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Government's Impact on the Business Environment and Strategic Management

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Should 'government' be a fifth force in Michael Porter's model of the Competitive Advantage of Nations and, if so, what should be the appropriate level of analysis?

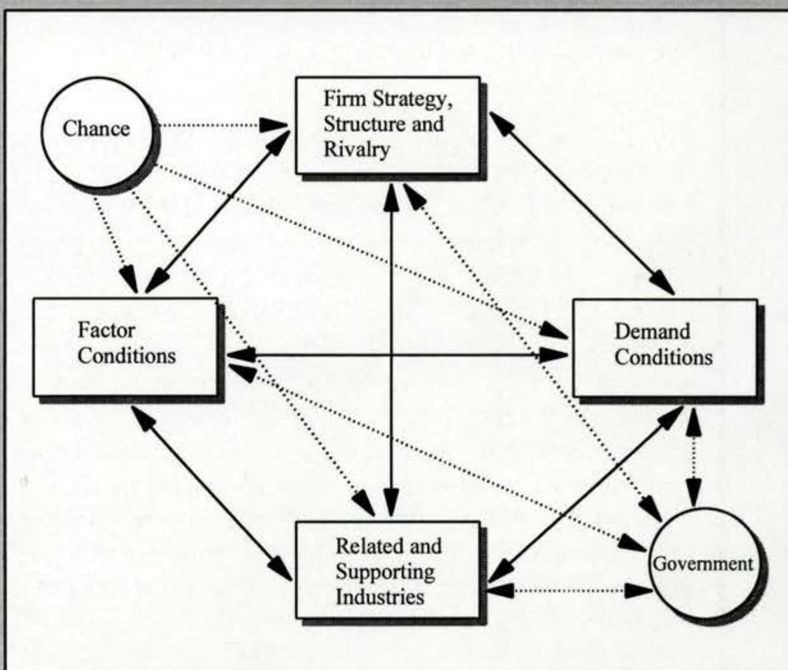
In the strategic management literature, frameworks explaining the impact of the national environment, and more particularly of government, on firms and industries are still in their infancy. Michael Porter's 'The Competitive Advantage of Nations' [1] proposes a new integrative framework consisting of four determinants (the so-called diamond) and aimed at a comprehensive analysis of the above-mentioned impact. After a short overview of the diamond model and a general critique, this paper will deal with the important question of whether government is adequately integrated into Porter's framework. Stated more precisely: whether government can be considered as a fifth determinant. Porter has already recognized the indirect role of government in creating competitive advantage, but denies a *direct* role. To demonstrate whether government does have a direct role and, if so, how large its influence is, is both a theoretical and empirical question. Although a definite answer upon this question is beyond the scope of this paper, we will contribute to this challenging question by focusing on two aspects.

The first aspect will deal with the implications of the *level of analysis* with respect to the government. Porter analyzes government's role primarily at the macro level. However, the ongoing internationalization process forces us to redirect our attention from the macro to the meso and micro levels of policy making and government-business interaction. As a second aspect, we will discuss whether the role and impact of government changes over *time*. Porter believes in a diminishing role as time proceeds. We will criticize this irreversible role. We will also pay attention to the combined effect of both aspects of our question. This means that we will investigate whether the relevant level of analysis with respect to government's role is time dependent.

Porter's Framework

Porter rejects the view that a country's competitiveness is solely based on a rich amount of production factors. Instead, he claims that innovativeness is the key to world market success. His analysis focuses on the influence of the business environment on the process of upgrading. Porter discusses a rich variety of innovation enhancing determinants, thereby simultaneously providing a framework for comparative environmental analysis. For the development of a coherent body of knowledge of strategic management this is an important contribution. The relatively neglected field of macro environmental analysis is brought a considerable step forward. For the development of a dynamic theory of strategy, incorporating theories of the business environment is a prerequisite [2].

Figure 1: The Complete System



Porter's framework (the 'diamond') identifies four determinants of competitive advantage (see Figure 1). The first determinant is 'factor conditions'. Porter distinguishes two kinds of production factors: basic factors and advanced factors. Basic factors include the traditional production factors: raw materials, labour etc. Advanced factors are considered to be more important. They are created factors which are very hard to imitate, like education. The second determinant is 'firm strategy, structure and rivalry'.

Strategy and structure differ per country. Rivalry is central in Porter's analysis; more than any other factor it stimulates companies to upgrade their production process. Thirdly, Porter points out the importance of 'demand conditions'. Consumer demand in a country is an impetus for innovation, when consumers are demanding and critical. Finally, 'related and supporting industries' form a determinant of competitive advantage. Interaction with suppliers and clients stimulates upgrading; cooperation in developing new products becomes easier. The determinants do not operate in isolation, but influence each other. The determinants are complemented by two influencing factors: chance and government. Chance refers to unexpected developments (scientific breakthroughs, wars etc.) that can activate change. Regarding government Porter states: 'Government's real role in national competitive advantage is in influencing the four determinants' (p. 126). Government plays a role for instance with respect to demand conditions. By legally enforcing high quality standards or by using its own procurement and investments, government is able to play a significant role in this determinant. Government can create favourable conditions for business and can act as a challenger for it. But according to Porter, government cannot create a competitive advantage other than indirectly via the determinants.

Criticism

Porter has been criticized on, among others, the lack of clear definitions of the determinants [3], the applicability of his framework to regions [4], his treatment of multinationals [5] and his ideas concerning the role of national culture in competitive advantage [6] and the notion of stages of national competitiveness, which Porter defines [7]. We return to the latter issue later. Stopford and Strange [8] have included government as the fifth determinant of the competitive advantage of nations in their modified version of the diamond. They claim that in developing countries this is justified, but do not go into this in depth.

Clearly the framework can be criticized. Other recent books on the subject of competitive advantage of nations (e.g. Ohmae [9] and Reich [10]) only partly agree with Porter's analysis. Yet there has also been ample support for Porter's theory. Ergas [11] identified many of the factors Porter incorporates in his diamond. Kogut [12] seems to agree with Porter almost completely and the already quoted article by Grant is mainly positive. In this paper one of the elements that has attracted less attention in the discussions about 'The Competitive Advantage of Nations' is considered in more detail, namely the role of government.

Government Policy: contents and consistency

What becomes clear in both 'The Competitive Advantage of Nations' and its criticism is the enormous pluriformity of governmental measures that can influence competitive advantage. Indeed, in Chapter 12 of 'The Competitive

Advantage of Nations' Porter identifies a large number of policies that have an impact on upgrading. In developing his approach, Porter consistently works out the relation of each policy with upgrading and innovation. Grant compares some of Porter's ideas on government with traditional views on policy and finds very interesting differences.

In neo-classical economic theorizing, for instance, a currency devaluation can be seen as a means to create a competitive advantage and thereby enhance exports. Porter, however, points out that this kind of competitive advantage is short-lived. Most importantly, a devaluation can temporarily shelter a country's industries and thereby block innovation, because the artificial relief from competition creates the impression that there is no need to innovate. Another example is Porter's idea that stringent regulation of product and process standards can stimulate upgrading and creates a competitive advantage when regulation anticipates international standards. The traditional ideas on government consider almost any regulation as an expensive nuisance, that restricts companies and raises their costs. Anti-trust policies aimed at horizontal collaboration must be strict, according to Porter, even with increasing international competition. Most authorities have a more lenient attitude to mergers and acquisitions when these are a reaction to competition from abroad. It must be noted that the discussion about anti-trust policy has a long history. There is widespread agreement about the advantages of competition in general. But there is much disagreement about the question how much competition is optimal (for a different opinion than Porter's see, e.g. Jorde and Teece [13]). Porter indeed provides *a different view on government*. It would not be surprising if many governments, by using the Porter framework, may find that there are many unintended consequences of their policies. The practical usefulness of the framework with regard to analyzing existing government policies is therefore considerable. Yet Porter's treatment of government in his diamond framework also raises questions. The role of government should be made much more explicit in the framework. In the next paragraphs three observations relating to this topic will be presented. In the first place the deficiencies related to a limited interpretation of government's role in the diamond are illustrated. Secondly, new forms of policy emerge that are directed at the micro-level and are not included in Porter's framework. Finally, the changing role of government over time is analyzed.

The Integration of Government in the Diamond: the cases of Japan and Italy

Concerning the first point we shall limit ourselves to two cases: the role of MITI in Japan and the role of local government in the Third Italy. Both cases have already been analysed by other authors before Porter, such as Piore and Sabel [14]. A comparison of these analyses with Porter's case studies leads to the conclusion that his treatment of government differs substantially from what other authors have found. Here we shall primarily use the treatment of Best [15], who draws heavily on Piore and Sabel but provides a more recent account of the cases they use. Best's basic argument is that increasingly manufacturing is shifting from low quality mass production ('Old Competition' in Best's terminology) towards higher quality goods produced by flexible specialization ('New Competition'). One of the main features of the New Competition is that this change is enhanced by a strategic industrial policy executed by government. Another important feature is the balance between competition and cooperation. This balance is induced by public policies.

The *first case* is the role of MITI in the Japanese economy. Porter praises the Japanese Ministry of International Trade and Industry (MITI) for the role it has played in the post-war period. The upgrading of Japanese industries was encouraged by many MITI policies, which all worked through the diamond. Yet, according to Porter, MITI only had a significant direct influence on Japanese industry in the immediate after-war period. Porter also points to some mistakes made by MITI. Best, on the contrary, finds a larger impact of MITI on industry. One of the omissions in Porter seems to be the MITI restructuring policy, that is still in operation today. This restructuring policy may be as central to Japanese competitive advantage as policy in the early phases of growth. In general, Porter finds a diminishing role of MITI over time: the more the Japanese economy grew, the smaller MITI's influence got. However, Best finds a changing role of government towards industry over time, depending on the phase of the life-cycle an industry is in. When a new industry emerges, MITI's influence is large. Once a self-supporting industry has come about, the influence diminishes, but at the end of the industry life-cycle the restructuring is again led by MITI. So, it is possible that at the same time MITI is very active in some industries and almost absent in others. A generic change over time of MITI's role is not supported by Best's research. It depends on where the industry stands in its life-cycle. The changing role of government over time will be discussed further below. For now, it suffices to say that the relation between Japanese industry and MITI in Porter has more antagonistic traits, while Best identifies more cooperation between the parties (although partly involuntary and often temporary).

Even more striking is the difference in a *second case*: the Italian tile industry in the Sassuolo area. In Porter's account of the successes of Italian tile manufacturers, the government is almost completely absent. The reason for this is that Porter mainly looks at government at the national level. But things are different when local governments are taken into account. Porter does not deny that, but neither does he study the subject in detail. Best's account of Italy, however, takes local government as a point of departure. The difference is striking. 'Local government intrusion in company activities was not a factor in any of the cases we studied, even where the government in the area was controlled by the Italian Communist Party', Porter writes (p. 448). Best's analysis, on the other hand, is an attempt to prove how farreaching and successful the co-operation between local governments (in majority communist) and clusters of small enterprises was. In the creation of industrial parks, inter-firm productive associations and all kinds of consortia, local government has played an important role in Italy. According to Best, ' ...local government has been able to pursue an aggressive economic program and retain a degree of insulation from interest group politics by creating a range of extra- and inter-firm institutions' (p. 209). Acknowledging that each theory, when applied, cannot escape some subjective bias, the difference in analysis between Best and Porter is still remarkable. Without concluding that one of the two approaches is right and the other wrong, it seems safe to say that local government is a part of government that Porter has not studied in depth. The same is true with respect to provincial government [16]. The practical implication of this is that local government can play a role in business development and companies should be more active in searching for support at the local level [17]. Other (historical) examples of a more integrated role of government in structuring the business environment can be found in Tolliday [18].

Micro-Level Policies

'Firms compete in industries, not nations' (Porter, p. 619). If this is true, then government's attention should be directed at the meso and micro levels of policy-making as well. Historically, this has probably not always been the case, but increasingly a shift is observed to policy-making that takes the firm into account as an innovating entity. Ostry [19] identifies internationalisation as the driving force behind the development of policies on the micro-level. The Gatt negotiations limit the options for macro-policy and the multinational enterprise makes policy on a macro-level less effective. As a consequence governments turn more often to innovation policy and regulating foreign direct investment, rather than to traditional industrial policy.

Branscomb [20] describes one of the new forms of policy that are emerging. He introduces the term 'capability enhancing' technology policy. The object of this kind of policy is that 'companies must learn to absorb new technologies'. In order to achieve this, government should stimulate research in the pre-competitive phase as well as the diffusion of technologies. The development and diffusion of generic technologies must be the core of this policy. Also, governmental support for research endeavours should only take place in agreement with market forces. Picking winners is out of the question. Although much of this policy prescription by Branscomb is criticized, we can conclude that in the future new policy instruments will come about. Governments innovate too and are confronted with policy competition between different levels of government. The question is whether the Porter framework will be able to explain these new policies adequately. It is not unthinkable that in the near future they will go further than Porter advises. Especially with respect to externalities, e.g. where market failures cause firms to under-invest. As recognized by Porter, this gives rise to a *direct* role of government in influencing the diamond. When these policies develop they may become increasingly intertwined with the diamond. The more new policies are created which are directed at the meso- and micro- levels and which have a more direct role in influencing the diamond, the less the government can be treated as an outside factor.

The Role and Impact of Government Over Time in Porter's Framework

Porter considers his framework to be a contribution to the development of a dynamic theory of strategy. Therefore a closer look into the dynamic aspect of his analysis is interesting. Firstly, the influence of time in the Porter framework is not clearly developed. To illustrate this, we focus on the most dynamic part of his analysis, the Four Stages of National Competitive Development. The first stage is the factor driven stage, in which an economy is primarily based on an abundant supply of basic production factors. The industries compete on price and use widely available technologies. In Porter's model this stage is followed by the investment driven stage, in which aggressive investment occurs in efficient scale facilities and foreign technologies. Technologies are not only applied but also improved upon. The third stage is called the innovation driven stage, in which the full diamond is strongly developed. Not only are technologies appropriated from other countries, but firms also create them themselves. The final stage Porter distinguishes, is the wealth driven stage, in which the preservation of acquired wealth is the goal of investors and managers. In this stage the economic health of the country is eroded by shifting preferences and preserving what has been done in the past.

Porter proposes that the role of government in creating competitive advantage changes during these stages. In the factor driven stage, the possibilities for direct government interference are the greatest. Subsidies and temporary protection are most powerful in this stage. However, according to Porter over time the role of government must shift to a more indirect approach. Companies must take the lead and intervention must decrease the more countries reach the innovation driven stage. Wade [21] supports the idea that the government role will shift over time. Yet the degree of government interference he found in his comprehensive study of the Newly Industrializing Countries, is much larger throughout the phases of development than Porter claims. The effectiveness of government intervention may indeed be inversely related to the stages of economic development, but not to the extent claimed by Porter. For instance, Wade identifies quite some successful attempts at targeting, while according to Porter the record of even the best targeting governments is mixed. Also, once the Asian tigers had reached a state of considerable competitiveness, government continued to play a very important role. As pointed out in a previous section, a study of the role of government related to industry-life cycles, might very well change the general conclusions about it losing its influence along the stages of national competitive development. Where in some industries this role may decline, in others it may be decisive.

Finally, Porter does not really identify the mechanism behind this changing role of government. In our view it may be that the innovation driven stage of development is more complex compared with the preceding ones, so that it would be better for governmental influence to take place at a lower policy level and with different instruments. Perhaps the information requirements for policy in such an economy are too high for a government; this would be an explanation inspired by Hayek [22]. It may also be possible that in the innovation driven stage a country has a more internationalized economy, than in the factor driven stage. This diminishes the effectiveness and political feasibility of national policies; for macro-economic policy Cooper [23] points at this effect. A definite assessment of Porter's conclusions about government's changing and indirect role in influencing the national diamond can not be made without knowing the basic mechanisms that lie behind it.

Summary and Conclusions

Porter describes an abundant amount of governmental policies that have an impact on competitiveness. However, an important question is whether the government is adequately integrated in his framework of four determinants of competitive advantage. Or stated more precisely, whether Porter is correct by not including government as a fifth determinant of competitive advantage. Although a definite answer upon this question has not been given here, we have contributed to this challenging issue by elaborating on two aspects of the role of government in creating competitive advantage: the influence of time and the impact of the chosen level of analysis. In Porter's framework the influence of time remains underdeveloped. By paying more attention to this aspect we are able to show that more insight can be gained into government's role in influencing the diamond. Especially the industry specific role of government during the industry life-cycle deserves attention. This leads to our second finding: the importance of the level of analysis with respect to government. While Porter looks mainly at government at the national level, we stress the growing importance of government's influence at the local and regional level as well. Also we found a shift from macro-economic policies to micro-economic policies. Whether these findings produce enough evidence to make government the fifth determinant is ultimately an empirical question.

Nevertheless Porter's framework shows that considerably more governmental actions influence competitive advantage than many policy-makers and managers may have thought. A conscious analysis of policies with the aid of the diamond including our two additional aspects of government's role, may benefit the quality of government policies. It may also contribute to *a better understanding* of government's impact on the business environment and strategic management. This understanding stimulates *managers* to play an important role in shaping government policies that enhance the national diamond in their industry and thereby the competitive advantage of their firms.

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References

[1] Porter, M.E., *The Competitive Advantage of Nations*, London: MacMillan Press, 1990.
[2] Porter, M.E., 'Towards a Dynamic Theory of Strategy', *Strategic Management Journal*, Vol. 12, Winter 1991, pp. 95-117.
[3] Grant, R.M., 'Porter's Competitive Advantage of Nations: An Assessment', *Strategic Management Journal*, Vol. 12, October 1991, pp. 535-48.
[4] Jacobs, D. and de Jong, M.W., 'Industrial Clusters and the Competitiveness of the Netherlands: empirical results and conceptual issues', *De Economist* 140, No. 2, 1992, pp. 233-52.
[5] Rugman, A.M., 'Diamond in the Rough', *Business Quarterly*, Winter 1991, pp. 61-4.
[6] Bosch, F.A.J. van den, and van Prooijen, A.A., 'The Competitive Advantage of European Nations: The Impact of National Culture - a Missing Element in Porter's Analysis?', *European Management Journal,* Vol. 10, No. 2, June 1992, pp. 173-77.
[7] Thurow, L.C., Book review: 'Competing Nations: Survival of theFittest', *Sloan Management Review*, Fall 1990, pp. 95-7.
[8] Stopford, J. and Strange, S., *Rival States, Rival Firms*, Cambridge: Cambridge University Press, 1991.
[9] Ohmae, K., *The Borderless World*, London: Collins, 1990.
[10] Reich, R.B., *The Work of Nations,* New York: A.A. Knopf, 1991.
[11] Ergas, H., 'Why Do Some Countries Innovate More than Others?', CEPS paper No. 5, Brussels, 1984.
[12] Kogut, B., 'Country Capabilities and the Permeability of Borders', *Strategic Management Journal,* Vol. 12, Summer 1991, pp. 33-47.
[13] Jorde, T.M. and Teece, D.J., 'Competition and Cooperation: Striking the Right Balance', *California Management Review*, Spring 1989, pp. 25-37.
[13] Piore, M.J. and Sabel, C.F., *The Second Industrial Divide*, New York: Basic Books, 1984.
[15] Best, M.H., *The New Competition*, Cambridge: Polity Press, 1990.

[16] Darroch, J.L. and Litvak, I.A., 'Diamonds and Money', *Business Quarterly*, Vol. 56, No. 3, Winter 1992, pp. 71-5.
[17] Lawton Smith, H., 'The Innovative Firm and Local Business Development', *Journal of General Management*, Vol. 15, No. 4, Summer 1990, pp. 56-67.
[18] Tolliday, S.W., *Government and Business,* Brookfield: Edward Elgar 1991.
[19] Ostry, S., 'Governments & Corporations in a Shrinking World: Trade & Innovation Policies in the United States, Europe & Japan', *Columbia Journal of World Business*, Spring/Summer 1990, pp. 10-16.
[20] Branscomb, L.M., 'Does America Need a Technology Policy?', *Harvard Business Review*, March-April 1992, pp. 24-31.
[21] Wade, R., *Governing the Market*, Economic Theory and the Role of Government in East Asian Industrialization, Princeton, New Jersey: Princeton University Press, 1990,
[22] Hayek, F.A., *The Road to Serfdom,* London: Routledge, 1944.
[23] Cooper, R.N., *Economic Policy in an Interdependent World*, Cambridge Mass.: The MIT Press, 1986.