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Learning from Asia's Success Beyond Simplistic 'Lesson-Making'

Mike Hobday*

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Abstract

Many international organizations, governments and academics concerned with economic development look to Asia's success, recommending that other poor countries follow similar models and paths of development. This study argues that such Asian 'lesson-making' is a grave mistake in policy-thinking—and in the historical understanding of the nature and process of development. In identifying what we can and cannot learn from the Asian experience, this study examines the various paths of successful growth in East and South East Asia and asks: what can other developing countries learn from Asia's success, if anything? The study also examines the arguments of some of the great development thinkers of the past to ascertain what can be learned. Because technological and market circumstances facing today's developing nations have changed it is a mistake to base any strategy on the achievements of past .../

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industrializers. There can be no standard list of development prerequisites or ‘best practices’. Unfortunately, the basic error of recommending ‘follow the leader’ catch-up policies has a long tradition in development thinking. However, several distinguished observers of past development (e.g. Gerschenkron, Kuznets, and Abramovitz) maintained that development processes and strategies must be based on the stage of development, distinctive resources, and institutions, and external conditions facing individual nations, not on the paths or models of previous industrializers. Nevertheless, the developing nations of today cannot ignore the rise of Asia and the study identifies useful insights from the Asian experience. Developing countries should (like Asia did) seek to complement not copy the growth paths of more successful economies, including Asian ones. Development ultimately requires, as it did across Asia, significant innovation and creativity in business organization, technology, wider institutional structures, and government policies.

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1 Introduction

Many governments, international organizations, consultancy companies, and academic observers look to Asia's economic success, recommending that other developing countries follow similar models and paths of development. Indeed, generating lessons from Asia is quite an industry—and a major contributor to the Washington Consensus analysis of the 1990s and early 2000s. However, Asian 'lesson-making' usually represents a grave error in policy-thinking and in the historical understanding of the nature and process of development.

This paper examines the paths of successful growth of East and South East Asia, to identify what we can and cannot learn from the Asian experience. The paper argues that there are no models to imitate and no direct lessons for other developing countries in other regions. It asks the question: if there are no direct lessons or models to imitate, what can other developing countries learn from Asia's success, if anything?

There are some very general things which can be learned from the Asian experience, but these can probably be learned from all forms of successful capitalist development (e.g. the role of education, the need for a stable macroeconomy, the importance of building an infrastructure for development, policies which incentivize rather than penalize entrepreneurship and enterprise). However, the particular paths, models, and specific policies of Asian development cannot—and should not—be copied by other developing countries. The fast growing Asian economies followed highly unusual and distinctive paths of growth and there was considerable variety across Asia. They did not copy or follow other more developed countries (with the partial exception of Japan)—nor should today's poorer countries. In fact, Asian governments often rejected the 'conventional wisdom' of the day regarding development.

To justify these arguments, Section 2 begins by examining some of Asia's paths of development, showing how variety and innovation in organization and technology played a central role. Section 3 looks at the typical lessons often drawn from the Asian experience. Section 4 turns to some of the great development thinkers of the past, arguing that 'lesson-making' is a common, but incorrect feature of development thinking. Section 5 looks at some of the general development insights which can usefully be gleaned from Asia's successful progress. The conclusion summarizes the main arguments.

2 Paths and patterns of Asian innovation

When we look at Asia's growth over the past 30 years or so we can see obvious similarities, such as export-led growth, a commitment to education, and economically progressive government policies which enable rather than restrict business. However, beneath these similarities lie a great deal of diversity supported by innovation in policy, institutions, and technology. Indeed, the paths forged by the Asian economies have no obvious historical parallel but were distinctive, innovative, largely unplanned, and unpredictable.

For example, instead of following the conventional economic wisdom of the day (based on comparative advantage theory) the four Asian 'dragons'—Korea, Taiwan, Singapore,

and Hong Kong—looked for inspiration to the Japanese export model for lessons and insights. In the case of Korea, there was considerable institutional and policy learning and collaboration with Japan. There was also a widespread rejection of the conventional Western policies of the day. Both Korea and Taiwan rejected free market comparative advantage policies and often ignored the recommendations of conventional economists (Vogel 1991). Instead, policy makers, with business leaders, began to deliberately engineer development and invested in the education and infrastructure needed to go beyond low-cost manufacturing based on cheap labour.

The export-led success of the region is well-documented. In 1962, Taiwan and Korea had gross national product per capita levels close to those of the poorer African nations. By 1986 the two countries had moved up rankings by 47 and 55 places respectively, with average gross domestic product growth of 8 per cent to 10 per cent per annum. Firm level growth rates were extremely high, often reaching 20 per cent to 30 per cent per annum for sustained periods of time.¹ Hong Kong and Singapore also grew at around 10 per cent p. a. in the 1960s by expanding their manufacturing industry. As a result of these rapid growth rates of up to 10 per cent per annum, the newly industrializing countries achieved near full employment with rising wages and higher technology levels. Assembly activities gradually shifted out to Malaysia, Indonesia, Thailand, Vietnam, Philippines, and China, producing an export-led growth ripple effect in the region. By the early 1990s a significant proportion of world trade and manufacturing had shifted to the East and South East Asia.

When we examine how the local exporting firms of East Asia grew, we see both similarities and differences in approaches to technology acquisition and catching-up. These so-called latecomer firms faced considerable developing country disadvantages. They were dislocated from international sources of technology and research and development (R&D) and ‘cut off’ from Western markets. Unlike leaders and ‘followers’ based in advanced markets, they confronted formidable challenges, much like firms today in the poorest countries of Africa and Latin America.

Samsung, perhaps the most successful Korean latecomer firm, reveals an incredible story of catch-up viatechnological learning and innovation from ‘behind the technology frontier’. The firm entered the export market through the assembly of low-cost, simple transistor radios and black and white TVs in a joint venture with Sanyo in 1969. Prior to this, its main activities were in insurance, property, paper, and other low-technology products for the local market. By the mid-2000s Samsung Electronics had become one of the most successful electronics producers in the world. In 2007 it registered 2,725 patent in the USA, nearly as many as the world leader IBM with 3,148. In 2006 Samsung spent US\$5.6 billion on R&D, employed around 123,000 workers, operated 17 R&D centres around the globe, and had become a world leader in semiconductors, mobile phones, laptop computers, and several other high-tech electronic goods.

Electronics was, and still is, the main export industry of the Asian region. Samsung’s strategy in catching up in electronics provides an insight into how many firms approached the electronics industry, although only a very few, such as Hyundai and L-G of Korea, and Acer and Tatung of Taiwan, have achieved anything like the progress of Samsung. From the early 1960s to the mid-1970s these firms concentrated mainly on

¹ Information for this section is from Hobday (1996), unless otherwise stated.

basic assembly, beginning the manufacture of standard, simple goods often supplying foreign transnational corporations (TNCs), mostly from the USA and Japan, under the sub-contracting arrangement called original equipment manufacturer (OEM). Within OEM the foreign TNC buyer supplied the design, technology, and necessary training and then distributed the product in the developed country markets under its own brand name. This manufacturing service was of great competitive value to the TNCs in their efforts to lower their production costs. OEM began in basic consumer electronics, components, and simple computing and telecommunications products, as well as electrical appliances such as fans and microwave ovens.

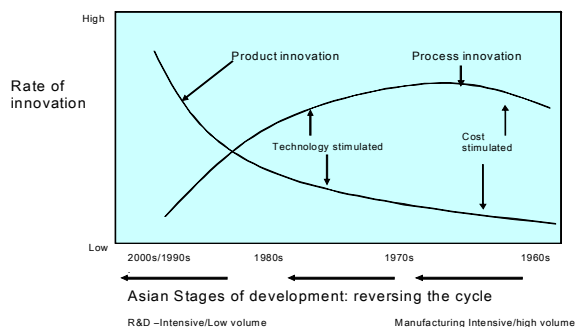
OEM was an important institutional innovation which began in the 1960s and then evolved and expanded considerably. From the mid-1970s to the mid-1990s, Samsung and others learned to not only master the manufacturing process but also to innovate with manufacturing and product improvement. Learning the techniques of product design fed back into the manufacturing processes enabling 'design-for-manufacture', which improved yields and quality. Following on from improvements to design the firms learned to design new products and begun offering their own ranges to TNC buyers who would then sell under the TNC brand name. The TNCs benefited from low-cost design and manufacture and often gained much of the value added.

From the mid-1990s onwards, firms learned how to produce original product designs from scratch, and they began to rely more on their own R&D to innovate. Firms like Samsung had invested in design and R&D for many years both to support manufacturing and to realize the long-term vision of competing as a leader. Its depth of skills in design engineering, R&D and, increasingly, distribution, and marketing, enabled Samsung to build up its own brand products and international brand image. Today, Samsung has caught up with world leaders in most of its leading products, including sophisticated DRAM semiconductors, TFT-LCDs, mobile phones, and PCs.

The OEM system was extremely important because it allowed Samsung and others to engage in a long-term, highly organized 'hard slog' of technological learning, in a way which removed the risk of attempting to compete with its own products and brands at the start. By gradually beginning with simple mechanical assembly these firms overcame the barriers to entry mentioned above and embarked upon a path of low-cost innovation, whilst at the same time engaging with world markets and technology via foreign customers and technology suppliers.

While analysts and academics at the time promoted the linear model of innovation which relied on local public research institutes and local universities, these firms built up their capabilities with foreign buyers. To give some idea of its importance, OEM accounted for 70 to 80 per cent of total Korean electronics exports as recently as the early 1990s. It provided a huge channel for technology transfer from abroad, economies of scale and technological learning at home and a mechanism for large-scale exporting and foreign exchange earnings. Often the TNCs, in competition with each other, would provide advice on capital equipment, design engineering, and management training.

Figure 1: Comparing Asian firms with the standard (MIT)* model



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Source: Derived from the four-country study of Asian electronics (Hobday 1995: 188 and 194); for the standard MIT model see Utterback and Abernathy (1975); for similar models which compare Asian with leadership paths covering a range of industries, see Kim (1997: 89, based on Kim 1980; and Lee et al. 1988).

* MIT=Massachusetts Institute of Technology.

This unusual sequence of events allows us to compare the Asian innovation path (see Figure 1) with that of ‘normal’ Western innovation models which starts with R&D and product creation and leads eventually to manufacturing and product maturity. In contrast to the Western model, Samsung and the others began with mature products and technologies (i.e. manufacturing intensive/high volume) and moved ‘backwards’ along the normal cycle of innovation, from assembly to manufacturing, to design, ultimately to R&D-intensive/low volume, reversing the typical Schumpeterian path which is supposed to begin with R&D and new products.

This Asian innovation path was highly unusual and innovative in terms of business strategy. Japan had also pursued this type of strategy in some respects (e.g. via sub-contracting to US firms), but was much more developed technologically and economically and had a large internal market. Poor developing countries had never embarked on this type of path on such a scale. Indeed, the economic development ‘wisdom’ of the day was to develop local industry under protection within policies of import substitution.

Despite innovation similarities, there were in fact many significant differences in paths of development in relation to ownership, industry structure, government policy, firm size, and so on. One broad difference was between East Asia (i.e. Korea, Taiwan, and Hong Kong) and South East Asia. The latter (e.g. Singapore, Malaysia and Thailand) depended on foreign direct investment (FDI) and the subsidiaries of TNCs to lead export growth, rather than local firms. In Singapore, for example, the government believed that local capitalists were not capable enough to lead industrialization. The government therefore invited foreign TNCs to lead industrialization—a very unpopular policy among developing nations, academics, and international development institutions at the time. However, this policy proved highly successful, with TNCs exporting huge amounts of electronics from special economic zones.

The experimentation which was taking place in South East Asia was leading to a very different trajectory than in East Asia (e.g. South Korea and Taiwan). At the time, TNC-led development was a major policy innovation. Today, competing for FDI is almost the new conventional wisdom. Singapore's strategy led to imitation by nearby Malaysia and then Thailand, and later Indonesia, Philippines, Vietnam, and China. All these countries begun pursuing the innovation path of the East Asian countries but rather than relying on local firms they relied on foreign subsidiaries. In China, foreign affiliates are today responsible for a large proportion of exports of electronics. Gaulier, Lemoine, Unal-Kesenci (2004) have shown that in 2003, FDI accounted for more than 55 per cent of total Chinese exports, compared with only 20 per cent in 1992. Within China's processing zones, FDI accounted for around 80 per cent of exports. Today, much FDI into China comes from other Asian economies, with Japan and the newly industrialized countries relocating their labour-intensive production into China. More advanced Asian firms today benefit considerably from China as a low-cost export platform within a complex regional system of production, trade, and innovation.

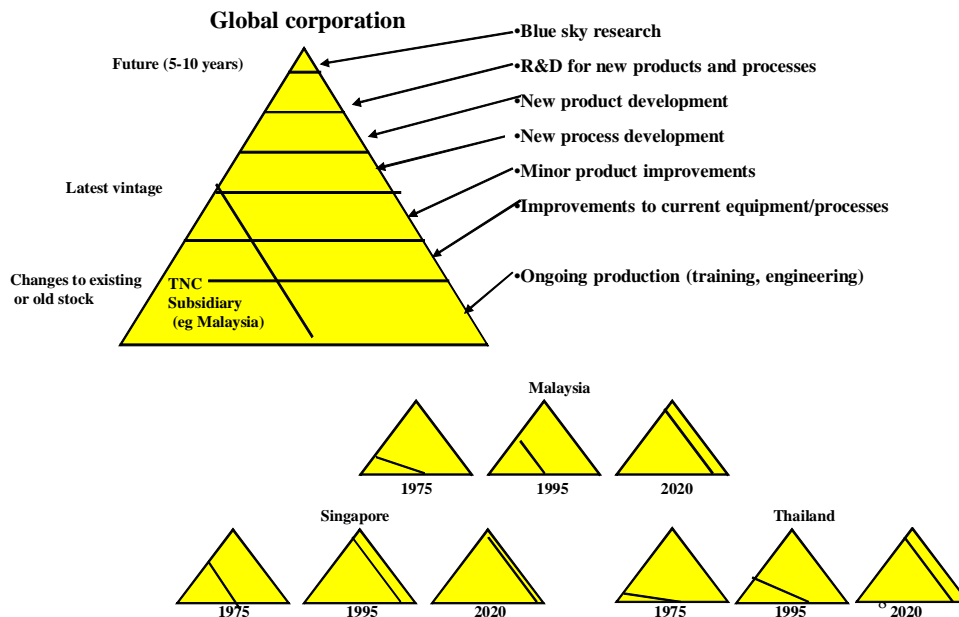
Innovation in South East Asia was therefore different from the innovation path in East Asia, led by Samsung and the others. Many observers point to Korea and Taiwan as preferred or superior models of development. However, the South East Asian approach has also been highly successful.

It is helpful to understand South East Asian innovation paths through the lens of the global strategies of individual TNCs. Figure 2 presents the main technological activities carried out by a TNC and its subsidiaries, ranging from basic research at the tip of the triangle through to simple technical improvement activities at the base of the triangle. R&D and core product design tends to be conducted within the TNC home country. Although R&D is often stressed, it amounts usually to the 'tip of the iceberg', usually well under 15 per cent of corporate turnover and often less than 10 per cent. Other vital technological activities include design, engineering, technician and manufacturing tasks. In the case of subsidiaries in South East Asia (e.g. the Malaysian example in Figure 2) this manufacturing centred profile is also very important for corporate competitiveness, essential for achieving productivity and quality for the TNC.

To put the TNC subsidiary activities in context, they not only form an essential part of the overall operation or 'technology triangle' but also, through time, they have progressed from basic assembly through to higher stages of technological activity, such as process engineering and minor product design, as a result of investments in capital goods technology, skills, and training. Malaysian and Thai subsidiaries are typically situated between higher technology operations in countries such as the USA and the UK and lower cost operations in China and other less developed nations. The next stage for TNC subsidiaries in Malaysia and Thailand is to build up further capabilities in precision engineering, product design, and R&D.

The evidence shows that Singapore leads in South East Asia, followed by Malaysia and Thailand, with others still at the basic assembly stage (Hobday 1996, 2000). Over time, technology activities in all countries have gradually extended outwards as the subsidiaries graduate from cheap labour assembly tasks to higher technology activities. Firms such as Motorola and Intel in Malaysia and Seagate in Thailand have made substantial progress in advanced manufacturing technology in areas such as semiconductors and hard disk drives, supplying demand mainly from the USA and Western Europe.

Figure 2: TNC subsidiaries—South East Asian model of technology catch-up



Source: Adapted from Hobday (1996: 78) which provides evidence in support of this interpretation.

China is very special case. It is following a similar path, but combining local firm (East Asian) and TNC-led (South East Asian) growth paths. China has also managed to exploit its unusual advantages of a very large local market, coupled with an immense reservoir of low-cost, technically sound labour. The relatively late entrance of China compared with Korea and Taiwan has allowed it to benefit from an increased mobility of capital and people as well as ideas and business models. China has been able to learn from the earlier developers, sometimes forming partnerships with foreign TNCs keen to gain shares of the expanding local market. China appears to be compressing the earlier 'stages' of technological catch-up by moving more swiftly across the triangle than the earlier entrants and by rapid imitation on the part of local exporting firms.

As well as the broad differences between East and South East Asia and China, the evidence shows considerable variety in policy mechanisms, industrial structures, and firm size, as individual countries intelligently adapted themselves to the export-led growth model to suit their circumstances and resources. Regarding the level of direct government involvement, in the early stages of development (i.e. in the 1960s and 1970s) South Korea and Singapore showed far greater intervention, compared with Taiwan and the *laissez faire* approach adopted in Hong Kong. The government in South Korea financially supported and pushed the large *chaebol*² into specific export areas with both penalties and privileges (Amsden 1989). In Singapore, the government supported the large foreign TNCs with tax holidays and other incentives through the idea of export processing zones (Yue 1985).

² Chaebol refers to a South Korean form of business conglomerate.

Policy innovation, experimentation, and adaptation occurred across the region. Compared with South Korea and Singapore, Taiwan's initial export path depended on small and medium-sized companies who exported via local and foreign traders (Chou 1992). In Taiwan, many firms were suspicious and fearful of the government with some operating in the underground economy for many years (Chaponniere and Fouqin 1989). Later on, after the export success in electronics the Taiwanese government became directly involved through large-scale investments in Hsinchu and other industrial parks.

Variety can also be seen in the degree of economic openness of each economy. Korea and Taiwan remained fairly closed to FDI during the 1960s, 1970s, and 1980s, compared with the open economies of Singapore and Hong Kong. Between 1980 and 1988 period, total FDI from Japan and the USA was US\$14.3 billion in the four dragons; Hong Kong receiving US\$6.3 billion and Singapore US\$3.6 billion. By contrast South Korea, a much larger economy, only received US\$2.3 billion and Taiwan only US\$2.1 billion (James 1990: 15). FDI policies differed considerably, with Singapore and Hong Kong having very few restrictions while Taiwan and South Korea enforced tightly controlled FDI regimes, protecting local industries and negotiating each investment in favour of domestic firms and against foreign competitors in local markets. South Korea simply banned many consumer goods and raw materials imports which could be produced locally. The Taiwanese government negotiated the terms of FDI and tied TNC investments to export targets and local content rules.

We also see great variety in company size, with Taiwan and Hong Kong relying on small (and a few large) ethnic Chinese-owned family businesses, while the South Korean Government supported the large local *chaebol*. Taiwan's SMEs tended to rely on speed and flexibility, whereas the *chaebol* of South Korea focused on very high volume, process-intensive electronics. The South Korean conglomerates learned lessons from the Japanese *keiretsu*³ to which many Korean firms were connected through OEM and joint ventures. Many Korean directors spoke Japanese rather than English in the early stage of their business development. Like the Japanese they emphasized large-scale and very high degrees of vertical integration.

Variety and innovation in paths of development were key features of government policy and corporate strategy because each country began with its own distinctive resources and capabilities so that policies needed to be adapted to initial starting conditions. Each country had to develop a strong local capitalist class in slightly different ways with Korea relying on its local 'tycoons', Singapore on the subsidiaries of foreign TNCs, and Taiwan and Hong Kong on waves of immigrants, rich and poor, fleeing communist China.

3 The lesson-making industry

Directly and indirectly, many observers draw lessons from the Asian 'model' ignoring the evidence on the variety and policy innovation in evidence across Asia. Much of the conventional wisdom of the pre-Obama 'Washington Consensus' relied on lessons arising from perceptions of Asian growth. Frequently, agencies such as the World Bank, IMF, EU, OECD, individual governments, academics, and consultancy companies draw

³ Keiretsu is a set of Japanese companies with interlocking business relationships and shareholding.

on the Asian experience to recommend export-led growth paths, open markets, privatization, high-technology (e.g. biotechnology, new materials, or information and communication technologies, ICT) production, as well as government support for industrial clusters. Not only is it analytically wrong to draw lessons in this way, even worse, many of these policies had little or nothing to do with Asian development. For example, government support for high-tech and knowledge-based industries are very recent phenomena which have nothing to do with the take-off and rapid growth described in Section 2. Often, policy analysts argue that the developing countries of Latin America and other regions should learn lessons from the experiences of successful Asian economies (especially Korea, Taiwan, Singapore, and China) and engage in export-led growth and open markets, ignoring the fact that countries such as Korea and Taiwan often banned imports of 'non-essential' items and placed heavy restrictions on FDI.

Simple follow-the-leader catch-up theory and 'common sense' not only draws on the Asian experience, but also perceived 'best practices' from the currently developed nations, leading to a hotchpotch of policy recommendations (e.g. see Table 1 below) which have no analytical basis and are impossible to follow in practice. For example IBRD (2008) is a major study commissioned by the Commission on Growth and Development sponsored by The International Bank for Reconstruction and Development, part of The World Bank Group. This report develops lessons from 13 successful economies, nine of which are Asian (the others are, curiously, Botswana, Brazil, Malta, and Oman). The report argues that modern institutions and good practices (e.g. privatization, liberalization, modern property rights, and enforceable contract law) are prerequisites for growth and development (rather than a consequence, as in much of Asia). The report also assumes the standard historical 'agriculture to manufacturing' model still applies (e.g. *ibid.*: 6) whereas, for example, recent Indian growth has been fuelled by domestic services rather than manufacturing or exports (Singh 2005; Gordon and Gupta 2004; Hansda 2001).

Similarly, the World Bank's 'Doing Business' programme argues that poorer countries should adopt policies of the leading nations of the world including the most advanced Asian countries in areas such as owning property, starting-up businesses, and the liberalization of markets. The programme argues that more than 2 per cent could be added to the growth of the 'most difficult countries to do business' if they adopted the practices of the leading nations (World Bank 2004: 3).

The Doing Business approach can be seen as a sub-set of the wider package of the Washington Consensus's conventional wisdom, presented as 'rules of good behaviour for promoting economic growth' (Rodrik 2004: 20). Typical policy recommendations include: export-led growth paths; more open markets (i.e. to foreign investment and imports), privatization, deregulation and business friendly policies, high-tech production (e.g. ICT, bio-technology and new materials), government support for knowledge-based industries and industrial clusters, and the construction of science and technology parks.

This kind of lesson-making reflects a deeply flawed and ahistorical understanding of how latecomer development occurs. Perhaps even worse, many of the 'lessons' run contrary to the Asian evidence. Some of the 'explanations' and 'best practices' occurred well after the take-off (e.g. science and industrial parks and policies towards clusters). In contrast to high-technology and knowledge-intensive production, the focus of exporting for at least the first 20 years was 'low-technology' products based on fairly

simple manufacturing processes. Even today, electronics hardware is the main Asian export staple, rather than software, capital goods or knowledge-based services, where developing Asia remains conspicuously weak.

Rodrik (2004) provides a lucid critique of the modern lesson-making approach, noting that the Washington Consensus has now been augmented to include new ‘rules of good behaviour for promoting economic growth’ as shown in Table 1. The ‘Doing Business’ reforms described above are included in items 8 to 13 in the list.

Table 1: Rules of good behaviour for promoting economic growth

Original Washington Consensus	‘Augmented’ Washington Consensus: the previous 10 items, plus
1. Fiscal discipline	11. Corporate governance
2. Reorientation of public expenditures	12. Anti-corruption
3. Tax reform	13. Flexible labour markets
4. Interest rate liberalization	14. Adherence to WTO disciplines
5. Unified and competitive exchange rates	15. Adherence to international financial codes and standards
6. Trade liberalization	16. ‘Prudent’ capital-account opening
7. Openness to DFI	17. Non-intermediate exchange rate regimes
8. Privatization	18. Independent central banks/inflation targeting
9. Deregulation	19. Social safety nets
10. Secure property rights	20. Targeted poverty reduction

Source: Rodrik (2004: 20). Table reproduced with the permission of DaniRodrik.

Referring to the ‘laundry list’ of reforms Rodrik makes the obvious point that these are based on what the successful country *already* looks like. This may have taken decades or even centuries to achieve. Furthermore, the agenda comes without any mechanism for determining priorities nor any appreciation of the administrative capacity, human resources, and political will and ability required to implement the vast agenda of reforms, which may simply not exist in many developing countries (Rodrik 2004: 6).

Rodrik’s arguments mirror those made by Gerschenkron (1962, 1963), discussed in Section 4. In his debate with Rostow (1960) Gerschenkron argued that it was intellectually flawed in the extreme to derive policy lessons from the stages of development of the now developed countries. Gerschenkron contended that industrial development experiences of the past could not provide a model for today’s developing countries. In particular, he argued that Rostow’s process of identifying the preconditions for development which were missing in a particular country (e.g. investment, modern institutions, and technology)—and then installing them—was not a logical strategy for achieving a take-off to sustained growth. Instead, he argued that it was an example of historical determinism and flawed thinking. Gerschenkron argued that each developing country would need to create its own development agenda based on its existing institutional resources and stage of development. Of course, some things could be learned from earlier industrializers but no direct model could apply (Gerschenkron 1962: 356–8).

A key problem with the Washington consensus reforms applies equally to the myriad of 'lessons' from Asia. As Rodrik (2004: 6–7) puts it:

Yet the agenda comes without a way of determining priorities. Too often, the result is that policy effort is spread too thinly over too many different areas: governments are overwhelmed with the range of things that need to be done, copies of Western legislation or 'best-practice' codes are adopted without much consideration of their suitability and adaptability, and too little effort is made to render the reforms politically popular and ultimately sustainable ... The implicit, and sometimes explicit, approach seems to be to say: 'well, we know that all of these things cannot be done at once, but more is better than less, and the more countries can do the better'. So they and the governments they advise proceed opportunistically, and try to complete the enlarged agenda as best as they can, as completely as they can, and as quickly as they can ... After much effort, governments may find that economic performance has hardly improved ... Finally, there is something intellectually worrisome about the Augmented Washington Consensus, in that it is entirely unfalsifiable. Such is the nature of the agenda that if a country adopts it and fails to grow, it is always possible to find something wrong with what the government did. So in the end it is the policymakers who end up being chastized for the 'incompleteness' of their reforms. And if enough countries find themselves in this predicament, then it must be time to augment the list further by adding yet other needed reforms.

Rodrik and his colleagues provide their own historical study of spurts of growth over the last 50 years (Hausmann et al. 2004). They show that the vast majority of growth take-offs are not preceded or produced by significant economic reforms. Equally, most significant economic reforms do not produce growth take-offs. Like Gerschenkron (1962), Rodrik argues for a country-specific 'diagnostic' approach to growth. A poor country needs to identify and address the 'binding constraint' or most significant bottleneck to growth, which could be a lack of investment funds, high costs of capital and the inability of firms to appropriate returns on investment. Other barriers to development might include macroeconomic instability, internal political conflict, war, corruption, and a lack of obvious opportunities for achieving dynamic comparative advantage through specialization.

4 Learning from the classic development debates: the fallacy of lesson-making

The modern lesson-making problem is a new version of an old debate highlighted in the argument between Rostow and other leading development economists, most notably Gerschenkron, in the 1960s. W. W. Rostow (1916–2003), like today's policy makers, also proposed a 'follow the leader' approach. His classic text, 'The Stages of Economic Growth: A Non-Communist Manifesto' (1960) sold more than 260,000 copies in the first edition and became the conventional policy wisdom of the day, taught in many universities. Rostow's main contribution was a prescriptive growth model for developing countries, based on stages of economic development and take-off of the then-developed countries. Rostow argued:

It is useful, as well as roughly accurate to regard the process of development now going forward in Asia, the Middle East, Africa, and Latin America as analogies to the stages of the preconditions and take-off of other societies in the late eighteenth, nineteenth, and early twentieth centuries... (Rostow 1960: 153).

This is a remarkably similar agenda to that of today's policy imitators, i.e. the lessons of past industrializers (e.g. Asia) should be applied directly to the developing countries of today.

However, several other economists at the time were highly sceptical of this approach. Alexander Gerschenkron (1904–78) a Russian-born, Austrian-trained Harvard economic historian, completely rejected the ideas of Rostow as ill-conceived and ahistorical. Gerschenkron researched European latecomer industrialization and also viewed industrialization as a 'stagelike' process but disagreed fundamentally with Rostow arguing that: (i) there were (and could be) no automatic stages of development; and (ii) latecomers did not/could not pass through the same stages as previous industrializers, precisely because others had passed through them changing the market and technological circumstances facing new industrializers.

Gerschenkron argued that each country has its own distinctive resources, related to its own particular stage of backwardness and this which would strongly influence any potential growth path. He found the idea of identifying previous states of growth useful, but not for imitation or policy purposes. In his text of 1962 'Economic Backwardness in Historical Perspective: a Book of Essays', he argued:

... this [Gerschenkron's interpretation of stages] differs essentially from the various efforts in 'stage making', [typified by Rostow] the common feature of which was the assumption that all economies were supposed regularly to pass through the same individual stages as they moved along the road of economic progress ... Thus, Rostow was at pains to assert that the process of industrialization repeated itself from country to country ...(Gerschenkron: 355)⁴.

Simon Kuznets (1958, 1966) made similar points. Kuznets argued that the developing economies of his era possessed distinctive characteristics compared with earlier developers, disputing the conventional view that countries tended to go through the same stages in their development history. He argued that:

Examination of similarities and differences [of industrialization experiences] should be particularly instructive [for today's developing countries] since it would suggest the different role of various factors as the conditions, set by the changing world scene and the historical heritages of each country, modify the process of adjustment to the industrial system. (Kuznets 1958: 152).

Kuznets' cross-sectional and time series empirical evidence on the characteristics of developing countries showed that they possessed very different structural characteristics

⁴ For a full discussion see Hobday (2003).

compared with the industrialized countries at the time they developed. There could be no simple predictable paths or stages. As a result, he helped establish the field of development economics, the main task of which was to illustrate the distinctive paths and experiences of contemporary developing countries.

Similarly, in his celebrated paper, 'Catching Up, Forging Ahead and Falling Behind', Moses Abramovitz (1986: 405–6) stressed the shaping role of the initial conditions of developing nations in their growth and development potential, arguing that the prevailing institutions and educational attainment levels were key factors in governing the diffusion of knowledge and the mobility of resources in any particular country. He argued that:

The state of a country's capability to exploit emerging technological opportunity depends on a social history that is particular to itself and that may not be closely bound to its existing level of productivity. And there are changes in the character of technological advance that make it more congruent with the resources and institutional outfits of some countries but less congruent with those of others. (ibid.: 405).

More recently Richard Nelson (1998) argued the case for more sophisticated and history friendly growth models to reflect observed historical patterns. In his paper, 'The Agenda for Growth Theory: A Different Point of View', Nelson, criticizes evidence and history-free modern growth models. He reflects on the need to understand and differentiate between different kinds of national systems of innovation in developing countries, again stressing variety. To be of value, theories need to understand the nature of institutions and technological processes as well as the different capabilities of firms. Nelson makes the point that growth and technological advance are disequilibrium processes which are not (and perhaps cannot be) captured in existing formal growth models. Again we see variety and distinctiveness as key features of growth.

From a theoretical perspective, these insights suggest the need for a resource-based conceptualization of economic development, perhaps similar to, and drawing from, the firm level theory of growth introduced by Penrose (1959), which was later extended to embrace the idea of 'dynamic capabilities (Teece and Pisano 1997). Such a theory could conceptualize the rare and distinctive resources required for latecomer countries to develop, and compare these with the resources prevalent in already developed economies, illustrating paths and processes of development.

Returning to Gerschenkron, there are several other highly instructive insights from his analysis of European latecomer development: '... the industrial development of Europe appears not as a series of mere repetitions of the 'first' industrialization but as an orderly system of graduated deviations from that industrialization' and '... the higher degree of backwardness, the more discontinuous the development is likely to be' (Gerschenkron 1962: 44 and 45), suggesting variety and discontinuity in patterns of development. This idea of graduated deviation in Europe conforms closely to the experience of Asian industrialization. Japan was the first to develop, followed by the four 'dragons', South Korea, Taiwan, Hong Kong, and Singapore, with significant differences. The four dragons were then followed by the second-tier countries of South East Asia (including Malaysia, Thailand, Indonesia, and Thailand). China's economy took off, combining many of the 'old' strategies of East and South East Asia (e.g. exports *via* foreign multinationals, and large-scale sub-contracting through locally

owned firms), but with radical new features, including the exploitation of a very large local market and its huge supplies of cheap technical labour. China's development must also be viewed in the context of the latest phase of increasingly fluid internationalization of capital, managerial labour and productive and innovative activity, which was quite different from the conditions facing the four dragons in the 1960s and 1970s.

Regarding imitation, Gerschenkron proposed that, rather than proceeding to imitate prior industrializers, modern latecomers should engage in the 'substitution of missing prerequisites'. Contesting Rostow's view, Gerschenkron held that latecomers should not invest in some standard set of prerequisites or preconditions but, instead, to *substitute* for missing prerequisites. Indeed, European history should be seen as a pattern of substitution of missing prerequisites, governed by the prevailing and changing degree of backwardness.

In substituting for missing prerequisites, Gerschenkron stressed the importance of innovation and learning through trial and error. 'The very concept of substitution is premised upon creative innovating activity, that is to say, upon something that is inherently unpredictable with the help of our normal apparatus of research' Gerschenkron (1962: 359–60). As far as using this analytical method for developing policy lessons, Gerschenkron was very cautious:

There is no intention to suggest that backward countries necessarily engaged in deliberate acts of "substitution" for something that had been in evidence in more advanced countries. Men in a less developed country may have simply groped for and found solutions that were consonant with the existing conditions of backwardness. Gerschenkron (1962: 359).

In the context of 'lessons' from Asia, this discussion has two important implications. First, it points to the intrinsically unpredictable and innovative nature of latecomer paths to development. Second, it indicated that the 'normal' apparatus of research cannot easily grapple with or shape contemporary latecomer development.

5 What can be learned?

Most Asian research suggests the importance of basic and technical education, a relatively stable macroeconomy for business planning, entrepreneurial culture, a reasonably efficient infrastructure, fairly effective government, and the need for gradually upgrading the technological base of the economy. Export-led growth played a major role in most of the Asian countries, but has been less important in Indian growth which has been largely driven internally (Handa 2001; Singh 2005). According to some, Chinese growth was also 'turning inwards' as the export source of growth (perhaps temporarily) declined due to the economic crisis (STRATFOR 2009). However, despite Western recommendations that China should rely more on its domestic market, it is unclear whether this will in fact take place and over what time period such a major adjustment would occur. These basic features of Asian growth are highly 'general' statements which provide little policy guidance even if other countries wanted to follow the old Asian model, which may now have run its course as the Asian countries move towards middle- and high-income levels.

Furthermore, the specific ways in which Asian countries pursued their growth—their paths of ‘graduated deviation’—are most definitely the lessons of the past, relating to yesterday’s development battles. They are highly unlikely to provide a guide to the future for other developing regions or countries.

Indeed, at a prescriptive detailed policy level, there are few (if any) direct historical lessons or models to imitate from Asia or, indeed, from other successful cases. For example, the Asian export focus on electronics hardware may well now be a ‘boat which has passed’ (or a window of opportunity which has closed) and other countries would be wise not to try and imitate or compete with the Asian nations which now collectively represent a formidable world centre for production and innovation in this sector.

So, what should other poor developing countries do? To begin, in Gerschenkron’s terms, it may well be useful to think of the ‘missing prerequisites’ facing specific countries, and how they can be substituted for, using local resources, capabilities, and skills. This might require ‘out of the box’ thinking. For example, if government capabilities are missing—or if government bureaucracy is a barrier to development (as argued generally by de Soto 2000 and for India Das 2006)—then development may have to rely on the private sector and business-led development, as appears to be the case of the Indian software industry (Athreye and Hobday 2009). If export-led growth is no longer an option for most countries (given the collapse in Western demand—and the strength of China and other Asian exporters), then local demand, regional markets and other developing countries might provide alternative targets, as in the case of some recent Brazilian successes (Teixeira 2008).

This kind of approach may assist in developing possible future scenarios for experimentation and learning. This accepts the major differences between developing countries and suggests that nations should look to their own distinctive resources and capabilities to chart their own road to development.

For example, as Perez (2008) argues in her ‘Vision for Latin America’, that the region’s natural resource endowments are a potential platform for a technologically dynamic future. By identifying the distinctive capabilities and resources of individual nations, through a mixture of empirical research and creative thinking about possible futures, new paths may be identified. This approach rejects ‘follow the leader’ policy-thinking and focuses on the search for new innovative growth paths which builds on each country’s history, capabilities, and opportunities and would expect, perhaps unpredictable, forms of innovation to be a core dimension of any successful growth path.

This is in fact a key, if implicit, ‘lesson’ from Asia. In Asia, the process of exploiting export-led growth in electronics occurred out of experimentation and trial and error learning. There is no evidence that planners or government agencies chose the sectors or technologies in advance, only that they were determined to overcome their natural resource limitations, problems of poverty and unemployment, and local market constraints in any way possible. Electronics ‘emerged’ from small beginnings after other sectors such as foodstuffs, clothing, apparel, toys, and electrical goods had shown the value of low-cost assembly activities for gaining export earnings.

In Asia, different policies emerged from the varied local endowments and capabilities and a great deal of graduated deviation took place. The Asian development take-off in the 1950s and 1960s occurred largely in the dark through trial and error learning. No other developing nation had grown in the way these countries did, using large-scale OEM and TNC-led export production. The latter were genuine institutional innovations which engaged local firms in foreign technology acquisition and export marketing. Today, it may be possible to go beyond Gerschenkron's notion of groping forward to find solutions (1962: 354). Perhaps key groups could agree a broad 'sense of direction' and develop innovative projects based on local advantages which might stimulate further experimentation and entrepreneurial activity in a variety of potentially dynamic areas of development.

The Asian growth experience *complemented* the take-off in world demand for electronics hardware which was itself fuelled by innovations in information and communications technology. This suggests that rather than imitate or compete with Asia, the most appropriate approach is to *complement, rather than copy* the Asian economies (and for that matter the most successful developed countries). By identifying untapped potential where a developing nation has a comparative advantage over fast growing Asia—and which complements Asian growth—the country in question could benefit from the success of Asia. This is a very different 'mindset' from Washington Consensus, IBRD, and World Bank thinking which looks to Asia and advanced countries for 'lessons'. In fact, this kind of complementary specialization has already occurred as some Latin American and African nations supply raw materials to support China's recent growth.

Korea, Taiwan, and Singapore are densely populated countries with low endowments of natural resources. Other Asian countries such as China, Malaysia, and Indonesia are abundant in some natural resources but still require imports to enable rapid growth. We know from the Asian manufacturing export experience that the key to turning this opportunity into a long-term, sustainable growth path is to ensure that initial entry is followed by progressive, step-by-step, deliberate technological and economic upgrading. However, we often find, for example in the case of Latin America, that natural resource upgrading has not been the core of the growth strategy and suppliers remain technologically weak. Latin America, as Perez (2008) argues, is rich in natural resources and relatively weak in manufacturing export industry. Because many Latin American firms have long experience in natural resource development—these 'complementary' positions give Asia the advantage in labour- and technology-intensive manufacturing, while Latin America has a potential dynamic comparative advantages in resource-based processing industries. Latin American nations have extremely varied resource endowments and capabilities so that, within this broad thrust of development, specialization can be achieved within and between economies.

Perez's vision for Latin America is a good example of the 'complement not copy' approach to thinking about development. Her strategy entails a rapid technological upgrading of specific resource-based activities in particular countries, aimed at improved export performance through continuous innovation in products, processes, technology and services. Recent research by Teixeira (2008) on Brazil shows that this type of upgrading has already begun in some industries (not only process industries), leading to strong Brazilian export performance in sectors as diverse as cosmetics, toilets and fragrance, food and beverages, textiles, machines and equipment, automotive production, veterinary products (including animal health products), and the medical

industry equipment (including magnetic resonance equipment). In each of these industries, Brazil now competes with world leaders and local firms have upgraded and transformed their innovation and marketing capabilities. This process of transition from import-substitution to export-led growth in Brazil was characterized by continuous technological innovation and the growth of robust export-market competencies.

However, Teixeira's work also shows that these achievements are limited to a fairly small number of leading firms and that policy makers have not understood or supported progress in this area. So far, relatively few private sector companies have participated so despite some islands of growth there has been no 'bandwagon' affect as yet and the economy-wide impact is limited. Other research on successful high-technology capital goods exporting from Argentina (Papa 2009) and software exports from India (Athreye and Hobday 2009) shows that despite lack of government understanding and, in some cases, government barriers and hurdles, businesses may still innovate and thrive.

The issue of sustainability must also be considered. Today, 'growth for its own sake' is increasingly being questioned and becoming less viable in a world of instant, mass communication and corporate scrutiny by the media. Growth without environmental responsibility, energy conservation and social inclusion is rightly criticized and offending corporations can suffer dramatic brand damage, along with loss of reputation and a decline in share value. Forms of growth capable of addressing unemployment, underemployment, and poverty need to be sought out in poor countries. In much of the developing world 'trickle down' alone has seldom brought about wide social benefits. Therefore, new approaches to development should not only focus on growth opportunities but also somehow address poverty, unemployment, and the environment

Responsible growth is most likely to occur with some kind of socially and politically shared vision, supported by an effective institutional framework capable of consensus building among groups in government, business, universities, and non-governmental organizations. Creative and clear policy measures are needed which avoid bureaucracy and induce the right kind of market behaviour and entrepreneurialism. In today's mass communications environment, deliberate consensus building among social groups may be more plausible than in previous eras, creating a positive sum growth-development strategy which builds on local capabilities.

Despite Gerschenkron's reservations concerning the 'normal apparatus of research' (1962: 359–60), today research may be able to play a useful role in developing specific research agendas. For example, research can identify cases where growth processes are already occurring, perhaps in embryonic ways, illustrating how firms confront and overcome barriers to growth and learn how to innovate and export (Teixeira 2008; Athreye and Hobday 2009). Different kinds of specialization routes and strategies may be identified by research and learned from, preparing the ground for an expansion of such activities. Research evidence may help promote new policies and strategies which bring about small practical changes which contribute to a shared vision.

There is also potential for developing and applying practical tools and processes which are able to convert research-based ideas, models, and examples into strategies and visions. Tools and ideas developed by leading companies in the private sector could potentially be modified and integrated into more traditional academic research and applied to strategy development. For example, de Geus (1988, 1999) shows how Royal Dutch Shell used their planning process to learn about and shape possible futures; this

work helped to develop the idea of the learning organization. Schwartz (1991) developed a range of tools for engagement with different organizations in order to help shape future opportunities. Pfeffer and Sutton (2000) provide methods for turning research knowledge into action, arguing that there is little purpose for the accumulation of research for its own sake.

However, any such action research experiments need to be co-developed with development practitioners through all their stages, not just at the end of the research as academics typically do. In other words, such research needs to be carried out with decision makers in government, business, and other social groups who might contribute to development. The latter must be fully engaged in the vision process—as they are responsible for bringing about change.

6 Conclusion

This paper argues that it is both analytically wrong and empirically flawed to draw direct policy lessons or to develop models from Asia for other developing countries to imitate. In contrast to the recommendations of many experts, developing nations should not attempt to imitate the paths of the successful Asian economies—and they certainly should not chose similar sectors or technologies to compete with them directly.

When we examine paths of Asian development through the lens of successful exporting industries we see a great deal of variety, not only in policy-making, but also in industrial structure, corporate ownership, firm strategy, size of business, and so on. Often the innovation in policy, institutions, technology, and business approach we observe in Asia, is ignored in lesson-making. Sometimes, the underpinning ‘success factors’ identified are simply incorrect or occurred long after the growth take-off.

However, even if the Asian diagnosis was correct it would still be a grave mistake to draw policy lessons which imitate the paths of the successful Asian economies, or indeed the ‘best practices’ of other advanced nations. This is because technological and market circumstances have now changed and any sensible strategy for development must be based on the resources, stage of development, challenges, and external circumstance now facing the particular country in question. There can be no standard list of development prerequisites or ‘best practices’. Each case must be treated on its own merits, taking into account its public and private sector institutional structures and competencies.

The basic mistake of ‘follow the leader’ catch up policy has a long tradition in development thinking. Indeed, in our examination of an earlier version of this debate which occurred in the post-war period, the use of growth stages and prerequisites for lesson-making was heavily criticized by leading economists of the time, a fact which seems to have been overlooked, forgotten, or ignored by many observers today. Gerschenkron (1962, 1963), Kuznets (1958, 1966) and Abramovitz (1986) all argued that development processes and strategy must be based on the resources, capabilities, institutions, and external conditions facing individual nations, not on the paths or models of previous industrializers.

However, developing nations cannot ignore the rise of Asia. And there may well be some subtle and useful insights from the Asian experience. In building on their own

unique sets of capabilities and institutions developing countries should (like Asia did) seek to complement not copy the growth paths of more successful economies, including Asian ones. One of the insights to be gained from each of the Asian nations is the importance of identifying and building their own distinctive paths of development, supported by policies which encourage these paths. This will probably require, as it did with Asia, significant innovation and creativity in business organization, wider institutional structures, and technology. Today's developing nations, like Asia, need to forge their own distinctive and, by definition, novel development paths.

In discussing government policy, the capability, experience, and track record of the particular government must also be taken into consideration. Some governments erect hurdles and barriers to development and wittingly or unwittingly suffocate entrepreneurship and innovation through their policies (de Soto 2000). Certainly, some governments are more capable than others and in the absence of competent government alternative pathways to development need to be sought. In this paper we pointed to several cases where business and export growth occurred without the knowledge or support of government and, in some cases, despite the efforts of government (Papa 2009; Athreye and Hobday 2009). In short, while there can be no direct or specific lessons or models to be imitated, other developing countries can learn many interesting and useful things from Asia's success.

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