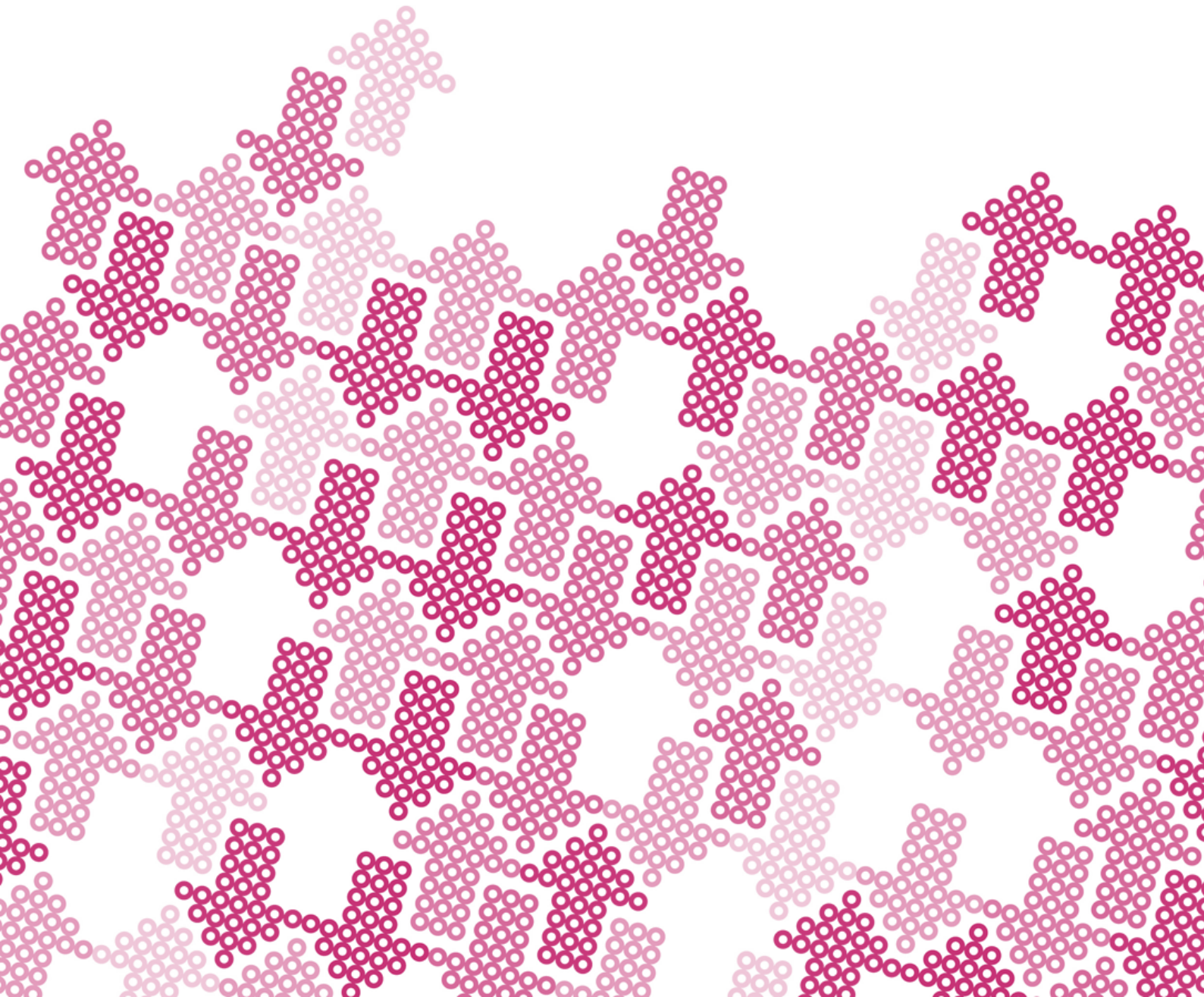




Review of Competitiveness Frameworks

An Analysis Conducted for the Irish National Competitiveness Council

By Dr Christian Ketels



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National Competitiveness Council
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Chairman's Foreword



Ireland has emerged from a major economic crisis following a period during which the economy suffered a significant loss of competitiveness. Ireland has, thankfully, returned to strong economic and employment growth. It is now imperative that we take measures to ensure a similar loss of competitiveness does not occur in the coming years.

The National Competitiveness Council (NCC) is an independent voice which advises Government on Ireland's competitive position and the means by which that competitiveness can be maintained and, ideally, improved. At this point in Ireland's economic cycle, it is important for the NCC to review our working definition of competitiveness, the components of competitiveness, how to measure it, and to ensure the Council is fully informed of the latest theoretical research and empirical evidence on those factors that are most important for enhancing competitiveness. This will ensure that the NCC remains an effective, independent and authoritative voice advocating for competitiveness enhancement. And that we do so from a firm evidence base.

For over a decade, the Council has used a bespoke competitiveness framework ("the competitiveness pyramid") to enable a simple articulation of what are the multifaceted and interlinked dimensions of competitiveness, with a particular focus on how competitiveness issues impact upon Ireland as a small, open economy. In the last decade, the academic literature on the competitiveness of regions and nations has expanded rapidly. A large theoretical, empirical and policy-relevant literature has emerged, examining a range of relevant topics including productivity, clusters and networks, innovation and creativity, governance and the role of institutions and institutional agility, social and cultural capital, economic complexity, and further geographic considerations (e.g., international, national, regional, and urban scale).

For this reason, the Council decided to commission research to examine our competitiveness definitions and framework to ensure that these are still relevant and appropriate and that the Council is aware of practice in other jurisdictions. This work was carried out for the Council by Dr Christian Ketels, Principal Associate at the Institute for Strategy and Competitiveness at Harvard Business School. This document presents his findings.

On behalf of the Council, I would like to thank Dr Ketels and his team for this insightful report. I would also like to thank the members and advisors of the Council for their helpful comments on the report. I would also like to acknowledge the work of the members of the Executive for their support, research and analysis which contributed to the successful completion of the research.

This review offers an opportunity for the Council to expand our horizons. In recent years, our primary focus has been on near-term measures to enhance competitiveness in order to support job creation. This has been essential and will remain essential. However, Ireland's economy is now growing rapidly and, in order to ensure that economic and jobs growth are sustainable, we must also pay close attention to the medium term. Strong productivity growth is the most important factor that will enable growth to be sustainable. This is also what will allow Ireland to finance quality public services such as health, education and social protection. Having a more in-depth understanding of issues raised in this report such as cluster development, firm-level performance, and innovation will help the Council ensure we are examining the most relevant areas where Ireland's competitiveness may be improved in the medium-term.

Monitoring the right economic indicators and taking appropriate corrective action has never been more important. The recent economic crisis demonstrated how some international and national authorities overlooked significant economic threats that were emerging. Maintaining national competitiveness is essential to embedding the economic recovery. It requires constant improvement across a broad range of policy spheres.

This report will be considered by the Council with a view to considering adjustments to our framework to ensure the National Competitiveness Council utilises the best possible evidence on which to base our recommendations in the future.

Professor Peter Clinch

Chairman,

National Competitiveness Council

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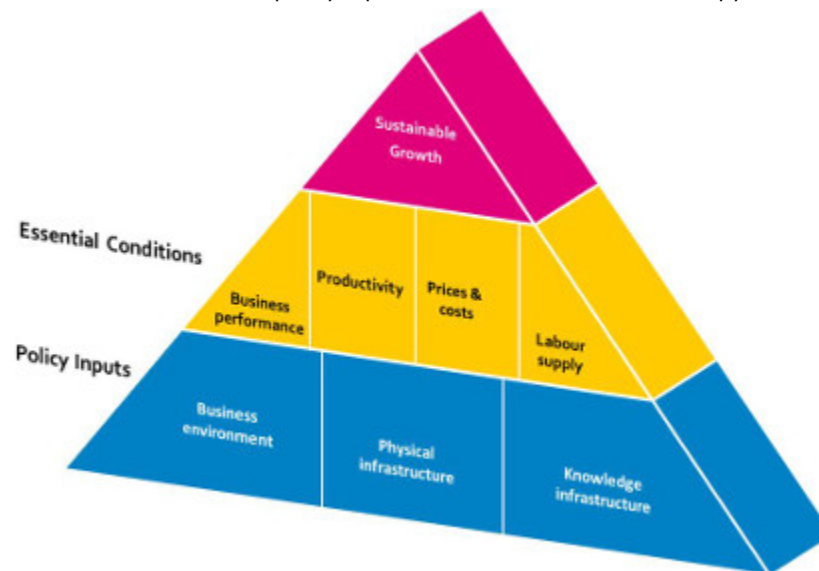
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1. Introduction

The Irish National Competitiveness Council (NCC) has since its creation in 1997 provided the Taoiseach (Prime Minister) and Government with analysis, commentary, and policy advice on issues related to Ireland's competitiveness. The Council's Terms of References, updated in 2013, explicitly require it to produce annual reports on (a) benchmarking the competitiveness of Ireland's business sector against international peer countries, and (b) outlining the main competitiveness challenges facing the business sector in Ireland over the medium term, and the policy responses required to meet them. Apart from these reports the NCC can also publish topical analysis it identifies as important. Over the last couple of years it has, for example, done regular work on the cost of doing business and productivity in Ireland.

The NCC defines competitiveness as '*the ability of firms to compete in markets. Ireland's national competitiveness refers to the ability of the enterprise base in Ireland to compete in international markets.*' It argues that this definition is appropriate in view of the goal of national competitiveness to 'provide Ireland's people with the opportunity to improve their living standards and quality of life.' Firms' ability to compete at high levels of productivity is deemed essential to support job creation and high incomes, which in turn are the key determinants of high and rising living standards in Ireland. The NCC uses a framework model to understand and analyse national competitiveness and its drivers. This model consists of three levels:

- At the bottom of the pyramid are the policy inputs. These are factors that policy can directly influence and that ultimately drive the competitiveness performance of the country. The NCC framework distinguishes between business environment, physical infrastructure, and knowledge infrastructure
- At the intermediate level of the pyramid are so-called 'essential conditions'. These conditions are driven by the underlying policy inputs and reflect directly the conditions under which firms with a base in Ireland compete. The NCC framework lists specifically business performance, productivity, prices & costs, and labour supply.
- *Objective* At the top level of the pyramid is sustainable growth as an ultimate policy objective. This objective is seen as not directly under the control of policy makers, but as influenced by the nature of essential conditions and the choices on policy inputs made at lower levels of the pyramid.



The purpose of this report is to undertake a review of the recent research on competitiveness as well as of the competitiveness frameworks applied in leading international competitiveness rankings and in national competitiveness assessments undertaken by institutions comparable to the NCC. Based on this review, the NCC has asked for suggestions on how to further develop the competitiveness framework it applies in its own work. The report does not aim provide a comprehensive listing of all academic work related to competitiveness; its ambition is to identify the core directions that have developed in this field, and provide references to the core publications that characterize these ideas.

The report is structured into four main parts: The initial chapter focuses on the definition of competitiveness, looking at both the academic debate about the term and the role such definitions have played in guiding applied work. The following chapter turns towards the drivers of competitiveness, capturing the current discussions on the areas and aspects that should be included in what the current NCC framework calls 'policy inputs'. The third part of the review turns towards the measurement of competitiveness, looking at the current practice of competitiveness rankings and reports, and highlighting the key conceptual issues in translating data on different aspects of competitiveness into policy-relevant analysis and advice. The final chapter contrasts the current NCC competitiveness framework with this research and develops a set of concrete suggestions for further developing it.

A conceptual framework that provides effective guidance for a policy-oriented institution like the NCC has to acknowledge the specific economic circumstances of the economy it is concerned with. For Ireland, the key aspect has long been its nature as a small-open economy heavily reliant on exports driven by a strong presence of multinational firms. This has naturally led to a focus on the relative cost of doing business. Two other aspects have emerged more recently that warrant attention:

- The recent macroeconomic crisis has highlighted Ireland's exposure to international financial flows that can lead to significant macroeconomic imbalances. This might require a different set of metrics to capture Ireland's exposure to such imbalances, most likely at the level of essential conditions.
- Ireland has a growing ambition to match its strong base of foreign multinationals with an equally strong and dynamic base of domestic firms, serving both national and international markets. This, too, might influence the set of metrics to be covered, both in terms of policy inputs and of essential conditions.

2. What is competitiveness?

The term competitiveness has been intensively dissected in the academic literature ever since it became a focus of the policy debate in the late 1980s and early 1990s (Krugman, 1994; Porter 1990). The different views on what competitiveness is and what value it has for policy that emerged at the time were never really reconciled (Sanfey/Zeh, 2012). Given this lack of consensus, this section of the report will focus on reviewing the key opposing views on how competitiveness should be defined. It will put these definitions into the context of how they emerged, and what they suggest for policy. Definitions of abstract concepts like competitiveness are never true or false. They can as conceptual tools only be evaluated with regards to their ability to shed light on the particular issues that they are being proposed to address. This somewhat abstract but fundamental insight has often been lost in the debate about competitiveness as a concept. As the following discussion suggests, very often the disagreement is not about the definition used itself, but about the issue to be studied and the policy implications to be drawn.

2.1 Competitiveness definitions in the academic debate

Paul Krugman's old differentiation of competitiveness as either a dangerous or trivial concept remains a good starting point to organize the debate (Krugman, 1994). It lays out the two main competing views of how to define competitiveness: Costs/ability to export vs productivity.

The cost-/market share-view of competitiveness

The first definition looks at competitiveness as a location's unit cost level, driving companies' ability to compete successfully on global markets. This definition is motivated by a concern about a location's 'external balance', i.e. its ability to sell its products and services, defend international market share, and thus generate the inflows needed to pay for imports. Locations are thus 'competitive' if their macroeconomic aggregates are in balance. It is inspired by firms' focus on sales and market share, and looks at a location from a similar perspective. From a macroeconomic perspective it looks at the sustainability of the current level of growth. The perspective taken is focused on the short- to medium-term: how large is the gap between the current situation and underlying fundamentals?

This definition is important for organizations that have the mandate to track and manage macroeconomic imbalances. Countries that are losing competitiveness in the sense of rising relative unit labour costs are seen to be in danger of building up current account or other macroeconomic imbalances. That such imbalances can become very costly to unwind has become painfully clear in the recent crisis.

The definition has been criticized on a number of accounts, many of which are related to problems in translating a concept initially created to understand firm rivalry. Unlike firms, locations do not go out of business. They can always adjust their prices (and prosperity levels), while firms lose their ability to mobilize production factors if their revenues drop. And unlike firms, locations benefit in their prosperity if other locations become more prosperous themselves; the largely zero-sum view of competition among firms misses important aspects of the way locations relate to each other. This is one of the reasons Krugman viewed competitiveness as a potentially dangerous concept: it can be used to motivate policies that lower costs and thus raise exports but in doing so entrench zero-sum competition among locations and lower prosperity.

The productivity-based view of competitiveness

The second definition looks at competitiveness as a location's productivity level, driving the standard of living the individuals in that location can sustain (Porter, 1990; Porter, 2000; Delgado et al., 2013). This definition is motivated by a concern about a location's inherent ability to create value based on the production factors it has at its disposal. It is inspired by the research on cross-country differences in prosperity and long-term growth rates (IADB, 2010; Lewis, 2004). From a macroeconomic perspective it looks at the drivers of a location's rate of underlying trend growth. The perspective taken is focused on the medium-to long-term: how strong are the underlying fundamentals, and how can they be improved? Wages and costs are in this view assumed to revert 'automatically' to their equilibrium levels. This definition is important for organizations like competitiveness councils that are supposed to focus on long-term growth and prosperity rates. Countries that are losing competitiveness in the sense of slowing productivity dynamics are seen to be exposed to a deteriorating prosperity performance. The literature on growth spurts has shown that the level of sustained productivity growth is what ultimately matters, not the stability or variability of growth rates itself.

The definition has not met much fundamental criticism – the literature is very clear that productivity is ultimately the key driver of prosperity differences across locations (See for example Hall/Jones, 1999). It is also associated with a set of policies in areas like skill upgrading; infrastructure investment, research and innovation, and access to finance that are not very controversial. The debate is more focused about what specific policies are best applied to support productivity growth, not whether such policies are in general useful or not. However, the term competitiveness is for many practitioners associated with notions of competition and thus the rivalry among locations. Policy action on competitiveness has often been triggered by a concern about foreign competition, not just about a slowdown in domestic productivity growth. And the competitiveness rankings that have emerged clearly re-inforce the concerns about relative rather than absolute performance. Globalization and the geographic fragmentation of value chains have made this aspect of economic interaction among locations more important: more locations than ever are now competing for economic activities and the mobile factors of production that they draw on. And the heterogeneity among the relevant set of locations is increasing, potentially raising the role of cost differences.

Where does this discussion leave us? If competitiveness is meant to be a concept that is meaningful in describing and analysing the root causes of prosperity levels, it suggests that the focus on productivity has to be paramount. Productivity is the key driver of long-term prosperity levels and is thus an appropriate and critical target for policy. But given this focus on productivity, it is for two reasons important to keep an eye on cost levels as an important necessary condition:

- First, the relation between productivity and costs is critical for the relative attractiveness of a location to firms. This is particularly crucial for Ireland given its positioning as a platform for MNCs. While attractiveness for these companies is unlikely to be an appropriate ultimate goal for policy, it is a necessary condition for achieving a high standard of living for the Irish population.
- Second, the relation between productivity and costs is an important indicator of macroeconomic balance. Wages that are set above productivity levels can trigger macroeconomic imbalances to build up. And rising demand fuelled by capital inflows, growing credit, or rising public debt can push wages above levels sustainable with productivity. While again macroeconomic sustainability of a situation is in itself not enough to ensure high and rising standards of living for the Irish population, their absence comes at significant costs.

2.2 New developments in the academic debate of competitiveness

The core debate about the term competitiveness has not changed very much since the early 1990s; it continues to follow the path outlined above. However, in two dimensions there has been movement that is important to track: First, the concept that was initially applied only to national economies has been increasingly used also at other levels of geography, in particular subnational regions (Ketels, 2014). And second, there has been increasing debate on whether GDP per capita is an appropriate measure for capturing a location's standard of living, the key objective underpinning the productivity-based view of competitiveness (Aiginger, 2015).

Competitiveness at different levels of geography

The initial focus on national competitiveness had many good reasons: nations are often the level at which firms tend to see integrated markets with one set of structural conditions; they are the geographic level at which goods, services, but also factors of production are assumed to move freely, and they are the level of government where most of the legislative and spending power is concentrated. And for the cost-based view of competitiveness, subnational regions are not an issue: cost differences within a country are adjusting automatically in the normal market processes, and macroeconomic imbalances are also not a relevant concern.

For the productivity-based view of competitiveness, however, the focus on national conditions alone soon proved to be insufficient. Prosperity (and productivity) differences within countries are large and in many cases growing (OECD, 2012). Firms put their economic activities in specific locations within a national economy, and are not agnostic about where they go. The factors that are seen to determine productivity levels clearly do differ between locations within countries. Many relevant policy actions have a geographically distinct impact on different parts of a national economy. And regional governments have been charged to an increasing degree with policies to enhance regional economic development and competitiveness.

As the competitiveness framework was applied to subnational regions, it triggered a similar amount of debate as it had done earlier at the level of nations (Kitson et al., 2004; Boschma, 2003; Martin/Sunley, 2011; Zenka et al., 2012). Part of this debate was a simple reflection of the cost vs. productivity argument that had occurred earlier. In addition, however, the discussion focused on how regions were not just smaller versions of national economies but structurally different. As part of national economies they are clearly more exposed to factor and specifically labour mobility than national economies. And regional economies are characterized by a level of geographic proximity that makes local linkages and spill-overs as well as the cluster dynamics they triggered a much more central consideration.

New measures of the standard of living

The productivity-based view of competitiveness aims to shed light on the underlying drivers of the standard of living in a particular location. But how should 'standard of living' be measured? It turns out that this is far more than a technical question; it is an issue with significant impact on policy implications from the analysis.

The traditional analysis has used some variation of GDP per capita as the core 'dependent variable' to capture the level of prosperity and productivity a location has achieved. Purchasing power adjustments are usually made to get a better sense of the goods and services a location can afford given its income. In countries like Ireland with a large role of foreign companies it can also make sense to look at GNP (i.e. economic activity by nationals) vs GDP (i.e. economic activities within the country) (see FitzGerald, 2015). But beyond these adjustments there has been

a discussion on how to adjust traditional GDP measures (Stiglitz et al., 2009) to better capture quality of life. Inequality and beyond-GDP measures have been core to this debate.

Inequality, especially when it is changing systematically over time, can reduce the value of GDP per capita as a good summary measure of the income and ultimately the standard of living that a wide part of society can enjoy. The concerns about inequality have increased at least partly because of the rising share of capital income in total income that a range of economies have reported in the recent past (Piketty, 2014). In addition, wage growth has concentrated disproportionately on high-wage earners.

Beyond-GDP measures aim to capture non-income related factors that influence the standard of living in a society. A good example is the Social Progress Index (Porter et al., 2015); there is a range of other rankings from both official institutions like the OECD and other groups that have a similar ambition. They cover issues like environmental conditions, the presence of basic political rights, the absence of discrimination, and access to basic public goods and services. The rising interest in these issues could be driven by concerns about a possible trade-off between GDP per capita and these measures – higher GDP per capita could be gained by undermining these non-measured aspects that however are arguably also an important component of a country's standard of living. In addition, non-GDP aspects might be seen as becoming more important for the standard of living. Driven by these discussions, attempts have then been made to measure those factors that might contribute not only to GDP per capita but broader outcomes (Bilbao-Osorio B. et al., 2013; Balkyte/Tvaronaviciene, 2010).

Where does this discussion leave us? The choice as to whether an analysis should include these new dimensions of competitiveness is partly political, and driven by a view on what issues a particular effort on competitiveness should tackle relative to other policy initiatives and institutions. But it also is driven by assumptions about whether traditional definitions of competitiveness are a good indicator of these additional aspects, and whether good performance in them is driven by the same set of policies. Transparency about the choices and assumptions that underpin the work of the NCC can help ensure a more productive focus of the political discussion on the aspects that the NCC is aiming to address.

2.3 Competitiveness definitions in policy-related work

The competing notions of competitiveness have also found their reflection in the applied work on competitiveness. While there tends to be a clear focus on one or the other in the work of specific institutions, the definition of competitiveness applied often tends to combine aspects of both conceptual ideas. ECB President Mario Draghi, for example, defined a competitive economy as one in which *'institutional and macroeconomic conditions allow productive firms to thrive and in turn, the development of these firms supports the expansion of employment, investment and trade'* (quoted in Altomonte/Bekes, 2016). This perspective is open to both cost/market share and productivity-oriented considerations; it is more explicit on macroeconomic outcomes and specific policy conditions than on the mechanisms that connect them. A good number of organizations refrain altogether from explicitly stating the definition of competitiveness they apply.

Applied work focused on productivity

Good examples of applied work strongly focused on productivity are the annual country rankings in the Global Competitiveness Report GCR (World Economic Forum, 2015), the annual assessments done by the OECD as part of their "Going for Growth"-program,¹ the work of the Danish Globalization Council (see appendix), and several

¹ <http://www.oecd.org/eco/growth/goingforgrowth.htm>

national competitiveness reports (e.g., Cunska et al., 2013). The GCR in particular aims to capture the factors that drive prosperity and growth across nations, focusing on a wide range of drivers that may influence productivity. Cost levels are not part of the analysis; they are assumed to move endogenously in line with the competitiveness fundamentals the GCR captures.

Both the GCR and the work of the Danish Globalization Council put this focus on productivity strongly into the context of global competition. For the GCR, this is reflected in the ranking of countries that is a central piece of the Report. For the Danish Globalization Council, a key motivation was to understand how the Danish economy had to adjust to the changing realities of global competition in order to sustain the high level of Danish prosperity.

Competitiveness councils like the Danish Globalization Council and national competitiveness reports like the one for Latvia referenced above focus their policy advice pretty much exclusively on measures to raise productivity. This seems, however, to a large degree not a matter of principle but of perceived priority: in both cases the explicit objective was to look at ways to enhance productivity while costs were either not perceived to be an issue or were covered in a different policy/institutional context.

Applied work focused on costs

Good examples of work more concerned more with cost aspects are the World Bank's Doing Business index, the more sectoral work of business consultants (Sirkin et al., 2014), the country-specific Annual Growth Surveys undertaken by the European Commission as part of the 'European semester' process,² and to some degree also the work of the Productivity Commissions in Australia and New Zealand.

One group of efforts looks at costs from a efficiency perspective that puts it relatively close to the productivity-oriented work: The World Bank's work, for example, focuses on the impact of administrative regulations (to some degree also levels of taxes and administrative fees) on the cost of doing business. It is based on the view that unproductive administrative costs are hurtful, not cost levels in general. Accordingly, high cost/high productivity countries top their ranking. A similar logic drives the work of the productivity commissions mentioned. Their focus is on market inefficiencies, induced by policy or a lack of effective rivalry in the market that leads to higher costs as the result of productivity levels that are below the potential of an economy.

Another group of efforts is interested in cost levels from the perspective of export market shares and locational attractiveness for firms. The European Commission is in its assessments strongly focused on the development of relative unit labour costs; a clear reflection of the recent crisis in which large deviations of these costs from sustainable levels were strong indicators of subsequent challenges. Relative unit labour costs and the export performance they enable are also a key focus of institutions charged with monitoring macroeconomic stability like the IMF (Bayoumi et al., 2013) and the European Central Bank.³

A very different motivation drives the sectoral assessments of cost levels provided by business consultants: they aim to identify which location is most profitable for specific companies, not whether or not these locations can support a high standard of living (see, for example, Sirkin et al., 2014; Deloitte/Council on Competitiveness, 2012).

² <http://ec.europa.eu/europe2020/making-it-happen/>

³ https://www.ecb.europa.eu/pub/economic-research/research-networks/html/researcher_compnet.en.html

2.4 Implications

There is little disagreement that competitiveness is a critical policy issue but surprising heterogeneity in the way competitiveness is defined in academic research and applied in policy-oriented analyses. The review of the literature suggests that the debate about the 'right' definition of competitiveness remains unresolved, because the term is applied to address two related but different issues: the cost-/market share-driven view to track macroeconomic sustainability and the productivity-driven view to track the standard of living. Each of the definitions has validity with respect to the issue for which it has been created, and fails in important ways if it is applied to the other.

While the two perspectives on competitiveness are both valid, it is important to acknowledge their different relative roles in the overall hierarchy of economic policy goals. Raising the standard of living for a community is arguably the overarching objective for economic policy; this gives the definition of competitiveness as productivity a critical role. Avoiding macroeconomic imbalances is important, too, and can have significant short- to medium-term implications for a location's prosperity. But it is still 'only' a secondary objective in the spirit of a 'necessary condition' rather than an ultimate objective. The same is true for cost levels that erode a location's attractiveness for firms and undermine its position on export markets. Global attractiveness is a necessary condition for being able to achieve high and rising prosperity, but in itself insufficient to reach this objective. Defining competitiveness as the absence of macroeconomic imbalances, the stability of unit labour costs, or growing market shares in exports is thus appropriate for government agencies with a specific mandate to monitor macroeconomic sustainability and global attractiveness, but a misleading approach to guide government's broader efforts to raise prosperity.

The practical experience suggests that a number of factors are important for choosing a definition of competitiveness that is helpful for an organization: First, there needs to be clarity about the organization's mandate and objective. Second, the competitiveness framework applied needs to be driven by this mandate, and be made transparent. Third, this framework should be applied with flexibility, not predetermining the results of an analysis by narrowing the scope of issues to look at from the outset. The examples profiled in the cases studies did generally well on the first two aspects. The specific framework was often not made explicit; clarity about the broad direction seemed to be sufficient. On the third aspect, however, especially the productivity councils showed some tendency to become relatively narrow in their scope, looking more at inefficiencies in markets than at a broader range of competitiveness drivers.

The competitiveness framework applied by the Irish NCC represents in many ways the pragmatic answer that good practice has found to the challenge of the two rival definitions of competitiveness: It is through its focus on sustainable growth and its reference to the standard of living clearly anchored in the productivity-based definition of competitiveness. But it also focuses on costs and especially the cost-attractiveness of Ireland as a place for companies to do business (See for a similar definition Porter et al., 2013). This seems sensible not the least because of Ireland's strategic focus on multinational firms as drivers of its economic development.

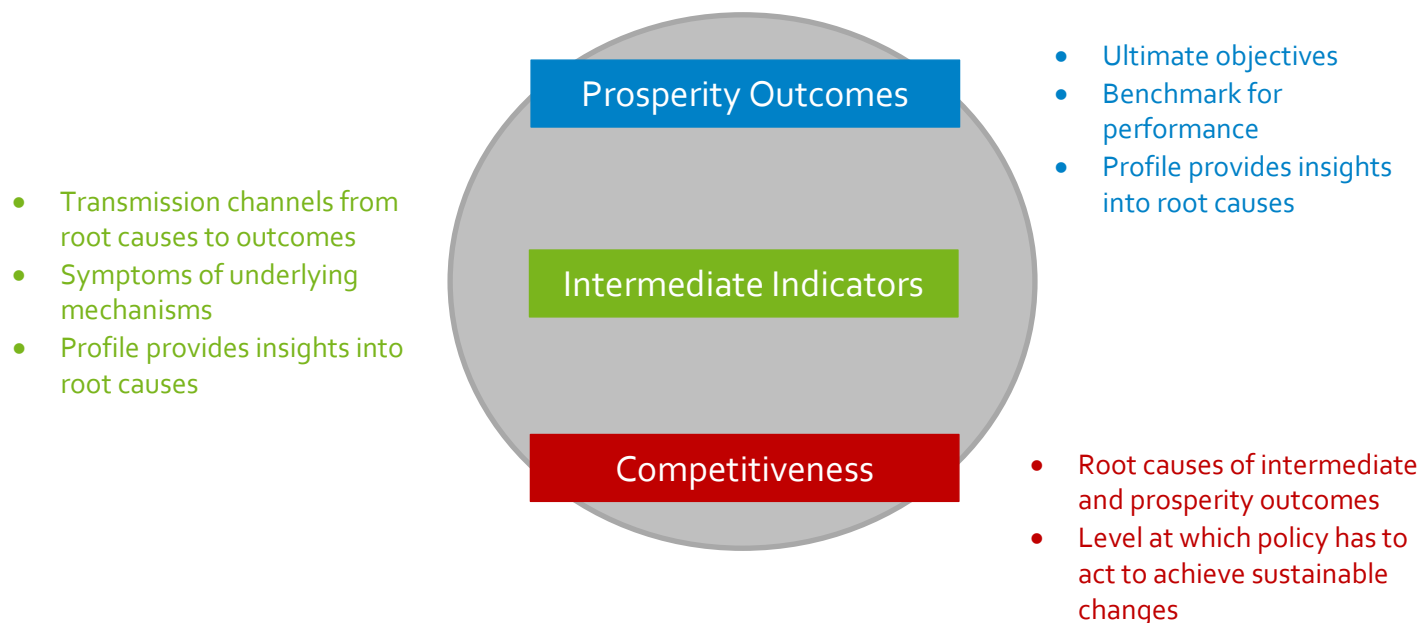
The question that the Irish NCC should be looking at is whether more clarity on the relation between these two important aspects of competitiveness would be helpful. The current formulation can be used to motivate either a strong focus on productivity or on costs, giving little guidance on the nature of their relationship to each other. In addition, a narrow focus on costs as an indicator of macroeconomic balance would be too narrow. Whether and how such imbalances should be covered is an important question not only to guide the NCCs work internally, but also to give it a mandate to engage in this debate in the broader Irish economic policy system.

3. What drives competitiveness?

The crucial challenge for institutions like the NCC is to not just measure competitiveness as an outcome, but to be able to assess and track a country's performance in terms of the underlying fundamentals that ultimately drive these results. It is at this level of underlying fundamentals that policy has to intervene in order to make a sustainable difference to a country's standard of living over time.

Between outcomes that qualify as ultimate goals of policy - measures of prosperity but also measures of labour productivity and labour mobilization that are its mathematical components – and these underlying fundamentals there is an intermediate set of indicators that captures the process through which underlying competitiveness is transformed into ultimate prosperity. These intermediate indicators include factors like exports, investment rates, FDI inflows, R&D expenditure, and the like. Strong performance in these dimensions is usually associated with the effective process of turning underlying competitiveness into prosperity. This is what makes these indicators powerful diagnostic tools to better understand a country's competitiveness. Importantly, however, these intermediate indicators can also be affected by policies that boost intermediate performance but fail to result in ultimate prosperity, for example when a country devalues or subsidizes investments above and beyond their social returns. This makes them a dangerous orientation if policy tries to target them directly.

Strategic Diagnostic of Competitiveness Towards Location- Specific Action Agendas



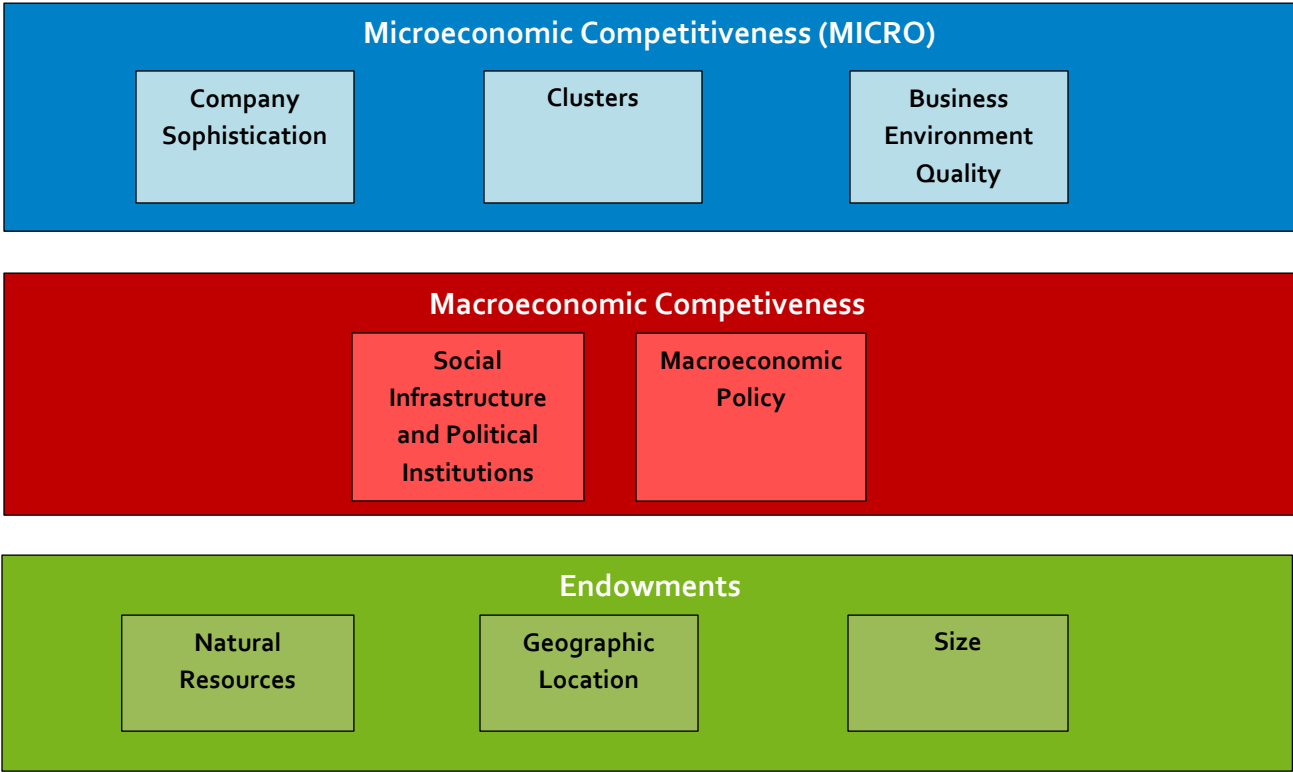
Identifying underlying drivers of competitiveness has been a key occupation of economic analysis. Traditional growth studies have tried to identify the smallest available number of factors that drive prosperity and productivity levels in a generic way across all locations, ideally identifying one as the most central. This has over the last decades led to a focus shifting from capital to knowledge to institutions as key drivers of prosperity.

Competitiveness research has, largely due to its interest in providing policy advice, arrived at a different position. It is based on the observation that there are a large number of factors that influence productivity levels, and that the specific marginal impact of any of these factors is driven by the specific context in a location, in particular the quality of other fundamental drivers of competitiveness. Competitiveness, then, is not just given by cumulating performance along all competitiveness drivers, but by their systemic interaction.

Different frameworks have been developed to organize the complexity that emerges from this view of competitiveness drivers. Extending Porter’s earlier work on competitiveness (Porter, 1990) a newer framework contains the broad range of factors that have been identified in the literatures as relevant, and organizes them into different buckets defined by their nature and impact (Delgado et al., 2012). At the core is a distinction between macroeconomic factors (quality of institutions, macroeconomic policies) that set the broader context in which firms operate, microeconomic factors (business environment quality, clusters, and firm sophistication) that have a more direct impact on firm productivity, and endowments that affect how the macro- and microeconomic factors amendable to policy action translate into prosperity.

The Productivity-based View of Competitiveness

Dimensions of Competitiveness Fundamentals



This framework aims to be comprehensive and synthetic, providing policy makers with a basis to make data-driven decisions on where action is needed in a concrete situation. It captures an impact model in which given endowments and policy-driven competitiveness fundamentals operate in an economic climate shaped by external trends and drivers to be reflected in a specific pattern of economic activity and ultimately prosperity outcomes. This impact model is then used to assess current performance on outcomes that policy makers ultimately care about, primarily prosperity, and diagnose the factors that explain this performance. Based on this diagnostics policy makers can then make informed choices about priority actions on competitiveness fundamentals to enhance prosperity over time.

The remainder of this section will discuss specific elements of this framework, highlighting the more recent insights that have been gained into their role. We organize them into three blocks: factors that have long been recognized as potential important drivers of prosperity, factors that have more recently come into focus or have been significantly re-evaluated, and finally factors that are being discussed but remain very difficult to convincingly operationalize.

3.1 Traditional building blocks

Rules and regulation

The rules and regulation that government imposes on markets and companies have long been a natural focus of competitiveness analysis. They are very clearly the result of political choices and can be changed through political choices relatively quickly. Their role has again come into focus in discussions about structural reforms in the aftermath of the recent crisis (Thimann, 2015). In Europe the nature of many such rules and regulations is shaped in the interplay of different levels of government, including increasingly the European level. A large amount of national regulation in Europe is concerned with the transposition of European legislation into national law. While the legal requirements are identical across Europe, the way they are met tends to differ across EU member countries.

One aspect that has been looked at increasingly is the impact of government rules and regulations on the cost of doing business in a location. The critical challenge remains that many rules and regulations have economic 'compliance' costs but deliver towards other policy goals, for example safety, health, or environmental sustainability. The World Bank's Doing Business work has therefore tried to focus on the efficiency of the process, i.e. the number of process steps and the private costs of accessing a specific public service. This has created a stronger focus on how specific rules and regulations are implemented rather than discussion their objectives which often are a matter of political choice. How to make the trade-offs between the economic costs of a regulation and its benefits in terms of achieving other goals remains, of course, a highly political debate.

A more traditional focus has been to look at the impact of rules and regulations on the efficiency of markets. While this in the past often been done from the perspective of market power gained by specific companies, two related aspects have more recently come into focus: First, the link between rules and regulation and entrepreneurship or new business formation. This is an aspect that is implicit in the market power-view of regulations, but has now emerged as a more centrally debated factor than in the past where analysis concentrated more on the rivalry among established firms. Second, the link between rules and regulation and the dispersion of best practices across the total population of firms. Again, the role of effective competition in driving the adoption of better practices and weeding out poor performances is not conceptually new but has been identified as a more important factor in the debate.

The bottom-line is that rules and regulations remain a critical driver both for the overall productivity level an economy can reach, and for the level of costs that operating there incurs. Tracking the cost and nature of these legal conditions is an important tool to allow countries to make fact-based decisions on the rules and regulations they political decide to have, taking into account their impact on competitiveness as one important factor. An interesting example for a comprehensive analysis at the country-level is the recent study conducted by the World Bank on Sweden (World Bank, 2014). The study shows the promise of a thorough fact-driven, comparative analysis of rules and regulations. But it also indicates the challenges of achieving change in an area characterized by many, individually small policy choices for which it is hard to get political traction.

Financial markets

There is a rich literature on the importance of 'financial deepening' for economic development. Financial markets are critical to provide capital for major investments, enable smoother consumption paths, and allow risks to be shifted among individuals and organizations.

This benevolent view of financial markets has come under attack in response to the financial crisis, as some countries with financial sectors very large relative to the size of their economies experienced deep downturns. Ireland is, of course, a prime example for these dynamics. A sense that the insufficient or ineffective regulation of financial markets had been to blame for the crisis led to reform initiatives, from increasing equity/reserve requirements in banks to restrictions to the type of activities that could be conducted under one roof and measures to prepare for the bankruptcy of system-relevant banks.

During the recovery period following the crisis the focus shifted somewhat to a renewed recognition of the traditional roles of the financial system in providing capital to companies, in particular SMEs. Access to capital was identified as a potential reason for the sluggish recovery in Europe, although the debate about whether the slow-down in credit was more driven by reduced capital supply or demand remained inconclusive. Central Banks, including the ECB, strengthened efforts to capture regularly data on enterprises access to capital.⁴ Governments did in any case launch a range of efforts to encourage lending to SMEs, and lenient monetary policy led to low interest rates.

As a more structural feature of the access to capital debate there has been for some years a focus on the role of risk and venture capital as key drivers of entrepreneurship. Especially high-growth start-ups or 'gazelles' are seen in need for a different type of capital than the traditional credit products available. Repeatedly a 'valley of death' has been identified that threatens companies as they move from the immediate start-up phase to commercialisation and scale-up (e.g., Coutu, 2014). Governments have reacted with a range of policies to provide or encourage the provision of this type of capital, at least so far with a generally pretty disappointing track-record (Lerner, 2012).

Less prominent in the literature so far are two other aspects: First, the shift of many businesses from being production and physical asset-driven towards being service and knowledge-driven has implications for their ability to raise capital. Without traditional assets that can be put up as collateral their access to finance can be constrained. Second, there are signs in countries like the US and the UK that an increasing share of the workforce is economically active through sole proprietorships and other micro companies. These entities, also related to

⁴ See the semi-annual ECB Survey on the access to finance of enterprises (SAFE): <https://www.ecb.europa.eu/stats/money/surveys/sme/html/index.en.html>

what the popular press has sometimes called the 'gig economy', face significant barriers to access capital from the traditional financial service providers.

The bottom-line of these new discussions is that financial markets continue to play an important role for the overall level of productivity that an economy can achieve. While there is no 'one' blueprint to follow, there is an increasing understanding of the roles and functions that an effective financial system should play in this context. And whether or not the system in a particular country does address these needs is something that can be measured. Given the different types of financial systems and patterns of firm demography Ireland will need to develop a set of core indicators based on the existing data that can help track the effectiveness of its financial system given the requirements of its economy.

Physical infrastructure

The availability of an effective transportation infrastructure, in a broader perspective also of a robust communication infrastructure and access to efficient utility providers for electricity, water, and so on has long been noticed as an important influence on productivity and competitiveness. What has arguably changed is that while advanced economies often saw physical infrastructure as a basic requirement that they had well covered, there is now a more active discussion about the need to reinvest and upgrade infrastructure (ICP, 2015).

The discussion about infrastructure spending is highly intertwined with the discussion about fiscal policy. As countries tightened budgets to regain control of their fiscal position, infrastructure spending was one of the core areas of discretionary spending that came under focus. With many other spending blocks hard to tackle both legally and politically, infrastructure spending was arguably an easy target. Conversely, some countries in Europe had potentially also 'overspend' on infrastructure in response to the incentives given by EU structural fund programs, creating further demand to an already expanding construction industry. The consequence has been that infrastructure spending has had a tendency to be highly pro-cyclical rather than driven by other business cycle or structural objectives.

In the current environment there is thus a renewed interest in new, 'smarter' infrastructure policies that take advantage of the current low interest rate environment, address emerging weaknesses in the upkeep of physical infrastructure in advanced countries, and at the same time providing a moderate stimulus to the economy. There is also a clear sense – for example in the European Union's new regional policy - that where physical infrastructure investments are made they need to be embedded in a broader agenda to build effective business environments and 'innovation systems' to harness their economic potential.

Macroeconomic policies

With the deep macroeconomic crisis that Europe and many other parts of the global economy had to deal with in recent years it is not surprising that the nexus between macroeconomic policies and competitiveness has gained renewed attention. A core element of this debate has been the question of whether public debt has a negative impact on the potential growth of an economy. Emblematic of this debate has been the discussion about the potentially negative impact of debt levels about certain cut-off points on growth. New research findings in this direction received a lot of attention, but were then also strongly attacked as the result of mistakes (Reinhart/Rogoff, 2013). The ferocity of this debate was driven by the use of these findings as an argument for fiscal consolidation at the time of a deep macroeconomic slump. There was an (unfortunate) convolution of arguments about the right short-term business cycle policy with arguments about the right long-term structural policies.

The recent discussion about the link between macroeconomic policies and growth has not changed the underlying view in the literature, that while macroeconomic policies have a strong short term impact they affect longer term structural trends only in cases of relatively extreme imbalances, i.e. high inflation or fiscal policies that are persistently unsustainable. This does, of course, not make it irrelevant: the short terms costs of macroeconomic crisis are considerable and more than sufficient reason to be focused on low inflation and sustainable public finances. But such policies are not a sufficient tool to achieve high levels of competitiveness.

The Role of 'Deep Roots': Institutions and Geography

In the literature on development a core focus of the analysis has been the attempt to identify 'deep roots', i.e. long-term legacy factors that might explain why growth has not taken off in some countries. The two prime candidates in this discussion are institutions and geography.

The important role of institutions for prosperity has long been noted in economic research, even though the term itself has often been vaguely defined. Some have focused on the importance of the rule of law, others on the role of property rights whether or not anchored in the legal system. Recent work distinguishing inclusive versus extractive institutions (Acemoglu/ Robinson, 2012) has made an important contribution to understand the nature of different types of institutional structures. What type of institutions a country ends up with have in the development literature often been associated with the colonial history they have had. Others have focused more on the role of geographic factors (Sachs). Geographic conditions like climate (including the exposure to certain diseases), coastlines (access to trade routes), and the presence of specific natural resources have in this view had a deep underlying impact on the development path of economies. One of the channels through which geography has worked is the nature of colonial regime and thus subsequent institutional structures that emerged in response to the ability to exploit certain crops or natural resources or deal with the threat of specific diseases.

While these recent studies have made an important contribution to the understanding of development, their relevance to advanced economies like Ireland is less obvious. Even if Ireland as any other economy is affected by its historical legacy and 'deep roots', it is not obvious that this should in a major way shape the assessment of the country's competitiveness.

Scale: size of the economy

The scale of an economy has been discussed for some time as a potential influence on competitiveness. The WEF's Global Competitiveness Report, for example, includes country size as one of the indicators in its measurement of overall competitiveness.

The argument to include country size as a positive driver of competitiveness is that a large market in itself attracts foreign direct investment and provides companies with the potential to produce at larger scale, both factors that might influence productivity. But there are also potential reasons that country size might have costs: smaller countries might have the ability to take policy decisions more quickly and implement them in a more effective way. And while market size matters, globalization has increased the potential to serve foreign markets.

Systematic studies of the relationship between country size and economic growth have found no clear link. And from a conceptual point of view any potential benefits of country size on competitiveness should be reflected in other factors, for example the higher sophistication of firms. This does not imply that country size does not matter – small open economies like Ireland are subject to a specific set of challenges and opportunities. But there is no clear reason for why these conditions should change the way competitiveness should be measured.

3.2 New(er) issues (or new perspectives on traditional building blocks)

Firms: Company sophistication and firm heterogeneity

Companies are the ultimate 'location' at which prosperity is generated and productive activity occurs. Despite this central role of companies in the economy, they have been largely absent in the traditional discourse on competitiveness. Conceptually, economic models essentially were based on the assumption that companies instantly optimize given the economic incentives and broader context they are facing. If this is the case, including their performance in the competitiveness framework is not necessary; all relevant performance is endogenous in measures of the business environment. Practically, there was also no good way to measure the performance of companies across locations. There was neither a framework of relevant indicators nor the empirical data to track them.

This has changed in recent years, influenced in particular by a large-scale research effort by a group of researchers led by John van Reenen at LSE (Bloom/Van Reenen, 2010). They have devised a set of indicators that measures different aspects of operational performance, for example the use of modern management techniques, and deployed this in large-scale reviews of firms across different countries. Their data has shown that company sophistication as captured by these practices differs significantly across countries, and constitutes an important factor in understanding the overall ability of economies to reach higher levels of productivity and prosperity.⁵ These observations are in line with survey data in the Global Competitiveness Report on perceived company sophistication, but are based on significantly more robust and granular data. The data reveals, for example, that there are significant differences in performance across different types of firms, in particular among domestic and foreign-owned firms and by firm size. These results are in line with other work that indicates that firms active in foreign markets are stronger on many dimensions of performance than the average of all firms.

This new work emphasizes the need to incorporate measures of firm sophistication into a modern framework of competitiveness. It is important not only to more accurately capture the productivity potential of an economy; it is also critical to capture whether policy interventions into the business environment are successful in triggering the changes in company behaviour that are needed to have an ultimate impact on productivity and prosperity.

A related finding has been that the heterogeneity in firm performance differs significantly across locations, and is itself a contributor to cross-country variations in average productivity levels (OECD, 2015; Altomonte/Bekes, 2016). Even when top performers across countries reach similar levels of performance, the 'tail' of companies with lower performance tends to differ significantly in shape. This type of data is important to identify whether weaknesses in competitiveness relate to the overall context that drives all firms' productivity, or factors that affect the dispersion of high performance across all firms, and the market process that allows stronger firms to gain market share and attract more input factors while pushing lower performance firms out.

These additional considerations are potentially of significant importance to the Irish economy. In particular, existing research suggests that there is a large gap in productivity performance between foreign-owned and domestic companies in Ireland. Capturing this heterogeneity of performance and its trends over time should be an important contribution of a competitiveness assessment. For Ireland this will require dedicated new research efforts, based on an assessment of available raw data but potentially also including new primary data generation.

⁵ Another source of useful data is the Community Innovation Survey that collects data on firms' innovation activities. This data can provide further perspective on company behavior and competitive strategy. See <http://ec.europa.eu/eurostat/web/microdata/community-innovation-survey>

Economic geography: Urbanization and clusters

Over the last few years, new conceptual models and advances in the available data have provided new insights into the role of economic geography on productivity (Duranton/Kerr, 2015; Fujita et al., 2001). While the discussion about the way economic policy should incorporate these new insights remains unresolved, there is a broader view that an understanding of economic geography in a country can provide valuable additional insights in competitiveness diagnostics. Governments in different countries have thus strived to make relevant data more easily available; the European Commission provides a cluster portal with comparable data for all EU member countries.⁶

The New Economic Geography literature has provided powerful theoretical models to consider the impact of local spill-overs and linkages as well as trade costs between locations on the efficient distribution of economic activity across space. It has also identified the potential for 'multiple equilibria', i.e. the market process leading to different outcomes (with potentially different levels of performance) depending on initial conditions or chance events. Many of these models capture 'economy-wide' linkages (or technically more correct linkages connecting all industries subject to local externalities), which drives economic activity to concentrate in specific places. These 'hub-and-spoke' outcomes emphasize the role of urbanization and cities, and provides the conceptual underpinning for a broad range of more applied work that studies the particular productivity advantages that metropolitan areas provide (Glaeser, 2011; Storper, 2013).

The cluster literature is based on the observation that groups of related industries tend to concentrate in specific locations, emerging in a market process where these agglomerations provide companies with productivity benefits relative to other locations. In contrast to the New Economic Geography/Urbanization models clusters are driven by linkages and spill-overs that connect only a distinct set of industries, not the entire economy. This drives regions to specialize in distinct sets of clusters, but does not lead to overall concentration of economic activity. Over the last three decades the analysis of this empirical phenomenon has moved through three stages: First were case studies that capture the complex dynamics in specific clusters. These were second followed by quantitative studies that aimed to measure the specific channels through which the local linkages and spill-overs at the heart of cluster benefits operate, often in particular categories of clusters or industries. The third stage were then quantitative studies that systematically profiled the economic importance of clusters across regions (so called 'cluster mapping'), and related their presence systematically to different types of outcome indicators, including productivity.

Empirically both types of dynamics can be observed: The trend towards greater urbanization is visible both globally and in many individual countries. There is also clear evidence of higher productivity levels in urban areas. In many countries, there is also an increasing level of productivity differences between regions but these patterns are not uniform. Clusters also clearly remain an important aspect of modern economies; while their share of employment is not growing, the productivity gap between industries that cluster (i.e. are subject to local spill-overs) and those that are not is increasing. Differences in the presence of strong clusters are significantly related to performance differences across locations, including on measures like productivity, innovation, and new business formation (for European evidence see Ketels/Protsiv, 2013; for the international literature see Ketels, 2013). And the performance in the industries in which a location is specialized, i.e. exhibits the presence of clusters, is seen as more important for overall performance than the specific patterns of industries in which the location specializes.

⁶ http://ec.europa.eu/growth/smes/cluster/index_en.htm

Related to both sets of arguments are concepts like innovation systems and entrepreneurial ecosystems (Asheim/Gertler, 2004). They also emphasize the importance of linkages between actors and activities, with a stronger focus on how particular aspects of the business environment broadly understood affect these linkages and the type of outcomes they can generate. Conceptually they often take a more 'horizontal' approach, not focusing on whether these 'systems' are specific to any clusters or operate across the entire economy. Empirically, they tend to be focused on a subset of often science- or technology-intensive fields. Both of these approaches have generated interesting sets of policy recommendations. Their applicability as part of a diagnostic competitiveness framework, however, is somewhat more questionable: many of the studies in this field are highly case-based, and don't lend themselves to systematic tracking and comparison using key indicators.

Overall, there is sufficient evidence to argue that a competitiveness assessment for a country should also provide data on the existing patterns of economic geography and cluster presence. This data can both be useful as a diagnostic, i.e. what do these trends tell us about underlying features of competitiveness, and as an entry point for policy action, i.e. what locations and clusters might warrant particular attention. For Ireland as an economy with a dominant capital region and a clear pattern of cluster-like specialization in specific industries these issues are arguably important.⁷

Economic composition: 'Economic Complexity' and more

Related to the previous set of issues that is related to where economic activities are taking place, there is another discussion on the importance of what type of economic activities take place in a given country. This is in itself not a new discussion: in the 1980s models of 'strategic trade/industrial policy' argued that industries with high economies of scale provided particular advantages and would through their particular characteristics benefit from government interventions to create critical mass. Whether such policies could indeed work was, however, widely questioned, and the empirical track record of these policies was generally considered as negative.

Despite this experience, policy practice continued to try and target sectors that were generally considered to be 'growth sectors' or 'high value', for example, IT, biotech, and advanced services like finance (Muro et al., 2015). This practice received a new twist in the aftermath of the recent crisis: while manufacturing had for some time been seen as unattractive and a legacy of the 'old economy', it turned out those countries with strong manufacturing sectors had weathered the crisis much better than others without it. Manufacturing was 'rediscovered' as a key source of learning and a necessary anchor for many advanced services. As a result, the European Commission designed a manufacturing strategy and even set a target for the desirable share of manufacturing in overall GDP. Compared to the earlier strategic industrial policies, however, the policies now advocated focus much more on business environment improvements, often of a general nature, rather than interventions into the market process.

In parallel to these trends in the policy-oriented debate there have also been significant new advances in economic research. The starting point was the observation that advanced economies export other products than emerging and developing economies; economic development, then, is intrinsically connected with a process of structural change. This has led to strategies focused on structural transformation that aim to project the necessary and likely path of structural change and deploy specific policies to support and accelerate this process (Lin, 2011).

⁷ A research group at the University College Cork is currently working on more granular cluster data for Ireland than is available through the EU cluster portal.

A more complete conceptual framework that develops this idea further was then proposed in the work on economic complexity (Hausman et al, 2012): it argues that each product a country offers and exports represents an underlying set of capabilities. Products that are offered by advanced economies require a complex set of capabilities, and generate higher levels of economic value. Individual capabilities are useful in a range of products; some only in a few while others have much broader applications. Based on these observations the argument is made that countries should systematically try to extend their current patterns of specialization in the direction of more advanced products that draw on a wider set of capabilities, in particular capabilities that have broad applications. Compared to earlier policies focused on gaining a foothold in 'strategic' sectors, here a more evolutionary approach is advocated: countries should gradually move through a process of related diversification where they move into new sectors that are closer to the target sectors but are also related to their current specialization patterns, i.e. draw on some capabilities the country already possesses. And more value is put towards increasing diversification in the overall set of economic activities: the more products a country offers successfully on markets, the more capabilities it has.

The debate about the policy implications of these ideas remains in full swing: the empirical evidence is clear that prosperity is indeed related to the presence of specific sectors and a higher level of diversification. The question is, however, whether these patterns are a driver and causal sources of prosperity and productivity differences, or should rather be understood as the symptoms of other, more fundamental improvements in competitiveness. There is some evidence that points into the latter direction. And even when the point is accepted that diversification should be actively supported by government action, there is a little specificity in the existing literature on which type of interventions would avoid the failures of traditional industrial policy.

Overall, there is sufficient evidence that the overall pattern of industrial composition matters, either as a direct driver of competitiveness or as an important practical guides to focus policy measures on parts of the economy that matter most for aggregate outcomes. At this level the data needed overlaps to a very large degree with the data on cluster presence. The more difficult question is to agree upon policy conclusions to draw from this data. And understanding of the conceptual arguments and empirical evidence presented here might at least be helpful to bring more transparency to that debate.

(Creative) skills and locational attractiveness

Human skills have long been understood to be a critical driver of productivity; they are a central element in most frameworks of competitiveness. Empirical analyses also continue to reveal that the level of human skills available in a location is one of the most powerful single indicators of its level of prosperity.

A new aspect that has been introduced in the debate is the notion of 'creativity', describing skills that enable the 'creative' application of knowledge to new situations or the creative of new content or ideas (Florida, 2002). These types of activities, it has been argued, are increasing in value relative to standardized technical skills that enable a repetition of a known set of activities. The empirical evidence on these claims is mixed. Academic research that supports the importance of creative skills tends to apply a wide definition of creativity, where traditional skill groups quantitatively dominate by far new groups related to artistic and cultural skills. Studies that have controlled for these factors find very little if any additional impact of the presence of these new groups of creative skills on economic performance. Creative industries, i.e. sectors that draw particularly on these types of skills, are a growing but still modest part of overall economies. A more fruitful approach might be to see creativity as something that applies to many existing industries and helps to better understand those activities and approaches that seem to be able to capture and increasing share of overall value creation.

Related to the argument about creative skills has been the hypothesis that the way these 'creative' people choose where to live has changed. Traditional models, including those discussed in the section on the New Economic Geography, see employees essentially migrating to where the jobs are. The literature on creative skills and locations argues that this has changed: creative people decided where they want to live based on the quality of life they can expect at a location. Jobs for these people than migrate to where this creative labour force is to be found. In addition, this literature argues that creativity is spurred by the diversity of people in a location. Locations thus need to not only offer pleasant living conditions but specifically be open to individuals from diverse backgrounds. They should also think about creating local environments that encourage creativity (sometimes this is called 'place making'). The empirical evidence on these arguments is inconclusive. It seems plausible that the way well-skilled employees decide upon where to live could have changed in the direction outlined; hard evidence, however, is limited. Whether the specific policies advocated do work not only for the groups they target but also encourage broader prosperity is questionable – some of the people with the highest level of creative people are either not very prosperous or struggling to integrate different groups.

Overall, the large and in a knowledge-economy growing importance of human skills makes them a critical element for any effective competitiveness framework. The measures to be applied for capturing skills need to evolve in line with the needs of the economy, and here the creativity approach offers interesting ideas. It is also the case that the attractiveness to skill individuals is a key competitive tool for locations; understanding a country's or regions position in this way is useful. But the recognition of the earlier studies on competitiveness that put the value of skills into the context of many other factors still applies. And the specific policies advocated to enhance the attractiveness of a location to skilled individuals should be viewed with some reservation.

Competitiveness at different levels of geography

The discussion so far has focused on what type of factors might influence the level of productivity and prosperity in a location, and might thus be candidates for an inclusion in a competitiveness framework. It has been unspecific about the level of geography at which this analysis should be applied. While the Irish NCC has a clear mandate to look at the nation, it is useful to reflect on the insights that have been gained from research on this question.

As was discussed earlier, the competitiveness debate was initially focused on the national level. Conceptually this was probably in part driven by its relationship to thinking about international trade. Empirically, however, there were also good reasons to focus on this level: Nations are often the appropriate level of geography at which to understand markets and market structure, they are the level of at which – depending on the constitutional model – all or the majority of all legislation is set, and they are the level of government that controls most funds, especially in areas that are discretionary and focused on economic development.

Over the last few years, however, competitiveness research has increasingly looked at other levels of geography as well: The main area of interest have been subnational regions, but especially in Europe there is also some focus on so-called macro-regions of neighbouring countries. Much of the interest in (subnational) regions is driven by the observations that productivity levels differ significantly within countries, despite their exposure to the same legal and macroeconomic context. Some aspects of competitiveness thus likely have to differ at this level of geography to explain these outcomes.⁸ And indeed many of the factors that are argued to influence competitiveness have a distinctive geographic nature, like the presence of clusters, the attractiveness of a location, and the access to advanced skills and innovation systems.

⁸ The New Economic Geography models offer an alternative explanation where even identical levels of underlying competitiveness can result in different levels of agglomeration and thus performance.

Overall, the academic and policy debate in this field over the last few years suggests that even for a competitiveness framework that aims to fulfil a national mandate it might be useful to not be 'blind' about differences across regions within the country. Given the dominance of the Dublin region in Ireland it seems appropriate to both track ultimate performance across Irish regions, i.e. is their divergence/convergence in outcomes and growing/falling concentration in economic activity in a few places, and some core competitiveness fundamentals, i.e. skills, cluster presence, and potentially company sophistication, across regions. This would help inform the policy debate, including providing some initial hints as to whether the differences in performance across Irish regions reflect differences in underlying competitiveness or the agglomeration/dispersion dynamics of economic geography. It would also be useful to have on the basis of this data a dialogue with other government agencies like IDA Ireland that have been asked to set regional targets for their activities.

3.3 Complex factors

While the previous two sections discussed factors that are both relatively well conceptualized and could provide an angle for policy to act, the review now turns to a set of factors that are more complex from a policy perspective. They are arguably important for competitiveness, but whether and how they are shaped by policy is less well understood.

Individuals: Culture and trust

Individual behaviour and interactions between individuals are a core aspect of economic activity, and ultimately have a strong impact on the level of productivity and prosperity a location can reach. There is a long history that has argued that culture broadly defined is one important influence on these dynamics, with Max Weber one of the early contributors in his work linking the value systems of different religions to economic success. Specific arguments have been made as to whether different cultures are more prone to support risk taking, entrepreneurship, and other types of behaviour that drive long term prosperity. Cultures might also differ in the value that they put on economic prosperity overall, or on specific value capabilities like education. A key feature of attitudes is the level of trust that exists within a society; higher trust countries tend to perform significantly better economically.

While these factors clearly matter, there is no consensus on their relative importance compared to 'harder' aspects of underlying competitiveness. There is also no clear understanding of how these values and attitudes might change or take a different meaning over time. Weber's work, for example, focused on the negative impact of Catholicism on economic performance while the regions with the highest share of Catholics are now the most prosperous in Germany.

Institutions: Quality and capacity

Institutions, both in government and in the private sector, are an important influence on competitiveness. Their quality and their capacity in implementing policies or management techniques arguably are of high importance for the quality of business environments and the sophistication of companies that can be observed; some have even argued economic development should at its core be understood as increasing institutional capacity (Feldman, 2013). But there is still very little robust knowledge on what type of institutional features help deliver the type of outcomes that support competitiveness. While function, i.e. the policy outcomes to be achieved, are relatively well understood, form, i.e. the specific nature of institutional arrangements that can make this happen, are much less clear and might indeed differ significantly depending on the local context.

Given the absence of a clear and operationalized understanding of what 'good' institutions look like, it is questionable whether institutional quality should be made a core part of the competitiveness framework beyond some relatively basic aspects. For advanced economies like Ireland, these basic conditions are very likely to be fulfilled. However, it might make sense to look at the institutional set-up at some point in a more qualitative way, i.e. whether Ireland is well organized to pursue competitiveness upgrading.

Social capital and linkages

Individuals and institutions interact and it is this ability to interact effectively and efficiently that is seen to be positively associated with higher levels of economic performance (Nielsen, 2000; Bronisz/Heijman, 2009). Measures of social capital have been designed to capture this quality of a location. They tend to be significantly associated with economic performance, but the indicators used are often dominated by relatively traditional indicators of human capital presence (Rodriguez-Pose/Storper, 2006). Concepts like innovation systems and entrepreneurial ecosystems, discussed already above, look at the strengths of linkages as social connections. The literature on industrial districts had earlier focused on the social embeddedness of clusters (Becattini, 1990). And much of the empirical analysis of clusters has focused on establishing the role of specific linkages, whether input-output relations, knowledge spill-overs, social networks, or other.

While these frameworks provide useful guidance for individual in-depth studies, it is hard to see how they can in their current form be effectively integrated into a policy-oriented assessment of competitiveness.

3.4 Implications

This section has reviewed a range of traditional and new factors that have in the last few years been the focus of the competitiveness literature. The discussion of these factors has underlined the complexity of competitiveness – while different parts of the literature have focused on individual drivers, there is an underlying sense that many factors matter for competitiveness and should thus be included in an overall assessment. How do the factors discussed then relate to the framework outlined at the outset of this section, i.e. the diagnostics with three levels of data and the competitiveness framework to drill deeper into the fundamentals policy should focus on as levers for action? All of the traditional factors discussed first can easily be placed into the competitiveness framework presented:

- *Rules and regulations* are largely related to the context for strategy and rivalry; some are also a reflection of administrative capacity, a dimension of factor input conditions.
- *Financial markets* are a factor input condition
- *Physical infrastructure* is a factor input condition
- *Macroeconomic policies* are captured in the category of the same name
- *Institutions and geography* are partly reflected in social and political infrastructure and otherwise captured by endowments
- *Size* is not included because its impact on productivity is unclear and likely reflected in other fundamentals; conceptually it would otherwise be part of endowments

Among the new factors discussed most can also be captured by the competitiveness framework but some are better thought off as diagnostic indicators:

- *Management quality* in firms helps inform the measures of company sophistication
- The *distribution of firm productivity* is likely driven by other factors, especially the context for strategy and rivalry, and should thus be used as an 'intermediate indicator' in the three-level diagnostics
- *Cluster presence* fits into the cluster section of the competitiveness framework; the degree of *urbanization* is relatively set in the short- to medium-term and thus best viewed as an endowment
- The *industrial composition* of an economy is an important intermediate indicator
- *Skills*, whether creative or otherwise, are a key factor input condition; the *attractiveness of a location* will be reflected in the existing skill base and has no independent other influence on productivity levels
- *Regional differences* in outcomes and competitiveness fundamentals are another set of diagnostic tools to understand the patterns of competitiveness fundamentals at a more granular level; they are not a separate driver of competitiveness

4. How to measure competitiveness?

The previous two sections have identified a number of dimensions that a measurement of competitiveness should potentially cover:

- *Outcome indicators* that capture the final objectives of policy
- *Intermediate indicators* that provide insights into competitiveness, and track how underlying competitiveness drives outcomes
- *Fundamental factors* of competitiveness that structurally drive outcomes and are core levers for policy interventions that can have a sustainable impact
- *Control indicators* that capture potential imbalances that have the potential to create high short-term costs even if they don't drive outcomes in the long run

For each of these categories a practical measurement framework has to identify indicators that are both available in acceptable quality and time, and that capture the underlying issue that is conceptually of interest in a satisfactory way. Both of these qualities are in practice a challenge: the available data from public statistics captures only a subset of the issues that are conceptually of interest, and often comes with a significant time lag. Alternative sources of data, like surveys, are costly and there are often concerns about their reliability.

Practical challenges are then related to the way specific data should be interpreted: Economic performance metrics, especially on intermediate indicators but also on prosperity and productivity, are subject both to long-term competitiveness and to short-term cyclical forces. A robust competitiveness analysis should focus on the prior but empirically separating the two is bound with difficulties. Also, for many indicators of fundamental competitiveness the interpretation of absolute values is hard. It requires a benchmark in terms of changes over time and more importantly peer or rival locations.

The research on competitiveness also reveals a number of additional challenges that are related to the nature of how different factors influence the potential productivity of an economy. Three issues in particular make an aggregate assessment of overall competitiveness difficult:

First, there is a clear view in the literature that the value of individual qualities in terms of underlying competitiveness depends on the specific context in a location, in particular the performance the location reaches in other competitiveness drivers. Competitiveness drivers systemically interact; the value of having a skilled workforce, for example, depends on factors like the availability of technology but also the openness of markets where the products these employees produce can be sold profitably. Improvements in competitiveness might thus depend on whether they relieve a 'bottleneck' in a specific context (Hausmann et al., 2005).

Second, a related view is that the value of specific competitiveness drivers depends on a location's overall stage of economic development and at a more narrow level the strategic positioning of the location in the markets in the global economy. The idea of countries' requiring different qualities as they reach higher levels of economic development is not new; it is also discussed in Porter's *Competitiveness Advantage of Nations* (Porter, 1990). The view that there are not only these generic patterns but that locations can also choose more specific strategic positions within these overall categories is more recent (Valdaliso/Wilson, 2015). It has gained traction in Europe as especially subnational regions have been asked to develop 'strategies'.

Third, the discussion of individual factors that shape fundamental competitiveness has already indicated that their role in competitiveness outcomes but also the process to change them through policy action differs significantly:

- *Macroeconomic policies* have a high short-term impact on economic outcome but their long-term impact on prosperity levels is limited. Government has powerful tools to set these policies
- *Social infrastructure and political institutions* change generally only slowly over time, but then have an important impact on long-term prosperity levels. Government has influence on these factors but the process is complex, involves others, and is generally not well understood
- *Microeconomic competitiveness* includes a range of factors with different properties: some are controlled by government and can be changed quickly, while others are the outcome of more long-term process involving many actors and decision makers. Individual policy changes in a narrow field tend to have limited impact but become critical as part of broader reform packages.

Overall, these observations imply that a measure of competitiveness based on a simple aggregation of individual qualities can be highly misleading. Still, the detailed interactions between competitiveness factors are too complex and not always well enough understood to capture them in a model that would represent the underlying system dynamics. The remainder of this section reviews how these challenges have been addressed in practical applications, differentiating between cross-country rankings and country-specific analyses.

4.1 Competitiveness Rankings

Competitiveness rankings assemble data across a range of locations to compare their performance. They are often generated by international institutions or non-government organizations with a global perspective.

Rankings are often criticized by academic researchers (E.g., Lall, 2001): One challenge is that they emphasize a zero-sum nature of competitiveness; one country's improvement is another country's loss. As was discussed earlier in this report, this neglects the important benefits of another country's productivity on prosperity for all that international trade economics have clearly revealed. Another, more technical issue is the aggregation of individual indicators into a single synthetic indicator (OECD, 2008). The weights and specific functions for this aggregation are often viewed to stand on weak methodological foundations. There is also the mapping of an essentially continuous variable, i.e. competitiveness or 'underlying productivity potential' into a discrete variable that imposes similar distances between ranks. This can be highly misleading, creating discussion about rank changes among countries of similar competitiveness that have no meaningful implication while understating the large gaps between countries at different stages of competitiveness upgrading.

Rankings are, however, very powerful tools for communication and driving policy action. Rankings map the complexity of many factors interacting in many ways into a simple indicator that can be easily understood. A number of countries have set goals in terms of improvements in specific rankings, and defined reform strategies to achieve them. Sometimes the specific policy changes driven by these strategies are questionable – they target changes in the specific indicators measured rather than recognizing their role as indicators of broader underlying factors. But it is still important not to understate the positive policy dynamics such rankings can at least potentially trigger.

Comprehensive competitiveness rankings

Some of the most prominent competitiveness rankings globally have the ambition to provide a comprehensive assessment of overall competitiveness for a large number of countries. This exposes them to the full range of challenges related to data generation and aggregation outlined above.

The World Economic Forum's *Global Competitiveness Report* (GCR) uses a mix of hard data and country-level surveys conducted by national partner organizations as the basis of its ranking (WEF, 2015). It organizes the data on individual indicators through a competitiveness framework that is close to the one outlined earlier in this report. It explicitly aims to capture the underlying drivers of productivity differences but also mentions an ambition to help reveal drivers of growth. The aggregation of data into country level scores and then an overall ranking is done through a weighting system informed by experts' view of the relevant research. Different sets of weights are used across three different stages of economic development (and transitions between them).

The IMD's *World Competitiveness Yearbook* (WCY) uses a similar operational approach (IMD, 2015). The most important difference is that while the GCR focuses exclusively on what we have in this report called fundamental competitiveness drives the WCY includes a mix of both outcomes and drivers in its analysis. The weighting system used to aggregate these different factors has been frequently adjusted; there is no transparent connection between the academic research in this field and the organizing structure that the WCY uses to measure overall competitiveness.

Finally, the *IPS Competitiveness Report* (IPSR), a globally less well-known ranking from Korea, is again anchored in a framework similar to the one used in this report and uses a similar approach to generate data, using the network of Korean embassies around the world (Cho/Moon, 2008; Cho/Moon, 2011). It has, however, extended the scope of indicators to capture more of the 'complex' factors related to individual and institutional capacity. It also analyses the data more within the context of specific 'peer groups' of countries with similar profiles.

All of these studies use an 'additive' approach towards measuring competitiveness, summing up the performance across individual indicators into one overall measure. This has the advantage of transparency. But they miss the systemic interactions among them, for example by imposing rules that count negative outliers in some indicators more highly if they undercut the benefits of strengths in other areas. A particular issue with the WCY is the mixing of outcomes and fundamental drivers. Because there is a lot of correlation among them, their aggregation does lead to rankings that are not dramatically different from ones that are based on fundamental drivers alone. The conceptual validity of this approach is, however, questionable.

Issue-specific competitiveness rankings

Alongside the comprehensive rankings a range of rankings with a more narrow scope have emerged. This focus on individual aspects of underlying competitiveness relieves some of the concerns about the aggregation of indicators – trying to capture only one, there is less of an issue with systemic interaction among them. Where aggregation is necessary, traditional techniques from simple summation to more complex identification of principal factors are arguably sufficient.

The most widely known ranking of this type is the World Bank's *Doing Business* ranking, focusing on the rules and regulations that affect the costs of operating across countries. Data is generated through a network of experts that analyze the legal requirements that exist in individual countries. The data covers a range of policy fields where government rules and regulations impose costs on businesses. Data is normalized by calculating a 'distance

to the global frontier' measure, and then aggregated with equal weights given to each of the ten policy fields. While the Doing Business report has become the most popular knowledge product of the World Bank, it has also met with significant criticism. One issue has been related to the communication of what this work aims to explain: it is not meant to be capturing overall competitiveness, and should thus not be expected to explain country-level prosperity differences as a stand-alone measure (Besley, 2015). Both in the external perception but also in the Bank's own communication this nuance has sometimes been lost. Another issue is related to the validity of the indicators – while the data used captures the rules and regulations legally in force, their actual implementation varies significantly across countries (Hallward-Driemeier/Pritchett, 2015). And there is at least for some of the indicators used, like tax rates and labour market regulations, significant disagreement of whether or not the policies covered should be viewed as costs.

Other examples of issue-specific country rankings include World Bank products like the Logistics Performance Index⁹ and the Worldwide Governance Indicators¹⁰ as well as several rankings by the OECD, for example on product market regulation (Koske et al., 2015), innovation, and education, and the EU, for example on innovation performance (EU, 2015). Some of the data used is generated specifically for these rankings, often using surveys of experts. Other data is drawn from publicly available statistics. There are also rankings like Transparency International's Corruption Perception Index¹¹ and the Heritage Foundation's Index of Economic Freedom¹² that cover specific issues, often by analyzing data collected from other sources.

4.2 Country -specific reviews

The ultimate objective of competitiveness assessments in policy practice is the development of recommendations for government action. Competitiveness rankings are an important input into this process but do by themselves not generate the specific conclusions policy makers are looking for. Country-specific competitiveness reviews aim to fill this gap, drawing on a wide range of existing data for the location in question but also often in comparison to other locations.

One of the key challenges country-specific competitiveness reviews face is the identification of action priorities. It is relatively straightforward to compare a county's performance on a specific policy area with its peers and make recommendations for improvement. But the resulting comprehensive lists of action ideas for all policy areas systematically overload the ability of governments to implement action, leading to paralysis instead. This is what country-specific analyses try to overcome.

Application of general frameworks for specific countries

A range of international organizations provide country-specific assessments that cover issues related to competitiveness. The purpose of these assessments is in some cases directly related to the activities of these organizations, helping to guide them and supporting the evaluation of their effectiveness. In other cases the assessment are provided as part of technical support that the organizations provide to their member countries.

Probably the most established is the IMF's regular review under Article IV Executive Board Consultation process. This is supplemented by more specific reviews in the case of existing programs, for example in Ireland currently in

⁹ <http://lpi.worldbank.org/>

¹⁰ <http://info.worldbank.org/governance/wgi/index.aspx#home>

¹¹ <http://www.transparency.org/cpi2014>

¹² <http://www.heritage.org/index/>

the context of the post-program monitoring (See IMF, 2015 for a recent application to Ireland).¹³ The focus of these reviews is heavily biased towards macroeconomic sustainability, reflecting the mission of the IMF. So called 'structural' issues related to productivity are also sometimes discussed, but generally only in their role in helping to support sustainability.

The European Union undertakes regular country reviews as part of the so-called European Semester process,¹⁴ a step of activities in the implementation of the Europe 2020 agenda. The reviews are based on integrated guidelines that set out target policies in a range of areas against which the country-specific performance is compared. The focus of the review has tended to be on factors influencing macroeconomic sustainability rather than productivity (Ketels, 2015), reflecting the recent macroeconomic challenges in Europe.

More focused towards microeconomic aspects of competitiveness are the OECD's country-specific recommendations in the 'Going for Growth' initiative (see OECD, 2015 for the Ireland-specific report).¹⁵ Drawing on its own set of cross-country rankings, some of which were mentioned in the previous section, the OECD draws up action priorities for which progress is then reviewed over time. While the policy scope is in principle quite large, the focus here is on the functioning of product and labour markets.

A final example of country-specific assessments as part of a process covering many countries is the World Bank's new Systematic Country Diagnostics, a key step in the Bank's activities to design country-specific partnership agreements and action programs.¹⁶ The scope of policy areas under review is large, driven by the Bank's dual goal of ending extreme poverty and promoting shared prosperity.

Tailor-made studies for specific countries

A number of countries have produced specific competitiveness reviews to support the design of policies. The appendix provides a more detailed look at Singapore and Denmark. Specific national competitiveness reports have also been written for countries like Estonia (Meriküll et al., 2014), Latvia (Cunška et al., 2013), and Sweden (Regeringskansliet, 2015; World Bank, 2015). The Irish NCCs annual report also falls into this category. Attempts have been made to derive some general learnings about what such reports should look like (WEF, 2014).

These reports differ significantly in their scope and level of ambition. Some provide not much more than a summary of rankings for a specific country from the international reports available. Others add significantly more analysis of country-specific data. Another difference is the degree to which these studies are integrated into the policy design process. The range goes from reports that are produced as general inputs to the debate to specific annual reviews of dedicated entities like the NCC to competitiveness reviews that have been specifically requested in the context of a particular effort to design an economic strategy.

The case studies included in the appendix also show that the studies are strongly driven by the specific mandate defined for the review or the organization that is undertaking it. Some are more biased towards looking at costs or productivity implications of the functioning of markets while others focus more on the availability of specific factor inputs.

¹³ <http://www.imf.org/external/np/ms/2015/111315.htm>

¹⁴ http://ec.europa.eu/europe2020/making-it-happen/index_en.htm

¹⁵ <http://www.oecd.org/eco/growth/goingforgrowth.htm>

¹⁶ <http://www.worldbank.org/en/projects-operations/country-strategies#3>

What most of these studies share, is that they do not tend to spend much time on outlining a specific conceptual framework or a definition of competitiveness. Their approach is usually highly pragmatic, taking up issues in response to the perceived core challenges a country is facing.

4.3 Implications

The significant number of country rankings and country-specific reviews of competitiveness are an indication of a broader shift towards more evidence-based policy making (Davies, 2012). While practice does not always match the rhetoric, there seems to be a general recognition that policy advice needs to be informed by data on the specific situation a country is facing rather than just applying generic recipes (Rodrik, 2007).

A key challenge that all of the studies discussed face is how to translate information about specific strengths and weaknesses across the many factors that drive competitiveness into action recommendations. Most of the time this is an idiosyncratic, expert-driven process, where individuals develop their recommendations based on the specific data of the case and their experience with similar patterns they have observed in the past. A closer look reveals two underlying approaches:

- *Addressing weaknesses.* Many studies identify areas in which a country lacks the most given its overall level of competitiveness, hoping that these are the areas where changes will unlock the highest returns. A specific approach to do so was proposed in the growth diagnostics-framework (Hausmann et al., 2007) where root-cause logic is applied to identify the most likely causes of relative underperformance in specific intermediate outcome indicators. Conceptually this is an attractive approach to identify specific bottlenecks to higher performance. Empirically, however, it faces significant challenges: many potential bottlenecks tend to act in systemic ways, making it hard to pinpoint one. And where there is only one clearly identifiable bottleneck towards higher economic performance, it tends to be well known and the result of political economy constraints that make addressing it difficult.
- *Developing competitive advantages.* An alternative approach motivated by research on company strategy suggests instead developing a specific set of unique strengths while working on weaknesses only as far necessary to neutralize their negative impact on the location's value proposition (Ketels, 2015). This, too, has conceptual appeal but is intellectually challenging. Few locations have the capabilities to design strategies this way, and the general level of experience with such approaches is still limited. Where countries have benefited from a successful positioning around key competitive advantages, this has been often the outcome of an implicit and endogenous process rather than the result of a fact-driven analysis. Ireland is arguably an example for such a model, with an economy that offered attractive conditions for the largely US-based multinational companies that have been at the heart of the country's growth model.

Apart from the content-related difficulties of translating data on national competitiveness into policy advice, the case examples in the appendix also reveal process challenges. The question is where the line should be drawn between data analysis and the development of policy-related recommendations. On the one hand, pure analysis that does not make the step towards identifying priority issues leaves policy makers with little actionable insights. On the other hand, policy recommendations that are not derived in a process that intimately involves the key stakeholders and decision makers hardly ever lead to action.

5. Implications for the Irish NCC

5.1 Evaluation of the Irish NCC competitiveness framework

The discussion of recent research on competitiveness in this report with the framework currently applied by the Irish National Competitiveness Council largely confirms the robustness of the existing NCC practice:

- The approach is clearly anchored in the productivity-based view of competitiveness, which is appropriate given the focus on sustainable growth as the core policy objective. But it also explicitly mentions the key role of costs, which is appropriate given the country's positioning as a base for multinational companies serving the European market.
- Relevant intermediate indicators are captured as 'essential conditions'. Some of them are direct measures of competitiveness, like productivity. Others capture more necessary conditions that do themselves not generate prosperity but are critical for the country's economic balance, like costs.
- Fundamental drivers of competitiveness are captured as 'policy inputs', highlighting their critical role as key levers that policy action should target in order to achieve sustainable improvements in the country's level of prosperity.

While the general assessment of the competitiveness framework currently applied is thus quite positive, there are also a range of weaknesses that the NCC might want to consider:

- Lack of clarity on the relationship between individual elements of the framework
 - In particular, while both living standards and firm profitability are mentioned as key objectives, their relationship in the competitiveness framework is not made clear. This opens the door for recurring political debates about the relative primacy of one of them, for which the framework as currently presented does not offer a resolution.
 - It also applies to the essential conditions, where the different indicators included have conceptually heterogeneous roles as either core objectives (productivity), necessary conditions (costs, business performance), or arguably fundamental competitiveness drivers (labour supply)
- Lack of comprehensive coverage of relevant indicators
 - The policy inputs as currently framed provide a relatively narrow focus on different elements of the business environment (what is currently called 'business environment' captures key aspects of the context for strategy and rivalry as well as input factor conditions influencing cost levels). Other elements that are important for many countries including Ireland, in particular on firm sophistication and cluster presence, are missing.
 - Among intermediate indicators, called 'essential conditions' in the current framework, there is no use of more in-depth analysis of heterogeneity across firms and subnational regions. Both of these issues are likely to be relevant for Ireland where performance differences across these dimensions seem to be high relative to other locations.

- The macroeconomic crisis that Ireland as other European countries recently experienced revealed the current 'blind eye' on issues related to macroeconomic stability. Given their importance but also their key role in the European policy process, their absence in the Irish NCC's competitiveness framework is a weakness that limits the relevance of the NCC reporting to policy practice.
- Lack of clarity on reference points to interpret data collected
 - The current framework mentions the comparison of Ireland to peer countries. This is a useful approach but could be strengthened. A clear identification of the 'competitive set' of countries that are structurally similar or are competing in similar ways would send important signals to policy makers, forcing them to address the inherent decisions about strategic positioning that this requires.
 - Many core indicators in the competitiveness framework, in particular on overall prosperity but especially the intermediate indicators in the 'essential conditions'-category are highly influenced by short-term variations in the business climate. An attempt to disentangle at least to some degree these short-term fluctuations from longer-term structural trends would be useful for an effective policy dialogue and strengthen communication.

Most of these challenges are not specific weaknesses of the NCC model but affect many similar approaches as well. Ireland has an opportunity to set a new standard if it finds solutions to address them in a pragmatic way.

5.2 Recommendations for evolving the Irish NCC's model

Based on the review of the academic and applied work on competitiveness we propose six concrete ideas to further develop the NCC competitiveness framework:

1. *Competitiveness traffic light-system*

Productivity is the ultimate performance indicator that is relevant for the level of prosperity Ireland can sustain. But while Ireland should seek maximizing productivity, it also needs to keep an eye on firm profitability and macroeconomic sustainability. Firm profitability is a key necessary condition given the country's focus on multinational companies. The importance of macroeconomic sustainability has been emphasized during the recent crisis.

A competitiveness traffic light system could systematically track whether the country is in danger of facing challenges in terms of firm profitability and macroeconomic sustainability. Such an approach would include these aspects into the analysis but highlight their conceptually different role from productivity as an ultimate objective. The indicators to be used should be relatively simple, broad based data points that could trigger further study if they reach some critical level. For firm profitability one could explore measures of relative unit cost trends or firm surveys on the attractiveness of different locations. For macroeconomic sustainability it would make sense to use a (potentially simplified) version of the indicators already collected as part of the reporting to the European Commission.

2. *Capturing 'economic climate'*

Competitiveness is as a diagnostic concept focused on the underlying quality of supply side conditions. The current level of demand can affect the way in which these qualities are evaluated. Changes in the assessment of competitiveness conditions can thus be the result of improvements in the underlying quality of these factors or merely a reflection of more positive assessments at a time of positive market conditions.

An indicator of current 'economic climate', drawing on standard indicators of business cycle conditions, could be introduced in the competitiveness assessment. While it is hard to precisely isolate the effects of the economic climate on competitiveness measures, such an indicator could raise the awareness of the potential bias introduced. Again, the indicator should be simple and trigger further analysis rather than provide very precise answers. One could think about a traded-weighted short-term growth rate for key Irish trading partners to capture external business climate as well as a measure of domestic capacity utilization or the like for domestic demand.

3. *Competitiveness value chain*

The current pyramid representation of the NCC's competitiveness framework already introduces a structure and a set of logical relationship to the list of competitiveness indicators captured. This idea could be further developed to clarify the relationships and the different nature of indicators.

A 'competitiveness value chain' representation would emphasize how the combination of endowment conditions and competitiveness fundamentals affects intermediate performance indicators and ultimately prosperity and its logical components. Competitiveness fundamentals are the key levers for policy action. Intermediate performance indicators provide insights into the transmission process, but are also influenced heavily by the current economic climate.

4. *Competitiveness fundamentals*

Competitiveness assessments aim to inform the design of effective policies to increase the level of prosperity a location can reach. These policies need to address what in this report has been identified as competitiveness fundamentals to have a sustained impact. The current 'policy input' indicators included in the NCC framework address import fundamentals but lack some key dimensions of fundamental competitiveness. The competitiveness framework introduced in section 3 of this report provides a comprehensive framework to capture the traditional and new aspects of competitiveness discussed in the literature. In particular, it introduces measures of cluster presence and firm sophistication into the assessment of microeconomic competitiveness. For both of these areas it will be necessary to either analyse existing data in new ways or collect new data.

5. *Additional analytical depth on selected indicators*

For a national competitiveness assessment it is for most indicators sufficient to introduce measures that capture national averages. The review in this report has indicated, however, that in some cases such averages can be misleading, obfuscating large and systematic heterogeneity within the groups to which these averages apply. Given the specific conditions in Ireland it might be useful to explore providing additional data on key competitiveness indicators. This would include especially three types of data:

- economic performance and fundamental competitiveness indicators for subnational regions,
- indicators of cluster presence and industry specialization across regions,
- economic performance indicators for selected groups of firms, for example multinationals vs domestic firms and firms in traded vs. local industries.

Generating this data will require new work in either analysing existing datasets or even generating new primary data. The prior is likely to be the case for regional cuts of data on economic performance and on those aspects of competitiveness fundamentals for which statistical data should be available, like skill levels, R&D spending, and infrastructure.¹⁷ It is also the case for cluster data, for which the European Commission provides data and metrics that have already been applied to Ireland at a national level but can also be used for a regional analysis.¹⁸ The latter might be needed for tracking firm sophistication, especially comparing local vs foreign-owned firms. For this generation of new data survey tools and approaches are available.¹⁹

6. *Define your 'competitive set'*

The NCC framework highlights the need to compare Ireland's performance with relevant peers. This is a model that helps to interpret the data that is being collected in different dimensions of competitiveness. In addition, the process of identifying relevant peers could also drive further thinking about the way in which the country aims to compete. The decision about positioning and core competitive advantages can drive the systematic identification of the most relevant rivals. The NCC could explicitly define a 'competitive set', i.e. the range of core competitive advantages that Ireland aims to provide, informing the identification of other countries which will be its most natural rivals. The list of countries identified is unlikely to be dramatically different from those 19 countries against which Ireland is already benchmarked (NCC, 2015); most likely it will form a subset of this larger group. But the connection to specific competitive advantages can lead towards a useful debate about how Ireland aims to compete as a location in the European and global economy.

¹⁷ Comparable data for regions across OECD countries is available through http://stats.oecd.org/Index.aspx?datasetcode=REG_DEMO_TL2; for the EU regional data is available through <http://ec.europa.eu/eurostat/web/regions/data/database>

¹⁸ The EU Cluster Portal is accessible at http://ec.europa.eu/growth/smes/cluster/index_en.htm

¹⁹ See the survey instrument available at <http://worldmanagementsurvey.org/>.

5.3 Integrating the NCC work into the Irish policy process

The Irish National Competitiveness Council (NCC) and the competitiveness framework it applies are part of a broader policy system in Ireland informing policy choices. Given the broad definition of competitiveness that emerges from the discussion in this report, i.e. one that recognizes the role and influence of a wide range of policy areas, the NCC's work connects with many other parts and policy processes across the Irish government. While the nature of these connections has been beyond the scope of this review, it is an important factor to consider when considering changes in the NCC competitiveness framework.

First, it would be beneficial to achieve more alignment in the usage of the term competitiveness throughout the Irish government. The Action Plan for Jobs (Irish Government, 2015a), for example, applies the term to a relatively narrow set of regulatory changes as well as efforts to directly enhance firm level productivity. Many other competitiveness fundamentals are also addressed in this report, but are listed under different categories. A more consistent use of terminology might be helpful to clarify the policy debate; and possibly the Irish NCC could play some coordinating role in this respect.

Second, the impact of the NCC's work could be significantly enhanced if systematic linkages are created between its work and assessments and related key policy planning efforts. One example is Ireland's dialogue with the European Commission as part of the European semester, a regular review process discussed above. While the Commission's competitiveness framework has its issues and should in our view not drive the framework applied by the NCC, connecting the two at the level of core indicators would be possible and useful. Another example exists in the set of core economic policy plans by the government, like the Action Plan for Jobs (Irish Government, 2015a) mentioned above or the recently launched Enterprise Policy 2025 (Irish Government, 2015b). Systematic involvement of the NCC and the use of its reporting applying the competitiveness framework would provide valuable information for policy and ensure that the NCC's work is fully leveraged.

Third, the assessment provided by the NCC is integrally linked to the choices Ireland is making about its place in the European and global economy. Both the government's more short-term tactical priorities, like focusing on enhancing the growth of domestic entrepreneurship, and more long-term ambitions, like the value proposition that Ireland aims to offer to firms in the future, should find their reflection in the competitiveness framework applied by the NCC. This is operationally not challenging – the framework is flexible and comprehensive enough to capture likely policy priorities. But it might be helpful to clarify the process connecting government's policy choices and NCC reporting. This is likely going to be an iterative process with the NCC providing analysis, the government making policy choices, and the NCC again outlining how these choices can be tracked in the indicators it covers as part of the competitiveness framework.

Overall, this review of the NCC competitiveness framework might thus be a useful trigger to engage in a dialogue with other parts of the Irish government to ensure that the NCC's framework is used effectively in the country's broader policy process.

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Appendix: National productivity and competitiveness institutions - selected case studies

David Skilling

This note contains selected case studies of national productivity and competitiveness institutions, and how these institutions integrate with the policy advice process. The case studies are: the Australia and New Zealand Productivity Commissions; the Economic Strategies Committee process in Singapore (and related strategic policy processes and institutions in the Singapore Government); and several institutions in Denmark that focus on competitiveness-related issues: the Globalisation Council, the Production Council, and the Productivity Commission.

Each of the three case studies will consider:

- Economic context, including the motivation for establishing the institution
- Focus and approach of the institution: including definition of competitiveness/productivity
- How the institution(s) engage(s) with the policy process
- An assessment of effectiveness

This note concludes with a discussion of the key insights for Ireland from the international small country experience with these institutions.

1. Australia, New Zealand Productivity Commissions

Australia has a long established Productivity Commission. It has existed in its current form since 1998, and in previous forms (such as the Industry Commission and the Economic Planning Advisory Commission) it has been in existence for several decades. Based on the perceived success of this Australian model, the New Zealand Government established a New Zealand Productivity Commission in 2010. These are the two largest, permanent Productivity Commissions in the developed world (although the OECD recently noted other Productivity Commissions had been recently established in countries such as Chile, Mexico, and Norway).

Australia²⁰

“The Productivity Commission is the Australian Government's principal review and advisory body on microeconomic policy, regulation and a range of other social and environmental issues. Its role, expressed simply, is to help governments make better policies in the long-term interest of the Australian community”. The role of the Australian Productivity Commission is to provide “independent research and advice to Government on economic, social and environmental issues affecting the welfare of Australians”.

Context

The establishment of the Productivity Commission, and its replacement of the Industry Commission, the Bureau of Industry Economics, and the Economic Planning Advisory Commission, was part of a broad policy shift from a relatively hands-on industrial policy to a focus on policy framework conditions. This organisational change occurred towards the end of an extensive programme of economic policy reforms.

²⁰ The Productivity Commission website is www.pc.gov.au

The motivation for establishing the Productivity Commission with its microeconomic mandate was to provide a platform for high quality microeconomic policy advice on a range of policy issues (deliberately framed more broadly than economic policy; it also covers social and environmental issues – and is not restricted to particular sectors of the economy). The view that for the Australian economy to perform at its full potential, there was a need to remove distortions from the economy and to ensure that future policy was well-designed on the basis of sound economic thinking. It is a well-resourced organisation, with around 200 staff.

Focus and approach

The Productivity Commission has a very microeconomic focus, and spends little time on the aggregate productivity performance of the Australian economy (or on issues that would be defined as national competitiveness). It does not routinely monitor or publish reports on Australia's overall economic or aggregate productivity performance, or on Australia's competitive position. Issues of productivity and cost competitiveness are discussed in occasional public speeches delivered by the Commissioners, but there is not systematic monitoring and benchmarking.

The Australian Productivity Commission is very much a microeconomic policy advisory shop, which it does very well. It has a fairly orthodox view on productivity issues, and is focused on removing distortions and costs in key domestic sectors of the economy.

To give a concrete sense of its work, the bulk of its work is on commissioned projects that last for around a year (sometimes longer). Recent inquiries have included: Electricity network regulatory frameworks; Disability services and support (DisabilityCare Australia); Benchmarking regulation of planning and zoning; Benchmarking regulation by local governments; Impacts of 'Council of Australian Governments' reforms; Superannuation; Urban water; Regulation of airport services; The structure and performance of the Australian retail industry; and The workforce of the schools sector.

Engagement with the policy process

The Productivity Commission is a public sector body. The Commission is headed by a Chairperson and between 4 and 11 other Commissioners, who are appointed by the Governor-General for periods up to five years. Associate Commissioners are appointed by the Treasurer on a full and part-time basis (and come from a wide range of professional backgrounds).

The Commission sits within the Treasury portfolio, and can be directed to respond to requests by the Treasurer for studies or inquiries on specific topics. These government directions will also specify the timelines and the nature of the output required. The studies and inquiries that the Commission undertakes will include submissions from the public and stakeholder groups, as well as the public release of a draft and final report. Inquiries are required by legislation to include formal public consultations. This open, transparent process allows for a wide range of views to be expressed and considered – useful for both the Commission's work, but also for the broader public debate on the issues

The Commission reports formally through the Treasurer to the Australian Parliament, where its inquiry reports are tabled. Final inquiry reports must be tabled in Parliament within 25 sitting days of the Government receiving the report from the Commission.

Because much of the Commission's work is formally commissioned by the Government, it will tend to reflect Government (and political) priorities. The Commission's work is high quality and well-respected, and so the output from the Commission is often high-profile and will shape the public and policy debates on these issues.

It is important to note that although the Commission is a public sector body with public sector staff, and the agenda of the Commission is directed by the Treasurer, the work of the Commission is fully independent. The analysis and recommendations are made in a fully independent and transparent manner (this is one of key factors supporting the legitimacy and credibility of the Commission's work).

Assessment of effectiveness

The Productivity Commission has been in existence for almost 20 years, and remains well-regarded and continues to produce high quality work. It has been effective through multiple governments and Treasurers, and has become a central institution in Canberra. This suggests effectiveness in producing high quality economic analysis and policy advice.

But, by design, it makes much less of a contribution to some of the bigger strategic debates in Australia with respect to its competitive positioning – and to its productivity performance at a macroeconomic level. Indeed, many of Australia's challenges – an undiversified economy, relatively low productivity growth in many parts of its economy – remain in place. This is not the fault of the Productivity Commission, given the nature of its mandate, but it suggests that the effectiveness of the Commission is limited by the way in which it is tasked.

New Zealand²¹

The New Zealand Productivity Commission Act (2010) states that "The principal purpose of the Commission is to provide advice to the Government on improving productivity in a way that is directed to supporting the overall well-being of New Zealanders, having regard to a wide range of communities of interest and population groups in New Zealand society." To achieve this, the Commission:

- undertakes in-depth inquiries on topics referred to the Commission by the Government (the Commission's core business);
- carries out productivity-related research that assists improvement in productivity over time; and
- promotes understanding of productivity issues

Context

New Zealand's Productivity Commission was established by legislation in 2010, and commenced operations on 1 April 2011. It was deliberately modelled on the Australian Productivity Commission; the specific proposal to establish the New Zealand Productivity Commission came as part of a coalition arrangement in the government formation process (and the Australian Productivity Commission was cited as a reference case).

There has been long-standing concern about New Zealand's productivity performance (it is significantly lower than in Australia and many other OECD countries), and a recognition that improving productivity is at the core of raising per capita income (as hours worked per capita are already in the top half of the OECD). There had been numerous reviews, research programmes, and government strategies over the years, which had been designed to address the productivity challenge. However, New Zealand's productivity levels and growth remained weak compared to its OECD peers. The hope was that establishing a dedicated agency focused on productivity, that

²¹ The Productivity Commission website is www.productivity.govt.nz

was independent of government and political pressures, could develop analysis and advice that would be more impactful.

Focus and approach

The approach of the Productivity Commission sits squarely within the New Zealand Treasury's orthodoxy on productivity. The prevailing view is that the best thing that can be done for a productive New Zealand economy is to develop an efficient domestic economy: removing costs and distortions from the domestic economy so that firms can become more cost competitive and reallocate resources appropriately in response to market signals. There is little policy focus on broader national competitiveness, which is seen as a residual outcome; the primary policy focus is on efficiency rather than on improving national competitiveness.

As a consequence, the work of the Productivity Commission has been almost entirely focused on the non-tradables sector (and with a bottom line rather than top-line focus).

To give a sense of this non-tradables focus, the completed inquiries to date are: Regulatory institutions and practices (July 2014); Boosting productivity in the services sector (June 2014); Opportunities to improve regulatory performance in local government (May 2013); the impacts and benefits of further economic integration between Australia and New Zealand (November 2012); Housing affordability (April 2012); international freight transport services (April 2012). And reports have just been released on: More effective social services; and using land for housing.

As with the Australian Productivity Commission, there is little in-house monitoring and benchmarking on the drivers of New Zealand's productivity performance and competitive positioning. The in-house research tends to focus on improving the quality of data and analysis on issues such as firm-level productivity rather than on issues such as the nature of New Zealand's competitiveness relative to other peer countries.

Engagement model

As with the Australian model, the Government chooses inquiry topics that it is interested in – and directs the Commission to undertake work within a specified timeframe (commonly about a year). The Commission works independently on these projects, undertaking technical economic analysis and extensive consultation with the public and stakeholders. Draft reports are released for feedback before a final report is released.

The reports, with accompanying recommendations, are formally submitted to the Minister of Finance for consideration. The Cabinet will then decide how to proceed. There is also extensive engagement between the Commission and relevant government agencies throughout the process; so there is a high degree of visibility of the work. This enables the Commission's analysis and findings to shape the policy development process in both a formal and informal manner.

Although these formal pieces of work are the main role of the Commission, to a greater extent than is the case in Australia, the New Zealand Productivity Commission has also developed capacity to undertake general productivity research and commentary: particularly around improving the quality of productivity data and research. It is the centre of a productivity hub, and is seen as the centre of excellence on productivity research in government (notably work on firm-level productivity). Although it does not engage on big strategic policy issues, it is a bit more involved in policy debate than is the case in Australia.

Assessment of effectiveness

The New Zealand Productivity Commission is still a young organisation, which makes it difficult to be too definitive about its effectiveness. But it has earned a very good reputation for high quality technical analysis, running an inclusive, transparent, and non-ideological approach to often sensitive policy issues, and being able to shape the public debate through a proactive public communications strategy (website, social media, as well as through traditional media and public speaking). It is also built a reputation for being a repository of productivity expertise within the government system, and has built a strong professional staff. It is a valuable source of capacity in a relatively small public sector.

The Productivity Commission has not been through a change in government yet, so it will need to ensure that it can become institutionalised and supported across the political spectrum. However, the prospects look good: it is not seen as partisan, and its work programme will be able to be directed by the government of the day.

As with the Australian model, its contribution to the broader strategic debate on approaches to lift New Zealand's productivity performance – and to strengthen New Zealand's competitive position in a changing regional and global economic environment – is constrained by its legislative mandate. It does not have a major role in shaping the broader agenda, and it is not a source of challenge or contest in the policy debate (outside the commissioned pieces of work).

The effectiveness of the Commission's work has varied by issue. Some has been picked up and implemented – for example, on better regulation and on increasing housing supply – whereas other projects have languished because of an absence of political interest (for example, a joint report prepared by the two Commissions on trans-Tasman economic integration). This is not surprising, reflecting political realities as much as any deficiency in the organisational model.

Relevance of the Productivity Commission model to Ireland

The Productivity Commission model seems to be a successful one; indeed, many countries are establishing such institutions in response to sluggish productivity growth. The combination of an independent, arms-length organisation, with strong technical capacity, which can run high-quality, inclusive investigations on important and challenging policy issues – which are on the government's agenda – is attractive.

Both the Australian and New Zealand Productivity Commissions are well-resourced organisations, with strong technical expertise in microeconomics, and produce respected, credible analysis that carries real weight with policy-makers. They are open, explain their work, seek public submissions in the process of analysis, and undertake research in a technocratic way. And they are explicitly integrated into the policy process, by virtue of their reporting arrangements with the Treasurer/Minister of Finance and with Parliament.

However, these Commissions have worked partly because they have a well-defined mandate, a narrowly defined view on productivity, and work on the basis of government direction. This means that they are restricted in their ability to engage on big strategic issues that may not be on the government's agenda. As one example, neither of the Commissions have a formal monitoring mandate with respect to benchmarking productivity performance – they focus on productivity on a project basis. In that respect, the greater flexibility of the Competitiveness Council is a valuable asset.

II. Singapore: Economic Strategies Committee

The Singapore economy has performed exceptionally well over the past 50 years, moving from Third World to First in a generation. At the core of this economic transformation has been a very clear focus on building and maintaining a strong competitive position – providing the best location to attract and retain firms, capital and people, positioning Singapore as a hub for the region, and providing the domestic conditions for strong growth.

As a small, open city state, Singapore has needed to adapt and evolve in response to changing global economic and political conditions – as well as to respond to a changing level of development in Singapore (moving from basic manufactures in the 1960s and 1970s to more advanced manufacturing, and then into professional and financial services, and now innovation intensive activities). The Singapore Government has long been acutely aware of the intense competitive pressures in the world around it – and its limited margin for error – and it has been very focused on maintaining and strengthening its competitive position.

Singapore has processes that consider competitiveness issues on an ongoing basis, but occasionally it establishes more formal, set-piece processes. The Economic Strategies Committee (ESC) processes are a very good example of this.²²

Context

Singapore has run occasional ESC-style processes over the past few decades. Of the two most recent, the first was in 2001 after the Asian financial crisis (1997/98) and SARS/dotcom bust – which had a significant impact on the Singapore economy. The second was in 2009/10 after the global financial crisis, which also had a very meaningful impact on Singapore's economic performance.

In addition to the short-term motivation of the two crises, there was also a sense in the Government that Singapore was at a turning point on both occasions – and that strategic policy choices needed to be made in response to a changing economic environment in order to sustain Singapore's competitive position.

The ESC was launched by the Prime Minister in May 2009 to “develop strategies for Singapore to maximise its opportunities in a new world environment, by building capabilities and making the best use of its resources, with the aim of achieving sustained and inclusive growth”.

Focus and approach

One of the core targets that the Committee process established was to achieve annual productivity growth of 2-3%, more than double the historical average. However, the way in which this was to be achieved was very much framed around establishing a more competitive economy. Although the efficiency and flexibility of the domestic economy was an important element of the overall strategy, it was more broadly concerned with how best to position Singapore in a changing regional and global economic environment – and what domestic policy changes (education, tax, infrastructure, and so on) were required to respond to this.

Although not defined precisely, strengthening competitiveness was seen as requiring a combination of bottom-line efficiency measures (focused on the domestic economy) as well as top-line measures that were focused on making Singapore an attractive location for capital and labour and supporting the international expansion of Singapore firms into regional and global markets.

²² The report and recommendations are available at <http://www.mof.gov.sg/Resources/Economic-Strategies-Committee-ESC-Recommendations>

This broad focus on competitiveness is reflected in the various working groups that were established to undertake the work of the Committee. These groups considered issues such as: seizing growth opportunities (identifying new growth areas); developing a vibrant SME sector; attracting MNCs; making Singapore a global leading city; and so on.

The ECS made three clusters of recommendations. These were: boost skills in every job (to promote innovation and labour productivity growth); deepen corporate capabilities to seize opportunities in Asia; and to make Singapore a distinctive global city.

Engagement with the policy process

Members of the ESC were drawn from government (Ministers), the labour movement, the private sector (including MNCs) and academia. The full Committee and the various working groups met and worked intensively over a period of several months.

During the course of the Committee's, there was broad engagement with companies and business groups, academics and researchers, labour groups and other stakeholders, as well as members of the public. In total, more than 1,000 people participated in generating the ideas leading to the proposals. This was a high profile process, with substantial media coverage.

The work of the Committee was strongly and directly supported by government officials, who undertook substantial analysis and research and who were also involved in the drafting of the process.

In January 2010, the ESC submitted their recommendations directly to the Prime Minister. The Committee made recommendations around the broad strategic direction of the economy, suggested a new growth target, and identified many new initiatives.

Assessment of effectiveness

The Government accepted the recommendations by ESC in February 2010 and the recommendations are being implemented. This ESC process has been the road map for many subsequent economic policy initiatives: the transition to a productivity-led economy, the growth target, as well as the focus on human capital and the new sector and opportunities that were identified. The ESC report and recommendations are routinely cited in government statements and presentations.

The effectiveness of this process (in terms of policy impact) is unsurprising given that this was a government-led process, with the government actively involved in both the analysis as well as framing the recommendations. But the broad reach of this exercise, and that fact that it involved a range of stakeholders and experts in the process of developing the analysis, gave the outcomes of the process additional substance and legitimacy – which contributed to its effectiveness.

Other strategic policy processes

One of the distinctive themes of governance in Singapore is the focus on the international environment, and trying to detect emerging issues. As a small, highly open economy – very exposed to changes in the regional and international economic and political environment – Singapore invests considerably in developing foresight capacity. Surprises and shocks still occur, but the government is very focused on being well-positioned and informed. This high level of sustained investment is relatively unusual, even among small country governments.

Part of this is ingrained into the culture of the government, both Ministers and officials. But Singapore has also developed formal institutions and processes, as well as analytic tools and methodologies to assist. Singapore invests heavily in scenario planning and horizon scanning.

For example, a Strategic Policy Office (SPO) is located in the Public Service Division (which sits in the Prime Minister's Office) and has responsibility for undertaking reviews and analysis of emerging trends that will impact on the policy space in Singapore (demographic trends, the shape of the emerging global economic geography, the possible nature of technological innovation over the coming decades, various scenarios regarding Singapore's future, and so on). Advanced versions of scenario planning tools are commonly used.

Also within the SPO is the Centre for Strategic Futures. This Centre was established in 2009, with a view to thinking about longer-term strategic issues ('a dedicated group of people to think about the future'). It identifies emerging strategic issues, contributes to an integrated risk management framework for the 'whole of government', publishes various futures pieces, and engages with thinkers and experts on new issues around the world.

Elsewhere in the Singapore Government, there is a sophisticated Risk Assessment and Horizon Scanning (RAHS) programme, located in the National Security Coordination Secretariat (NSCS). In addition, many of the individual policy ministries will have a futures or strategy unit with a mandate to think about policy issues through a longer-term perspective.

III. Denmark: Globalisation Council, Production Council, Productivity Commission

As a small advanced European country, Denmark faces many of the same challenges and opportunities as Ireland. Aside from the core government agencies, Denmark does not have standing organisations like the Competitiveness Council (although it does have strong business organisations that contribute to the debate on economic issues).

However, there is a track-record in Denmark of establishing specific, time-limited institutions and processes in response to specific challenges and issues, which involve groups of relevant experts (domestic and foreign) and key stakeholders. These are worth considering, both in terms of the substantive focus and the way in which they have operated. The three selected examples are the Globalisation Council (2005/6), the Productivity Commission (2014/5), and the Production Council (2015).

Globalisation Council²³

In April 2005, the Danish Government set up a Globalisation Council to advise the Government on a strategy for Denmark in the global economy. The establishment of the Council was motivated by a sense that the global economy was changing in ways that had important implications for Denmark, and that Denmark needed to develop a view on how best to respond.

The Council was composed of representatives of trade unions, industrial organisations, companies, the education and research community, and the Government. The Council was chaired by the Prime Minister, and included several senior Ministers. "The work of the Council rests on a strong Danish tradition that changes in society are prepared in dialogue and cooperation between the various groups in society".

²³ The Globalisation Council reports are available at: www.globalisering.dk; www.stm.dk/p_13631.html

In mid-2005, the Globalisation Council held three meetings, in which the Council discussed the challenges of globalisation for Denmark. From August 2005 to February 2006, the Council held a total of nine theme-based meetings on topics such as education and training, research, competitive power and innovation. These meetings involved presentations from international and Danish experts, and organisations and individuals were invited to take part in the following discussions. This was the basis for discussions within the Council.

During the meetings, the Council heard a total of 48 international and Danish experts, and held discussions with 111 representatives of organisations and other individuals specially invited to the meetings. The Government published the strategy in April 2006, with recommendations clustered around 14 areas. It contained "350 specific initiatives, which together entail extensive reforms of education and training programmes as well as research and entrepreneurship, and also substantial improvements in the framework conditions for growth and innovation in all areas of society".

This was clearly not an independent process, but it was open and transparent and involved a wide range of domestic and foreign experts. The process made a valuable contribution to the debate, and to the government's policy agenda.

Production Council²⁴

Manufacturing (or production) has been an important part of the Danish economy, making significant contributions to employment, exporting, and so on. But production as a share of GDP has been declining in Denmark (as well as in other advanced economies); although the concern was that Denmark was falling behind some of its regional peers. There was also a view that some of the developments in advanced industries (the 4th Industrial Revolution) might provide an opportunity for Denmark to create a stronger position of competitive advantage – if government, business and others worked together.

The Production Council was set up by the Danish Government in October 2014 to draw up ideas and recommendations for how to strengthen the development of Denmark as an attractive country for production. In addition to the direct benefits of production to the Danish economy, the view was that "advanced production plays an important role for Denmark's competitiveness". It has a 'top-line' focus, trying to identify what is needed to seize new growth opportunities in a highly competitive environment, rather than a 'bottom-line' efficiency focus.

The Production Council was co-chaired by a senior Minister and a private sector CEO and the Council included representatives from business, labour and other expert groups. It was actively and directly supported by senior economic officials.

The Council received input and contributions from many people and groups, held a series of discussion meetings, and convened an international conference in Copenhagen in which a range of domestic and international experts contributed perspectives. On the basis of this work, a report was issued with a series of recommendations for the government to formally consider (encourage investment by firms in new technologies; increased investment in relevant R&D; upgrading human capital).

²⁴ A summary of the Production Council's work is available at: <http://www.evm.dk/english/publications/2015/15-05-27-production-councils-summary>

Productivity Commission²⁵

In response to concern about sluggish productivity growth in Denmark, the Danish Government announced the establishment of an independent Productivity Commission in January 2013. The Commission was to consider the causes of weak productivity growth, and to make recommendations on initiatives to improve productivity in both the private and public sector.

The Commission was made up of independent experts (such as academics) and its work was conducted independently of government agencies. It was instructed to complete its work by the end of 2013, meaning a timeframe of a year.

The focus and approach of the Commission was very similar to the Productivity Commissions in Australia and New Zealand. For the most part, its focus was on improving productivity in the non-tradables sector (including the public sector). It considered issues such as the intensity of competition, the effects of regulations in various parts of the economies, the way in which public sector institutions were designed to deliver services (including trade promotion activity), and so on.

The Commission's recommendations were delivered to the Government, and some progress has been made in implementing aspects of these recommendations.

Overall assessment

The model of establishing time limited process and institutions to deal with specific issues relating to Danish competitiveness has worked well, in combination with ongoing analysis of the Danish economy from economic agencies. Government sponsorship and involvement means that they are well integrated into the policy process, and the three examples discussed above have had meaningful impact on policy choices. However, this model does mean that there is not an independent body with strong economic capacity to engage on competitiveness issues on an ongoing basis and to shape the policy debate and agenda.

²⁵ The Productivity Commissions website is <http://produktivitetskommissionen.dk/english>, and this release describes the motivation and process for the Commission: <http://produktivitetskommissionen.dk/media/133600/Kommissoriet%20op%C3%A5%20engelsk.pdf> Note that almost all of the reports and analysis are in Danish.

Key Insights

This appendix summarises the key insights from the international experience. Of course, national context matters enormously: in all of the cases examined in this note, governments have established institutions to respond to specific challenges and questions. The organisational design responds to these specific circumstances to some extent, which means that there is no ideal 'best practice' that can be independently replicated. However, this international experience suggests five elements of best practice that have contributed to the effectiveness of these various processes and institutions.

A broad competitiveness mandate (not narrowly productivity-based): There is an ongoing debate about how to define productivity and competitiveness. But for small countries in particular, the key economic issue is how to position themselves in the global economy. They need to adopt a broad approach to competitiveness that extends beyond improving the productivity performance in the non-tradable sectors. The Danish and Singaporean examples give a sense of what this broader focus can look like, which differs from the more conventional productivity-based approaches of Australia and New Zealand. A broader mandate allows the institution to engage on more material issues that speak to the strategic direction of the country, and to highlight the key strategic choices and risks. This is a more challenging role – and requires some level of political support – but it can lead to more effective, impactful institutions.

Relatedly, there is an increasing focus in several small advanced economies (Singapore, Finland) in terms of complementing this descriptive economic analysis with forward-looking analysis of emerging issues (including scenarios analysis) to provide guidance to governments on what issues they should be thinking about. To the extent that small economies are facing structural changes in the global economic environment, such work becomes increasingly important.

Public communications and stakeholder engagement: the successful institutions have an ability to engage in a structured way with independent experts (local and foreign) and with key stakeholder groups, as well as having an ability to contribute to the public debate through creative public communications. The risk with institutions that conduct technical analysis, even if on important policy issues, is that the work does not become central to the public debate. Finding ways to communicate and engage is important to effectiveness – and can also help to shape the political appetite for the analysis and recommendations.

Political leadership and support matters: without (bipartisan) political willingness to support and engage on these strategic economic issues (and the work of the institutions), it is more difficult for these institutions to deliver impact. Institutions cannot be fully effective if they are swimming against the tide of the political climate. This environment can partly be shaped deliberately, through the design and framing of the work programme or through an active public communications strategy (as in New Zealand), but it is largely exogenous. Organisations are most effective when they can work collaboratively with the government, even if the analytical work is independent: the Danish institutions provide good examples.

High quality staff, as well as access to external experts: The Productivity Commission models in Australia and New Zealand are good examples of building strong internal capacity; and the Danish Globalisation Council and Singapore's Economic Strategies Committee are good examples of using external expertise to strengthen the quality of analysis and insight.

Independence of work: The ability to work independently, without political interference, is important to the quality and credibility of the work. This need not be formal independence – as with the Productivity Commission – but there does need to be editorial independence and transparency on the way in which the analysis is undertaken and recommendations are made. I would also note that a degree of independence as to the nature of the work programme – and an ability to undertake research and projects on issues outside those that are formally commissioned by the government – is also an important element of independence. Of course, balancing ongoing formal and informal engagement with Ministers and officials, while preserving independence of work and the ability to speak candidly, is an ongoing challenge for many of these institutions.

In sum, good practice elements are an operationally independent institution, with a broad mandate to focus on competitiveness, which has strong formal and informal engagement with the government (both Ministers and senior officials), and which has the staff and resourcing required to contribute credible, distinctive new insights on current and emerging economic issues. In terms of the work programme, a portfolio of government-commissioned work, ongoing advice and analysis on current competitiveness issues, and thematic work to contribute to shaping the strategic agenda can add real value.

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