

Can Asian Developing Countries Stuck In A “Middle-Income Trap” Learn From South Korea’s Economic Development Experience?

**A Research Paper Examining the Relevance of South Korea’s Development Experience for Developing Countries
GDN and KOICA**

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Abstract

South Korea's impressive rapid growth to come from a low-income country to a high-income country is an experience that developing countries can certainly learn from. Low-income countries can learn from South Korea in the 1960s to 1980s for it to move on to middle-income. Indeed, many former low-income countries that have transitioned to middle-income countries have at least followed similar policies or growth patterns of South Korea. However, many countries that have transitioned to middle-income status find themselves unable to move on to high-income status. In fact, out of 110 middle-income countries from the 1960s, only 13 including South Korea, have transitioned to high-income status. This phenomenon is called the "middle-income trap", which the paper will analyze with the particular focus on Asian countries. The Asian countries this paper identifies as being in the middle-income trap are Indonesia, Thailand and the Philippines, which makes for interesting case studies as they are in the same region in South Korea and had similar economic growth patterns. The paper will then examine the differences of such countries with South Korea, to understand if there are gaps that these countries can learn from. From those gaps, the paper will examine the relevance of South Korea's economic development experience to these countries in the middle-income trap.

The findings of the paper show that for countries to leave the middle-income trap, high levels of efficient government system and leadership, and modern and productivity-enhanced industrialization must be achieved. These are areas that South Korea has certainly achieved and ones that developing middle-income countries can emulate. Considering the rather similar conditions most of these Asian countries stuck in a middle-income trap have with South Korea's initial economic development experience, the paper concludes that South Korea offers important lessons on how to fill those gaps and thus, transition from a middle-income to a high-income country. These lessons, which are admittedly difficult to implement, primarily deal with structural areas; mainly efficient industrialization; and strong governance and leadership, to ensure the initial conditions such as a strong infrastructure, education and R&D are in place.

Introduction

The “middle-income trap”, in general terms, are middle-income countries that have been unable to transition to high-income countries in a certain number of years and potentially into the future. As Ejaz Ghani from the World Bank says, it is a “development stage that characterizes countries that are squeezed between low-wage producers and highly skilled and fast-moving innovators.”¹ Certainly, many developing countries have enjoyed the benefits of transitioning, some rapidly, from a low-income country to a middle-income country, but out of 101 middle-income countries; only 13 countries have seemed to manage to escape the middle-income trap². This is a sad situation, where the growth of a country simply stagnates or even decreases, ensuring the country’s economy will remain in the middle-income level for a very long time and has little hope of seeing it reach high-income in the close future.

What is particular is that research on the middle-income trap has been quite limited which the aforementioned analyst from the World Bank has also acknowledged. However, in the past few years, the research on “middle-income trap” is slowly gaining traction and several academic articles including the media have begun covering the topic. This paper attempts to contribute to the discussion by examining the case of South Korea, which has moved from a low-income country to become a high-income country in a relatively short amount of time, escaping the middle-income trap. The paper will also aim to understand the lessons and conditions of South Korea and how it became a high-income country, and see if those lessons and conditions can be applied to the specific issue of the “middle-income trap” which many developing countries appear to be stuck in. The paper will also focus on Indonesia as a developing country stuck in a middle-income trap.

This paper is divided into three sections. The first section is an overview of the middle-income trap by examining empirical evidence and other literature’s definitions. This will also include the essential insight of why countries remain in the trap. The second section looks at the differences between South Korea’s case and the developing countries in their economic development. This examines the circumstances of the countries in a middle-income trap and sees why South Korea does not share those circumstances. The third and final section will then conclude from the overview and differences if there is any relevance and what lessons can be learnt from South Korea for developing countries that wish to come out of the middle-income trap. This will include examining if the differences or the gaps can be filled or solved by the middle-income countries.

I conclude by stating that developing countries stuck in a middle-income trap will only come out by achieving adequate levels of strong governance and political leadership; and modern and competitive industrialization. Financial liberalization, investments and macroeconomic stability should be a given, and in fact, these conditions allowed most of these countries to at least move from low-income to middle-income which was the case for South Korea as it began to emphasize those aspects in the late 1980s. However, for a country to escape the middle-income trap is to achieve the aforementioned levels, and that one important way of doing so, as this paper argues is by significant and effective government actions and involvement.

Therefore, countries stuck in the trap should find it useful to learn from South Korea’s economic development experience, because the government arguably played a significant part in South Korea’s economic development. The South Korean government policies and actions from the 1960s throughout the 1980s had at least, a large part in South Korea’s rapid growth to a high-income country. However, the initial conditions faced by countries stuck in a middle-income trap make it very difficult to exactly emulate South Korea’s experience. Nevertheless, if the governments of the Asian countries would promote these conditions such as income equality, effective governance and a strong human capital, then the possibility of countries leaving the trap would be higher.

¹ The World Bank, “How to avoid middle income traps” 2013 (<http://blogs.worldbank.org/developmenttalk/how-avoid-middle-income-traps>)

² The Economist,, “The middle-income trap” 2012 (<http://www.economist.com/blogs/graphicdetail/2012/03/focus-3>)

SECTION 1: THE “MIDDLE-INCOME TRAP”

The Middle-Income Trap

For most countries, the ideal path of economic development is, after the transition of low-income status to middle-income status, is to then finally achieve high-income status. However, there are countries that are stuck in the middle-income status and some in a low-income status, for a significant period amount of time. In some cases, it may seem that the GDP per capita simply stagnates. Some researchers have called this the “middle-income trap.” This is indeed an alarming situation as numerous countries move from low-income to middle-income, but very little has moved on from middle-income to high-income. As mentioned, only 13 countries were able to transition to high-income. These countries are Equatorial Guinea, Greece, Hong Kong SAR (China), Ireland, Israel, Japan, Mauritius, Portugal, Puerto Rico, South Korea, Singapore, Spain, and Taiwan (China).

Nevertheless, the definitions of a middle-income trap can admittedly be subjective³, but literature and the categorization of countries in a middle-income trap generally have two concepts. Firstly they define what group of countries fall into which income category, such as the World Bank dividing countries according to their levels of GNI per capita (low income, \$1,035 or less; lower middle income, \$1,036 - \$4,085; upper middle income, \$4,086 - \$12,615; and high income, \$12,616 or more). Some researchers sometimes define their own income groups when studying the middle-income trap with their own reasoning. The second concept focuses more on the time and growth rate element, to finally decide which countries fall into a middle-income trap and which do not. Often the researchers will give a time scale to how long a country should remain in the middle-income status, and how much on average annual growth rates countries should obtain to escape the middle-income trap. Creating our own definitions based on these two concepts for a “middle-income trap” is beyond the scope and topic of this paper. Felipe, Abdon and Kumar’s extensive classifications of a middle-income trap can be used as a reference. The following are a selection of some countries considered in a middle-income trap from their paper.

Country	2010 GDP per capita (1990 PPP USD)	No. of Years as Lower Middle-Income until 2010	Average Growth % 2000-2010	No. of years to potentially reach USD 7,250
Philippines	3,054	34	2.5	35
Sri Lanka	5,459	28	4.3	7
Brazil	6,737	53	2.0	4
Colombia	6,542	61	2.6	5
Egypt	3,936	31	3.0	21
Jordan	5,752	55	3.5	7
Indonesia*	4,790	25	3.9	---

*Indonesia is not considered to be in a middle-income trap when the paper was written, but the authors claim in 3 years it will fall into the trap, and to prevent that it must grow an annual average rate of 15% during 2011-2013 which has not happened. Other researchers have also placed Indonesia, Thailand and even Malaysia in the middle-income trap.

Source: Felipe, Abdon and Kumar’s calculations

Reasons Why Countries Are Stuck In A Middle-Income Trap

After World War II, many countries and very notably, the Asian Tigers developed rapidly to become at least into middle-income countries. In a general term, these factors that led the escape from being a low-income country were according to the World Bank, “low-cost labor and easy technology adoption.” These important factors however no longer contributed to the aforementioned rapid growth once the countries left their low-income status to middle-income status. Instead the countries had to find other sources of growth, mainly as the World Bank argues, through innovation.

This is because low-income come countries like South Korea during the 1960’s could compete in international markets by producing labor-intensive products such as clothing which South Korea exported primarily in the past. Slowly the wages rise, making the labor-intensive products less competitive and the advantages of low-cost labor disappear. In other words, productivity would need to be faster than the wage increases. Furthermore, easy technology adoption is no longer applicable and increased productivity can only be obtained through other means. Thus, if countries cannot overcome these impediments, then these countries will seemingly be stuck in the middle-income trap. As Tran Van Tho of the Asian Development Bank Institute defines it, “middle-income countries are increasingly losing their comparative advantage in labor-intensive industries” and that there is a lack of “high skill-intensive industries and a deeper stock of physical and human capital” which are needed to escape the middle-income trap.

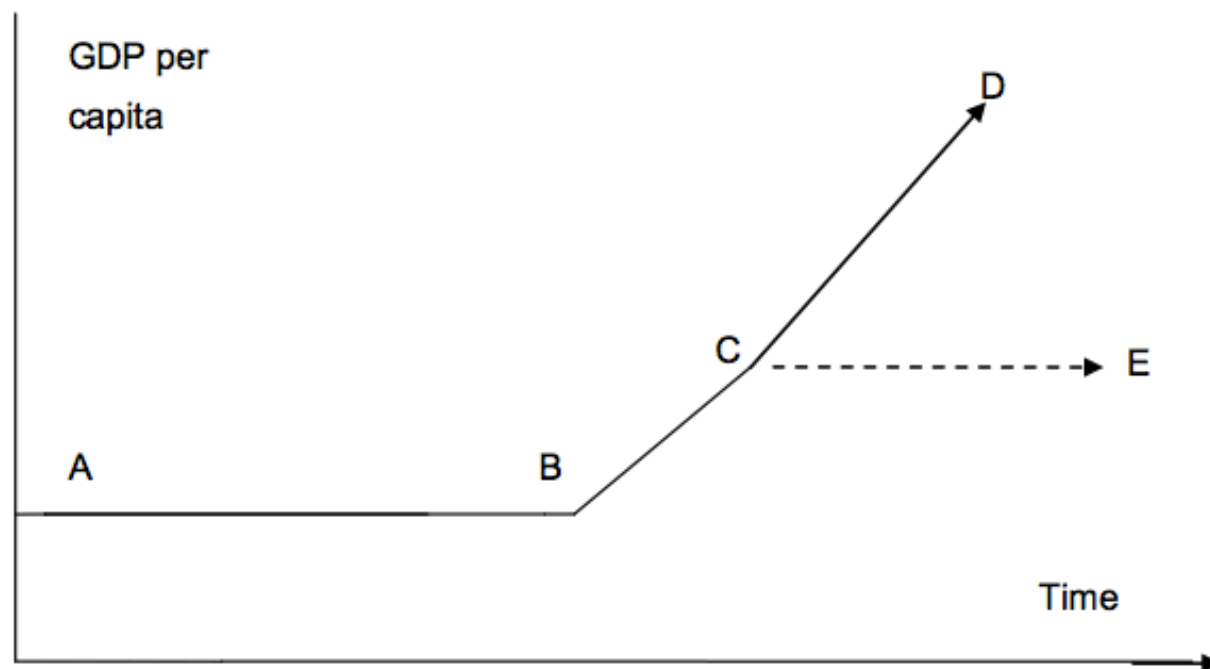
Other researchers have also pointed out several factors why countries remain stuck in a middle-income trap. Changyong Rhee from the Asian Development Bank claims that countries that are stuck have the following characteristics: “low investment ratios, slow manufacturing growth, limited industrial diversification and poor labor market conditions.” Ejaz Ghani also states two factors which are that middle-income countries “cling too long to past successful policies” or they “exit prematurely from the industries that could have served as the basis for their specialization process” Some of these factors are inter-connected and the lack of industrialization and productivity as mentioned earlier are certainly outcomes of these aforementioned reasons.

The general conclusion of Asian countries in a middle-income trap is the presence of weak “hard” and “soft” infrastructure and structural weaknesses. The Asian financial crisis accentuates that point significantly and also helps point out a certain divergence. Although almost all Asian countries including South Korea were seriously affected except for countries like Taiwan, only South Korea was able to transition to a high-income country whilst several of the Asian countries remain stuck as a middle-income country till now, and arguably until even in the very long-term. The divergence thus suggests South Korea’s effective and successful capability to overcome the structural weaknesses and deal with the hard and soft infrastructure issues. Therefore, this enabled South Korea’s high-sustained growth rates, which in turn helped the country escape the middle-income trap.

³ Felipe, Abdon and Kumar. “Tracking the Middle-income trap: What is it, Who is in It and Why?”, Working Paper No.715, Levy Economics Institute of Bard College 2012

Visual Description of Middle-Income Trap

A chart from the paper written by Tran Van Tho gives us a clearer illustration of the different stages of the economy and the middle-income trap. This helps us describe visually what was discussed earlier.



A–B: Traditional society, underdevelopment, facing poverty trap.

B–C: Initial development stage, escape from poverty trap, initial development of markets.

C: Middle-income level.

C–D: Continuing sustained growth to high-income level (D).

C–E: Stagnation or low growth—the middle-income trap.

Source: Tran Van Tho (2013)

Using Indonesia and South Korea as examples, it can be seen that both countries have achieved A-B and B-C, i.e. the traditional society and initial development stage. However, the countries diverge at point C, where South Korea have moved on to the C-D stage, whilst Indonesia is stuck in the C-E stage. Many low-income countries such as Vietnam are already at the end point of B-C, and may have reached middle-income level but Tran Van Tho fears, that Vietnam will be an early example of a middle-income trap. The divergence at point C for these countries is what this paper will explore and subsequently examine South Korea's relevance for developing countries in a middle-income trap.

Case Study: Indonesia

As mentioned before in the introduction, liberalization, investments and macroeconomic stability at least allowed most countries to move on from low-income to middle-income. The case in point is Indonesia. These factors allowed Indonesia to actually transition to the middle-income status in 1993. President Suharto's government and rule from the 1960s conducted economic policies that were formulated by mostly economists who studied in America. The government reduced government debt, reformed the exchange rate mechanism and invited large amounts of foreign direct investment. Through these policies and the increase of productivity from capital and land, "inflation slowed, investment rose and growth exploded"⁴ and the growth was indeed reminiscent of some of the Asian tigers.⁵ However, Indonesia fell back to a low-income country after the Asian crisis and it took 6 years for Indonesia to come back to middle-income status in 2003. Furthermore, as some papers and academics have pointed out, Indonesia seems to be now stuck as a middle-income country for a significantly long time, or in other words, being in a middle-income trap.

Indonesia makes an interesting case study, as Indonesia's economic growth is somewhat similar to South Korea's initial economic experience. The countries had an authoritarian government and initiated import-substitution and export-oriented policies, albeit on differing levels and effectiveness. Average annual GDP growth rates from the 1960s until the Asian financial crisis was also significantly high. They also had similar experiences during the Asian financial crisis, such as deregulation and reform in the financial industry, and the presence of many companies holding significant high debt to equity ratios and becoming bankrupt. Furthermore, the industrialization was similar, focusing firstly on agriculture and light industries and moving on to manufacturing and heavier industries, although as the paper will argue later, South Korea were superior in terms of industrial process and progress.

The Asian financial crisis affected Indonesia very significantly, as Indonesia's impressive economic growth was masked by significant amounts of structural and financial weaknesses such as rent-seeking behavior, corruption and weak institutions and mismanagement of the financial sector. These factors would most likely not have led to the sustainability of the economic growth. Again, South Korea's case was similar in that it was also hit by the Asian financial crisis due to rather similar structural and financial weaknesses. Although comparable in terms of timeline and

⁴ Cited by Michael T. Rock "The Politics of Development Policy and Development Policy Reform in New Order Indonesia" The William Davidson Institute (World Bank 2000, World Development Indicators) 2003

⁵ <http://www.adbi.org/discussion-paper/2006/02/24/1687.indonesian.technology.firms/industrial.development.during.the.suharto.era/>

economic experience, with the World Bank even classifying both countries as HPAEs or high-performing Asian economies in 1993, the degrees of success, industrialization and efficiency was significantly different. These differences in degrees of both countries will be explored further in the paper.

Nevertheless, Indonesia quickly moved from low-income to middle-income status in 2003. Some of the main reasons that it occurred was also due to the same reasons Indonesia faced economic growth from the 1960's until 1993, that is, macroeconomic stability, and further liberalization (such as the banking sector). Furthermore, some of the structural weaknesses were dealt with, although the weaknesses still remain and are very much prevalent such as corruption and crony capitalism. These structural weaknesses as many authors argue, is what prevents higher investments and limited industrial and manufacturing growth in Indonesia, which as mentioned earlier, necessary components to come out of the middle-income trap.

Other issues also include a lack of infrastructure and relatively low human capital. Another notable example is the endowment of natural resources, which Tran Van Tho touches upon, where it leads "powerful vested interests that prevent the shift of policies" and "a lack of motive for new development strategies." This has led to inefficient growth and "oil mafias" in the Indonesian oil and gas industry, which prevents for example a step up the value-chain. Thus, Indonesia remains in the trap even though it has jumped relatively quickly in 6 years, from low-income to middle-income status.

What is also important to note is that the Asian financial crisis also affected South Korea adversely and significantly limited South Korea's economic growth similar to Indonesia's case, and yet, South Korea is still able to transition to a high-income country. As mentioned, there are some resemblances although with glaring differences between the two countries, but nevertheless, the economic history and growth is somewhat similar. From the 1960's both achieved significant impressive economic growth despite both countries having significant structural and financial weaknesses, which played a part in the negative impact brought by the Asian financial crisis. Yet South Korea was able to transition on to a high-income country while Indonesia remained stuck in middle-income status. The specific reasons why is what the paper will explore in the next section, using other examples as well.

SECTION 2: DIFFERENCES BETWEEN SOUTH KOREA'S ECONOMIC DEVELOPMENT EXPERIENCE AND THE MIDDLE-INCOME TRAP EXPERIENCE

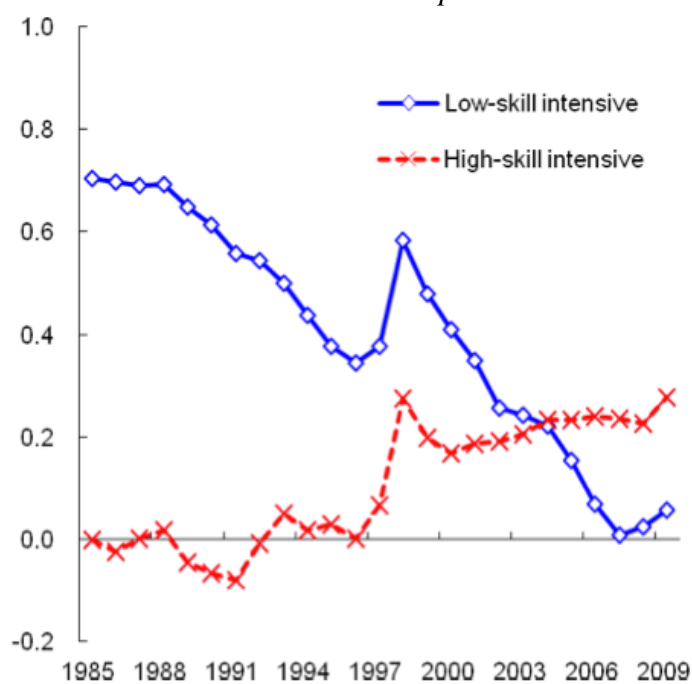
In retrospect, it appears that South Korea's economic development has little to say in regards to countries stuck in the middle-income trap. South Korea even seems to have skipped the middle-income trap and moved very rapidly to becoming an advanced and high-income economy. However, the paper argue that by examining South Korea's, governance and industrialization, the differences can be examined and then in where the gaps can be filled by the countries stuck in the middle-income trap.

Industrialization

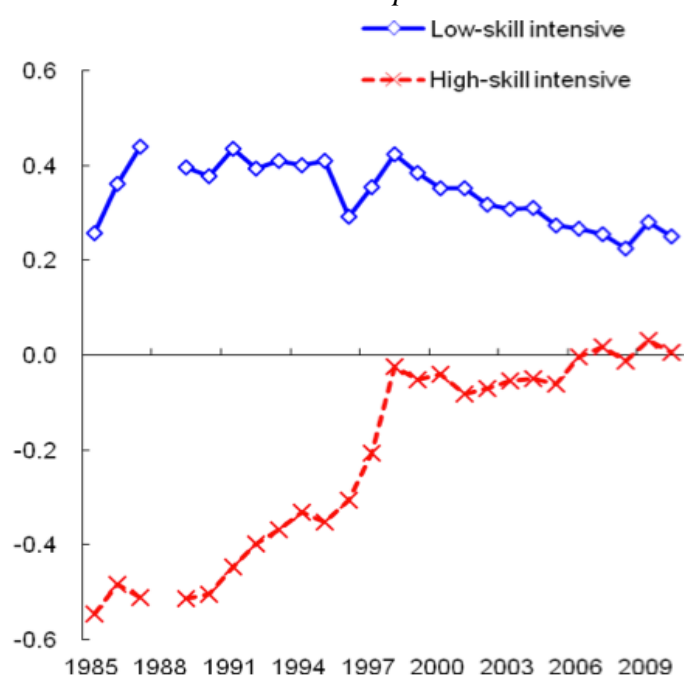
Amsden helpfully categorizes South Korea as a "late industrializer" which is different to developed countries such as England and the United States. The developed countries, during the times of the Industrial Revolution, instead went through industrialization by way of invention and innovation. However for late industrializers such as South Korea, industrialization has come about through a process of learning. This is usually seen in other countries, usually ex-colonies such as India, Mexico and Indonesia. The question then raised is what differentiates South Korea's industrialization from other late industrializers considering some middle-trap countries have a similar initial journey, as in having a dominant labor-intensive or light industry such as textile, which was South Korea's case in the 1960's. This is in fact one of the key discussions in Dani Rodrik's paper "Getting interventions right: how South South Korea and Taiwan grew rich", which will be further explored later in the paper.

It is useful for us though to note the characteristics of South Korea's industrialization. While there is still debate whether South Korea's economy was driven mainly by "export orientation (or) investment boom"⁶, or even whether it was aided by government intervention or not⁷, one cannot debate the rapid growth in industrialization and its successes in South Korea compared to other countries who are caught in the middle-income trap. Although there are indeed some similarities, the differences are noticeable once the trend in international competitiveness of the products is examined. From the following graphs, it is shown that South Korea's industries have moved on from low-skill intensive industries to high-skill intensive industries, whilst some of the Asian countries have failed to share South Korea's path.

South Korea's International Competitiveness Index



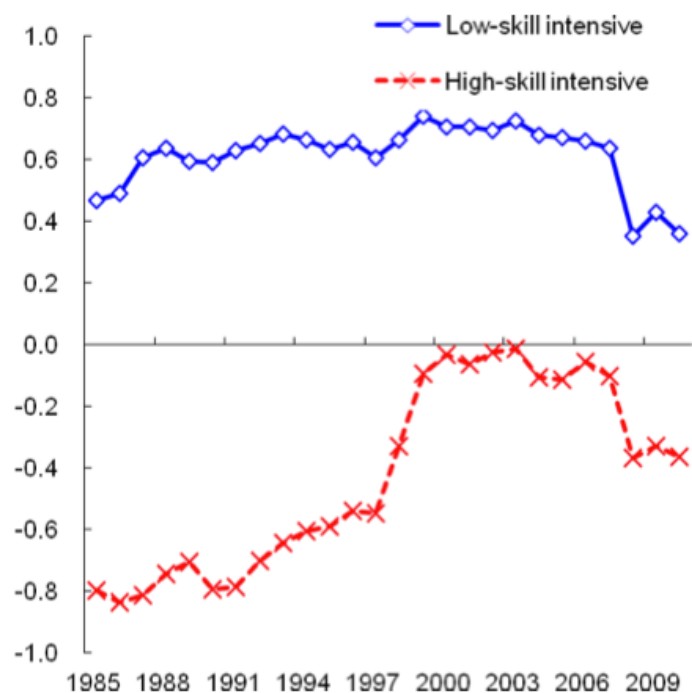
Thailand's International Competitiveness Level



⁶ From Dani Rodrik's paper, who argues actually export-led growth had little explanation for South Korea's growth

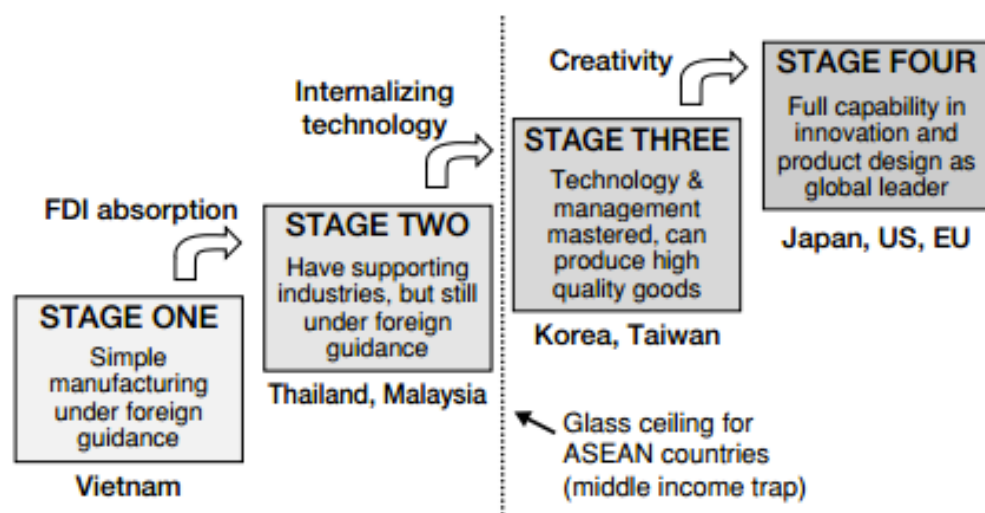
⁷ From Jungho Yoo's paper who argues rapid export expansion and economic growth was mostly explained by devaluation of the won and the size of global markets, respectively, instead of government policies

Indonesia's International Competitiveness Level



Source: Calculated from United Nations by Tran Van Tho

Ohno also provides a useful visual model of the different industrialization stage South Korea and the other Asian countries are in. In the following chart, Ohno describes where most of the Asian countries that are stuck in the middle-income trap are in, mainly Stage Two. South Korea instead finds itself in Stage Three which coincides with data found from Tran Van Tho.



Source: Kenichi Ohno

The question therefore is how could such a divergence or the transition of moving from Stage Two to Stage Three based on Ohno's model occur. According to Chung, in the 1970s South Korea began shifting to more capital and technology intensive industries. One of the ways South Korea did this was to aid industries in adopting and developing technologies, the government created R&D institutes such as the South Korea Institute of Machinery and Metals, which "worked with private industries to build a technological foundation for industrial development." Nevertheless, an important component was a rich pool of a well-educated labor force, which was necessary to "succeed in acquiring and using technologies through informal modes of technology transfer."

Furthermore, South Korea's investment in R&D was highlighted by the launch of the National R&D Program in 1982 by the Ministry of Science and Technology. The government also supported the R&D initiative by providing tax credits, lowering import tariffs and giving efficiency incentives. Asian countries have failed to make huge strides in providing incentives and launching special programs for R&D. Such investments and incentives should be noted considering the significant differences with other Asian countries.

The research expenditure percentages of GDP and patents applications are also examined to see the difference. From 1996 to 2010, South Korea's research expenditure percentage of GDP went from 2.42% to 3.74%, shown by World Bank Data. However, countries like Thailand, Philippines and Indonesia stagnate on average around the 0.15% mark. Thailand moved from 0.12% in 1996 to 0.25% in 2010, the Philippines moved from 0.14% in 2002 to 0.11% in 2007 and Indonesia moved from 0.07% in 2000 to 0.08% in 2009. Even with such significantly low figures compared to South Korea's, the aforementioned countries also showed no signs of improvement whilst South Korea's expenditures kept on increasing in terms of GDP. An interesting fact also pointed by Dahlman, was that in 1965, 0.5% of its GDP was spent in R&D but 80% of that amount was from the government.

According to the UN Statistics Division, South Korea's patent applications went from 8,633 in 1984 to 203,696 in 2002. This is considerably high compared to other Asian countries, mainly the developing ones stuck in the middle-income trap. Thailand went from 667 in 1984 to 5,665 in 2000, the Philippines went from 1,636 in 1984 to 81,697 in 2002, and finally, Indonesia went from 585 in 1984 to 90,922 in 2002. These are still low figures compared to South Korea's figures, both initial and in the near past. These two variables highlight South Korea's substantial R&D initiative and promotion in the past, which the other Asian countries failed to achieve.

Nevertheless, according to Chung, starting from the 1990s, the increasing and rapid growth of R&D has been led by the private sector, where in 2011, about 75% of South Korea's R&D expenditure was paid by private industries. Yet considering the government's drive to develop technology and investment in R&D in the early 1980s, it should be concluded the government assistance and drive for technological growth allowed for the private sector to eventually lead the R&D drive. The government's projects also increased "huge demand for technologies" which

included placing pressure on South Korean companies to be technologically competitive and targets for exports. Furthermore, Overall, as Chung argues, South Korea's R&D efforts and technological competitiveness in high-tech products such as semi-conductors and phones, is "partly the result of the government-industry collaborative R&D."

According to Sohn, Chang and Song, for example, both the government and firms "actively invested not only in design and shipbuilding, but also in proprietary R&D and local production of machinery and equipment." Some examples of this are as follows: the South Korean government established the Shipbuilding and Ocean Technology Research Institute in 1968, to promote the industry and explore new technology. Hyundai Heavy Industries also invested heavily into LNG vessel technology, which allowed South Korea to be one of the "very few countries that could build LNG vessels."

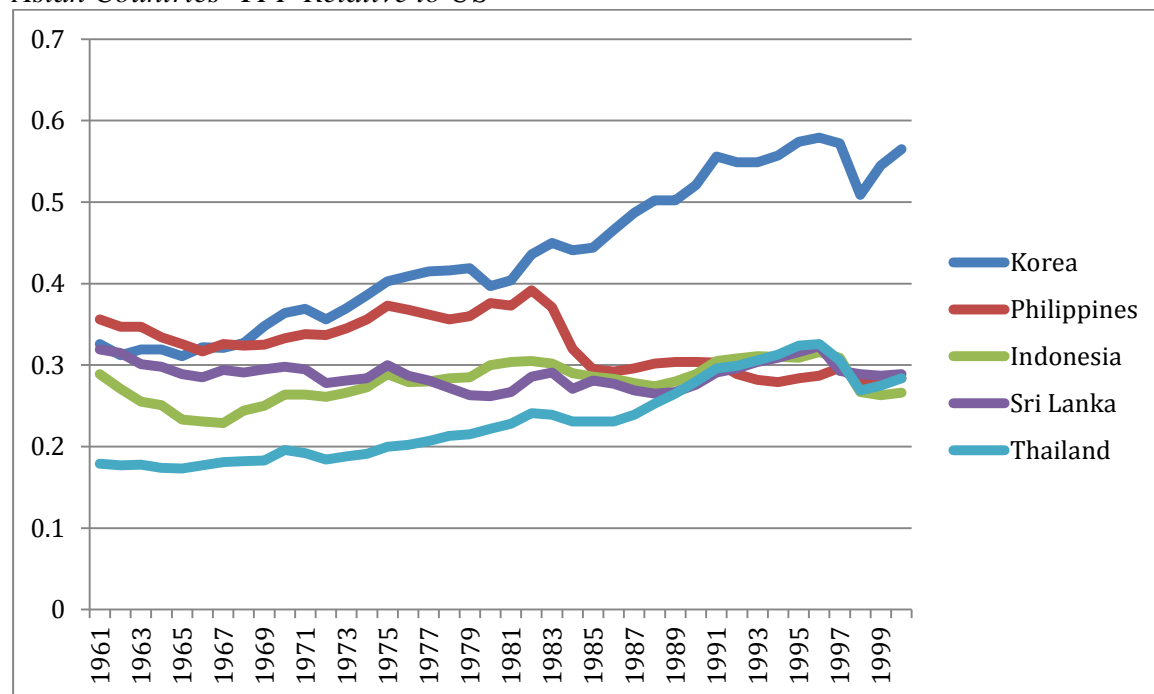
Due to data constraints and lack of empirical evidence, there is limited information of R&D movements and growth in Asian countries. Nevertheless, a few examples of Indonesia and Thailand, perhaps the more technologically advanced among the Asian countries stuck in the middle-income trap could be considered. The World Bank points out Indonesia's misguided efforts in the aircraft industry where an Indonesian aircraft producer has "absorbed USD 1 billion in government funds since its establishment in 1979 but has yet to become internationally competitive or genuinely profitable." A study focusing on university-industry linkages in Thailand considered it still "weak."⁸

An interesting difference is the role FDI of South Korea and other developing countries. According to Chung, "FDI played a less important role in South Korea's acquisition of capital and technology than it did in other developing countries." He further provides an example where FDI accounted for only 4% of South Korea's cumulative total long-term foreign capital over 1962 to 1982, whereas in the early to mid 1970s FDI accounted for 10 to 20% of developing countries' total foreign capital inflow. World Bank data also shows from the 1990s till the present, on average South Korea's FDI % of GDP was lower than Thailand, Indonesia and Philippines. In 1990 for example, South Korea's FDI % of GDP was only 0.3% compared to Thailand's 2.86%, Philippines 1.2% and Indonesia's 0.96%.

Thee Kian Wie highlight the fact that the South Korean government pressuring firms to meet export targets and performance quality played a crucial part in inducing manufacturing and technological growth. Indonesia, as the author points out, did not have similar pressures on manufacturing firms, which led to each country's large business groups (South Korea's chaebols and Indonesia's mainly ethnic Chinese Indonesian conglomerates) having different manufacturing outputs. In the mid 1990s, for example, the top 50 business groups in Indonesia were only 16% of total manufactured exports. In contrast, between 1972 and 1982, the share of manufacturing output for the twenty largest groups increased from 7% to 29% in South Korea according to OECD data.

Finally an important database to look at is from UNIDO World Productivity Database, which provides the data of Total Factor Productivity or TFP for countries. The following graph shows South Korea and other Asian countries' TFP relative to the US, which indicates the efficiency of a country's use of capital and labor. A higher figure suggests the better the "economy's long-term technological change or technological dynamism."⁹

Asian Countries' TFP Relative to US



Source: UNIDO World Productivity Database

As shown in the graph, South Korea's TFP is considerably higher starting from the 1970's although the Philippines had similar figures. Nevertheless, the two countries began to diverge in the beginning of 1980, and South Korea's ascendancy in TFP can be seen. Again, the differences highlight South Korea's superior industrialization compared to the other Asian countries.

The differences this paper notices however, is that South Korea has set up a strong technological foundation and industrial development, which includes a well-educated labor force, and positive government incentives that allowed the country to be more advanced in its industries, thus adding more productivity and value-added output. This is clearly seen through the evidence that was shown above. However, what is clear as well is the necessity of the government in being active in promoting industry whether that is through involvement in R&D investments and programs, or through government intervention such as tax credits, loans and incentives. Regardless, of which one had a more important role, it is undeniable that South Korea's industrialization and technological growth has progressed further than the developing Asian countries, necessary components to escape the middle-income trap.

⁸ Intarakumnerd and Schille, "University-Industry Linkages in Thailand: Successes, Failures, and Lessons Learned for Other Developing Countries" Seoul Journal of Economics 2009

⁹ Lipsey and Carlaw "What Does Total Factor Productivity Measure?" 2001

Government Involvement and Leadership

The Asian financial crisis nevertheless put South Korea's economy in decline and yet it was able to recover quickly. The reasons why as this paper will argue is the issue of structural weaknesses which the government either fails to address either by lack of political will or initial conditions that are significant obstacles for the government. Although it is worth noting that the experiences of the Asian countries are similar to South Korea's experience, which includes nepotism, corruption, poor government governance, market distortions and manufacturing growth (albeit as argued before, on different levels of industrial success), there are still a significant number of differences.

A clear picture that can be noticed is South Korea's driven goal of economic growth compared to other countries. Amsden goes as far and even states, "where South Korea differs from most other late industrializing countries is in the discipline its state exercises over private firms." Several examples have been given such as a strong investment in R&D and imposing performance standards on private firms, which highlight this point. A "Monthly Expanded Meeting for Export Promotion", a monthly meeting chaired by President Park between the private sector, ministers and banks shows the intent of the government to achieve economic growth. Furthermore, South Korea's Heavy and Chemical Industries Promotion Plan is well documented highlighting at least the government's intent to achieve international competitiveness, even though as many academics continue to debate on its success. These types of examples or intent were either absent or limited in the other Asian countries.

In Thailand's case, for example, populist policies to garner majority support from the poor, according to Intarakumnerd "failed to make an enduring impact on industrial and technology upgrading." In Indonesia's case, the Soeharto era had "relatively small amount of technological effort" and tended to focus as mentioned before, on "hi-tech" industries such as the aircraft assembling industry, which was promoted by former Minister for Research and Technology, Dr. Habibie who was a crony of President Soeharto and eventually became Vice President. This type of focus was often "pet projects" for the Soeharto family and close peers. In the Philippines' case, the famous amusing story of Imelda Marcos, widow of President Ferdinand Marcos who held office from 1965 to 1986, and known for her collection of a thousands of shoes, typifies the government's cronyism. One could be bold to say that although South Korea was arguably considered as corrupt in the past, at least as Moran argues, the corrupt practices were "conformed to a drive for national development" but in many of the Asian countries' case the corrupt practices were mostly for private gain and consolidation of power.

As an example of how this affects industry and economic growth, the differing fates of South Korea's heavy industries and Indonesia's aviation industry can be examined. Both industries were strategically identified and provided financial and technical assistance by the government. Yet South Korea's industry succeeded whilst Indonesia did not. Whilst there were secondary reasons why such as the availability of markets, rising costs and technological issues, the main reason still implies the degree of success depends on government intent and involvement. In South Korea's case the issue was mainly a business-minded view to ensure the industries worked. The government supported Hyundai's shipbuilding division through guarantee of markets and financial incentives to ensure growth and performance. As Evans puts it, these were "long-term productivity enhancing projects."

In Indonesia's case, the aviation industry was used mainly as the pet projects of Indonesia's leaders. It had according to the World Bank, provided USD 1 billion in government funds but it did not become "internationally competitive or genuinely profitable." It was wholly unprepared to face the global market and limited technological advances made the airplane industry unable to afford a price war. Instead of it being a "productivity enhancing project" it was instead a subsidized "white elephant" as the Economist appropriately puts it.¹⁰ Even South Korea allowed for the bankruptcies before and after the Asian financial crisis, of their own "white elephants" when they were not performing or faced bankruptcy, which shows how prepared South Korea was in obtaining economic growth and efficiency.

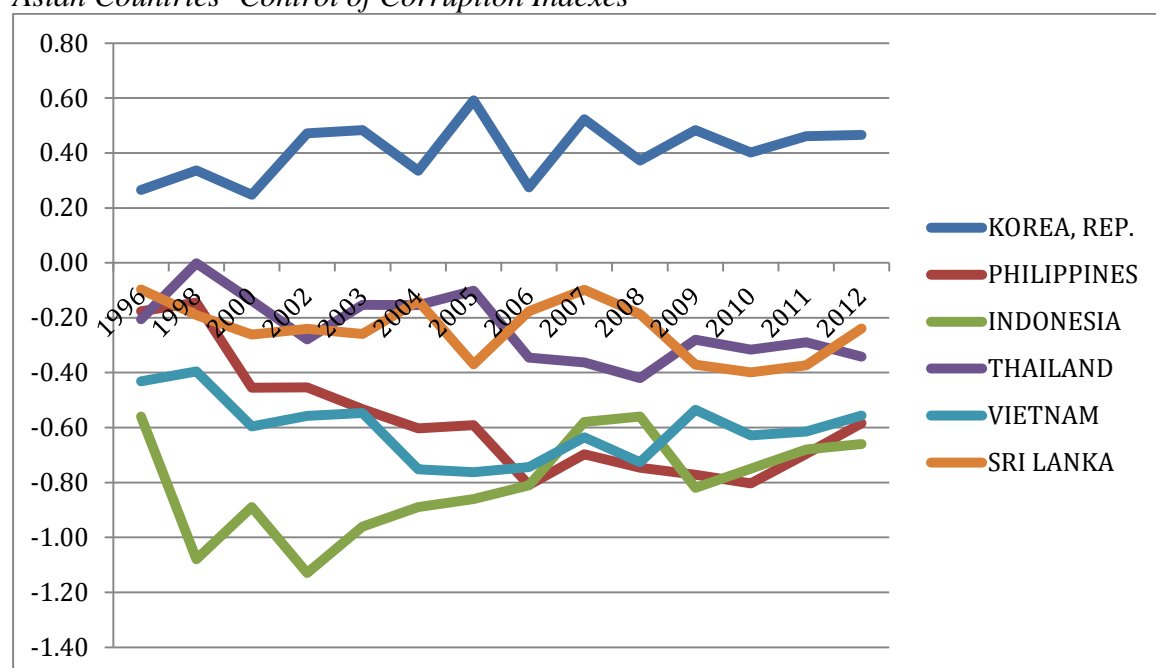
The number of high profile corruption cases against former senior government officials and figures in large conglomerates in South Korea is an indication of how serious the government is. Countries like Thailand and Indonesia will have certain difficulties achieving this, considering the numerous challenges but also lack of political will. For example, South Korea's reforms after the Asian financial crisis on companies are well documented, but in Indonesia, many of the conglomerates charged with corruption from the Asian financial still have certain influence and power today. The leading businesses in Indonesia today have links to the Soeharto regime and a few of the senior figures have yet to be brought to trial. Instead, South Korea were able to charge senior figures in their conglomerates such as the head of CJ Group and SK. Although there has been progress, it still seems unlikely countries like Indonesia and Thailand will reach that type of magnitude in dealing with corruption anytime soon.

Another issue that also is brought up in economic development papers is the issue of equality. Rodrik argues "an exceptional degree of income and wealth" allowed government intervention to be "effective and keeping it free of rent seeking." Furthermore, social equality was high in South Korea as there was only one ethnic group whilst other Asian countries had certain minorities or ethnic groups. Such characteristics allows for an "extraordinary degree of insulation from pressure groups, and with leadership capability over them." Inequality was and is higher in the Asian countries compared to South Korea, and hence of control of rent-seeking behavior can be arguably limited. The extent of the government's fault can be argued however, as even Hong Kong, a developed and high-income country had a significantly high GINI Index of 42.9 in 1996 (which is an indicator of an economy's distribution of income). Nevertheless, it can be argued that South Korea took the correct measures in light of high equality whilst the other Asian countries failed to promote equality. For example, Jomo highlights a policy in Malaysia called the New Economic Policy which was meant to "restructure society" but in reality, as Jomo argues, was to benefit Malaysia's majority ethnic group over the Chinese Malaysians. The government in Malaysia failed to curb at least the negative effects of inequality which is an essential component for increased economic growth.

Nonetheless, evidence from the Worldwide Governance Indicators to see the aforementioned significant differences can be examined. The following graph highlights the Control of Corruption indexes of Asian countries, in which the lower the figure, the higher the perception that the "public power is exercised for private gain". This is a good indicator of the extent the government's intent on economic growth rather than rent-seeking behavior or private gain.

¹⁰ The Economist "On a wing and a prayer" 2014 (<http://www.economist.com/news/business/21596589-state-aerospace-firm-risks-forgetting-lessons-asian-crisis-wing-and-prayer>)

Asian Countries' Control of Corruption Indexes

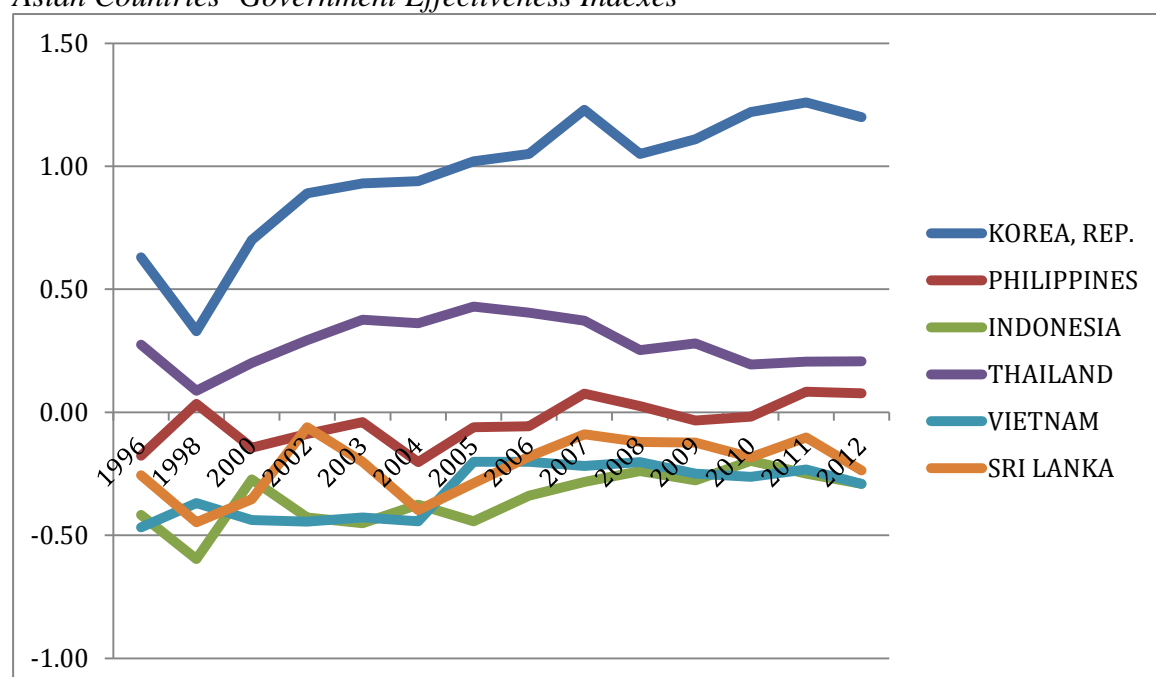


Source: Worldwide Governance Indicators (World Bank)

What's interesting to note from the graph is that at the height of the financial crisis in 1996, where most structural weaknesses such as poor government governance and corruption is explicitly exposed, South Korea's Control of Corruption is still relatively higher than the rest of the Asian countries. Although South Korea's figures are less than most OECDs, it holds a drastic lead compared to other Asian countries. In fact countries like Philippines have shown a decrease from 1996 until now.

Another useful figure from the Worldwide Governance Indicators is the Government Effectiveness index that looks at the "quality of the public services, degree of its independence from political pressures, the quality of policy formulation and implementation and the credibility of the government's commitment to such policies."

Asian Countries' Government Effectiveness Indexes



Source: Worldwide Governance Indicators (World Bank)

Again, South Korea has a higher figure in terms of government governance or leadership compared to the other Asian countries. In fact, South Korea shows a significant improvement over the years whilst the other countries have simply stagnated. What's also important to note is these results are after the Asian financial crisis, where at least some drastic improvement should be seen. Yet, many Asian countries have simply stagnated in terms of government effectiveness and corruption, as recent headlines can testify such as the ongoing trial of Indonesia's head of oil and gas regulator who was arrested for bribery charges and Thailand's inability to bring senior government leaders into trial. This shows to us at least the relatively higher capability and credibility of South Korea which limits rent-seeking behavior and corruption.

The topics industrialization and government we discussed above are significantly inter-linked to the issue of hard infrastructure. For example, industrialization requires investment and infrastructure, and the government can either encourage or discourage investment and infrastructure. Productivity and economic growth, especially a transition to a high-income country requires both. The reasons for productivity slowdown are indeed numerous, and arguably the main ones are the ones this paper mentions, mainly industrialization and governance, but countries that want productivity to keep pace and grow should at least have the proper infrastructure. For example, power plants are required for existing and potential businesses to expand and grow, and proper transportation networks are what businesses need allow for more trade and markets.

The difference in success of PPP projects in South Korea and other Asian countries provides us an example. Kim states that the PPP market in South Korea "has grown and developed into a stable and highly profitable financial market thanks to the government's systemic support and management to vitalize the PPP program." In contrast to Indonesia, as the Jakarta Post reports, out of all the PPP projects, only "13 out of 79 managed to get to pre-qualification phase."¹¹ The World Economic Forum also gives rankings of the quality of overall infrastructure for all the countries. South Korea is ranked 23 out of 148, whilst a country like Indonesia is 82, Thailand is 62, and the Philippines is 98. The lack of such low rankings falls down again to the fault of the government, which includes lack of enforcement and regulation, poor planning and corruption.

¹¹ The Jakarta Post "MP3EI Infrastructure Projects Flounder as Government Fails to Act" 2012 (<http://www.thejakartapost.com/news/2012/08/31/mp3ei-infrastructure-projects-flounder-govt-fails-act.html>)

SECTION 3: WHAT DO THE DIFFERENCES TELL US

Industrial Policies and Promotion

Ohno argues that even in a globalized world with free markets, the “role of government is very important in conducting a proactive industrial policy which facilitates the dynamism of the private sector by providing qualified human resources, incentives for R&D investment, and appropriate infrastructure.” Arguably, South Korea has done this significantly well whilst the Asian countries stuck in the middle-income trap has not, as examined in the previous section. The main lessons therefore for Asian countries is to adopt a similar R&D focused and driven approach, to ensure there is significant industrialization growth and diversification. Indeed, this is easier said than done, but as the paper will examine later, the structural deficiencies and weak political leadership and institutions are some of the largest impediments in allowing adoption of such similar R&D and human capital growth.

South Korea’s interventionist policies in the 1970s were actually similar to many of the Asian countries policies albeit in varying degrees of success, including the crucial and important pressuring of meeting performance standards and export targets. However, in the 1980s the government began to adopt, as many academics have shown or as Harvie and Lee helpfully states, a “more facilitatory role towards technological upgrading.” And as pointed out, the R&D efforts rose significantly and the private sector played a significant part. The same cannot be said of the other aforementioned Asian countries as shown by the significant low figures of R&D expenditure and patent applications. As Ohno implied in the previous paragraph, a structural transformation is needed from the government side to provide the work force and incentives for R&D growth, and become the necessary “facilitatory role.”

However this paper argues that under certain conditions, the role of education and R&D differ. In South Korea’s case the strong human capital and R&D was crucial in growing to become a high-income country from a middle-income country. The same cannot be said for low-income countries transitioning to middle-income, although they certainly played a very important role. The countries stuck in the middle-income trap should at least consider this to understand the priorities to transition from middle-income to high-income.

As an example, the command economies of Eastern Europe and Soviet Union had similar policies and framework as South Korea in the past, and both had a high premium on education and R&D. The command economies experienced similar rapid growth but it was not sustainable despite having some of the best education and R&D in the world. The main reasons why are often pointed to the lack of democratic and free market norms. This indicates that at least, education and R&D is still not enough alone to allow for the sustainable economic growth which is needed to transition to a high-income country. There is strong consensus that the role of these factors becomes increasingly important from the transition of middle-income to high-income countries.

Thus, Asian countries, which at least have the sufficient democratic and free market norms, should place education and R&D as a premium much as South Korea did. At this point for these Asian countries, it is time to indeed become the “facilitatory role” which would require strong government involvement and political will, similar to South Korea’s case. The facilitatory role would allow and promote R&D and education expenditure that would eventually increase and therefore, the progress of industrialization as well. This in turn is needed as many academics argue regarding the middle-income trap, is needed to sustain economic growth to transition to a high-income country.

The difference in levels of FDI as the paper mentioned was also an issue that should be taken into consideration to why industrialization is important. The high FDI in the Asian countries have certainly benefitted them, and countries like Thailand and Indonesia are able to assemble key components in volume of capital-intensive industries such as the automobile industry. But the majority of the process, mainly design and marketing is dependent on FDI and foreign assistance. As a result according to Ohno, “locals only assemble or produce “easy” parts while most value continues to be created and captured by foreigners.” For example, in Thailand’s automobile industry as cited by Ohno, roughly 30% of parts are imported, 45% supplied by FDI firms, and 25% consisted of locally produced relatively simple parts.

Ohno further points out that in Thailand “after four decades of industrialization, the lack of discipline and skills of workers and the shortages of top and middle managers are still at issue.” These types of problems were overcome in South Korea. This is not to say that Asian countries should forego FDI but that the heavy reliance on foreign management and technology especially in manufacturing is alarming. Again, South Korea’s lessons on industrialization prove to be valuable lessons for countries stuck in middle-income traps.

Schuman from the Times saw the relevance the independence from FDI and reliance on FDI in South Korea and Malaysia respectively. South Korea took upon policies where they focused on manufacturing on its products and although there have been painful efforts, characterized by Hyundai’s entry in to the US car market in the late 1980s. But according to Schuman, South Korea “is where it is today because its private companies have been working on getting there for a very long time, backed in full by the financial sector and the government.” This is in contrast to Malaysia where FDI is heavily relied on which leads to limited industrialization due to businesses being “content to squeeze profits from serving MNCs and maintaining their original, assembly-based business models.” Such patterns occur also in the other Asian countries, where there is a lack of government commitment to industrialize and move up the value chain.

Need of Strong Leadership and Institutions

Asian developing countries can learn a significant amount by understanding the gaps between South Korea’s situation and their situations. As noted in section 2, the Control of Corruption and Government Effectiveness was significantly lower for the Asian countries than South Korea. This is a serious impediment, which as many academics argue, hampers economic growth and transition to a high-income country. Industrialization requires a strong government system and leadership, not only a way to promote and drive technological growth and competitiveness but to allow the necessary conditions, which the private sector and markets need to play the critical and more effective role. Such conditions as the paper mentioned are better hard infrastructure, which includes transportation networks, and soft infrastructure, which includes an educated labor force with tertiary education.

This is what happened in South Korea, where the government initially drove industrialization and R&D progress. But as time went by, and the conditions were ripe for the private firms to move in, the private sector became the engine. Arguably, most Asian countries have followed a similar path, but as many academics argue, strong leadership and governance is required to drive the country to the high-income status. Ohno summarizes it well. “Liberalization and external integration can bring middle income, but aiming higher requires building of industrial skill, supporting industries and efficient logistics. This in turn hinges on government leadership beyond the Washington Consensus and strong private sector dynamism, two factors that are not easily amenable to external manipulation.” The government needs to take the economy and industry to the next level, something that South Korea has successfully done so far.

The differing fates of South Korea's Hyundai shipbuilding division and Indonesia's aircraft company provide us with a fuller description of the effective initial interventionist role and potential facilitatory role. While both governments intervened by providing financial and technical assistance, one was profitable and the other was not. Arguably, in a globalized world and with limited comparative advantage, countries like Indonesia cannot just simply adopt a Heavy and Chemical Industries Plan today, build a shipbuilding industry and succeed. Therefore, the market forces and private sector should lead the industrial and technological growth but the government must at least provide the necessary foundations and incentives, which South Korea did from the 1960s until 1980s.

However, incremental steps should be taken instead of overambitious technological and capital-intensive projects, and this is dependent of government action. But nevertheless, government involvement should at least require the commitment and business-mind set that South Korea had. There have been improvements on behalf of Indonesia's government and the private sector; mainly Indonesia's main aircraft company PT Dirgantara Indonesia, where the focus is instead as the Economist writes, "to lead Indonesia up the value chain of manufacturing." This type of commitment and business-mind set from the government should at least stem down to the required industrialization Indonesia needs in their still limited industrial and technological development.

Furthermore, an educated work force and high R&D could also prevent any potentially damaging import-substitution or industry protection policies. The damage can be increasingly high as the Asian countries are already operating in open and free markets amidst a global economy. The educated work force and high R&D that should be promoted by the government, would enable entrepreneurs and the private sector to adopt the technologies needed to add productivity and go up the value-chain. Protecting existing or potential industries by ways of direct government intervention may prove especially harmful for middle-income countries like the Asian countries this paper examines. Researchers like Baldwin have discussed the negative effects of infant industry protection. In South Korea's case the private sector and market forces are already guiding most of the economy, which at least ensures efficiency and sustainable growth.

In regards to the difference in hard infrastructure, the underlying culprit comes back to the government's responsibilities again. The reasons for a lack of hard infrastructure amongst the Asian countries are similar, mainly corruption, poor planning and regulatory issues. This leads to the private sector for example, not to invest in PPP projects as the future returns uncertain. The liquidity and capital actually already exist in the Asian countries' markets, but such impediments prevent them being put to use. Thailand according to the Economist for example, is "notorious for their procurements contracts' lack of transparency" and according to Aiyer et al., "insufficient road networks and telephone lines per head both emerge as potential risk factors for growth". Again, this is where the government needs to play a bigger role and take the decisions and policies to overcome the impediments that lead to growth in infrastructure.

CONCLUSION

From the findings of this paper, it can be summarized that for economic growth to work, the government must not only play an active role but also provide the necessary support and foundations, which deal with the structural weaknesses. In terms of industrialization, the private sector must be the driving force as seen in the case of South Korea, but the government must adopt a pro-industry policy or at least help foster such industrial and technological progress to go up the value chain. It must however be prepared with an educated work force and strong R&D to ensure its industrialization is fully developed. As Nungsari and Zeufack points out, one of the mistakes middle-income countries do is “a premature shift away from assembly manufacturing before ensuring an adequate supply of high-quality and competitive human capital to support the transition to higher value-added sectors.”

Such a work force and strong R&D, as this paper argues, requires the strong government system and will to ensure this occurs. South Korea’s society and culture certainly contributed to such progress but the intent and actions of the government shows how education, R&D and hence industrialization was a crucial priority. This includes the relatively high education and R&D investment and expenditure, compared to the other Asian countries. Furthermore, as the paper argues, the government is needed to make the right and even tough decisions and policies to ensure technological progress and sustainable economic growth. South Korea’s government has shown this through numerous examples and developments, whilst the other Asian countries have yet to make great strides.

To emphasize the point further, from the onset, it can be observed that the purpose of the government intervention of South Korea and other Asian countries as the paper argued was significantly different. The purpose of government intervention was to assist or produce companies to become internationally competitive and productive. In the countries the paper mentions, most of the government intervention involved greater amounts of rent-seeking activities and nepotism. As mentioned, the lack of export targets or pressuring of performance standards is indicative of this symptom in Asian countries.

The focus on Indonesia was also not by coincidence. Many countries, both low and middle-income rely significantly on natural resources, foreign direct investment and/or low-skill or “traditional” industries, and Indonesia is a clear example. However as Ohno states, those advantageous circumstances will “sooner or later come to a halt.” In Indonesia’s case, the Finance Minister has also publicly said that the resources boom has practically ended. Furthermore, Indonesia, which has also achieved relatively sufficient levels of democracy, has since accomplished stable and free market mechanisms and a macroeconomic framework from the Asian financial crisis, something that most countries will inevitably adopt or have adopted. For many countries, whose growth is from natural resources, foreign direct investment or low-skill and labor-intensive industries amidst stable market mechanisms and a globalized world, they will also eventually reach a point similar to Indonesia. The concerns though is when these countries reach that middle-income status or are already in it, akin to Indonesia’s conditions, will they share the same fate of being stuck in the middle-income trap? Empirical evidence and research have shown that the majority is in this case.

As the focus of this paper is on Asian countries stuck in a middle-income trap, the topics of financial and trade policies and reforms (this includes banking, corporate governance, exchange rate and foreign direct investment related issues) do not play as an important role as strong industrialization and government although most of them are inter-linked. Whilst those policies and reforms may or not be crucial in economic growth, most middle-income Asian countries at least have the certain policies and market mechanisms at place to allow for efficient and free markets and a sufficient capitalist system. The post-effects of the Asian financial crisis, which was caused by a lack of financial and macroeconomic management, at least has shown that many of the countries that suffered have learnt their lesson. The fact that South Korea and the rest of the Asian countries diverged in the Asian financial crisis thus implies there are more crucial factors than financial and trade policies and mechanisms for countries stuck in the middle-income trap. In fact, Malaysia, which also recovered quickly after the Asian financial crisis, used capital controls mechanisms which are almost entirely different mechanisms than South Korea’s response.

Overall, South Korea’s economic development experience is interesting because of its capability to provide lessons for both low-income countries, and countries stuck in a middle-income trap. In regards to low-income countries where the markets and industry are still in its initial stages, South Korea’s interventionist albeit controversial policies can provide important lessons. However, for middle-income countries stuck in the trap, these policies and actions take a smaller role, and may even have negative effects if implemented especially amidst efficient and developed markets, and a global economy especially considering China become an important player in the international market. How South Korea provides such lessons for these countries is simply that South Korea got the “basics right.” This requires the proper industrialization policies and strong political will and governance to ensure the right conditions are set to sustain the economic growth to transition to high-income status.

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