

At What Level (if any) Should Government Intervene to Promote the Competitiveness of Businesses?

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Introduction

Market economy has won whereas government planning has been proved a lot of drawbacks which limited the economic growth. A liberalising and international economy has many benefits for businesses in diffusing high technologies and skills, creating big markets, and providing incentives innovation and improvement under intensified competitions. However, as markets are not always competitive and perfect, the role of government for promoting the competitiveness of businesses becomes important. This essay focuses on the role of government in improving 'national innovation system' and industrialising countries' intervention strategy in infant industries in particular.

Government Intervention and 'National Innovation System'

Nowadays, in order to hold competitive advantage in global market, firms are trying

to exploit capabilities which competitors cannot easily match or imitate. These distinctive capabilities include knowledge, skills, high technology, and creativity, all of which can generate high productivity, effective business process and advanced quality of goods and services. Although innovation is a complex process with numerous players and firms are becoming the key dominant player, the government has a significant role of creating the right climate for innovation via its policies for learning new technology and applying it in production. Freeman points out the important position of the government in 'national system of innovation': 'whilst external international connections are certainly of growing importance, the influence of the national education system, industrial relations, technical and scientific institutions, government policies, cultural traditions and many other national institutions is fundamental' (Freeman, 1995:5).

Freeman (1995) compared the 'National System of Innovation' in different developed and developing countries from historical perspective, showing that government policies were essential to economic growth and competitiveness. For example, Freeman took the experience of Germany and the United States, both of which successfully overtook the United Kingdom in the second half of the nineteenth century through the 'national system of innovation' which consists of 'education and training institutions, science, technical institutions, user-producer interactive learning, knowledge accumulation, adapting imported technology, promotion of strategic industries' (Freeman, 1995:7). Nowadays, the research and development (R&D)

system has been regarded as the source of innovations (Freeman, 1995; Rothwell, 1992; etc.). Although this system involves not only government, but industrial and academic scientists and researchers as well, the role of government to promote R&D projects, through large fund injection, personnel training and educating, and effective industry and economic policies, is still fundamental to the capacity of innovation and then competitiveness. In particular, apart from the ‘quantitative factors’ of expenditure on R&D, government policies regarding areas of R&D projects and the diffusion of technologies into productivity are also the key to business competitiveness. A good example is in contrasting Japan and USSR¹ in ‘qualitative factors’ of innovation system, resulting in different level of productivity improvement and economic growth. Both Japanese and USSR government provided a number of policies to promote the innovation system. But while Japan put high proportion of total development and research efforts to enterprises and ‘civil economy’, USSR put most of them to ‘military and space race’. In addition, Japanese system has a strong ‘social, technical and economic linkages’ and ‘user-producer and subcontractor network linkages’ (Freeman, 1995:12), whereas the Soviet system separated those linkages. Other differences between these two systems involve the quality of education systems and the degree of integration into global markets and competition. All these comparisons tell us that the strategy and policy designed by government is essential in shaping and promoting innovation performance.

¹ See: Freeman (1995) *The ‘National System of Innovation’* (pp.10-14)

According to DTI (2003), there are two main routes through which government can improve innovation performance. Firstly, government provide subsidies (e.g. ‘grants, tax credits’, etc.) to firms to encourage innovation and knowledge transfer. Secondly, government influences innovation performance via various policies, such as regulation, competition policy, public procurement, and education and training, etc, to shape innovation systems. According to the analysis of DTI, government should intervene to promote innovation performance when market failure (i.e. public goods, externalities, and uncertainty)² and system failure (i.e. barriers to communication or failure of coordination in an innovation network)³ occur. Because of imperfections of the market, Porter therefore argued that the role of nation states has been more important in the context of the intensified global competition: ‘with fewer impediments to trade to shelter uncompetitive domestic firms and industries, the home nation takes on growing significance because it is the source of the skills and technology that underpin competitive advantage’ (Porter, 1990:19).

However, government intervene may cause failures and huge costs because of lacking sufficient information to intervene effectively. Some failures of the USA funding in research in manufacturing sector in recent years are a good example. For example, funding for the National Institute of Standards and Technology's (NIST) Advanced Technology Partnership has lead to the failed investment of \$900 million in the

² See DTI (2003) *Competing in the Global Economy: the Innovation Challenge* (P.63-64)

³ *ibid.*

Supersonic Transport plane and the \$1 billion cost of the Synthetic Fuels Corp.⁴ Therefore, government funding and R&D policies to promote innovation should very careful and be designed within a network involving industries, universities, and consumer feedbacks to avoid the inefficient investment and operation.

Furthermore, in an era of knowledge-based economy, many OECD countries shifted policies to improve the environment in which businesses can be innovative and competitive. Firstly, many countries created competitive markets in ‘important service sectors, such as telecommunications, transport, financial services and distribution, which have helped to reduce the cost of doing business’ (OECD, 1997:3). Secondly, as provided a stable macroeconomic environment with low inflation and ‘healthy government finances’, enterprises have a good market environment to operate their businesses. In addition, competition laws prevent monopolies and stimulate the innovation and creativity of firms. Another means to creating a competitive environment for businesses is regulatory reforms involving encouragement for new entrants to markets and opportunities for existing firms’ expansion. For example, simplifying the administration of registration benefits new entrants entering the market with less cost and time period. As an infrastructure for innovation and creativity, education and training system has become fundamental in governmental policies. Through the establishment of high quality of education, e.g. first class universalities, there is a potential advantage for businesses: high quality managers,

⁴ From Panchak (2004) *US Manufacturing Agenda* (p.1)

technologists, and workers. Therefore, we argue that for promoting competitiveness, government can provide a healthy environment and climate, through proper policies in R&D, competition, infrastructure construction (e.g. IT infrastructure), and administration, etc, which benefit firms operating businesses conveniently and efficiently. However, the role of government should not exceed the market, or in other worlds, government should not provide excessive support and protection for its firms. For example, ‘picking winners’ can not be a consistently sensible policy because of the potential costs and failures of government, as OECD (1997) suggests that the previous ‘industrial policy’ should shift to ‘industrial competitiveness policy’ in which policies of sectoral support should give way to supporting R&D, and new businesses. Thus, the key to competitiveness in the market depends mostly on abilities of innovation and improvement of firms themselves, the excessive help and protection from the government, such as ‘subsidies, domestic mergers, supporting high levels of cooperation, providing guaranteed government demand, and artificial devaluation of the currency’ (Porter, 1990:318), will hurt national firms’ competitiveness in the long run. For a long period strategy, the government should aspire and stimulate the capacity of competitiveness of firms via an environment of advanced innovation system, which is fundamental for improvement and upgradation of businesses. However, for developing countries, especially those in the transitional period from industrializing countries to industrialized countries, due to their uncompetitive position in global markets, government intervention through industrial policies for

their innovative ability and competitiveness is essential but should be used very cautiously. We will discuss this issue in the next section.

Infant Industry Policy and Developing Countries

Among government policies to promote business competitiveness, infant industry protection is regarded as an essential policy for the industry development at the early stage, especially for industrialising countries in their transitional period from underindustrialised states to industrialised states. (List, 1841; Shafaeddin, 2000; Suranovic, 2002) From the historical perspective, according to Shafaeddin, both industrialised and industrialising countries were or are adopting some measures of protection to accelerate their industrialising period: ‘with the exception of Hong Kong, no country has developed its industrial base without resorting to infant industry protection.’ (Shafaeddin, 2000:2). However, as List pointed out, this protection, on the one hand, should be ‘temporary’ and ‘selective’; on the other hand, should be combined with the introduction of ‘domestic competition’ and ‘gradual liberalisation’ at the end.

There are several reasons for government intervene to protect infant industry. According to List, free trade and government deregulation is benefit for advanced countries. When he took an example of England at that time, he pointed that:

‘a country like England which is far in advance of all its competitors cannot better maintain and extend its manufacturing and commercial industry than by a trade as free as possible from all restrictions. ... this explains the favour with which the most enlightened economies of England regarded free trade, and the reluctance of the wise and prudent of other countries to adopt this principle in the actual state of the world’ (List, 1841:79)

For countries which are not at the same level of industrialisation, free trade is not benefit for their domestic firms in the global market. Therefore the infant industry protection policy is essential for their competitiveness. ‘List maintains that as long as universal association is not attained and some nations fall behind others, universal free trade may not be advisable as far as the interests of the non-industrialised countries are concerned’ (Shafaeddin, 2000:7).

Firstly, new firms are at a disadvantage position in competing with established firms in developed countries, which have a longer business experience and more knowledge and information of efficient production and market demands. Therefore, when a firm producing a similar product has not the same production technology or managerial knowledge as its rivals, it is likely to produce inefficiently and thus unprofitably and easily be crowded out, if it is forced to compete with mature firms in the international market. In addition, considering the risk-taking attitude from industry managers and workers, they need more incentive to take new businesses which is not competitive

with firms in other countries. Therefore, some protection measures, such as ‘import tariffs’, can help these firms cover their higher production costs and compete with others in developed countries. As given a period for ‘grow-up’, these new firms have a chance to gain production and management knowledge to improve their technology, lower costs, and then improve their own product efficiency. Moreover, as Shafaeddin argued that the management and organizational skills needed to build an industrial economy can ‘spillover’ into the rest of the economy as managers and workers open new business or move to other industries in the economy, protecting infant industries can generate positive learning and stimulating the whole economic growth. Many people has argued that this strategy was adopted by almost all developed countries, like the US and Germany, during their rapid industrial development period. Both the US and Germany had high tariffs helping protect infant industries from competition with more efficient firms in Britain during 19th century⁵. Even Britain has introduced this method to promote its infant industries: ‘Great Britain borrowed from all the countries of the continent their special arts and gave them a home under the shelter of her protective system’ (List, 1841:113).

Secondly, one of important principles of infant industry argument is that protection should be temporary. Since new firms improve their productive efficiency over time, government should reduce protective tariffs and other measures gradually and

⁵ See Shafaeddin (2000) *What did Frederick List Actually Say? Some Clarification on the Infant Industry Argument*

eliminate all protections eventually to push their firms to compete with others in global market (List, 1841). The reason for this is related to the relationship between protection and efficiency. First, maintaining protection in the long-run will decline the incentive for protected firms to improve their productive efficiency because they have no threat from outside. Thus the costs of protection may exceed the efficiency improvements from it. Therefore, there is a dilemma in infant industry protection: protection has the potential to promote the competitiveness of domestic firms and also the possibility of eliminating the incentive for firms to improve themselves. Once protection has established, when and how to reduce and abolish it is a big problem for government. For government, it is important to get reliable information about their industries. They need to select which industries should be protected and to decide how long and at what level to protect them. Determining the correct industries, tariff level and time period is not an easy issue. In fact, each country has its specific conditions and government should design its own infant industry policies which meet its business goal, industry structure, and potential costs, as List pointed out ‘everything depends on the circumstances and the relations between the less and the more advanced country’ (List, 1841:390). Nevertheless, List recommends some specific industries which ‘require large capital ... general knowledge, much dexterity and experience’ and industries which provide linkages with others (List, 1841:388). In addition, the category of protected industries is dynamic: the object and degree of protection need to be changed by government over time.

Thirdly, the means of government intervention in infant industries should be diversity. According to List, regulation of 'import duties and subsidies' is only one measure, other policies, for example, financial policy, educational and training provisions, and domestic competition, are also essential to promote domestic industries. Considering the lack of incentive to improving production efficiency without adequate competitors, List argued that after an early period, government should encourage domestic competition to stimulate firms pursue lower production costs and higher qualities, which has been practiced later in Japan and other East Asian countries.

In summary, government, in order to promote the competitiveness of domestic firms in infant industry, should provide measures to protect its new firms at the early age. However, this kind of protection not only should be temporary, but also the level and the period of protection should not make firms insulate from competition absolutely. As a result, liberalisation and free competition in the global market should be the ultimate end.

East Asia Case

The 'East Asian Miracle' is regarded as an outcome of 'outward-oriented economies' with interventionist policies involving the use of export promotion, selective import

barriers, and industrial policies⁶. In those countries except Hong Kong, government intervention has played a significant role in economies. During their initial rapid growth periods after the Second World War, there were significant tariff and non-tariff barriers in those economies. For example, import quotas were very high in Japan in 1960: almost 60% of all imports were subject to formal quotas⁷. However, to varying degrees, these barriers have declined gradually from 1970s. For example, ‘Korea’s nominal tariff rates averaged nearly 40% in the mid-1960s, 21% at the beginning of the 1980s, and around 12% at the beginning of the 1990s; the corresponding levels for Taiwan were 35%, 31%, and 10%’ (Glick, 1997:2). Non-tariff barriers were also reduced step by step. In addition, many East Asian economies adopted help and protection policies to support selected infant industries. For example, ‘in the early postwar period, Japan targeted the steel, shipbuilding, coal, power, and fertilizer industries. Inputs to these industries could be imported duty-free, and firms in these sectors enjoyed preferential loans from government banks’ (Glick, 1997:2). Afterwards the focus was changed to targeting automobile industry in the 1950s and then computer technology in the 1960s. Korean government also protected infant industries by supporting ‘large-scale enterprises’ in the 1960s and 1970s and then SMEs in the electronic sector in 1980s. Since the early 1980s, Taiwan has targeted to support some certain ‘strategic industries’ as well.

In general, there are a number of common characteristics of East Asian trade and industrial policies. Firstly, on the one hand, there were high import barriers for

⁶ See: World Bank (1993) *The East Asian Miracle: Economic Growth and Public Policy*

⁷ *ibid.*

selectively protected industry sectors, though they were varying in different countries; on the other hand, there were export promotion policies, such as ‘tax credit’, ‘favorable financing’, and other special measures for exports, to encourage production in export sectors. Moreover, import businesses were not prevented absolutely. For some essential inputs to the export sector, most governments provided ‘free entry exemptions’ or subsidies for importing those inputs. With the export sector diversifying gradually, import trading has been promoted and liberalized significantly. For example, ‘in Korea, the number of automatically approved import items increased from 800 in the late 1960s to 5,600 in the early 1980s and nearly 10,000 in the early 1990s’ (Glick, 1997:2). Secondly, those supports were provided to firms which had potential capacity of successful businesses in global market, rather than those unprofitable firms or all firms. Thirdly, after the transitional period or protected industries becoming mature, most protection measures were eliminated gradually and most countries joined the WTO.

From the experience of government intervention in East Asian countries, we have witnessed the remarkable economic performance in these economies. It is obvious that those interventions allowed these countries to establish their own industries in ‘imperfectly competitive industries’, where industrialized countries, like the USA and Germany have established and developed competitive firms at that time. However, we should not ignore some negative outcomes of these efforts. As Beason and Weinstein pointed out, in both Japan and Korea, some industries subsidised by government were

not productive and competitive: 'industrial policies in Japan were not directed towards the higher-growth industries; the cross-sectoral correlation between sectoral growth and the degree of government support provided by various industrial policy instruments was in fact negative' (Beason and Weinstein, 1996: 290). In Korea, government supports have targeted to poorly performing firms and bankrupt companies in the 1980s. Therefore, as suggested by List, industrial policies for protecting infant industries should be utilised by government to encourage firms to compete in global market, rather than consistently 'pick winners' or absolutely protect without competition threats. The market should be an 'ultimate arbiter of whether continued support of an industry was warranted' (Glick, 1997:3). Government should have a clear discipline that protected industries should compete without support with others in the world market eventually.

From above, we have seen the significant role of government intervention in industrialising process in East Asia. Now there arises a debate about whether this strategy is suitable for other industrialising countries to construct competitive economies. From the infant industry theories introduced by List and others and the practice of East Asia, we can argue that the intervention strategy for economic growth should be very cautiously applied by other developing countries. As general principles, protection and intervention should be 'temporary', 'selective' and with providing proper competition at the same time.

Conclusion

Due to market imperfections, firms cannot always take steps to create ‘sustainable competitive advantage’ and then the process of ‘upgrading’ the economy may be slowed down⁸. Therefore the government’s role in promoting the ‘national innovation system’ is significant. This has been showed in governments’ efforts to improve innovative ability and competitiveness though either direct funds and subsidies on R&D, or various policies on trade and industries. For developing countries, governments’ industry policy for protecting infant industries is in particular remarkable in the industrialising period of those economies, especially in East Asia. However, government interventions sometimes are costly and counterproductive, thus they should not be excessive and extensive. Market forces should not be ignored and alleviated either in the domestic level or in the global level. Therefore, as put by Porter, ‘government’s proper role is as a pusher and challenger’ who encourages innovations and also put firms into competitions (Porter, 1990).

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⁸ See Porter (1990) *The Competitive Advantage of Nations*

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