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Lessons from the Korean Development Experience

Presenter: Wonhyuk Lim

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Joint Discovery and Upgrading of Comparative Advantage:

Lessons from Korea's Development Experience

Wonhyuk Lim

Director of Policy Research
Center for International Development
Korea Development Institute (KDI)

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Korea's development experience over the past half-century has been a source of inspiration for other developing countries. Indeed, Korea may be *the face of hope* "for all those countries who want to radically transform the social and economic conditions of their people in the course of a single generation."[1] Even among successful countries characterized by sustained high growth,[2] Korea stands out with its impressive industrial upgrading and ability to recover quickly from shocks.

Korea's development experience also has been a source of fascination and contention for economists. Both the neoclassical school and the statist school have cited Korea in support of their theories. Neoclassical perspectives typically trace Korea's economic success to a set of market-oriented macroeconomic reforms in 1964 and 1965[3]; whereas, statist perspectives point to the pervasive distortion of microeconomic incentives ("getting the prices wrong") by the Korean government, and argue that such government intervention promoted rapid economic growth.[4] As these competing explanations indicate, Korea's case has been a rather important single data point in development debates. While discussing the evolution of "big ideas" in development economics, David Lindauer and Lant Pritchett (2002: 15) note that "because Korea grew so rapidly for so long, any big idea had to encompass Korea before it could become conventional wisdom."[5] Extracting "correct" lessons from Korea's development experience is not only a formidable intellectual challenge but also a high-stakes game.

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[1] Cited from the Preface by Juan Temistocles Montas, Minister of Economy, Planning, and Development of the Dominican Republic, in Hector Galvan, 2008, *El Rostro de la Esperanza: El milagro de Corea del Sur visto por un diplomatico dominicano* (The Face of Hope: The Miracle of South Korea Seen by a Dominican Diplomat).

[2] The Commission on Growth and Development has identified 13 success cases of sustained high growth, ranging from Botswana to Thailand, and noted "five striking points of resemblance": 1) openness: import knowledge and exploit global demand; 2) macroeconomic stability: modest inflation and sustainable public finances; 3) future orientation: high investment and saving; 4) market allocation: prices guide resources and resources follow prices; and 5) leadership and governance: credible commitment to growth and inclusion and capable administration. For more detailed information, see The Commission on Growth and Development, 2008, *The Growth Report: Strategies for Sustained Growth and Inclusive Development* (Washington, DC: The World Bank), especially, pp.20-22. Conspicuously missing from the list is the use of non-market measures to coordinate productive activities, facilitate industrial upgrading and innovation, and cope with external shocks.

[3] See, for instance, Anne O. Kruger, 1979, *The Development of the Foreign Sector and Aid* (Cambridge, Mass.: Harvard University Press).

[4] The best-known example of this perspective may be Alice H. Amsden, 1989, *Asia's Next Giant: South Korea and Late Industrialization* (New York: Oxford University Press).

[5] Lindauer and Pritchett summarize "long and perhaps not entirely fruitful debates" about Korea as follows: "Was Korea outward oriented or protectionist? Export promotion policy suggested outward oriented, while import protection suggested protectionist. Was Korea government led or market friendly? Examination of the mechanics of government direction of the economy, government allocation of credit, and promotion of specific industries suggested government led; the use of the private sector (versus parastatal firms or government agencies) as the instrument of investment and the role of business councils suggested market friendly. Was Korea's growth Big Push or private sector and productivity led? This issue sparked generations of debate about Korea's total factor productivity (TFP)—whether it was low, about that of the OECD countries, or

This paper conceptualizes development as the result of synergies between enhanced human capital and new knowledge,[6] involving complementary investments in physical and social capital. The critical importance of knowledge for development begs the question of how it should be produced, disseminated, and utilized. Not only is knowledge a public good characterized by non-excludability and non-rivalry,[7] but it is something like an evolving organism that grows through accumulation, synthesis, and innovation. Institutions that encourage autonomy, diversity, and experiment are critical to sustained knowledge production and economic growth.[8] This poses a policy challenge: Unless supported by the public sector, the private sector is likely to under-invest in the provision of knowledge, but excessive state intervention is likely to stifle innovation which is essential to the growth of knowledge. How can the public sector work with the private sector to overcome this dual problem? How can the state set up an effective division of labor with the private sector and provide a reward based on performance in a competitive setting? Moreover, the importance of complementary investments suggests that coordination problems may be formidable, especially when markets are underdeveloped. To promote development, investing in people is not enough. It has to be a part of a comprehensive and integrated program to facilitate economic transformation. Constrained by underdeveloped markets in the early stages of development, a country as well as a firm may have to rely heavily on non-market measures to reduce transaction costs and coordinate productive activities.[9]

Placed in this context, which emphasizes the role of innovation and coordination for development, the long-running "state-versus-market" debate in economics had better be restructured in a more pragmatic and

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fast by cross-country standards…. *These debates were often less about what Korea actually did than about what label to apply to Korea and then sell to other nations eager to emulate Korea's success*." *(emphasis added)* See David L. Lindauer and Lant Pritchett, "What's the Big Idea? The Third Generation of Policies for Economic Growth," *Economia*, Fall 2002, pp.1-28. The quoted passage is from pp.15-16.

[6] Robert Lucas(2009: 1) has characterized the relationship between economic growth and knowledge as follows: "What is it about modern capitalist economies that allows them, in contrast to all earlier societies, to generate sustained growth in productivity and living standards?.... What is central, I believe, is the fact that the industrial revolution involved the emergence (or rapid expansion) of a *class* of educated people, thousands—now many millions—of people who spend entire careers exchanging ideas, solving work-related problems, generating new knowledge." See Robert E. Lucas, Jr., 2009, "Ideas and Growth," *Economica* 76: 1-19.

[7] In a letter to Isaac McPherson, a Baltimore inventor, on August 13, 1813, Thomas Jefferson wrote: "If nature has made any one thing less susceptible than all others of exclusive property, it is the action of the thinking power called an idea, which an individual may exclusively possess as long as he keeps it to himself; but the moment it is divulged, it forces itself into the possession of every one, and the receiver cannot dispossess himself of it. Its peculiar character, too, is that no one possesses the less, because every other possesses the whole of it. He who receives an idea from me, receives instruction himself without lessening mine; as he who lights his taper at mine, receives light without darkening me."

[8] For a comprehensive account of the role of knowledge-promoting institutions in the development of the West, see Nathan Rosenberg and L. E. Birdzell, Jr., 1986, *How the West Grew Rich: The Economic Transformation of the Industrial World* (New York: Basic Books).

[9] See, for instance, Ronald H. Coase, 1937, "The Nature of the Firm," *Economica* 4(16): 386-405 and Oliver Williamson, 1975, *Markets and Hierarchies* (New York: Free Press).

less ideological direction.[10] Externalities in the provision of knowledge and coordination of productive activities *can* justify state intervention. The challenge is to craft an institutional framework that provides rewards based on individuals' contributions to society in a competitive setting, so as to address information and incentive problems and achieve social cohesion. A performance-based reward system, under the principles of the protection of property rights and the equality of opportunity, has to be an integral part of this institutional framework.

Dynamically, the development of markets (and their supporting institutions) reduces at least some of innovation and coordination externalities over time, and the importance of autonomy, diversity, and experiment in sustaining growth also places restrictions on the extent and mode of state intervention. These restrictions should be shaped by three factors: the development of markets to coordinate productive activities, the level of state capacity (i.e., competence and integrity) to address externalities, and the availability of non-state actors (e.g., business groups) to internalize externalities. Clearly, as the capacity of markets, the state, and non-state actors changes over time, the implied normative restrictions on the extent and mode of state intervention should also change; however, path dependence may affect this dynamics and create a problem of transition.[11]

In sum, in this paper, development is conceptualized as the result of synergies between enhanced human capital and new knowledge, involving complementary investments in physical and social capital. Three major challenges for development are innovation, coordination, and institution of performance-based reward system. There may be multiple paths to development,[12] depending on how markets, the state, and non-state actors interact with each other to address innovation and coordination externalities. The respective roles of markets, the state, and non-state actors in meeting these challenges may shift over time, reflecting changes in their capacity as well as historical and political economy factors.

In Korea's case, development took place through joint discovery and upgrading of comparative advantage. The memoirs from the architects of Korea's development, in fact, emphasize the role of performance-oriented leadership and business-government consultations, and suggest that export-oriented industrialization (EOI) and human resource development (HRD), as encapsulated in the slogans

[10] The contrast between Friedrich von Hayek and Ronald Coase is telling in this regard. Criticizing John Maynard Keynes as well as Karl Marx, Hayek asserted that state intervention would threaten human liberty and place society on "the road to serfdom"—even if this state intervention was supported and demanded by a free democratic political process. Hayek also argued that due to information and incentive problems, planning would prove inferior to market mechanisms in coordinating economic production. By contrast, Coase took a much more balanced view on the merits and demerits of markets versus hierarchies based on the concept of transaction costs. See Wonhyuk Lim, 2009, "Demise of Anglo-American Model of Capitalism," *Global Asia* 3(4): 58-60.

[11] On path dependence, see Paul A. David, 1985, "Clio and the Economics of QWERTY," *American Economic Review* 75(2): 332-337 and W. Brian Arthur, 1994, *Increasing Returns and Path Dependence in the Economy* (Ann Arbor: The University of Michigan Press).

[12] On this point, see Dani Rodrik, 2007, *One Economics Many Recipes: Globalization, Institutions, and Economic Growth* (Princeton and Oxford: Princeton University Press).

"exportization of all industries" and "scientification of all people," capture the essence of Korea's approach.[13] To promote development, the government and the private sector made joint efforts to address innovation and coordination externalities. They developed "a big-push partnership" in which the government shared the investment risks of the private sector and provided support largely based on performance in competitive global markets while maintaining control over financial institutions. The government provided implicit guarantees against large-scale bankruptcies and maintained various entry restrictions and investment controls to contain moral hazard, to a large extent.

The government formulated multi-year development plans but delegated much of their implementation to business groups, who in turn tried to coordinate productive activities at the group level in addition to engaging in market transactions. To monitor progress, identify emerging problems, and devise solutions to these problems, the government held regular consultations with the private sector such as monthly export promotion meetings.

Korea also used international trade as an essential component of its development policy. Trade helped Korea to discover its comparative advantage and alleviate coordination failures; overcome the limits of its small domestic market and exploit scale economies; learn from good practices around the world and upgrade its economy; and run a market test for its government policies as well as corporate strategies and devise performance-based reward schemes. In fact, for Korea, export promotion—for which the nation had to change its mindset and measure itself against global benchmarks—served as the engine of growth and the organizing principle under which industrial upgrading, infrastructure development, and human resource development could be pursued.

While relying on global markets, Korea made conscious and concerted efforts to move into higher value-added areas along the value chain by making complementary investments in human capital and infrastructure. A dichotomous characterization of industrial policy as being either comparative advantage-defying or comparative advantage-conforming[14] does not do full justice to Korea's comparative advantage-upgrading efforts. For instance, the promotion of heavy and chemical industries in the early 1970s was not

[13] Entrepreneurs and workers played an important role in Korea's development, but as far as designing the Korean model of development is concerned, three policymakers stand out: Park Chung Hee, who served as President from 1961 to 1979; Kim Chung-yum, who served as Minister of Commerce and Industry and Chief of Staff to President Park; and O Won-chul, who served as Senior Economic Secretary to President Park for the promotion of heavy and chemical industries in the 1970s. Each of them has a memoir available in English: Park Chung Hee, 1963, *The Country, the Revolution and I* (Seoul: Hollym Corporation), based on his book of the same title published in Korean in 1961; Kim Chung-yum, 1994, *Policymaking on the Front Lines: Memoirs of a Korean Practitioner, 1945-79*, an abridged version of his memoir published in Korean in 1990, which was subsequently revised in 2006; and O Won-chul, 2009, *The Korea Story: President Park Jung-hee's Leadership and the Korean Industrial Revolution* (Seoul: Wisdom Tree), based on his 7-volume memoir in Korean.

[14] For a more detailed discussion on the relationship between comparative advantage and industrial policy, see Justin Yifu Lin, 2010, "New Structural Economics: A Framework for Rethinking Development," Policy Research Working Paper 5197 (Washington, DC: The World Bank).

comparative advantage-conforming, because Korea at the time had a strong *and* increasing comparative advantage in light industries. Nor was it simply comparative advantage-defying, because the architects of the heavy and chemical industry (HCI) drive had benchmarked the structural transformation of advanced industrial nations with similar natural endowments as Korea's (e.g., Japan) and could reasonably imagine what should be done to promote industrial upgrading, infrastructure development, and human resource development in an integrated manner, with a view toward securing international competitiveness (hence, "exportization of all industries" and "scientification of all people"). In short, Korea took premeditated but considerable strategic risks in promoting heavy and chemical industries.

Although state intervention in the economy was extensive in Korea in the 1960s and 1970s, Korea managed to contain corruption and rent-seeking. A student revolution in 1960 that overthrew the previous corrupt government and a military coup in 1961 that placed economic modernization at the top of its agenda had changed Korea's political economy. Meritocratic institution-building and monitoring, as well as improved welfare for government officials, helped to control the negative side effects of state intervention. Most importantly, making government support contingent on performance in competitive global markets helped to reduce the potential for corruption.

Korea's big-push partnership promoted "rapid, shared growth" through export-oriented industrialization and human resource development. As the capacity of markets, the state, and non-state actors to meet innovation and coordination challenges changed, their respective roles began to shift as well. Some of this transition was fairly straightforward. In the 1960s and 1970s, the public sector played a dominant role in research and development (R&D), mainly through newly established government labs. However, as Korean firms came to realize that they should go beyond imitation and assimilation and do their own innovation to succeed in global markets, they dramatically increased their expenditures on R&D, in part encouraged by government support. Private-sector expenditures on R&D surpassed public-sector expenditures on R&D in 1982, and now account for three-quarters of Korea's total R&D expenditures, which increased from approximately 1 percent of GDP to more than 3 percent of GDP over the same period.

Other changes in the respective roles of markets, the state, and non-state actors proved much more problematic. As the power balance in Korea's business-government relations shifted in favor of business groups, for instance, it became increasingly difficult to contain rent-seeking and moral hazard. Starting in the 1980s, liberalization and democratization weakened government control while expectations for government protection against large bankruptcies remained strong. Even as various entry restrictions and investment controls were lifted, institutional reforms and credible market signals (e.g., large-scale corporate failures) designed to replace weakening government control with market-based discipline were not introduced. Korea's family-based business groups known as the chaebol expanded their influence in the non-bank financial sector and took advantage of the government's implicit guarantees to make aggressive investment, systematically discounting downside risks. The liberalization of capital markets in the 1990s exacerbated the problem by making Korea vulnerable to sudden capital flow reversals. Moreover, although Korea's democratization in 1987 had ushered in a new era of free and competitive elections, it took several years before Korea's civil society became strong enough to effect changes in campaign financing rules and introduce other anti-corruption measures designed to enhance transparency and accountability.

Much like business-government relations, labor relations faced a problem of transition as Korea attempted to move from an authoritarian developmental state to a democratic market economy. Strong job security in exchange for weak labor rights had been an integral part of the imposed social bargain under the authoritarian regime in Korea. This arrangement came under attack from both labor and management after Korea was democratized. Workers demanded wage increases as well as full-fledged rights to organize and take collective action. Business executives complained that lifetime employment practices impeded flexible adjustment to changes in the increasingly competitive global market. A grand bargain between labor and management would have involved enhanced labor rights and social security in exchange for labor market flexibility. However, repeated attempts to reach such a bargain resulted in protracted gridlocks.

It took the economic crisis of 1997 for Korea to introduce credible market-based discipline and reach a grand social bargain. In the aftermath of the crisis, Korea cleaned up massive nonperforming loans and adopted institutional reforms to reduce moral hazard, improve corporate governance, promote competition, and strengthen the social safety net. Korea effectively used the crisis as an opportunity to redefine the respective roles of markets, the state, and non-state actors and make the transition to a democratic market economy.

While the division of labor between the government and the private sector has changed, joint discovery and upgrading of comparative advantage has continued to operate as a fundamental development principle for Korea. The development of markets and institution of post-crisis reforms, including the adoption of a more flexible exchange rate policy, has made it easier for Korean firms to rely on the price signal to discover profitable business opportunities, even as they continue to engage in consultations with the government to identify promising technologies and deal with bottlenecks. The government has made massive investment in information technology (IT) infrastructure and provided generous R&D support. Firms, for their part, have changed their investment behavior in the wake of the crisis and focus more closely on building and upgrading their core competence. Democracy now provides the institutional platform for Korea to foster autonomy, diversity, and experiment essential to sustained productivity-led growth.