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The Competitive Advantage of Nations: origins and journey

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Abstract

Purpose – The purpose of this paper is to provide an understanding of the origins and journey of the fundamental ideas underpinning Michael Porter's *The Competitive Advantage of Nations* as a means of assessing its influence.

Design/methodology/approach – Drawing on a reflection of the book's text and associated works by Porter, the paper shows how Porter's thinking evolved from his earlier writings, as well as how his ideas went through further periods of development following the publication of *The Competitive Advantage of Nations*.

Findings – The paper focuses on the emergence of Porter's cluster theory and his growing acknowledgement of the role of innovation within processes of economic development. It shows how these concepts have provided a foundation for contemporary economic development practices. Also, the paper highlights how the fundamental concepts of Porter's text have shifted from a unit of analysis focused on nations to one where subnational regions are the primary analytical unit.

Originality/value – The paper concludes by suggesting that the nature of Porter's conceptual insights is likely to ensure the long-term endurance of the fundamental lessons contained within *The Competitive Advantage of Nations*.

Keywords Competitiveness, Clusters, Porter

Paper type Conceptual paper

Introduction

After the publication of the highly influential *Competitive Strategy* (Porter, 1980) and *Competitive Advantage* (Porter, 1985) strategic management books, Michael Porter widened his area of analysis, crossing over the traditional compartments of academic disciplines. Importantly, Porter expanded the sphere of his research and influence by diversifying into other academic disciplines – especially the economic development of nations, and urban and regional development. By the time of this diversification, he was no longer a newcomer with little influence but a well-known figure with strong brand recognition. Through his appointment by Ronald Reagan to the Presidential Commission on Industrial Competitiveness in 1985, he tackled the subject of national economic development, through the establishment of his diamond framework. In the resulting seminal study on *The Competitive Advantage of Nations*, Porter (1990) laid down the foundations for a better understanding of how economic development, as manifested by competitiveness, was evolving across nations due to changes in a number of key forces driving productivity and economic growth.



Over time, Porter (1998, 2000) came to the view that many of these forces were not generic or distributed evenly across nations, but “clustered” within particular regions within national economies. To this extent, the origins of *The Competitive Advantage of Nations* can be considered to be rooted in spatially oriented economic studies dating back to Alfred Marshall. As Jacobsen (2015, p. 50) states:

In the spirit of Marshall’s (1919, 1990) *Industry and Trade*, Porter’s *Competitive Advantage of Nations* is a compelling study of successful industries in various countries. Competitive advantage is the result of a localized, indeed clustering, process that is knowledge-generating and innovation-oriented involving institutions (including government), culture and values, and history, in addition to economic structures.

Porter (1998) particularly focused upon a central element of the diamond framework – the cluster – and applied it to regional economic development: a subject long studied by economic geographers, regional scientists and local development planners. Porter not only developed the diamond framework and the idea of clusters as analytical concepts but also as key policy tools. As the celebrated architect of the diamond framework and the cluster concept, Porter has advised policymakers around the world to help them identify a nation’s or region’s key business clusters and design relevant economic development policies.

The aim of this paper is to provide an understanding of the origins and journey of the fundamental ideas underpinning *The Competitive Advantage of Nations* as a means of assessing its influence. Drawing on a reflection of the text and associated works by Porter, the paper shows how Porter’s thinking evolved from his earlier writings, as well as how his ideas went through further periods of development following the publication of *The Competitive Advantage of Nations*. The paper focuses on the emergence of Porter’s cluster theory and his growing acknowledgement of the role of innovation within processes of economic development. It shows how these concepts have provided a foundation for contemporary economic development practices. Also, the paper highlights how the fundamental concepts of Porter’s text have shifted from a unit of analysis focused on nations to one where subnational regions are the primary analytical unit. The paper concludes by suggesting that the nature of Porter’s conceptual insights are likely to ensure the long-term endurance of the fundamental lessons contained within *The Competitive Advantage of Nations*.

Fundamentals of *The Competitive Advantage of Nations*

During the term of the President’s Commission, it became clear to Porter that there was no accepted definition and explanation of competitiveness. Macroeconomists see national competitiveness as a phenomenon driven by exchange rates, interest rates and government deficits. However, some nations have enjoyed rapidly rising standards of living despite budget deficits, high interest rates and appreciating currencies. To some economists, competitiveness is a function of cheap and abundant labor, yet nations such as Germany, Switzerland and Sweden have prospered despite high wages and long periods of labor shortage. Another view is that competitiveness depends on possessing bountiful natural resources. However, some of the most successful trading nations have been countries with limited natural resources that import most of their raw materials (Porter, 1990, pp. 3-4). The lack of a convincing explanation of a nation’s competitiveness finally led to the publication of *The Competitive Advantage of Nations* in 1990 (Porter, 1990). The central question Porter asks in *The Competitive Advantage of*

Nations is why firms based in a particular nation are able to create and sustain competitive advantage against their global competitors in particular industries or industry segments (Porter, 1990, p. 1).

In Porter's view, a rising standard of living at the national level depends on the capacity of a nation's firms to achieve high levels of productivity and to increase productivity over time. Productivity is the prime determinant in the long run of a nation's standard of living, as the productivity of human resources determines their wages, and the productivity of physical assets determines the return that capital investments earn for investors. Here, a nation does not have to succeed and raise productivity in every industry. International trade allows a nation to specialize in those industries and segments in which its firms are relatively more productive, and to import those products and services where its firms are less productive than foreign rivals, thus raising average productivity level across the economy. Porter (1990) finds that when one looks closely at any national economy, there are striking differences in competitive success across industries. Successful internationally competing firms in a nation are often concentrated in narrowly defined industries and even particular industry segments. Hence, the question that must be asked concerns the identification of the sources of high levels of productivity and long-run productivity growth achieved by a nation's successful internationally competing firms in particular industries or industry segments.

Porter (1990) identifies four sets of determinants of such national advantage:

- (1) factor conditions;
- (2) demand conditions;
- (3) related and supporting industries; and
- (4) firm strategy, structure and rivalry.

These four sets of determinants are presented by means of the diamond framework. Factor conditions refer to the availability of the resources and skills necessary for competitive advantage in an industry. They are classified into two groups: basic factors and advanced factors. Whereas basic factors include natural resources, climate, location, unskilled and semi-skilled labor and debt capital, advanced factors include information and communications infrastructure, highly educated labor such as graduate engineers and computer scientists and university research institutes in sophisticated disciplines. Demand conditions within a nation can shape the rate and character of improvement and innovation by a nation's firms. A nation's firms gain competitive advantage if domestic buyers are the world's most sophisticated and demanding for particular products or services, allowing firms to perceive new needs and to engage in joint development work in ways that are difficult for foreign firms to match.

Related and supporting industries concern the presence in a nation of supplier industries or related industries that are internationally competitive. Internationally competitive supplier industries in a nation not only provide efficient, early, rapid and sometimes preferential access to the most cost effective inputs but also help firms perceive new methods and opportunities to apply new technology, often through ongoing coordination. The fourth set of determinants – firm strategy, structure and rivalry – concerns a match between the goals of the owners, managers, and employees

and the sources of competitive advantage in a particular industry, and the pressures on firms to invest and innovate, which arise from vigorous domestic rivalry.

Prior to *The Competitive Advantage of Nations*, in the earlier book *Competitive Advantage*, Porter (1985) cuts across many disciplines in management including marketing, finance and operations, in addition to the business policy and industrial economics already covered in *Competitive Strategy* (Porter, 1980). Indeed, Porter emphasizes that “competitive advantage cannot be truly understood without combining all these disciplines into a holistic view of the entire firm” (Porter, 1985, p. 16). In *The Competitive Advantage of Nations*, he goes further to include a more diverse range of fields such as “technological innovation, industrial economics, economic development, economic geography, international trade, political science, and industrial sociology, that are not usually combined” (Porter, 1990, p. 13). Reflecting on this growing coverage of diverse disciplines in *The Competitive Advantage of Nations*, Porter stresses the limitations stemming from specialization:

In studying national economic success, there has been the tendency to gravitate to clean, simple explanations and to believe in them as an act of faith in the face of numerous exceptions. The growing specialization of disciplines has only reinforced such a perspective. More can be done. Researchers in many fields of study are just beginning to recognize that traditional boundaries between fields are limiting (Porter, 1990, p. 29).

As a result of this recognition, and its subsequent implementation, it has been suggested that *The Competitive Advantage of Nations* has transformed thinking about the basis of national competitiveness and has had a substantial impact on public policies geared toward regional and national economic development (Grant, 2011). Grant (2011) argues that Porter’s analysis of the impact of the national environment on international competitive performance demonstrates the potential for the theory of competitive strategy to rescue international economics from its slide into refined irrelevance while simultaneously broadening the scope of the theory of competitive strategy to encompass both international dimensions and the dynamic context of competition. Nevertheless, it is also suggested that the breadth and relevance of Porter’s analysis have been achieved at the expense of precision and determinacy (Grant, 2011). Grant (2011) further argues that Porter’s concepts are often ill-defined, theoretical relationships poorly specified and empirical data chosen selectively and interpreted subjectively. Similarly, others argue that his view of international trade is outdated (Davies and Ellis, 2000).

While it is possible to dispute both assertions, these criticisms are interesting when considering more closely the evolution of Porter’s thinking. For instance, Porter’s diamond framework in *The Competitive Advantages of Nations* led to a wave of criticism from researchers of international business, who argued that the diamond model lacks applicability in nations that rely heavily on their multinationals, the activities of which are necessarily undertaken beyond national boundaries. The key protagonist in this debate was Rugman (1991, 1992), who suggested the idea of double-diamond models that cross international borders, particularly to account for foreign direct investment. Interestingly, and importantly, 25 years after the publication of *The Competitive Advantage of Nations*, Porter has become increasingly concerned with the nature and role of cross-border connectivity (Huggins and Izushi, 2011).

Clusters

Porter presents the concept of clusters as part of the diamond framework in *The Competitive Advantage of Nations* and deepens its understanding as an integral form of competitive advantage at the national and regional level in a chapter of his later book *On Competition*, published in 1998 (Porter, 1998). In Porter's view, competitive advantage in sophisticated industries and industry segments rarely results from only a single determinant. Usually, advantages in more than one determinant combine to create self-reinforcing conditions in which a nation's firms succeed internationally. The systemic nature of the diamond promotes the geographical clustering of industries connected through vertical and horizontal relationships, with leading international companies within related industries often found in the same city or region of a nation. Porter defines clusters as:

[...] geographic concentrations of interconnected companies, specialized suppliers, service providers, firms in related industries, and associated institutions (for example, universities, standards agencies, and trade associations) in particular fields that compete but also cooperate (Porter, 1998, 197-198).

The concept of clusters helps to capture important linkages, complementarities and spillovers of technology, skills and information that cut across firms and industries. According to Porter (1998), when compared with isolated firms located outside a cluster, firms in a cluster are often able to more clearly and rapidly perceive new buyer needs, new technological, operating or delivery possibilities, as well as the actions and maneuvers of other firms. Benefits flow forward, backward and horizontally, with people and ideas combining in new ways. Such interconnections among constituent firms and industries within a cluster facilitate productivity growth by increasing their capacity for innovation and stimulating new business formation that supports the cluster. Furthermore, many of the benefits of clusters are difficult to tap from a distance as they stem from the personal relationships that facilitate linkages, foster open communication and build trust. Proximity, in geographic, cultural and institutional terms, is considered by Porter to be interwoven and mutually reinforcing, and forms the basis of such personal relationships. Thus, Porter argues:

Anything that can be efficiently sourced from a distance, however, has been essentially nullified as a competitive advantage in advanced economies. Information and relationships that can be accessed and maintained via fax and email are available to anyone [...]. Paradoxically, then, the enduring competitive advantages in a global economy are often heavily local (Porter, 1998, pp. 236–237).

The presence of knowledge spillovers as a cluster's underpinning feature adds a cooperation dimension to the diamond framework and the cluster concept. In Porter's view, firms within a cluster:

[...] share many common needs and opportunities and encounter many common constraints and obstacles to productivity [...]. The cluster provides a constructive and efficient forum for dialogue among related companies and their suppliers, government, and other salient institutions (Porter, 1998, p. 205).

Therefore, Porter suggests that a combination of both competition and cooperation exists within a cluster:

Vigorous competition occurs in winning customers and retaining them. The presence of multiple rivals and strong incentives often accentuates the intensity of competition among clusters. Yet cooperation must occur in a variety of areas [...]. Much of it is vertical, involves related industries and is with local institutions (Porter, 1998, pp. 222-223).

While the tone Porter uses in *Competitive Strategy* in 1980 is often quite confrontational – for example, warfare, battleground, fighting brands, attacks, punish – echoing that associated with Sun Tzu's *The Art of War* (Krause, 1996), in *The Competitive Advantage of Nations*, Porter begins to seriously address the issue of cooperation, coupled with an attempt to forge a tighter connection with his early work on company strategy. Rather than the confrontational view of competition presented in *Competitive Strategy*, his later work emphasizes the coexistence of competition and cooperation through which peer firms stimulate improved efficiency and innovation (Porter, 2008). Generally, it is through the cluster paradigm that Porter has sought to integrate his earlier work on industry and competitive analysis with his more recent work on national- and regional-level economic analysis. The evolution in Porter's thinking has occurred partly as a result of the opportunities – in particular, *The Competitive Advantage of Nations* project – which clearly opened the way for him to pursue avenues that were becoming fundamental to economic (development) policymakers. In many ways, these opportunities have allowed him to shape policymaking agendas across the globe. Through a fusing of his academic writings and consultancy research, he has influenced and stamped his mark on these agendas from the 1990s onward.

In his earlier work, Porter is generally skeptical of collaboration and cooperation, especially in the form of strategic alliances, which he appears to consider as being a precursor to merger or acquisition, or otherwise destined to fail. In his eyes, these forms of collaboration are often anticompetitive forms of collusion. In this case, he doubts that such alliances result in efficiencies in undertaking innovation. In his post-*Competitive Advantage of Nations* work on clusters, cooperation and collaboration through informal and social networking across firms is very much considered to be a positive benefit of operating within a cluster environment. His cluster view of cooperation is quite different from his earlier view that cooperation, especially between rivals, “usually undermines competitive advantage in the long run. It reduces incentives and saps rivalry, ultimately slowing progress” (Porter, 1990, p. 667). However, in a change from his previous skepticism of inter-firm alliances and collaboration, Porter (2008) argues that successful cluster upgrading will depend on paying significant and explicit attention to relationship building, which he considers to be a vital characteristic of cluster-development initiatives. Porter's increasing preoccupation with the local environment, and the development of cluster models, further resulted in his work becoming of significant interest to a band of researchers in fields such economic geography and industrial dynamics.

The coexistence of both competition and cooperation within a cluster is something Porter (2008) is now at pains to point out. For instance, he argues that there is a trade-off in a cluster's growth between greater access to information and specialized skills, on the one hand, and unwanted competition for, and increased costs of, employees and inputs, on the other hand. However, he assures us that this trade-off results in benefits for the cluster as whole: “Any increases in competition comes with cluster benefits in productivity, flexibility, and innovation” (Porter, 1998, p. 256). Similarly, the coexistence of competition and cooperation rests on the assumption that either knowledge spillovers

do not take place across competitors, or that the costs of knowledge spillovers across competitors are outweighed by the benefits from other forms of knowledge spillover.

Innovation

Importantly, the ideas underlying the diamond framework and the cluster concept are significantly different from those underlying Porter's (1980) five forces and value chain (Porter, 1985) frameworks in two main ways:

- (1) the almost exclusive focus upon innovation as a means of creating competitive advantage under the diamond and cluster frameworks, as opposed to innovation being only part of the tactics Porter envisages firms adopting under the five forces and value chain frameworks; and
- (2) a new emphasis upon cooperation as a source of advantage and its coexistence with competition under the diamond and cluster frameworks, as opposed to a narrow focus upon competition under the five forces and value chain frameworks.

Within Porter's overall thinking, these two strands of ideas – the five forces/value chain and the diamond/cluster – coexist side by side as they are designed to answer different questions. Innovation is not highlighted in the five forces and value chain frameworks, particularly when compared with the focus it is given in both the diamond framework and cluster concepts. For instance, in *Competitive Strategy*, Porter (1980) only very briefly discusses three types of innovation – product innovation, marketing innovation and process innovation – as a major source of industry structural change in a chapter on industry evolution (Chapter 8). In *Competitive Advantage*, while Porter (1985) devotes a chapter (Chapter 5) to discussing links between innovation and competitive advantage, he also provides a cautionary note that technological change may worsen a firm's competitive position and industry attractiveness (Porter, 1985, p. 165). In contrast, in *The Competitive Advantage of Nations*, innovation is given a central role. Porter writes in the book: "Firms create competitive advantage by perceiving or discovering new and better ways to compete in an industry and bring them to market, which is ultimately an act of innovation" (Porter, 1990, p. 45). He then continues:

Why are some companies able to perceive new ways to compete and others are not? Why do some companies do so earlier than others? [...] These fascinating questions will prove to be central ones in the chapters that follow (Porter, 1990, p. 49).

The difference between Porter's view on innovation across the five forces/value chain and the diamond/cluster paradigms is reflected in the choice of an indicator for competitive performance. Under the five forces/value chain, profitability is the goal of firms, while under the diamond/cluster, the competitive performance of national and regional economies is measured by productivity levels and productivity growth. Furthermore, Porter's conversion to an innovation stance has important implications concerning his views on inter-firm relationships. This "new" focus is ultimately what leads Porter to identify knowledge spillovers as a key driver of the innovation taking place within clusters. As Porter notes:

[...] underlying the operation of the national "diamond", and the phenomenon of clustering, is the exchange and flow of information about needs, techniques, and technology among buyers,

suppliers, and related industries (Porter, 1990, p. 152), which subsequently facilitates innovation and productivity growth within a cluster.

In addition, innovations diffuse rapidly through the conduits of suppliers or customers that have contact with multiple competitors, raising the level of productivity within a cluster as a whole. This centrality of knowledge spillovers as a cluster's innovation mechanism is evident in the way Porter draws the line of a cluster's border with a cluster being defined by the presence of knowledge spillovers, which in turn forms the basis of a cluster's innovativeness.

Policymaking

Porter (2008) argues that policy should seek to upgrade all clusters in economy. A problem here is that such a proposition may result in cluster policies being situated within a very difficult position between industrial policy and more generic economy-wide policies that simply offer support to all firms and industries. Due to the inherent difficulties in implementing cluster policies, not least their identification, cluster initiatives have tended to lean toward one of the other forms, mainly traditional industrial policies that seek to pick winners. Ketels (2011) – a colleague of Porter – argues that any idea that government should seek to create clusters is not supported by Porter. Porter (2008) seeks to make clear that cluster-based policy approaches are fundamentally different from traditional industrial policy approaches, which he considers are based on seeking to pick winners in the form of desirable industries. Fundamentally, however, this appears to have failed to come across to policymakers, who have often used policies labeled as cluster initiatives to support and subsidize those particular industrial sectors which they consider offer a basis for future economic growth.

As Malecki (2011) indicates, the cluster concept has often been misapplied as referring to a collection of trading sectors. In a pure Porterian sense, many “cluster” policies are not in fact cluster initiatives but industry-level policy, and as Porter (2008, p. 265) states, “focusing policy at the industry level presumes that some industries are better than others and runs grave risks of distorting or limiting competition”. Furthermore, from a policy perspective, some macroeconomists are skeptical of the type of microeconomic interventions Porter recommends in *The Competitive Advantage of Nations* (see, for instance, Minford, 2006), which is perhaps unsurprising given that his ideas can often be viewed as orthogonal to the economic mainstream.

Although Porterian-based policymaking may have led to identikit and off-the-shelf strategies being developed by governments and their agencies around the world (Martin and Sunley, 2003), Porter's overall impact has been positive. It has resulted in the adoption of more analytical and sophisticated approaches to policy and strategy building, incorporating a broader perspective of the external and global environment within which firms, nations, regions and cities exist and increasingly function. This has proved prescient as economies and firms shift to more open and globalized market structures. In recent years, Porter has expended considerable effort in seeking to “prove” that clusters exist on the ground, and that firms operating within them achieve superior performance (Porter, 2003; Delgado *et al.*, 2007, 2010). He still appears to consider that he has some way to go in convincing his desired audience, and despite his own resistance to economic modeling, he is now seriously engaged in the use of such techniques to measure cluster effects and performance (Huggins and Izushi, 2011).

As [Snowdon \(2011\)](#) highlights, Porter's microeconomic perspectives have been important in redressing the balance in explaining that the sources of economic growth are as much, if not more, related to firm- and industry-level innovation as they are to monetary and fiscal policy. Porter's attempt to bridge the gap between the micro-oriented strategic management literature and the economics literature relating to economic growth, development and trade is clearly a crucial theoretical development. Porter's analysis of the competitiveness of nations has proved to be an important and stimulating, if controversial, contribution ([Snowdon, 2011](#)). In particular, Porter has ignited a debate on the meaning and measurement of "competitiveness" in the context of nations and regions. [Snowdon \(2011\)](#) also notes that Porter's leadership and research contribution to the *World Economic Forum's* annual *Global Competitiveness Reports* has highlighted the importance of a nation's microeconomic fundamentals in providing the sound foundations necessary to foster sustained economic development and growth.

While economists researching economic development have increasingly relied upon technically sophisticated but harder-to-understand econometrics, policymakers as the "buyers" of ideas tend to see less relevance in the approach taken by many economists. Porter has seized this opportunity and positioned his ideas under a "package" different from more traditional theories of economic development. His targeting of policymakers was reinforced by his involvement in the World Economic Forums' reports, coupled with the introduction of the "diamond" framework. Importantly, the World Economic Forum's work drew directly on a key concept developed by [Porter \(1990\)](#) in *The Competitive Advantage of Nations – stages of development*. This approach places nations into three main stages of development along with two intermediate transition stages between these main stages. The three main stages of development are: factor-, efficiency- and innovation-driven economies. Factor-driven economies compete on the basis of their factor endowments, such as their natural resources and plentiful supplies of cheap labor. In this stage, firm production relies on low prices to make sales based on low costs. In the efficiency-driven stage, wage costs are likely to rise, with the main route to achieving competitiveness being increases in efficiency, particularly within the labor force and through the use of established technology. In the final innovation stage of development, wage levels increase further, with competitiveness primarily resulting from the benefits of creating new products and production processes. Such a way of conceptualizing the evolutionary development stages of an economy has proved highly influential in framing both national- and regional-level comparative studies of economic development ([Huggins et al., 2014](#)).

Regional competitive advantage

Following *The Competitive Advantage of Nations*, the importance of the concept of competitiveness increased rapidly, with the issues surrounding it becoming, at the same time, more empirically refined and theoretically complex ([Porter, 1990](#); [Huggins and Izushi, 2011](#)). [Porter \(1990\)](#) first defined national competitiveness as an outcome of a nation's ability to innovate to achieve, or maintain, an advantageous position over other nations in a number of key industrial sectors. [Porter \(1990\)](#) linked national competitiveness to productivity and, as indicated above, a nation's ability to innovate. However, regions within nations are increasingly considered to be an important source of economic development and organization in a globalized economy ([Porter, 2000](#); [Huggins et al., 2014](#)). The focus on regions reflects the growing consensus that they are

the primary spatial units that compete to attract investment and at which knowledge is circulated and transferred, resulting in agglomerations, or clusters, of industrial and service sector enterprises.

This growing acknowledgement of the region's role as a key spatial unit of organization has led to attention turning to competitiveness at a more urban and regional level. From this spatial perspective, Porter's (2000) major contribution was to take a micro-level understanding of the contemporary conditions determining firm competitiveness, such as the capacity to innovate, and apply it to the territorial unit – be it a city, region or nation. It is Porter's (2000) notion of the microeconomic determinants of prosperity and wealth generation, as opposed to determinants related to monetary exchange rates and the like, that is at the heart of the concept of regional competitiveness. Regional competitiveness models are usually implicitly constructed in the lineage of endogenous growth frameworks whereby deliberate investments in factors such as human capital and knowledge are considered to be key drivers of growth differentials. Regional competitiveness, therefore, is defined by some scholars as the difference in the rate of economic development across regions and the capacity and capability of regions to achieve future economic growth relative to other regions at a similar stage of economic development (Huggins *et al.*, 2014).

With advances in telecommunications and information technologies allowing the instantaneous transfer of information regardless of location, it might appear logical to consider that geography would become increasingly less important in economic analysis. In fact, in a number of ways, the reverse is true (Porter, 1990). Although it has become possible for firms and individuals to source work far more widely, the geographic concentration of related resources and industries, in particular knowledge-intensive activities, remains one of the most striking features of any nation or region, especially in the most advanced economies. Furthermore, although the historic factors influencing location, such as proximity to inputs and markets, are being undercut, the ability to source from anywhere is, paradoxically, increasing the importance of local competitive advantage; in many respects, globalization is reinforcing localization (Porter, 1998).

For Porter (1998), the localized productivity advantages of agglomeration, such as access to specialized inputs, employees, information and institutions, will encourage firms to cluster, and reinforce clusters over time, as new firms become attracted by the same advantages of concentration. Many of the factors that increase current productivity will also encourage innovation within a cluster and, therefore, increase the productivity growth of firms. For example, access to specialized information via personal relationships will, over time, provide localized advantages for firms in perceiving new technological opportunities and new buyer needs. Therefore, as traditional forms of advantage become redundant, competitive advantages lying outside of firms – i.e. in the business environment in which they are located – increase in importance.

An issue raised by Martin and Sunley (2011) is that Porter's cluster model and views on regional competitive advantage do not assign due justice to already advanced thinking in the fields of economic geography and spatial economics. To some extent, this is the case, and it is clear that when one scrutinizes the cluster model, it bears a close similarity to theories that have emerged within economic geography. For example, there are clear parallels between the work of economic geographers on theories of endogenous

development and the cluster concept. The principles of the endogenous development school of regions are rooted in the role that factors such as collective learning and cooperative behavior play in the establishment of an innovative milieu. As Garofoli (2002) argues, endogenous development primarily concerns the capacity to innovate and produce “collective intelligence” in a localized environment, which explicitly recognizes the relevance of the spillover, diffusion, accumulation, creation and internalization of knowledge. The centrality of knowledge spillovers within processes of endogenous development is also evident in the way through which, for example, cluster boundaries are defined (Porter, 1998). As Porter (1998, p. 202) argues:

Drawing cluster boundaries is often a matter of degree, and involves a creative process informed by understanding the most important linkages and complementarities across industries and institutions to competition. The strength of these “spillovers” and their importance to productivity and innovation determine the ultimate boundaries.

Although it could be argued that agglomeration forces beyond technological development will also play a significant role in delineating cluster boundaries, it is clear that the extent of knowledge spillovers is of significance in shaping these boundaries, as well as forming the basis of a region’s overall innovativeness (Huggins and Izushi, 2011).

These issues highlight both the conceptual and empirical scope for further integrating the Porterian cluster concept with those concepts concerning notions of agglomeration and endogenous development more usually associated with spatial economics and economic geography. However, it could be argued that Porter has already influenced this thinking, with the spatial economist Paul Krugman noting the importance of cluster theory and *The Competitive Advantage of Nations* on his Nobel Prize-winning research on agglomeration economies:

Michael Porter had given me a manuscript copy of his book on *The Competitive Advantage of Nations*, probably late 1989. I was much taken by the stuff on clusters, and started trying to make a model – I was on a lecture tour, I recall, and worked on it evenings, I started out with complicated models with intermediate goods and all that, but after a few days I realized that these weren’t necessary ingredients, that my home market stuff basically provide the necessary. I got stumped for a while by the analytics, and tried numerical examples on a spreadsheet to figure them out. It all came together in a hotel in Honolulu [...] (Paul Krugman, cited in Brakman *et al.*, 2009, p. 504).

Concluding remarks

Initially, *The Competitive Advantage of Nations* led to Porter shifting his unit of analysis from firms and industries to the national spatial boundaries occupied by firms and industries. Over time, it became clear that notions of clusters, knowledge spillovers and innovation and associated inter-firm collaboration and cooperation are phenomena constructed and operated at a more meso-subnational regional level. Furthermore, it is at this regional level that many of the policy levers associated with the microeconomic determinants of economic development are often situated. Therefore, over the 25 years since its initial publication, *The Competitive Advantage of Nations* has already had a profound influence in shaping scholarly thinking and policy practice relating to the role of the underlying economic context of localized places in influencing their future economic evolution, as well as that of the nations in which they situated. The debates

and discourse surrounding these issues have a long and rich history in economic studies and allied disciplines. As Jacobsen (2015, p. 50), for example, states:

“Marshall’s (1919, 1920) treatment of external economies, with its spatial focus on “localized industry” or “district”, is simpatico with Porter’s framework, in which firms and their “extended rivals” are “clustered” due to their often intricate, yet revealing, interconnections of rivalry, cooperation, and mutual dependence.

As Porter himself argues, these concepts are largely time-invariant, and will be manifest within economies at any point in time, regardless of any time-specific “trends” (Huggins and Izushi, 2011). Trends, however, will influence the type of public policy responses required to address apparent under-performance, as well as the capability and capacity of policymakers to devise and enact appropriate solutions. Taken together, the time-invariance of Porter’s fundamental concepts and the evolving nature of public policy mean that the journey undertaken by *The Competitive Advantage of Nations* is likely to be far from finished.

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