

Chapter 8

Competitive Advantage of Nations and Regional Clusters

This Chapter gives an overview of the main sources of national competitive advantages, based on Porter's diamond model, and discusses the role of regional clusters of industries. In this context, it is explained, how MNCs can benefit from locating their operations in country markets with a high level of national competitive advantage or in regional industry clusters.

National Competitive Advantage

Multinational corporations can benefit from favourable environmental conditions by locating their operations in countries with certain market conditions. As the globalisation of international markets increases and the liberalisation of markets simplifies cross-border transactions, MNCs have a broad selection of potential locations from which to select. Most attractive for MNCs are locations with a high level of national (or regional) competitive advantage. The level of a *country's competitiveness* reflects the extent to which it is able to provide rising prosperity to its citizens. A nation's prosperity is intimately linked to the productivity of the economy. If a nation is able to improve its productivity, it can improve prosperity.

In this context, Porter (1990b, p. 73) argues that: "National prosperity is created, not inherited". Thus, not only firms compete internationally, but, as global competition increases, countries also need to position themselves as attractive places to invest and do business. Following this view, each country needs to explore its potential *sources of competitive advantage* to achieve the sustainable growth, which is the basis for long-term economic wealth and prosperity of the nation.

Each year, the *World Economic Forum* publishes a Global Competitiveness Report in which countries are ranked according to their competitiveness (see Table 8.1). The ranking builds on the *Global Competitiveness Index (GCI)* which is developed from the "12 pillars of competitiveness" that are regarded as sources of national competitive advantage. In this regard, factors such as the institutional environment in a country, its macroeconomic stability, the educational system or infrastructure are analysed, as well as a country's market size or its level of (technical) innovation (World Economic Forum 2013, pp. 4-

[Global
Competitiveness
Index](#)

9). Thus, the determinants of competitiveness are manifold and countries need to explore which dimensions are important for building on in order to improve national competitiveness.

Table 8.1

Global Competitiveness Index Ranking 2013-2014

Country/ Economy	Rank	Score	Country/ Economy	Rank	Score
Switzerland	1	5.67	Austria	16	5.15
Singapore	2	5.61	Belgium	17	5.13
Finland	3	5.54	New Zealand	18	5.11
Germany	4	5.51	U. Arab Emirates	19	5.11
United States	5	5.48	Saudi Arabia	20	5.10
Sweden	6	5.48	Australia	21	5.09
Hong Kong SAR	7	5.47	Luxembourg	22	5.09
Netherlands	8	5.42	France	23	5.05
Japan	9	5.40	Malaysia	24	5.03
United Kingdom	10	5.37	Korea, Rep.	25	5.01
Norway	11	5.33	Brunei	26	4.95
Taiwan	12	5.29	Israel	27	4.94
Qatar	13	5.24	Ireland	28	4.92
Canada	14	5.20	China	29	4.84
Denmark	15	5.18	Puerto Rico	30	4.67

Source: World Economic Forum 2013, p. 15.

Porter's Diamond Model

While the underlying understanding of competitiveness in the GCI relates to the economy as a whole, there are differences in the patterns of competitiveness relating to each particular industry. No nation will be competitive in all or even most industries.

Sources of Competitive Advantage

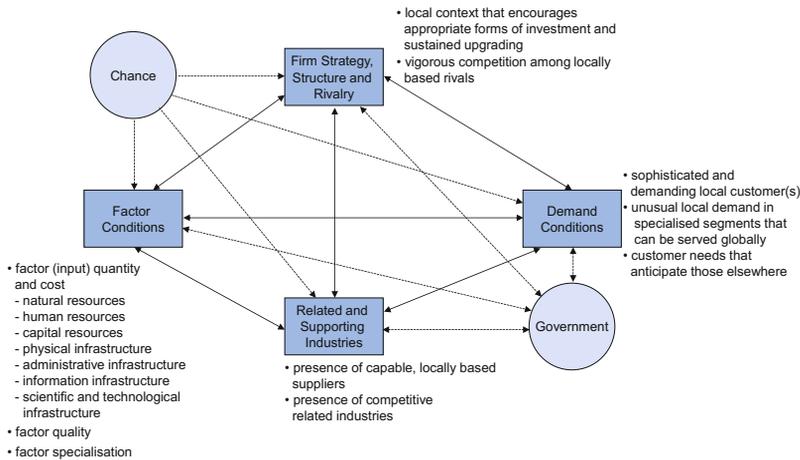
At the *industry level*, Porter (1990a; 1990b) attempted to explain why a nation achieves international success in a particular industry. Based on an intensive investigation of 100 industries in ten nations, he identified four attributes that promote or impede the creation of competitive advantage: (1) factor conditions, (2) demand conditions, (3) related and supporting industries, and (4) firm strategy, structure, and rivalry.

These four attributes shape the environment in which local firms compete and determine the success of nations in international competition. They constitute the *diamond* (see Figure 8.1), a mutually reinforcing system in which the effect of one attribute is contingent on the state of the other attrib-

utes. Each of the four determinants of national competitive advantage is briefly discussed below.

Determinants of National Competitive Advantage: Porter's Diamond Model

Figure 8.1



Source: Porter 1990a, p. 127.

Factor Conditions

The first element of the diamond is the nation's possession of factors of production. Consistent with the *factor proportions theory* (Heckscher-Ohlin), every country has a relative abundance of certain factor endowments. In his diamond model, Porter distinguishes between basic and advanced factors.

Basic factors are those such as land, climate, natural resources or demographics, while *advanced factors* relate to more sophisticated ones, including the nation's stock of knowledge resources (e.g. scientific, technical or market knowledge), the transportation and communication infrastructure or a sophisticated and skilled labour force (Rugman/Collinson 2012, p. 303).

In the diamond model, the *advanced factors* are regarded as being most significant for competitive advantage. These factors can be created through training, research and innovation and thus are a product of investment by individuals, companies or the government. The basic assumption is that a nation must continually *upgrade* or adjust its factor conditions. The basic factors provide the country with an initial advantage that can subsequently be reinforced by investing in *advanced factors*. On the other hand, disadvantages in

Basic Factors and Advanced Factors

basic factors mean that countries need to invest in advanced factors (Porter 1990b). Thus, upgrading a nation's advanced factors, such as the educational system or infrastructure, is regarded as a means to improve a nation's competitive advantages.

Demand Conditions

Home Market Demand

Demand conditions refer to the nature and size of the *domestic demand* for an industry's products and services. Here, the main characteristics are the *strength* and *sophistication* of domestic customer demand. Porter (1990b, pp. 79-80) argues that companies are most sensitive to the needs of their closest customers. Thus, home market demand is of particular importance in shaping the attributes of the companies' products. The more sophisticated and demanding their local customers, the more pressure is created for innovation, efficiency and upgrading product quality. Therefore, it is assumed that with increasing consumer sophistication in their home markets and, consequently, with increasing pressure on local sellers, their competitive advantage will escalate (Hill 2013, pp. 198-199).

Size of Home Market

While the nature of home market demand mainly relates to pressure to improve local companies' performance, the *size* of the home market is important, as it enables companies to achieve economies of scale and experience curve advantages. This is even more important when scale economies limit the number of production locations. In this case, the size of its market is an important determinant of the country's attractiveness as a potential location. Additionally, empirical evidence shows that efficient firms are often forced to look for international opportunities at stages when their early (large) home market becomes saturated. Their home markets provide these companies with scale advantages that can be used in the global marketplace (Hollensen 2014, pp. 103-104).

Related and Supporting Industries

Industrial Cluster

The presence of a business environment comprising related suppliers, competitors and complementary firms is regarded as highly supportive for an industry to build competitive advantages. Such a (geographical) concentration of companies, suppliers and supporting firms at a particular location is labelled an *industrial cluster* (Porter 2000, p. 254).

Firm Strategy, Structure, and Rivalry

This element of the diamond relates to the firm-based theories of internationalisation that focus on the actions of individual firms. National context

and national circumstances strongly influence how companies are created, organised and managed and the nature of domestic rivalry (Porter 1990b, p. 81).

Domestic competition affects companies' ability to compete in the global marketplace. Not only does the presence of *local competitors* automatically cancel out advantages that come from a nation's factor endowment or characteristics of home market demand, but the higher the level of domestic competition, and the stronger the rivals in the home market, the more companies are forced to become more efficient and to adopt new technologies. High pressure in a competitive home market leads to *selection processes* and leaves only the most efficient firms as survivors. At the same time, this is associated with continuous pressure on companies to innovate and to improve (Griffin/Pustay 2013, pp. 184-187).

Not only does competitive pressure vary between countries, but managerial practices, organisational modes, company goals and individual achievement goals also differ significantly between countries. These differences lead to *dissimilar international strategies* of the firms. Additionally, Porter argues that specific managerial systems are needed to be successful in each of the diverse industries. Thus, if a nation's firms follow a specific managerial system this only can be successful in selective industries. Thus, such differences also play an important role in the diamond model, because different management ideologies influence the ability to build national competitive advantage (Porter 1990b, pp. 81-82).

The Role of Chance and Government

As already mentioned, the basic underlying view of the diamond model is that competitive advantage can be created. Therefore, nations can influence competitive advantage by systematically improving each of the elements of the diamond. In this connection, it is important to note that *government interventions* must be considered in terms of their impact on domestic company activities, because the underlying view in the diamond model is that "firms, not nations, compete in international markets" (Porter 1990a, p. 33).

Governments can, for example, cultivate new and superior *factor endowments*, influence the nature of *local competition*, *home market demand* or *clustering of firms* by using measures such as subsidies, investing in the educational system, monetary and fiscal policy (e.g. tax incentives or low interest loans), the development and maintenance of a strong infrastructure (e.g. IT, communication systems, transportation), antitrust regulations or enforcing product and safety standards. However, one must not forget that such well-intentioned government actions can also *backfire* and lead to the creation of a

*Domestic
Competition*

*Managerial
Systems*

*Government
Interventions*

Role of Chance

“sheltered” domestic industry that is unable to compete in the global marketplace (Rugman/Collinson 2012, p. 304).

Additionally, the role of *chance* in building competitive advantage is recognised in the diamond model. However, this influence of chance is by its very nature not predictable. For example, chance influences the creation of new ideas or new inventions. Also wars, significant shifts in world financial markets, discontinuities in input costs (e.g. oil price shocks) or major technological breakthroughs can have a significant impact on a nation’s competitive advantage.

Evaluation of the Diamond Model

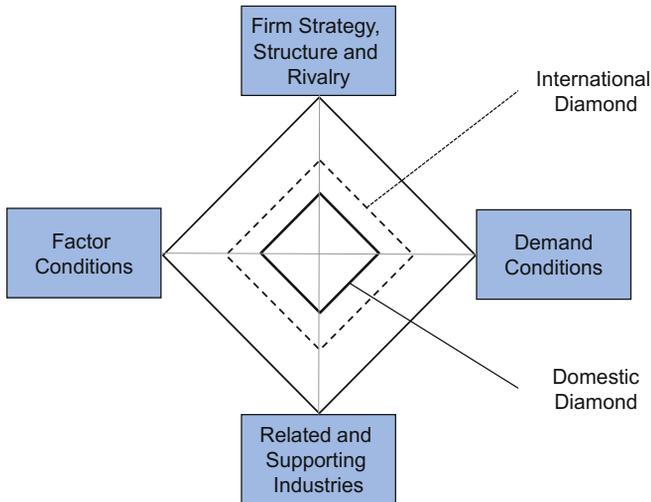
Each of the four elements of the diamond model has an influence on the nation’s competitive advantage in a specific industry, with all of these attributes depending on the state of the others. Usually, the presence of all four components is required to increase competitive advantage, with weaknesses in any one determinant constraining an industry’s potential for advancement and upgrading. While the diamond is regarded as a *self-reinforcing system*, the role of two additional forces is also important: government and chance.

Role of Multinational Companies

A controversial debate centres on the role of MNCs in the diamond model. Several researchers (e.g. Dunning 1993; Moon/Rugman/Verbeke 1998) have argued that *multinational activity* should be included as a third outside variable, because MNCs are influenced in their competitiveness by the configuration of the diamond in other than their home countries and this in turn influences the competitiveness of the home country. “Therefore, Porter’s original diamond model has been extended to the generalized double diamond model whereby multinational activity is formally incorporated into the model” (Moon/Rugman/Verbeke 1998, p. 137; see also Moon/Rugman/Verbeke 1995).

The Generalised Double Diamond

Figure 8.2



Source: Adapted from Moon/Rugman/Verbeke 1998, p. 138.

Figure 8.2 shows the *generalised double diamond*. “The size of the global diamond is fixed within a foreseeable period, but the size of the domestic diamond varies according to the country size and its competitiveness. The diamond of dotted lines, between these two diamonds, is an *international diamond* which represents the nation’s competitiveness as determined by both domestic and international parameters. The difference between the international diamond and the *domestic diamond* thus represents international or multinational activities. The multinational activities include both outbound and inbound foreign direct investment (FDI)” (Moon/Rugman/Verbeke 1998, p. 138).

Stages in National Development

The diamond model can be used to distinguish between three *growth stages* of national competitive development (Porter 1990a, pp. 555-565):

- *Factor-driven stage*: This first stage relates to industries that draw their advantages solely from the nation’s factor endowments, mainly from basic factors of production such as natural resources (e.g. mineral deposits). These industries can be successful internationally but they compete primarily on price.

- *Investment-driven stage*: This stage implies efforts of upgrading of the nation's industry as companies invest in modern technology and more efficient facilities.
- *Innovation-driven stage*: While in the second stage investment in modern, but already existing technology dominates, the third stage is characterised by the creation of new technology or (production) methods. These improvements are yielded by internal innovation as well as by innovation in cooperation with, or with assistance from, suppliers and companies in related industries.

This model mainly relates to the stages of a nation's industries. Usually, countries span two or more stages in this model, because there are likely to be industries (or companies) in all countries that are operating at each stage.

Competitive Advantages of Emerging Countries

The ongoing integration of *emerging countries* into the global economy has further strengthened the importance of these ambitious countries within the business strategies of most multinational companies (Rugman/Collinson 2012, p. 637). According to recently published projections, the combined economic output of Brazil, China and India – the three biggest economies among the *newly industrialised countries* – will surpass the aggregate output of Canada, France, Germany, Italy, the United Kingdom and the United States by the year 2020 (United Nations Development Programme 2013, p. IV) (see also Chapter 5).

As early as 1926, John Maynard Keynes summed up – although in a different context – what can still be considered the foundation of many competitive advantages emerging countries have compared to highly developed nations: “The political problem of mankind is to combine three things: Economic Efficiency, Social Justice and Individual Liberty” (Keynes 2009, p. 187). Since the process of industrialisation started in the 19th century, the now so-called *developed economies* have achieved remarkable success in terms of labour conditions, environmental protection, human rights and animal protection or social insurance. On the one hand, these accomplishments have contributed to social justice and individual liberty. On the other hand, they have slowed down these countries' efforts towards maximising economic efficiency.

Most emerging countries, especially the so-called BRICs, have managed to turn this shortfall regarding social and political development into a huge competitive advantage in the first stage by offering low labour costs, an almost inexhaustible quantity of nonunionised workers (e.g. China, India) or almost unrestricted access to energy (e.g. Russia) and precious raw materials

such as rare earth elements (e.g. Brazil) (Sheth 2011, p. 170). At the same time, these countries demand only insignificant environmental or health and safety at work regulations, negligible taxes and only a loose commitment to corporate social responsibility (Deng/Li 2012, p. 157; Humphries 2013, p. 9; Meulen Rodgers/Menon 2013, p. 934). These competitive advantages are boosted even further by constant infrastructural improvements and decreasing costs of transportation and logistics.

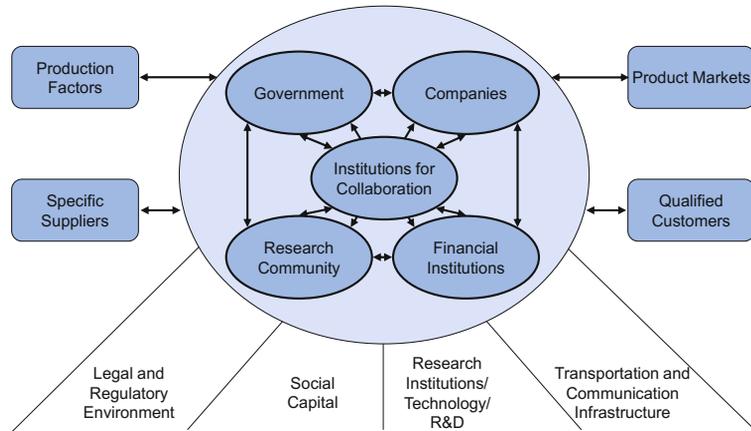
In a second step, they are now improving the social and ecological standards, training and educating the personnel, which finally leads to substantial progress in research and development: They presently combine cost advantages with skills, as can be seen in China (largest export country, see Chapter 5) or India (global IT competence centre).

Because of this economic development, emerging countries do not just play a major role in MNC's sourcing or production strategies, but also in their distribution strategy. While highly developed countries are increasingly marked by saturated markets in many product categories, the ascending wealth in emerging countries enables more and more customers in these countries to consume Western products from powerful brand manufacturers such as *BMW*, *Mercedes Benz* or *Apple* (Jansson 2007, p. 14). Another important effect of the competitive advantages of emerging countries is the growing appearance of *emerging country multinationals* in the global arena (see Chapter 5).

Regional Clusters

In the diamond model, the regional clusters play a prominent role: "We define a cluster as a geographically proximate group of interconnected companies, suppliers, service providers and associated institutions in a particular field, linked by externalities of various types" (Porter 2003, p. 562). Therefore, clusters are closely linked with the dimensions "related and supporting industries" and "firm strategy, structure, and rivalry" of Porter's diamond model.

Figure 8.3 Actors in Regional Clusters



Source: Adapted from Sölvell/Lindqvist/Ketels 2003, p. 18; Andersson et al. 2004, p. 31.

Competition and Cooperation

Clusters can include *suppliers* of specialised inputs (e.g. components, machinery, and services) or providers of specialised *infrastructure* (see Figure 8.3). They are usually extended downstream to customers and laterally to complementary industries and companies in industries through by technologies, common inputs or skills. Often, clusters also encompass governmental and other institutions (e.g. universities, think tanks, or standard-setting agencies) that provide specialised research, education, training, and technical support (Porter 1998, p. 78).

The nature of clusters thus leads to an internal constellation that promotes both competition and cooperation ("*co-opetition*"). *Competition* occurs between the rival companies located in geographical proximity, while *cooperation* mainly relates to vertical channel relationships with related companies, related industries or local institutions.

Advantages of Regional Industry Clusters

The advantages from such a clustering of firms mainly stem from the presence of a specialised *infrastructure*, industry-sector-specific *factors of production* and *skilled labour* in the specific professional field, from *information and knowledge synergies*, and access to appropriate or *superior inputs*.

If an industry is located close to its suppliers, it will enjoy better *communication* and the exchange of cost-saving ideas and inventions with those suppliers. This is mainly a result of *geographical proximity*, which enables close working relationships. This yields advantages from short lines of communication and a quick and constant flow of information with companies having the opportunity to influence their suppliers' technical efforts, which can help to accelerate the pace of innovation (Cavusgil/Knight/Riesenberger 2014, p. 182).

The nation's industry benefits most from clustering, if the suppliers or the complementary firms themselves are internationally competitive (Porter 1990b, p. 81).

Cluster Lifecycle

One of the main results of Bergman's (2008, pp. 114-132) extensive analysis of cluster lifecycle concepts is the finding that "at present there is no single best metric of cluster activity, nor is there an agreed-upon aggregation principle by which to create one" (Bergman 2008, p. 127). There is no doubt that internal factors of a cluster – such as industry classification, pace of innovation or flows of tacit knowledge – as well as external factors – such as national legal systems, regional geographic characteristics or global resource markets – influence cluster characteristics and growth in a way that leads to very different paces of cluster evolution and highly divergent *cluster life spans* (Sonderegger/Täube 2010, p. 384). Nevertheless, in most cases, cluster development can be explained as an ongoing process with clusters passing through a number of stages, although not all clusters go through the lifecycle in full and not all companies within a cluster necessarily experience the lifecycle synchronously. Therefore, Bergman (2008, pp. 126-127) proposes considering relevant lifecycle concepts "as leading to a better understanding of detailed phases and stages, using the conventional life-cycle as a discussion template", which basically consists of the following three phases, supplemented by several sub-phases: existence/emergence, expansion and exhaustion.

Based on these findings, it is logical to propose an ideal type of lifecycle cluster development in six phases (see Figure 8.4) (Schramm-Klein 2005; Aziz/Norhashim 2008, pp. 366-367; Sölvell 2008, pp. 39-44):

1. *Emergence of pioneers*: Cluster development is usually stimulated by several causes, including a combination of basic or advanced factors in a region, such as natural resources, specific knowledge (e.g. in universities or research institutions), specific customer demand or technological innovation. According to the *diamond model*, these diverse drivers can be regarded as sources of competitive advantage. Primary companies emerge that

Analysis of Concepts

focus on the deployment of these advantages. In the initial stage of cluster development, more and more companies emerge that focus on these specific competitive advantages, and they are often *spin-offs* of these primary companies. Thus, an agglomeration of companies with similar production structures evolves. This increases local competition which in turn drives improvement and innovation among the local competitors.

Outsourcing and Specialisation

2. *Development of specialised suppliers:* In the second stage of the lifecycle, specialised suppliers and service companies locate close to the core companies. This may partly be a result of (local) *outsourcing* activities. Additionally, at this stage of cluster development, the development of a specialised employment market occurs. The *specialisation* of companies and suppliers, which is associated with lower *transaction costs*, access to lower-cost and more *specialised inputs* (e.g. components, machinery, or business services), as well as access to highly *specialised personnel*, lead to quality improvements and increased efficiency in the industry. These advantages are not available to competitors located in less agglomerate regions and are an important source of competitive advantage stemming from the external effects of firm clustering.

Local Cooperation

3. *Emergence of related institutions:* In the next stage, institutions such as *universities, research institutes* or *governmental institutions* locate in the cluster. These institutions foster local cooperation, mutual learning processes, and the local diffusion of technological developments. Thus, a cluster-specific knowledge base is established.

Informal Cooperation

4. *Attraction of related companies and specialised workforce:* The cluster externalities attract related firms and specialised personnel to locate in the cluster region. This in turn leads to an additional enhancement of cluster attractiveness and of cluster externalities.
5. *Development and upgrading of informal and personal relationship quality:* This stage is characterised by the development of relationships between cluster members at an informal and personal level. Such relationships foster informal cooperation and knowledge transfer between companies and institutions in the cluster. In this context, the transmission of *tacit knowledge* is of fundamental importance.

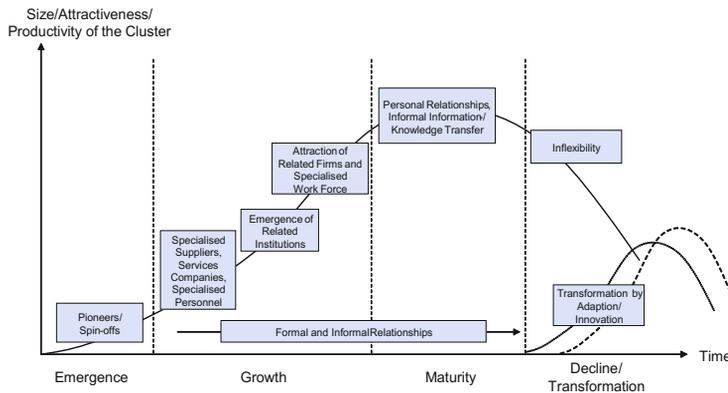
Inertia and Inflexibility

6. *Decline or transformation of the cluster:* After a period of positive development, most regional clusters enter the *decline stage*. Often, the further advance of clusters is inhibited by technological, institutional or socio-cultural factors that initially fostered positive development, but in the long term, can cause *inflexibility* or even *inertia*. In such cases, clusters are trapped in their specialisation and further innovation is impeded. On the other hand, if such stages of inflexibility can be avoided, clusters at some stage of their development will need to adapt to changes in the market,

processes or technology. This leads to a *transformation* of the clusters into new forms, such as through focusing on new or diverse activities.

Cluster Lifecycle

Figure 8.4



Source: Adapted from Schramm-Klein 2005, p. 542; Menzel/Fornahl 2010, p. 218.

Cluster Initiatives

Clusters can emerge and develop without any governmental influence, simply as a result of specific beneficial constellations of a region (e.g. factor endowment or specific technology). On the other hand, the diamond model implies that governments can try to influence cluster development and to initiate clusters by providing specific benefits in a region, so as to improve the competitive advantage of the nation (or of specific regions).

Cluster initiatives are organised efforts to enhance the growth and competitiveness of a cluster. They involve private industry, public authorities and/or academic institutions (Sölvell/Lindqvist/Ketels 2013, p. 1). Public authorities can make use of different means to enhance and improve cluster development, such as described by Sölvell (2008, pp. 53-54; see also Boja 2011):

- *Human resources upgrading*: enhancement of the available skills pool, e.g. through vocational training or management education
- *Cluster expansion*: measures to increase the number of firms, e.g. through incubators designed to promote new business formation or by promoting inward investment within the region

- *Internationalisation*: promotion of firm internationalisation, e.g. export promotion
- *Promotion of commercial cooperation*: encouraging firms to communicate and interact with each other
- *Promotion of innovation*: promotion of product, services and process innovation, e.g. through enhanced cooperation and networking between firms or through cooperation between firms and research institutions (e.g. university spin-offs)
- *Enhancement of environmental conditions*: enhancement of conditions for business, e.g. through improving the legal and institutional setting or the physical infrastructure.

These instruments are mainly meant to create a favourable environment that promotes the conditions for operating in the cluster, so as to improve competition, growth and innovation. In this connection, the enhancement of the attractiveness of a cluster for all in the cluster is one of the main motives of public authorities.

Conclusion and Outlook

Nations as well as companies strive to build competitive advantage, in order to expand their role in the global marketplace. An important model for explaining competitive advantage for specific industries of a country is *Porter's diamond model*, expanded into the *generalised double diamond*.

The main idea behind this diamond model is that the *characteristics of the home country* play a central role in a company's international success. A firm's competitive advantage results from an effective combination of national circumstances and company strategy. The specific conditions in the home base can create an environment in which firms can attain international competitive advantage, but it is important to note that it is up to each company to seize the opportunity (Hollensen 2014, p. 101).

In this connection, the role of regional clusters is stressed. Competitive advantage in regional clusters can be explained basically by three forms of *cluster externalities* (Porter 1998, p. 80):

- *Enhancement of productivity and efficiency*: The sophisticated nature of competition forces companies to improve productivity continually. Additionally, synergies resulting from specialised inputs, personnel, infrastructure and information transfer between cluster companies reinforce such improvement.

*National
Circumstances
and Company
Strategy*

*Cluster
Externalities*

- *Facilitation of innovation processes and pace of innovation:* Potential areas for innovation are often detected earlier and proceed faster in regional clusters because of access to specialised resources, information sharing, close communication and cooperation between cluster members.
- *Stimulating the foundation of new businesses:* The foundation of new businesses is fostered because of favourable site-related factors in regional clusters, such as specialised suppliers, infrastructure or customers. Additionally, outsourcing and specialisation lead to new business cluster actors realising new business opportunities earlier and therefore, for example, spin-offs are brought forward.

Further Reading

KETELS, C. (2013): Recent Research on Competitiveness and Clusters: What Are the Implications for Regional Policy?, in: Cambridge Journal of Regions, Economy and Society, Vol. 6, No. 2, pp. 269-284.

PORTER, M.E. (2008): On Competition, Boston, Harvard Business School Press, pp. 171-305.

SHETH, J.N. (2011): Impact of Emerging Markets on Marketing: Rethinking Existing Perspectives and Practices, in: Journal of Marketing, Vol. 75, No. 4, pp. 166-182.

Case Study: London Financial Cluster*

History

“A consistent theme throughout the history of international banking has been the importance of international financial centres. Since the 19th century, internationally active banks have sought a London branch” (Committee on the Global Financial System 2010, p. 12).

* Sources used for this case study include the web sites www.isc.hbs.edu, www.cityoflondon.gov.uk, www.londonstockexchange.com and www.thecityuk.com as well as explicitly cited sources.

Emergence

Located right by the River Thames, London has profited throughout its history from the river's role as an important trade route, making London an inland sea-port. "This placed London at the heart of trade within the British Isles, and also established its status as an international entrepôt" (Mollan/Michie 2012, p. 544). With Britain as the world's first modern economy, commerce as the dominant economic activity developed strong needs for trade finance. Over the centuries, London became the world's largest centre in terms of wealth, population, trade and communications by the end of the 19th century. Comprising a geographically proximate group of interconnected merchants, commodity brokers, and markets, all of them served by numerous support services, the City of London was the largest cluster of commercial firms in the world at that time (Mollan/Michie 2012, p. 539). Accordingly, the groundwork for the development of a supporting collection of financial institutions, nowadays referred to as the *London Financial Cluster*, had been laid.

Financialisation

In the 20th century, the City of London's role underwent a fundamental transformation. While London's commercial cluster suffered from a continuing decline, the process of financialisation, which means "the growing importance of financial markets as a source of profits in the economy" (Krippner 2011, p. 27), gained even further strength. In contrast to most of London's commercial sectors, the financial cluster demonstrated an outstanding ability to adapt, innovate and change over the years, eventually emancipating itself from its supporting role for the commercial cluster by focussing on domestic and international finance and related activities (Mollan/Michie 2012, p. 575).

Despite the ongoing success of London's financial cluster in the second half of the 20th century, the UK government had to acknowledge more and more, that when other countries act without restriction, a single country can no longer afford a strict control of capital flows without putting its domestic financial institutions at a severe comparative disadvantage. There is no doubt, that over the decades, strengthening competition between New York, London, and Tokyo to become the world's most important financial centre, was responsible for the rapid reduction of capital controls in the UK, the USA and Japan, starting after the collapse of *Bretton Woods* (Rajan/Zingales 2003, p. 25). As a result, in October of 1986, the *London Stock Exchange* became the first major European market to be deregulated.

Deregulation

A series of measures aiming at further deregulation of financial markets made this development possible. This dramatic *financial liberalisation*, which has been known since then as the “Big Bang”, dismantled most barriers, increased London’s competitiveness as a global financial centre and attracted large American banks such as *Citibank*, *Chase Manhattan*, and *Shearson Lehman*.

Nowadays, the *London Financial Cluster* can still be considered as one of the most important financial centres in the world. The most impressive aspect about this fact is the “remarkable consistency in the attractions of the City of London for international banking, despite repeated global financial crises and ongoing financial innovation” (Shenk 2010, p. 240) and despite two World Wars.

Profile

The importance of London as a global financial centre to the UK economy is fundamental: In 2011, London based financial and related professional services (accounting, management consulting, legal services) contributed 79,979 billion GBP to the UK economy, accounting for 5.95% of total economic output.

The cluster’s global importance can be demonstrated by its market share in several key areas. For example, the *London Financial Cluster* has a share of 46% of the “over the counter” (OTC) derivatives market; 70% of global *Eurobond* turnover is traded in London; there is a foreign exchange turnover of 1.9 trillion USD per day in London, representing 37% of the global share; London is responsible for a share of 96% of the EU emissions trading scheme; and London obtains more than 80% of hedge fund assets under management in Europe. There are more head offices of banks in London than in any other city in the world. At the same time, London is home to 251 foreign banks and to the European headquarters of over a third of all “Fortune 500” firms.

To sum it up, the London financial centre placed second in the *Global Financial Centres Index* 2015 with an overall rating of 784 index points, positioned between New York with 786 points and Hong Kong with a rating of 761. Drawing on two separate sources of data – instrumental factors (third party measures and indices) and responses to an online questionnaire – the “*Global Financial Centres Index*” (GFCI) provides profiles, ratings and rankings for 80 financial centres in the world.

London Financial Cluster

Table 8.2 GFCI 15 Industry Sector Sub-Indices Top 10

Rank	Investment Management	Banking	Government & Regulatory	Insurance	Professional Services
1	New York (-)	New York (-)	London (-)	New York (+2)	London (-)
2	London (-)	Hong Kong (-)	New York (-)	London (-1)	New York (-)
3	Hong Kong (+1)	London (-)	Hong Kong (-)	Singapore (-)	Hong Kong (-)
4	Singapore (-1)	Singapore (-)	Zurich (-)	Hong Kong (-2)	Singapore (-)
5	Tokyo (-)	Seoul (-)	Singapore (+1)	Seoul (+23)	Zurich (-)
6	Boston (-)	Zurich (+2)	Geneva (-1)	Zurich (-1)	Tokyo (+3)
7	Zurich (-)	Tokyo (-1)	Tokyo (-)	Chicago (+4)	Geneva (-1)
8	Toronto (-)	Shanghai (+5)	Seoul (+6)	Boston (-2)	Chicago (+6)
9	Geneva (+1)	San Francisco (+1)	Frankfurt (-1)	Geneva (-1)	Toronto (+1)
10	Chicago (+1)	Geneva (-1)	Toronto (-)	Tokyo (+5)	Washington DC (+20)

(The range from previous years is displayed in brackets.)

Source: Z/YEN LTD. 2014, p. 31.

Achieving these impressive figures requires a highly trained, mostly *multi-lingual workforce*. After hitting a low of 635,900 employees in 2010, employment has more than only recovered from the huge impact of the financial crisis. Since 2010, a constant rise in employment has led to a new record. In 2013, 688,800 people worked in the financial and related professional services sector in London, spread over the following sub-sectors.

Table 8.3 Financial and Related Professional Services: Employment in London at End 2013

Rank	Sector	Employment	Change from previous year
1	Accounting & Management Consultancy	215,500	1.4%
2	Banking	147,100	2.4%
3	Auxiliary & Other	126,400	2.1%
4	Legal Services	106,000	2.8%
5	Insurance	70,700	0.5%
6	Fund Management	23,100	3.6%

Source: TheCityUK 2014.

According to a recent forecast, this record will even topped in 2014, with a new high of 707,500 employees.

The co-location of various entities that form the *London Financial Cluster* has been essential to its strong performance. Its securities exchanges and OTC markets form the heart of the *London Financial Cluster*. On one hand, these include more familiar exchanges such as the *London Stock Exchange (LSE) Group*, which operates a broad range of international equity, bond and derivatives markets, including:

- the *Main Market* as London's flagship market for larger and more established companies
- the *Alternative Investment Market (AIM)* as *LSE's* international market for smaller growing companies
- the *Professional Securities Market* as an enabler for companies to raise capital through the listing of specialist securities, including debt and depositary receipts, and extending to professional investors.

The *London Stock Exchange Group* also operates the Milan-based exchange *Borsa Italia*, which is Italy's leading stock exchange and was acquired in 2007 for a price of 1.6 billion EUR, the *Italian Derivatives Exchange Market (IDEM)*, *MTS* as the premier facilitator for the electronic fixed income trading market and the *Turquoise* platform that trades derivatives. Furthermore, the *LSE Group* performs post trade and custody services, sells real-time market information and reference data, and offers trading technology to capital markets clients through Sri Lanka-based *MilleniumIT*, which was acquired in 2009.

On the other hand, the *London Financial Cluster* also consists of numerous lesser-known, but undoubtedly fundamentally important commodities markets such as the *London Metal Exchange*, the world centre for industrial metals trading and price-risk management, *APX Power Spot Exchange* or the *London Bullion Market (LBMA)*, a wholesale OTC market for the trading of gold and silver.

Since its emergence, the cluster has been exposed to many of external factors and developments that implied potentially dramatic changes to the *cluster's business model*. The advent of electronic trading can be seen as one of the most fundamental parameters in determining the future direction of the cluster, as it led to a paradigm shift with massive consequences for all major securities markets in the world. Prior to the introduction of the *automated trading system* in 1997, London's financial services sector relied on securities specialists to act in person on the exchanges' trading floors, making the co-location of all discussed entities essential. This applied to both transaction-related services and intermediaries that bring companies to and place capital

*Financial Markets:
Exchange and
OTC*

Paradigm Shift

from custodian, commercial and investment banks at the markets. The conversion to electronic trading has reduced this need for a co-location of financial services. In addition, it has accelerated the consolidation process of securities exchanges, finding expression, for example, in several acquisitions that the *London Stock Exchange Group* finalised within the last few years.

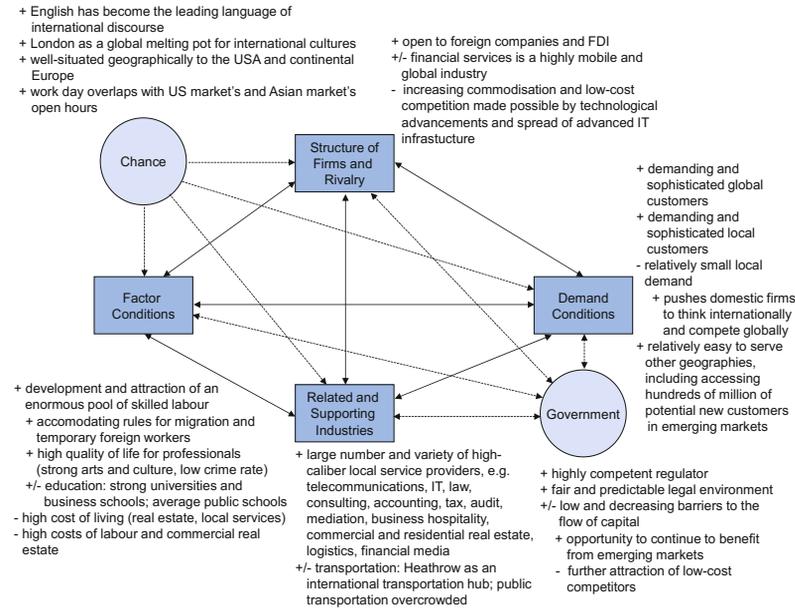
Driving Forces of the Cluster Formation

Based on *Porter's Diamond Model*, the main attributes that promote or impede the creation of competitive advantage can be divided into: (1) factor conditions, (2) demand conditions, (3) related and supporting industries, (4) structure of firms and rivalry, and (5) other advantages.

Based on work at the *Institute for Strategy and Competitiveness* of the *Harvard Business School*, these assumptions can be transferred to the *London Financial Cluster* and are presented below. Advantageous factor conditions, especially the availability of skilled personnel, can be declared as the primary reason behind the cluster's competitiveness. The government's role should be seen as the second most crucial component of competitiveness, mainly because of the vital high importance of a competent, trustworthy and reliable regulator. Nevertheless, there are still numerous other factors influencing a financial clusters regional and global competitiveness (see Figure 8.5 for an assessment of the competitiveness of *London Financial Cluster*).

London Financial Cluster in Porter's Diamond Model

Figure 8.5



Source: Adapted from Porter 1990a, p. 127.

Factor Conditions

The factor conditions in general are advantageous for the financial cluster of London. In addition, the cluster benefits from existing specialised tangible and intangible factors:

- *Cluster-specific human resources* are being financially educated in institutions that belong to the best around the globe. Greater London offers one of the largest concentrations of universities and higher education institutions in the world, including elite institutions such as the *London School of Economics*. Furthermore, the famous world-class universities of *Oxford* and *Cambridge* are situated only about 60 miles from London. In addition, programmes offered by private and industry sponsored course providers are available both online and offline and are customised to the specific needs of the following sectors: banking, investment banking, asset/fund management, insurance and capital markets.
- The *government* provides a high standard of regulation by regulators with deep industry knowledge and technical skills appropriate for com-

Cluster-Specific Factor Conditions

plex financial business, reinforced through strong cooperative relationships between the financial and related professional services sector and the government. Also, stable, transparent and consistent immigration rules that do not constrain international mobility and that do not prevent highly skilled international students from becoming local professionals are crucial to the success of the *London Financial Cluster*. The same goes for local employment laws: The sector benefits from a flexible recruiting process that makes hiring simple and downscaling in a harsh business environment relatively expensive.

- The *cluster-specific infrastructure* is designed to ensure high connectivity and openness to other financial centres and international market infrastructures through electronic trading systems, allowing fast and reliable data links coupled with remote access to financial markets around the globe.

Local and Demand Conditions

The demand conditions can be subdivided into two relevant factors. On the one hand, the level of local demand is important for a cluster, on the other hand, the nature of local demand qualities play a decisive role. Although not as relevant to *London Financial Cluster's* competitiveness as the factor conditions, demand conditions still display another solid advantage:

- The magnitude of local demand is an advantage in a paradoxical way. Since local demand is no more than average in the London area, the financial and related professional services sector is forced to think internationally and compete globally. Broad openness and high connectivity to the world's leading financial and commercial centres, as well as gaining access to the huge potential of new customers in the aspiring emerging economies, contribute to the overall very satisfactory demand conditions.
- Regarding the nature of local and global demand, the *London Financial Cluster* is still very attractive to demanding and sophisticated global customers. Nevertheless, these customers will not tolerate any uncertainty about the regulatory framework. Thus, British and international business leaders are gradually raising the pressure on the UK government to end the debate on Britain's EU membership.

Related and Supporting Industries

As described in the "Profile" section, the *London Financial Cluster* is not solely composed of the financial services sector, but related professional services, such as accounting, management consulting and legal services. Considering

the specific needs of these institutions, a strong supporting infrastructure related to IT, telecommunications and commercial real estate has emerged. Furthermore, the cluster is aided by *London Heathrow Airport* that provides reliable international transport. With more than 72 million passengers in 2013, *London Heathrow* is by far the busiest airport in Europe and the third busiest airport worldwide in total passenger traffic, transporting more international passengers than any other airport in the world. Additionally, the emergence of a modern and flexible business hospitality industry should be mentioned in this context, which conforms well to the requirements of London's financial services sector by offering suitable hotels, conference centres or restaurants. In conclusion, London is home for two of the world's most influential financial services publications, *The Financial Times* and *The Economist*.

Structure of Firms and Rivalry

The "Structure of Firms and Rivalry" attribute includes several conditions that result in both further advantages of the *London Financial Cluster* as well as selected disadvantages.

The vigorous competition among local firms and individuals is a very important driver of innovation. Global players are attracted by the city's openness to foreign companies, and they especially appreciate a just and predictable regulatory environment with few constraints and minimal political pressure. Nevertheless, low and decreasing barriers to the flow of capital also have a downside; they increase commodisation and low-cost competition. This high level of competition puts a lot of pressure on all competitors to innovate, improve and optimise efficiency.

Another aspect that should be mentioned in this context is the concept of "co-opetition", which refers to cooperation between essentially competing companies. On the one hand, this creates further advantages, such as participating companies learn from each other or conduct joint research or education projects. On the other hand, very close *collaboration* can encourage participating companies to ignore legal barriers. The latter resulted in a series of fraudulent actions connected to the *London Interbank Offered Rate (Libor)*. Since 2012, the involved banks such as *Barclays*, *Deutsche Bank*, *HSBC*, *Société Générale*, *Royal Bank of Scotland*, *UBS* or *JP Morgan* were fined for manipulation, altogether amounting to several billion EUR.

Co-opetition

Summary and Outlook

Despite the decreasing need for co-location and the related consolidation process, *mutual trust* is still the basis of most financial transactions. Even with modern technology, in most cases, the principal parties to a financial transaction prefer to meet in person and establish a *personal relationship* before proceeding. The information and knowledge exchanged within the *London Financial Cluster* can be considered a potent driver of ideas and market innovation. The result is that a distinguishing feature of financial centres is the concentration of people, firms and activities in one place. These include intermediaries, such as banks and brokers, investors such as hedge funds and other asset managers, major corporations, and related professions such as legal, accounting, IT and PR firms.

In summary, the *London Financial Cluster* as one of the top financial centres in the world is not in danger. Nevertheless, risk factors, such as ongoing uncertainty over Britain's EU membership, could strain the cluster's global competitiveness.

Questions

1. What are the conditions for cluster formation in general? Elaborate in this context on the diamond model of Porter. Analyse the proposal of several researchers (e.g. Dunning 1993; Moon/Rugman/Verbeke 1998) to include multinational activity as a third external variable in Porter's diamond model within the scope of *London Financial Cluster*.
2. Describe the influence of clusters on innovation with regard to the different types of organisation and cooperation of clusters.
3. Discuss the advantages and disadvantages of cluster location for the participating companies. Reflect on the consequences of a London location for the resident businesses.

Hints

1. See Z/Yen Ltd. 2005.
2. See OECD 2009.

References

- ANDERSSON, T.; SCHWAAG SERGER, S.; SÖRVIG, J.; WISE HANSSON, E. (2004): *The Cluster Policies Whitebook*, Malmö, IKED.
- AZIZ, K.A.; NORHASHIM, M. (2008): *Cluster-based Policy Making: Assessing Performance and Sustaining Competitiveness*, in: *Review of Policy Research*, Vol. 25, No. 4, pp. 349-375.
- BERGMAN, E.M. (2008): *Cluster Life-cycles: An Emerging Synthesis*, in: Karlsson C. (Ed.): *Handbook of Research on Cluster Theory*, Cheltenham/Northampton, Edward Elgar Publishing, pp. 114-132.
- BOJA, C. (2011): *Clusters Models, Factors and Characteristics*, in: *International Journal of Economic Practices and Theories*, Vol. 1, No. 1, pp. 34-43.
- CAVUSGIL, S.T.; KNIGHT, G.; RIESENBERGER, J.R. (2014): *International Business: The New Realities*, 3rd ed., Boston, Pearson.
- COMMITTEE ON THE GLOBAL FINANCIAL SYSTEM (2010): *Long-term Issues in International Banking*, in: *CGFS Papers*, No. 41, pp. 1-37.
- DENG, Q.; LI, S. (2012): *Low-paid Workers in Urban China*, in: *International Labour Review*, Vol. 151, No. 3, pp. 157-171.
- DUNNING, J. (1993): *Multinational Enterprise and the Global Economy*, New York, Addison-Wesley.
- GRIFFIN, R.; PUSTAY, M. (2013): *International Business: A Managerial Perspective*, 7th ed., Upper Saddle River, New Jersey, Pearson.
- HILL, C.W.L. (2013): *International Business: Competing in the Global Marketplace*, 9th ed., New York, McGraw-Hill.
- HOLLENSSEN, S. (2014): *Global Marketing*, 6th ed., Harlow, Pearson.
- HUMPHRIES, M. (2013): *Rare Earth Elements: The Global Supply Chain*, <http://www.fas.org/sgp/crs/natsec/R41347.pdf>, accessed on August 18, 2014.
- JANSSON, H. (2007): *International Business Strategy in Emerging Country Markets: The Institutional Network Approach*, Cheltenham/Northampton, Edward Elgar Publishing.
- KETELS, C. (2013): *Recent Research on Competitiveness and Clusters: What Are the Implications for Regional Policy?*, in: *Cambridge Journal of Regions, Economy and Society*, Vol. 6, No. 2, pp. 269-284.
- KEYNES, J.M. (2009): *Essays in Persuasion*, New York, W.W. Norton & Company.

KRIPPNER, G.R. (2011): *Capitalizing on Crisis: The Political Origins of the Rise of Finance*, Cambridge, Harvard University Press.

MENZEL, M.-P.; FORNAHL, D. (2010): Cluster Life Cycles: Dimensions and Rationales of Cluster Evolution, in: *Industrial and Corporate Change*, Vol. 19, No. 1, pp. 205-238.

MEULEN RODGERS, Y. van der; MENON, N. (2013): Labor Regulations and Job Quality: Evidence from India, in: *Industrial & Labor Relations Review*, Vol. 66, No. 4, pp. 933-957.

MOLLAN, S.; MICHIE, R. (2012): The City of London as an International Commercial and Financial Center since 1900, in: *Enterprise and Society*, Vol. 13, No. 3, pp. 538-587.

MOON, H.C.; RUGMAN, A.M.; VERBEKE, A. (1995): The Generalized Double Diamond Approach to International Competitiveness, in: RUGMAN, A.M.; VAN DEN BROECK, J.; VERBEKE, A. (Eds.): *Research in Global Strategic Management: Vol. 5: Beyond the Diamond*, Greenwich, CT: JAI Press, pp. 97-114.

MOON, H.C.; RUGMAN, A.M.; VERBEKE, A. (1998): A Generalized Double Diamond Approach to the Global Competitiveness of Korea and Singapore, in: *International Business Review*, Vol. 7, No. 2, pp. 135-150.

OECD (2009): *Local Economic and Employment Development Programme: Clusters, Innovation and Entrepreneurship*, Paris.

PORTER, M.E. (1990a): *The Competitive Advantage of Nations*, New York, The Free Press.

PORTER, M.E. (1990b): The Competitive Advantage of Nations, in: *Harvard Business Review*, Vol. 68, No. 2, pp. 73-93.

PORTER, M.E. (1998): Clusters and the New Economics of Competition, in: *Harvard Business Review*, Vol. 76, No. 6, pp. 77-90.

PORTER, M.E. (2000): Corporate Structure, Strategy, and Location: Competition, Location, and Strategy, in: CLARK, G.; FELDMAN, M.; GERTLER, M. (Eds.): *Oxford Handbook of Economic Geography*, Oxford, Oxford University Press, pp. 253-274.

PORTER, M.E. (2003): The Economic Performance of Regions, in: *Regional Studies*, Vol. 37, No. 6-7, pp. 549-578.

PORTER, M.E. (2008): *On Competition*, Boston, Harvard Business School Press.

RAJAN, R.G.; ZINGALES, L. (2003): The Great Reversals: The Politics of Financial Development in the Twentieth Century, in: *Journal of Financial Economics*, Vol. 69, No. 1, pp. 5-50.

RUGMAN, A.M.; COLLINSON, S. (2012): *International Business*, 6th ed., Harlow, Pearson.

SCHRAMM-KLEIN, H. (2005): Wettbewerb und Kooperation in regionalen Branchenclustern, in: ZENTES, J.; SWOBODA, B.; MORSCHETT, D. (Eds.): *Kooperationen, Allianzen und Netzwerke*, 2nd ed., Wiesbaden, Gabler, pp. 531-556.

SHENK, C.R. (2010): *The Decline of Sterling: Managing the Retreat of an International Currency, 1945-1992*, Cambridge, University Press.

SHETH, J.N. (2011): Impact of Emerging Markets on Marketing: Rethinking Existing Perspectives and Practices, in: *Journal of Marketing*, Vol. 75, No. 4, pp. 166-182.

SÖLVELL, Ö. (2008): *Clusters: Balancing Evolutionary and Constructive Forces*, Stockholm, Ivory Tower Publishers.

SÖLVELL, Ö.; LINDQVIST, G.; KETELS, C. (2003): *The Cluster Initiative Greenbook*, Stockholm, Ivory Tower Publishers.

SONDEREGGER, P; TÄUBE, F. (2010): Cluster Life Cycle and Diaspora Effects: Evidence from the Indian IT Cluster in Bangalore, in: *Journal of International Management*, Vol. 16, No. 4, pp. 383-397.

THECITYUK (2014): *London Employment Survey: February 2014*, <http://www.thecityuk.com/research/our-work/reports-list/london-employment-survey/>, accessed on August 22, 2014.

UNITED NATIONS DEVELOPMENT PROGRAMME (2013): *Human Development Report: The Rise of the South*, New York.

WORLD ECONOMIC FORUM (2013): *The Global Competitiveness Report 2013-2014*, Geneva.

Z/YEN LTD. (2005): *The Competitive Position of London as a Global Financial Centre*, London.

Z/YEN LTD. (2014): *The Global Financial Centres Index 15*, London.