shifting consensus on the conduct of macro policy is partly due to the experience of the past decade, with low interest rates and an apparently weaker government budget constraint. The aggressive (and effective) government response during Covid has reinforced this view. Across advanced economies, gross government debt rose by ~20% of GDP (to multi-decade highs) even as interest rates remained low.

As a consequence, it is likely that fiscal policy will remain loose: there is strong demand for government transfers as well as greater demands on the government balance sheet to support the net zero transition and other infrastructure priorities. The IMF forecast that gross debt across the G7 will remain above 125% of GDP over the next several years.

It is likely that the Eurozone fiscal rules are likely to be looser when they are re-introduced after being suspended through Covid. More broadly, this higher public debt load will likely constrain the extent to which policy rates are increased by central banks; and we are likely to see ongoing coordination between monetary and fiscal policy across advanced economies.

Higher levels of government spending are likely in areas from public health to social insurance and redistribution to address income inequality and social mobility. Government spending as a share of GDP has been trending down in many advanced economies over the past few decades. But this is unlikely to

⁸ <https://www.economist.com/europe/2022/01/22/the-nordic-left-is-back-in-charge>; <https://www.ft.com/content/d28d411b-6abe-4bed-9908-5da3e2c5ab7c>

⁹ <https://www.reuters.com/world/europe/solar-wind-diesel-european-companies-tool-up-energy-crisis-2022-04-07/>

continue: there will be upward pressure on government spending, reinforced by the fiscal costs of an aging population.

In addition to the weaker budget constraints that allow for debt-financed government spending, governments will be looking to bolster their revenue-raising ability. This is one of the motivations for the minimum corporate tax rate movement: to provide greater revenue-raising capacity for larger economies (reducing tax policy competition). And similarly, efforts at fiscal policy harmonisation within the EU are partly motivated by a desire to strengthen revenue collection ability.

Headline corporate tax rates have been trending down over the past few decades across advanced economies, but there may be less scope for international tax competition in the future.

There is also greater demand for a more hands-on role for governments. In areas from strategic autonomy in supply chains (with a particular focus on sensitive/strategic sectors, such as technology and pharmaceuticals) and the development of national champions to the net zero transition, governments are likely to take a more prominent role. This may mean that the global competitive landscape involves more state-owned/state influenced institutions (SWFs, SOEs, etc). Indeed, post-Covid, governments have more debt/equity stakes in firms across the economy.

Implications for small advanced economies

Small advanced economies have tended towards fiscal conservatism with markedly lower levels of public debt and lower primary deficits on average. This is a matter of deliberate policy in response to the higher levels of economic volatility in small economies as well as tighter capital market discipline. This tight fiscal policy stance does not seem to have constrained public investment or economic performance across small advanced economies.

But small advanced economies will be affected by global developments, with increased fiscal space being provided by institutions (e.g. looser Eurozone fiscal rules) and by financial markets. Not all of this available space will likely be used (small economy fiscal conservatism remains an appropriate stance), but it does provide increased options to government in order to use its balance sheet to invest in areas such as the net zero transition.

Relatively expansionary macro policy around the world will lead to stronger external demand for small advanced economies in the short-term; although it will likely lead to higher financial risks over time.

The demand for a more hands-on role for governments in areas from strategic autonomy to the net zero transition will change the global competitive landscape for small advanced economies as they compete with state-owned/influenced institutions to a greater extent.

Several small advanced economies have used corporate (and other) tax rates as a policy instrument to strengthen their ability to attract capital and talent. But their ability to use this instrument will be constrained in the future.

5. Changing economic geography

Both within and across countries, Covid has led to changes in the strength of the agglomeration effect. Technology and more flexible working models are leading to changes in the location of workers (from

cities to regions); as well as potentially making small economy locations with good intrinsic more attractive to people and firms ('digital nomads').

Of course, the 'death of distance' because of technology has been proclaimed before even as large global cities from London to New York continued to attract disproportionate amounts of talent and capital. But things may be different in the post-Covid world.

Domestic economic geography

The pandemic (and its long duration) has led to changed ways of working, as people and organisations transition to more virtual modes of engagement (to reduce costs, improve efficiency, and so on). For many occupations, full-time co-location is not necessary. Worker preferences have shifted over this time, with surveys of office workers commonly reporting a preference for hybrid models of working. Employers are showing a measure of flexibility, partly due to tight labour markets.

Changed ways of working may reduce the relative attractiveness of high cost global cities to the advantage of second and third tier cities. This is reflected in patterns of house and rent prices through the pandemic. Across advanced economies, house prices have increased sharply – partly on low interest rates, but also on increased demand for housing as people spend more time at home (and require more space).¹⁰ There is also consistent evidence that there has been stronger price appreciation outside of the major cities, suggesting that people are taking the opportunity to relocate.

There are more likely to be mixed effects for small advanced economies in terms of the dynamics around a more distributed domestic economic geography. The enhanced ability of people to locate outside of the major city offers some benefits in terms of reduced pressure on infrastructure, house prices, and so on. But large cities serve a particularly important function in small advanced economies: the large city accounts for a disproportionately high share of population and GDP (relative to large economies) and is generally the key location in the small economy where the agglomeration effect operates – and is the primary location for the attraction of FDI and talent. A significantly more distributed profile of economic activity may weaken these agglomeration benefits in small advanced economies.

International economic geography

The flexibility to work remotely, changing preferences by both workers and firms, as well as improving technology (and logistics), enables people to work outside large global hubs to a much greater degree – including across borders. The normalisation of engaging digitally – as well as changed preferences through the pandemic – is also likely to mean greatly reduced business travel as people have got used to engaging remotely for many aspects of business. This combination of technologies and shifting worker and firm preferences is likely to mean reduced agglomeration pressures.

As long as small advanced economies can offer a competitive proposition, they may be well-placed to attract and retain mobile labour. Many small economies rank well in terms of quality of life. If people can work in a lower cost/higher quality of life city in a small economy rather than in a higher cost

¹⁰ Recent analysis in the US finds that over half of the increase in house prices over the Covid period is due to the growth in working from home (John A. Mondragon and Johannes Wieland, 'Housing Demand and Remote Work', NBER Working Paper 30041, May 2022).

location, they may prefer that. This may be people choosing to locate on a long-term basis; or people choosing to locate and to commute across borders (for example, Dublin/London).

It is difficult to gauge the materiality of this effect yet, and technology has not weakened the agglomeration effect previously. Indeed, if anything, the ability to do business seamlessly around the world has advantaged locations with strong Marshall-type external scale economies – commonly found in larger cities and larger economies.

But there are likely greater opportunities available to leverage quality of life and cost of living advantages to attract and retain people. As will be discussed in Part III below, several small advanced economy governments are implementing policy schemes to attract digital nomads, through tax breaks, accelerated visa/residency schemes, and so on. These efforts tend to be focused on attracting skilled people.

However, several governments have tightened migration policy settings through the pandemic (taking advantage of the border restrictions imposed). There is a desire to limit the quantity and enhance the quality/fit of migrants. The implication is that cross-border flows of people in advanced economies are likely to focus more on skilled people – and/or those that meet areas of high labour market demand in the respective country.

Overall comments

The global environment is changing structurally, creating a different strategic context to that which has prevailed over the past few decades. Even the period after the global financial crisis did not lead to enduring policy change or supply-side change in the economy – this economic/financial shock was met with a macro policy response.

The current environment is more like the 1970s, a period in which there was also a range of disruptive economic shocks. This led to a period of policy regime change as new policy approaches were implemented to respond to the emerging global economic context – and the deficiencies of the previous policy approaches.

These structural changes make the strategic operating context more challenging for small advanced economies. But the small economy model remains broadly fit for purpose: small advanced economies should remain open, investing in skills, innovation, and knowledge, in order to remain internationally competitive, and to create a supportive business environment.

I remain confident on the outlook for small advanced economies, but – as in previous periods of disruptive change – aspects of the small economy model will need to be adapted and strengthened in order to generate strong economic and social outcomes. The quality of the policy response will have a significant bearing on their future performance: high quality policy-making will be a source of significant competitive advantage. The margin for error is very low for small advanced economies because of their deep exposures to the external environment.

Small economies have a record of resilience despite their deep exposure to global dynamics, because of their agility and responsiveness to changes. As described in Part I, this capability is a key reason for sustained strong performance by small advanced economies. And the early signs suggest that several

small advanced economies are moving with purpose to respond to current changes – accelerating policy efforts that were already underway in a range of small economies.

III. SMALL ADVANCED ECONOMY POLICY RESPONSES

How are other small, advanced economies considering these challenges and adapting their enterprise/industrial policies?

Introduction

In small advanced economy governments around the world, there is a sharp recognition that the strategic context has changed, and that a structural economic policy response is required. There is a sense of policy urgency in many countries, in a way that was not as widespread after the global financial crisis.

This chapter identifies the key classes of policy responses that are being implemented and discussed in small advanced economies to respond to the structural dynamics at work. Of course, many of these policy changes are still work in progress. But some of the priority policy themes can be identified.

This discussion focuses on small economies that have similarities with Ireland in terms of growth models and economic structures, to ensure that this discussion of policy responses is relevant to Ireland. These small economies are: Singapore, an FDI intensive small advanced economy; small Northern European economies, such as the Nordics and the Netherlands; as well as Scotland and New Zealand.

There is a particular focus on Singapore because it has the most developed strategic policy response to the global developments underway; and also because of the similarities of Singapore's FDI-intensive growth model to Ireland's.

This discussion proceeds in two stages. It begins by providing a series of small economy case studies. The second stage identifies some of the common themes in the policy responses of high-performing small economies.

Case studies

Singapore

Singapore has an acute awareness of its exposure to external economic and political dynamics, and has well-developed capabilities in adapting policy to respond. Over the past decade, Singapore has run several formal processes that have outlined updated strategic policy approaches: the Economic Strategies Committee (2009) in response to the challenges of the global financial crisis; the Committee for the Future Economy (2017), which identified priorities for productivity improvement across key clusters; and the Emerging Stronger Taskforce (2021) in response to the pandemic.

Some of the broad policy trends over the past decade or so include: a greater focus on labour productivity growth, rather than an input-driven growth model; substantial increases in research and innovation funding; and significant upgrading in skills – particularly lifelong learning and universities. There is also an ongoing focus on strengthening resilience in energy, water, food, supply chains, and so on. Beyond this, Singapore is continually looking to identify new growth sectors – and to position itself as the desired location for these activities.

There has been a broad consistency of strategic policy direction over the past several decades – and many of the fundamentals of Singapore's policy approach have remained intact. The growth model

relies heavily on attracting inward FDI. Singapore’s value proposition is based on a combination of its business environment, infrastructure, low taxes, high quality human capital, quality of life, and so on. And it has been looking to strengthen on all of these dimensions through the pandemic.

For example, the Research, Innovation and Enterprise 2025 Plan was released in December 2020, which committed an additional \$25 billion (~1% of GDP p.a.) in funding for the next five years. This is seen as a core part of emerging stronger from Covid-19.¹¹ And in January 2021, a scheme was introduced to attract up to 500 technology leaders and top tech developers to Singapore with a two-year visa.¹²

Singapore’s policy response to the pandemic and the current set of global challenges is consistent with the way in which it has approached policy over the past few decades. The design of the Singapore Government’s fiscal support packages (with initiatives totalling ~20% of GDP)¹³ was also shaped by this strategic intent. For example, Singapore directed assistance to firms to accelerate the digital transition; as well as providing substantial funding for skills upgrading (already underway through SkillsFuture).¹⁴

The Singapore Government established a Ministerial-led ‘Emerging Stronger Taskforce’ in May 2020 (combining public and private sector leaders) to focus on responding to emerging structural dynamics. The motivation for this Taskforce was to ‘look beyond the immediate challenges and plan for the longer term, so that the Singapore economy can emerge stronger from this crisis’, considering new growth sectors and the ways in which Singapore’s growth model should be adapted for a post-Covid world.¹⁵ The Taskforce reported in May 2021.

Public/private ‘Alliance for Action’ were established around several areas to generate quick ideas and action: Supply Chain Digitalisation; Sustainability; Digitalise Built Environment to Build Tomorrow’s Cities; Bring Singapore to the World through Smart Commerce; Break the Productivity Frontier through Robotics Solutions; Reconnect with the World through Safe and Innovative Visitor Experiences; Reach the World’s Learners through EduTech; MedTech Product Development; Build a World-Class AgriTech Ecosystem while Supporting Singapore’s Food Resilience Goals. The focus was on identifying actions in sectors/activities that were most directly affected by the pandemic.¹⁶

Beyond this, five thematic areas were identified: Creating New Virtual Frontiers (openness, being a node for the region, technology); Seizing Growth Opportunities from Sustainability; Enabling Global Champions and Growing an Agile and Strong Singapore Core; Institutionalising the Singapore Together AfA Model, a Novel Form of Private-Public Partnership; and Strengthening International Partnerships, especially with Southeast Asia.

Of these, the third theme is closest to industrial and enterprise policy. In the drive to create more Singapore champions, the recommendation is to ‘make a concerted push to support the growth of a pool of innovative and international Large Local Enterprises (LLEs) through innovation, internationalisation, mergers and acquisitions, and talent development. We must also enable a broad

¹¹ <https://www.pmo.gov.sg/Newsroom/DPM-Heng-Swee-Keat-Opening-Remarks-at-the-RIE2025-Press-Conference>

¹² <https://www.pmo.gov.sg/Newsroom/Dialogue-by-PM-Lee-Hsien-Loong-at-the-Singapore-Tech-Forum>;

<https://www.channelnewsasia.com/news/commentary/singapore-tech-pass-foreign-talent-visa-technology-criteria-13554056>

¹³ https://www.singaporebudget.gov.sg/budget_2020/fortitude-budget/fortitude-budget-statement

¹⁴ www.skillsfuture.sg; <https://www.skillsfuture.gov.sg/squnitedskills>

¹⁵ <https://www.mti.gov.sg/Newsroom/Press-Releases/2020/05/Emerging-Stronger-Taskforce-to-Provide-Recommendations-to-the-FEC-on-Post-Covid-19-Economy>

¹⁶ https://www.mti.gov.sg/-/media/MTI/Microsites/FEC/Our-Achievements/Reports/EST-Report_Single-Page.pdf

base of companies to succeed, especially our small and medium-sized enterprises (SMEs) and microenterprises'. Some of the measures identified related to capability building in firms, skills and training, integration of SMEs into the value chains of larger firms, and access to financing.

Building on the strategic direction and initiatives from the Emerging Stronger Taskforce, the Singapore Government released an Economy 2030 strategy in March 2022.¹⁷ It includes five key themes:

Enterprise 2030 will 'build and sustain a vibrant ecosystem of Singapore enterprises that are future-ready and possess deep capabilities to compete globally' by 'Supporting the growth of high potential companies to become global champions' and 'Strengthening the core capabilities of local enterprises in industry transformation'.¹⁸

Manufacturing 2030 has a goal to grow the manufacturing sector – particularly advanced manufacturing – by 50% in value over the next ten years.¹⁹ This will be achieved through attracting FDI as well as support of local firms. This was already a focus under its Industry 4.0 plans, but Covid-19 has sharpened the ambition. Policy instruments include enterprise policy, upgrading of skills, and so on. Alongside this is a theme of 'Accelerating development of new engines of growth in services'.

Trade 2030 has a goal to increase 'export value from S\$805 billion to at least S\$1 trillion, and double our offshore trade value from US\$1 trillion to US\$2 trillion. We also want to capture more re-exports and transshipment flows, to embed Singapore more deeply into global supply chains'.²⁰ Initiatives include trade agreements, regional integration initiatives, as well as various enterprise policy instruments.

Singapore's Green Economy Strategy aims to 'decarbonise our industries, including the energy sector, which is a major emitter', to 'drive new areas of growth in the green economy' (such as carbon markets), to 'invest in the development of new low-carbon solutions' (such as green hydrogen), and 'deepen our workforce capabilities'.²¹

Singapore has also been acting to strengthen its supply chains through the pandemic. As a city state, Singapore is almost completely dependent on imports of food, energy, and so on. Singapore has a diversified set of trusted relationships; and over the past months has been working with like-minded countries such as New Zealand to develop arrangements to keep global supply chains open.²² Singapore is working to enhance energy and food resilience: investing in food innovation, energy efficiency, exploring options for nuclear energy, importing renewable energy, and investing in green hydrogen.

Denmark

Beyond the short-term pandemic response measures, the most striking aspect of Danish policy is the way in which it is accelerating its green transition. Denmark plans to halve its emissions over the next

¹⁷ <https://www.mti.gov.sg/COS-2022/Singapore-Economy-2030---Seizing-Opportunities-Energising-Enterprises>

¹⁸ <https://www.mti.gov.sg/Newsroom/Speeches/2022/03/Speech-by-Second-Minister-for-Trade-and-Industry-Tan-See-Leng-at-the-MTI-COS-2022>

¹⁹ <https://www.mti.gov.sg/Newsroom/Speeches/2022/03/Speech-by-Minister-for-Trade-and-Industry-Gan-Kim-Yong-Speech-at-the-MTI-COS-2022>

²⁰ <https://www.mti.gov.sg/Newsroom/Speeches/2022/03/Speech-by-Minister-for-Trade-and-Industry-Gan-Kim-Yong-Speech-at-the-MTI-COS-2022>

²¹ <https://www.mti.gov.sg/Newsroom/Speeches/2022/03/Speech-by-Minister-Gan-Kim-Yong-at-the-Joint-Segment-on-the-Singapore-Green-Plan>

²² <https://www.mti.gov.sg/Newsroom/Press-Releases/2020/05/Joint-Ministerial-Statement-on-Supply-Chain-Connectivity>

decade. The Climate Act sets a legally-binding objective of reducing emissions by 70% by 2030 from 1990, on track to carbon neutrality by 2050. A climate roadmap has been released by the government, outlining the steps to be taken.²³ This will require substantial investment, estimated to be in the order of 1% to 2% of GDP annually.

In December, the Danish parliament voted to end all North Sea offshore gas and oil extraction by 2050, and to offer no new concessions for exploration. The government plans for new job creation through Denmark's growing offshore wind sector, in which it has national champions like Vestas and Orsted. It will also develop carbon capture and storage technology in the areas affected by job losses.

Denmark has made big investment commitments in facilities to support new offshore wind farms.²⁴ Two islands will be developed (one new/artificial island in the North Sea, one an existing island) to support new arrays of wind farms. The majority will be financed by the private sector, but with the Danish state retaining a majority stake. It is estimated to cost €37b.²⁵ In the first stage, the two islands will have capacity of 5GW – and over time, the artificial island may generate 10GW – and have facilities to produce green hydrogen. A total of ~12GW is possible across the two islands. Excess supply of electricity will be created for Denmark; supply agreements have been signed with Germany, the Netherlands, Poland, and others.

Denmark has committed to develop the North Sea energy island to its full capacity as soon as possible, with 2040 as the target point.

Measures were also passed in 2020 to increase the R&D tax deduction for companies for FY 2020 and 2021 to support ongoing investment in innovation through the pandemic.

In 2019, the EU completed an independent review of the Danish innovation system (undertaken at the request of the Danish Government).²⁶ The Danish Government noted in its request that although it performs strongly in terms of a variety of innovation outcomes, there are some concerning developments: the number of R&D active companies is reducing, the growth profile of Danish start-ups is limited, exports of technology-intensive products are lagging, and technology adoption is also lagging. The final report contains a series of recommendations, several of which are relevant to Ireland.

The Netherlands

The Netherlands is using its €20b National Growth Fund, first announced in 2019 to finance infrastructure, to advance strategic priorities in a post-Covid world (including various green, digital, and innovation initiatives).²⁷ The specific projects and initiatives will include a range of public transport and green infrastructure initiatives (notably green hydrogen). The selection of several initial projects was made in the early days of the pandemic.

²³ <https://kefm.dk/aktuelt/nyheder/2021/sep/regeringen-fremskynder-klimainsatsen-med-koereplan-til-ny-2025-deadline>

²⁴ <https://ens.dk/en/our-responsibilities/wind-power/energy-islands/denmarks-energy-islands>

²⁵ <https://windeurope.org/newsroom/news/energy-islands-denmark-continues-to-count-big-on-offshore-wind/>

²⁶ <https://rio.jrc.ec.europa.eu/en/policy-support-facility/peer-review-danish-research-innovation-system>

²⁷ <https://www.rijksoverheid.nl/onderwerpen/nationaal-groefonds/nieuws/2020/09/07/publieke-investeringen-vergroten-economische-groei-en-toekomstige-welvaart-kabinet-lanceert-nationaal-groefonds>; <https://www.nationaalgroefonds.nl/>; <https://www.government.nl/latest/news/2021/04/21/innovative-projects-given-additional-%E2%82%AC1.35-billion-boost-due-to-funding-from-national-growth-fund>

Beyond this, the coalition agreement for the new government (signed in December 2021) commits substantial amounts of funding for the net zero transition (building renewable energy, infrastructure for green hydrogen, and so on). The coalition parties have agreed to establish substantial new funding vehicles to reduce emissions by at least 55% by 2030, with a goal of 60%.²⁸ A new €35b climate change fund was announced (equivalent to 4.3% of GDP). A dedicated Minister for Climate and Energy will be responsible for this fund. The government is also preparing for the construction of two new nuclear power plants.

Beyond building renewable capacity, the Netherlands is also investing heavily in green technology – notably hydrogen. The Netherlands already has a leading position in grey hydrogen, which means that Dutch industry has the infrastructure and capabilities to adapt to green hydrogen.

There is also a recalibration of the historically open, liberal Dutch approach to external strategy. For example, the Dutch are toughening their stance on China, with FDI screening and investment restrictions – particularly in sensitive sectors.

New Zealand

New Zealand performed well through the pandemic, with strong health outcomes and one of the strongest economic recoveries. This was supported by aggressive fiscal stimulus (one of the biggest packages across advanced economies as a share of GDP), which was enabled by its low level of net public debt as it entered the pandemic.

Overall, the New Zealand policy response has been stronger on direct income support response than on investing in strategic policy responses. For example, compared to many European countries, little of the recovery fund has been allocated to green or digital initiatives.

Relatively little is happening in terms of aggressive positioning for the net zero transition: the renewable share of electricity generation is already high, and not much is being done to rapidly reduce agriculture and transport emissions (agricultural emissions are hard to reduce given available technology). And investment in research and innovation has been flat, by both government and business.

However, there are several policy responses/debates that are instructive. There is an active policy debate on the appropriate level of net migration – taking advantage of the hard stop on migration during the pandemic due to New Zealand’s closed borders. The New Zealand growth model has rested heavily on growth in hours worked (to which net migration has made a substantial contribution), with low labour productivity growth rates. The sustained high rates of net migration inflows (~1.5% of resident population prior to the pandemic) is associated with low business investment, low wage growth, and low productivity growth.

The government has proposed tighter migration settings to reduce inflows, with a sharper focus on the quality/skills of migrants. In part, this is aimed at creating incentives for business investment, training, and higher wages.

New Zealand has also been looking at options for strengthening the resilience of supply chains. It has signed agreements with Singapore and others to ensure that an open international approach is

²⁸ <https://sustainablefutures.linklaters.com/post/102hezp/dutch-coalition-agreement-a-greener-future>

maintained to trade in goods such as vaccines. And New Zealand has continued to progress its agenda in terms of FTAs, progressing deals with the UK, the EU, and others.

There is growing debate about New Zealand's economic exposure to China (~32% of merchandise exports are sent to China, ~6% of GDP). Particularly in the context of growing geopolitical tensions, there is an awareness that this represents an elevated risk exposure.

New Zealand has recently released updated fiscal policy rules, which specify a net debt ceiling of 30% of GDP.²⁹ This demonstrates an ongoing commitment to fiscal discipline and sustainability in the post-Covid world.

Scotland

Two economic strategy documents have been released in response to the pandemic, including a recent statement in March. These are particularly focused on the domestic economy, including some initiatives around enterprise policy, but don't suggest substantial policy change.³⁰

The more interesting element is how Scotland is positioning in response to renewable energy. It has legislated for net zero by 2045, and is ramping up renewable energy capacity: in January it announced a successful 25GW ScotWind leasing round of offshore wind. It has various other targets for renewables and green technology, looking at opportunities for green hydrogen. This was underway prior to Covid, and is not a direct response to the pandemic. But there is a sense that Scotland can build competitive advantage and respond to changing consumer preferences. This is still work in progress, but it gives a sense of the materiality of action and investment under consideration.

Other small economies

Across other small economies, there are also creative attempts to reverse the brain drain, reflecting a change in post-Covid global economic geography. For example, several small economies have established 'digital nomad' schemes to exploit the growing flexibility of working arrangements – the ability of people to work anywhere.

In August 2020, Estonia launched the Digital Nomad Visa to provide up to 1,800 international remote workers with a visa that allows them to live and work remotely in Estonia for up to 12 months. Dubai introduced a 'Remote Work Visa' scheme in 2020 that offers a one-year visa for global remote workers and their families to stay for up to 12 months, providing they earn a minimum monthly US\$5,000; these workers pay no personal income tax.

In December 2020 the Greek parliament passed legislation to attract 'digital nomads' (and expat Greeks) to live in Greece. Employed and self-employed workers who have not previously been tax residents in Greece (and who are not filling Greek jobs) will receive a 50% tax break on income tax for seven years. And new laws will encourage firms and wealthy individuals to set up tax residency in Greece.

²⁹ <https://www.treasury.govt.nz/publications/guide/treasurys-analysis-and-recommendations-fiscal-rules>;
<https://www.beehive.govt.nz/speech/pre-budget-speech-rabobank-breakfast>

³⁰ <https://www.gov.scot/publications/scotlands-national-strategy-economic-transformation/>;
<https://www.gov.scot/publications/towards-robust-resilient-wellbeing-economy-scotland-report-advisory-group-economic-recovery/>

Common policy themes

Based on this analysis, I identify five classes of common policy response across high-performing small advanced economies – including many that are relevant to industrial policy and enterprise policy.

These responses include: responding to changing globalisation by strengthening the competitive position of the economy, such as through commitments to research and innovations and upgrading skills; transitioning to new growth sectors and business models, including supporting the reallocation of labour and capital; engaging with the net zero transition; strengthening economic resilience; and capturing new opportunities from a changing economic geography.

i. Responding to a changing globalisation

Despite the challenges to globalisation, small economies are not backing away from externally-oriented growth models. Rather, they are seeking to adapt these models to a new environment with greater frictions and less intense global flows, from supply chain disruptions to geopolitically-motivated decoupling. In any case, small advanced economies understand that they do not have a choice in remaining internationally oriented: small economies cannot generate strong economic and social outcomes without high levels of international engagement.

There are a few ways in which small advanced economy governments are adapting their global engagement models: investing to strengthen competitive advantage; strengthening international expansion by domestic firms; and managing their portfolio of external market exposures.

- strengthening competitive advantage

In a more challenging global context, small advanced economies will need to be more productive and innovative in order to compete successfully in global markets. If top-line demand is not growing as rapidly, and there are higher costs (e.g. due to supply chain frictions), this needs to be offset by higher productivity. And the constrained ability to use tax policy levers to attract FDI increases the importance of the quality of the domestic ecosystem for the overall national value proposition.

Key characteristics of the small economy policy response include making substantial investments in skills, knowledge, and innovation in order to develop competitive strengths in higher growth areas in the global economy. The policy choices in Singapore, the Netherlands, and elsewhere confirm that increased investment in research and innovation is a priority.

In periods of economic stress and disruptive technological change, small economies need to be close to the innovation and technology frontier. Indeed, small advanced economies have responded to previous changes in the global economy in this way also. For example, small economies increased their R&D intensity in response to increasingly knowledge intensive competition in the global economy from the mid-1990s.

- strengthening domestic capabilities

There is greater policy emphasis on building domestic capabilities. Small advanced economies are not backing away from attracting FDI inflows, but understand that there are risks with being overly reliant on an FDI-intensive growth model in the current global context. Although FDI inflows are expected to remain an important part of the economic model of several small economies, it is increasingly important

to have strong domestic capabilities. This will support domestic value capture, so that a high share of the income generated from international activity remains in the domestic economy. And strong domestic firms/capabilities are an important part of developing dense clusters that support knowledge diffusion and that make the economy ‘stickier’ (reducing the risk that firms and people exit).

Enterprise policy is being strengthened in several small economies. This can be seen clearly in Singapore, with the Economy 2030 strategy recently released. Small advanced economies need strong firms and clusters that are deeply integrated into the domestic economy. This has been an ongoing area of distinctiveness in Singapore relative to other FDI-intensive economies like Hong Kong or Dubai. Small economies increasingly need to offer more than simply being a hub, intermediating cross-border flows; developing domestic strengths and capabilities will strengthen their competitive position.

The restrictions on inward migration that are being implemented in several small advanced economies are also motivated by similar preferences. There is a desire to improve the context for domestic labour as well as to strengthen the incentives for business investment in capex and worker training: to strengthen the ‘domestic core’ of the economy.

- adapting external positioning

Small advanced economies are deeply exposed to the heightened geopolitical risk profile. The exact nature of the response depends on their geographic location and economic/trade exposures. But across many small advanced economies (that tend to be Western-aligned), there has been growing focus on managing exposures to China. For countries in the Asia-Pacific, this will often focus on diversification of export markets and supply chains – ensuring that they retain a measure of strategic autonomy.

For small economies in Europe, there is also debate on managing the growth of China market exposure – and also imposing greater scrutiny and restrictions on inward Chinese investment, particularly in sensitive sectors like technology. These behaviours reflect an awareness that economic relations with China are not simply commercial relations, but also reflect geopolitical realities.

ii. New growth sectors/supporting resource reallocation

Covid has reinforced structural dynamics across the economy, altering the sectoral composition of growth: some sectors have strengthened growth prospects (and demand for labour) whereas other sectors have reduced growth prospects. This is because of both changed consumer preferences (such as online v physical retail), changes in technology that may lead to increased capital and knowledge intensity (and reduced labour intensity), or because of changes in underlying growth potential (for example, reduced office occupancy rates, reduced business travel). The net zero transition will also shape variation in the sectoral growth outlook.

There is significant uncertainty about exactly how these dynamics will play out, but variation in market pricing across sectors (as well as independent analysis) provides some support for dynamics such as more digital, more automation, more local production, lower emissions, and so on.

Small advanced economies are particularly sensitive to these changes, given their need to generate and sustain competitive advantage in global markets – and their more concentrated export structures. This is why several small economies are investing to develop a view on where these sectoral opportunities and exposures are; and using this to inform the focus of industry and enterprise policy. Small

economies that have idiosyncratic exposure to some of these negatively impacted sectors, such as international tourism, will need to identify new growth drivers to offset the loss of economic activity.

Small economy policy is not aimed at creating positions of strength where none currently exist (at the risk of creating white elephants). But governments need to understand where their economies have exposures to sectors that are structurally challenged – and set policy accordingly. Despite the significant uncertainty about which observed developments are structural and which are cyclical, judgements are being made about where to focus policy and fiscal support. Governments should avoid providing substantial support to sectors that are at structural risk.

A key policy priority in many small economies is to support the reallocation of people and activity to new sectors with growth potential, as opposed to supporting employment in legacy sectors. Singapore is a good example of supporting the labour reallocation process through deliberate skills upgrading policies. And small advanced economies like Denmark and Finland have long-standing strengths in skills policy and active labour market policy.

iii. Net zero transition

Responding to the net zero transition is a common policy theme across small advanced economies. There are clearly substantial costs with the transition to net zero; it will require the transformation of energy, industrial, transportation systems, and so on. But this is matter of legislative commitment.

And many small advanced economies see economic opportunities associated with reducing the emissions intensity of economic activity (and see economic costs associated with not doing so). Small economies such as Denmark, the Netherlands, and Scotland, provide a sense of what this looks like. Substantial amounts of capital are being allocated, policy support is being provided, and clear signals are being provided in terms of the implications for the economic structure of the future. Beyond small advanced economies, the EU is also prioritising the green transition as part of its Recovery and Resilience Fund.³¹

There is significant action across many small advanced economies (particularly in Europe) in building out renewable energy capacity aggressively as well as trying to develop leading positions in some green technologies (for example, green hydrogen). This is seen to have substantial economic value in a direct sense (import substitution away from hydrocarbons, direct economic activity, and the ability to earn income by developing leading firms).

Additional economic value is seen to come from strengthening competitive advantage across the economy: providing the basis for firms to operate in a lower emissions way, by accessing lower cost renewable energy (and energy like green hydrogen). A stronger renewable energy presence can also make small advanced economies more attractive for inward investment. And more generally, some small advanced economies argue that front-running the net zero transition will enable their firms to develop leading positions in a net zero economy – as they will develop capabilities quickly.

Not all small advanced economies have the ability to build out renewable energy production: economies such as Singapore and Belgium are constrained. But even in these situations, actions are being taken to

³¹ https://ec.europa.eu/info/strategy/recovery-plan-europe_en#:~:text=Source%3A%20European%20Commission-.NextGenerationEU,the%20current%20and%20forthcoming%20challenges.

reduce emissions intensity and capture opportunities by positioning their firms for the green economy. Managing this transition effectively is a core part of economic strategy.

iv. Economic risk and resilience

The economic effects of the pandemic, together with emerging global dynamics, have made economic risk and resilience a higher priority across many small advanced economy governments. This is not a new issue for small advanced economies – for many reasons, they have higher levels of external risk exposure – but it has become more acute.

There are several dimensions on which small advanced economies are moving (in addition to rebalancing external market exposures to respond to geopolitical risks, which was discussed above).

Although public debt levels have increased substantially across small advanced economies through the pandemic, the fiscal conservatism of small advanced economies is likely to remain. This is partly motivated by an assessment of a world with a higher incidence of shocks, and interest rates that are increasing from their record low levels. Commitments have been made in several small advanced economy governments to get public debt trending down to sustainable levels (although there will be greater calls on the government balance sheet for investment, such as the green transition). Large economies are more likely to run expansionary fiscal policy than small advanced economies in a post-Covid world.

Supply chain resilience is another area of focus for small advanced economies. The specific areas of focus vary according to exposures (food, energy, physical goods, and so on). Efforts have been made to remove trade barriers, to strengthen infrastructure, and to work with firms that operate in key sectors to ensure that appropriate arrangements are in place. Small advanced economies don't have the same options as larger economies in building strategic autonomy because of their lack of scale; self-sufficiency for the most part is not possible.

But structured thinking is underway on physical supply chains, particularly in countries that are geographically isolated (New Zealand) or reliant on imports (a city state like Singapore). For example, developing long-term relationships, building inventories, as well as using technology (renewables for energy resilience, vertical farming/precision fermentation for food security).

v. Capturing new opportunities from a changing economic geography

Several small advanced economies, from Greece to Singapore, are looking to capture opportunities around a changing domestic geography: attracting and retaining mobile talent; and managing a more distributed profile of domestic economic activity. In general, the greater use of technology in a post-Covid world will open up opportunities – and small economy governments are moving quickly to position themselves as more attractive locations: tax breaks, streamlined visa/residency applications, and so on. Some small economies are also looking to opportunities for strengthened regional policy to reduce the burden (infrastructure, congestion) on the big city.

IV. IMPLICATIONS FOR IRELAND

Introduction

What are the implications and challenges for Ireland given the strengths, vulnerabilities and structure of the Irish economy?

Ireland's economic performance has been very strong over the past few decades, converging rapidly towards the per capita income frontier on the back of a growth model based on deep integration into the global economy – heavy inward FDI flows, EU integration, and so on. And despite a substantial contraction in GDP through the global financial crisis, the Irish economic model has continued to deliver strong economic and social outcomes over the past decade – as well as being one of the strongest performers across the advanced economy group through the pandemic.

However, the sustained success of an economic model that has been heavily reliant on attracting inward FDI has led to an economic structure and dynamics that are distinctive. It also creates specific exposures to global dynamics.

This discussion proceeds in three parts. First, I provide an overall assessment of the strengths and weaknesses of the Irish economy. Second, I discuss Ireland's exposure to the global dynamics that were identified in Part II. Third, I provide a perspective on the priorities for industrial and enterprise policy action to strengthen Ireland's overall performance potential in this new strategic environment, drawing on the recent international policy experience of other small advanced economies.

1. Strengths and weaknesses of the Irish economy

This discussion provides an assessment of the strengths and weaknesses of the Irish economy. This analysis is based on Landfall's proprietary Economic Strength Index (ESI), which was introduced in Part I. This Index captures the various elements that matter particularly for small advanced economy performance, bringing together insights from my analysis and experience.

Across seven 'pillars', this Index benchmarks Ireland against a group of 11 other small advanced economies – as well as larger advanced economies. This allows for a structured assessment of Ireland's strengths, weaknesses, and exposures against other small advanced economies. I also draw on a qualitative assessment of the strengths and weaknesses of the Irish economy, comparing it to other small advanced economies on dimensions that are relevant to industrial policy and enterprise policy.

Clearly Ireland gets many things right, given its sustained record of strong economic performance; it has many strengths to build on as it responds to emerging global dynamics. However, this discussion is focused on areas of weakness in the Irish economy, in which useful improvements can be identified.

Overall, Ireland ranks in the bottom half of the ESI, between Norway and Belgium. Ireland has GNI per capita that is markedly higher than the simple forecast from the ESI. This is likely due to the 'imported economic strength' associated with Ireland's inward FDI stock. A similar relationship is also identified for Norway, whose per capita GNI benefits from its endowment of oil and gas. And in the broader version of the ESI measure (that includes 30 small economies), this relationship is also the case for Hong Kong, Luxembourg, and the UAE – other FDI-intensive small economies.

Ireland's strengths

Ireland performs well on several dimensions of the ESI that matter for small advanced economy outcomes: Ireland's policy foundations, inclusive growth outcomes, and institutional strength are slightly above average across the advanced economies group. These measures are all important supporting factors for performance; but are best seen as necessary but not sufficient conditions for economic performance.

In addition, Ireland also has high levels of human capital. For example, its PISA scores are slightly above average; and MNCs report that Ireland's human capital is an important part of its value proposition for inward investment. Ireland also has strong food resilience, and the potential for greater energy resilience over time to the extent that it uses its renewable energy assets.³²

The key area in which Ireland is distinctive relative to other small advanced economies is in terms of internationalisation. Ireland has very high levels of international economic engagement, even compared to other small advanced economies that are already much more internationally engaged than the full advanced economy group.

Ireland's exports are 135% of GDP, ranking first among small advanced economies (when only Singapore's 'non-oil domestic exports' are used).³³ The average export share across small advanced economies is 65% of GDP (excluding outliers). Ireland also has very high levels of inward and outward FDI. Ireland's stocks of inward and outward FDI are ~320% and ~290% of GDP respectively, well above the small advanced economy averages (~100% and 110% respectively, excluding high-intensity FDI small economies). Ireland also has a good number of global MNCs on a per capita basis, even when I adjust for foreign companies that are registered in Ireland.

These various internationalisation series have been growing over the past few decades; and this has been central to Ireland's ability to converge towards the per capita income frontier. Ireland has attracted substantial amounts of externally-oriented FDI through a low corporate tax rate, a high quality business environment, and a high-performing investment promotion agency in the IDA. Almost all of this MNC activity is outwardly focused, selling into other advanced economies (the EU, the US).

More broadly, Ireland is an internationally-oriented country – with high rates of migration inflows as well as a large Irish diaspora. And Ireland's national brand is a valuable global asset.

For small advanced economies like Ireland, these externally-oriented firms and sectors are the productivity growth engines of the economy – allowing for the capture of economies of scale, specialisation, and creating exposure to international competitive pressure. This provides the incentive for investment (capex, R&D, and so on) that would not be justified on the basis of the domestic market.

Indeed, Ireland performs strongly on the investment pillar of the ESI. Non-residential national investment is much higher than the small advanced economy average, at 27% of GDP relative to 18% of GDP. However, Ireland's infrastructure rankings are relatively weak compared to other advanced economies.

³² <https://impact.economist.com/sustainability/project/food-security-index/>

³³ Across a broader group of 30 small economies, some economies like Luxembourg, Malta, and Hong Kong have higher levels of exports.

High levels of business investment, and more capital intensive growth models, are associated with higher levels of labour productivity (at least to the extent that this is productive real investment). However, note that about 70% of Ireland's GFGF is R&D expenditure (up from ~25% prior to 2015), which may not have a substantial impact on the productive potential of the Irish economy. This suggests that Ireland's relative investment performance may be over-stated.

Ireland's weaknesses

There are two main areas of weakness in the Irish economy. First, the ESI shows that Ireland's innovation performance is markedly weaker than most other small advanced economies. Indeed, it is the worst across small advanced economies. And second, Ireland's high emissions intensity is a major source of economic exposure.

- Weak innovation performance

The two key summary measures are R&D spending as well as the Global Innovation Index, a useful composite index of innovation performance. Ireland's overall R&D spending is 1.2% of GDP, against a small advanced economy average of 2.7% of GDP (and well over 3% of GDP in high-performing small advanced economies). Ireland's business R&D spending is also low at 0.9% of GDP compared to a small advanced economy average of 1.9% of GDP. On the Global Innovation Index, Ireland's score is well below the average of small advanced economies: at 50.7 versus 55.2.

Innovation is a core element of small advanced economy performance. As discussed in Part I, the common characteristic of high-performing small advanced economies is strong innovation policies and outcomes. No high performing small economy has weak innovation outcomes (and vice versa), with the partial exception of small economies with significant natural resource endowments.

And Ireland has a mid-ranking score on the World Economic Forum's measure of global competitiveness (both in terms of the overall score as well as on the skills and innovation pillar). Ireland does have two well-ranked research universities, a measure that correlates well with innovation outcomes.

However, Ireland's ranking on economic complexity and the technological content of its exports are higher than would be expected given its investment in innovation. This revealed profile of competitive advantage is a function of imported capabilities from FDI.

Defining innovation more broadly beyond technology-intensive innovation, Ireland has developed several at-scale innovative business models (Ryanair, aviation leasing, and so on).

- High emissions intensity

The second weakness of Ireland is its high emissions intensity – and low renewables share of electricity generation – relative to other small advanced economies.

Emissions intensity is increasingly a driver of small economy competitive strength, as consumer and investor preferences shift towards lower emissions goods and services. And achieving Ireland's legislated net zero target by 2050, as well as a 51% reduction in emissions by 2030, will require very

substantial change to the functioning of Ireland’s economy.³⁴ These ambitions are appropriate, but will be deeply challenging for Ireland to achieve.

Ireland has potential renewable energy resources (notably offshore and onshore wind), but a relatively small development pipeline compared to the UK (and Scotland) and other similarly-placed small advanced economies. Ireland is also lagging in terms of ambitions to build green hydrogen production and infrastructure that would help to decarbonise industry (and possibly transport).

Discussion

My interpretation of Ireland’s economic weaknesses (particularly in terms of innovation) is that they are a direct function of Ireland’s economic strengths. The successful aspects of the Irish economic model have contributed to creating some economic vulnerabilities and weaknesses. This discussion describes this relationship between Ireland’s economic strengths and weaknesses.

As mentioned above, Ireland’s per capita income is higher than would be expected based on Ireland’s domestic policy settings and intrinsic. One important reason for this is that it has ‘imported’ per capita income via FDI: much of Ireland’s productive potential comes from these MNCs, without which Ireland’s per capita income would be lower. Ireland’s export growth has been dominated by sectors in which MNCs are active (such as pharmaceuticals and electronics).

MNC-reliant sectors account for over half of GDP in Ireland, a share that has grown strongly over the past few decades (and accelerated after 2015, as the value of the IP of Irish-based MNCs was taken into the National Accounts). There are no directly comparable numbers available for other advanced economies, but this would be well in excess of other small advanced economies with the possible exception of Singapore.

Of course, an FDI intensive model is a reasonable (and successful) policy choice for Ireland – and for other small economies, such as Singapore and Hong Kong. However, FDI-centrality has implications for the broader economic structure, dynamics, and performance in Ireland – and this provides insight into Ireland’s economic weaknesses and exposures.

- Weaker domestic value capture

FDI intensity limits domestic value capture on several dimensions. Most obviously, because MNC profits flow offshore to a greater extent than domestic firm profits, there is income leakage from economic activity in Ireland. Ireland has – by far – the largest primary income deficit across small advanced economies, at 25% of GDP, compared to 12% of GDP for Singapore. And this primary income deficit has been expanding over the past few decades.

In addition, the evidence suggests that there is often a disconnect between externally-oriented MNC activity and local economic activity.³⁵ Many MNCs are not deeply embedded into Irish supply chains, and do not have strong linkages into the Irish economy. There is relatively little domestic value capture outside the direct employment, some capex, and the associated tax income. Indeed, FDI-intensive

³⁴ <https://www.gov.ie/en/press-release/16421-climate-action-plan-2021-securing-our-future/>

³⁵ Neave O’Cleary, ‘Tale of Two Clusters: The Evolution of Ireland’s Economic Complexity since 1995’, *Journal of the Statistical and Social Inquiry Society of Ireland*, Vol. XLV; Mattia Di Ubaldoa, Martina Lawless, & Iulia Siedschlag, ‘Productivity spillovers from multinational activity to indigenous firms in Ireland’, *ESRI Working Paper 587*, March 2018.

economies often have low domestic value added content of exports; Ireland and Singapore lag other small advanced economies on this measure.

This makes the Irish economic model markedly different than in many other small advanced economies. High-performing small advanced economies tend to have dense clusters of innovative firms, which are operating close to the global productivity frontier. These clusters support the development of sustainable competitive advantage by firms. And these clusters support domestic economic value capture from globalisation, allowing innovation and productivity benefits to be captured within the economy. For example, knowledge spill-overs diffuse into other adjacent firms, supporting them to move towards the productivity frontier. These clusters also anchor other firms in place, as they provide the environment for firms to be internationally competitive.

So to the extent that MNCs and local firms operate in different parts of the Irish economy, support for broad-based productivity and innovation will be relatively weak in Ireland. This issue has likely worsened over time, as production has become increasingly sophisticated. This makes it more likely that inputs are imported rather than locally sourced, reducing the value able to be captured by domestic supply chains – as well as the ability for them to actively participate in the innovation process.

Overall, FDI clearly brings economic activity to Ireland that would not otherwise be generated. But the value capture from FDI is likely to be reducing over time. And the benefits are narrowly captured, with implications for the extent of inclusive growth: FDI inflows are focused on often capital intensive sectors with high wages/productivity, but that don't generate broadly-shared impacts.

It is instructive to contrast Ireland and Finland, both of which generated stronger economic performance from the early 1990s. Ireland accelerated its GDP and export growth based on becoming the European location for US MNCs, attracting significant investment flows. Finland's stronger growth from the early 1990s was due to sustained investment in skills and innovation, and firms developing stronger capabilities that supported successful expansion into international markets (Nokia, Kone). Finland has low amounts of inward FDI by MNCs.

The separateness of MNCs and the domestic economy in Ireland, and the lack of integration of MNCs into dense clusters, also raises risks around the sustainability of Ireland as a location for MNCs. Clusters with dense backward and forward linkages can create a hard to replicate set of supporting factors that create 'stickiness' of the relevant firms in that location. The absence of such clusters reduces the general stickiness of Ireland as a location, despite the many positive aspects of Ireland's business and environment.

If a cost or other advantage appeared in another location, it is more straightforward for MNCs to exit Ireland. And in a more challenging global environment – with economic and political pressure for re-shoring economic activity – Ireland's current approach creates particular risks. If a significant number of these firms exited Ireland, there would be a substantial impact on Ireland's GDP, employment, and fiscal positions.

- Dutch Disease

FDI intensive models allow for more rapid GDP growth. But these growth models generate some distinctive characteristics that may constrain economic performance elsewhere in the economy. There

can be a ‘Dutch disease’ type problem associated with FDI-intensive growth models in which one part of the economy becomes so successful that it weakens the competitive position of other sectors.

To simplify, consider a small economy with three sectors: a domestic sector; an MNC-dominated external sector; and a non MNC-dominated external sector. The domestically-oriented sectors in small advanced economies tend to be low productivity (few scale economies, weak competitive intensity), whether or not the overall economy is FDI-intensive. But there is a substantial difference in small advanced economies between external sectors that are MNC-dominated and those that are not. The MNC-dominated external sector will have high levels of productivity, and will often be heavily capital or knowledge intensive. The non-MNC-dominated external sector, which will be populated by local firms, will tend to have more moderate levels of productivity, weaker growth, and smaller firms.

In Ireland, as with some other FDI intensive economies, the MNC heavy external sector is highly productive, and has correspondingly higher wage and cost structures.³⁶ This does two things. First, it attracts resources (labour, capital, and so on) from elsewhere in the economy. Second, the expansion of the successful (and large) MNC-dominated external sector places upward economy-wide pressure on wages and costs, which raises the cost structure for other Irish firms relative to their levels of productivity in the non-MNC dominated external sector. These dynamics are reminiscent of Dutch Disease.

In short, the MNC-dominated external sector creates negative spillovers/externalities for the competitiveness and productivity of externally-oriented Irish firms. This constrains the growth of other externally-oriented firms in Ireland, and makes it less likely that these firms will invest in innovation. The high cost structures faced by these firms make scaling up entrepreneurial and innovative activity into international markets more challenging. It is more difficult to build competitive advantage in other parts of the economy.

This suggests that the scale of the MNC activity in Ireland can partly explain Ireland’s relatively low innovation investment and capability. Similar dynamics are seen in Singapore, another FDI intensive small economy, where domestic firms have struggled to generate strong performance in terms of innovation, exporting, and productivity. More recently, Singapore has made determined efforts to address this, by providing support for domestic firms that are in externally-oriented sectors (as well as investing heavily in R&D); as discussed in Part III.

In contrast, Hong Kong has focused on being a hub for cross-border FDI flows (generally with a focus on mainland China) but has made little attempt to build domestic capabilities around this. R&D spending and innovation is very low, and there are limited spillovers. As a consequence, outside of strengths in financial and business services (that support FDI flows), there is little indigenous innovation capability. Resources are diverted to FDI-intensive activities that have high levels of productivity, but that are narrowly based in their economic contribution.

Overall, Ireland’s reliance on inward FDI has super-charged Ireland’s growth process. But this FDI intensity has created economy-wide cost pressures – and has attracted resources into MNC-heavy sectors – which constrains innovation, productivity, and growth elsewhere across the Irish economy.

³⁶ Department of Finance, ‘Patterns of Firm Level Productivity in Ireland’, Technical background paper for the Economic Development Review Committee, March 2018.

2. Ireland's exposure to the global economy & global dynamics

To what extent is the current Irish growth model likely to be compromised by emerging and prospective global developments? And to what extent are there new opportunities for Ireland?

Ireland is exposed to many of the global dynamics discussed in Part II. Ireland's growth model has performed strongly over a sustained period, and is clearly not broken – it is still delivering. But Ireland's success was partly a function of a particular external environment, and it now needs to adapt to remain competitive in a changing global context.

This discussion is structured around three recent developments in the global economy that will directly impact on Ireland's economic model.

i. Changing shape of global flows

Ireland's FDI intensive growth model is challenged by several changes in the structure of global flows. Globalisation is not reversing or unwinding, and small advanced economies will need to continue to run externally-oriented growth models. But there are structural changes to the intense globalisation model of the past few decades.

There is a general shortening of global supply chains, with MNCs altering their global footprint for a range of economic and political reasons. In terms of political motivations, there is a growing desire in many countries for strategic autonomy (particularly in sensitive sectors like technology), for MNCs to preference economic activity in their home market, and there are constraints on the ability of countries to use tax and other policy levers to attract FDI. Increasingly global flows will be shaped by relationships between countries with shared political values and interests.

In terms of economic motivations, firms are strengthening supply chain resilience (particularly for merchandise trade), which can include re-shoring and near-shoring of economic activity. Labour cost differentials have become less of an issue as the capital and technology intensity or production increase.

Ireland has varying exposures to these dynamics. The general weakening of the intensity of global trade and investment flows should not have a major impact on Ireland because Ireland has a relatively low sensitivity to these global aggregates. Indeed, FDI inflows into Ireland (as well as Singapore) have been resilient over the past several years – including through the pandemic. Rather, Ireland is more exposed to idiosyncratic shocks to the competitiveness of key sectors or firm.

Ireland is also not particularly exposed to geopolitical tensions, in which there is likely to be some decoupling of trade and investment flows between blocs. Ireland's major export markets and sources of investment capital are the US and Europe; China is growing, but it is not a large export market for Ireland (~5% of merchandise exports). This makes things a bit easier for Ireland. Indeed, geopolitical developments may advantage Ireland to the extent that trade and investment flows are shaped by values-based groupings ('friend-shoring', per Janet Yellen); Ireland may be a preferred location for economic activity by the US, Europe, and Western economies.

Similarly, the shortening of supply chains is not a huge issue. Ireland's model as a platform for production, sales, and support into the European and US market is not likely to be hugely disadvantaged. Ireland has not been exposed to significant supply chain disruptions, and is not regarded

as a high risk location. However, it is possible that increasingly sophisticated production processes for exports of goods may create a stronger case for re-shoring to locations close to the end consumer. Exports of services – which are very important for Ireland – should not be impacted by the economic case for re-shoring.

The most material set of risk exposures to Ireland come from political pressure for re-shoring to the US. Political sentiment in the US continues to move towards more inward-looking positions, and there may be growing pressure on US firms in Ireland to locate more of their employment and other activity in the US (including the potential to return existing investment and economic activity to the US). Ireland's large merchandise trade surplus with the US (~€35 billion) may make it a target for future protectionist measures in the US. The Trump Administration was very focused on the merchandise trade balance as a measure of fairness; and a future Trump or Trump-like Administration may do likewise.

Relatedly, ongoing political pressure on corporate tax is likely. The agreed global minimum corporate tax rate will slightly compress Ireland's advantage as a location relative to other countries.

Against this, there have been some opportunities for Ireland to benefit from inward-looking policies in other countries. For example, Brexit may have provided some opportunities, with some economic activity moving to Ireland from the UK. Ireland may derive some economic benefit from being the only English-speaking EU member state.

The implication is that Ireland's economic model does not face existential risks from these emerging global dynamics, and a wholesale retreat is not required. However, Ireland does need to adapt its economic model to reflect these challenges and opportunities to global flows: to enhance the stickiness of Ireland as a location, to enhance domestic value capture, to strengthen the capabilities of Irish firms in external sectors to create an additional growth engine, and to rebalance its portfolio of markets and supply chains to reflect changing geopolitical realities.

This assessment is consistent with the international small advanced economy experience. Other FDI intensive small economies, such as Singapore, are not rotating away from FDI intensive models, but they are looking to strengthen domestic value capture and ensure competitiveness across the economy.

ii. The k-shaped growth outlook (new technologies, business models)

There will be significant sectoral variation in outlook in the post-Covid environment. As discussed in Part II, there has been accelerated change in business models, adoption of technology, and shifts in consumer preferences through the pandemic. This is leading to a k-shaped recovery process, with the structural growth outlook in some sectors much stronger than in others.

Ireland has deep idiosyncratic/sector-specific exposures in areas where MNCs are active in Ireland. This shapes the nature of Ireland's global exposures: it is less about the intensity of global trade flows than about the impact of global dynamics on the outlook for the firms/sectors. As noted above, Finland provides a striking example of an idiosyncratic shock to a key firm (Nokia) that had a major economy-wide impact.

Ireland has benefited from deep exposures to high growth parts of the global economy (pharmaceuticals, electronics, big technology firms, and so on) over the past few decades, including through the pandemic. These exposures are largely due to MNC decisions. Changes in business

models/corporate strategy in areas of significant economic activity in Ireland may have major economic impacts. And there will likely be weakness in sectors like international tourism for a time as well as in aviation leasing.

Ireland will have to develop new growth engines, to reflect new growth sectors and to manage the risks of exposures to slowing sectors. Some small advanced economies (notably Singapore) think hard about sectoral risks and opportunities, and rebalance their focus in response. As discussed in Part III, this has also been part of Singapore's pandemic response.

iii. The net zero transition

Ireland is deeply exposed to the need to reduce emissions because of its net zero commitments as well as rapidly shifting consumer/investor/firm preferences. Ireland has a relatively high level of emissions intensity, lags in installed renewable energy capacity, and will need to make substantial investments to get close to net zero.

There are substantial costs involved in this transition in Ireland over the next few decades. But there will be even higher costs if this transition is not made. Emissions intensity is an increasingly important part of competitive advantage, particularly for externally exposed small advanced economies like Ireland. Indeed, many of the MNCs that are active in Ireland (particularly those in the technology space) increasingly place a premium on access to renewable energy and being able to operate in a low emissions manner. For Ireland to retain these operations – and to attract more – a rapid shift to a less emissions intensive economic profile is important.

So there are opportunities as well if Ireland can undertake a more rapid transition to net zero. Not all economies are in a position to capture opportunities from the green transition. But Ireland's substantial natural resource endowment provides options that not all advanced economies have.

In a direct sense, increased renewable energy capacity can reduce imported energy costs, increase resilience, and help to decarbonise the Irish economy (including by providing the base for the domestic production of green hydrogen). It is also possible that Ireland could export surplus electricity to Europe and the UK, although the economics of the required infrastructure may be challenging.

And the indirect or horizontal benefits across the economy could be very substantial for Ireland; providing access to lower cost electricity (than from oil and gas) and strengthening Ireland's ability to attract and retain firms that are sensitive to the emissions intensity of their operations (from data centres to industrial activity). Around the world, some companies are striking direct purchase deals with generators so that they can move to 100% renewable energy.³⁷ As noted in Part III, many other small advanced economies are acting to reduce emissions and develop leading positions in green technology.

The ability to access low cost, renewable energy will make Ireland a more attractive location for inward FDI – particularly for firms that are energy intensive and that face consumer/investor pressure to reduce emissions. Consider data centres as an example. These have grown rapidly as digital flows have expanded and as more applications move to the cloud. These demands will continue to grow strongly as

³⁷ Note the increasing number of big tech companies striking direct purchase agreements with renewable energy providers: <https://www.bloomberg.com/news/articles/2022-01-31/amazon-amzn-leads-corporate-clean-energy-purchases-in-record-year>

IoT and AI become increasingly widespread. However, these data centres are heavily energy intensive. Increasingly, data centre firms are looking for sources of renewable energy.³⁸

And an increasing array of energy-intensive industrial activities are also looking to access renewable energy. For example, note the recent battery factory investment in England, attracted by access to renewable energy (among other things).³⁹ In Finland, access to renewable energy (as well as lithium) is anchoring investments in battery production.⁴⁰

More broadly, substantial new growth sectors are likely to emerge in the low carbon global economy over the next decade and beyond – from sustainable food to carbon markets. It may be that there are opportunities for Ireland to support the development of domestic strengths in these areas – or to position Ireland as a competitive location for MNCs operating in these areas.

Overall, there are both potential costs and benefits to Ireland from the global movement towards net zero. The balance of these costs and benefits is contingent on how actively Ireland moves to leverage its renewable energy resources. There are substantial economic benefits from reducing Ireland’s overall emissions intensity and from offering low emissions renewable energy to MNCs in Ireland. Renewable energy has the potential to become a core component of Ireland’s competitive advantage.

3. Policy priorities

This closing discussion identifies the classes of priority policy action for Ireland to respond to global dynamics as well as its current economic challenges. These policy measures are aimed at boosting productivity and innovation, and to deliver more broadly-based, sustainable growth.

Without changes, Ireland’s may not be able to sustain its strong economic performance. Ireland has managed through the pandemic well, supported by strong performance by externally-facing MNCs. Its FDI model has worked well, supporting Ireland’s rapid economic recovery. But even so, the emerging global dynamics will reinforce a series of vulnerabilities in its economic model.

Five classes of policy and institutional change are identified that relate to industrial and enterprise policy: developing strategic clusters; focusing enterprise policy on value capture; securing the economic opportunities from the net zero transition; rebalancing the portfolio of external exposures; and further strengthening government institutions to drive a coherent strategic policy agenda.

i. Develop strategic clusters

Ireland should work to develop dense clusters of firms that are externally-oriented and knowledge/innovation intensive, with deep linkages across the economy. Dense externally-oriented clusters are productivity and innovation growth engines in high-performing small advanced economies – and are a key way to capture more domestic value, as well as anchoring MNCs in Ireland in a more challenging global environment.

³⁸ As just two European examples: <https://news.microsoft.com/europe/2021/11/23/microsoft%E2%80%AFannounces-digital-ambition-plan-to-accelerate-growth-and-innovation%E2%80%AFin-belgium-including-its%E2%80%AFintent-to-establish%E2%80%AFa-datacenter%E2%80%AFregio/>; <https://www.ibm.com/blogs/nordic-msp/iceland-data-centers/>

³⁹ <https://www.ft.com/content/96020ff3-4c01-41f7-9618-894fd65018d2>

⁴⁰ <https://www.bloomberg.com/news/articles/2021-01-26/finland-targets-investors-in-bid-to-create-new-battery-industry>; <https://www.bloomberg.com/news/articles/2021-04-19/finland-pushes-ahead-on-battery-plan-with-johnson-matthey-plant>

Without more developed clusters, it is unlikely that Ireland will generate improved productivity and innovation outcomes. Ireland already has areas of distinctive strength that provide a foundation for the development of stronger clusters.

Small advanced economies can only develop distinctive competitive advantage in a limited number of areas; resource constraints mean that small economies are ‘doomed to choose’. A clear assessment should be made in areas in which Ireland can be distinctive. Hard choices will need to be made about which clusters to prioritise and not prioritise; it is important that critical mass can be reached in clusters, with appropriately dense linkages and networks to support sustained performance. This will require deliberate choices: small economies cannot be agnostic across sectors. And, as noted previously, sectoral concentration risk should be considered given the elevated potential for idiosyncratic shocks.

These choices should be shaped by a view on the outlook for these sectors. This should be a disciplined process to manage the technical and political risks around picking priority sector. For example, they should be built around areas of existing capabilities and strengths in global markets, and also respond to a view on the forward outlook (technology, consumer preferences, competition). Ireland has existing demonstrated positions of competitive advantage that provide a good starting point; although post-Covid dynamics, as well as changes in global flows, may mean changes in the areas in which Ireland focuses.

Policy support should respond to these strategic choices, with a particular focus on stepped-up investment in research and innovation as well as skills around these strategic priority areas.

Ireland should aim to strengthen its overall level of R&D spending towards the small advanced economy average (~2.7% of GDP from its current 1.2% of GDP), which will likely need to be led by government investment. Over time, greater government spending will likely crowd in additional private investment. These investments should be organised around the strategic priority clusters so that deep innovation capabilities can be built. Ireland’s competitive advantage can best be sustained by strengthening its capabilities in innovation and knowledge, particularly given the emerging frictions in the global economy and the constraints on using corporate tax as a key element of Ireland’s value proposition.

Innovation policy should tilt away from generic instruments towards a focus on strategic economic priorities. And efforts should be made to develop the strength of the knowledge flows and collaboration with research universities, which are frequently a core part of high-performing clusters in small advanced economies.

In the context of the substantial shifts in terms of growth profiles across sectors (and consequent shifts in labour demand) through the pandemic, which will be reinforced by shifts in strategic priority clusters and the net zero transition, there are likely to be substantial moves in labour across the Irish economy. To support this transition process, labour market policy will need to work along with education and skills policy. Ireland should strengthen its active labour market policy and provide opportunities for skills upgrading, in order to accelerate this movement of labour. In many small economies, there is a focus on digital skills – and this is relevant to Ireland as well.

ii. Value capture/rebalancing enterprise policy

To respond to the growing challenges associated with Ireland’s FDI-intensive growth model, a greater emphasis should be placed on domestic value capture. Ireland needs a stronger domestic core in its

economic model (supported by local capabilities), that is less reliant on global investment flows, and which generates additional economic value that can be captured in Ireland.

Part of this can be achieved by integrating MNCs into clusters. And enterprise policy also needs to focus on creating more at-scale Irish innovation driven enterprises that are expanding into global markets. Deliberate policy action is required because of the additional costs and pressures facing domestic firms in expanding given the dominant position of MNCs in the Irish economy (the ‘Dutch Disease’ problem in FDI-intensive small economies that was described above).

There should be a greater focus on building domestic capabilities, on dimensions such as dense linkages in the Irish economy (supply chains, knowledge/innovation spillovers) as well as growing domestic champions. The arguments for supporting domestic firms relate to both greater domestic value capture as well as strengthening international stickiness by creating a richer domestic ecosystem.

The closest small advanced economy parallel to Ireland’s FDI-intensive economic model is Singapore, and it is instructive to consider the ways in which Singapore is moving to strengthen domestic value capture in the context of an externally-oriented growth model. Historically, Singapore has taken care to build domestic capabilities, invested heavily in research and innovation as well as in human capital and creating (state-backed) national champions. As a consequence, there are distinctive capabilities in Singapore; it is not just an intermediary/hub for global flows as is the case for Hong Kong and Dubai.

And as discussed in Part III, Singapore is implementing initiatives to build a ‘Singapore core’ of growth firms to supplement its reliance on FDI. This is being done through targeted enterprise policy instruments as well as cluster-based policy that will integrate local firms into a broader ecosystem. Policies such as export promotion, innovation grants, and firm capability building are useful. These policy priorities are directly relevant to the Irish context. A stronger ‘Irish core’ will generate more domestic value capture and also add resilience against the heightened international political risk profile with respect to MNC location choices.

These enterprise policy efforts should be focused on high growth potential firms, rather than on SMEs generally. Large firms matter in a small economy context, as described in Part I, and expanding the pipeline of high growth firms that can scale into large firms should be a priority. Over time, this will rebalance the contributions to economic outcomes from MNCs and domestic firms – leading to a broader-base of growth in Ireland, which is more sustainable and ‘stickier’. Enterprise policy framed around general SME support is likely to be under-powered in terms of strengthening Irish economic aggregates in a material way.

Additional value capture can also be achieved by creating dense clusters in which these firms operate (as described above). Value can be captured along the backward and forward linkages in the cluster to a much greater extent than from firms that are operating in an independent manner.

iii. Net zero transition

In addition to the legislative commitment to net zero, rapidly reducing emissions should be a core part of Ireland’s economic strategy in order to capture economic benefits. There are clearly transition costs for Ireland associated with the net zero transition. But there are potentially significant economic benefits (as well as economic costs avoided) if an emissions reduction strategy is designed appropriately.

Not all small advanced economies are able to pursue a net zero target as well as economic opportunities at the same time; but Ireland is in the fortunate position of being able to do so. Combining strengths in its natural resource endowment with broader strengths and capabilities provides Ireland with valuable economic opportunities.

Access to renewable energy will strengthen Ireland's value proposition for inward FDI, will strengthen the competitive position of Irish firms (lower cost, low emissions energy), will improve Ireland's economic resilience (to external energy shocks), as well as the direct benefits from the construction of renewable energy. And there are significant economic costs and risks in the status quo, as Ireland will become less competitive if it lags on reducing emissions intensity: firms and consumers are increasingly sensitive to emissions intensity.

Ireland's renewable energy policy should be framed around capturing these economy-wide benefits. Although there are transition costs, moving quickly in leveraging Ireland's renewable energy assets will enable it to capture these benefits more quickly. Indeed, there is some urgency around this process given the speed with which consumer and investor preferences are shifting around the emissions intensity properties of firms. Without a stronger performance on emissions and renewable energy, Ireland's competitive advantage will weaken relative to faster-moving economies.

There are a few priorities for action: developing an ambitious plan for building renewable energy capacity (including onshore and offshore wind), with appropriate regulatory and funding support; using regulatory instruments to create strong incentives for developers of renewable energy to de-risk the investment (such as a UK-style contracts for difference scheme) as well as emissions pricing; and creating a framework for direct purchase agreements, so that firms can buy renewable energy directly, in a way that they do in other markets. This should be integrated into the overall pitch for locating in Ireland, combined with the corporate tax rate, infrastructure, skilled labour, research universities, business environment, and so on.

In addition, Ireland should seek to identify high growth potential areas of the global low carbon economy in which it can develop domestic strengths – or which it can attract to Ireland.

iv. External posture

Ireland's external economic posture (its exposure to export markets, supply chains, sources of capital) does not create substantial negative exposures to emerging global economic and political developments. Ireland is largely exposed to geopolitical 'friends' and its economic risks (e.g. supply chains, energy) are manageable.

However, there are some political risks that need to be managed. For example, the potential for growing protectionism in the US – and greater political pressure for re-shoring of activity. Ireland should manage these risks in its portfolio of FDI, as well as build additional domestic strengths (as discussed above). Similarly, there is a risk of pressure from the EU and US for additional changes to the global minimum corporate tax rate. This reinforces the policy suggestion to build stronger strategic clusters and domestic value capture – so that Ireland is less exposed to the exit of MNC economic activity.

China is a growing geopolitical risk for many advanced economies. Ireland's trade relationship with China has been growing (~5% of merchandise exports). This is not just a commercial relationship; it also has high (and increasing) political and geopolitical risk. A strategic view should be formed as to the

appropriate level of risk exposure for Ireland to China, and policy instruments shaped accordingly – such as the extent of enterprise policy support for firms engaged in China.

In a global economy that is becoming more fragmented and regional, ongoing deepening of integration into European markets makes sense. EU membership also provides safety in numbers for Ireland, something very valuable for small states. There are big markets in Asia; Japan, Korea, ASEAN etc, but there will be limits to the upside from these distant markets. A measure of market diversification is useful, particularly into high growth markets, but Europe, the US, and the UK should be priorities.

Many of the decisions about export market focus are made by MNCs that locate in Ireland, and the government has limited ability to shape these choices. However, enterprise policy (such as export promotion efforts) can shape the market destination decisions of some Irish firms.

Supply chain disruptions through the pandemic, together with emerging political pressures on global supply chains, means that a ‘fair weather’ policy approach may no longer be sufficient. An assessment/audit of the resilience of Ireland’s supply chains (energy, food, other strategic items, goods) is a useful exercise.

Small economies around the world are looking to strengthen the overall resilience of national supply chains, and this should be a priority for Ireland as well. This may include mandated levels of inventories of strategically important goods, and the encouragement of diversification of sources of supply and long-term contracts. Increasing renewable energy capacity will also make a meaningful contribution to increased national energy resilience over time.

v. Institutional strengthening

One of the key insights from high-performing small advanced economies is the importance of strategic coherence across policy domains: to ensure that policies are informed by a common sense of strategic direction in terms of how the small economy is being positioned to compete, and to support adaptation to a changing strategic environment.

The substantive policy coherence that is required will need to be supported by institutional arrangements as well, so that the relevant economic agencies are aligned. Ireland’s institutional arrangements should also be reviewed to ensure that they support strategic coherence across a wide range of policy domains, ensuring that there is alignment across the economic (and other) policy agencies.

Ireland has a large number of specific economic policy statements. But an overarching economic policy statement that contains a top down/macro view of the Irish economy, and captures the key strategic choices that are being made, is valuable in providing strategic guidance. Small economies like Finland and Singapore provide useful guidance on the investments in strategic capability and institutional arrangements that are useful.

Even in a small economy context, which is perhaps less complex and where networks are smaller, this strategic coherence requires deliberate, sustained attention.

Concluding remarks

Overall, I remain positive on the outlook for small advanced economies even in the context of a more challenging global environment. Similarly for Ireland, there is a positive outlook. The changes in the global environment are not existential for Ireland changes in the global environment. And although there are some additional challenges, these dynamics represent a forcing event to make structural policy changes in ways that will strengthen Ireland's economy: from industrial and enterprise policy to integrating emissions reduction into Ireland's economic strategy.

A key reason that small advanced economies have been able to sustain superior performance is that they adapt to a changing context quickly. Indeed, in periods of disruptive change, small economy attributes of agility and flexibility can be a powerful source of competitive advantage. Ireland will need to overcome the policy-makers' dilemma: the resistance to change that can be caused by the sustained success of a particular economic model.⁴¹

Ireland's economic model has worked very well, but structural change is needed to sustain performance in the context of a changing global economic and political regime. The limits to the outcomes that can be generated by the current policy approach will likely become increasingly apparent.

⁴¹ David Silling, 'The Policy-Makers Dilemma', *Global-Is-Asian*, Lee Kuan Yew School of Public Policy, January – March, 2013 (<https://lkyspp.nus.edu.sg/gia/article/the-policy-maker-s-dilemma>)

About the author

Dr David Skilling is the founding Director of Landfall Strategy Group, which was established in 2011. David advises governments, companies, and financial institutions across small advanced economies, and writes regularly on global economic and political trends from a small economy perspective. Previously, David was an Associate Principal with McKinsey & Company in Singapore, as well as being a Senior Fellow with the McKinsey Global Institute. Before joining McKinsey, David was the founding Chief Executive of the New Zealand Institute, a privately-funded, non-partisan think-tank. Until 2003, David was a Principal Advisor at the New Zealand Treasury. David has a Ph.D. in Public Policy, and a Master in Public Policy degree, from Harvard University, as well as a Master of Commerce degree in Economics from the University of Auckland. David was named as a Young Global Leader by the World Economic Forum in 2008.

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Landfall Strategy Group is a research and advisory firm that provides advice on strategic economic and policy issues to governments, firms, and financial institutions, particularly in small advanced economies. We provide distinctive perspectives on emerging global trends, working with decision-makers to understand key global changes and how governments, firms, and institutions should respond and position themselves in the emerging global economic and political environment.

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