

5.3: Porter's National Diamond

The theory of comparative economic advantage holds that as a result of natural endowments, some countries or regions of the world are more efficient than others in producing particular goods. Australia, for example, is naturally suited to the mining industry; the United States, with its vast temperate landmass, has a natural advantage in agriculture; and more-wooded parts of the world may have a natural advantage in producing timber-based products. This theory is persuasive for industries such as agriculture, mining, and timber. But what about industries such as electronics, entertainment, or fashion design? To explain the clustering of these industries in particular countries or regions, a more comprehensive theory of the geography of competition is needed.

In the absence of natural comparative advantages, industrial clustering occurs as a result of a relative advantage that is created by the industry itself. (Krugman (1993)). Producers tend to locate manufacturing facilities close to their primary customers. If transportation costs are not too high, and there are strong economies of scale in manufacturing, a large geographic area can be served from this single location. This, in turn, attracts suppliers to the industry. A labor market is likely to develop that begins to act like a magnet for “like” industries requiring similar skills. This collocation of “like” industries can lead to technological interdependencies, which further encourage clustering. Clustering, therefore, is the natural outcome of economic forces. A good example is provided by the semiconductor industry. Together, American and Asian firms supply most of the world’s needs. The industry is capital intensive, research and development costs are high, the manufacturing process is highly complex, but transportation costs are minimal. Technology interdependencies encourage collocation with suppliers, whereas cost and learning curve effects point to scale efficiencies. Clustering, therefore, is mutually advantageous.

Only when transportation costs are prohibitive or scale economies are difficult to realize—that is, when there are disincentives to clustering—do more decentralized patterns of industry location define the natural order. The appliance industry illustrates this. Companies such as GE and Whirlpool have globalized their operations in many respects, but the fundamental economics of the industry make clustering unattractive. The production of certain value-added components, such as compressors or electronic parts, can be concentrated to some extent, but the bulky nature of the product and high transportation costs make further concentration economically unattractive. What is more, advances in flexible manufacturing techniques are reducing the minimum scale needed for efficient production. This allows producers to more finely tailor their product offerings to local tastes and preferences, further thwarting the globalization of the industry.

Thus, classical economic theory tells us why clustering occurs. However, it does not fully explain why *particular* regions attract certain global industries. Porter addressed this issue using a framework he calls a “national diamond.” Porter (1990). It has six components: *factor conditions*, *home-country demand*, *related and supporting industries*, *competitiveness of the home industry*, *public policy*, and *chance*.

Factor Conditions

The explanation why *particular* regions attract *particular* industries begins with the degree to which a country or region’s endowments match the characteristics and requirements of an industry. Such factor conditions include natural (climate, minerals) as well as created (skill levels, capital, infrastructure) endowments. But to the extent that such factors are mobile, or can be imitated by other countries or regions, factor conditions alone do not fully explain regional dominance. In fact, the opposite is true. When a particular industry is highly profitable and barriers to entry are low, the forces of imitation and diffusion cause such an industry to spread across international borders. (Oster (1994)). The Japanese compete in a number of industries that originated in the United States; Korean firms imitate Japanese strategies; and Central European nations are conquering industries that were founded in Western Europe. Industries that depend on such mobile factors as capital are particularly susceptible.

Home-Country Demand

Porter’s second factor is the nature and size of the demand in the home country. Large home markets act as a stimulus for industry development. And when a large home market develops before it takes hold elsewhere in the world, experienced firms have ample incentives to look for business abroad when saturation at home begins to set in. The motorcycle industry in Japan, for example, used its scale advantage to create a global presence following an early start at home. (Oster (1994)). Porter found that it is not just the *location* of early demand but its *composition* that matters. A product’s fundamental or core design nearly always reflects home-market needs. As such, the nature of the home-market needs and the sophistication of the home-market buyer are important determinants of the potential of the industry to stake out a future global position. It was helpful to the U.S. semiconductor industry,

for example, that the government was an early, sophisticated, and relatively cost-insensitive buyer of chips. These conditions encouraged the industry to develop new technologies and provided early opportunities to manufacture on a substantial scale.

Related and Supporting Industries

The presence of related and supporting industries is the third element of Porter's framework. This is similar to our earlier observation about clustering. For example, Hollywood is more than just a cluster of moviemakers—it encompasses a host of suppliers and service providers, and it has shaped the labor market in the Los Angeles area.

Competitiveness of the Home Industry

Firm strategies, the structure, and the rivalry in the home industry define the fourth element of the “national diamond” model. In essence, this element summarizes the “five forces” competitive framework described earlier. The more vigorous the domestic competition is, the more successful firms are likely to compete on a global scale. There is plenty of evidence for this assertion. The fierce rivalry that exists among German pharmaceutical companies has made them a formidable force in the global market. And the intense battle for domestic market share has strengthened the competitive position of Japanese automobile manufacturers abroad.

Public Policy and Chance

The two final components of Porter's model are public policy and chance. There can be no doubt that government policy can—through infrastructure, incentives, subsidies, or temporary protection—nurture global industries. Whether such policies are always effective is less clear. Picking “winners” in the global marketplace has never been the strong suit of governments. The chance element allows for the influence of random events such as where and when fundamental scientific breakthroughs occur, the presence of entrepreneurial initiative, and sheer luck. For example, the early U.S. domination of the photography industry is as much attributable to the fact that George Eastman (of Eastman Kodak) and Edwin Land (of Polaroid) were born here than to any other factor.

This page titled [5.3: Porter's National Diamond](#) is shared under a [CC BY-NC-SA](#) license and was authored, remixed, and/or curated by [Anonymous](#).

- [2.3: Porter's National Diamond](#) by Anonymous is licensed [CC BY-NC-SA 3.0](#). Original source: <https://2012books.lardbucket.org/books/global-strategy>.