Patterns of Investment in Countries at Different Stages of Development

Introduction

Investment plays an important role in the economic development process, as it expands a country's productive capacity of physical and human capital. Total investment comprises capital spending by both the private and public sectors, with the public sector's role being mainly to focus on providing basic and necessary infrastructure to support private sector economic activities. As an economy develops, patterns of investment spending tend to expand to involve more diverse types of economic activities.

This article analyses the patterns of total investment as a percentage of gross domestic product (GDP) in countries at different stages of economic development. By analysing the investment patterns of different groups of countries, the article assesses whether different stages of economic development, as measured by nominal income per capita, correspond to particular levels of investment relative to GDP. The second part of the article discusses the reasons for the steady decline of the investment-to-GDP ratio as a country becomes more developed. The final part of the article assesses whether there is a distinctive, overall trend in the investment–to-GDP ratio as a country progresses from a low to a high income economy.

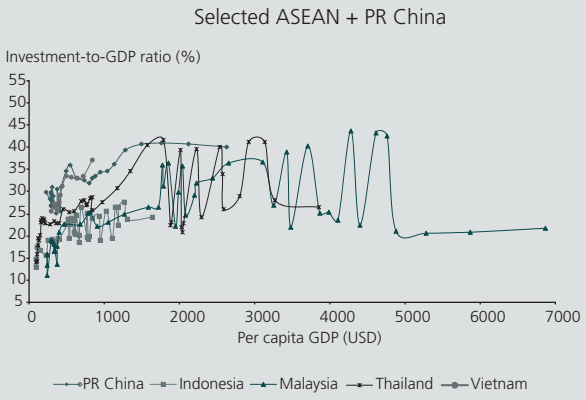
Do stages of development influence investment levels?

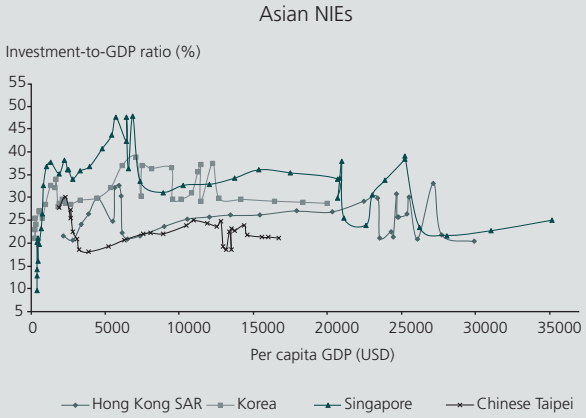
Analysing the investment-to-GDP ratios of the 14 economies in Chart 1 in relation to income per capita shows that there is no common investment level associated with any particular stage of development. Countries have different investment expenditure as a percentage of GDP even at similar stages of development. For example, at the same USD1,000 income per capita, Malaysia's share of investment to GDP was nearly 22%, Thailand 28%, while PR China is even higher at 35%. In certain cases, a country's investment-to-GDP ratio is twice the level of another country although both have relatively similar incomes per capita. For instance, Singapore's investment-to-GDP ratio is 40% at a per capita income of USD6,000, roughly double Chinese Taipei's investment-to-GDP ratio which has a similar income per capita.

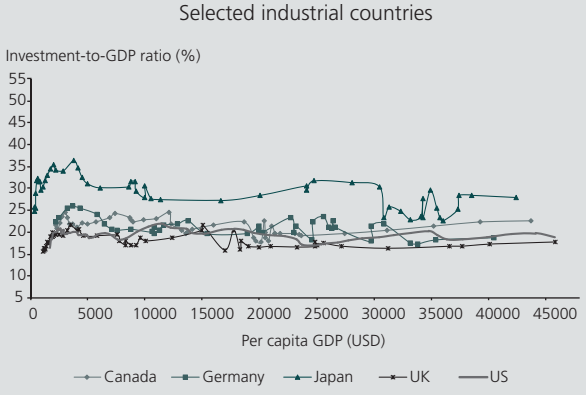
This suggests that there are other factors that influence a country's investment expenditure as a percentage of its GDP. Three factors are particularly important. The first factor is the growth strategies that countries pursue. For example, countries that adopt aggressive export-oriented industrialisation strategies, which often involve promotion of inflows of foreign direct investment (FDI), tend to have higher investment ratios. The industrialisation process is generally driven by rapid expansion of the manufacturing sector, which is more capital-intensive since it requires the private sector to invest heavily on machinery and equipment. In addition, as the industrialisation process intensifies and contributes to a higher level of income per capita, the level of investment also increases as the country moves up to higher value-added manufacturing activities. In the case of countries relying on FDI, the high investment ratios may persist if foreign firms continue to expand the initial investment and reinvest their earnings in the host economies.

The second factor relates to the role of the public sector in the economy at the different stages of economic development. The experience of ASEAN, Asian NIEs and PR China show that investment undertaken by the public sector is high at the early stages of the development, in particular in the areas of transportation infrastructure, utilities and education, which is necessary to create a conducive environment to support private sector activity as well as in attracting FDI.

Chart 1
Selected Economies Pattern of Investment







The third factor that may influence the investment-to-GDP ratio is whether the countries have natural resources. Countries which lack natural resources or land, such as Singapore and Japan, have higher incentives to attract and nurture strong, diverse and capital-intensive industries. Resource-rich countries, on the other hand, may have lower investment ratios as they seek to exploit their natural advantage, which tend to involve lower capital input. This is especially true if countries do not expend much effort to generate higher value added from these natural resources, particularly in developing downstream activities.

Why does the investment ratio decline steadily as an economy becomes developed?

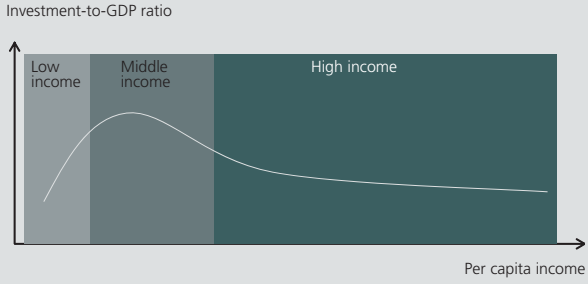
As shown in Chart 1, industrial countries tend to have lower and more stable investment ratios, with the ratios converging within a smaller band of between 15-25% of GDP, except for Japan (20-35%). This may be the outcome of the rise of the services sector as the largest economic sector as an economy becomes more developed. The services sector, by its nature, is less capital-intensive, but has a higher value-added relative to the manufacturing sector. Unlike the export-oriented manufacturing sector, the services sector is more related to and has higher reliance on private consumption spending. Indeed, private consumption is higher in advanced economies, mainly in line with their high level of income, which is one of the major determinants of private consumption expenditure.

The investment ratios of the Asian developing countries tend to lie within a relatively wider band of 10-45% of GDP. In addition, the investment ratios are also more volatile compared with the industrial countries. This may be due to the diverse characteristics of the countries, in terms of the degree of openness, production structure, investment policies, and the mix of capital and labour in the economy. For instance, a more open economy is often associated with a higher investment ratio at any given income per capita, but may be more susceptible to external demand volatility.

Chart 2
Pattern of Investment as Countries Move Across Stages of Development

Scatter plot

Possible investment path across development stages



Is there a distinctive trend for the investment-to-GDP ratio across the different development stages?

Despite considerable heterogeneity across countries as outlined above, there seems to be a broad common trend in investment-to-GDP ratio as countries move from one stage of economic development to another, as suggested in Chart 2[1].

First, low income countries tend to have a rapid increase in their investment-to-GDP ratios. During the early development stage, nations need to build up basic and necessary infrastructure in order to get the major factor markets connected and functioning properly, for example, through building road and transportation networks. This would require high initial investment. In addition, economic activity is typically concentrated in labour-intensive commodity production and basic assembly operations. Hence, although the amount of investment involved may be smaller, the growth of its share to GDP is more significant. Also, the increase in investment-to-GDP ratio is a reflection of the cost of acquiring the latest technologies from foreign companies in the more advanced countries. The technology acquisition approach represents a quicker way to moving up the development ladder.

[1] Excluding the last few observations in the scatter plot related to those with highest income per capita, the trend line in the scatter plot can almost exactly replicate the path projected in the second chart.

Next, the investment pattern stabilises in the middle-income stage. As economic activity becomes more sophisticated, and as countries move towards higher value-added activities in the supply chain, they need to improve and upgrade their infrastructure. This includes, for example, more advanced ports with higher capacity, telecommunications, and utilities infrastructure. Furthermore, their industrial structures may also entail high investment. Moving from simple assembly operations to wafer production for instance, requires high investment since the new process needs different and almost certainly higher cost machinery and inputs.

Finally, advanced countries tend to have lower investment ratios, generally due to their shift towards services and greater consumption spending, which leads to a larger consumption-to-GDP ratio. They also have bigger and more efficient services sectors that serve their domestic economies. Since the services sector tends to be less capital-intensive, the overall share of investment to GDP is lower. Another contributing factor is the relocation of the major economies' lower value-added production activities abroad as a means to remain viable through lower costs. Firms still retain part of the production supply chain in the developed economies especially the higher value-added activities, as the developed economies tend to be driven more by innovation and knowledge-based activities. Investment expenditure then focuses more on improving learning and fostering innovation, rather than spending on heavy machineries and physical capital inputs.

In the case of Malaysia, during the early stages of development, major economic activities were concentrated on exploiting the rich natural resources. During the early stage of development, Malaysia was heavily dependent on the resource-based sector through production and exports of major commodities such as rubber, tin and later, palm oil and crude oil. Investment expenditure was mainly concentrated in developing and improving higher-yielding agricultural crops as well as the provision of basic infrastructure by the public sector. The global economic crisis in the early 1980s prompted the Government to diversify the sources of growth and pursue an export-oriented industrialisation strategy. The active promotion of a capital-intensive manufacturing sector led to rising private investment particularly through high FDI inflows, which resulted in a higher share of the manufacturing sector in the economy. Public investment was also sustained as the Government, through its privatisation exercise, embarked on improving further and upgrading infrastructure such as roads, ports, airports, telecommunications and utilities. Investment peaked at 43.6% of GDP in 1995. After the Asian Financial Crisis of 1997/98, however, the investment-to-GDP ratio declined and stabilised at lower levels as the less capital-intensive services sector became more prominent, while large-scale public sector infrastructure projects, which were mainly started prior to the crisis, were completed.

Conclusion

In summary, this article analyses patterns of investment in countries at different stages of economic development rather than across time. A few observations could be drawn from this analysis. First, there is a wide range of investment-to-GDP ratios among countries, even within the same income band. This suggests that there are factors other than the level of income that influence investment ratios. The development and industrialisation strategies, role of the public sector as well as the existence of natural resources are important determinants. Secondly, investment ratios for more advanced economies tend to stabilise at a relatively lower rate. This largely reflects the shift towards higher value-added but less capital-intensive and services-related activities. Finally, there is a broad pattern of investment–to-GDP ratio as countries evolve through the different development stages as measured by level of per capita income – a rapid rise in investment at the initial stage of development, followed by a stable investment ratio as it reaches the middle income stage, before converging to a lower investment ratio as a more advanced stage of development is achieved.