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Guiding structural change: The role of government in development

Matthew Carson

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Abstract

The role of government has returned to the forefront of economic debate, with the global crisis forcing policymakers to question the free market paradigm which has prevailed. In such a context, this paper provides an overview of the diverse issues surrounding the State's responsibility to 'guide' sectoral development, challenging preconceptions surrounding Industrial Policy. After presenting the policy tools used to encourage the rise of certain sectors or industries and the economic cases for and against intervention, the review contrasts successful and less favourable country experiences. It also integrates the relatively new concepts of Product Space and Growth Diagnostics into the discussion and highlights the involvement of the International Financial Institutions. As a result of the analysis, it is argued that countries should appreciate the potential of carefully designed, time-bound sectoral policies to increase technological upgrading and to encourage learning and investment. The topics covered are also highly relevant to more specific policies such as Employment Targeting, where countries may seek to identify sectors or industries with the greatest potential for productive employment creation.

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Preface

The primary goal of the ILO is to contribute, with member States, to achieve full and productive employment and decent work for all, including women and young people, a goal embedded in the ILO Declaration 2008 on *Social Justice for a Fair Globalization, and*¹ which has now been widely adopted by the international community.

In order to support member States and the social partners to reach the goal, the ILO pursues a Decent Work Agenda which comprises four interrelated areas: Respect for fundamental worker's rights and international labour standards, employment promotion, social protection and social dialogue. Explanations of this integrated approach and related challenges are contained in a number of key documents: in those explaining and elaborating the concept of decent work², in the Employment Policy Convention, 1964 (No. 122), and in the Global Employment Agenda.

The Global Employment Agenda was developed by the ILO through tripartite consensus of its Governing Body's Employment and Social Policy Committee. Since its adoption in 2003 it has been further articulated and made more operational and today it constitutes the basic framework through which the ILO pursues the objective of placing employment at the centre of economic and social policies.³

The Employment Sector is fully engaged in the implementation of the Global Employment Agenda, and is doing so through a large range of technical support and capacity building activities, advisory services and policy research. As part of its research and publications programme, the Employment Sector promotes knowledge-generation around key policy issues and topics conforming to the core elements of the Global Employment Agenda and the Decent Work Agenda. The Sector's publications consist of books, monographs, working papers, employment reports and policy briefs.⁴

The *Employment Working Papers* series is designed to disseminate the main findings of research initiatives undertaken by the various departments and programmes of the Sector. The working papers are intended to encourage exchange of ideas and to stimulate debate. The views expressed are the responsibility of the author(s) and do not necessarily represent those of the ILO.

José Manuel Salazar-Xirinachs Executive Director Employment Sector

¹ See http://www.ilo.org/public/english/bureau/dgo/download/dg_announce_en.pdf

² See the successive Reports of the Director-General to the International Labour Conference: *Decent work* (1999); *Reducing the decent work deficit: A global challenge* (2001); *Working out of poverty* (2003).

³ See http://www.ilo.org/gea. And in particular: Implementing the Global Employment Agenda: Employment strategies in support of decent work, "Vision" document, ILO, 2006.

⁴ See http://www.ilo.org/employment.

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Foreword

Even prior to the economic crisis of 2008/09, renewed interest in both the academic and policy communities had been growing in industrial policy. There are several reasons for this, the chief one being that even the respectable rate of global growth in the first decade of the new millennium had been insufficient in generating an adequate number of productive jobs. Disappointment with over two decades of market fundamentalism was mounting. The view that markets alone with minimal interference from the State was the best means of furthering allocative efficiency in the labour market, among other markets, was belied by the evidence.

Attention has begun to turn away from "growth alone" to the quality of that growth. A literature on "growth paths" has enjoyed a resurgence, and a growing number of countries are setting explicit "employment targets" in their development and macroeconomic policy frameworks. The effort is increasingly to make employment – productive employment – a more central variable in economic policies, rather than a mere residual of the market's "invisible hand".

This paper by Matthew Carson is a contribution to this new literature. It is a strong and thorough literature review of what is meant by industrial policy, and the growth- and employment advantages and disadvantages of the same. The underlying thesis is that, in today's market economies, an effort is needed to "guide" the pattern of growth if the ambition is to generate a sufficient number of productive jobs. That guidance comes from a focus on sectors themselves from the perspective of their competitiveness, growth potential, and their ability to create productive employment. This is not an argument against markets: it is a reconsideration of the fundamental role of the State in making markets work best for working men and women.

> Moazam Mahmood Director, Economic and Labour Market Analysis Department

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1. Introduction

This paper examines the role of government in the process of structural change. While it is clear that a key element of the development process involves moving away from producing purely primary sector goods and into industrial and service sectors, there are many questions raised by this simple observation. For example, what are the characteristics of markets in developing economies which justify state intervention? What are the policies available to governments, and what have been the outcomes of such policies used in various countries? Bringing together aspects from both recent and historical literature, we provide a synthesised review of the diverse issues in question.

The concept of 'favouring' certain sectors largely fell out of favour at the end of the 1970s. The election of Reagan in the USA and Thatcher in the UK saw the establishment of a free market paradigm, which viewed almost all forms of government intervention with suspicion. However, financial crises in the past decade – in Latin America and East Asia in the 1990s and particularly the recent global crisis – have called the approach into question. This sentiment is reinforced by a more general realisation that *laissez-faire* economic policies have often failed to deliver optimal development outcomes. As a result, there is a renewed interest in policies which more actively seek to maximise growth and employment, including those which target particular sectors of the economy.

The paper will be organised as follows. After setting out the paper's context and purposes, Chapters 2 and 3 present the cases for and against government intervention in structural change. Chapter 4 outlines the concept of 'Industrial Policy' and the selection of tools a government may be able to use to promote the development of certain sectors; this is followed by a chapter offering case studies of intervention successes and failures. Chapter 6 reviews empirical literature on the consequences of sectoral policies and Chapter 7 discusses the role of the International Institutions. The final two chapters offer a discussion on the 'way forward' in the debate, some policy recommendations coming out of past experiences, and conclusions.

2. The case for government intervention

Before specific policies or empirical experiences are considered, it is essential to outline the economic problem at the heart of the debate. If markets functioned perfectly, there would be no need for a government to intervene in sectoral diversification. Market signals should identify activities which will generate optimal growth outcomes for the nation in question, given its endowments, relative factor intensities and technological capabilities. In the real world however, markets – particularly those of developing countries – are likely to fail in a number of ways, providing a case for government intervention. These market failures can be categorised as follows, which together form the 'Infant Industry' argument.

Knowledge spillovers

The development of one firm is likely to create externalities, or spillover effects, in the rest of the industry or sector: 'Marshallian externalities' with increasing returns to scale. This particularly applies to the areas of learning and technology, with strong evidence of demonstration effects...generated by entrepreneurs who engage in new economic activities, with learning transmitted to copycats. (Rodrik 2007 p.7) This means that encouraging an infant industry's 'first firms' can be in the interest of domestic welfare. Equally, "knowledge spillovers from foreign companies could justify tax breaks for FDI." (Harisson and Rodriguez-Clare 2009 p.1)

Informational spillovers

Information on industries which will turn out to be profitable is greatly limited, with successful outcomes dependent on a whole range of factors including a country's current comparative advantage, future macroeconomic conditions and external shocks. Coupled with this, learning involves high sunk costs, as it is impossible to recover resources already used to develop the knowledge capacity of a company. As a result, a free rider problem exists; initial learning is costly but then is quickly diffused to competitors, for example through the movement of employees between firms. Thus if the state does support investment in learning and technology, individual entrepreneurs have very limited incentives to take the risk themselves; transaction costs are too high in the free market, and so investment in new industries is suboptimal.

Dynamic scale economies

Industries will tend to struggle in their early stages of development, as unit costs often start above those of foreign rivals. Over time however, productivity is often increased through "localised industry-level knowledge spillovers, input-output linkages...and labour pooling." (Harrison and Rodriguez-Clare 2009 p.4) In other words, increasing experience creates a downward sloping average cost curve against cumulative output: the so-called 'learning curve.' (Dasgupta and Stiglitz 1985)

Therefore, supporting an infant industry will increase its chances of survival and expansion, effecting a gradual reduction in unit costs, or 'dynamic scale economies.' Once the new industry is able to produce at international prices without protection, the industry can begin to increase national welfare. In time, domestic unit costs may even fall below those of foreign rivals; in this case the temporary protection of the infant industries raises long term *global* welfare.

Coordination failures

Establishing new economic activities often relies on the outputs or services of complementary industries. As Pack and Saggi (2006) see it, "many projects require simultaneous investments to be viable." (p.8) For example, the success of a newly established IT industry will require investment in higher education and logistics, and vice versa. As it is unlikely that such coordination will occur in the free market, there is likely to be a role of government to ensure interrelated industries are established in parallel.

Capital market failures

Even in the presence of such market failures, industries with high return potential should be able to raise funds through capital markets, to cover losses in the early stages of development (Baldwin 1969). However, capital markets are themselves prone to significant failures. As with the investment decisions made by producers (but to an even greater extent), investors have highly imperfect information on future returns of new industries. Thus, left to the free market, there is a reduced chance that infant industries will be able to raise capital to support themselves through the difficult start-up period.

In sum: the Infant Industry argument

The preceding sections have highlighted the many ways in which the free market "fails to bring about socially optimal levels of training, knowledge and factor endowment in new industries," (Baldwin 1969 p10) an elaboration of the Hamilton's original work on

Infant Industries. (1790) Hausmann and Rodrik (2003) formalise the concept of suboptimal investment in new industries in the free market using a general equilibrium framework. Their model confirms "too little investment and entrepreneurship ex ante" (p.603), which, they argue, implies the need for government intervention.

Protecting a rapidly declining sector

Beyond the protection of industries which are in the early stages of development, there is also a case for the temporary protection of well-established industries or sectors in rapid decline, perhaps due to the sudden emergence of foreign competition. Providing protection in the short run could give the industry the chance to restructure and to adapt to increased technology and competition from abroad. This strategy could avoid costly job losses, increase the probability of the survival of domestic firms and thus increase long term domestic welfare.

The merits of promoting diversification

State intervention in industrialisation is also based on evidence that the process of diversifying a country's sectoral base is essential for successful economic development. Rodrik argues that:

"development is fundamentally about structural change: it involves producing new goods with new technologies and transferring resources from traditional activities to ...new ones," (2007 p.6) and that "development economists of the "old school" understood well the fundamental role that structural transformation played in the course of development." (2006, p.2)

Indeed, this was the central conclusion of Lewis' (1954) dualistic model of development, which argued that the movement of labour from 'traditional' (primary) sectors to 'modern' industries was essential in boosting an economy's saving and investment rates in order to increase growth. Using ILO and UNIDO datasets, Imbs and Wacziarg (2003) confirm that sectoral diversification occurs when a country moves from low to medium levels of income, and indeed that diversification takes place within these sectors in the early levels of development.

A particular focus is often given to the promotion of a strong export sector, as will be seen in the case of many East Asian countries. Hausmann et al. (2005) found the vast majority of 'sustained growth accelerations', defined as at least a two per cent annual growth acceleration sustained over eight years, to have occurred during rapid increases in a country's share of manufactured goods in total exports. Likewise, Rodrik (2006) stresses that falling domestic terms of trade (The 'Prebisch-Singer hypothesis') mean that growth in the non-tradables sector is self-limiting, with stagnating investment and growth. The same applies to continued reliance on the exporting of primary goods, the so-called 'Resource Curse', wherein reliance on natural resources can lead to volatility (IDB 1995); private sector crowding out and rent-seeking (Sachs and Warner 2001); or exchange rate appreciation (Corden 1982). Furthermore, Rodrik (2006) believes that the gains to be made from promoting the industrial sectors have been amplified, as "economic globalization has greatly increased the premium on manufacturing, particularly of the exportable kind." (p.2). Evidence of this type prompted the CGD (Commission on Growth and Development 2008) to advocate the promotion of diversified export markets.

All countries guide industrial development

Whatever the institutional and political implications of promoting or guiding particular sectors, the fact remains that all countries have - to some extent - used policies which have

determined the direction of structural development. Harrison and Rodriguez-Clare (2009) highlight the fact that "most countries have not simply opened up their markets. They have also instituted a range of policies to encourage exports, attract foreign direct investment (FDI), promote innovation, and favour some industries over others." (p.1)

Korean economist Ha-Joon Chang (2005) agrees that almost all developed countries used extensive government intervention, including tariffs and subsidies, in their industrialization. He also argues that "historical and contemporary evidence shows that it is extremely difficult, if not totally impossible, for technologically backward countries to develop without trade protection (of which tariffs are the main element) and subsidies." (p.12) As a result, Chang is extremely critical of the WTO steps in recent years to "cut or even altogether eliminate industrial tariffs," (p.12) through, for example, the Non-Agricultural Market Access (NAMA) negotiations since 2001. According to Chang such modifications would greatly limit the ability of developing countries to continue the industrialization process and thus restrict growth. The process of abolishing protection is therefore likened to "kicking away the ladder" for developing countries (Chang 2002 p.1)

This argument will be developed further in the later section examining the use of government policy in the industrialization of the CGD 'high, sustained growth' countries.

3. The case against government intervention

IP-related literature produced in the final decades of the 20th century is arguably dominated by scepticism, partly due to the general movement in political favour away from state intervention and towards free markets. According to Rodrik (2006 p.2), "even though there is a long tradition of studies on the natural-resource curse⁵, contemporary thinking on policy has been very reluctant to favour some economic activities over others."

Likelihood of government failure

Many papers accept the existence of market imperfections in developing economies, but argue that these countries' governments are highly unlikely to have sufficient information to make optimal decisions regarding the industries or sectors to be targeted. Quibria (2002) reasons that, "given the huge information requirements, successful industrial policy is largely beyond the capability of most developing countries." (p.48)

"The informational constraints facing policy-makers pursuing industrial policy are severe" according to Pack and Saggi (2006 p.11) As a result, in pursuing IP the developing state is likely to fail to meet its objectives and to waste resources supporting industries which do not have strong positive spillovers. Likewise, the CGD (2008) presents the conclusion of many academics that, although markets don't work, "industrial policies don't either, because governments lack expertise to identify successful targets for investment and will waste resources on plausible failures, or because they knowingly subvert the process to their own ends, dispensing favours to their industrial allies." (p.50). Even Rodrik (2007) accepts that "government failures and institutional shortcomings in protecting property rights and enforcing contracts are often also a fundamental stumbling block" (p.7) and so successful industrial policy relies heavily on good governance.

⁵ In other words, studies which identify the risk of over-specialisation in primary products.

In addition, Weiss (2005) believes that growing technological sophistication means that it is increasingly difficult for governments to identify new dynamic activities. Furthermore, Wade (1994) points out that carrying out industrial policy on the scale of that in East Asia "probably does require a strong, fairly authoritarian state (though not necessarily a nondemocratic one)" (p.18), which may not exist or indeed be welcomed by many developing countries. (Quibria 2002)

IP and crises

The use of IP has even been associated with the onset of economic and financial crises. The OECD (2001) names "over-capacity created by over-investment in certain sectors, high reliance on certain export industries...and over-emphasis on large firms" (p.29) as factors contributing to the Asian financial crisis in the late 1990s, particularly in Korea, Malaysia and Thailand. The paper also finds that countries such as Singapore, Chinese Taipei and Hong Kong saw far milder effects from the crisis, due to more carefully "managed structural change during the course of rapid industrialisation." (p.23) However, this has ambiguous implications in terms of the role of industrial policy: is it the case that policies targeting certain sectors are 'blamed' for the instability in the lead up to the crisis, or could industrial policy have been used more prudently to encourage neglected sectors and to thus reduce the chance of the crisis unfolding?

The need for local autonomy

Those involved in the formation of Local Economic policy are also likely to reject movement towards the promotion of certain sectors at the macro level. Though stakeholders often come together to identify local sectors with particular potential, it is feared that 'pushing' the entire macroeconomy to expand certain sectors will reduce the flexibility to react to local strengths and needs.

Contrary to the view of Friedman (2005) that globalisation has created a level playing field with a reduced role for geography, Rodriguez-Pose and Crescenzi (2008) believe that "proximity still matters for the location of economic activity." (p.371) Likewise, according to Porter (2000) "the prevalence of clusters reveals important insights about the microeconomics of competition and the role of location in competitive advantage," with the importance of local heightened in the context of "an increasingly complex, knowledge-based and dynamic economy." (p.15) As a result, there is an argument that policies must be sensitive to regional characteristics, which country-wide sectoral policies will fail to account for.

'Time bound' interventions

There is a strong message throughout the literature regarding the importance of restricting the timescale of IP, as with any form of economic protection. CGD (2008) notes that "these policies should be transitory, unless there are compelling externalities or market failures that require their attention" (p.7) and that "the problems these policies address decline over time, so they are not needed forever" (p.84). Without a time limit to protection, the incentive to innovate and reduce costs is limited, harming efficiency and welfare. Taiwan, for example, was aware of this risk and so adhered to a plan of annual, gradual reductions in the protection of its industries: with a schedule to reduce its average import duty on industrial tariffs from 10.2 per cent in 1988 to 3.5 per cent by 1992. (Johnson and Hou 1993) Singapore is also named as a country which initially applied IP, but later "responded to evolving economic conditions at home and abroad by allowing labour-intensive manufacturing to migrate elsewhere in the region, where labour was cheaper."

(CGD 2008 p.84) In other words, Singapore successfully and wisely withdrew sector-specific policies to allow market forces to react.

The CGD report also warns that "governments should be clear about what they are trying to achieve and be quick to reverse course if the intended results do not materialize" and that "any profit-seeking activity that needs permanent subsidies or price distortions to survive does not deserve to do so." (p.7)

A significant addition to the case against government intervention comes from the case studies of Chapter 5 and the empirical findings in Chapter 6.

4. Instruments used to guide structural change

Now the case for government intervention has been explained, this paper moves on to consider specific policy tools governments may be able to use to channel growth through the development of particular sectors. Such intervention should focus on the key market failures detailed in Chapter 2, which imply high transaction costs to new investments.

The concepts of Sectoral and Industrial Policy (IP)

Sectoral policies attempt to drive outcomes such as growth or productivity within a distinct part of an economy; a group of common industries such as energy or telecommunications. As the early stages of development concentrate on the move from primary to industrial sectors, the majority of literature on the field focuses more specifically on Industrial Policy, a "deliberate attempt by governments to change the industrial structure, usually to encourage the growth of capital-intensive industries" (Quibria 2002; from Leipzinger and Thomas 1997) More generally, Sectoral Policy could also target agricultural, service-based or high-tech sectors, which are included at times in the discussion, although as the issues surrounding both Sectoral and Industrial policies are so close, the two terms are generally viewed as synonyms. While this paper's focus is naturally on 'vertical policies' which "target the economic output of specific industries and even firms" (Nabli 2006 p.4), the final chapters will take into account the notion of 'horizontal policies', across-the-board measures which promote growth across all industries and sectors.

The Commission on Growth and Development (CGD, 2008) describes how countries have tried to "encourage investment in the export sectors in the early stages of their development." (p.64) At times, this has included the promotion of "specific industries or sectors through tax breaks, direct subsidies, import tariff exemptions, cheap credit, dedicated infrastructure, or the bundling of all of these in export zones." (p.64)

Harisson and Rodriguez-Clare (2009) point out that tariff and tax rates – particularly in early stages of development – often vary by industry to satisfy "optimal tax theory...and practical fiscal considerations," for example to raise essential revenues. However, this does not imply a diversion from 'policy neutrality', as the variable rates are not designed to favour certain industries. As a result, they define Industrial Policy as all steps taken by government "that imply distortions beyond the ones associated with optimal taxes or revenue constraints."

Sectoral Policy tools

The following table outlines individual policies which may be used to promote development of particular sectors or industries, along with examples of countries that have used such tools in their industrialisation.

Table 1: Summary of Sectoral Policy tools

Instrument	Explanation	Examples of case study countries which have used tool6 (see Chapter 5)
Tariffs	Tax or duties imposed on imports	Brazil, Korea, Malaysia, Thailand, India, Soviet Union
Subsidies	Financial assistance paid to an industry or sector	Japan, Korea, Malta, Soviet Union
Tax exemptions/credits	"Fiscal incentives" such as sector-specific levels of tax allowances on capital investment	Chinese Taipei, Japan, Korea, Malta, Malaysia, Singapore
Import licenses	A document determining the maximum volume of imports of a certain good into a country	Indonesia, Thailand
Domestic production quotas	Setting a minimum proportion of goods or components to be produced by the domestic market	Thailand, Indonesia
Export-dependent financial support	Continued favourable conditions dependent on a firm exporting a certain fraction of their goods	Korea
Public research institutions	Support investment in R&D to promote technological development	China; Chinese Taipei; Singapore.
Investment in dedicated infrastructure	Facilitating the expansion of certain industries indirectly, through the promotion of investment in related infrastructure	Botswana; Brazil; Oman
Investment in Human Capital	Funding and subsidising education and training at various levels can facilitate the development of certain sectors.	Singapore, China, Hong Kong, Soviet Union.

5. Case studies

Industrial policy success stories

The CGD Growth Report (2008) identifies countries which have experienced high and sustained postwar growth.⁷ These are named as Botswana, Brazil, China, Hong Kong, Indonesia, Japan, the Republic of Korea, Malaysia, Malta, Oman, Singapore, Chinese Taipei, and Thailand. The following section will present examples of policies used by these countries to engineer structural change. This will highlight the breadth of tools available to governments in effecting structural transformation and an idea of the national development strategies adopted by countries with sustained growth performances.

Botswana

The 1997 act of parliament to "encourage, promote and facilitate the establishment of export-oriented enterprises and selected services... [for] economic diversification" led to the creation of the Botswana Export Development and Investment Authority (BEDIA). The

⁶ These lists are not exhaustive; they are based on the policies named in the case studies of Chapter 5.

⁷ Note, however, that such classifications vary greatly taking alternative time periods: for example for 1980-2008, countries like Malta, Japan and Brazil had very disappointing growth performances.

organisation works alongside the Botswana Tourism Board for example to promote investment in tourism infrastructure. In addition, Botswana's Minister of Trade and Industry has urged the rest of Africa to drive diversification, moving away from a reliance on raw materials to "embrace value adding commodities," particularly in light of heightened global shocks.

Brazil

Hay (1998) finds that, despite membership to GATT and Mercosul, "Brazil has unilaterally introduced a series of measures protecting the automobile sector since March 1995." Likewise, Piani (1997) describes the success of the toy industry since gaining special protection following trade liberalisation. In 1996, tariffs rose from 20 per cent to 70 per cent, though this was accompanied by a plan to reduce protection in the following years. The Ministry of Development, Industry and Commerce (MDIC) announced in 2006 the creation of a permanent public body to promote investment in transportation infrastructure. This is one example of the country tackling constraints to further industrial development, without favouring certain activities.

China

China has promoted high-tech industries, using tools similar to those used previously throughout East Asia to encourage FDI and support domestic firms. Likewise, Linden (2004) describes how the country has used tools similar to Korea and Taiwan to promote the electronics industry, including "public research, trade protection, sector-specific financial incentives, selective government procurement, control of foreign participation, relaxed antitrust regulation, and provision of training and education for sector-specific skills." (p.1)

Chinese Taipei

Wade (1990) finds Chinese Taipei to be a "governed" market economy, the state affecting private incentives in certain industries using import quotas, subsidised credit and fiscal incentives. It was the public sector that launched collaborations with foreign, hi-tech multinationals such as IBM and Phillips: "public research institutions had an active role in both the diffusion and adaptation of imported technology." (Weiss 2005 p.23) This established the state's comparative advantage in hi-tech activities and was followed by a period of strong and sustained growth.

Hong Kong

On the whole, Hong Kong intervened little in the transformation of its industries, being the "nearest to the neoliberal ideal, combining free trade with an open door policy to FDI." (Lall 2004 p.14) As a result, Hong Kong saw little investment in technology, and rising labour costs led to a process of deindustrialisation; manufacturing shrinking from 25 per cent to 5 per cent of GDP. In the words of Lall, "the absence of selective industrial policy...constrained the deepening and growth of manufacturing as inherited capabilities were used up."(2004 p.15) Indeed, Tsui-Auch (2002) argues that the transition from British colony to administrative region of China "provides a context for Hong Kong State to undertake a more interventionist, industry-specific policy," in order to counter the overreliance on the service sector and "lack of industrial upgrading" of recent decades.

Indonesia

Since independence in 1945, the Indonesian government has intervened heavily in the microeconomy. Rock (1999) presents empirical evidence suggesting that extensive

Industrial Policy in Indonesia has played a role in the creation of "a strong, integrated, diversified and outward-oriented industrial economy" and argues that the "neoliberal interpretation" of Industrial Policy in Indonesia fails to appreciate the economy's successes since independence. Examples of policies used include government allocation of import and commodity distribution licenses, which often favoured the Indo-Chinese business community. In the financial sector, the central bank offered subsidised credit to a select group of state owned development banks, which went on to subsidise credit to various industries and domestic traders. On the other hand, Hill (1997) believes that Industrial Policy "made very little contribution to the 1980s industrial and export successes" in Indonesia. (p.301)

Japan

As with other countries in the region, Japan provided direct and indirect subsidies and preferential tax breaks to 'preferred sectors' in the process of its industrialisation. The high-technology sectors, for example, were particularly promoted through subsidies to R&D and reduced interest burdens. However, Nezu (2007) finds that industrial policy had little effect on productivity, growth or welfare in the development of Japan, with evidence that "most resource flows went to large, politically influential, 'backward sectors'." In recent years, the government has tended to use horizontal policies and framework conditions, intended to allow all industries to expand. Although certain sectors displaying high growth potential are identified, the government does not propose methods for promoting particular sectors. Moreover, it is argued that financial and labour market reforms provide a preferable alternative to the targeting of certain sectors.

Korea

The South Korean government is known to have to have used Industrial Policy particularly actively over the course of its industrialisation. Certain industries – namely steel, shipbuilding, petrochemicals, non-ferous metals, electronics and machinery - were protected at each stage of development using tariffs and subsidies, long term finance and tax breaks. This achieved the national aim of increasing the capital intensity of production. In addition, an export-focus was encouraged, by tying financial assistance to export volumes. Beyond sector promotion, the government continued to manage their development by establishing collaboration between private companies and the state. Rodrik (2007) cites Korean firm POSCO as an example of a firm which grew initially under public control and protectionist tools, becoming the most efficient company operating in the industry by the 1990s.

According to the OECD (1999), "the Korean government played an active role in influencing industrial structure through industrial policy and the easy availability of bank credits to certain industries." (p.20) Amsden (1989) describes how, in return for such privileges, the selected industries were bound to "conform to strict performance standards" (from Quibria 2002 p47), which he found to have avoided rent-seeking activities in the country. Conversely, the debt build-up and eventual collapse of many Korean conglomerates – leading up to the 1997 financial crisis – cast significant doubt over the development consequences of active industrial policy. (Pack 2000) South Korea did recover quickly from the crisis, however, meaning the country retains a very positive long term growth performance.

Malaysia

The Malaysian Industrial Development Authority (MIDA) was established to advise the federal and state governments on industrial development policies...and co-ordinate industrial development." (Abdullah and Yahya 1991) Their role includes the management of business licensing and the provision of exemptions from tariffs or import duties. MIDA provides sector-specific levels of 'Investment Tax Allowances' on capital expenditure. For example, the annual allowance is 3 per cent for Industrial buildings; 20 per cent for Environmental control equipment and 40 per cent for Computer and IT equipment. Equally MIDA publish a list of "promoted activities and products" in manufacturing, high technology and small scale companies. Companies involved in such activities are eligible to apply for 'Pioneer Status', giving them partial exemption from income tax for five years.

Malta

The Industrial Development Act in 1988 launched the promotion of exports through tax holidays, export promotion allowances, subsidies, training grants, reduced tax rates and soft loans. In 2001 this was replaced by the Business Promotion Act, which offers "attractive fiscal incentives for companies engaged in certain manufacturing and qualifying activities...demonstrating growth and employment potential" (Maltese government 2001) such as electronic equipment, machinery and pharmaceuticals. This came as part of a wider drive to increase manufacturing productivity, FDI inflows and exportation. Furthermore, Beattie (2004) argues that "despite Malta's size, resource limitations and insularity, enhanced competitiveness resulting from a pro-active industrial policy is possible."

Oman

The Omani government works to achieve a series of five-year plans, which set out objectives for the economy. There is a particular focus on economic diversification to reduce reliance on oil, with an aim to increase the contribution of the Industrial Sector to GDP by 7.5 per cent over the next decade. The government also assigns "a high priority to the development and use of Information and Communications Technology... and to create the infrastructure needed for the transition to a digital economy." (Oman Net) This can be seen as the promotion of dedicated infrastructure which consequently supports the expansion of related industries.

Thailand

The Thai government has viewed the automotive industry as an important foundation in the industrialisation process, due to its "considerable sum of related businesses." Consequently, Thailand has supported domestic auto-assembly of vehicles and parts, with the Ministry of Industry playing a "crucial role" in the industry's development. For example, the government "required assemblers, from January 1st, 1975, to use at least 25 per cent of locally produced contents...and in 1989 The Automotive Development Committee required the assembly of pickups with engine capacity up to 2,500 cc. to use locally manufactured engines." (Thai Office of Industrial Economics 2005) However, the government notes a shift in the past decade towards more liberalised policies, with reduced tariff barriers, the abolishment of domestic content measures, export promotion and increased coordination with ASEAN, APEC and WTO.

Singapore

Although it has a history dominated by free trade, the Singaporean government has throughout its industrialisation used policies which "alter the composition of exports and the pattern of comparative advantage" (Weiss 2005 p. 22). For example, tax credits have been used to promote high-technology and high skill activities. Singapore particularly encouraged large, transnational firms to complete R&D domestically and supported this with investment in higher education and public research institutes.

Success story conclusions

The preceding overview of sector promotion reveals that all of the CGD's 'growth success story' countries have all actively engineered structural transformation in the process of industrialisation. It also reveals the diversity of policies available to a country to support sectoral change, from the explicit (e.g. subsidies and tariffs) to the subtle (e.g. investment in sector-supporting infrastructure). The fact that active interventions in structural transformation went hand in hand with high and sustained growth provides, in itself, optimistic predictions of the power of well-managed state intervention. In the words of Rodrik (2007) "proponents point to East Asia and argue that successful industrial policy can obviously be done." (p.11) Equally, the case studies above show that such a claim can be made to certain countries outside of East Asia, including Oman, Botswana and Brazil.

Industrial Policy: disappointments

It is necessary to contrast preceding 'strong growth examples' with the experiences of countries with poor post-war growth performances, where explicit attempts to guide structural change were followed by economic failure.

Soviet Union

A socialist state based on Central Planning, the Soviet Union had a history of extensive and clearly-defined industrial policies. From 1928 until the union's dismantlement in 1991, a series of five-year plans sought to drive rapid economic development through various channels. Each plan focused on a certain type of good or industry, for example heavy industries, consumer goods, capital goods or agriculture. However, strict volume targets led to misreporting by local officials, with official output growth rates often twice the Western estimate. After an initial period of strong growth in the post-war years, "Soviet growth over 1960-1989 was the worst in the world" (Easterly and Fischer 1994 p.1) once controls for investment and human capital are made. The union experienced drastic reductions in growth rates per worker from the initial period of strong growth: with western estimates of annual growth in output per worker for 1980-1987 of just 1.4 per cent, compared to 5.8 per cent in the 1950s. (ibid)

Large scale Industrial Policies created hugely inefficient state enterprises which lacked incentives to improve quality. Desai and Martin (1983) found an efficiency loss of 4-10 per cent of efficient factor use "arising from interbranch misallocation of capital and labour deployed in Soviet industry.⁸" Other authors point to various ways in which the slowdown can be attributed to mistakes in investment allocation by sector. For example Herbert Levine (1983) saw a lack of investment in transport sector as a major constraint to development in other Soviet sectors; a clear coordination failure.

There were, however, many other factors at play in the Union's eventual economic failure. Easterly and Fischer find a key driver of the slowdown in Soviet growth from 1950 to 1987 as "a low elasticity of substitution between capital and labour, [causing] diminishing returns to be capital to be especially acute," and suggest that the burden of defence spending "also contributed to the Soviet debacle." (1994 p.1) Schroeder (1985) explains the timing of the slowdown as a combination of shifting power towards insider interests, weakened power of central planners and falling worker morale.

⁸ This is determined by the extent of inequality of marginal rates of substitution.

India: post Independence

India's first Prime Minister, Jawaharlal Nehru, was an advocate of socialism and took many of his influences from the Soviet Union. As a result, India has set out a similar set of five year plans since 1951, starting with a focus on agriculture-led poverty reduction, but quickly moving onto the promotion of heavy industries such as steel and coal. These initial industrialisation plans were based on the 'Mahalanobis model,' which used statistical tools to set out the investment mix aimed at maximising long term growth.

With rapid capital accumulation, the first three five-year plans between 1951 and 1966 saw impressive levels of output growth, of between six and eight per cent per annum (Raj 1976); not far short of the ambitious targets. However, Raj (1976 p.223) notes "a sharp decline in the rate of growth of industrial output since the middle [of the] 1960s", as well as "a significant quantum of unutilised manufacturing capacity." Annual output growth slipped to around 3.5 per cent for 1965-1970, and further still to two per cent between 1970 and 1974. (ibid p.223) Rodrik and Subramanian (2005) name the establishment of "inefficient industries under state industries" as one key factor in the demise of India's industrialisation. Thus, there is clearly a risk that government support can create industries which do not match the country's current or potential comparative advantage, or that lack incentives to increase efficiency due to long term state support.

However, this was not the sole reason for falling growth: the government "riddled the private sector with extraordinarily cumbersome and detailed regulations, and suffocated private economic activity with controls and bureaucratic impediments." (ibid p.194) Such problems were largely the result of India's highly restrictive business establishment framework known as Permit Raj, which required the approval of numerous government agencies for a new company to begin production. As business establishment involved the approval of officials, corruption was widespread, with permits granted to those with contacts as opposed to those with simply entrepreneurial potential. Over the lifespan of this system (1947 to 1990) India experienced escalating bureaucracy, rising macro instability and a growing focus on domestic markets, which brought about a very poor growth performance. Speaking about the period prior to the surge in Indian productivity from 1980, Rodrik and Subramanian (2005) saw India as "shackled by the socialist policies and the 'license-permit-quota raj'...of the past, [exemplifying] development strategies gone wrong."

In the decades following independence, the state's role in leading industrialisation and structural change also included "an impressive history of small firm development policy...[as a means of] generating substantial employment and income at the regional level and acting as a shock-absorber during periods of economic crisis." (Das 2008 p.69-70) However, limiting support to firms of a certain size reduced incentives to expand, or forced expanding enterprises to divide into multiple entities without sound economic logic. Furthermore, a drive to encourage clustering of SMEs was executed without a sufficient regional development strategy. Das (2008 p.69) concludes that "despite an elaborate and dynamic policy framework, the progress of Indian SMEs continues to be hindered by basic constraints such as poor credit availability, low levels of technology... and inadequate or no basic infrastructure, both physical and economic."

Failed intervention conclusions

The cases of both the Soviet Union and India provide a wider lesson that, whilst intervention at early levels of development can launch and coordinate wide scale industrialisation, the government should be conscious of the correct moment to let market forces take over. Instead, both countries prolonged their 'grip' on industrialisation, distorting incentives and experiencing rapidly diminishing returns to scale. In a more general discussion of the role of IP in development, Snowdon (2008) concludes that "the

bankruptcy of the case for public ownership was also demonstrated by the failure of the 'permit Raj' model of economic development in India... and the collapse of the Sovietstyle central planning system in the Eastern bloc economies." (p.59)

The Indian experience of a gradual deterioration in progress following the postindependence boom brings its own reflections. Even if an industrialisation strategy presents sensible priority areas to facilitate industrial deepening and growth acceleration, it must be accompanied by institutions which allow entrepreneurship to flourish. Whereas India's industrial development post 1960 has been paradoxically blocked by largely state-created constraints, East Asian competitors such as Korea supplemented a strong industrialisation strategy with a business-oriented framework and minimised bureaucracy.

6. Empirical studies on the effects of Industrial Policies

So far, the cases for and against government intervention in structural change have been presented, along with a selection of positive and negative country experiences. This is now followed by some examples of empirical studies on the economic consequences of protection and promotion. Have protected industries experienced higher productivity growth; have they brought about long run welfare gains; and does it seem that the outcome was more positive than in the absence of intervention?

Two tests are used to determine whether protection was justified. A case will pass the Mill test if the industry can compete in international markets in the long run, whereas the Bastable test also requires discounted future returns to outweigh the initial protection costs, implying long run welfare gains.

Single industry studies

These studies examine the impact of protection on an infant industry in a particular country, which have tended to focus on the developed nations. Using a simulation model to estimate the case without protection, Baldwin and Krugman (1986) find that the Japanese semi-conductor industry "could not have emerged as a global player without the protected domestic market" and that "protection was needed in order to achieve the kinds of economies of scale and learning effects... to allow the industry to be competitive on world markets." (in Harrison and Rodriguez-Clare 2005 p. 31) In the same way, Head (1994) tracked the emergence of the US steel rail industry, from uncompetitive local industries to global leader a few decades later, by which time protection had been lifted.

Evidence exists, however, that many protection cases have brought about suboptimal outcomes. For example, Irwin (2008) shows that, even though the US tinplate industry became competitive and self-dependent following tariff protection, falling iron ore prices would have probably allowed the industry to develop independently, if more slowly, without protection. In addition, his analysis shows that the excessively high tariff rates of this sector – of over 70 per cent – was far above the optimal level, bringing about net welfare losses.

Furthermore, Harrison and Rodriguez-Clare (2009 p.32) highlight that "protection may lead to higher growth but result in net welfare losses"; protected industries passing the Mill test of long term competitiveness, but failing the Bastable test on the grounds of net losses. Examples of this outcome have been found in the tinplate, semiconductor and aircraft industries in various countries.

There is a limited evidence base for the consequences of infant industries in today's developing countries. Luzio and Greenstein's (1995) examination of the Brazilian

microcomputer industry reveals that despite strong productivity growth, the industry failed to catch up with the international technological frontier, which was rapidly expanding in the 1980s. This led to welfare losses and the protection attempt was quickly abandoned.

Cross-industry studies

Alternative studies examine the relationship between trade protection and productivity growth across a country's industries. This tests the hypothesis that the protection of infant industries increases a firm's ability to export, and so will bring about superior productivity growth. Harrison (1994) examines Turkish cross-industry data for 1963-1976 (from Krueger and Tuncer 1982), finding a significant, positive relationship between protection and productivity growth.

However, the majority of remaining studies find little support for this theory. Numerous authors have found that "removal of protection generates both intra-firm and intra-industry productivity gains...possibly through market share reallocations." (Harrison and Rodriguez-Clare p. 33) In a study of 36 Korean manufacturing industries, Kim (2000) finds that trade liberalisation increased Total Factor Productivity growth by about 2 per cent, and that it also "increased competition and promoted scale efficiency." (p.81) Likewise, Muendler (2001) finds that Brazil's reductions in tariffs in the early 1990s brought about productivity increases by increasing foreign competitive pressure and by leading the closure of inefficient firms.

However, Rodrik (2007) points out that the lack of a positive relationship does not imply policy failure, given that industrial policies should be focused on industries exhibiting particularly evident market failures. As a result, he believes that it is likely that protected sectors within which raising productivity growth is challenge, and so "lower growth could be perfectly consistent with a successful IP." (Harrison and Rodriguez-Clare p.34)

Cross-country studies

Several studies have shown a positive relationship between protection and a country's performance, implying the successful industrialisation of a certain country relied upon protective measures. Chang (2002) believes this to be true for the industrialisation of the USA in the 19th century for example, and Lewis (1955) finds rapid growth in Latin America in the 1960s was in part facilitated by extensive protection at the time. Furthermore, Linden (2004) believes "it is now generally accepted that government intervention has at times played a positive role in promoting economic growth in the high-performing economies of East Asia." (p.1)

On the other hand, Krueger and Tuncer (1982), World Bank (1993), Lee (1996), Beason and Weinstein (1996), and Lawrence and Weinstein (2001) found a zero or negative relationship between the level of government support applied and economic success of a certain industry, including controls for other factors affecting sectoral performance. Likewise, Irwin (2002) believes that the apparent positive correlation between protection and growth over time in O'Rourke (2000) and Clemens and Williamson (2001) is largely driven by the cases of Argentina, Canada and the US; taking such countries from the sample renders the correlation barely positive. Also, once the sample is expanded to a more reasonable sample size to include countries such as Portugal and Brazil – with high tariffs and low growth rates – the correlation is reduced even further:

"Rather than higher tariffs causing higher growth, the relationship could be spurious: landabundant countries relied on customs duties to raise government revenue and also enjoyed favourable growth prospects, with little link between the two." (Irwin p.169) In addition, many question the reasoning used by many IP proponents that the success stories of the East Asian 'tigers' were due, or in part due, to the practicing of IP in these countries. In the words of Rodrik, (2007) "no shortage of economists...believe South Korea, Taiwan, China, and other East and Southeast Asian countries would have come out further ahead if their governments meddled less in industry." (p.12)

Indeed, in a study of the 'East Asian Miracle' of the late 20th century, the World Bank (1993) finds "no conclusive evidence that sectoral interventions by the economies' governments were quantitatively significant," nor that sectoral patterns of growth and trade were altered. Similarly, Bhagwati (1996) concluded that patterns of incentives in Korea would have been similar in the absence of its industry-specific interventions, and Little (1996, in Panagariya 2008) believes that Korea saw economic success "despite its industrial policies" rather than due to them.

Consequently, the CGD (2008) concludes that "the significance of these policies is hard to prove. Even though most of the high-growth successful economies tried industrial policies, so did a lot of failures." (p.48) In other words, the fact that both the counterfactual – the outcome without IP intervention – is unknown, and that the historical and structural profiles of a country like Korea is unique, means that it is very difficult to determine the likely effect of IP in a given country.

7. Policy space: the role of the WTO and IFIs

"As donor agencies and IFIs since the 1980s have played a major role in determining policy choices, [Less Developed Countries] have gradually lost much of their policy space." (UNCTAD 2009 p.173) It is therefore useful to track the development of the international paradigm, in order to understand the context in which countries have been operating in recent decades.

The term 'Washington Consensus' was coined by Williamson (1989) to describe economic policies prescribed by Washington-based organisations such as the IMF, The World Bank and US Treasury department, to post-crisis developing countries and nations in transition in recent decades. The recommendations covered ten policy areas, including taxation, trade and exchange rates and largely aim to achieve three goals: stabilisation, privatisation and liberalisation. In other words, the government is recommended to take a laissez-faire approach, which in theory should allow markets to function efficiently and should minimise the potential for government failure.

Rent-seeking: basis of the Washington Consensus

The political economy literature has provided an influential framework for analysing the relative growth performances of various countries in the context of government interventions, with certain elements dictating the formation of the neoliberal economic orthodoxy and its resulting recommendations.

The term 'rent-seeking' was coined by Kreuger (1974) and Tullock (1967) to describe the process whereby individuals lobby the government for special privileges, as opposed to seeking profits based on the value of economic activity.⁹ Kreuger (1974) describes how government interventions such as restrictions to free trade "give rise to rents of a variety of forms." (p.291) Competition for such rents can be legal in nature, or can take the form of "bribery, corruption, smuggling and black markets." Indeed, Kreuger (1974) found that excessive regulation in developing countries led to the creation of rents which made up a significant fraction of national income, representing a high and wasteful cost to the state. Data from the 1960s suggested that government regulation in India created rents of over seven per cent of national income, while in Turkey rents from import licenses were found to make up 15 percent of GNP. These findings were used to highlight that protection of state monopolies was largely futile, as the "costs involved in seeking monopoly rents were much larger than the relatively small deadweight losses associated with the monopoly rents themselves." (Khan 2000 p.1)

In a later paper on government failures in development, Kreuger (1990) reinforces the role of rent-seeking in government failure, describing the government as a collection of individuals seeking to fulfil their own interests. Policymakers are therefore advised to minimise government action, with a particular effort to reduce rent-seeking opportunities. In the words of Weiss (2005 p. 27), "the efficient bureaucracy, sufficiently insulated from political pressure to withstanding rent-seeking and associated corruption, is absent in virtually all economies."

As a result, the existence of rent-seeking was at the heart of the neoliberal aversion to an active state, with government interventions seen as "the basis for creating opportunities for rent-seeking interests to emerge that ultimately 'capture' the policy-making process to suit their partisan ends." (Beeson and Islam 2005 p.198)

The role of International Financial Institutions

In the context of this paper, the elements relating to the liberalisation of trade and FDI flows are particularly relevant. Allowing the free movement of imports is argued to bring about increased access to competitively priced inputs, which is seen as an important step in promoting exports. Furthermore, "a policy of protecting domestic industries against foreign competition is viewed as creating costly distortions that end up penalizing exports and impoverishing the domestic economy." (Williamson 1990, chapter 2) The World Bank has generally argued that, while not realistic to eradicate overnight, protection should be reduced according to a fixed schedule, whereas Williamson (1989) argues that the speed of liberalisation should depend on factors such as the balance of payments, as was the case in Western Europe's postwar development. Though a free flow of inward FDI, as it can provide "needed capital, skills and know-how, either producing goods needed for the domestic market or contributing to new exports." (Williamson 1990, chapter 2) The provision of further funding from the International Financial Institutions (IFIs) was often 'conditional on' adhering to such rules.

However, concessions were established to allow "substantial but strictly temporary protection" for Infant Industries, and a "moderate general tariff" (of around 10 to 20 per cent) may be permitted to facilitate industrial diversification. Furthermore, a moderate general tariff (in the range of 10 percent to 20 percent, with little dispersion) might be

⁹ Whereas economic profits reflect the true value of the factors used in production and are earned through wealth creation, economic rents see earnings beyond the amount required to keep factors of production in their current use.

accepted as a mechanism to provide a bias toward diversifying the industrial base without threatening serious costs.

The role of the WTO

Known to be "based on the broad principles of non-discrimination between imports, exports and domestic sales and between enterprises and sectors," (Weiss 2005 p.28) the WTO generally opposes active government involvement in sectoral development.

However, rules permitting flexibility to countries at a low level of development do exist. For example, export subsidies are permitted for countries which had income per capita of less than \$1000 in 1994 (Weiss 2005) and tariffs may be applied on a sector-by-sector basis, so long as they never exceed the country's allocated tariff ceiling. There are also WTO procedures designed for sectors "affected extremely adversely by trade," notably antidumping measures and countervailing duties. Dumping occurs when a country exports a good at a price less than that charged in its domestic market; the importing country blocking this by using a form of protection may therefore be justified. Countervailing duties may be applied if there is evidence that the goods being imported into a country have themselves been subsidised, and as a result are damaging the domestic sector. Nevertheless, there are strict rules for phasing out industry protection of the sort, once higher levels of income are reached.

Equally, in past years the WTO has run seminars discussing the return of Industrial Policy and its potential "clash with WTO disciplines." (World Bank Group 2008) Issues raised at these sessions include the ability of governments to overcome market failures that limit growth in trade; the extent to which WTO rules "prevent governments from adopting pro-active policies"; and the "types of institutional arrangements [required] to lower the probability of capture and ensure the highest probability of success." (World Bank Group 2008) Though the discussions from these seminars have not been published, the fact that such a debate is taking place highlights the renewed interest in the government's role in guiding structural transformation.

The failure of the laissez-faire paradigm

The spectacular failure of several countries which closely followed the recommendations of the 'international institutions' has brought the Washington Consensus paradigm into considerable question. In Rodrik's view, "it is now commonly accepted that the countries that adopted this agenda have under-performed." (2005 p.3) Hausmann, Pritchett and Rodrik (2004) study the factors contributing to the 83 sustained growth accelerations which occurred worldwide between 1957 and 1992¹⁰, and found that only 14 per cent were preceded or accompanied by economic liberalisation, with far more being associated with a change in political regime, or an external shock. In the Least Developed Country Report (UNCTAD 2009) this sentiment is summarised as follows:

"By and large, the promised benefits of the liberalization, privatization and deregulation policies of the last three decades have not occurred as expected... This can be seen in their uneven, volatile or even stagnant growth performance... Three decades of neoliberalism have delivered limited success." (p.142)

¹⁰ Which constitutes at least a two per cent increase in growth rate, maintained for eight years or more.

In the same way, Stiglitz (2002) condemns the IMF for having "irresponsibly pushed developing countries into premature capital market liberalisation" (Snowdon 2008), enforcing misguided policies and issuing moral hazard-inducing loans with adverse 'conditionality' clauses. Argentina is the classic example of a country once heralded as the IMF's "poster child of reform" (Stiglitz 2002), which ultimately landed it in crisis and recession. Equally, El Salvador's laissez faire approach has failed to create an environment conducive to investment in new technologies or to industrial upgrading, despite macroeconomic stability and strong institutions. Rodrik 2005 (p. 21) associates this with "a lack of incentives for private investment in non-traditional areas;" a result of both the information externalities and coordination failures outlined in Chapter 2.

For this reason, many have advocated the adoption of what Rodrik (2006c) calls the "Augmented Washington Consensus,"¹¹ which adds targets such as flexible labour markets, corporate governance, social safety nets and central bank independence. Equally, the fact that the current financial crisis was brought about in the context of over-liberalised capital markets has put the Washington Consensus paradigm under heightened scrutiny. Alternative approaches are presented in the chapter that follows.

Reassessing rent-seeking

The analysis of the early literature on economic rents earlier in the chapter suggested that government intervention incites high rent-seeking costs and should therefore be minimised. However, more recent studies on the relationship between the political economy and development have questioned this logic, and therefore undermine the theoretical basis of the Washington Consensus.

Khan and Jomo (in Khan 2000) find that "a number of rents…played a critical role in the rapid development of capitalism in East Asian countries." (p.60) Certain types are seen to bring about the creation of new property rights, encourage learning and even maintain political stability. Although rent-seeking played an undeniable role in the rise of unregulated, speculative capital flows which led to the 1997 financial crisis, this should not detract attention from the many forms of rent-seeking which had a *positive* influence on the countries' overall growth performances.

A country's ability to reduce such costs has been also been found to depend significantly on both domestic institutions and the political economy, which the traditional rent-seeking literature neglects. Therefore, while some authoritarian regimes effectively cut rent-seeking costs others developed costs which outweighed those in democratic countries due to institutional differences. Khan and Jomo (2000) name "differences in the political power of competing groups, and differences in their ability to resist change" (p.60) as influential factors.

Indeed, whereas the initial literature focused only on the 'input side' accumulation of rent-seeking costs, it is argued that the concept should be viewed as a process. In particular, a much greater role for the outcomes of rent-seeking is advised, as the variance in rent-seeking costs seen to be "less significant than the variance in the social value of rents created" (Khan and Jomo p. 60) As a result, country experiences varied greatly. In South Korea performance monitoring facilitated technology advancements and learning rents added value. In India on the other hand, although production licensing did create rents for

¹¹ Note, however, that Rodrik does not support this concept.

infant industries with the potential of supporting technological enhancements, a lack of performance monitoring meant that such rents quickly dissipated once performance slipped.

Such analysis offers an important framework for the role of the state in the development of East Asia, and in the economic failures in regions like South Asia and Latin America. It also calls into question the foundations of the anti-interventionist neoliberal approach, formed on the assumption that government action leads only to costly rent-seeking.

The disappointments of trade liberalisation

According to Goldberg and Pavcnik (2007) trade liberalisation has constituted "a major part of...globalisation" (p.40) in the past three decades in many countries, notably India and Latin American nations. Several studies point out that the effects of such liberalisation have been disappointing in terms of growth creation. In the words of Goldberg and Pavcnik (2007 p.40) "the causal link between trade openness and growth has been controversial and inconclusive to date." Likewise, Rodrik and Rosenzweig (2009 p.5) state "trade liberalization has not always paid off the anticipated dividends," and a study by Keen and Simone (2004) finds that in many low-income countries, further trade liberalization is likely to reduce revenue. This is a further aspect of the anti-Washington Consensus argument.

8. The way forward

Arguably, rather than dismissing intervention options based on the failures of certain countries, policymakers should draw lessons from policy design which has succeeded in promoting growth. In order to draw out some realistic policy recommendations for future policy, this chapter presents the latest issues and reflections in the Industrial Policy debate.

Horizontal policies

This paper has focused on the use of 'vertical' policies, which have implications on particular sectors or industries. However, governments may also promote growth using horizontal policies, without the need to favour certain economic activities; these have the potential to benefit all industries by "focus[ing] on improving the quality of inputs in the production process." (Nabli 2006 p.4) Examples of areas in which horizontal policies may be formulated include investments in education and training, public infrastructure and R&D. Though vertical policies exist in each of these areas – for example public investment in higher education in order to allow the development of a high tech industry – more general, horizontal policies are equally possible.

Investing in education and training at all levels prepares the labour force for structural transformations in the domestic economy. Whilst it is beyond the scope of this paper to resume the vast literature dedicated to the role of human capital investments in development, certain elements are worth highlighting. Psacharopoulos and Patrinos (2002) review such studies, showing average returns to investments in education of between 10 and 20 per cent, with particularly high returns for women, primary education and low income countries. Likewise, in a survey of international experience, the OECD (1998) finds high benefits to tertiary education despite high costs per student for the taxpayer, and stresses the additional importance of non-education investments such as enterprise-based training. As a result, "lifelong learning is now at the top of governments' priorities in promoting growth..." (ibid p.8)

The challenge for countries is to calculate *future* returns to such investment; offsetting high initial costs is often subject to long time lags. Many of the East Asian success stories, including Singapore, Malaysia, Hong Kong and more recently China, foresaw the importance of a well-trained workforce and invested extensively in education and training early in their industrialisations.

Similar arguments apply to policies encouraging investment in R&D and public infrastructure, which also have the potential to break down growth constraints across all sectors. In fact, the very nature of policy means that almost all government intervention has implications on growth outcomes. For example, the development of a system of social security system can make a process of rapid structural change socially acceptable and sustainable by providing a 'safety net' to the most vulnerable, irrespective of the sectors in development.

Returning to the motivation for horizontal policies, the fact that government can encourage growth without involving themselves in the problematic and often failed task of 'picking winners' is seen as a great advantage. However, the issue of whether or not a country will optimise its growth performance by encouraging markets to follow current competitive advantage is an active debate in itself, provided in the subchapter that follows.

Comparative advantage: against the grain?

Even once the theoretical justification for government intervention has been established, there remains great disagreement over the extent to which the government should, and is able to, push the economy beyond its current comparative advantage.

While he agrees that the government must step in the resolve information externalities and coordination problems in the process of industrial upgrading, Justin Lin (Lin and Chang 2009) believes that "the role of the facilitating state is to encourage the emergence of firms, industries, and sectors that...will make effective use of the country's *current* comparative advantage," which he sees as the route to developing industries "appropriate for their endowment structure." (p.484) In this argument therefore, the optimal industrial structure is endogenous to national endowments such as factor intensity and natural resources, with a step-by-step "upgrading...of the endowment structure" (p.486) preceding structural transformation. Many of the high, sustained growth cases in East Asia frequently developed in this way, entering industries already existing in other countries and thus avoiding the need to develop unseen technologies.

Such countries also often chose not to 'leapfrog' intermediate activities: closer examination reveals that the early development of Korea's automotive industry focused on labour-intensive assembly of foreign parts, which matched the comparative advantage at the time. Indeed, Lin describes the financial and "governance quality" costs of policies (p.487) which defy current comparative advantage, as he argues governments end up supporting industries that would not survive independently, and which take a long time to become competitive on international markets.

Ha-Joon Chang (Lin and Chang 2009) disputes this limitation, seeing comparative advantage merely as a starting point, "and that a country needs to defy its comparative advantage in order to upgrade its industry," "given the nature of the process of factor accumulation and technological capability-building." (p.489) Though it should be recognised that deviations from comparative advantage do incur costs in acquiring new capabilities, there are many success stories of countries having supported and expanded industries far from their existing capabilities Etzkowitz and Brisolla (1996), "South Korea, Taiwan and Singapore, adopted strongly interventionist policies to help *create* comparative advantages," (p.339) and faster than they could have developed naturally. Chang cites the case of Finland's longstanding, but eventually greatly worthwhile, support of Nokia, with

its per capita income only 41 per cent of that of the world's leader in electronics technology in the 1960s, the USA. (Lin and Chang 2009) The same is true for Korea's support of steel industries in the 1960s, when per capita income was only around 5 per cent of the global steel leader, the US. The fact that such countries launched industries at much lower levels of development than that of the 'technology frontier' nation – and saw successful long term growth – means that "comparative advantage defying" strategies seem to be viable. Chang justifies this observation with the argument that neoclassical theory and associated trade models fail to capture many of the realities of the process of industrial upgrading. Consequently, existing endowments and market signals will not identify many high potential industries.

In summary, the strategies and optimal paths to successful development are contested: should countries focus on expanding activities close to their current production, or should development strategies more forward-thinking and rich in new technology? This very issue is addressed in the new literature on Product Space, which will be discussed in the following subchapter.

Product space and IP

The concept of 'product space' – the "network of relatedness between products" – (Hidalgo et al. 2007) brings together the preceding ideas of market failure in the essential process of establishing new, more complex industries (p.482) For the purposes of this paper, the product space is simplified to a grid of potential products that a country could theoretically produce, with goods located close together similar in terms of:

- Factor endowments required in production;
- Level of technology involved; or
- The probability that a certain country exports both goods (Hausmann and Klinger)

Hausmann and Klinger (2006) find that currently produced goods are unevenly distributed across the product space, particularly at low levels of development. This is because moving into the production of goods which are 'far' from the existing capability is likely to involve a number of market failures, as detailed in Chapter 2, including learning and technological spillovers. Furthermore, starting to operate in an industry within which goods are very different from current production is going to require "highly specific inputs such as knowledge, physical assets, intermediate inputs, labour training requirements, infrastructure needs, property rights, regulatory requirements or other public goods." (p.1) There are therefore significant barriers to achieving "structural transformation" (p.2) required to match the product complexity and diversity seen in richer countries.

In itself, this represents a theoretical justification for an active role of the state in overcoming the insufficiencies of the free market, to allow the development of new sectors. Alternatively, a country's current product space can be mapped against the country's 'optimal product space,' in terms of comparative advantage. Consequently, this sort of analysis may easily lead to the development of sector-specific policies, which seek to kick-start a new, high potential activity, or to make use of current capabilities by expanding an existing industry.

Figure 1: A simplified model of the Product Space of a developing country



East Asia vs. South America: lessons learned?

The following figure shows annual real GDP growth in the East Asian region far outperformed that of South America, with averages across the period of 5.6 per cent and 2.9 per cent respectively.



Figure 2: GDP growth in East Asia and South America, 1980 - 2008

Source: IMF (2009)

It is worth reflecting on how the greatly contrasting approaches to guiding structural change in the two regions have played a role in equally divergent growth performances. Reviews carried out by Etzkowitz and Brisolla (1996) and Harrison and Rodriguez-Clare (2009) identify the following factors:

- 1. East Asian IP tended to promote exports, whereas countries like Brazil focused on developing internal markets, frequently using import tariffs.
- 2. East Asia benefitted from beginning its industrialisation process later, learning from the mistakes of Latin America.
- 3. Latin American policies were often too ambitious, requiring unrealistic increases in technology, such as the drive to create an IT industry in Brazil, "a bridge too far beyond local capabilities and resources." (p.339) This supports the argument of Lin (Lin and Chang 2009) that 'jumping' to enter an industry which requires a very different technology set is unlikely to succeed.
- 4. Governments in East Asia generally pursued more consistent social policies "designed to raise the human capital level of their countries." (Etzkowitz and Brisolla 1996 p.340)
- 5. Global macroeconomic conditions were more favourable during the period of East Asian industrialisation.

While the favourable timing of East Asia's industrialisation (point 5) is impossible to replicate elsewhere, the other factors may provide useful lessons to countries at lower levels of development which are seeking a sensible industrialisation strategy.¹² Therefore it would be a sensible strategy for a country to integrate the new industries into global markets, to pursue sectors for which the country can realistically develop technology and to ensure social policies seek to bring sustainable increases in the level of human capital.

The differences in policy approach no doubt played a role in the regions' respective performances. However, as highlighted in Chapter 7, Latin American growth in past decades has been equally influenced by the adoption of Washington Consensus-style reforms and thus the *absence* of concrete interventions. As a result, economic failure could be attributed to a combination of policy inappropriateness/mismanagement; or to a lack of sufficient policies to guide structural change.

Successful interventions

A number of reviewed papers have made suggestions of conditions under which interventions are more likely to see positive outcomes. These are summarised as follows:

 Interventions are more likely to succeed where the protected/promoted industries exhibit particularly strong externalities, rather than those in decline or without particular externalities. (Lehmann and O'Rourke 2008)

¹² An important caveat with this comparison should be that countries in the two continents had greatly differing starting points. Many Latin American countries had already experienced significant development by the start of the 20th century and later descended into stagnation, whereas East Asia had the 'advantage' of beginning growth from lower levels of income, arguably with a simpler path to high and sustained growth.

- Nunn and Trefler (2008) find protection of skill-intensive industries has brought about more positive growth outcomes than protection of unskilled industries with low labour intensity.
- Lehmann and O'Rourke (2008) find tariffs to industrial sectors have positive growth outcomes, whereas those applied to agricultural sectors have impeded growth.
- Policies are more likely to reduce unemployment "if the favoured sectors or firms are especially intensive in the type of labour that is in excess supply." (Levinsohn 2007 p.21) This is presented in the context of South Africa, where Levinsohn argues employment growth would be optimised by promoting low-skill industries.
- "At the sectoral level, industrial policy buttressed by trade and sectoral policies such as agricultural policy – needs to be aimed at economic transformation through promoting dynamic competitiveness and diversification into sectors or activities with increasing returns or structural change." (UNCTAD 2009 p.148)

Diagnostics: a new approach

Rodrik (2005), Hausmann, Rodrik and Velasco (2005) and Hausmann, Pritchet and Rodrik (2005) have proposed a new approach to achieving high growth outcomes known as Growth Diagnostics, based on the observation of several flaws in the type of advice which has come from the Washington Consensus paradigm. Firstly, Rodrik (2005) notes that "what sets off [growth accelerations] is not ambitious economic reform programmes but highly idiosyncratic changes." (p. 17) Secondly, existing frameworks have tended to prescribe equal policy recommendations to all countries, without taking country-specific factors into account, which Hausmann, Rodrik and Velasco (2005) warn is "unlikely to prove productive." (p.1) Thirdly, it is suggested that presenting governments with an extensive list of reforms to be achieved simultaneously is unrealistic and excessive, with a need for a sense of prioritisation.

The concept of Growth Diagnostics, therefore, offers a "strategy for figuring out policy priorities," (Hausmann et al. 2005 p.2) by identifying the most serious constraints to growth for a certain country. In a similar vein to medical diagnostics, the process involves a step-by-step assessment of the factors preventing a country from growing, easily presented in the form of a decision tree. For example, if a country has low levels of private investment and entrepreneurship, is this due to low returns or high cost of finance? If the problem is high finance costs, is this a domestic or international problem? And so on. As a result, policy recommendations are country-specific and focus on individual 'binding constraints' to growth, in order of priority.

9. Conclusions: implications for policymakers

This paper has attempted to capture many aspects of the lively debate on government intervention and industrial policies. The topic is undeniably vast, with a multitude of country experiences and with implications in all economic and political areas.

The theoretical case for a government to intervene in the process of structural change was found to be based on the likelihood of numerous market failures in developing economies, leading to suboptimal investment, technological upgrading and growth. Such an argument is supported by many case studies from East Asia, where an active role of the state saw carefully coordinated industrialisations and largely sustained growth; likewise the argument is supported by the examples of countries (for example in Latin America) which intervened little at early levels of development, and which did experience economic stagnation, crises and rising inequality. Furthermore, it has been shown that the overwhelming failures surrounding the neoliberal paradigm are certainly pushing policymakers to reconsider the issue. Indeed, UNCTAD (2009 p.142) argues that the current crisis is an "opportunity for change" and cite a general consensus across the international development community for "the State to play a larger role in shaping the economy and [for] rebalancing forces between the State and the market."

However, an equally compelling literature warns of the risks associated with government interventions. The theoretical argument that government failure will be a likely result of intervention is confirmed in the experiences of the Soviet Union and India, where state control was too longstanding and resulting inefficiencies stifled economic progress; it is also backed up by the numerous empirical studies which associate protectionist interventions with welfare losses and suboptimal growth outcomes. This notion is extended in the literature on rent-seeking, which itself influenced the formation of the Washington Consensus-style recommendations. In addition, links have been drawn between interventionist policies and economic crises, and the concept of dictating sectoral priorities on a national level may conflict with the needs and skills of local and regional economies. The review also found that the success of particular interventions is hard to determine, given the need to know the counterfactual – the outcome had no intervention been made – and given the significant interactions between interventions, other policies and macroeconomic variables.

Given such contrasting arguments and experiences, the paper turns to the identification of 'lessons learned' from past experiences, on which future government interventions could be based. In order to do this, we start by presenting current discussions in the field, including the concept of 'horizontal' industrial policies and the possibility of strategies which 'defy' comparative advantage. Furthermore, the emerging literature on Product Space suggests an active role of government in the technological jump to new economic activities, and Growth Diagnostics provides a framework for a country to assess and overcome its unique constraints to growth. Following on from this, the characteristics of relatively successful interventions are drawn from studies; this highlights the importance of an outward-looking approach, the choice of economic activities pursued, intervention timing, human capital investments and accompanying social policies. UNCTAD (2009) concludes that low income countries "require greater policy space than is currently the case, in order to increase the range of their policy options, to provide time and space for policy experimentation, and to adapt various development 'models' to suit their own needs." (UNCTAD 2009 p.174)

A general conclusion drawn from this review is that, whilst many Industrial Policies have encouraged costly rent-seeking, created economic inefficiencies and hampered growth outlooks, this does not imply an entirely laissez-faire approach will bring optimal outcomes. Instead, governments should draw from more positive country experiences to design policies which increase technological upgrading and encourage learning and investment; ensuring policy transparency to reduce opportunities for corruption and bribery. At the same time, the state should limit the timespan of all forms of protection and promotion, allowing market forces to take over as soon as industries have developed sufficiently to compete internationally.

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