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THE REAL KOREAN INNOVATION CHALLENGE: SERVICES AND SMALL BUSINESSES

By Robert D. Atkinson

Abstract

After decades of rapid growth led by large, industrialized chaebol firms, Korea has reached the technology frontier in many of its largest industries and run out of room for future robust growth through this model alone. Instead of focusing just on increasing technology development in export sectors, Korea should seek to grow by increasing productivity and innovation across its entire economy. Korea has become a ‘dual economy’ where rapid gains by large, efficient global companies are mirrored by relative stagnation in unproductive small businesses and services. To overcome this dualism, Korea needs to take serious steps to improve productivity in markers dominated by small business and service firms. Overcoming this will require a fundamental shift in Korean economic policy away from subsidizing and protecting SMEs as well toward greater efforts to spur information and communications technology (ICT) adoption by all enterprises. Absent these fundamental reforms, the likelihood that Korean per-capita GDP will continue to rapidly converge with U.S. per-capita GDP is small.
Introduction

The performance of the South Korean economy over the last half-century has been unrivaled, with Korean GDP (in dollars) increasing more than 100 fold from 1970 to 2010. Korea has developed globally competitive and innovative multinationals and excelled in areas like R&D and broadband. But today there is a real question as to whether that growth and the model it was based on – being a fast follower in technology and using that to drive manufacturing exports – can continue. Korea faces intense competition both on the commodity, cost-based side of the equation from nations like China and India and on the cutting-edge, innovation side from nations and regions like Europe, Japan and America.

In response to this new challenge the Korean government has responded with its creative economy proposal to help Korea transition to an advanced, innovation-driven economy. But there are two challenges with this as the nation’s principal economic strategy response. First, going from being a fast follower to a cutting-edge innovation leader is difficult as it requires a fundamental change in corporate strategy, workforce education, and societal culture. Historically, most Korean innovation has been incremental, copying breakthroughs elsewhere and building on them through strong Korean engineering competence. But changing corporate cultures and practices to drive cutting-edge innovation – much of which ends up failing – is not so straightforward. Nor is shifting the educational system from one based on rote learning (albeit producing great global test results) to encouraging “out-of-the box” thinking and acting.

Second, and more importantly, any creative economy effort needs to go beyond just supporting the development of firms in creative sectors, for this would be inadequate to revitalize growth and get Korea on a path to surpass the U.S. in living standards. To be sure, the Creative Economy plan does include the “Vitamin Project” to revitalize existing industries through ICT, but much of the plan’s focus is on growing new, innovation-based export industries. The problem though is that the lion’s share of Korean jobs remains in small, low-productivity firms, many in the services sector. This points to the real challenge and opportunity for Korea: driving growth through transforming its small business and services sector. This will require two key things: dramatically reducing the small business and services sector. This suggests that the most important task for Korean innovation policy is to embrace a broader view of innovation and a growth model based on it. Economies can increase their productivity two ways: either through the “shift effect”—which occurs when low-productivity industries lose share to high-productivity, innovation-based industries (equivalent to the product innovation model)—or the “growth effect” through which all sectors become more productive. Korea has largely adopted the “shift effect” model.

So which is best? It turns out that the lion’s share of productivity growth for almost all nations comes not from changing the sectoral mix to higher-productivity industries, but from all industries and organizations, even low-productivity ones, boosting their productivity. In other words, the productivity and innovation capacity of all of a country’s sectors matters more than whether it has small number of high-tech industries. This is what the McKinsey Global Institute’s 2010 report, How to Compete and Grow: A Sector Guide to Policy, finds. Countries that outperform their peers on productivity do not have a more “favorable” sector mix (e.g., more high-tech industries), but instead have more productive firms overall, regardless of sector.

The Japan Path?

So where is the Korean economy going if Korea sticks with the narrow conception of innovation and the shift model? We
only need to look to Japan to see Korea’s likely future. Japan relied predominantly on an export-led, shift strategy but once it caught up to the world technological frontier by the late 1980s in industries like automobiles, consumer electronics, and semiconductors its growth slowed, precisely because these few export industries were not a large enough engine to power the entire economy. While Japan boasts world-leading exporters of manufactured products—think Hitachi, Panasonic, and Toyota—its much larger non-traded sectors are decidedly subpar. Japan’s service sectors have achieved but a fraction of U.S. service-sector productivity levels. Japan’s retail sector has achieved barely half of U.S. retail productivity levels, while its construction and food-processing industries have reached only 40 and 33 percent of U.S. productivity levels in these sectors, respectively. Low levels of service-sector productivity explain why after a half-century of catching up to America, between 2004 and 2010 Japan’s productivity gap with the United States actually began to widen (to around 30 percent). When less than one quarter of your economy is growth oriented, you cannot grow very fast.

Charting a different path for an “Asian tiger” is indeed the Korean challenge. As Kim Jung-Woo of the Samsung Economic Research Institute notes, “Compared to the biggest OECD economies, the productivity of South Korea’s service industries appears to be low. If South Korean service industries’ productivity continues to remain low while their weight in the GDP grows, it could undermine the productivity of the nation’s whole economy.” But this should come as no surprise. Fifty years of economic policy in Korea has focused on two goals: becoming an export powerhouse while protecting the rest of the economy from creative destruction. This is the main reason why total factor productivity grew more slowly in Korea than in the U.S. between 1995-2011.

This is not to say that Korea’s “creative economy” strategy is not useful nor may not pay off. But it is to say that if Korea ever wishes to catch up with the United States the key will be in raising domestic productivity by all firms in all sectors, including in unglamorous sectors like hotels, restaurants, retail distribution, insurance, utilities, and government services. Boosting efficiency in all of the economy, in part by using more IT but also by creating the competitive and market conditions for efficient firms to thrive, is the royal road to growth.

**Industrial Dualism: Large, Productive Traded Firms vs. Small, Inefficient Domestic-Serving Firms**

Korea is a classic case of what economists call a dual economy: one part with large, advanced, globally competitive firms and a much larger part with smaller and less productive firms, particularly in the services sector. One problem is that Korea’s productivity in the services industry is very low. From 2000 to 2009, agriculture and manufacturing enjoyed strong rates of productivity at 5.4 and 6.5 percent respectively. But the transport, storage and communications sector had just 0.3 percent growth while finance, real estate and business activities actually saw declining productivity of -0.3 percent. Indeed, according to the OECD, 60 percent of productivity growth came from manufacturing and just 19 percent from services. As a result, services productivity levels fell from 76 percent of manufacturing in 1997 to 60 percent in 2005. Additionally, service sector productivity is just 45 percent of manufacturing levels, compared with an OECD average of 86 percent.

This suggests that one of the best ways to revitalize the Korean growth miracle is to transform the services sector. It is not realistic to expect manufacturing to be the growth engine going forward. This is true for two reasons. First, because a smaller share of Korean jobs are in manufacturing; for manufacturing productivity to maintain its same contribution to Korean productivity, its rate will have to increase. Second, Korean productivity is approaching global best practice levels, and as such, it will be difficult for it to enjoy the high rates of productivity as it did in the past.

A related problem for Korea is the extremely large share of its economy made up of SMEs. SMEs, which in the manufacturing sector are defined as firms with less than 300 employees or capital of less than eight billion KRW (about $7.7 million), accounted for an astounding 99.9 percent of registered firms in Korea in 2011, which is higher than in virtually all other OECD countries. Moreover, SMEs account for a high percentage of employment, 87 percent, up from 80 percent in 2000. To contrast, U.S. firms with fewer than 300 workers employ just 44.4 percent of the workforce. In Korean services, 91 percent of jobs are in SMEs. To compare, in the United States, SMEs employ only 44 percent of service workers.

This would not be a problem if these small firms were as productive as large firms. But they are woefully inefficient. Labor productivity in SMEs is less than a third of that in large companies, and the gap is widening. It’s only slightly better in services, where productivity in SME services was just 45 percent of large services companies. Not surprisingly, wages in large companies are double those in SMEs.

**ICT Dualism: Great Broadband, Low IT Use by Businesses**

Korea faces a second dualism, beyond that of having a great traded manufacturing sector and sub-par services and SME sectors. This dualism is around ICT. On the one hand Korea boasts one of the best broadband networks in the world and has leading IT companies (ranking second in the world in IT
manufacturing R&D as a share of business R&D). Yet when it comes to using ICT, especially in enterprises, Korea lags far behind world leaders like the United States. Korean firms may know how to make computers, but they do not use them as well as U.S. firms do.

We see this in a number of statistics. From 2005 to 2010, IT capital contributed just 0.2 percentage points to total Korean growth, and overall eight percent of growth. Contrast that with the United States where it contributed 0.3 percentage points and 30 percent of growth. Of 20 OECD nations, 12 nations, including Germany, Japan, and the United States, had more growth from ICT investments, than non-ICT investments. But for Korea, ICT investments contributed only about 40 percent of the level of growth as non-ICT investments. The 2014 Global Innovation Index ranks Korea 30th in software spending as a share of GDP, about one-third of U.S. levels and behind nations like Jamaica, Zimbabwe and Turkey. Korea ranked 26th out of 34 OECD nations in businesses with their own web site and ranked among the lowest in the OECD in firms selling over the Internet.

Korea ranked 26th out of 34 OECD nations that have over 5% of the population that uses the Internet to play games or create a web page. In other words, while Korea has a great IT network and IT producers, its firms have not fully utilized the power of using ICT to grow. Thus, it is not surprising that in 2011 ICT investments in Korea as a share of total business investments was just 10 percent, compared to over 30 percent in the U.S.

**The Path Forward: Stop Protecting Small Business and Services**

Korea has erroneously assumed that small businesses are the life-force of the economy, and require consistent support from the government and protection from larger businesses and foreign competition. Yet this pro-small business policy has the effect of being an anti-growth policy that limits innovation and productivity. We see these policies and barriers in an array of areas.

**Labor rigidity:** Both low firm failure rates and strict employment protections have contributed to labor rigidity, lowering the ability of Korean firms to adjust supply to match market conditions. The 2012 Global Innovation Index ranks Korea 120th in the cost of redundancy of dismissal of employees. As a result, many firms keep more workers than they actually need to do the job. Moreover, to avoid the high costs of laying off workers, many Korean firms hire non-regular workers, who comprise about a third of workers in Korea (the fourth highest in the OECD). Inflexible labor markets also contribute to high rates of self-employment.
Thirty percent of Korean workers are self-employed, compared to 10 percent in other advanced economies. All three practices lower productivity.

**Small firms are subsidized and favored:** More than any other OECD nation, Korea unfairly favors small businesses. Policies require banks to funnel large amounts of investment into SMEs, resulting in an overabundance of debt among SME firms. In 2012, 78 percent of corporate lending went to SMEs compared to just about 25 percent in the United States. In addition, public financial institutions such as the Korea Finance Corporation and the Small and Median Business Corporation provide loans directly to SMEs. In fact, only 21 percent of loans to SMEs were not guaranteed or collateralized by government. At the same time the government provides 1,300 SME programs and 47 government support measures, covering taxes, marketing and employment, to promote SMEs. But a study conducted from 2003 to 2009 found that public support for SMEs had no impact on the operating profit ratio. Moreover, two support programs were shown to reduce sales growth. Another form of small business subsidy is progressive corporate taxation which taxes small companies at 10 percent but large ones at 22 percent. Likewise, the Small and Medium Business Agency designates products that the government can buy only from small firms.

While well intentioned, many of these programs and policies prop up small firms that would otherwise be replaced by more efficient and innovative medium or larger businesses or even fast growing small firms. In addition, the overabundance of capital, much of it guaranteed, has resulted in serious resource misallocations. Many unprofitable firms can remain in business for years without showing a profit, or indeed earning enough to pay subsidized interest rates on their loans. Of SMEs that were unprofitable from 2000 to 2002, 63 percent were still unprofitable, and yet still in business in 2010, despite earning too little to pay interest on their loans for an entire decade. Only 10 percent went out of business, and only 27 percent became profitable again. The problem is getting worse: the bankruptcy rate in SMEs declined by 50 percent from 2007 to 2011, despite slower growth rates and repercussions from the global recession. This is why small SMEs, as a group, have had negative operating profits every year since 2006 and for one third of SMEs, earnings (before taxes) were insufficient to cover interest payments.

**Incentives not to grow:** Korea also lavishes benefits and regulatory exemptions on SMEs. Not surprisingly, few firms want to grow and give up this cushion. Of the millions of SMEs in Korea in 2002, only a paltry 696 had graduated from SME status by 2012. These perverse incentives limit the ability of industries to gain scale economies, leading to less productivity and innovation. Moreover, because very few firms want to expand and take market share away from others, competitive pressures to innovate and improve productivity are limited.

**Limited competition:** A final factor contributing to the excessive “smallness” and inefficiency of the Korean economy are the policies limiting competition. Korea has the second most extensive product market regulation (PMR) in the OECD and there’s a clear negative relationship between PMRs and productivity. Korea also has relatively high barriers to foreign trade and investment, which not only limits needed competition to keep firms focused on innovation and productivity but also limits Korea’s ability to benefit from global knowledge bases. As the OECD has pointed out, Korean services are more sheltered from international competition and are subject to an array of domestic regulations that limit entry. Again as the OECD points out, foreign affiliates accounted for just eight percent of services sales in 2004, but four percent of employment. This was about half the share of the OECD average. Indeed, Korea has the third lowest stock of FDI in the OECD, with just 13 percent of GDP in 2012.

Korea also promotes a range of domestic policies to shelter small firms from competition. Leading these efforts is the National Commission on Corporate Partnership (NCCP), a partially government-funded organization, charged with mediating complaints of so-called unequal competition between large and small businesses. NCCP’s mission is to level the playing field between large businesses and small and medium enterprises (SMEs) in two ways. First, it annually issues a “win-win scorecard” on how large businesses can “co-exist” with SMEs, designed to shame large corporations that fail “to promote shared growth with small partner firms.” Second, NCCP “designate(s) suitable industries for SMEs.” Case in point is a recent agreement the Commission reached with the Small and Medium Business Administration to get TV Home Shopping networks to agree to not only sell more products from SMEs but also to not charge them commissions and for the government to pay costs for improving design and packaging for the selected companies. Another was their ruling that medium-sized restaurant companies cannot open new stores within 150 meters from small eateries that earn less than 48 million won ($42,800) in annual revenue. We also see this bias in favor of small in other Korean organizations. For example, in contrast to competition authorities in Europe and the United States, the mandate of the Korea Fair Trade Commission (KFTC) includes creating a “competitive environment” for small and medium-sized enterprises. To be sure Korean competition policy should aggressively police competitive abuses, particularly by large, dominant Korean firms, when they occur, but it should be indifferent to firm size.
All of these subsidies and protections for small firms mean that more productive firms, including high growth potential start-ups, have fewer resources than less productive firms, exactly the opposite of what is needed for a dynamic economy. As the OECD has shown, in Korea the actual distribution of workers actually lowers labor productivity below what it would be if workers were distributed randomly between low, medium and highly productive firms. In contrast, in the U.S. the actual distribution raises productivity by 50 percent over what it would be if less productive firms had the same market share. This troubling finding points to misallocated resources, low levels of competition, and limited growth potential.

### The Broad Economy Path Forward

The low levels of productivity in the Korean SME and service sectors are an anchor holding back not just Korean growth but its global competitiveness. Many of these inefficient companies provide inputs for globally traded companies like Samsung and LG, and this means that they must pay more for goods and services from their supply chains.

So what does Korea need to do? The first step is to acknowledge that the future path to prosperity will come from an across-the-board innovation and productivity strategy and that any real gains will not happen unless the share of jobs held by small businesses declines dramatically.

Korea should take a number of steps to get there.

First, it should dramatically scale back its programs, including lending programs, targeted at small business. This includes dramatically cutting back on industrial subsidies. Government support for business, to the extent it is legitimate, focuses on specific measures: e.g., supporting R&D, training the workforce, etc. To the extent there is a focus on small firms, it should be to support the creation and growth of innovative “opportunity-seeking” startups.

Second, it should limit the regulatory and tax exceptions provided by small business, which only end up enabling inefficient companies to retain market share.

Third, it should significantly reduce the regulatory barriers, including product market regulations that protect incumbents and limit new entrants, including creative new start-ups.

Fourth, it should dramatically open up the economy to foreign direct investment, particularly in the service sector. Lowering barriers to investment would increase private investment in innovative activities, facilitate the diffusion of knowledge from foreign and domestic sources, and increase entry of new, highly-innovative firms into markets.

Fifth, it should take steps to spur broader ICT adoption by business. Many of the steps taken above would spur more ICT adoption, in part by increasing average firm size. But Korea could take further steps. One would be to broaden the eligibility of its five percent tax credit for “industrial equipment or advanced office equipment,” which now only SMEs qualify for. Allowing all firms to qualify for this would not only level the playing field between large and small firms, it would also spur large firms to adopt more ICT. Korea should also open up its international markets to ICT imports in order to get lower price and higher quality ICT products, by eliminating its discriminatory encryption and security requirements for public procurement ICT equipment and not imposing Korea-specific regulations on cloud computing services and e-commerce providers.

### Conclusion

Far from fostering a dynamic, innovative economy driven by entrepreneurship and innovation by fast-growing small businesses, Korean SME policies create market distortions that will limit Korea’s economy from reaching its full potential. Eliminating these distorting policies and allowing natural creative destruction would significantly increase productivity and spur economy-wide growth. Indeed, the destruction of businesses, industries and jobs, which is severely slowed in Korea, is in fact a sign of progress, because they are replaced by more efficient firms, more innovative actors, and more advanced firms.

However, taking these steps will not be politically easy. It will require an acceptance of the reality that SME bankruptcies will significantly increase as more efficient and larger companies take market share. This will be hard, for as the Korean government notes, “widespread perceptions in Korean society are that rectification of excessive favors to conglomerates and their concentration of economic power, as well as establishment of fair transaction order for SMEs and self-employed businesses are important for sustainable development and social integration.” But the longest journey begins with a single step, and for Korea to move forward it needs to start taking single steps.

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4 OECD, Science and Technology Industry Scoreboard.

5 Jones and Kim, 22.


7 Jones and Kim, 22; SMEs are defined as companies with fewer than 300 workers.

8 Census Bureau, Statistics of U.S. Businesses.


11 Ibid., 25.

12 OECD, Science and Technology Industry Scoreboard, 82.

13 Jones and Kim.

14 Ibid., 24.


17 Jones and Kim, 16.


20 Jones and Kim, 15.


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