

Learning to Industrialize

From given growth to
policy-aided value creation

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Preface

Learning without thinking is useless; thinking without learning is insecure.
(Confucius, 551–479 BC, chapter on politics, *Lun-yü*)

This book proposes a way to learn pragmatic policymaking for developing countries that must cope with the strong pressure of market-orientation and globalization of our time. It points to a realistic method of overcoming a low- or middle-income trap into which many countries seem to have fallen. Such a strategy is not only possible but also already practiced in many parts of the world, especially in East Asia, with different degrees of success. Our main focus is the productive sector of the economy which includes manufacturing, agriculture, services, and logistics, but the general principle advanced here should be applicable to all policy making. This study should be useful for people who are seriously interested in the practice of development policy, such as national leaders, economic ministers, directors and officials of government ministries and agencies, development experts and consultants, policy researchers and students, and even ordinary citizens who are yearning to know what goes wrong with the policies of their motherland and how this can be remedied.

Industrial policy debate is receiving revived attention. The days of minuscule government and unfettered markets are over. It is now widely recognized that free-market crusaders can do much harm to the global economy, and the appropriate involvement of government is essential for sustained growth. Based on this re-emerging view, economists are arguing whether policy should lead or follow markets, whether selective intervention is possible in the twenty-first century, what should be the six steps to compile an industrial strategy, and so on. However, these arguments are a bit too abstract for the practitioners of development policy. I would like to enter the debate from a different angle.

The discussion here is action-oriented rather than theoretical. Many concrete cases and policy measures will be presented, mainly from the current and historical experiences of East Asia, which feature pragmatism, obsession with concrete details, and expectation of graduation from aid. The debate on the proper role of government, for example, cannot be resolved in the theoretical

realm alone because theory and practice are intertwined. The answer critically hinges on the policy capability of government and the maturity of the private sector of the country in question. Many industrial strategies have failed not due to the lack of theoretical justification but largely because of crude and inappropriate application. Most promotion measures are globally common but performance differs considerably from one country to another. This book attempts to explain, for instance, why Japan and Taiwan were so successful in absorbing foreign technology and strengthening their small and medium enterprises while most other countries remain ineffective even though their policy menus are similar. Not only that, this book also suggests how policy capability can be built up in pragmatic steps. Early achievers of industrialization did not have to go to school to learn good policies. They struggled through self-study and trial-and-error, and produced spectacular results. But today's latecomer countries may benefit greatly from more explicit and systematic learning. Cataloguing, analyzing, and sharing policy know-how should be one of the central objectives of policy science.

A latecomer country often starts to grow when domestic markets are liberalized and international integration is initiated, but growth stalls when the income level dictated by given advantages—location, natural resources, existing labor, and inflow of foreign funds—is reached. Beyond that point, sustained development to high income will require internal creation of value backed by continuous upgrading of skills, technology, and knowledge. To realize this, government must install policies and institutions that encourage, or even force, human capital accumulation. This is a difficult task that only a handful of countries have accomplished. The enormity of this difficulty is the fundamental reason why income tends to polarize across countries under globalization and also why low- and middle-income traps are so common.

This book emphasizes policy learning. It considers government as a proper (but often still potential) initiator of national transformation in mindset, technology, and industry in a developing country. Weak policy capability does not lead to the conclusion that government should remain inactive but to the counsel on policy learning to overcome this weakness. However, random adoption of policy measures without knowledge of global practice or difference in local contexts is doomed to fail. Policy learning must be based on a systematic collection and comparison of international best policy practices (and even failures), with the objective of enhancing government capability which enables the creation of a policy package most appropriate for the country's unique situation. Three things must be learned: policy content, policy procedure, and policy organization. A more advanced question is what to do with a lazy private sector that fails to respond to good policies introduced by government. These are the issues that will be dealt with in this volume. It may not give definitive answers, but the materials and ideas provided will hopefully be of use to further study.

This book is written in the same spirit as the Growth Report produced by the Commission on Growth and Development in 2008. I totally concur

with the statement that there is no single recipe for growth policy and that outsiders can only provide ingredients for a dedicated national team to select and combine to cook a suitable dinner for the country (Commission on Growth and Development, 2008, p. 16). But I go further by comparing alternative methods of industrial policy design and implementation across countries, hinting at how they can be selected and combined, and showing how policy skills can be taught and learned. My perspective is somewhat broader than the Growth Report and includes politics, social mindsets, and administrative hurdles as backgrounds for development policy formulation in each country. Practical cases are drawn mainly from East Asia, which constitutes another special feature of this volume.

The main title of the book, *Learning to Industrialize*, is the same as that of the work by Sanjaya Lall (1987) which surveyed nineteen Indian firms in the cement, steel, textiles, and consultation industries. Lall's main concern was the methods by which individual firms acquired technological capability while policy environment was treated cursorily as external conditions. In my book, government is the learner and I explore the way in which its capability can be strengthened. I hope the reader will find my work complementary to Lall's as it broadens the scope of learning that must be undertaken for economic development.

The book has two parts. The first part contains general discussions in four chapters and the second presents six country studies—five from East Asia and one from Africa—that portray serious governmental effort to establish policies and institutions that accelerate human capital accumulation, each in its own way and with different degrees of success. In-depth case studies are an integral part of policy learning because they can show not just technical aspects of policymaking but, more importantly, the resolve and passion of political leaders and public servants that sustain a nationwide industrialization drive. Development is propelled not by science and technology alone but by the spirit of the people. A vivid and detailed description of how a poor country rose—or is trying to rise—to the status of an industrial economy with advanced technology should move the reader at the heart and enrich him or her in the brain.

Chapter 1 argues that globalization in its natural tendency polarizes income across countries. The crucial factor that divides winners from losers is the amount of skills, technology, and knowledge accumulated in their citizens rather than the initial endowment of natural resources or the amount of foreign funds received. Low or middle income may be attained by economic liberalization or external opening, but a continued march to high income becomes possible only when the country establishes a national mechanism for constant upgrading of human capital.

Chapter 2 shows that many latecomer countries are already willing to learn the nitty-gritty of industrial promotion, but such knowledge is not forthcoming from either academia or international organizations. What they need is a hands-on instruction on how to execute concrete policies rather

than a theoretical debate on the justification or desirability of industrial policy. Proactive industrial policy is proposed by which latecomers balance state and market as well as integration commitments and retention of sufficient policy tools. A number of frequently asked questions are reviewed, and commonly encountered issues such as a weak private sector, problems generated by high growth, and politics of development are addressed.

Chapter 3 discusses ingredients of industrial promotion. The concept of policy learning is introduced, policy dialogue with developing countries as practiced by Japan and South Korea is explained, and the meaning of "learning from East Asia" is re-examined. The rest of the chapter is devoted to the exposition of standard policy tools for industrial capability building such as kaizen, shindan, engineering universities and technical colleges, training-industry links, industrial parks, and strategic FDI marketing. More complex policy packages such as small and medium enterprise promotion, integrated export promotion, creation of an entirely new industry, and comprehensive regional development with core infrastructure are also discussed. Some of these policy tools are globally well known but others are special or uniquely developed in East Asia.

Chapter 4 deals with the procedural and organizational aspects of policy-making which are often neglected in existing policy studies. After the critical importance of leadership is stressed, necessary ingredients in policymaking procedure—vision, consensus building, documentation, and stakeholder participation—are explained. Alternative policy organizations are highlighted with concrete international examples, including a technocrat team supporting the top leader, a national council or committee, a super-ministry, a specialized institute as a policymaking hub, and a strong leader without institutionalization. Additionally, standard contents of an industrial policy document are illustrated, and advice on Vietnam's policy procedure and organization is appended as an example.

Chapters 5 to 10 report six different cases of the state's effort to upgrade human capital. The first three cases are reviews of outstanding performance while the remaining three are stories of contemporary struggle.

In Chapter 5, Japan in the second half of the nineteenth century, which internalized Western technology vigorously and effectively, is analyzed from the perspectives of history, politics, and specific policy measures. Chapter 6 narrates Singapore's national productivity movement which started with the top-down initiative but eventually assimilated widely and continues even today. Chapter 7 explains Taiwan's current innovation drive featuring a powerful ministry, technology development projects, research institutes, and science parks. In Chapter 8, Malaysia's intense effort to escape an upper-middle-income trap is described where highly sophisticated policy mechanisms are contrasted with a lackluster response from the private sector. In Chapter 9, Vietnam's awareness of the lack of quality of growth and internal value creation is examined despite its remarkable growth in the last two decades following economic liberalization and global integration. Finally, Chapter

10 documents the policy learning process of Ethiopia, a low-income country with difficult initial conditions, which is backed by an unwavering political resolve and a strong desire to learn from East Asia and not from Washington.

The sample of countries is far from complete, but even this small selection should be enough for the reader to realize the existence of something common among high performers despite enormous diversity of their experiences. The inclusion of Ethiopia, in particular, should prove that the type of policy learning advocated in this book is not a monopoly of East Asia. It is also hoped that their tales will conjure up the same thrill and amazement about policymaking in the reader as they did in myself. The number of countries included also had to be limited by such practical concerns as the acceptable size of the book and my own time constraints. South Korea and Thailand were omitted although interesting information was available on their policy formulation. China and India, the two giants which remain untouched in my study, must be dealt with separately when my research progresses further.

As the reader will surely notice, the people and organizations that supported my policy research over the last two decades are too many to be recognized individually. Instead of listing them one by one, I would like to thank them collectively with the deepest sense of respect and appreciation for their intelligence and dedication to policy making in their respective countries, including those in East Asia and Africa which are not featured in this book. But one person must be specially mentioned. I would like to express my great gratitude to Azko Hayashida, my most productive assistant who supported the policy research during the last ten years. I sincerely hope that her next adventure in life will be as intellectually exciting as the one we shared.

1 The developmental trap

1.1 Income polarization

The idea that globalization promotes international income convergence through trade and investment opportunities and technology transfer, and therefore helps latecomer countries in their effort to catch up with early achievers, has long been advanced by a number of officials and scholars. It is also an idea that has been challenged by countless arguments and examples. The controversy over latecomers' advantage under globalization did not originate from the Washington Consensus, a policy proposition championed by the World Bank and the International Monetary Fund, which argued that economic liberalization, privatization, and opening up are good for all countries. Nor was it invented by the scathing critiques of the Washington Consensus by such proponents as Chang (2002), Stiglitz (2002, 2006), Rodrik (2007), and Cimoli et al. (2009a). Conflict of interests over globalization between early achievers and latecomers is an old issue that goes back at least to the nineteenth century.

If left to natural forces, globalization tends to polarize income rather than equalize it. This is a phenomenon that first emerged as a result of the Industrial Revolution in the West. In previous centuries when international trade was long-distance exchange of primary commodities and local specialties with low technology content, free trade did not produce obvious winners and losers. When Europe exported silver in exchange for Chinese silk and spices, trade was a mutually profitable activity between more or less equal partners. However, production of industrial goods by mechanized factories changed the rules of the trading game. Merchandise in large volume, uniform quality, and low cost began to invade the global market in which technology and production scale were decisive factors. Learning, R&D, and patenting in new knowledge became crucial. In the new trading game, where winner-take-all and technology lock-in for late starters are prominent features, early achievers are able to continuously improve technology while latecomers are not even allowed to enter the race. The only way to catch up for latecomers seems to be protection and promotion of domestic industries for a certain period, but imposition of free trade effectively removes this option. The fundamental nature of globalization that enhances the rich-and-poor gap basically remains intact even to this date with a minor modification that

knowledge industries and high-value services have been added to manufacturing as leading sectors.

The developing world liberalized its trade regime rapidly and significantly in the 1980s and 1990s under integration, structural adjustment, and systemic transition programs sponsored by the three sister international organizations consisting of the International Monetary Fund, the World Bank, and the World Trade Organization. However, increased openness did not automatically stimulate economic growth in developing countries. An UNCTAD report on least developed countries (LDCs) in 2004 questioned the supposed benefit of trade expansion on economic growth (proxied by per capita private consumption). Among 66 observations on poorest countries in the five-year period of 1990–1995 and/or 1995–2000, exports grew in 51 of them. In 18 of these 51 cases, however, per capita private consumption fell as export expanded (the “immiserizing trade effect”). Only 22 of the 51 cases showed rising per capita private consumption along with export growth, while the export–consumption nexus was ambiguous in 29 of the 51 cases. UNCTAD concludes that “even when the LDCs have increased their overall export growth rate—as many . . . did in the 1990s—better export performance rarely translates into sustained and substantial poverty reduction” (UNCTAD, 2004, p. IV). In a similar vein, after reviewing the “voluminous” literature on the links between trade policy and economic performance, Rodrik finds that “there is no convincing evidence that trade liberalization is predictably associated with subsequent economic growth” (Rodrik, 2007, pp. 215–216).

Back in the mid-nineteenth century when Japan re-opened its ports and began to trade with the West after more than two centuries of feudal rule and severely controlled external trade, Okubo Toshimichi (1830–1878), the first home minister of the reformist Meiji government who initiated an industrial modernization drive, wrote in his policy proposal:

If we are to turn the tide around and correct the situation [of slow economic progress and trade deficits], we have no choice but to encourage private business and international trade by mobilizing effective policy measures to cultivate fundamental strengths of economic activities and expand commercial profit. If we do not regard this as the duties of the government and leave the matter to people’s own devices and simply wait for the results, will the decline ever stop? This is the most pressing of all national issues. Even though such policy may not be endorsed by the orthodox doctrine of political economy, rules must be bent to respond to the urgent needs of our time.

(Okubo, 1876, pp. 79–80)

The orthodox doctrine of political economy to which Okubo referred was the Ricardian theory of comparative advantage with the assumption of given technology in each country. Under this static theory commonly preached by the British delegation to Japan, it could be “proved” that free trade benefited

all nations including advanced and backward ones. However, Japanese leaders in the nineteenth century were keenly aware, by instinct and through observing situations in Asian neighbors, of the true nature of free trade imposed on Japan by unequal commercial treaties with the West.¹ They clearly understood the suppressive effects that free trade with advanced countries would have on burgeoning domestic industries, and resulting dominance of the strong nations over the weak—a situation described as *imperialism of free trade* by economic historians.

In 1871, Hirobumi Ito (1841–1909), who later drafted the first Japanese constitution and became Japan’s first prime minister, wrote from the United States, where he was staying on an official mission to study American fiscal and monetary systems, that the free trade advocated by Britain was merely an excuse to pursue its own national interest whose adoption would greatly harm an underdeveloped country like Japan. The common practice of *kicking away the ladder* by early industrial achievers to deprive others of the means of climbing after them was eloquently pointed out by the nineteenth-century German economist Friedrich List (1841), and was more recently documented with ample historical evidence by Chang (2002).

Notwithstanding the strong pressure of *imperialism of free trade*, Japan in the late nineteenth century absorbed Western systems and technology well and rapidly developed its industries by employing various policies other than tariff protection. It joined the “Big Five,” a group of most advanced nations, by the 1910s and began to attend international conferences that determined the fate of the world. How this feat was achieved will be the main topic of Chapter 5. However, it is important to stress that Japan was a rare exception rather than the rule among latecomers. There was no other non-Western country that caught up with Western industrial powers until the latter half of the twentieth century when Singapore, Hong Kong, Taiwan, and South Korea began to surge. At present, there are a number of “emerging economies,” such as China, India and Brazil, that seem to be on a track to catch-up industrialization. Nonetheless, the rest of the developing world has generally and for long remained poor with low industrial capabilities.

Castaldi et al. (2009) summarize global development experience in historical perspective as follows. Since the British Industrial Revolution, there emerged a clear separation of countries between the rich and the poor clubs. Only a small number of countries made up the former while the vast majority belonged to the latter. This was in sharp contrast to the situation in earlier centuries when income levels were more equal at least among Europe, China, and the Arab world. Transition probabilities between the two clubs were not zero but very small, with only a few countries, already mentioned above, rising to join the rich club and even a fewer countries descending from the rich to the poor club. Within subgroups of countries, such as within the already rich OECD members and within the East Asian region, a tendency for collective catching up was observed. But such local convergence was unable to offset the global tendency of income polarization.

In short, most countries remained poor while a small number of rich countries became and remained rich in the last two centuries, with very limited switching of members between the two clubs. The view that globalization promotes international income convergence through new trade and investment opportunities and technology transfer is not only naïve but also rejected by the data. The fact is that an integrated world economy has a natural tendency to polarize income—a tendency which, however, may be resisted and even reversed by well-constructed policies as argued in the chapters to follow.

1.2 Diversity in catching-up ability

East Asia is known as a region that achieved remarkable economic growth *on average*, but not all economies in the region have succeeded in development. The World Bank's *East Asian Miracle* report, which explored the policy secrets of this rapidly growing region, implicitly assumed that all of the ten economies it studied registered impressive growth and deserved admiration (World Bank, 1993). But statistics reveal that this was not the case. Figures 1.1 and 1.2 present real income per head of East Asian economies relative to the United States, the frontrunner country of our time, for the period starting in 1950. Japan began to industrialize very early, in the late nineteenth century, and traveled an entirely different path from the rest of

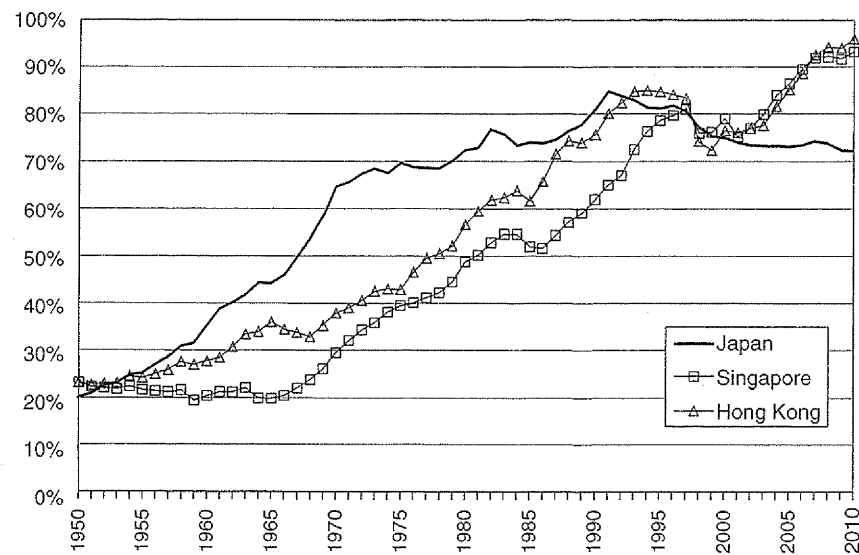


Figure 1.1 Per capita income relative to US: East Asia 1 (measured in the 1990 international Geary-Khamis dollars)

Sources: Angus Maddison (2003) and IMF, World Economic Outlook Database, April 2010 (for updating)

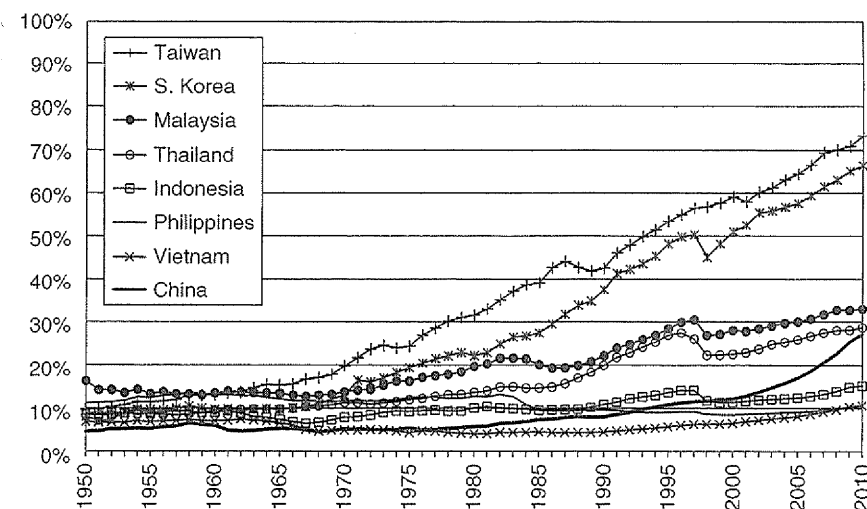


Figure 1.2 Per capita income relative to US: East Asia 2 (measured in the 1990 international Geary-Khamis dollars)

Sources: Angus Maddison (2003), the Central Bank of the Republic of China, and IMF, World Economic Outlook Database, April 2010 (for updating).

East Asia (Ohno, 2006a). Singapore and Hong Kong, two city economies inhabited mainly by ethnic Chinese and currently functioning as information, financial, and transport hubs of the region, rose fast to overtake Japan in recent years. These are the highest income achievers in East Asia.

Other countries in the East Asian region, in Figure 1.2, can be classified into four groups according to their income performance in the post-World War II period. Taiwan and South Korea (the first group) soared rapidly to attain high income and high industrial capability. Malaysia and Thailand (the second group) have risen only to middle income although they started industrialization at about the same time as Taiwan and South Korea, namely in the 1960s. Meanwhile, Indonesia and the Philippines (the third group) have not made any visible long-term catching up relative to the US income. Two transition economies which initially belonged to the third group deserve special mention. China, a socialist giant, took off in the 1980s and made accelerated strides in the 1990s and 2000s. It now belongs to the middle-income group and continues to ascend. Vietnam, another socialist latecomer hampered by prolonged war and economic planning in the past, started to grow fast in the 1990s driven mainly by large inflows of foreign aid and capital.

Figure 1.2 clearly illustrates the fact that different income performance among the first, second, and third groups in East Asia is the result of different speeds of ascent rather than delayed starts. Furthermore, the East Asian region is also a host to several countries, not shown in Figure 1.2, that remain

poor and without significant industrial achievement for various political and economic reasons. They are Laos, Cambodia, East Timor, Myanmar, and North Korea (the fourth group).

Yet, despite these disparities in development performance, East Asia is the only non-Western region that has had a number of super growth achievers and therefore shown significant income growth *on average*. By contrast, the records of catching-up industrialization in other developing regions, presented in Figures 1.3 to 1.6, are less remarkable and without stellar performers.

Latin America was part of the relatively rich world in the eighteenth and nineteenth centuries. In 1820, average per capita income of the region was 42 percent of that of the United Kingdom, a leading economy at that time, while the average income of the East Asian region was 34 percent of the UK (Maddison, 2003). Rich resource endowments and low population density were the main reasons for Latin America's initial blessing. Over time, however, as population grew and industrialization effort lagged, the region's average income vis-à-vis advanced economies gradually eroded, and eventually fell to 23 percent of the US income by 2001. The post-World War II period continued to witness the long-term trend of slipping from middle income as shown in Figure 1.3. A large fall of oil-rich Venezuela from high to low income is particularly striking. It may be said that, over the last few centuries, wealth generated from land has been squandered in Latin America without igniting investment in knowledge, skills or technology.

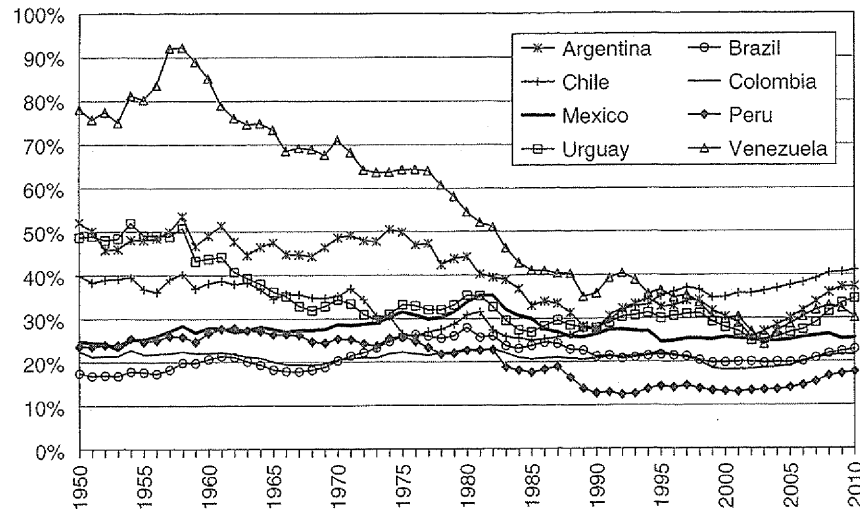


Figure 1.3 Per capita income relative to US: Latin America (measured in the 1990 international Geary-Khamis dollars)

Sources: Angus Maddison (2003) and IMF, World Economic Outlook Database, April 2010 (for updating).

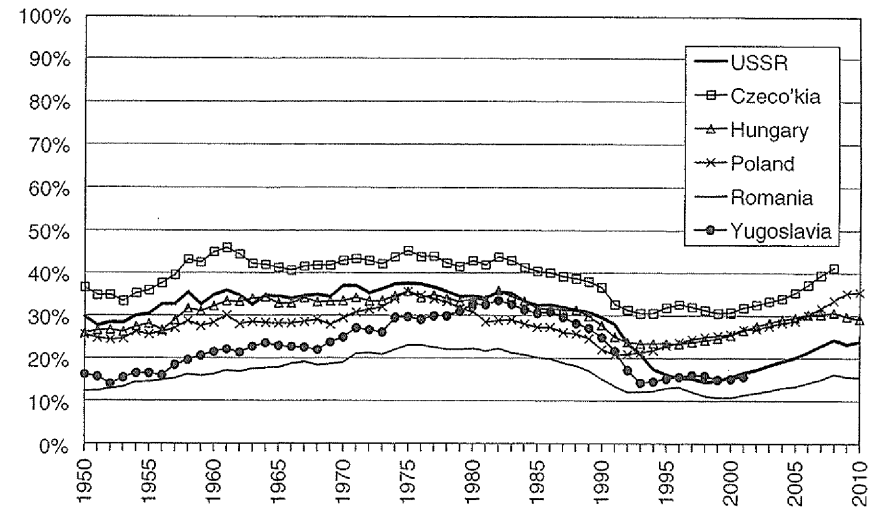


Figure 1.4 Per capita income relative to US: Russia and Eastern Europe (measured in the 1990 international Geary-Khamis dollars)

Sources: Angus Maddison (2003) and IMF, World Economic Outlook Database, April 2010 (for updating).

Notes: Data for Yugoslavia and Czechoslovakia after the break-up are given by aggregating split countries. USSR after the collapse is represented by Russia.

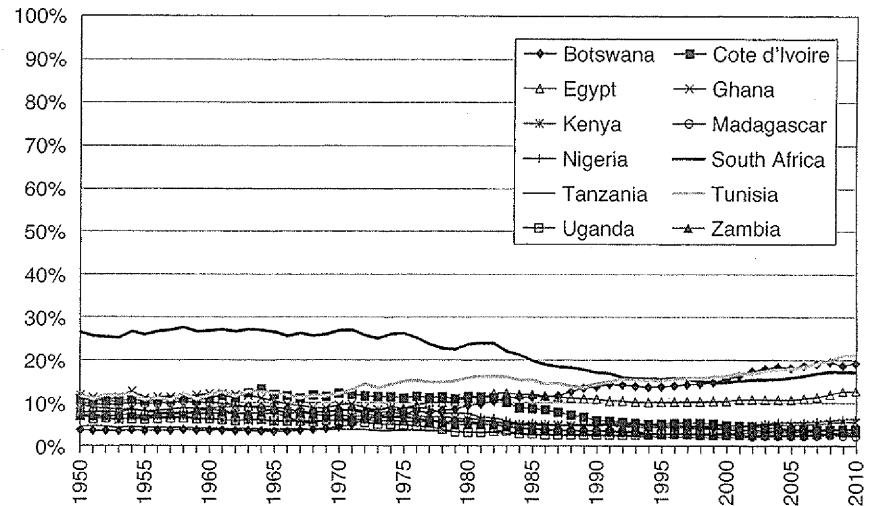


Figure 1.5 Per capita income relative to US: Africa (measured in the 1990 international Geary-Khamis dollars)

Sources: Angus Maddison (2003) and IMF, World Economic Outlook Database, April 2010 (for updating).

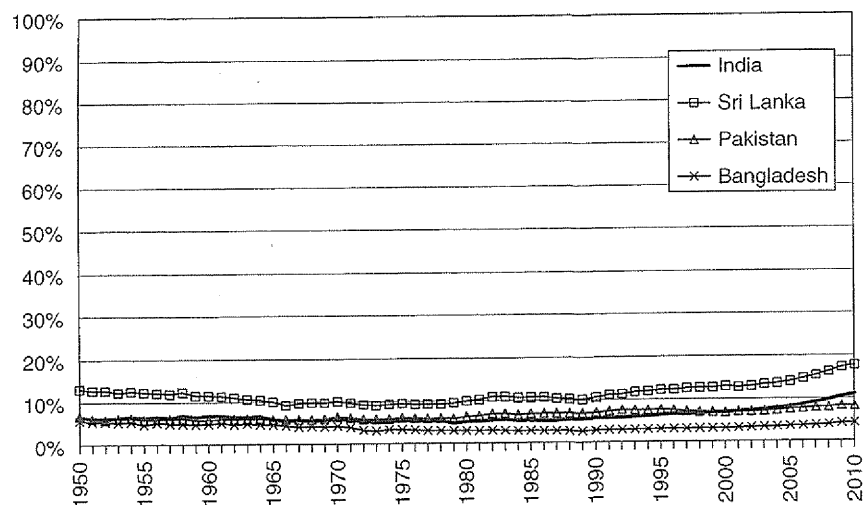


Figure 1.6 Per capita income relative to US: South Asia (measured in the 1990 international Geary-Khamis dollars)

Sources: Angus Maddison (2003) and IMF, World Economic Outlook Database, April 2010 (for updating).

Russia and Eastern Europe are another group of countries that have fluctuated in the middle-income range mostly under the socialist regime. Economic difficulties at the time of the disappearance of the USSR are also clearly visible in Figure 1.4.

Africa, in Figure 1.5, and South Asia, in Figure 1.6, are two regions that appear to be stuck at low income. In both regions, countries are clustered at the bottom of the scale with little movement which gives a highly monotonous tone to the graph. South Africa's mildly high income in the early period and a modest rise of Botswana in recent years are explainable mainly by the export of metals and precious stones. In South Asia, recent improvements in Sri Lanka and India, albeit tiny, deserve to be monitored.

1.3 Knowledge, skills and technology

Income divergence, as illustrated above, mainly reflects different amounts of knowledge, skills and technology accumulated in each country. Income earned by human capital, rather than windfall gain from natural resources or lucky inflows of foreign money, is the key determinant of long-term economic growth. This should be obvious to most readers, but it is still useful to review some statistics, assembled by Castaldi et al. (2009), to re-confirm the obvious. In doing so, two caveats should be noted in advance. For one thing, human capital (or "innovativeness") cannot be directly measured and therefore must be represented by some proxies. For another, causality from human capital

to income, or vice versa, cannot be directly proved by correlation. Data may amply illustrate, but cannot rigorously prove, that innovativeness is the mother of high income.

As proxies of innovativeness and technology attainment, Castaldi and others look at the number of US patents granted, labor productivity, firm-level R&D, number of researchers, expenditure on IT, diffusion of ICT, and concentration of R&D activities by foreign affiliates. These data are selectively presented in Table 1.1. The authors observe that "irrespectively of the chosen proxy, the picture which emerges is one with innovation highly concentrated in a small group of countries" (p. 40). Just as the club of rich countries has been exclusive, the club of innovating countries has also been small with restricted entry and a slow pace of change in relative ranking in the last two centuries. Again, Japan in the early twentieth century and South Korea and Taiwan in the late twentieth century are mentioned as the only new major entrants to the innovation club. Since income and innovativeness are closely related, overlapping membership in the two clubs is not at all surprising.

One of the proxies highlighted by Castaldi and others is the number of US patents granted to non-US countries since 1883. The authors admit that this is a narrow definition of human capital. Upgrading of knowledge, skills, and technology can occur not only through inventive discovery and patenting but also through emulation, reverse engineering, adoption of capital-embodied innovation, learning by doing, incremental productivity enhancement at factories, organizational innovation, and so on. Nevertheless, a significant link exists between invention and gross domestic product (GDP) per capita which is reasonably robust over different historical periods. The link is particularly strong between 1913 and 1970 as well as in the 1980s and 2000s. Correlation between the *growth* of US patents per capita and the *growth* of GDP per capita among 14 OECD countries was 0.05 and statistically insignificant in 1890–1913 but became large and statistically significant at 5 percent level in later periods: 0.67 in 1913–1929, 0.58 in 1929–1950, and 0.71 in 1950–1970. Then it evaporated in the turbulent oil-shock years of 1970–1977 to 0.16 with no statistical significance. A more recent and larger dataset containing 21 OECD countries basically paints the same picture with the following correlation coefficients between the growth of US patents per capita and the growth of GDP per capita: 0.18 (insignificant) in 1970–1977, 0.82 in 1977–1984, 0.89 in 1984–1991, 0.30 (statistically insignificant) in 1991–1998, and 0.64 in 1998–2006.

If the *level* of US patents per capita and the *level* of GDP per capita are used instead of growth rates, correlation between them is consistently positive (ranging from 0.50 to 0.88) and significant at 5 percent level throughout 1929–2006 but not in the early years of 1890 or 1913. Similarly, correlation between the level of R&D per capita and the level of GDP per capita is always positive (ranging from 0.49 to 0.79) during 1963–2006 (no data are reported before 1963). These mutually supportive results confirm the existence of a strong link between innovation and R&D on the one hand

Table 1.1 Selected indicators of innovativeness

	US patents granted (% of non-US recipients)				Labor productivity relative to US			Mean years of schooling		Number of researchers (per 1000 labor force)	IT expenditure as % of GDP	Internet users (per 100)
	1883	1929	1973	2007	1913	1973	2007	1970	2000			
OECD												
Australia	1.11	1.96	0.89	1.63	106.4	71.7	77.3	10.2	10.9			65.3
Austria	2.62	2.47	1.05	0.59	56.4	61.4	77.1	7.4	8.4		2.8	47.5
Belgium	1.59	1.30	1.25	0.67	71.9	75.5	86.9	8.8	9.3		2.8	40.2
Canada	19.94	10.25	5.95	4.27	86.9	85.8	77.2	9.1	11.6			62.3
Denmark	0.56	0.71	0.68	0.50	68.6	66.5	75.0	8.8	9.7		3.2	50.4
France	14.22	9.76	9.47	4.03	56.0	76.4	86.0	5.7	7.9	7.1	3.1	39.3
Germany	18.67	32.36	24.68	11.64	58.7	72.2	66.8	5.7	10.2	6.8	2.9	42.7
Italy	0.24	1.19	3.35	1.67	40.6	69.5	72.7	5.5	7.2	3.0	1.7	46.8
Japan	0.16	1.40	21.82	42.90	20.9	56.9	71.1	7.5	9.5	10.1	3.4	62.2
Netherlands	0.24	1.57	3.03	1.61	80.4	82.4	72.6	7.8	9.4		3.3	61.6
Norway	0.32	0.71	0.37	0.32	46.7	63.9	83.3	7.2	11.9	10.6	2.4	39.0
Sweden	0.95	3.19	3.37	1.36	50.2	68.2	76.9	8.0	11.4		3.8	75.5
Switzerland	1.75	4.46	5.86	1.33	65.0	82.4	65.2	8.5	10.5			
UK	34.55	22.23	12.61	4.23	84.8	65.6	78.5	7.7	9.4		3.5	47.0
US	-	-	-	-	100.0	100.0	100.0	9.5	12.0	9.1	3.3	63.0
NICs												
Israel			0.37	1.42		61.2	65.7	8.1	9.6			21.8
Singapore			0.03	0.51		39.5	74.2	5.1	7.1	9.3		57.9
Taiwan			0.00	7.88		28.7	71.6			6.7		
South Korea			0.02	8.10		21.3	61.7	4.9	10.8	6.6		65.7
Hong Kong			0.07	0.43		43.3	94.7	6.3	9.4			3.2
India			0.09	0.70		6.1	18.9			1.1		7.2
China			0.04	0.99		4.8	10.9					
Latin America												
Argentina			0.12	0.05		52.9	40.7	6.2	8.8	1.8		16.1
Brazil			0.08	0.12		27.9	19.4	3.3	4.9	0.9		12.0
Mexico			0.19	0.07		45.9	30.7	3.7	7.2	1.9		13.4
Venezuela			0.03	0.02		92.4	46.4	3.2	6.6	0.5		8.4

Source: compiled from Tables 3.1, 3.3, 3.8, 3.9, 3.10, and 3.11 in Castaldi et al. (2009).
 Note: Data for NICs and Latin America in the 2007 labor productivity column are actually 2006 data.

and income per head on the other at least for OECD countries (Castaldi et al., 2009, pp. 45–47).

Individual countries that deserve special mention in Table 1.1 include Japan which sharply increased its share of US patents granted from 1929 onward, and Taiwan and South Korea which did the same from 1973 onward. Labor productivity relative to the US reveals similar trends with Japan rising greatly from 1913 and East Asian tigers following suit in more recent decades. It is also notable that the four Latin American countries fell significantly in relative labor productivity in recent decades. Thus the stories about innovativeness of nations are basically the same as the stories of relative income catch-up illustrated in Figures 1.1 to 1.6 above. The same countries are repeatedly mentioned as outstanding achievers in both human capital and income per head because the two are inseparable.

These historical results lead to the conclusion that knowledge, skills, and technology do not flow naturally from high-level to low-level countries even in a world with low barriers to trade, investment, capital mobility, labor migration, and information in printed and electronic media. Globalization does not automatically support convergence in the quality or quantity of human capital across countries but rather tends to widen and solidify the gap between innovative countries and others.

Knowledge relevant to human capital accumulation cannot be bought off-the-shelf because improvement requires internalization of foreign knowledge by local residents. A toolkit for efficient factory management or a textbook on strategic marketing have little impact unless it is effectively put to use in the local context. This in turn calls for a complex socio-economic process involving a merger of two systems—a foreign system introduced from outside and an existing local system—which are often initially incompatible (Ohno, 2000). Friction, hostility, and rejection which arise in a forced systemic merger must be managed properly by modifying both systems for a better fit without diluting the desired benefits of the imported system. Maegawa (1994, 2000), an economic anthropologist who studies the meeting of “civilization” (dominant technology and systems) and a “culture” (local society), calls this process *translative adaptation*.

[M]any nations and societies have adopted Western institutions and objects from without in order to survive (or by their own choice). However, it is important to recognize that they did not accept Western inventions in their original forms. Any item in one culture will change its meaning when transplanted to another culture, as seen widely in ethnography around the world. Not only cosmology, religious doctrine, rituals, but also the family system, the institution of exchange, and even socio-economic organizations like the firm exhibit the property of adapting to external institutions and principles with the existing cultural system maintaining its form of structure. The essence of what has been called “modernization” is the adaptive acceptance of Western civilization under the persistent form

of the existing culture. That is, actors in the existing system have adapted to the new system by reinterpreting each element of Western culture (i.e., “civilization”) in their own value structure, modifying yet maintaining the existing institutions. I shall call this “translative adaptation.”

(Maegawa, 1994, English translation pp. 174–175)

Translative adaptation does not naturally arise from the market mechanism. To succeed, the process must be managed with careful deliberation and trial-and-error. Mindsets and institutions that facilitate a smooth systemic merger must be designed and installed. The principal coordinator of this change should be the central government of the latecomer country in question. Individuals and private firms who produce and invest are the key actors of economic development, but they themselves cannot stand outside the arena to plan, implement, monitor, or adjust the process of systemic merger. To establish a national innovation mechanism, the government must acquire sufficient expertise to guide and assist the private sector. Only when this public–private cooperation reaches a certain critical point, private-sector capabilities begin to accumulate in a significant way. The difficulty of this policy learning is the fundamental cause of the exclusive membership of the innovative country club as well as the rich country club.

It must be added that innovation most pertinent to latecomer countries at low and lower middle-income levels is the creation of something new *in the home country* and not the creation of something entirely new in the world. Acquiring and assimilating knowledge, skills, and technology that are already widely known and practiced in advanced economies is extremely important and forms the core of learning that latecomer countries must do. This should be achieved by importing, digesting and transforming existing bodies of industrial knowledge through translative adaptation. It is emulation, not innovation in the narrow sense, that is required of latecomer countries in the process of industrial catching up. Similar caveats apply to the pursuit of ICT, high-tech, software, bio-tech, nano-tech, new materials, solar technology, and other fancy terms that are thrown randomly into the plan documents of many developing countries. In order to achieve early industrialization, countries should mainly focus on improving discipline and reducing wastes in factories (kaizen), better marketing, strategic business planning, building enterprise networks, and other ordinary and non-proprietary knowledge to raise productivity and competitiveness (Chapter 3) instead of trying to become a leader in frontline technology. Innovation in the narrow sense will become increasingly important for upper-middle and high-income countries but emulation should be the key strategy for other countries.

Emulation is somewhat similar to, though much broader than, what Rodrik calls *self-discovery*.

Diversification of the productive structure requires “discovery” of an economy’s cost structure—that is, discovery of which new activities can

be produced at low enough cost to be profitable. Entrepreneurs must experiment with new product lines. They must tinker with technologies from established producers abroad and adapt them to local conditions. This is the process that Ricardo Hausmann and I called “self-discovery.” (Rodrik, 2007, pp. 104–105)

However, emulation is not confined to the introduction of a new product at lower cost for diversifying the product mix. As Schumpeter (1934) eloquently analyzed, it can occur through new products, new production method, new markets, new input procurement, and new industrial organization. Emulation can work miracles when properly applied to the improvement of a factory-floor organization or the creation of linkage between farmers and the food processing industry, for example.

On the other hand, Krugman (1994)’s contention that Asian miracle is a myth because its growth has depended heavily on *perspiration* (accumulation of factors of production such as labor and capital) rather than *inspiration* (growth in total factor productivity) seems to be off the mark. Catch-up industrialization of latecomer countries, especially in its early stages, is always driven more by accumulation of human and non-human capital—education and investment—than productivity growth as measured by TFP. That is the right way to start development, and the fact that so many East Asian countries could do this while most other developing countries cannot is a wonder worth genuine praise and serious investigation.

1.4 The curse of natural resources and foreign money

It may seem that having a large amount of natural resources is an advantage for industrialization because the nation can earn foreign exchange for industrial investment. But history shows that this is not the case. Correlation between natural resource abundance and economic stagnation is a well-documented fact in development economics. All of the top income achievers in East Asia—Singapore, Hong Kong, Japan, Taiwan, and South Korea—are people-rich and resource-poor. On the other hand, it is rare to see countries endowed with large deposits of energy, minerals, and other natural resources relative to population size—Argentina, Mexico, Venezuela, Bolivia, Zambia, Angola, and the Gulf states, for example—to experience a sustained march in national income or boast globally competitive manufacturing industries. True, there are exceptions such as Botswana which manages its diamond wealth reasonably well and Malaysia which has a large FDI-based electronics industry *despite* natural resource abundance (but see Chapter 8 for Malaysia’s malaise). Nevertheless, data confirm that countries with few natural resources on average perform better than resource-rich countries. After controlling for past growth trends and geographic factors, Sachs and Warner (2001) conclude from their regression analysis that linkage between natural resource abundance and lackluster growth is robust.

We must, however, beware of the winners' bias. Countries that have succeeded in industrialization look resource-poor *ex post facto* even if they started with the same degree of natural resource dependence as others. For example, Japan in the mid-nineteenth century was an exporter of raw silk and dried tea leaves, and Taiwan before it established Hsinchu Science Park in 1980 was a major producer of rice, sugar, and bananas. These economies look less dependent on natural resources today because their industries grew much faster than agriculture or mining. However, this bias can be avoided if we compare natural resource dependence of each country at some past point with its subsequent growth performance.

Figure 1.7 plots natural resource endowment in 1970, measured by exports of fuels, ores, and minerals in percent of GDP, against average per capita real growth in the subsequent three decades for all countries for which data are available in the World Bank database (81 countries including both developed and developing). The majority of countries are resource-poor and clustered on the left-side of the diagram. They exhibit a wide range of growth performance from negative to very high. From this diagram, we cannot detect any positive association between resource abundance and high growth. In fact, extremely resource-rich countries, on the right-side of the diagram, have been condemned to low or even negative long-term growth. The same results were obtained from a similar diagram of Sachs and Warner (2001) which compared resource endowment in 1970 and average per capita real growth in the subsequent 19 years.

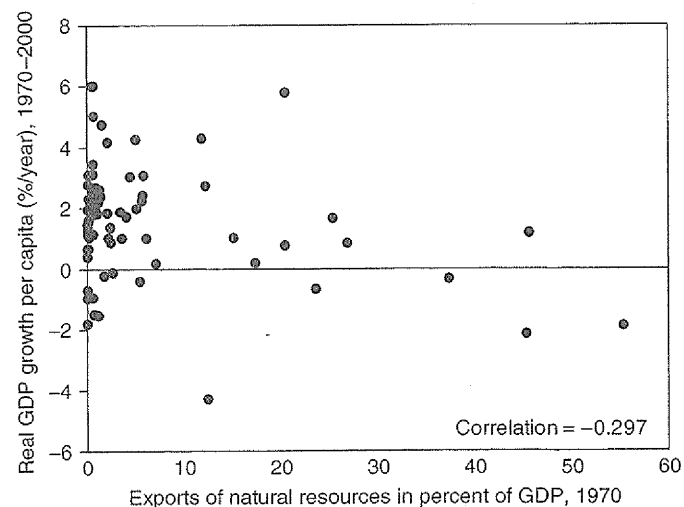


Figure 1.7 Growth and natural resource endowment

Source: Author's calculation using data from World Bank, *World Development Indicators & Global Development Finance*, April 2010.

Reasons for the curse of natural resources are many. Some point to laziness and complacency associated with unearned wealth whilst others emphasize corruption and political capture spawned by the availability of large rents. In the 1970s, unfavorable terms of trade for resource exporters were frequently cited as the cause of their impoverishment, based on the argument that the prices of primary commodities tended to decline relative to the prices of industrial goods in the long run.

However, the most convincing explanation of the curse, at least economically, is that a rise in the natural resource sector crowds out the manufacturing sector. Large export earnings from natural resources inject additional purchasing power into the national economy which pushes up the prices of non-traded goods and non-traded factors of production such as services, wages, land rents, and industrial service costs. Meanwhile, the prices of manufactured goods, which are traded internationally and cannot deviate from global norms, remain the same. As a result, the manufacturing sector loses international competitiveness due to high input costs relative to output prices. Moreover, the domestic factors of production, such as managers, engineers, workers, and capital (if capital mobility is less than perfect), are competed away to the expanding resource sector. Faced with a reduced supply and higher costs of domestic inputs, the manufacturing sector shrinks as natural resource export rises. Industrialization is inhibited.

The loss of industrial competitiveness can occur whether the exchange rate is fixed or floating. If it is fixed, rising domestic demand gradually exerts inflationary pressure on the non-tradable sector while the prices of manufactured goods are anchored globally. The Netherlands discovered off-shore natural gas in the 1960s when major currencies were fixed under the Bretton Woods currency system. As natural gas was extracted, domestic income and spending expanded, investment was redirected toward the natural gas sector, and Dutch wages and prices began to rise. Over time, Dutch industrial products became too costly to compete, and the manufacturing sector shrunk. This phenomenon, in which the Netherlands acquired natural gas but lost manufacturing, was called the "Dutch Disease."

Under a floating exchange-rate regime, the negative impact of resource export may come more quickly and dramatically because of the amplification effect of market expectations. Soon after the major currencies started to float in the mid-1970s, the UK discovered and exploited the North Sea oil fields. Since the oil price was on a rising trend at the time, people expected the UK to earn a large amount of foreign exchange in the future. But even before these earnings were realized, currency speculation pushed up the British pound suddenly and sharply. The resulting loss of price competitiveness severely damaged the British manufacturing sector. From the mid-1970s to the early 1980s, the share of North Sea oil and gas in British GDP rose from 0 to 5 percent while the share of manufacturing in British GDP fell from about 30 percent to 24 percent. In a world with floating currencies and free capital mobility, natural resource abundance not only damages the manufacturing sector but also magnifies macroeconomic instability.

Economic performance of a country that relies heavily on resource exports is strongly influenced by the gyrations of commodity prices. According to Hirano (2009), correlation between oil-rich Nigeria's nominal GDP and the price of crude oil, both expressed in US dollars, from 1970 to 2007 was as high as 0.942. Among countries whose nominal GDP shows similarly high correlation with the oil price are Trinidad and Tobago (0.947), Saudi Arabia (0.925), Kuwait (0.914), and Russia (0.891). Figure 1.8 visually presents per capita nominal GDP and the price movement of main export commodity of Zambia (copper), Côte d'Ivoire (cocoa), Venezuela (oil), and Uganda (coffee). The high correlation between the two variables is truly remarkable.

The correlation between the aggregate GDP of Sub-Saharan Africa and oil price is also as high as 0.902. The gross regional product of Sub-Saharan Africa, which continued to stagnate around US\$300 to 350 billion during 1990–2002, suddenly began to soar in 2003 to reach nearly US\$900 billion by 2007. Much of this “growth” was explainable by the oil price that jumped 2.8 times between 2002 and 2007 and inflation of other extractive commodities. While income per head of many African countries made great advances in official statistics at that time, living conditions of subsistence farmers on the continent were little affected. Growth driven by global commodity markets is fragile and unsustainable. Hirano concludes that

in its post-independence history, Africa's economic growth was realized only when the prices of oil or metals increased. Economic growth of Sub-Saharan Africa in the 2000s was also brought about by a surge in the prices of mineral resources including oil . . . which leads to a suspicion that this growth will come to an end when resource prices stop rising.

(Hirano, 2009, p. 209)

If a large injection of purchasing power into the national economy causes de-industrialization and macroeconomic instability, similar problems can occur not only with natural resources but also with other large receipts such as foreign direct investment (FDI), financial investment in bonds and stocks, property investments, big infrastructure projects, and development and military aid. Problems may be generated even by workers' remittances, illegal money from drugs and other crimes, and the money that foreigners in aid business and military operation spend for consumption, housing, transport and personal security in the country if they are a sufficiently large relative to GDP.

As capital accounts were liberalized in many developing countries in the 1990s, generalized Dutch Diseases caused by excessive inflows of foreign funds of one kind or another and their subsequent withdrawal became frequent and globally more synchronous. Inflows such as investment in bonds, stocks, and property projects are particularly volatile and subject to the whims of market psychology. Countries that receive large foreign funds relative to GDP experience temporary growth acceleration accompanied by the symptoms of overheating—i.e., consumption boom, construction boom, land speculation,

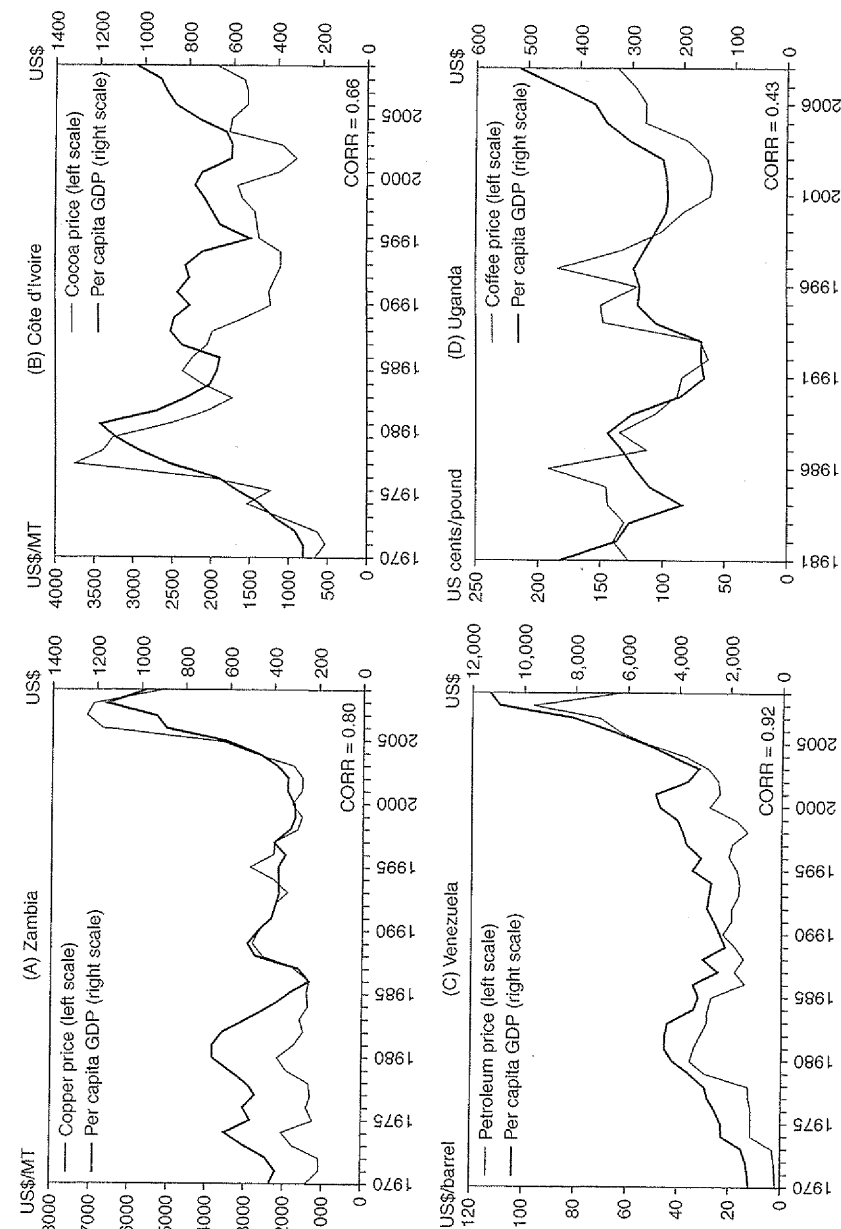


Figure 1.8 Per capita income and commodity price: (A) Zambia, (B) Côte d'Ivoire, (C) Venezuela, (D) Uganda. Source: International Monetary Fund, *International Financial Statistics*, August 2010.

stock-market bubbles, inflation, current-account deficits, *rising* international reserves, and a loss of international competitiveness. This mix is troublesome enough, but the real risk is the possibility of post-bubble crisis if this situation proceeds too far. A severe reversal may occur as commodity prices fall, asset markets collapse, investors leave the country, the currency plummets, and bad debt mounts. The Asian financial crisis of 1997–1998 was a severe regional crisis caused by a sudden and massive withdrawal of short-term commercial bank loans which had a strong regional contagion effect. Ephemeral foreign money also played havoc with Mexico (1994), Russia (1998), Brazil (1998–1999), Turkey (2000–2001), and Argentina (2001–2002).

More recently, around 2007, much of the world experienced economically good times. Even Sub-Saharan Africa, which had stagnated for long, enjoyed a collective growth spurt. The main driver of this boom was global financial glut, and commodity inflation ignited by it, which stimulated the economies of the countries that exported energy, minerals, and primary commodities such as Russia, Kazakhstan, Mongolia, UK, Nigeria, Zambia, South Africa, Botswana, Mauritania, and Angola. Swollen resource money flowed into global financial centers which transformed it into other forms of purchasing power and spread the boom globally. The financial markets of the UK, US, and UAE, which received this resource money, expanded vigorously. Meanwhile, China and Vietnam, on the receiving end, faced inflows of foreign funds in various forms such as robust export earnings, workers' remittances, big public and private projects, and portfolio investment. This global financial and commodity bubble came to an end by the Lehman Shock originating in the United States in 2008 and further deflated by the European crisis in 2011–2012.

With all these facts and possibilities in front of us, it is hard to avoid the conclusion that natural resources and foreign money are hazardous to one's economic health. Growth spurts driven by a discovery of new energy or mineral resources, large foreign investment in construction or telecom, massive aid programs for a fragile state, or a jump in the price of the commodity a country exports, are not only temporary but also divert the attention of policymakers and private investors to activities that are not desirable or sustainable. Natural resources and foreign money may make you rich, at least for a while, but they do not make you innovative or hardworking.

This is not to argue that receiving a large amount of foreign exchange is always and everywhere a bad thing. But it will easily turn to a negative factor in development unless proper policy mechanisms are in place to avoid the known pitfalls. Additional policy issues for resource-rich countries and large receivers of foreign money include: (i) diversification of export base, (ii) a stabilization fund to smooth the fluctuation of commodity revenue, (iii) fiscal, monetary, and exchange-rate management to cope with severe balance-of-payments shocks, (iv) channeling windfall gains to productive investment in line with a consistent long-term development strategy, and (v) when feasible, processing of natural resources instead of exporting them in raw form. If these extra issues are well handled, abundant natural resources and attraction

of foreign money may even become a positive factor for the development of latecomer countries. However, this is hardly a universal proposition as success requires high additional policy capability. Availability of unearned resources is neither a sufficient nor necessary condition for economic development driven by knowledge, skills, and technology.

1.5 Overcoming middle income (and other) traps

A developmental trap is a situation where a country is stuck at an income level dictated by given resources and initial advantages and cannot rise beyond that level. The level of income where the trap may occur depends on the size of a country's windfall gain. If unearned income is small relative to population, the country will be caught in a poverty trap. If the country enjoys abundant natural resources or foreign money relative to population, income per head will be high without expending any development effort. If the country has moderate resources and advantages, it will most likely be caught in a middle-income trap.

Determinants of the level of a developmental trap include natural conditions such as soil, climate, topography, water supply, coastal access, forest and marine resources, extractive energy and minerals, and frequency of natural disasters. Potential income is also influenced by external political and economic factors such as inflows of foreign investment and aid, global and regional trade regimes, colonial legacies, geopolitical positions, and regional conflicts and crises. These are more or less given conditions beyond the power of domestic citizens or the government and define the starting point of development for each country. Some countries are naturally rich while others face poverty and hunger. Lucky people may conjure up envy but not necessarily respect or admiration. But even high-income countries endowed with large unearned advantages must face the challenge of using them to build an internal value-creating mechanism as advantages do not usually last eternally.

Growth that depends on unearned advantages will sooner or later come to an end. As the government stops suppressing the economy and liberalizes it, the country automatically rises to the level corresponding to its given factors. But this can hardly be called successful development. Development, in the true sense, must come from the upgrading of human capital. A continued march to high income is possible only when people improve capabilities and work hard to overcome existing constraints and create new value. A country may rise to a certain income level with little effort but will eventually get stuck in that income category—or even gradually slips from that category—unless it builds a national mindset and institutions that encourage constant improvement of its human capital. To establish these, policy must lead the way because the other two determinants of income performance—given advantages and private sector dynamism—cannot be the initiating force.

Geological, geographical, or geopolitical advantages are unevenly distributed across countries in our unfair world. This is a fact that cannot be altered and therefore must be accepted by policymakers. Private-sector dynamism also differs from one country or one ethnic group to another. This includes inherent vitality of private agents in commerce and industry as well as effectiveness with which they respond to policies. This point may be hard to take for those who believe that all humans are created equal in their ability to seize economic opportunities and that all farmers and merchants are the same in their response to economic incentives. A Western economist who visited East Asia for the first time for a conference strongly protested against the statement made there that Korean workers were superior to Thai workers in their productivity and discipline on the factory floor even under the same management—a fact too obvious for veteran executives of any multi-national corporations operating in East Asia. Whether politically correct or not, it is an undeniable fact that people are different in their ability to create commercial networks or manufacture industrial goods just as they are differently competent in football matches or musical composition. Chinese merchants are all over the world taking risks and opening new frontiers even without the aid of their government, but ethnic Malays lack vigor and ingenuity in business dealings even at home—this is the controversial argument made by Mahathir bin Mohamad before he became the prime minister of Malaysia (Mahathir, 1970). The issue of cultural differences will be discussed more fully in Chapter 2.

Although the level of private-sector dynamism is given at any moment in any country, it is not immutable. Just as with athletic or musical ability, talent and effort both matter. Over time, lazy people can be made more hard-working and industrious people even more so. It is well to recall that a Japanese government labor survey conducted more than a century ago found Japanese workers only half as productive as American workers with such lamentable characteristics as low saving, lack of work discipline, dearth of skill, and frequent job hopping (Ministry of Agriculture and Commerce, 1903).

Policy capability is also unevenly distributed across countries. Governments in fragile states are often too occupied with maintaining power and social order to be able to seriously discuss long-term economic strategies, let alone execute them. On the other hand, there are some countries whose leaders seem to have the knack for managing development politics and economics and making progress through decisive action and pragmatic trial-and-error. To be successful, such leaders must be supported by elite technocrats who concretize and implement their visions (Chapter 4). East Asia has abounded in such developmental leaders and technocrats, and other regions also have seen them occasionally. But the capacity of most countries falls in between; they are capable enough to draft five-year plans and industrial master plans but without sufficient expertise to effectively fine-tune and implement them.

Although economic development must fundamentally be driven by private producers and investors, just letting markets loose in a country that lacks human capital and is struggling with globalization pressure may not see a spontaneous rise of private dynamism with innovativeness and international competitiveness. In such a case, the first impetus for growth must come from the government which stirs up a sleepy and undeveloped private sector into investment, risk-taking, and learning. In theory, non-government actors such as business associations, chambers of commerce and industry, and individual business leaders could also become catalysts for industrial development. In late-nineteenth-century Japan, these private actors did play key roles in industrialization in close cooperation with government policies. However, in today's remaining latecomer countries such private initiatives may not automatically arise or make strong impact on national development. Asking a lethargic private sector to discipline itself does not seem a valid answer.

Policy capability can be strengthened if there is a strong political will and a systematic cataloguing and learning of relevant facts and policy measures. This book argues that such policy learning is possible, and illustrates how it can be done—by comparing historical and contemporary best practices and extracting common patterns from them, then building capability to create from these best practices a policy package most stable for each country. Well-instructed policy learning should be the entry point for overcoming a middle-income trap or any other developmental trap that may occur, rather than an ideological debate over the relative size of market failure versus government failure. Through such policy learning, a nationwide mechanism should be established to encourage constant human capital accumulation. This will be the main topic of Chapters 2 to 4. Subsequent Chapters 5 to 10 will give concrete and remarkable examples in this effort.

1.6 Summary

Globalization has a natural tendency to polarize income among countries. It helps rich countries to solidify their lead and maximize the benefit of their industrial strength through free but lopsided trade and investment. Meanwhile, knowledge does not flow freely from high-level to low-level countries, and latecomers are not given a chance or sufficient time to catch up in skills and technology. It is foolish to deny the polarizing tendency of globalization in our age. But it is also not advisable to attack globalization as the principal enemy of development.

The proposition advanced in this book is as follows. Countries that earn a high income are those that have succeeded in installing a national mechanism that encourages constant upgrading of human capital. While production, investment, and trade should in principle be carried out by the private sector, private agents in latecomer countries cannot build such a system without the leadership and guidance of the government. Thus, the role of policy in assisting

private dynamism becomes crucial. Since most governments in latecomer countries do not initially have knowledge or capability to do this, policy must be learned systematically from concrete international experiences with appropriate selectivity and adjustment for each country and sector. This is a two-step approach to national capacity building; improve the government's capability to guide the private sector first, then improve the capability of private agents.

Even in our world of the early twenty-first century where globalization has greatly deepened in comparison with the recent past, policy measures that can resist or even reverse the tendency of income polarization are available. They mainly focus on developing industrial human resources in a way that does not violate any international rules or regional agreements. Such policy measures, which I shall collectively call *proactive industrial policy* in the following chapters, are different from past industrial policies including infant industry promotion which featured import protection and export subsidies. Proactive industrial policy is already practiced widely in East Asia and elsewhere and producing results. This should be learned and implemented by countries in all developing regions.

The development model that deserves serious attention and research is not growth based on natural resource abundance or geopolitical advantage but an internal mechanism that continuously generates new sources of growth within a country. While natural resources may be depleted or become obsolete over time, human capital never wears out by use. In fact, the more intensively it is used, the greater capability it will acquire. The construction of a national mindset and institutions that strengthen human capital is the most important task of the government in a developing country. It should also be the main objective of international development cooperation.

2 Industrial policy in the age of globalization

Any policy, be it industrial or otherwise, must be crafted and executed in the context of a particular age, society, and international relations. The world of the early twenty-first century in which we live is different from past ones. In order to achieve industrialization, some policies frequently employed in the nineteenth century or even a few decades ago are no longer permitted or effective today. Conversely, public intervention that was unknown previously may have to be invented and fortified to take advantage of new situations. Industrial policy formulation consistent with the needs and constraints of a particular place and time must start with the understanding of the shifting political, social, and global environment in which such policy must operate.

2.1 Eager to learn

When I attended an international conference in a low-income African country, an economic advisor to the prime minister of that country, whom I happened to meet in a lunch buffet queue, said to me: "We need action-oriented policy advice, not purely academic research. Do you have any concrete studies from East Asia that are useful for us?" This country already had an industrial development strategy for several years, and partially implemented it through self-study, dispatch of young researchers to South Korea, and donor support. The country has embraced benchmarking and business process engineering as key productivity tools, and drafted a few sectoral industrial master plans with technical assistance from foreign experts. Following the Korean model, a monthly export steering committee presided over by the prime minister was set up to monitor progress and solve problems. But industrial performance, while visible in a few small sub-sectors, was not satisfactory to its leaders.

On another occasion I was in a conference co-hosted by the World Bank and the government of an industrializing country in East Asia with the attendance of the prime minister. The topic was how this country should revise its growth model to generate internal value and secure a strategic position in the regional production network. Renowned economists from

Washington, DC explained the general features of a middle-income trap with ample data and proposed a six-step approach to prevent it. Reaction from the policymakers and economists of this country was not very enthusiastic. They felt that the presentations by the prominent guests were too general and the proposed steps were too crude and mechanical. The country had already attained the lower-middle-income status and the government had begun to study the future risk of growth slowdown. The country was desperately looking for concrete industrial measures for the next ten years to avoid this fate. At this late stage in policy formulation a general illustration of what middle-income traps were was no longer very informative.

Nowadays developing countries seriously considering or actively implementing industrial policies are many. Not only the two countries mentioned above but also a large number of countries and regional organizations in Asia, Africa, Latin America, and elsewhere have already graduated from an ideological debate over state versus market and are struggling to draft and execute policies to level up industrial capabilities and strengthen targeted sectors. Industrial master plans and numerical targets have multiplied on paper. However, the quality of industrial policy is often low and effective implementation remains elusive.

In East Asia where industrial policy has long been accepted and practiced, the question is not whether industrial policy is valid but how to continuously improve its design and implementation in order to cope with new global trends and compete effectively with China, India, and other rival economies. More surprising is the fact that industrial policy is no longer taboo even in other developing regions which experienced a forced introduction of economic liberalization, privatization, and international integration in previous decades. In Africa, Botswana, Egypt, Ethiopia, Namibia, Rwanda, Tanzania, Tunisia, and Zambia are some of the countries that are keenly interested in learning and adopting industrial policy. In Latin America, Brazil has led the industrial policy drive while other countries, such as El Salvador, are showing willingness to follow. Global re-focusing on industrial policy and issues is evident.

The situation is similar with regional development organizations. The African Union proclaims that “No country or region in the world has achieved prosperity and a decent socio-industrial life for its citizens without the development of a robust industrial sector” (African Union, 2008, p. 1). Its Strategy for the Implementation of the Plan of Action for the Accelerated Industrial Development of Africa (AIDA) contains seven program clusters, 16 programs, and 49 projects to bolster industry in the member countries (African Union, 2007). This strategy is comprehensive and covers seven areas including policy and institutional frameworks, productivity and trade, infrastructure and energy, technical skills, innovation and R&D, financing, and environment. This policy menu, at least on paper, overlaps significantly with what East Asian governments do (Chapter 3). The general policy direction is already agreed. The challenge, of course, is how to carry out these ambitious programs and projects effectively and who will finance them. The

question of what role a regional organization such as the African Union should play when most industrial policies are conducted at the national level also remains.

We can safely declare that the days of ideological debate over the two naïve extremes—free markets versus state-led growth—which marked much of the 1980s and 1990s are over. While emotional rejection of the term “industrial policy” still remains in some parts of the world,¹ the global development community seems to have regained balance. A new consensus has emerged that the government in a latecomer country has an important role to play in supporting private-sector-led development and that the quality of public policy matters greatly. Acceptance of the market principle and globalization should go hand-in-hand with the capacity building of policymakers who must handle these trends and retain sufficient policy tools for latecomer industrialization. The World Bank seems to be split between entrenched neoclassical believers who loathe the very idea of industrial policy and those who embrace it under certain conditions. A continued debate with the remaining soldiers of the Washington Consensus may be academically interesting but it is no longer indispensable for taking the next pragmatic step forward in global development strategy.

The argument for industrial policy cannot be settled through theoretical debate alone as its validity depends critically on the accumulation of successes on the ground. Theory must be supported by practice, and practice must inform theory. The two are interrelated and inseparable. The fact is that many developing countries have already accepted the idea of industrial policy and are eager to learn its practical essentials. For such “converts,” what is needed is not a theoretical justification for government intervention, which most of us already know (externalities, coordination failures, information failures, and other various market failures), but concrete and systematic instructions as to how policy should be constructed and executed and how common pitfalls could be avoided. This must be done with a deep understanding of local circumstances to prevent imposition of one-size-fits-all solutions. Unfortunately, development economics does not teach such operational details. There is a serious discrepancy between policy recommendations provided by development economists, which are often too naïve, general, and mechanical, and what policymakers of latecomer countries really need in terms of intellectual input.

In the past, countries that have succeeded in industrial catch-up did so through self-study, improvisation, and trial-and-error. With no systematic instruction from outside, only those countries that happened to possess the right policy mindset and a dynamic private sector could launch themselves onto a path to high income. The fact that only a small number of countries achieved this feat proves the inherent difficulty of this self-improvement approach. By now, all latecomer countries that had these propitious properties—the United States, France, Germany, Japan, Singapore, Hong Kong, Taiwan, South Korea, and the like—have already moved up to join the rich club. Meanwhile, countries that are still “developing” today lacked

necessary properties at the starting point. Their catching-up is doubly difficult because globalization has deepened significantly today and because their domestic capabilities in the private and public sectors fall short of those of the countries that have already graduated from the poor club.

Collecting micro-level data and running regressions, development economics may be able to prove the importance of, say, educational achievements of company owners or technical training of workers for economic growth. But this “discovery” is hardly enough to guide policymakers who need to calibrate teaching curriculums, design incentives for parents, students, and teachers, and establish links between training institutions and hiring firms. Developing countries eager to introduce effective industrial policy usually face ad hoc and fragmented advice from experts and academics. Nowadays the number of economists who support industrial policy is increasing, but few teach pragmatic details on how key policy components should be designed and implemented and in what sequencing. But this is precisely where a developing country stumbles. What is missing is systemic learning on industrial policy formulation backed by international experiences and at the same time tailored to each country’s policy capability and socio-economic situation. Early industrializers did not have to go to school, but today’s latecomers may benefit greatly from such formal instructions.

When an industrial master plan is drafted for, say, the agro-processing or garment industry, formulation of its contents and structure are often left to a small group of people who happened to be assigned to the task, which may be officials of the ministry in charge, local academics or foreign consultants (there is a large supply of domestic researchers and foreign-consultant companies in this particular branch of the aid industry). Oftentimes the government of a developing country is not actively involved in setting visions, roadmaps or action plans but only makes cosmetic comments on the policy draft prepared by a few. In this process, expertise in policy design and implementation is not internalized and public–private partnership is not activated. Such superficial and passive policymaking cannot ensure implementability. It must be replaced by an approach based on strong country ownership, systematic research, and active stakeholder participation.

Moreover, political leaders and policymakers sometimes jump at policy advice which happens to be presented to them without serious consideration of compatibility with the domestic and external conditions of the country or a review of alternative possibilities in solving a particular problem. Partial knowledge of what Japan or South Korea did in the past, be it postal saving, export drive or heavy industrialization by huge conglomerates, is insufficient as an intellectual input to policy formulation. A more comprehensive study of various international best practices is needed because all countries are different and one country’s success at a certain point in time cannot be directly copied and pasted to another context.

Such casual attempts at industrial policy, which seem to be proliferating in recent years, often fail not because fundamental direction is wrong but

because details—policy content, procedures, and organizations—are not set up properly. Without swimming lessons or a piano tutor, it may be difficult for a child to acquire sufficient skills to become a good swimmer or a professional musician. But this fact should not lead us to the conclusion that the child has no talent in these subjects. In the initial stage, well-structured lessons by an experienced instructor are useful until the child masters basics and reaches an intermediate level, at which it can begin to establish its own style.

Additionally, it should be recognized that mimicking the stylized facts of already highly industrialized countries does not lead to the optimal development path for latecomer countries. Studying how Mozart composed piano concertos does not help ordinary people to improve their musical skills very much. For the uninitiated, what early comers did spontaneously and what was obvious to them need to be learned more explicitly and systematically.

2.2 Changing the world or living in it

There are basically two approaches to an evil world. The one is fighting for correction and the other is discovering a way to live in it. According to many authors, globalization erects barriers to catch-up industrialization by latecomers and tends to perpetuate income polarization between the rich and poor countries (Chapter 1). Should all developing countries of the world unite for justice and equal treatment, or should they resign and despair? My suggestion for the twenty-first century latecomer countries is to adopt a two-part strategy: collectively fight for a fundamental change in global development architecture but simultaneously adopt policy measures for industrialization that do not violate existing international rules (this includes taking full advantages of loopholes and waivers in the World Trade Organization (WTO), regional integration, and bilateral agreements). Changing the world usually takes time. Meanwhile, there are many policy options that latecomers can learn and adopt individually and immediately.

In his book *Kicking Away the Ladder* (Chang, 2002), Ha-Joon Chang cites a large number of historical cases to prove, quite convincingly, that the policies and institutions currently recommended to developing countries—deregulation, privatization, transparent and efficient bureaucracy, protection of private property rights, and the like—were actually not adopted by the developed countries when they themselves were developing. In the past, early comers actively availed themselves of the so-called *infant industry promotion policy* featuring temporary tariff protection which was supplemented by other public interventions such as export subsidies, tariff rebates, conferring of monopoly rights, cartel arrangements, directed credits, investment planning, manpower planning, and R&D supports. According to Chang, current prohibition of (some of) these measures, and the call for small government and full acceptance of market forces in an early stage of development, effectively removes the means by which latecomers climb up the ladder of industrialization. He wants a radical change in the International Monetary Fund (IMF) and

World Bank loan conditionalities to recognize that “many of the policies that are considered ‘bad’ are in fact not so, and that there can be no ‘best practice’ policy to which everyone should adhere.” He also demands the re-writing of the WTO and other trade rules “in such a way that a more active use of infant industry promotion tools (e.g., tariffs and subsidies) is allowed” (Chang, 2002, p. 141).

Dani Rodrik agrees with Chang, saying that “countries dismantle trade restrictions as they get richer . . . today’s rich countries, with few exceptions, embarked on modern economic growth behind protective barriers, but now have low trade barriers” (Rodrik, 2007, p. 217). He criticizes the WTO as well as avid integration crusaders for confounding the means (trade liberalization) with the goal (development). He contrasts Vietnam, which grew rapidly under restrictive trade in the 1990s, with Haiti, whose economy stagnated after undertaking comprehensive trade liberalization in 1994–95. With a proper choice of time period for each country, similar contrasting examples can be presented between China, India, South Korea, Malaysia, etc., which recorded high growth under gradualism of one sort or another, and Kyrgyzstan, Mongolia, El Salvador, Bolivia, etc., which suffered from lack-luster growth under free trade. Rodrik says that “the benefits of trade openness are now greatly oversold. Deep trade liberalization cannot be relied on to deliver high rates of economic growth and therefore does not deserve the high priority it typically receives in the development strategies pushed by leading multinational organizations.” He concludes that the world should move away from viewing free trade as an end itself, and allow for diversity in institutions and standards that support development of each country (Rodrik, 2007, pp. 225–228). But, according to him, this privilege should be available to “democratic” countries only.

Similarly, Cimoli et al. (2009c) find faults with the current WTO regime and the TRIPS agreement that benefit a subset of industrial interests in the developed world at the cost of latecomer countries and global consumers. They also criticize bilateral trade agreements, especially ones concluded with the United States, as a device to fill remaining loopholes and exceptions in the WTO and TRIPS rules that give welcoming breathing space for developing countries. The authors propose a reform of global economic governance consisting of: (i) greater provision of “managed trade” not for protecting vested interests of first-world lame ducks but for nurturing infants in the developing world; (ii) removal of anti-developmental bias of agricultural trade policies in developing countries; (iii) a reduced use of intellectual property rights protection; and (iv) a new global labor standards concerning child labor, work conditions, the right to unionize, and environmental respect.

The general direction in which these authors want to go is clear. I also happily endorse global effort to regain more policy space for latecomer countries. Without negating the value of collective bargaining for global justice, however, this book emphasizes another area of action available to latecomer countries. That is the introduction of a large number of policy

measures which are permitted under the current global rules of trade and investment but remain largely unexploited due to the lack of knowledge and experience. For developing countries with a strong will to learn, there are many policy measures that can be implemented selectively and quickly without waiting for the success of a collective action on global development architecture. Many East Asian governments already practice them with good results, and governments in other developing regions should also study and introduce them.

2.3 Re-visiting industrial policy debates

In attending policy dialogues and conferences featuring industrial policy all over the world, one cannot but notice that the same questions are raised all the time. Four of such frequently-asked questions, which are interrelated, are listed below together with rejoinders from the East Asian perspective.

FAQ1: Are past experiences of East Asian countries really useful for us? Is it not better to create our own policy package than copying the policies of other countries?

The cliché has it that each country is different and times have also changed. To my knowledge, there is no government that does not declare that “our country is unique” and policies of other countries cannot therefore be copied directly. We also hear that infant industry promotion (temporary tariff protection of domestic industries while they grow) widely practiced by early industrializing countries is no longer available to developing countries under the globalization pressure of the twenty-first century.

As a general description of the contemporary world, I have no disagreement with any of these statements. No reasonable person would advise that what South Korea did in the 1960s be repeated in Tanzania today. Our age is unlike the past, and Tanzania is not South Korea. However, there is a risk in stressing this obvious fact because insistence on the uniqueness of each country may become an excuse to turn a blind eye to the rich policy experiences of other latecomer countries without which good policy is difficult to construct. The very purpose of an in-depth study of international experiences is to craft a realistic and workable industrial policy package appropriate for the country in question from a broad and practical menu. A policy document drafted without such a study is likely to be crude, unimplementable, and ineffective.

International experiences from other countries and different times are useful building blocks for industrial policy for two reasons. First, the general contents of good policy are not radically different from one case to another. For example, the key ingredients of successful industrial estates, small and medium enterprises (SME) consultation systems, or science and engineering universities, are basically the same across time and countries although

modifications must be made in details and at the margin to reflect the reality of the host country. Second, a comparative analysis of international experiences will illuminate factors that contribute to successful policymaking as well as warn policymakers of pitfalls and mistakes that must be avoided. Concrete experiences of other countries in any policy area should thus be regarded as raw materials which policymakers can select, modify, combine, or improve to create their own policy package.

FAQ2: *Is industrial policy possible at all in our age of globalization? Can governments do anything when cross-border private flows of goods, services, and capital are so huge?*

People who are not trained to face the world with its perpetual diversity and conflicts tend to jump from one extreme to the other without staying in the middle. The general director of a previously state-owned steel company in an emerging economy with previously socialist tradition stated, with a sigh of grief, that all policies were now futile because global market forces determined everything and the government nothing. In his opinion, policy was impotent in dealing with foreign dumping, bottlenecks in port capacity, or mutual destruction of steel mills through over-investment and price wars. His pessimism cannot be justified because the end of planning is not the same thing as the beginning of unrestrained markets. While the state should get out of production and investment in the steel sector, it has an important role to play in market management—for example, in projecting demand, setting quality, safety, and environmental standards, encouraging skill formation and technology transfer, and avoidance of excess entry, over-investment, and illegal sales.

The world today is certainly more integrated than the world of the 1950s or 1960s, but to argue that industrial policy is no longer possible is a gross overstatement. On the contrary, “more interdependent economies are likely to require *more and more sophisticated* measures of policy intervention by the weaker economies” (Cimoli et al., 2009c, p. 542) if they are to catch up in income and technological capabilities. Raising tariffs, subsidizing exports, imposing local content requirements, and free copying of foreign technology are no longer permitted officially, so policy space did shrink in comparison with yesteryear. But the rest of industrial policy remains intact. Global and regional integration does not penalize or prohibit a vast majority of policy tools related to, for example, visions and roadmaps, education and training, enterprise consultation, logistics and transportation, power supply and energy efficiency, banking and securities markets, product standards and tests, industrial cluster formation, business associations, and numerous others (Chapter 3).

As proposed earlier, twenty-first century latecomers should adopt the two-part strategy in which they collectively lobby international organizations for the expansion of policy space and at the same time individually implement policy measures consistent with the current global rules. As a matter of fact,

none of the policy measures proposed and explained in this book violates any of the global, regional, or bilateral economic rules in principle—that is to say, unless they are imposed in such a distorted way that intentionally discriminates against foreign firms or otherwise damages foreign interests. To put it differently, what developing countries should aim at is infant industry promotion without violating any of the international rules of the early twenty-first century.

FAQ3: *Shouldn't industrial promotion be general rather than sector-specific? Governments should not pick winners because they cannot distinguish infants from zombies and because policies are easily captured by interest groups.*

Anne Krueger, the former World Bank chief economist and champion of trade liberalization, once remarked that official promotion of a specific industrial sector, be it garment, automotive, or electronics, would most likely fail due to *policy mistake* and *political capture*, which are two perennial problems associated with state intervention. In her own words:

The problem with the [infant industry] argument, as a basis for policy, is that it fails to provide any guidance as to how to distinguish between an infant that will grow up and a would-be producer seeking protection because it is privately profitable . . . The infant industry argument also is an excellent example of a theory that is nonoperational because criteria for bureaucrats to identify cases have not been put forward.

(Krueger, 1997, p. 12)

No matter how careful economists are, special interests always will seize their research results in supporting their own objectives. And, no matter how sophisticated and careful research findings are, there always will be politicians formulating, and non-economists administering, policies.

(Ibid., p. 19)

Today, neoclassical ideology no longer holds sway and few would support Krueger's extreme pessimism over the capacity and intention of the government. Furthermore, as mentioned above, industrial promotion in our age is—and should be—conducted with an array of WTO-consistent policy instruments rather than high tariffs and non-tariff barriers. Even so, the risks highlighted by Krueger are real and should not be dismissed lightly. Where I differ from Krueger is policy conclusion. The fact that bureaucrats may not know the selection criteria and policy may be hijacked by rent seekers should not lead us to abandon sector-specific industrial support. Policy capability is not given but can be improved over time. With proper instruction, governments can learn to avoid these obvious risks of selective industrial policy. East Asia abounds in such “wise” governments, but their policy capabilities were acquired through learning and not by inheritance.

The risks associated with selective industrial policies are real when the government's policy capability is low. When officials do not understand what private firms want or where the industry is headed, they invariably impose policies in a top-down manner which are detested or rejected by investors. However, this problem melts away as policy learning advances. If effective channels of public-private partnership are established, government and private firms come to trust each other and can constantly share information on global and domestic situations as well as strengths and weaknesses of local industries. The ministry of industry comes to know the business strategy of each company and even conflict of interest among them. Meanwhile, government-business relationship is kept at arm's length by proper institutional mechanisms. As government and private firms jointly draft sectoral master plans, public will and private intention are no longer separable. Policymakers can sometimes propose visions and strategies which overcome shortsightedness or coordinate different interests that prevail among producers. Such intervention is readily accepted and even highly welcomed by the private sector. In political science, such strong, well-informed, and interest-neutral government is said to possess *embedded autonomy* (Evans, 1995). That this is not a scientific fiction but normal practice in a number of countries is demonstrated by studying the policymaking processes of Singapore, South Korea, and Malaysia (Chapters 6–8), among others.

Official guidance is not necessarily at odds with private-sector development. In fact, they complement each other in advanced policy formulation. Dispute over “picking winners” becomes irrelevant for proud, impartial, and competent policymakers striving to become one with the private sector for national development. If the business community still rejects official policy, that simply means that government has not perfected its policymaking skill.

At the practical level, industrial policy instruments overlap greatly with instruments to promote the policy purposes supported by all donors and researchers—such as private sector development (PSD), technical and vocational education and training (TVET), human resource development (HRD), investment climate improvement, capacity development, marketing, integration into global value chains, and building industrial clusters (see Chapter 3 for concrete industrial policy instruments). This means that many industrial policy measures are already accepted and practiced under different labels, and the gap between government-led industrialization and private sector-led growth is more apparent than real. All are talking about the same policies.

Moreover, the line between general and selective promotion becomes fuzzy in actual implementation. Thailand focuses on skill formation in the automotive sector as a result of private-sector demand backed by a long history of development of this sector in the country. The Singaporean government assisted Binh Duong Province of Vietnam to train electronics workers because the training center was adjacent to an industrial estate hosting a large number of foreign electronics manufacturers. Should these actions be condemned as sectorally biased, and should Thailand and Vietnam conduct training in all

sectors, not just automotive or electronics? Hardly. Under resource constraints that developing countries inevitably face, prioritization and targeting are common practice recommended by all development partners.

FAQ4: *Should industrial policy in developing countries conform to comparative advantage or defy it?*

This question, closely related to the previous one, was debated between Justin Lin and Ha-Joon Chang, two leading development economists from Asia (Lin and Chang, 2009). Both agree that technology upgrading and structural change are key to the catching-up of latecomer countries. They also recognize the important role of government as a facilitator of private investment because hands-off policies are not likely to attain this goal. The concept of “comparative advantage” in this debate must be interpreted as a dynamic one in which new industries and products are expected to emerge in a way consistent with the historical path and existing factor endowments of the country in question, not a static one in which technology and endowments of each country are given.

The two differ in the type of industries that should be supported by the government. Lin asserts that policy support—removal of market failures and provision of basic growth functions such as education and training, infrastructure, and incentives for pioneer firms—should be given to “encourage the emergence of firms, industries, and sectors that, once launched, will make effective use of the country's *current* comparative advantage” (p. 486, italics in original) based on existing skills, technology, capital stock, natural resources, and so on. By contrast, Chang contends that industrial capabilities are acquired through concrete production processes unique to each industry which can be started without past heritage. According to him, confining the policy scope to extrapolation of past trends is too narrow and cannot accelerate technological upgrading or structural transformation. In order to catch up in income and technology, a latecomer country must create new comparative advantages, not just follow obvious ones. In this way, Lin cautions against careless choice of industries while Chang stresses creativity and risk-taking in policymaking.

Although the two positions seem far apart, actual differences may not be so large and the debate may be more rhetorical than substantial. In reality, except for white-elephant projects that “deviate too much from one's comparative advantages” (p. 491), it is difficult to tell whether an industry is conforming to a country's (dynamic) comparative advantage or defying it. This is particularly true with manufacturing industries which rely heavily on management, skills, technology, large-scale investment, finance, and other non-natural factors. In fact, looking at the same global firms such as South Korea's Pohang Steel and Finland's Nokia, Lin assures that their emergence is a natural evolution from existing capabilities in each country while Chang sees a clear break from past trends (pp. 493–494 and pp. 497–498).

Future industrializing possibilities of a developing country are broad. For example, Vietnam has attained initial agglomeration in food processing, garment, footwear, electronics, and motorcycles. For this country, possible next steps include upgrading and branding of coffee and shrimp exports, a fashion-apparel industry with new Asian design, production of consumer electronics or eco-car components, a regional center for high-quality die and mold, and many others. All require a big jump in management and technology from their existing industrial base. *Ex ante*, none of them seems impossible if concentrated policy effort and private-sector effort are combined for a number of years. But all may not be pursued simultaneously due to limited resources and policy capability. It is not meaningful to ask which one of these possibilities conforms to Vietnam's dynamic comparative advantage and which one does not. The important question is whether policymakers can summon sufficient will, knowledge and resources to change any of these possibilities into reality.

Even in industries for which natural conditions dominate, such as Chilean salmon or Brazilian Cerrado agriculture, official support is instrumental (Chapter 3). Spectacular success in each case was achieved only after technology, training, marketing, and production scale necessary for commercialization were introduced by the hands of government, development partners, and private enterprises. Although Chile had labor and natural conditions suitable for salmon farming, this potential remained unexploited and no salmon was raised until the semi-official Chile Foundation and Japanese private and public cooperation and investment provided missing ingredients. "The miraculous development [of the Chilean salmon industry] was not realized through autonomous private investment alone" (Hosono, 2010, p. 154). Similarly, vast tropical savanna in central Brazil remained barren until the Brazilian government and the Cerrado Institute, also backed by Japanese technical and financial assistance, turned this land into a new bread basket of the world.

In sum, industrial potentials of any country, which are many, can become reality only when they are accompanied by proper policy actions to eliminate technical, financial, or institutional bottlenecks. Whether or not the targeted industry is in conformity with dynamic comparative advantage is a theoretical question that has little policy relevance to a country that has already made up a short list of candidate sectors through careful study and private-sector consultation. Political will and vision, appropriate policy procedure and organization, and prioritization and sequencing under resource constraints are what are required for turning potentials into reality. It would even be better to avoid the term "comparative advantage" entirely in industrial policy debate as it only adds to confusion and solves no substantive problems.²

2.4 Proactive industrial policy

Catch-up industrialization requires a solid combination of *private dynamism* and *good policy*. For any country, the amount of private dynamism is more

or less given at any moment (the problem of a lethargic private sector is discussed in the following section) but policy can be improved more quickly if a government guided by a visionary and well-informed leader and staffed by reasonably competent officials is in place. Required industrial actions are more aggressive than past policy recommendations of the IMF and the World Bank featuring deregulation, privatization, integration, good governance, and good business environment. More aggressive actions are both necessary and possible even in the twenty-first century when globalization has deepened and WTO rules and proliferation of regional and bilateral trade arrangements have narrowed the policy space of latecomer countries.

I propose to use the term *proactive industrial policy* to denote a collection of such policy actions. Proactive industrial policy is different from any of the past development strategies including socialist planning, state-led heavy industrialization, market-friendly selective intervention, or big-bang liberalization under minimalist government. It is also different from infant industry promotion practiced by virtually all industrializing countries in the past centuries or even FDI-led industrialization of Southeast Asian countries such as Malaysia and Thailand in the 1980s and 1990s. In the last two strategies, tariff barriers and investment restrictions were lifted gradually as domestic industrial capabilities were built up. But today's developing countries are asked to do away with them from the beginning.

Proactive industrial policy must continuously balance state and market and reconcile globalization pressure with the need to retain sufficient policy tools. It obliges government to learn policy in order to help and prod the private sector to upgrade technology and management. It calls for establishment of close and productive relationship between government and businesses. More precisely, proactive industry policy must satisfy all of the seven conditions below:

- (i) *Market-driven development under globalization*—production, investment, and trade must be carried out primarily by the private sector under an open competitive environment generated by the market mechanism and the globalization process. Privatization, WTO rules, and regional integration are to be embraced. State-owned production is not adopted except in cases where no private agents have yet emerged to take over the state's role and only temporarily.
- (ii) *A strong state*—the state assumes a strong and active role in guiding and supporting development despite the fact that all productive activities are in principle to be conducted by the private sector. The state will mobilize necessary policies to reward value creation and innovation, punish unproductive rent seeking and corruption, and lead the private sector toward a consistent national vision. A great economic transformation must be orchestrated by the state because market participants cannot design or initiate such a transformation.

- (iii) *Retaining sufficient policy instruments for latecomer industrialization*—although globalization is willingly accepted, this does not mean that all industrial policy instruments must be given up and replaced by market forces. This simply means that the policy toolbox for the twenty-first century is different from those of Japan, South Korea, or Singapore in the past. It also implies that enlargement of the market sphere must be in proper steps to ensure the availability of necessary policy capability and instruments, and that international pressure to open up must be consistent in scope and speed with the development strategy of the latecomer country.
- (iv) *Dynamic capacity development*—improving policy capability and private dynamism, both of which are often weak in early stages of development, must be the central focus. Policy must set concrete goals and aim at enhancing potential strengths of the country rather than improving governance or capacity in general without specific goals. The policy scope and measures should be gradually expanded in accordance with the enhancement of policy capability and private dynamism (Ohno and Ohno, 2012). The country must eventually graduate from aid.
- (v) *Internalizing knowledge, skills, and technology*—the principal method of attaining industrialization must be internalization of knowledge, skills, and technology embodied in the human capital of citizens. This must be by far the most important objective of industrial policy. Resource extraction, FDI, official development assistance (ODA), big projects, and geographic advantages are also important, but they must be given secondary positions in support of human capital development (Chapter 1).
- (vi) *Effective public-private partnership (PPP)*—when a strong state guides the private sector, there is a risk of market distortion and suppressed entrepreneurship which leads to economic stagnation. To avoid this risk, effective cooperation between government and businesses *in substance* based on mutual trust and close engagement must be built. Holding symposiums and receiving comments on policy drafts are not enough. Through effective contacts, state policy and private intention merge and strategies initiated by the state should be willingly supported and implemented by the private sector.
- (vii) *Sharing deep knowledge of the industry*—to avoid policy mistakes and political capture, government must accumulate sufficient knowledge of the industries in which it intends to intervene. Leaders and policy practitioners of the government must go extra miles to acquire latest practical knowledge and desires of the business community to make intelligent and well-informed decisions. Knowledge can initially be outsourced from consultants, academicians, or foreign experts, but unless it is digested by policymakers themselves the quality of industrial policy cannot improve.

These conditions are consistent with and overlap largely with the current global development thinking which replaced the Washington Consensus in

recent years. For example, the Growth Report by the Commission on Growth and Development (2008, pp. 2–7) states that sustained economic growth must be supported by: (i) country-specific and dynamically evolving strategies; (ii) an increasingly capable, credible and committed government staffed with sufficiently competent public servants; (iii) setting priorities for effective implementation under resource constraints; (iv) market-based resource allocation; (v) full exploitation of the world economy in knowledge and trade opportunity; and (vi) inclusiveness and coping with inequality, among other things. Proactive industrial policy can be regarded as a pragmatic attempt to operationalize these widely agreed principles in the area of industrialization. It studies concrete policy ingredients and suggests a way to select and combine them in order to create an industrial policy package most suitable for the country in question.

Proactive industry policy is far more complex than simply unleashing market forces or planning everything by the state machinery. It aims to strike a delicate and ever-changing balance between state guidance and market orientation, between globalization commitments and policy capability, and between strong state leadership and the need to listen to private voices. Some may consider this to be contradictory, but one needs complex policy formulation to deal with complex reality. Furthermore, proactive industrial policy is not a theoretical imagination. East Asia abounds in various cases of proactive industrial policy—in Singapore, Taiwan, South Korea, Malaysia, and Thailand as well as in the long-established industrial support menu of Japanese ODA (selective and concrete components of proactive industrial policy are explained in Chapter 3). It should also be emphasized again that none of the measures proposed by proactive industry policy violates WTO rules or regional or bilateral integration commitments.

Proactive industrial policy requires simultaneous learning by the government and the private sector. The logic of such double learning is as follows. In countries caught in a developmental trap, technology will not be upgraded and industrial structure will not be transformed by spontaneous activities of free markets alone. The government must assist as a guide and facilitator. However, both the government and the private sector are underdeveloped in such countries. Under these circumstances, the chicken-and-egg problem must be solved by the initiative of the government. Political leaders and policy practitioners must first learn how to conduct industrial policy effectively in order to better lead and serve the private sector. This is a two-step approach in which capacity building of the private sector is the end and capacity building of the government is the means. This general formula should be applicable to any latecomer country whether it is Singapore, Kazakhstan, or Zambia.

Proactive industrial policy must be based on the strong policy ownership of the national government, which is often missing in countries heavily dependent on natural resources, FDI, or foreign aid. Every donor, whether bilateral or multilateral, stresses the importance of education and training,

SME promotion, agriculture and rural development, and so on, but no policy capability is acquired unless these universal measures are envisioned, designed, and executed at the hands of a developing country and properly integrated into the national development strategy. Passive acceptance of foreign aid and investment does not lead to the breakthrough of a developmental trap. For any developing country, installation of proactive industrial policy itself should be the first step toward building strong policy ownership.

Proactive industrial policy is dynamic for it does not allow a country to stand still. Policy measures it recommends are comprehensive (Chapter 3) and policy procedure and organization it requires is complex (Chapter 4). A latecomer country with primitive policy capability should start with a few basics instead of trying to master all items at once. As policy learning progresses, policy scope and instruments should be expanded accordingly as Ethiopia is trying to do (Chapter 10). In building skills and technology, low-income countries should mainly focus on emulation of existing general knowledge—including such management and factory operation techniques as 5S, kaizen, logistics, strategic marketing, etc.—rather than competing directly in frontline technology. Innovation, in its narrow sense of bringing something entirely new to the world, will become a core issue as income rises to an upper-middle level and beyond. A country may even graduate from proactive industrial policy as high income is attained and the private sector matures. Then strong state guidance is no longer needed. Taiwan and South Korea have already gone through such a process.

2.5 Coping with a weak private sector

The prime minister of a Sub-Saharan African country posed a question to a policy delegation from Japan: “I have studied East Asian policies and implemented some of them. Our industrial policy has improved in the last several years, rewarding value creation and penalizing rent seeking. Why do my people continue to pour money into property speculation and not manufacturing? Why do they not build more factories?” He wanted to know how East Asian governments turned shortsighted private agents into long-term producers and investors with technological learning.

Difference in national character is a sensitive matter that should be treated carefully. According to the hypothesis of homo economics, all humans behave rationally regardless of race or nationality. Some assume that all farmers and workers respond equally to economic incentives. This leads to the conviction that any failure of development relative to initial conditions should be blamed on the government and its policies, not people. While this view may be politically correct, it is not borne out by facts.³ In reality, all nations are not equal in the vitality and nimbleness with which they pursue economic goals. Some people are good at playing football and others excel in philosophy. It is also not surprising to see some people better at producing cars and consumer electronics than others. We must start with the premise that different

people are good at different things. Without reference to differences in private-sector capability, it is difficult to fully explain why some countries attain high income quickly while others are stuck at a certain income level.

Malaysia has come a long way in improving economic administration and delivering good policies to their citizens (Chapter 8). In many aspects, including morale, professionalism, reform mindset, academic achievements, and presentation skills, Malaysian officials are superior to their Japanese counterparts. Despite this, Malaysia has reached only (upper) middle income after half a century of industrializing effort unlike South Korea and Taiwan which are already in the rich country club. This is not because of a late start but because of slow ascent (Chapter 1). Malaysia's industrial output and export continue to rely heavily on Japanese, Korean, and Western brands and multinational companies mainly because Malay businesses lack dynamism. At the risk of oversimplification, it may be said that Malaysia has been a country of high-quality policy combined with a weak private sector.

In his controversial 1970 book *The Malay Dilemma*, Mahathir bin Mohamad, who later became prime minister in 1981–2003, argued that the value system of the indigenous Malays—fatalism, respect for formality and ritual, and abhorrence of hedonism—formed through history and engraved in genes put them in a disadvantageous position vis-à-vis commercially more active Chinese residents, so much so that they feel dispossessed in their own land.

The people who left the shores of China to seek their fortune abroad were hardened and resourceful . . . The Malays whose own hereditary and environmental influence had been so debilitating, could do nothing but retreat before the onslaught of the Chinese immigrants. Whatever the Malays could do, the Chinese could do better and more cheaply. Before long the industrious and determined immigrants had displaced the Malays in petty trading and all branches of skilled work. Calling on their previous experience with officialdom in their own homeland, the Chinese immigrants were soon establishing the type of relationship between officials and traders which existed in China.

(Mahathir, 1970, pp. 24–25)

Mahathir's proposal was that policy preferences should be given to the Malays to effectively compete with the Chinese immigrants because legal equality alone was not sufficient to reverse the situation.

In fact, following the 1969 racial riot, Malaysia introduced ethnicity-based affirmative action in favor of *Bumiputra* (indigenous Malays) against other ethnic groups, especially the urban rich Chinese. The New Economic Policy of 1970 imposed comprehensive rules in allocating public positions, business ownership and management, workforce, and other privileges to Bumiputra. When Mahathir became the prime minister in 1981, he introduced a series of industrial drives. The *Look East* policy (learning from Japan and South Korea), heavy industrialization, and a large inflow of manufacturing FDI

turned Malaysia into a major electronics exporter by the early 1990s. All this happened under the Bumiputra policy still in place (ethnic privileges were moderated, but only slightly, in 1986).

Measures favoring ethnic Malays may have maintained social harmony but they did not send Malay firms out invading the global market. Proton, Malaysia's heavily supported national car company established in 1983, did produce popular vehicles for the protected domestic market, but it did not become competitive enough for export. Malaysia continues to receive foreign technical assistance to level up its local component industries. The contrast with South Korea's Hyundai is striking. The South Korean car company also received strong policy support and foreign technical assistance initially, but it was soon able to send Japanese engineers home. In 1975, Hyundai Pony, the first South Korean-developed car, was produced. In 1986, Hyundai entered the US market with Excel and set the record of selling the largest number of cars (126,000) in the first year of business in the US. South Koreans are now one of the few independent automobile producers in the world and the most formidable rival for Japanese auto makers. Mahathir's lament on the lackluster performance of Malay businesses after receiving generous support for over three decades is understandable (Mahathir, 2001).

Only countries that can combine proactive industrial policy with private dynamism can soar quickly and break the middle-income trap. Japan, South Korea, and Singapore were such cases. Meanwhile, there are active people without support from home governments who often go abroad to conduct dynamic businesses. Traditionally, Chinese and Indians were such people. Although their governments have replaced planning with liberalization in recent decades, they have a long way to go before their policies can be called proactive. What about a country whose people are not as dynamic or innovative as these Asians? Good policy helps, but it may not be able to cover fully for the lack of energy in its citizens.

National characters formed through history are slow to change, but they are not immutable. The only thing that can be said generally is that both genes and effort matter, a maxim that is equally applicable to art, sports, or manufacturing. More than a century ago, an official survey of factory workers in Japan found that Japanese workers were lazy, unskillful, and unspecialized with a low propensity to save and high inclination to job hopping (Ministry of Agriculture and Commerce, 1903). Their labor productivity was only half that of American workers. To accumulate skills and retain workers, Japanese large manufacturing firms began to introduce internal incentive and promotion mechanisms in the 1910s. Transformation of footloose workers into loyal employees was further carried out by government orders during the war years (1937–45). After World War II, the Japanese had turned into hard workers with a high saving propensity and a lifetime dedication to their companies.

More recently, Singapore succeeded in inculcating the spirit of productivity into its residents (Chapter 6). From the beginning, productivity was high on

the agenda of the Singaporean government. The Productivity Unit was created in 1964, which was upgraded to the National Productivity Center in 1967 and to the National Productivity Board in 1972. In 1979, Prime Minister Lee Kuan Yew remarked that "Workers here are not as proud of or as skilled in their jobs compared to the Japanese or the Germans." In 1981, the Productivity Movement was launched and multitudes of programs were introduced until even taxi drivers talked about productivity. The slogan "Together We Work Better" and the mascot character of Teamy Bees were adopted, November was designated as the Productivity Month, and the prime minister delivered his productivity speech for seven consecutive years. Model companies were scaled up, firm consultancy schemes were established and training of workforce was provided. Japan assisted this effort with its first large-scale cooperation in productivity enhancement from 1983 to 1990. Strong political will and policy persistence transformed Singapore into a very competitive nation with high productivity. By the early 1990s, Singapore began to teach productivity skills to developing countries in East Asia, Africa, and Eastern Europe.

If stalled industrialization is due to the weakness of private-sector response, policy must go much deeper than just providing infrastructure or unleashing the power of markets. The country must engage in a national campaign to transform people's value, mindset, and aspiration as Japan and Singapore did with their workers (see Chapter 3 for more discussion). What is required is a spiritual revolution in a country where relaxed attitude toward production and services rules. There is no need to succumb to economic determinism, but resolve and patience are required to alter national characters.

2.6 Coping with high growth

Proactive industrial policy that cultivates internal sources of value and growth is only one component of a broader policy system essential for sustainable growth. The other two components are coping with growth-generated problems and enhancing macroeconomic management under integration. These policies, though as important as proactive industrial policy, lie beyond the scope of this book. However, a passing remark on growth-generated problems may be made.

In East Asia, the dominant view is that growth policy and the policy to cope with growth-generated problems are in principle separable. The latter includes measures to manage income and wealth gaps, internal migration, urban and traffic planning, environment, cultural shifts, and corruption. While both are necessary, growth acceleration and solving growth-spawned problems can—and should—be designed and administered separately. While environmental and other social checks must be in place for every industrial project, justification of industrial projects must be based on industrial objectives. In the West, on the other hand, the currently popular view is that these two goals must be integrated so that all growth strategies must be inclusive, and

gender and environmental concern must be embedded in every industrial policy. According to this view, equality and grassroot participation are indispensable ingredients of industrial policy formulation instead of waiting for the fruits of industrialization to bring these desirable changes in the future.

In East Asia, there are two groups of high-growth economies. The first group includes Japan (in the 1960s and 1970s), South Korea, and Taiwan. In these countries, income and wealth gaps narrowed as the economy grew rapidly, making every farmer and worker happy and look to the bright future because their real income, although still low, continued to rise every year. Japan had business cycles and land bubbles, but income convergence continued despite these macroeconomic instabilities. During South Korea's high growth, the ratio of per capita incomes between the richest urban area and the poorest province remained virtually unchanged at 2.0 from 1971 to 1981 and subsequently declined to 1.75 by 1991 (Chapter 3). Farmers were not left behind in South Korea's economic miracle. In Taiwan, strong performance of SMEs created the social condition in which everyone could rise together and share the fruits of growth.

The second group of countries includes China, Thailand, and the Philippines. These countries also grew relatively fast, and sometimes very fast, but their income remains polarized across regions, occupations, and individuals. High-growth benefits a small segment of population while the majority of farmers and workers feel left behind and frustrated. As long as average growth is high, dissatisfaction may not surface immediately. But if polarization continues for a long time, there is a risk of social schism and explosion. Yasusuke Murakami, a Japanese political economist, once wrote that industrialization policy would surely fail if the deprivation of people left behind and their emotional discontent were not properly dealt with

if urban [migrant] workers feel aggrieved that the emotional strain of their detachment from home is not adequately rewarded by being able to take part in the fruits of industrialization, tension will develop into social discontent . . . Similarly, in rural areas, if villagers think that industrialization only brings poverty and devastated landscapes, support for industrialization will be lost and protest is likely to erupt. Enraged people will become more receptive to calls for social reform through violent means . . . If such disturbances gather momentum and develop into a powerful political force, the road to industrialization will be effectively closed.

(Murakami, 1994, ch.6, English translation p. 194)

Therefore, growth policy and social policy must be promoted in tandem although they do not have to be an integrated policy package designed by a "democratic" government. Murakami suggests that this perhaps explains why communist guerrillas attracted a certain amount of popular support

in the Philippines and Latin America. In his view, the February 26 Incident of 1936, a failed coup attempt in pre-World War II Japan, to replace a "corrupt" government that benefited only fat capitalists with a military rule for the sake of poor farmers and workers, was also incited by military officers from farming villages who were upset by the deteriorating rural life. More recently, popular outrage and the toppling of a few entrenched dictators in Middle East in 2011 also arose from similar causes.

2.7 The making of a developmental state

For a poor developing country, progress toward high income must begin with a transformation of politics because developmental failures occur not only from mistaken policies but also, more fundamentally, from political shortcomings such as the lack of political will, national unity, and effective leaders and coalitions that can promote growth. A predatory, neo-patrimonial state which regards a nation's resources as private wealth to be distributed among rulers and their friends must be replaced by a developmental state that encourages value creation and suppresses unproductive rent seeking. Political transition is not easy because the old regime has taken deep root through institutional complementarity (mutual dependence of institutions in which removal of only one institution hardly changes the system), strategic complementarity (strong incentive for individuals to adhere to existing rules and play the existing game), and path dependency (difficulty of deviating from the system which was chosen and subsequently solidified). It is the government that must initiate systemic national transformation because free markets alone are unable to overcome formidable structural inertia.⁴

To succeed, the state must be not only developmental but also action-oriented, being able to mobilize resources to targeted sectors decisively and respond quickly to changing circumstances. In the early stages of development, human and financial resources are limited. They must be mobilized effectively to a small number of key projects and programs for visible results instead of spreading over too many goals. Moreover, a late starter country must guard itself from fragile social and ethnic balance and external shocks arising from globalization. When these shocks occur, remedial action must be taken quickly and flexibly in order for the government, and the country, to survive.

Development is not just an economic process but a highly political one (Leftwich, 2000, 2009). It succeeds only when both aspects are fully integrated in complex interaction. Here, the politics of development refers to *what can be done* under the political landscape and constraints as well as the administrative capacity of the country, whereas the economics of development refers to *what should be done* in terms of policy content to move the economy forward given its initial conditions. Simply put, the former is about the feasibility of development policy and the latter is about its desirability. Not all feasible policies are desirable and not all desirable policies are feasible.

To be relevant and realistic, a policymaker at any level or in any organization must rack his or her brains for a narrow and delicate path that satisfy both feasibility and desirability.

The development strategy for any nation must include not only technicalities of policy measures (Chapter 3) and policymaking procedure and organization (Chapter 4) but also the way non-economic factors such as passion, nationalism, and the sense of pride and humiliation are strategically mobilized under strong leadership to form a driving force of catch-up industrialization. Because all countries are different, no one-size-fits-all solution can apply. Since the first best solution from the viewpoint of economics is often impossible from the viewpoint of politics, compromise must be made and a detour may have to be taken. Policymaking is a complex game, and any plan that looks only at one aspect is certain to fail. While this general point may seem obvious, it must be stressed because the lack of awareness of this obvious fact constitutes a major cause of failure in development policy advice.

Some foreign advisors seem to believe that their job is to find an economically sound solution while implementation is the problem of the host government. The fact is that most policymakers already know the pressing economic problems of their countries and even their solutions. Re-discovery by foreign experts may accentuate their importance but gives little clue as to how these solutions should be initiated and carried out. If policy advice is meant to be practical rather than academic, counsel not based on (implicit) feasibility analysis can hardly be useful regardless of whether proposed actions are a few or many, or whether they are globally common or tailor-made to a particular country. From this perspective, the shortcomings of the IMF's macroeconomic conditionalities and the World Bank's good governance crusade, in which each country is rated by six growth-friendly criteria, are clear enough and need no further elaboration. By now, few economists defend an international organization that imposes a long list of globally common policies on countries struggling with macroeconomic crisis or popular discontent. By the same token, growth diagnostics advanced by a few Harvard economists (Hausmann et al., 2005, 2006) with a mechanical procedure to discover a small number of most binding economic constraints, can also be faulted for the lack of consideration of political feasibility.

Rodrik (2006, 2007) asserts that policies and institutions for igniting and sustaining economic growth should be diverse across countries but democracy as a political institution must be embraced universally by all countries regardless of income or development stage. In his words, "I do not subscribe to the idea that you need to delay democratization just so that you can actually have growth or that you can have democracy only when you can afford it" (Rodrik, 2006). However, it is difficult to justify such a dichotomy between economics and politics. Markets and democracy are similar in the sense that they need enabling mindsets, rules and institutions to take root and grow. These enabling elements must be created consciously

and cumulatively in the social context of each country and cannot be imposed suddenly from outside.

Historical experiences of successful latecomers, whether Germany and Japan in the late nineteenth century or East Asian tigers in the post-World War II era, indicate that economic growth based on technology and finance is "easier" to realize than political and social reforms which must be supported by changes in values, attitudes, and social structure at a deeper level (Tominaga, 1990). Invariably, industrialization in these countries was initiated under "outdated" political and social systems.

In her study of South Korean democratization, N.T.T. Huyen (2004: 74) defines the *developmental threshold for democracy* as "a point in the development process when conditions are right for democracy to be installed and sustained." This also implies that democracy introduced before this point would be superficial. According to Huyen, economic growth accompanied by urbanization, industrialization and modernization generates a new *political culture* and a new *social structure*. The former means emergence in people's minds of a desire for political participation and acceptance of equality, moderation, and compromise in political processes in place of terror and violence. The latter refers to the rise of social strata such as urban workers, students, and professionals who support democratization and the shrinkage of classes such as military, capitalists, and landlords who favor the old regime. These changes in popular attitude and population structure increases pressure for political reform until the government succumbs and begins to introduce democracy. Watanabe (1995) calls this a "successful dissolution" of the authoritarian regime as a result of economic development. In South Korea, this happened in 1987 when Chun Doo Hwan, the last military dictator, accepted a presidential election to take place for choosing his successor. By that time South Korea's real income had risen from US\$1,105 in 1960 to US\$5,670 (measured in the 1990 international Geary-Khamis dollars). Transition to democracy was impossible in 1960 when 80 percent of South Koreans were poor farmers, but became possible and even imperative by 1987 when the urban middle class and workers in support of democratization formed over 90 percent of the population.

Besides South Korea, a number of East Asian countries—Taiwan, Singapore, Malaysia, Thailand, Indonesia, China, and so on—adopted authoritarian developmentalism of various sorts as a temporary regime for accelerating development in the second half of the twentieth century. A charismatic leader rose to assume power, sometimes legally but often by force, to establish a new regime with the purpose of achieving rapid economic growth to maintain national unity and defend the nation from external threat. Such a leader himself became the most powerful driving force of development (it was always *he*, not *she*, who ruled this way in East Asia). He was backed by: (i) a competent technocrat team to faithfully concretize his vision; (ii) national ideology that glorified material advancement; (iii) unwavering belief in upgrading technology and industrial competitiveness; and (iv) political legitimacy and popular

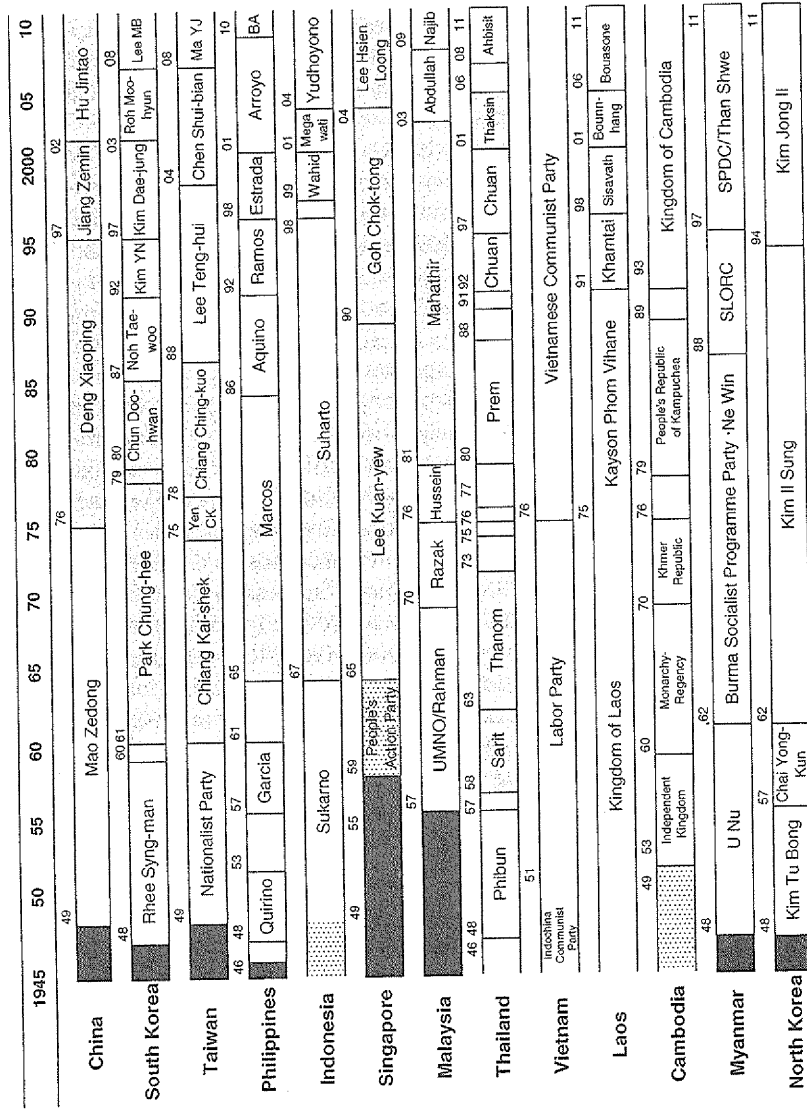


Figure 2.1 Authoritarian developmentalism in East Asia

Source: Information in Suehiro (2000), p.115 was revised, updated, and expanded by the author.

Note: The grey area shows authoritarian developmental leaders and the dark area indicates pre-independence periods. For China, the most influential leader among those holding highest positions is indicated.

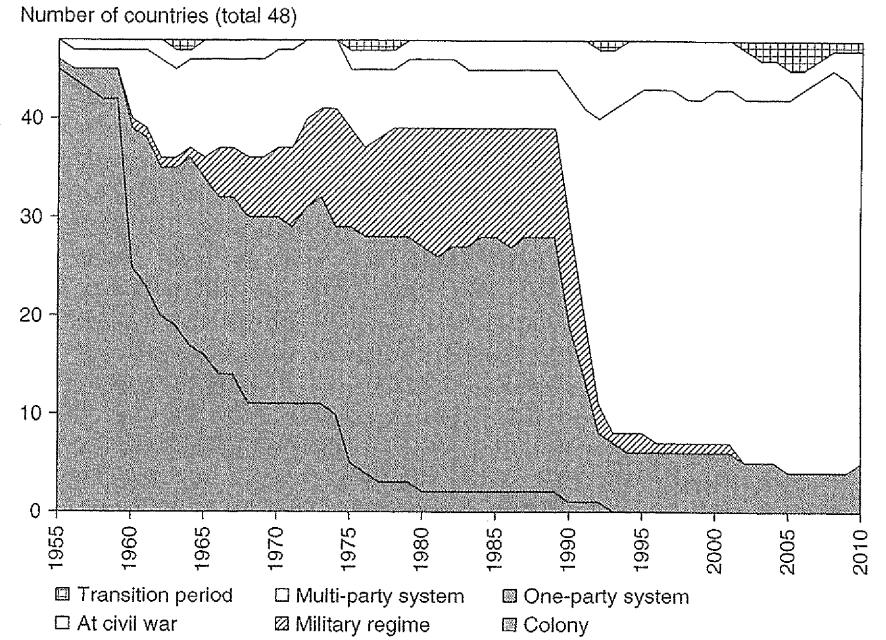


Figure 2.2 Political regimes in Africa

Sources: Created by the author using the following materials: Miyamoto and Matsuda (1997); Ndulu et al. (2008); CIA, *World Fact Book* (various issues); and Japanese Ministry of Finance, *Basic Data of Countries* (various issues).

evolution of political regimes on the African continent from the colonial years to present. Military regimes and one-party rule proliferated in the Cold War era when siding with one ideological camp or another was the name of the game. Developing countries could receive military and economic aid and other strategic benefits from the chosen patron without any conditionalities imposed on domestic political reform. However, the collapse of the USSR in 2001 completely changed the nature of global development politics. Convergence to “international best practices” (Western-style market and democracy) became compulsory. As a result, developing countries in Africa and elsewhere adopted multi-party democracy in droves. This may be regarded as a great achievement from the viewpoint of human rights and political modernization. However, viewed from other angles, all is not well. There are at least three issues to be considered here.

First, democracy which values procedure and participation tends to slow down policymaking and restrain government’s hands. Whatever the inherent merits of democracy may be, which are many, speed and agility are not among them. Consensus building takes time, and compromise and unpredictability are inevitable under a democratic rule. This must be weighed against the need for a poor developing country to mobilize limited resources effectively and respond to shocks quickly.

The problem is hardly new. The government of Meiji Japan (1868–1912) was split between factions preferring a strong executive branch shielded from popular pressure to push industrial and military agenda and factions wishing to strengthen parliament and political parties (Banno and Ohno, 2010). In 1882, German Emperor Wilhelm I (1797–1888) counseled Hirobumi Ito (1841–1909), who was visiting Europe to prepare Japan’s first constitution and who later became the first prime minister of Japan, to adopt autocracy rather than democracy and never to give parliament the authority to approve budgets. German legal scholars hired by the Meiji government, such as Rudolf von Gneist (1816–1895) and Karl Friedrich Hermann Roesler (1832–1894), were of the same opinion. British sociologist Herbert Spencer (1820–1903) also advised the Japanese delegation for conservative gradualism and against “too large an installment of freedom.” These counsels may no longer be acceptable in the twenty-first century, but the dilemma between promoting democracy at high speed and retaining sufficient room for policy maneuver for the government is still with us.

Second, the substance of politics is slow to change even though its form is renewed. This is not surprising because political development is a long evolutionary process realized thorough policy effort and transformation of mindset and structure of the voting public. In many cases, leaders and bureaucrats managing the new democracy are the same folks as before and popular sentiments toward politics also have changed little. The global stampede toward democracy in the early 1990s was externally driven. It was a strategic response by developing country governments to the shifting global rules and constraints for the purpose of continuing to secure political and

economic assistance. While a change in form of politics may become a good first step toward a change in substance, we should not expect an instant improvement.

In many developing countries, politics continues to be characterized by radicalism and instability even if democracy is formally in place. Based on extensive qualitative research, Paul Collier reports that democracy has not yet produced accountable and legitimate governments and has rather increased political violence in many developing countries, especially in the societies of the “Bottom Billion” (Collier, 2009). This is because governing rules are yet to be institutionalized and authority has not been firmly established and accepted in such societies. In countries where there is no consensus on how democratic principles should be applied in reality, the incumbent government can exercise much discretion in managing human rights, budgetary allocation, and relationship with parliament. Equally, opposition groups can challenge any action by the government. Under such circumstances, even election becomes a political game of confrontation rather than a device to legitimize the government through popular opinion.

Third, democracy has no automatic tendency to enhance the capability of government to promote development. In this sense, democracy and development are separable. Policy capability for economic development must be strengthened additionally and separately—hence the importance of conscious policy learning. The previous choice between a good dictator who accelerated development and a bad one who did not has been replaced by the problem of how to inspire a slow and mediocre government into developmental action. Latecomer countries must now solve the same fundamental problems in economic development—leadership, elite coalitions, alliance with the private sector, skills and technology, finance, infrastructure, integration, social protection, and the like—under new rules and constraints. Can a democratic state be developmental at the same time? Can it be decisive, quick, and flexible in policymaking? We do not have the final answer.

Both democracy and development are worthy goals, and one should not be sacrificed for the sake of the other. However, interaction between the two is a complex, and sometimes conflicting, process. Promoting one goal may accelerate or deter the other, depending on the country’s social fabric and stage of development. External environment also matters, and democratic developmentalism of our time is no more independent from the prevailing world system than authoritarian developmentalism of the 1970s. The only thing we can say with confidence is that an installation of either Western-style democracy or traditional dictatorship, detached from each country’s social and historical context, will not work. Harder thinking is required for a complex problem such as this. A continuous balancing act based on realism and relativism, rather than sticking to an extreme position with ideological conviction, should lead to the discovery of a reasonable path.