



The convergence question

November 2018

The idea of convergence is a powerful one for many emerging market investors. The idea that emerging countries will inevitably experience “catchup” economic growth to developed markets is a key part of their appeal.

We have written before about the tenuous link between economic growth and market performance¹, but it is certainly a better backdrop for market performance to have years of strong growth, than not.

This note looks at convergence. What is it? Why should it happen in theory? Is it a sure thing? And what factors make it more likely or less likely in practice?

Convergence: the theory

The way we think about convergence has its origins in the Solow growth model proposed in 1956. This model of the economy suggests output depends on inputs of capital and labour, as well as a factor for technological advance, which represents the extra use a unit of labour can make of “better” capital. The output is used as consumption and savings. As the model assumes a closed single economy, hence no capital flows, the savings have to cover depreciation of the capital and new investments.

The implications of the Solow model are that there are two main engines of per capita growth: growth in the capital stock and improvements in technology. The growth of capital is assumed to suffer from diminishing returns. In the long run capital spend will equal depreciation, and growth can only come from an increase in technology. But economies can have “catch-up growth” if the technological growth has outstripped the capital growth for some reason, providing a boost to the returns to capital investment. A real world example would be the great depression followed by WW2, where there was plenty of technological advancement, but little capital was invested to take advantage of it. This allowed for considerable catch-up growth in the 1950s.

The Solow model has implications for emerging market convergence. If a poorer country receives access to technology from richer economies then there will be a gap between its old and new production capabilities, allowing for higher levels of investment and hence growth. This high return on capital should attract flows from abroad to provide the effective savings pool necessary to fund the capital growth.

Nicholas Field
Global Emerging Market
Equity Strategist

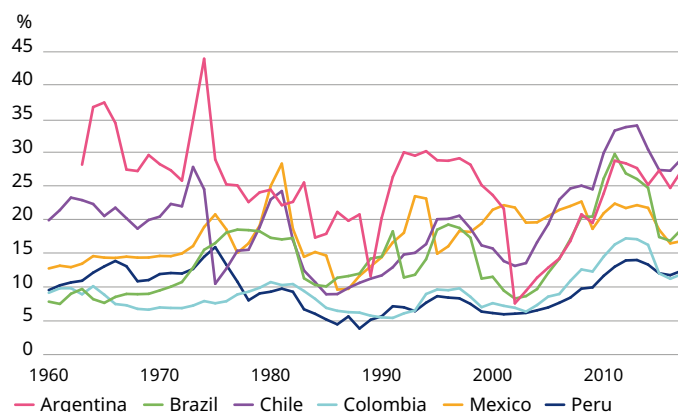


This theory has been influential in how investors and policymakers think about growth and convergence. Whether its framework is realistic in the real world, however, depends on a lot of practical considerations and constraints. How has convergence worked in practice?

Convergence: the facts

Emerging countries have a very patchy record of achieving convergence. To show this we have a series of simple charts looking at the trend in GDP per capita in a country relative to that of the US. Everything is measured in current US dollars². First up is Latin America.

Figure 1: Latin Per Capita GDP relative to USA



Source: World Bank (WDI). Data as at August 2018.

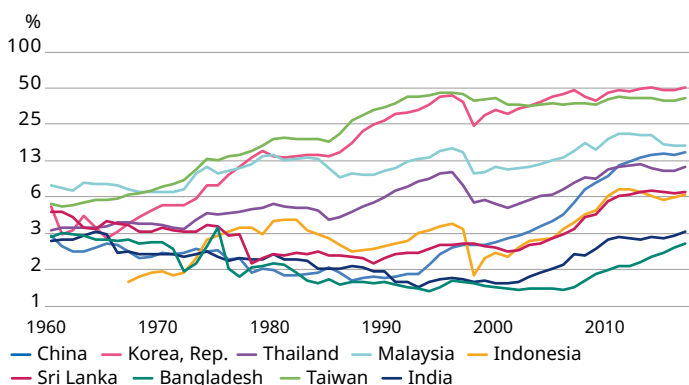
2 Our source is the World Bank database. We do not use PPP measures to convert currency rates, as many academic studies do. PPP is a somewhat theoretical construct and currencies rates have generally failed to converge to PPP rates over extended periods of time. The problem is that a basket of domestic goods will always be cheaper in a country with a small capital base and lower incomes. Using PPP rates tends to assume that the basket of goods will get more expensive as the economy grows – ie to some degree it assumes convergence within it.

1 <https://www.schroders.com/en/uk/pensions/insights/thought-leadership/why-economic-growth-has-been-a-mirage-for-emerging-market-investors/>

Since 1960 there has been no meaningful convergence in Latin economies. Brazil has made some progress, but none since 1980. Chile has also improved a little. But what we can see is many long trends upwards followed by rapid declines. There have been periods of strong convergence, but as a cursory glance at history will tell you, these mostly run into major financial crises and the gains are given back rapidly. Arguably these uptrends are not real convergence, but merely a measure of business cycles.

A stark contrast to Latin America is found in Asia. Here the range of outcomes is sufficiently different that we have had to use a logarithmic scale.

Figure 2: Asian Per Capita GDP relative to USA



Source: World Bank (WDI). Data as at August 2018.

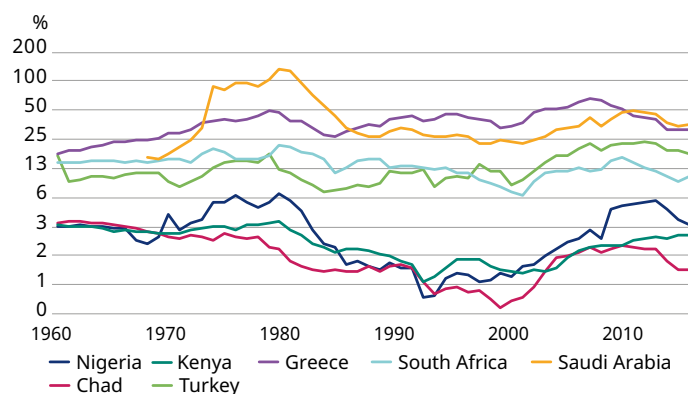
Korea exhibited a strong convergence trend. In the early 1960s per capita GDP was only about 3% of that in the US. By 1996 it was over 40%, despite a languor in the 1970s. Taiwan also converged a similar amount from the 1960s. The Asian crisis of 1997 seemed to mark an end of this trend for these two countries although there was some further convergence in the recovery. Korea now stands at about 50% of US per capita GDP, Taiwan at 40%.

A number of other countries have converged, if somewhat less impressively than Korea. It has been a bumpy ride in Indonesia, though relative per capita GDP has moved from less than 2% to around 6%. Malaysia has also seen modest improvement. The clear standout in recent years, however, is China. After years of going backwards, China moved from under 2% of relative per capita GDP in the early 1990s to 15% now.

Lastly, we have two “Frontier” countries in Bangladesh and Sri Lanka. For the vast majority of the time period considered, these two economies were going backwards, relatively speaking, though a more encouraging trend has been seen since the early 2000s.

Next up is a selection of countries from Europe, the Middle East and Africa, again on a logarithmic scale.

Figure 3: EMEA per capita GDP relative to USA

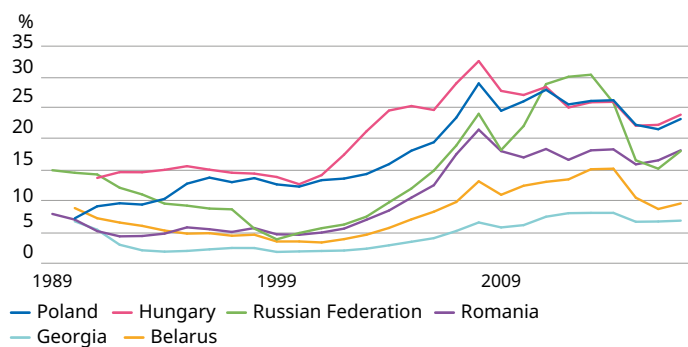


Source: World Bank (WDI). Data as at August 2018.

Again, there is not much sign of convergence here. Saudi Arabia appeared to be converging strongly in the 1970s. In retrospect, however, that was just the oil price spikes of the time and the country has since lost over 70% of its relative GDP per capita. Greece went from 17% of US per capita GDP to 66% in 2008, but the Greek economic crisis since then has been extended and deep and the country has lost half of its relative GDP. South Africa and Turkey appear to have volatility but no overall trend and the sub-Saharan African countries show decline and recovery, but have made no relative progress since 1960.

Lastly, we will take a look at how parts of the former Soviet Union have fared since 1989.

Figure 4: Ex Soviet Per Capita GDP relative to USA



Source: World Bank (WDI). Data as at August 2018.

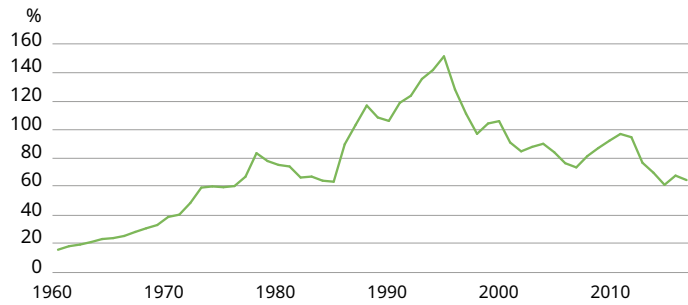
There seems to be a consistent pattern: a stabilisation or decline for a few years as economies adjusted to no longer being communist, followed by strong growth rates through the 2000s and a stall since the global financial crisis. Russia has clear signs of following the path of oil as well. Overall, the amount of convergence has been modest – note that we do not need a logarithmic scale to show these countries.

We can see then, that countries do not naturally converge. In general, despite sometimes exhibiting lengthy up-trends, most emerging markets have made little progress towards US levels of GDP per capita. But there are two noticeable exceptions – Korea and China. What is it about the economic model in these countries that has allowed convergence versus the others? In the next section, we shall examine this through the example of the biggest convergence story of them all in the 1960s and 70s – Japan.

Japan

In 1960 Japanese people were only about a fifth as rich as their US counterparts, on average. At the height of the Japanese bubble in 1989 they were at parity and at the height of the yen spike in 1995, they were one-and-a-half times richer. The long unwind from the Japanese bubble is a story for later. But what was the economic model that led to the extraordinary rate of convergence through the 1960s and 1970s?

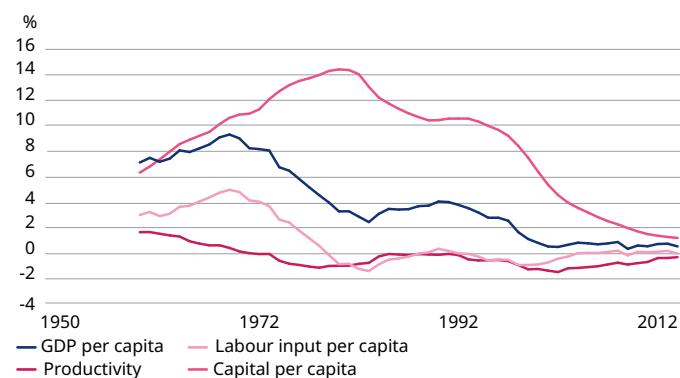
Figure 5: Japan GDP per Capita vs US



Source: World Bank (WDI). Data as at August 2018.

To try and answer that question we need to try and find in what way the Japanese economy was outgrowing the US economy. And to do that we are going to examine the relative growth in terms of its factor inputs courtesy of the Penn World Tables. This approach to growth accounting looks at per capita growth as a product of growth in the labour input (real number of hours worked), growth in the capital input and growth in productivity. So, it is trying to match growth to a Solow model type framework. The results are below, expressed as 10-year annualised averages of the relative growth between Japan and the US. The dataset starts in 1950 and ends in 2014.

Figure 6: Japan productivity



Source: Haver. Data as at August 2018.

At the starting point for our convergence chart above, Japan had seen 10 years of productivity growth 2% better than the US, 2% more labour growth and 2% more capital growth. As time went on capital growth began to dominate more and more until, by the late 1970s, it was providing all of the convergence. Indeed, one might argue that it was at this point that further relative capital investment stopped producing relative productivity gains, meaning that capital

was increasingly financed by (relative) debt growth, rather than income growth. Was this when the “bubble” phase of Japanese growth began? We’ll return to this point later.

It is easy to envisage how this convergence strategy becomes self-sufficient after a while. The addition of capital in the form of new infrastructure and centres of production, increases productivity, making for an increasingly competitive economy. Productivity improvements fuel income growth, which can fuel an ever-larger pool of savings to fund further investment, and so on. All very consistent with the Solow model of growth. Of course, a range of other policies is needed to prolong the virtuous cycle. For example, education must be invested in to improve the human capital, or productivity will not result. Another example would be maintaining some level of efficiency in public investment. Clearly, some of the infrastructure will need to be government-funded (e.g. early-stage transport) and excessive corruption can thwart this. But there is one area probably more important than these considerations which was covered rather glibly in a sentence above and is just assumed in the Solow model – “income growth which can fuel an ever larger pool of savings”. This does not necessarily happen. And questioning this statement raises the whole issue of how the virtuous cycle is financed.

The potential problem is that rising incomes could be spent and not saved. More specifically, spent on goods from abroad (spending on domestic goods allows surpluses to build up in the corporate sector rather than the personal, but it all counts to national savings and can be recycled into investment). At worst, a short burst of productivity and income growth could be boosted by some increases in personal debt and then all spent on foreign goods. A key part of policy is therefore to make sure this does not happen. These practicalities take the real world away from the Solow model, which does not take account of finance and assumes a closed economy.

Japan in the 1950s and 1960s certainly seemed to have found the answer. Whether by design or by accident is not clear. The key was in the structure of the corporate sector. Before WW2 the Japanese corporate sector was dominated by a small number of family owned conglomerates – the Zaibatsu. These conglomerates usually included a bank, a manufacturing arm or arms and some sort of international trading operation.

During the 1930s the Japanese military took over a number of the Zaibatsu to ensure the manufacturing capacity was focused on military hardware production. After the war the occupying US authorities did not wish to rehabilitate the Zaibatsu, viewing them as an active constituent of the military regime’s power base. However, the Americans did wish to reignite the Japanese economy in order to stabilise the country and maintain it within their sphere of influence, given the onset of the cold war. The Zaibatsu were broken up and sold into separate public ownership. At least that is how it appeared. Elements of the old Zaibatsu owned each other in a complicated web of cross shareholdings.

The Korean War also made Japan an important source of production for that war effort, so the US was not keen to push too hard. So the Zaibatsu system was replaced with the Keiretsu system, which was more or less the same, with the individual companies in the Keiretsu having some public ownership even though the families maintained control. Of the four largest Zaibatsu – Sumitomo, Mitsui, Mitsubishi and Yasuda – three survive to this day.

What did this structure achieve? The key to rapid development was to run some parts of the Keiretsu without profit maximisation as a goal – in particular the banking part. The bank needed to gather deposits and therefore needed to pay a reasonable rate. It also needed to distribute capital to other parts of the Keiretsu at cheap rates. The bank itself is unlikely to make much profit from this – any return on equity the banking arm generates is going to be from growing loan volumes, rather than return on assets.

The flaw in this structure is the lack of market discipline in making capital allocation decisions, and the tendency to create domestic monopolies. Typically, the Keiretsu were closely connected to the government and would often be given protected status in the Japanese domestic market (some of which is still the case). The key here was to have some relatively sensible planning at a government level and the Japanese ministry concerned – MITI – had almost legendary status in global policy circles by the 1980s. However, monopoly power can create problems across economies, as easy profits encourage wasteful capital allocation. And no matter how skilled the civil servants, with political objectives as important in asset allocation as the objectives of sprawling family controlled enterprises, the risk of vanity projects and white elephant spending is high.

So, what makes the benefits outweigh the flaws? Monopoly power was never given to industries in which Japan wanted to compete on the international stage. There may have been protected areas in agriculture for example, but several Keiretsu were permitted to compete in automobile production domestically. Monopoly power allowed the Keiretsu to make excessive profits, which, as long as the Keiretsu invested the proceeds into the competitive export side of the business, added to the convergence.

To summarise the Japanese post-war model:

- Provide an attractive enough rate to encourage saving
- Provide cheap loans to key business
- Protect the inevitable weak returns for banks by embedding them in a conglomerate
- Protect conglomerates' profits by giving them monopolies in some areas to allow for high corporate savings
- Use all these savings for high levels of investment. Ensure there are sufficient barriers to trade (explicit or implicit) to make sure all of the savings are not spent on consumption

- Promote competition in key industries aiming to export. Gradually, as industries become internationally competitive, trade surpluses add to the national savings pool. Allowing for even more investment

There is a limit to this growth model that is itself a feature of the theoretical Solow model. Capital investment suffers from diminishing marginal returns as the capital base converges to the technological frontier. In other words, as convergence occurs, the capital allocation decision gets more difficult. But Keiretsu still have access to cheap loans and monopoly type profits. Politicians and industrialists are not going to change an economic model that has worked well for them. So, the Keiretsu system produced more and more assets with lower and lower returns – in other words shrinking productivity. Eventually bad debts piled up in the banking system and a banking crisis resulted (although that is clearly something of a simplistic description of a complicated phenomenon). In 1989 the capital stock per capita of Japan was still less than half that of the US. In that regard, Japan had not yet converged, and the marginal return on capital should still have been reasonable. But per capita incomes were higher than in the US, indicating a severe overvaluation of the entire Japanese economy. Perhaps this is indicative of the limits of the Japanese model of convergence.

Essentially, what has been described is a system of practical implementation of the insights from the Solow model. A few other countries seem to have done this successfully too:

- Korea has run almost a direct copy of the Japanese system with the role of Keiretsu replaced with the Chaebol
- China has run a similar system but using direct state ownership of key industries (and the banking system) to mimic the Keiretsu structure
- Although not an emerging country, Germany recovered strongly from WW2 by operating a similar system as Japan, with the role of Keiretsu replaced with non-formal conglomerates bound together with cross-holdings in each other. The requirement for a banking system that didn't maximise profits was fulfilled by the large section of the banking system in the public sector – the Landesbanks

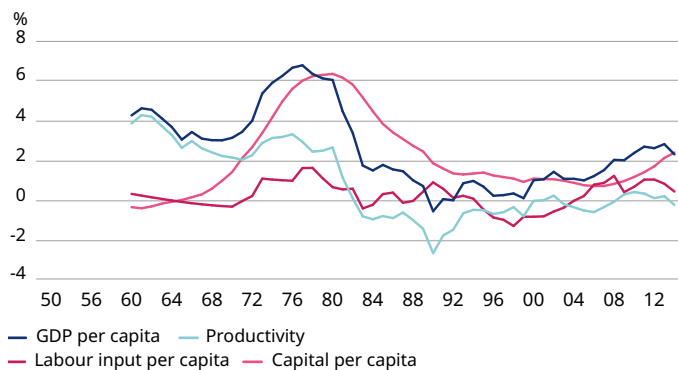
In short, a number of countries have used a sort of state-sponsored capitalism to converge rapidly. Others have tried something similar but not managed. What is different about them? Next we look at a country that has not converged – Brazil.

Brazil

We have seen, in the Latin American chart earlier, that Brazil has not converged with the US over the last 60 years or so.

Unsurprisingly, the chart of Brazil's GDP in input factors is quite different from that of Japan.

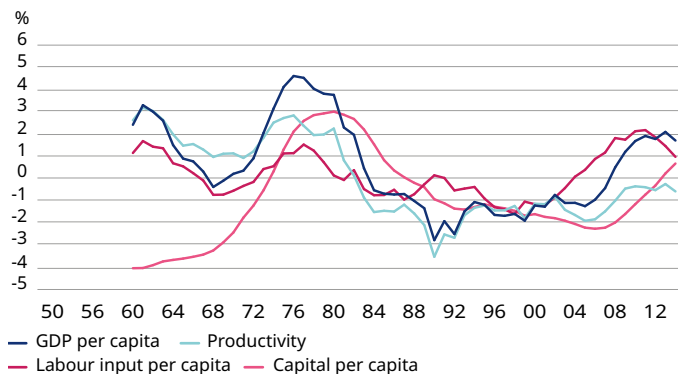
Figure 7: Brazil productivity



Source: Haver. Data as at August 2018.

In the 1950s and 1960s the chart looks a bit Japanese – reasonable productivity and high investment levels. But this is a chart of absolute levels. Now look at the chart of factor inputs relative to the US – that is what matters for convergence.

Figure 8: Brazil productivity vs US



Now we see problems in the 1950s and 1960s. Brazil was not investing enough; in fact the capital input was dropping relative to the US. When it finally picked up in the 1970s, it did not lead to improved productivity growth. So what went on in Brazil?

Brazil had a very different style of government to Japan in the 1950s. The country had no experience with mass democracy. Since the removal of the monarchy in the 1880s the country had been run by a narrow clique of the wealthy from two states - Minas Gerais and Sao Paulo. It was more or less a continuation of the elite who ran Brazil during the monarchy, composed of large land-owning (and former slave-owning) families. A fair characterisation would be an elite representing the agricultural interest rather than the industrial interest. The franchise was very limited – only about 5% of the population. Naturally enough, when

change came in the 1930s it replaced a near autocracy with an actual one – a fascist state on European lines. Although this too was overthrown in 1945 and some voting actually allowed to take place, Brazil elected the former dictator Vargas back into power in 1951 and he was followed by a succession of right wing populists.

A crude sketch of the Brazilian economic model to 1930 would be rural vs urban, which is to say that the economy had never developed a manufactured goods sector to supply its own growing population and hence had no middle class. Instead, the elite bought in goods from Europe and the US and the only meaningful exports were agricultural goods. Without a meaningful middle class there was not much call for a large banking system. Banks were small and largely involved in funding the government and providing cheap loans to the elite. The propensity of both of these borrowers to default meant the banking system remained small and undercapitalised.

The advent of right wing populism in the 1930s did not change this set-up much. Indeed, if anything, it intensified it. To satisfy the need of his popular base Vargas (dictator to 1945 and elected president from 1951-54) tried to spend money to push the economy. Though, without much of an industrial base and hence with a limited tax base, this could only be done with deficit financing. Given the state of the banking sector there was no obvious buyer of government paper, so much of the deficit was funded by direct financing from the central bank. The result was inflation. And this pattern was repeated by Vargas' successors.

Through the late 1950s inflation averaged a little below 20%, at a time when there was precious little inflation in the rest of the world. Vargas also established the BNDES – a government investment bank to try and kickstart an industrial economy. Although a number of Brazilian enterprises were started at this time, cheap loans funded by money printing did not help macro stability.

Compared with Japan, Brazil had a limited industrial base and a small and ineffective banking system. It is no wonder that it was falling so far behind the US in terms of capital inputs. Despite this, overall growth per capita was improving in the early 60s relative to the US as productivity was strong and demographics helped the hours worked numbers. Despite the lack of capital input, productivity was able to grow as the major technological advances in the early 20th century – such as electrification, sanitation and antibiotics – fed through, despite Brazil's poor governance. Even this faded somewhat, however, so that by the end of the 1960s Brazilian GDP per capita had not grown vs the US for 10 years.

The 1970s were a boon as global inflation took off and with it commodity prices. Despite ever more inflation pressure, Brazil was an undoubted beneficiary of the commodity boom. This allowed for some capital growth. Briefly Brazil was able to mimic the export surpluses common in a country like Japan, allowing for a better capitalised banking system, better government finances and less (relative) inflation pressure.

However, the global recession of the early 1980s and monetary stabilisation programmes in the developed countries put paid to that. Furthermore, Brazil embarked on a transition to full democracy as well. The gradual build-up of institutions to manage a modern economy was painful, with a number of episodes of hyper-inflation only finally ending in 1994. Only right at the end of the chart (2007- 2014) do we see some catch-up growth and even then it was mainly due to demographic factors.

To summarise the Brazilian problem in Solow terms, for structural and institutional reasons, Brazil was unable to generate a secure savings base and hence remained underinvested.

Lessons from Brazil and Japan

The key message to take from the contrasting fortunes of Japan and Brazil is that governance and political structures matter. Also hidden in the history is a story of initial conditions. By definition, a less developed country lacks a capital base. To converge you must have a source of capital. Developing that capital internally is a slow process of steadily building up a consumer society in a cycle of investment, leading to a bigger wage base, leading to consumption and more savings, leading back to more investment. This is the “grit” in the Solow model. The recycling of savings into capital is slow and never smooth, with regular banking crises as one or more parts of the cycle get out of kilter – a pattern we see throughout nineteenth century Europe and the US. To experience the sort of rapid growth Japan (and Germany) saw after WW2 and to secure the political structures, a large capital injection is very helpful. Japan got one via the Korean War and Europe benefited from the Marshall plan. Brazil had no such help.

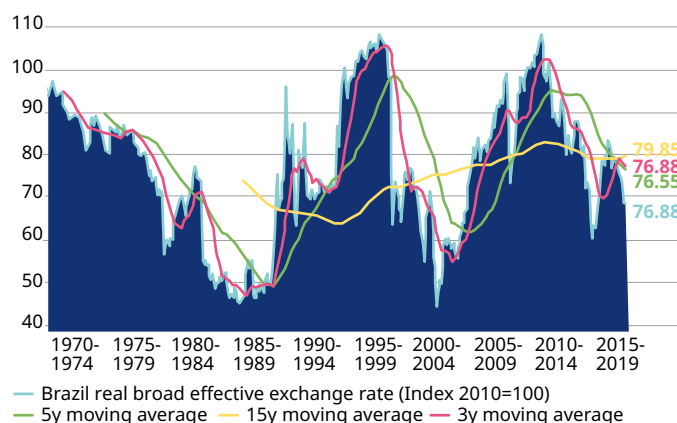
There is another way to bootstrap rapid convergence, however.

Securing convergence via trade

The countries that have converged to the US the most, have all started the process by becoming export power-houses. Trade surpluses allow you to short circuit the slower process of building up domestic savings to fund further investment, by building up external savings instead. But how to go about building up an export economy? For Germany and Japan initial conditions in 1945 were important. The post-war economic order was dominated by a fixed exchange rate system, set up at the Bretton Woods conference in 1944. War-ravaged countries naturally entered at a low exchange rate, reflecting their largely destroyed economies. And the Allies were keen not to repeat the mistakes of the First World War, when a damaged Germany was given a debt burden its broken political and economic structure could not manage.

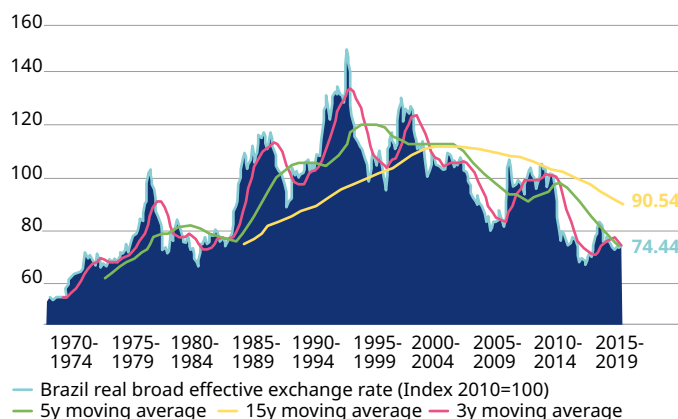
Brazil had no such benefit. In Figure 9 and 10 we can see the real effective exchange rates at the time Japan and Brazil left Bretton Woods when it collapsed in 1970. As soon as the exchange rates were allowed to float the yen appreciated, suggesting it was undervalued.

Figure 9: Brazil real effective exchange rates



Source: Eikon, Thomson Reuters, JPM. Data as at August 2018. Historical trends are not indicative of future trends.

Figure 10: Japan real effective exchange rates



Source: Eikon, Thomson Reuters, JPM. Data as at August 2018. Historical trends are not indicative of future trends.

Korea and China had no Bretton Woods advantage, but managed to maintain competitive exchange rates at the beginning of the periods of their rapid convergence by means of capital controls. It is a truism of monetary management that you cannot control interest rates and the currency rate all at the same time in a world of free-moving capital. A key part of the Japanese model was to maintain the flow of capital to business and to do this it required low interest rates and a stable banking system. Weak currency and low interest rates are not always manageable with free-moving capital. The answer was not to have free-moving capital. Korea had exchange controls until the 1990s. China still has them.

Why convergence fails

The fact that currency manipulation appears to be a part of successful convergence stories highlights a problem between simple economic models and real world experiences. In theory, emerging markets should be devourers of external capital. The idea is easy enough – emerging markets, due to their smaller capital bases and potential for convergence, offer much higher rates of return. In other words, real yields are higher. Capital

flows towards the highest return, and so emerging markets should run capital account surpluses and – the offset to that – current account deficits. Why do successful convergence stories seem to do the opposite?

The problem here is something not covered in the economic models – the role of the financial system and the difficulty with pricing risk. External financing comes in (broadly) two forms. One is foreign direct investment where an external actor buys a domestic firm or asset. This might broadly be considered to be long-term investment and is generally a “good thing”. The other type is “portfolio flows”, which can be investing in local public equities, but the bulk of which is often in debt instruments. Such flows are often short term, but can also be addictive to local banking systems.

An example would be what happened to Korea when it removed restrictions on short-term capital inflows in early 1996. Asia was growing strongly at the time. Korean real growth was 9.2% in 1994 and 9.6% in 1995. Average commercial paper rates were up to 14% against inflation of below 5%. Naturally enough, Korea was flooded with short-term inflows, a lot of them into the banking sector. Also naturally enough, Korean banks used this foreign funding to lend more.

When the Asian crisis broke out in Thailand in the autumn of 1997, foreign investors across all of Asia suddenly became risk-averse and the capital that had flowed into Korea flowed out dramatically. Bad debts at the banks multiplied and with foreign funding gone, they required recapitalising. The IMF had to be called in to help and GDP dropped over 5% in 1998 – by far its worst year since records began in 1960 (the next worst was about -1% in 1980).

In a nutshell, here is the problem with the theory of capital flowing to where the best returns are – it imposes a lot of short term volatility on an economy. And the world is not full of perfect investors with rational expectations and a long time horizon. Nor is it full of stable political systems planning careful convergence.

The resulting volatility of capital places a large cost on an economy, which in turn raises the risk premium embedded in interest rates, meaning that obtaining long-term funding

for domestic investment is more difficult. Another example is how monetary policy becomes the opposite of what it should be during difficult times for the economy.

Going back to Brazil, during the 2002 crisis surrounding the election, the central bank was forced to raise rates to 25% to try to contain the currency drop caused by foreigners and Brazilians moving capital off shore. Inflation suffered from currency pass-through, peaking at 17% in 2003. And the very high real yield then slowed the economy. So, due to the fears of foreigners about the new president, Brazil was pushed into a period of stagflation.

Other requirements for convergence

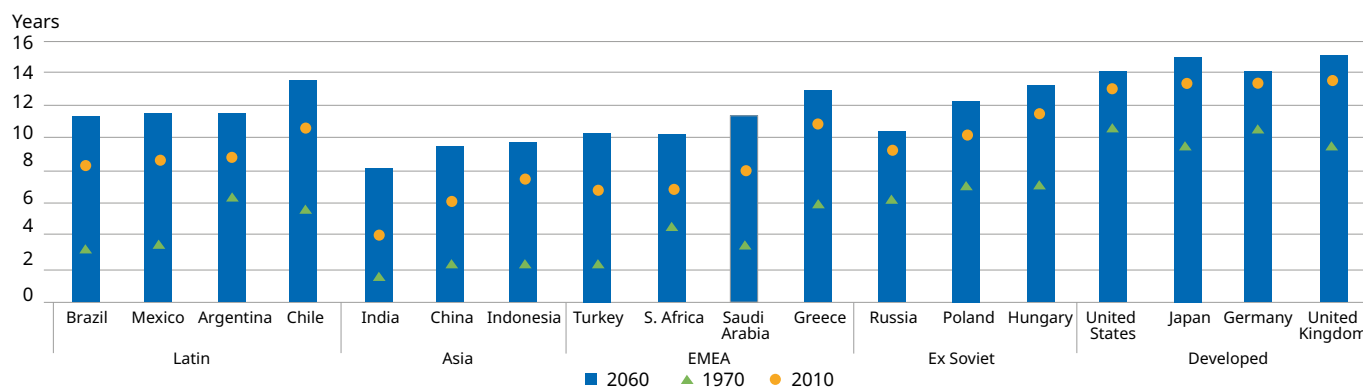
Is all you need to converge a large pile of savings? Not quite - it seems you need some other things as necessary but not sufficient conditions.

The problem is that there is little evidence that this is a sufficient condition for convergence. The chart below looks at average amount of schooling received in 1970, 2010 and a projection to 2060. Everywhere has seen a significant improvement, but not everywhere has converged. And, of course, this measures only quantity of education, not quality.

The second factor is a more nebulous collection of long standing political or power structures in a country often referred to as “institutions” or “rule of law”. The idea here is that the entire policy structure of a state can be biased towards some minority vested interest which works against long term economic growth and convergence. Most of this can only be demonstrated as history, rather than measured with numbers. But one partially measurable indicator of the extent of institutional problems is corruption. Excessively corrupt economies, or those where expropriation of assets is common, are ones where investment is low. What is the point of private sector investment if someone will steal your assets? And how can you do much public sector investment when politicians steal the money before it is spent?

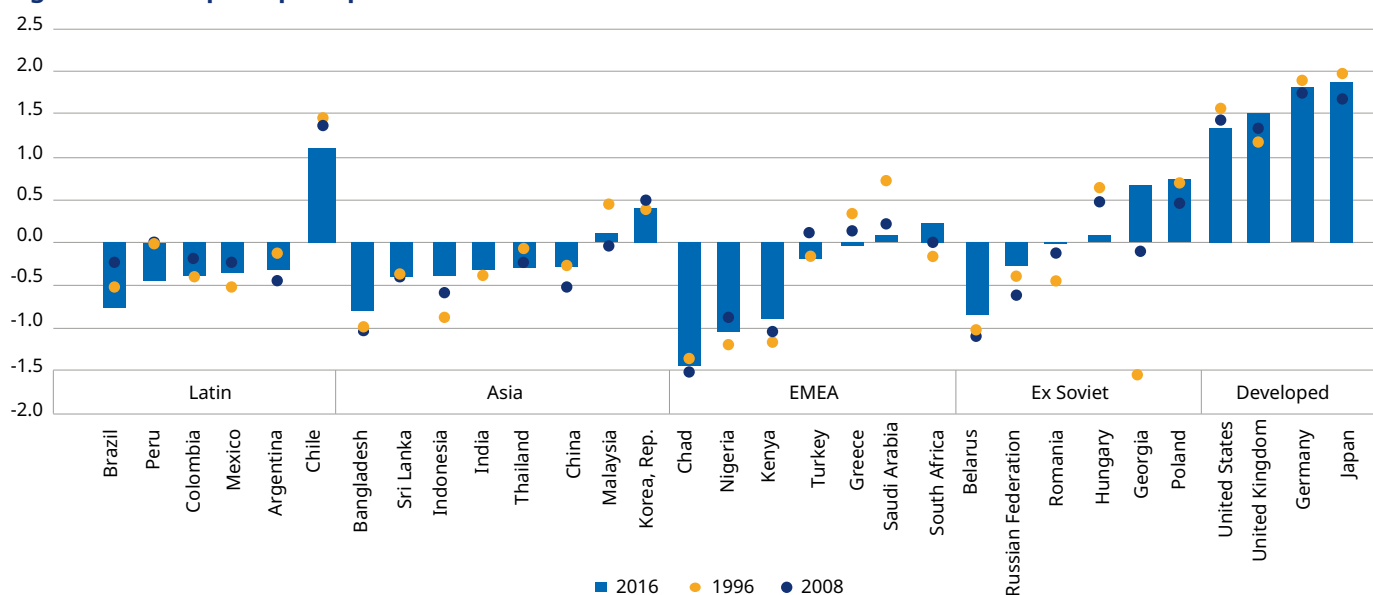
Overleaf is a chart of the World Bank’s corruption perception index, which captures the degree to which inhabitants of various countries believe their country is affected by corruption.

Figure 11: Average years schooling of the adult population



Source: OECD Economics Department. Data as at August 2018.

Figure 12: Corruption perception index



Source: World Bank. Data as at August 2018.

There are some notable changes here over the previous 20 years or so, but little pattern. China has been converging economically, but its perceived corruption appears to have got a bit worse and then a bit better, but not moved since 1996. We do see that the developed countries are all relatively un-corrupt, so it is reasonable to assume that low levels of corruption are necessary for full convergence. But they are clearly not sufficient. Indeed, improvements in corruption and governability may go hand-in-hand with gradual economic development, rather than leading it.

The next converger?

The theory suggests convergence should happen much more often than it does and should be funded by the rest of the world. In practice it turns out that convergence is not a natural phenomenon, and requires funding domestically. It requires a number of structures to be in place and a consistent policy framework that can more or less survive the political cycle. This needs to have:

- High savings rates
- A compliant and low return banking system to funnel funds for investment
- A not particularly free market at home to allow for corporate saving
- Enough coordination between government and the private sector to push exports and investment
- A weak currency
- Capital controls and no reliance on short-term foreign capital

Is this the only way to converge? We have limited examples so we don't know. It seems to be the only way so far. And there is one big downside to this model: once an economic model becomes established it attracts vested interests and is difficult to change.

The evidence from Japan and Korea is that this "convergence model" does not work once you have mostly converged. It is easy to see why. As incomes and wages go up in your country and your currency inevitably follows, it is difficult to maintain an export advantage. Often the only way to do it is to maintain savings rates at a high level – i.e. push down consumption demand and incomes. Or, in other words, to stop converging. The tendency for companies in this economic model to invest, invest and invest inevitably leads to over investment and weaker rates of return, which builds up problems in the banking system.

So what is next for convergence in emerging markets? Firstly, we need to think about China: is its convergence model running out of steam? It has certainly some of the pathologies of Japan in the 1980s. Nominal growth has slowed but investment continued apace, building up large assets in the banking system. Are we about to see a lost decade or two? The Chinese government seems to be aware of these issues. It has moved to curb excessive asset growth in the banking system, shut off debt growth and excessive spending in provincial governments and attempted to rebalance the economy to more consumption rather than investment. As a result, the surpluses are dropping and savings rates reducing. Whether China will be fully successful in changing its growth model in time to avert slow growth is questionable, but the authorities are certainly trying.

And who will converge next? The great hope for convergence and for the world economy is India. A country with a population of over 1 billion with a GDP per capita of around \$2000 – 1/25th of the US.

After decades of no productivity growth and limited capital growth, India finally began to invest in the 2000s – gross fixed capital formation went from 25% of GDP to more than 35% in 2005-12. But corruption scandals and the resulting bad debts in the public banks have set the levels back to 27% now. And India does not have the same set-up as Japan or China did. The industrial base is limited and, despite a reasonably valued currency and cheap labour, has not made itself a major presence in export markets. Hence, India does not run external surpluses, nor given persistent deficits does the government save domestically, National savings rates are generally then not high enough to sustain a large domestically-funded investment boom for long. Finally, India also suffers from institutional problems. Land and labour laws make fixed capital investment expensive and slow. These structures have been in place since the founding of the state, so cannot be expected to change quickly.

A more interesting and difficult question is whether the existing convergence model is dead. As a share of the world economy, tradeable goods are dropping steadily. Global trade stopped growing as a percentage of GDP in 2008. Maybe that trend resumes. But the counter argument is that as manufacturing productivity marches ever onwards with new computer-aided autonomous systems coming online, the costs of it relative to other services remain in perpetual decline. It may no longer be possible to use mass manufacturing for exports as a way to employ a large population and generate capital. Then again, perhaps there is no general theory to be applied here – everything is too dependent on the particulars of each case. Vietnam, for instance, appears to be beginning a convergence process using the standard Asian model of building an export base. But then, Vietnam has a population of 96 million while India has a population of over 1.3 billion. Maybe global demand for manufactured goods can accommodate the Vietnamese worker, but does it need hundreds of million Indian workers? There is a counter-argument to this as well (of course). If hundreds of millions of low-wage workers came onstream in the world economy, maybe that would halt further investment in automation and even drive things backwards. In short, this is a complex subject, but we cannot take it for granted that any country can simply take the Japanese model off the shelf and use it to converge rapidly.

What does this mean for asset owners?

First, it seems obvious that the potential for economic convergence and faster economic growth should support the structural case for investing in emerging markets. After all, in such an environment the return on capital should be attractive. Although how many of these opportunities surface in public markets, and when, is another matter. The short to medium term link is much more tenuous.

Second, how closely specific public markets represent their underlying economies varies enormously in emerging markets, as does the return dispersion between countries and stocks. Although investors are broadly aware of this, grouping countries into “emerging markets” indices can seduce one into thinking these countries, economies and stocks are more heterogeneous than they really are.

Third, by delivering 11% p.a. since its inception the MSCI EM equity index has rewarded investors. However, there have been long periods of poor returns, so patience is a virtue in emerging markets. Moreover, the components of the index have not only changed over time, but have behaved very differently. For example, using two of the countries mentioned above, Brazil and Korea, it is interesting that despite Korea having converged meaningfully to developed markets by the 1990s and Brazil not converging much during the last 20 years, Brazil has delivered stronger market returns. Clearly though, it has been a much bumpier ride. For reasons discussed elsewhere, such as demographic trends, we would also posit that future returns for most assets are likely to be lower than in the past. Relying on the market return of the MSCI EM index, for example, and trying to time the correct entry and exit points is likely to be challenging.

Finally, as we know, emerging market indices reflect the depth, breadth and ease of access to the underlying capital markets. They are not really an economic concept. The fact that they tend to be less liquid and more inefficient means they are more susceptible to being buffeted about by international portfolio flows and in particular the strength or weakness of the US dollar over the short to medium term. Even if economic arguments are likely to prevail over the longer term. This creates volatility, which as active managers we embrace.

Our conclusion therefore, is a buy and hold approach to emerging markets is unlikely to be the best strategy for the time horizon of most investors. As we have shown, some emerging countries will successfully converge, but others will falter and this may or may not have a direct link to returns. Emerging market investing is about so much more than identifying and benefiting from convergence trends. Furthermore, in a rapidly-changing geopolitical, economic and demographic landscape, more and more world-beating companies are likely to spring up in the emerging world. Navigating this complex opportunity set is not easy, but the rewards can be extremely attractive if investors are prepared to take a flexible approach to both country allocation and stock selection.

Important Information

The views and opinions contained herein are those of the authors as at the date of publication and are subject to change due to market and other conditions. Such views and opinions may not necessarily represent those expressed or reflected in other Schroders communications, strategies or funds. This document is intended to be for information purposes only. The material is not intended as an offer or solicitation for the purchase or sale of any financial instrument or security or to adopt any investment strategy. The information provided is not intended to constitute investment advice, an investment recommendation or investment research and does not take into account specific circumstances of any recipient. The material is not intended to provide, and should not be relied on for, accounting, legal or tax advice. Information herein is believed to be reliable but Schroders does not represent or warrant its completeness or accuracy. No responsibility or liability is accepted by Schroders, its officers, employees or agents for errors of fact or opinion or for any loss arising from use of all or any part of the information in this document. No reliance should be placed on the views and information in the document when taking individual investment and/or strategic decisions. Schroders has no obligation to notify any recipient should any information contained herein changes or subsequently becomes inaccurate. Unless otherwise authorised by Schroders, any reproduction of all or part of the information in this document is prohibited. Any data contained in this document has been obtained from sources we consider to be reliable. Schroders has not independently verified or validated such data and it should be independently verified before further publication or use. Schroders does not represent or warrant the accuracy or completeness of any such data. All investing involves risk including the possible loss of principal. Third party data are owned or licensed by the data provider and may not be reproduced or extracted and used for any other purpose without the data provider's consent. Third party data are provided without any warranties of any kind. The data provider and issuer of the document shall have no liability in connection with the third party data. www.schroders.com contains additional disclaimers which apply to the third party data.

European Union/European Economic Area: Issued by Schroder Investment Management Limited, 1 London Wall Place, London, EC2Y 5AU. Registered Number 1893220 England. Authorised and regulated by the Financial Conduct Authority.

Note to Readers in Australia: Issued by Schroder Investment Management Australia Limited, Level 20, Angel Place, 123 Pitt Street, Sydney NSW 2000 Australia. ABN 22 000 443 274, AFSL 226473.

Note to Readers in Canada: Schroder Investment Management North America Inc., 7 Bryant Park, New York, NY 10018-3706. NRD Number 12130. Registered as a Portfolio Manager with the Ontario Securities Commission, Alberta Securities Commission, the British Columbia Securities Commission, the Manitoba Securities Commission, the Nova Scotia Securities Commission, the Saskatchewan Securities Commission and the (Quebec) Autorite des Marches Financiers.

Note to Readers in Hong Kong: Schroder Investment Management (Hong Kong) Limited, Level 33, Two Pacific Place 88 Queensway, Hong Kong. Central Entity Number (CE No.) ACJ591. Regulated by the Securities and Futures Commission.

Note to Readers in Indonesia: PT Schroder Investment Management Indonesia, Indonesia Stock Exchange Building Tower 1, 30th Floor, Jalan Jend. Sudirman Kav 52-53 Jakarta 12190 Indonesia. Registered / Company Number by Bapepam Chairman's Decree No: KEP-04/ PM/MI/1997 dated April 25, 1997 on the investment management activities and Regulated by Otoritas Jasa Keuangan ("OJK"), formerly the Capital Market and Financial Institution Supervisory Agency ("Bapepam dan LK").

Note to Readers in Japan: Schroder Investment Management (Japan) Limited, 21st Floor, Marunouchi Trust Tower Main, 1-8-3 Marunouchi, Chiyoda-Ku, Tokyo 100-0005, Japan. Registered as a Financial Instruments Business Operator regulated by the Financial Services Agency of Japan. Kanto Local Finance Bureau (FIBO) No. 90.

Note to Readers in People's Republic of China: Schroder Investment Management (Shanghai) Co., Ltd., RM1101 11/F Shanghai IFC Phase (HSBC Building) 8 Century Avenue, Pudong, Shanghai, China, AMAC registration NO. P1066560. Regulated by Asset Management Association of China.

Note to Readers in Singapore: Schroder Investment Management (Singapore) Ltd, 138 Market Street #23-01, CapitaGreen, Singapore 048946. Company Registration No. 199201080H. Regulated by the Monetary Authority of Singapore.

Note to Readers in South Korea: Schroders Korea Limited, 26th Floor, 136, Sejong-daero, (Taepyeongno 1-ga, Seoul Finance Center), Jung-gu, Seoul 100-768, South Korea. Registered and regulated by Financial Supervisory Service of Korea.

Note to Readers in Switzerland: Schroder Investment Management (Switzerland) AG, Central 2, CH-8001 Zürich, Postfach 1820, CH-8021 Zürich, Switzerland. Enterprise identification number (UID) CHE- 101.447.114, reference number CH02039235704. Authorised and regulated by the Swiss Financial Market Supervisory Authority (FINMA).

Note to Readers in Taiwan: Schroder Investment Management (Taiwan) Limited, 9F, 108, Sec.5, Hsin-Yi Road, Hsin-YI District, Taipei 11047 Taiwan, R.O.C. Registered as a Securities Investment Trust Enterprise regulated by the Securities and Futures Bureau, Financial Supervisory Commission, R.O.C.

Note to Readers in the United Arab Emirates: Schroder Investment Management Limited, 1st Floor, Gate Village Six, Dubai International Financial Centre, PO Box 506612 Dubai, United Arab Emirates. Registered Number 1893220 England. Authorised and regulated by the Financial Conduct Authority.

CS00708