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From developmental to network state: Government restructuring and ICT-led innovation in Korea

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ABSTRACT

This study examines the government leadership and strategic restructuring that guided The Republic of Korea's remarkable ICT-led development from 1980 to the present. That time span coincided with tumultuous political, social and economic transformation inside Korea including the growth of such powerful *chaebol* industry groups as Samsung, LG and SK. Globally, the period covered by this study featured the growth of new and more powerful digital networks epitomized by the internet. It also marked South Korea's transition from a development to a network state, allowing assessment of what the experience implies for developmental state theory.

This research shows that the most convincing explanation for the decline of the Korean developmental state lies in its transformation into a network state. Nevertheless, it illustrates the continuing explanatory power of key concepts from the developmental state model, including a competent bureaucracy, a political system that allows the bureaucracy sufficient autonomy, market conforming methods for state intervention, and a "control tower," to guide industrial policy in the networked era. Korea's success suggests the value of technically trained leaders in the ICT sector, and in sharp contrast with Japan, the importance of the cross cultural experience and global outlook that many of them gained while studying at top universities in the U.S.

For most of the three-plus decades in this study, the MIC served as Korea's control tower for the ICT sector, guiding policy and technology projects, and culminating in the 2006 U-Korea Master Plan, an ambitious blueprint for becoming the world's first ubiquitously networked nation. However, only two years later the Lee Myung-bak administration dismantled the ICT control tower in favor of a five year experiment with a liberal, market oriented approach to the ICT sector, much like policy in the United States. It was widely considered a failure and in 2013 President Park Geun-hye restored the control tower function within the new "super" Ministry of Science, ICT and Future Planning.

The Korea experience also has more general implications for policymakers in the information age. These include the need for national, long-term policies, the vital role of education, ranging from highly specialized R&D to broadly-based public-private sector efforts to ensure demand for services. While Korea's past success depended heavily on the manufacture and export of hardware and infrastructure, the President Park Geun-hye administration, with its emphasis on building a "creative economy" signaled recognition that software, content and services will be more important than hardware in the future.

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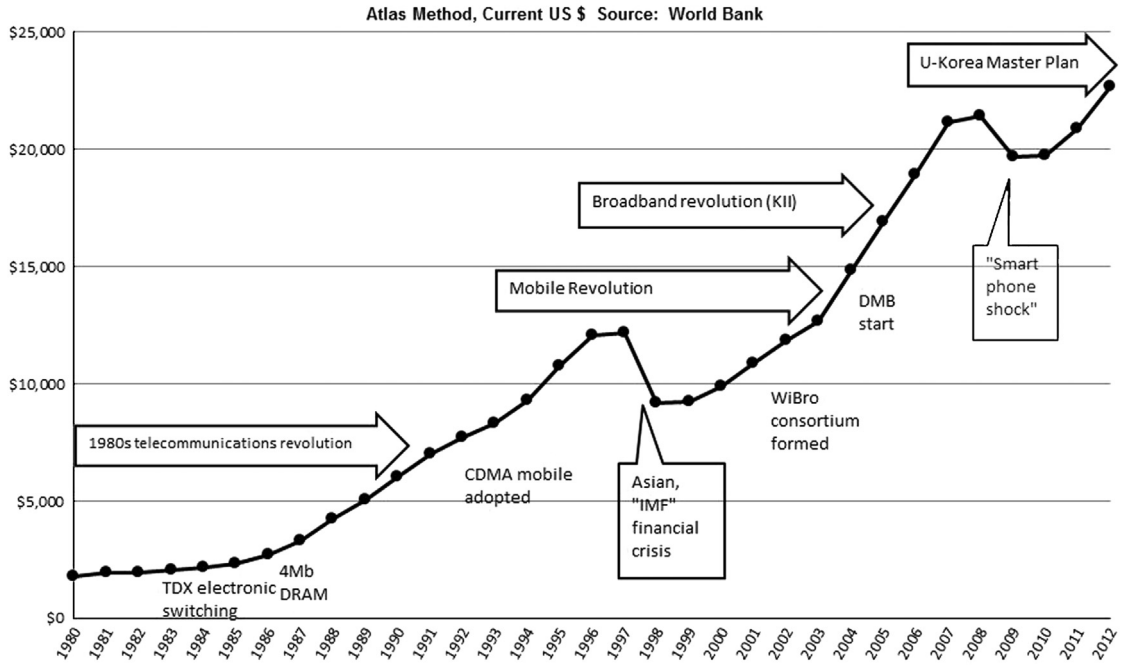

Fig. 1. South Korea GNI per capita, technology development and innovation, 1980–2012.

1. Introduction: Korea's telecommunications revolution in transition

South Korea emerged from the digital information revolution of recent decades as a major, if somewhat surprising success story. That success is depicted by the curve in Fig. 1 which shows the nation's sustained economic growth over more than three decades, following negative economic growth in 1980 and interrupted only by the financial crises of 1997–98 in Asia and the global downturn a decade later. A World Bank study concluded that a major portion of that growth was due to total factor productivity growth, or knowledge accumulation (Suh & Chen, 2007, p. 6). Numerous other studies have documented the role of the ICT sector in South Korea's economic growth and its status as the primary engine of growth after the turn of the millennium. The ICT sector as a percentage of GDP increased from 9.5% in 2000 to 16.9% in 2007 (Onodera & Kim, 2008, p. 10).

The element of surprise at Korea's accomplishments stems partly from the same considerations noted by Chalmers Johnson in his landmark study of Japan's miraculous postwar economic development (Johnson, 1982). Covering five decades, it drew extensively on Japanese language sources, and noted the limitations of Western academic orthodoxy and the projection of Anglo American concepts, problems and norms of economic behavior onto the Japanese case. Korea presents a similar challenge in that a great deal of English language scholarship fails to utilize Korean language sources, or lacks adequate historical scope. Furthermore, western analysts all too frequently conflate characteristics of the larger neighboring countries, China and Japan, with Korea. For example, the ITU's otherwise excellent *Broadband Korea: Internet Case Study* report made the egregious error of suggesting that the Korean alphabet, *Hangul*, weighed against ICT development because it was pictographic and not easily suited to computerization (Kelly, Gray, & Minges, 2003). In fact, the opposite is true as Hangul is nearly perfectly phonetic and an important factor that accelerated computerization in Korea.

Another reason for surprise at South Korea's development is that it grew from the utter destruction of the 1950–1953 Korean War, which followed half a century of colonial occupation by Japan. Consequently, the nation's development under President Park Chung Hee became known as the “Miracle on the Han,” named for the river which today bisects the modern, vibrant and digitally “smart” city of Seoul.

The central research question posed by this study is the role of the state in the creation of Korea's ICT sector as a major driver of national development. The independent variable and primary focus is the evolution of government leadership and policy as expressed through the major restructuring initiatives undertaken since the 1980s. This approach takes into account the changing nature of structures, institutions, politics and government policies, allowing adequate consideration of the policy balance between public and private initiative which featured a growing role for Korea's *chaebol* business conglomerates in its ICT sector (Wilson, 2004, p. 39). The dependent variables of interest are the diffusion of ICT and the emergence of the ICT sector as a major engine for the nation's development. The study is based upon the existing academic literature, interviews with policy and opinion leaders, and analysis of mainstream and more specialized IT media, in both English and Korean.