

ECN230 SRP session 18-9. Strategic Policy: Developing/Emerging Economy

STRATEGIES IN DEVELOPING AND EMERGING ECONOMIES

Domestic Market Failures

A common criticism of the welfare analysis conducted by trade economists is that the concepts of consumer and producer surplus are limited in their ability to properly measure the benefits from trade and the costs of adjustment. The argument that free trade maximizes global social welfare rests on the condition that world prices, or the terms of trade, reflect efficient market signals. However, **only if factor and product markets work properly can their prices be efficient signals for firms to hire labor, move capital between sectors, and for goods to be traded across countries.**

In reality, there can be issues affecting labor and capital mobility across sectors within a country. If wages differ across sectors, then one could argue that labor mobility is constrained, otherwise labor would move from where it is cheap (from sectors or regions of the country where wage rates are low) to where it is expensive. Engineers, for example, should have similar wage rates (and ease of mobility) across sectors. Differences in wages across sectors would suggest that the labor market for engineers is not functioning properly.

Likewise, competitive capital markets should result in more uniform returns to capital across sectors, otherwise, capital should move to where the returns are higher. However, there may be situations where capital is not able to be allocated across sectors preventing returns to capital to be equalized. If there are potentially higher returns to capital employed in the agricultural sector, yet capital tends to be allocated in manufacturing and services sectors instead, then this could be an indicator of a capital market not functioning properly.

Thus, **labor or capital market failures prevent resources from being employed in a sector or that prevent full employment. Government intervention, it is argued, can be a means to help the market overcome the immobility of factors or address the other impediments from labor or capital being underutilized.**

In the production of goods, there can also be domestic market failures. **A country's inability to industrialize limits its ability to develop manufacturing sectors that allow it to add value to the commodities that it produces. This could result in excessive dependence on commodity exports, subjecting the country to the uneven growth described by Prebisch and Singer (as per dependency theory).** By adopting simple manufacturing processes, or investing in infrastructure or human capital, the country can develop modern skills and learn by doing such that it facilitates broader and more sophisticated manufacturing to graduate along the value-added chain.

In **agriculture**, it is often argued that the sector produces more than just food products because it **contributes to rural viability, cultural landscape, and biodiversity.** These additional benefits are **public goods that are directly related to the amount of agricultural production and related activities.** If there is too little agricultural production, then there would be a corresponding reduction in public goods and reduced benefits.

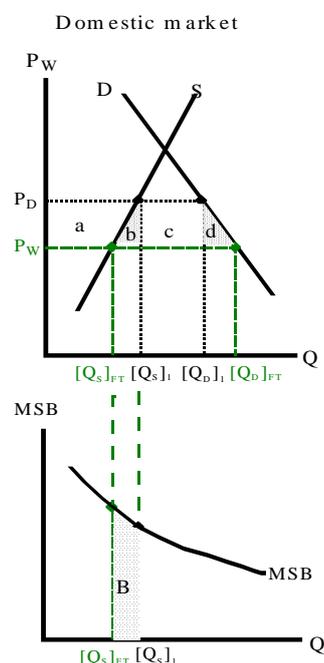
Each of these examples suggest that **private costs and benefits can differ from social costs and benefits.** Free trade maximizing social welfare is based on the **theory of the first best where private and social costs and benefits are aligned.** That is, the world price, P_w , properly reflects the incentives, rewards, and costs to production and consumption. This is represented as $P_w = MB = MC = SMB = SMC$, where MB is private marginal benefits, MC is private marginal costs, SMB is social marginal benefits and SMC is social marginal costs.

The MB from the consumption of an additional unit of a good should reflect the consumer's willingness to pay for that extra benefit. The willingness to pay should be reflected in the market price of the good. The SMB equals MB when the extra benefit that the consumer gets matches the extra benefit to society.

Producers supply a product by aligning the costs of production to the market price. The price received must cover the firm's MC of producing the next unit. If the MC of producing the additional unit for the firm is the same as the extra costs to society, then $MC = SMC$ and the market price is efficient.

In situations where this condition does not hold, one must consider the theory of the second best. **When the theory of the second best is applied to trade policy, imperfections in the functioning of the domestic market justifies policy intervention through trade policy.** If $SMC > P_w$, then the market is supplying too much of the good because the social cost of the production is greater than the value of the good (e.g., pollution that is not internalized by the producer). That is, the producer is not being held to account for the extra cost to society. If $SMB > P_w$, then not enough is demanded for the benefit of society. This could be the case that P_w is too low, resulting in too much import and too little agricultural production, resulting in too little provision of public goods associated with agricultural production.

The figure below illustrates a situation where there is too little production from society's perspective. In the domestic market of the country, P_w signals the appropriate private levels of production at $[Q_S]_{FT}$ and consumption at $[Q_D]_{FT}$. However, the welfare estimates do not capture the public goods associated with production of the good. That is, a higher level of production provides society with a greater provision public goods, captured by the value B under the MSB curve. Relying on P_w leaves production and provision of public goods too low. By taxing imports (or subsidizing domestic production), raising the price on the domestic market to P_D the market can produce a more "socially desirable level" of production, i.e., $[Q_S]_1$ that results in greater MSB. That is, the tariff results in an overall social welfare gain because the provision of public goods, B, is greater than the dead-weight losses resulting from the tariff, area (b+d).



Finally, in cases when $P_w > SMC$ or $P_w < SMB$ occur, these situations reflect an abuse of market power by international actors (sellers or buyers). In the case of the former, the price is set too high through monopoly power on the part of a firm(s). Supply is limited forcing up prices, allowing firms to earn above-normal profits on the domestic market. In the latter case, not enough is supplied to the market because the monopsony (buying) power is abused by the buyer(s) setting prices too low. This could be a situation where the labor market in a region is dominated by few large employers that keep wages too low (and where there is insufficient union power to counterbalance the firms' power).

Creating Comparative Advantage

When developing countries turn to economists for advice on trade, one reference is David Ricardo. According to comparative advantage, formulated some 180 years ago, countries should specialise in whatever they are best at producing, leaving trading partners to provide everything else [1].

In Ricardo's illustrative model, the advantages of specialisation were clear. In practice, however, a country's advantages are less clear in modern practice. Capital is mobile across borders, and the gifts of nature count for little now that manufacturing eclipses agriculture in world trade. A country's place in the global economy seems neither predestined nor predictable. As Ricardo Hausmann and Dani Rodrik, Harvard University, put it in a paper¹, economic development is a haphazard process of "self-discovery". Comparative advantage is almost impossible to spot in advance [1].

For example, Bangladesh is good at exporting hats, having sold \$175m-worth to the US in 2000. At one level, this is no surprise. Bangladesh is overcrowded and underserved by capital; much of its arable land is periodically under water. Any economist would suggest a comparative advantage in labour-intensive manufactures. But why does Bangladesh specialise in hats rather than, say, bed-sheets? Why did Pakistan, a country with a similar mix of land, labour and capital, export \$130m-worth of bed-sheets to the US in 2000 but a mere \$700,000-worth of hats? [1]

Mr Hausmann and Mr Rodrik cite many examples of countries that have happened upon a lucrative export niche—cut flowers from Colombia, software from India, footballs from Pakistan—to which raw factor endowments give only the roughest of guides. Nothing written by Ricardo, or by anybody theorising since, could have told a budding Bangladeshi entrepreneur to make hats rather than bed-sheets [1].

Sometimes governments try to force the issue. In 1896 Japan's rulers deemed that their country should have a steel industry to match the best in Europe. Imperial say-so substituted for economic know-how, but met with little success. The government went to great lengths to replicate European technology, importing German engineers, machines and designs. Only after a steel mill had been built did it become apparent that German mills could not run on Japanese coke [1].

Neither economists nor emperors can be relied upon to pick winners. The best bet is entrepreneurial trial and error. Hausmann and Rodrik build a theoretical model in which businessmen in a poor country can choose either to invest in a traditional domestic industry or to diversify into a modern industry in which there is no local history of expertise. The costs of production in the traditional industry are well-known; costs in the new industry are not. Entrepreneurs

discover these costs only after they have sunk money into the project. Their investments are, in effect, industrial-scale experiments. Profitable or not, they reveal a country's strengths and weaknesses [1].

The authors think that entrepreneurs in developing countries may lack sufficient incentives to invest in new industries. Businessmen will take the risk of innovation only if they have a chance of creating some sort of monopoly.

Intellectual property (patents, trademarks or copyright) might help them; if not, they will have an edge only until rivals catch up. In poor countries, investors are more likely to be trying out technology already in use abroad, so intellectual properties are probably of little help. Thus, the entrepreneur who first decides to export cut flowers from Colombia to the US, for example, cannot hope to stay ahead of imitators for long. Locals will rush to copy the business model, poach staff and encroach upon the ground already broken [1].

To create a greater incentive to experiment in new industries, say the authors, there may sometimes be a case for governments to protect firms in infant industries from unfettered competition. This does not mean tariffs, which protect all domestic companies to the same extent; rather, it implies finding ways to help innovators against domestic imitators. The trouble is that this is a much harder trick to pull off in practice than it looks in theory. Latin American development banks used to reserve preferential credit for the first domestic entrant in any industry—raising the potential profits available to innovators. Under such policies, Latin America became a veritable hothouse of industrial diversification. Unfortunately, governments did not weed out failed industrial experiments, instead keeping them alive alongside thriving ones [1].

Even successful policies can have damaging side effects. Hausmann and Rodrik point to South Korea's willingness, during its drive for industrialisation from the 1960s, to use control of bank credit to reward successful companies and penalise poor performers. Yet by the 1990s the channelling of credit to favoured companies had wrought huge damage to the Korean financial system. Devising industrial policy, like divining comparative advantage, is a matter of trial and error. Many governments have tried; most have erred [1].

Infant industry and industrial policy

Industrial policy is just about as old as industry itself. Scarcely had Britain's Industrial Revolution got going when Alexander Hamilton, the US's first Treasury secretary, argued for protection of his country's industry, declaring that Adam Smith's arguments in favour of free trade "though 'geometrically true' are 'practically false'". The US, France and Germany industrialised behind tariff barriers. After the second world war scores of governments tried to help industrialisation along, with seeming success in places like Japan and South Korea, and rather different results elsewhere. Policy today is of a different sort: pursued by countries already at the technological frontier, in a world of complex global supply chains. Yet past research still holds valuable lessons [2].

Recent interventions are mostly based on "infant-industry" arguments. The idea is that, if the state corrects a market failure, a particular industry might thrive on its own in an economy where it is nascent or absent. Local firms might need investment in know-how or equipment to be competitive, which imperfect capital markets cannot finance. Alternatively, production might require a network of suppliers and manufacturers, but firms struggle to co-ordinate. Or there may be information problems. An

¹ "Economic Development As Self-Discovery". National Bureau of Economic Research Working Paper, Number 8952, revised November 2002.

economy might have undiscovered potential, but an entrepreneur who seeks it out risks revealing it to competitors, which costs him the opportunity to profit from his discovery. In each case, government support or a brief spell of protection from foreign competition (or both) might create the space the industry needs to mature [2].

Working out if these theories are practically or merely geometrically true is no simple task. Industrial policy is never conducted in isolation, meaning it is often challenging to isolate its effects. Still, careful work suggests that infant-industry policy can work in the real world. In the 1970s, for instance, the US was the dominant exporter of computer chips. The Japanese government invested heavily in semiconductor research, and may have helped chip-consuming Japanese firms co-ordinate to obtain most of their supply from fledgling Japanese producers (in effect shutting US firms out of the market). Work by Richard Baldwin of the Graduate Institute in Geneva and Paul Krugman of the City University of New York concluded that these policies supported the accumulation of expertise, without which Japanese firms could never have succeeded in export markets [2].

More recent work by Myrto Kalouptsi of Harvard University revealed that Chinese shipyard subsidies between 2006 and 2012 reduced costs by as much as 20%. These subsidies, she reckons, helped account for a major reallocation of shipbuilding, with Japan the big loser. Other research turns up more cases when interventions have helped industries secure a market foothold, and meaningfully influenced the global distribution of production. At least sometimes, comparative advantage can be engineered [2].

Yet an abundance of caution is in order. Interventions often raise costs and thus hurt consumers. Messrs Baldwin and Krugman judged the Japanese were made worse off, on net, by the effort to build a chip-exporting industry. Because the output of one industry is often the input for another, help for upstream producers can inflict pain further along the supply chain. Reviewing efforts to boost steel industries across 21 countries, Bruce Blonigen of the University of Oregon found such interventions sharply cut the export competitiveness of downstream industries [2].

Governments, for their part, must be willing to cut off help, so that winners eventually swim while losers sink. Otherwise zombie firms will tie up capital and labour, and drag down growth. Local conditions matter. A study of EU investment funds provided to poorer regions, by Sascha Becker of the University of Warwick and Peter Egger and Maximilian von Ehrlich of ETH Zurich, found that the cash translated into faster growth in investment and income—but only in places with strong institutions and educated workers [2].

And as the world is rediscovering, careless policy can provoke retaliation, leaving everyone worse off. This may prove to be a particular problem at a time when sophisticated goods are produced along cross-border supply chains. If friendly countries fail to co-ordinate, they may end up funding duplicative plants, which cannot all be economical, or orphan industries without access to the foreign components they need to compete [2].

Policies which fill institutional gaps are safer. Douglas Irwin of Dartmouth College notes that US's tariffs in the 19th century do not seem to have been decisive in promoting its rise to industrial dominance. Banking laws that facilitated saving and investment were more important. In their survey, Ann Harrison and Andrés Rodríguez-Clare of the University

of California, Berkeley, doubt that “hard” interventions which distort market prices are of use, but find an important role for “soft” collaborations between firms and the state, to solve co-ordination failures [2].

Economists derided the idea of government intervention to influence the composition of a country's output because it bred inefficiency, reduced competition, encouraged lobbying and saddled countries with factories producing products nobody wanted. In response to the GFC, as rich countries struggled with an anaemic economic recovery, industrial policy gathered support [3].

Justin Lin, the chief economist of the World Bank, believes that policies of this sort are a useful way for governments in developing countries to speed up structural transformation. Dani Rodrik² reckons that Chinese rules requiring a significant chunk of intermediate goods (i.e., inputs used to make other goods) to be locally produced helped the growth of supplier industries. He also believes that export incentives aided Chinese companies in gaining a foothold in competitive global markets, and credits active industrial policy with much of China's success [3].

Philippe Aghion³, from Harvard, along with Mathias Dewatripont and Patrick Legros of the University of Brussels, and Luosha Du and Ann Harrison of the University of California, Berkeley, argue that when firms focus on the same industry, they compete more intensely and generate more innovation and growth as each tries to outperform the other. Therefore, it may be tempting for a firm to find a new area to produce in which it is less competitive: even if it ends up doing better as a result, the outcome for the economy as a whole could be less competition, less innovation and lower growth. This suggests that rather than pushing companies to explore some new area, which the government in its wisdom or folly has decided is the sector of the future, industrial policy should encourage competition instead, reducing firms' tendency to seek out less contested arenas [3].

Does this work in practice? There is probably no better place to look for the effects of industrial policy than China, particularly at the data on the performance of medium-sized and large Chinese companies between 1998 and 2007. The firms in question are in industries with varying degrees of competition, but all of them benefit from some of the Chinese government's plethora of industry- and sector-level tariff rebates and subsidies. The authors find that when subsidies are given to competitive sectors and distributed in a way that maintains or increases the level of competition within the industry, then the net impact of these subsidies on productivity, productivity growth over time, and the share of new products in total sales (a measure of how innovative is a firm) is positive. If subsidies go to industries with fewer competitors, they do not aid innovation or productivity growth [3].

Mr Rodrik would be pleased with this finding: he thinks that industrial policy can work if it is designed cleverly. That is a big if. None of these studies addresses a deeper problem with the way industrial policy tends to develop over time. Earlier efforts have tended to degenerate into rent-seeking, lobbying and cosy deals between incumbent firms and bureaucrats, stifling innovation and the process of creative destruction. Indeed, Mr Rodrik is well aware of these problems when he lays out his principles for “sensible industrial policy”, arguing for instance that governments should avoid open-ended incentives that in time entrench incumbents and raise consumer prices. Like patents, he reckons, industrial policies should eventually expire. What matters is not whether governments can pick winners—they

² “The Return of Industrial Policy”, Dani Rodrik, Apr 2010.

³ “Industrial Policy and Competition”, P. Aghion, M. Dewatripont, L. Du, A. Harrison and P. Legros, Working paper, Jun 2011.

cannot—but whether they have the good sense to let losers fall by the wayside [3].

The problem, of course, is that this rarely happens. In effect, Mr Rodrik and others are arguing that industrial policy requires disinterested, benevolent policymakers who can do it well. Unfortunately, they do not yet have a recipe for how such policymakers can be created. Policy is made by real people with political and personal motivations. What they come up with is unlikely to be as well designed as the ones in the models [3].

Import Substitution Industrialization (ISI)

Since the mid-1990s, growth came easily to the developing world. Fuelled by globalisation, real GDP per person in emerging economies more than doubled from 1995 to 2019, in purchasing-power-parity terms. In advanced countries, it only grew by 44%. Between 1990 and 2008, global trade as a share of GDP rose from 39% to 61%. This “hyper-globalisation”, as Martin Kessler and Arvind Subramanian of the Peterson Institute for International Economics dubbed it, facilitated rapid, broad-based economic expansion. Global supply chains proliferated. After the late 1990s growth in incomes per head in nearly three-quarters of developing countries outpaced that in the US, by an average of more than three percentage points a year [4].

Countries with a small industrial base, or none at all, could export manufactured goods by finding niches in production chains, following a shortcut to industrialisation. The burst of growth consigned to the scrapheap decades’ worth of arguments about whether and how poor countries could catch up with rich ones. But explosive trade growth ended, and the industrialised world turned inward. Some governments dusted off old ideas, feeling they have little choice but to give them a fresh try. Among them is ISI, a strategy that seeks to develop industrial capacity by shielding domestic producers from foreign competition [4].

The share of trade in world GDP fell after the GFC, marking the era where openness drew to a close. In 2019 it was still below its 2008 peak. In the US and Europe shortages of medical supplies and a souring relationship with China rekindled interest in protecting domestic producers. But it is the biggest winners of hyper-globalisation, such as China and India, that led the way back to ISI. The share of foreign value-added in China’s exports fell by almost ten percentage points from 2005 to 2016; its government’s “Made in China 2025” campaign aims to make it self-sufficient in the production of many key goods [4].

As poor-country politicians often point out when pressed by rich-world leaders to liberalise, many of today’s advanced economies practised elements of an ISI strategy as they industrialised. Alexander Hamilton, the US’s first treasury secretary, used tariffs to protect domestic manufactures and reduce its dependence on Britain. In the 19th century European rivals worried that abundant British manufactures would stunt industrial development and leave them at a permanent military disadvantage. Governments erected tariff barriers and mobilised domestic capital, often squeezed out of the agricultural sector, towards state-supported industry. Russia and Japan followed western Europe in promoting domestic industry as a matter of national security [4].

Still, past experience also shows why the renewed interest in ISI may be misguided. Its intellectual heyday was in the 1950s, when economists like Raúl Prebisch and Gunnar Myrdal (the latter a Nobel prizewinner) argued against a laissez-faire approach to trade in developing economies. Their views were informed by the constraints of their era. Poor countries were desperately short of hard currency with which to obtain imports after the second world war. The replacement of some imports with domestic production was seen as a way to ration foreign exchange. More generally,

advocates for ISI rejected the idea that specialisation and trade would leave every economy better off. Poor countries that stuck to their comparative advantage would remain exporters of primary products for ever, it was thought, never making the leap to industrialisation and the higher incomes it would bring [4].

The flaws of ISI rather quickly became apparent, though. Many governments used it to bestow favours upon domestic industries based on political self-interest rather than rational economic calculation. The enthusiasts among economists lost interest. Tariff barriers left some countries nearly closed off to trade. Meanwhile, import-substituting economies in Latin America and South Asia fell behind a handful of others that opted instead to promote exports made with abundant cheap labour. Export-orientation was not a sure route to development; success stories like South Korea and Taiwan were rare before the emerging-market acceleration of the 1990s. Nor was it a laissez-faire endeavour; the governments of the Asian Tigers meddled extensively in their economies, subsidising favoured industries and firms. But global competition placed relentless pressure on exporters, forcing them to become more efficient and encouraging the acquisition of technical know-how. Those in ISI economies, sheltered behind high tariffs, tended instead to be small, inefficient and complacent [4].

What does all this mean for the revival in ISI? In economies with large domestic markets and capable states, import substitution may well allow governments to achieve strategic goals without nudging firms into growth-sapping complacency. China probably fits the bill. In India, with its poorer and less integrated domestic market, the strategy is riskier [4].

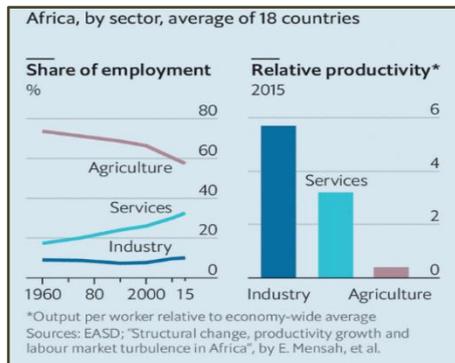
In smaller economies with weak institutions, however, ISI-related policies are doomed to fail. The consumers, competition and technologies that developing economies can only find on global markets are a crucial prerequisite for their industrialisation. If the world’s biggest economies focus on their own strategic interests alone, they will deprive others of access to these precious resources—and the golden age of emerging-market growth will become an ever more faded memory [4].

Industrialization in Africa

The question of how to make African economies more productive gained new urgency during the pandemic that disrupted supply chains. Shortages of drugs and medical equipment fuelled calls for the local production of essential goods. Tito Mboweni, South Africa’s finance minister, wanted to “set up manufacturing to make what we need and stop relying on imports from China”. Uganda tried to discourage imports. Ghana also said it was prioritizing import substitution.

Yet a transformation of sorts had already begun well before covid-19. The proportion of Africans working on farms fell from 66% in 2000 to just under 58% in 2015 (see chart). Most of these people flowed into informal services or petty manufacturing, such as taxis or roadside carpentry, where they earn more than farmers.

They did not represent the industrial revolution of which policymakers dream. Yet beneath that broad trend lies a myriad of stories. Nigeria was slowly shaking off its dependence on oil exports. Rwanda hosted conferences and upmarket tourists. Lesotho, one of the few countries to have moved successfully into manufacturing, shipped its apparel along South African roads.



Across Africa, goods once made at home are being bought and sold on markets. Rural Africans spend only 40% of their work hours on their farms, and the rest on side-businesses such as transport or trade. They buy nearly half the food they eat, as well as concrete blocks and tin sheets for their homes. Commercialisation is most evident in the towns and cities. Appetite is growing for processed foods, meat, dairy foods and vegetables.

Expanding markets create economies of scale. Many of Africa's manufacturers began life as trading firms, switching from imports to local production. The same logic is pulling foreign companies to the continent.

Consultants at McKinsey estimate that Chinese firms handled 12% of Africa's industrial production in 2017, employing several million people. Only a few were eyeing exports to the West. Instead, 93% of their revenues came from local and regional sales. Tian Tang, a Chinese business in Uganda, was founded by a trader importing suitcases; it now makes steel, plywood and mattresses. Another outfit chasing untapped demand is Roha, a US firm. In Ethiopia it built a factory making glass bottles for local brewers.

African growth is already being driven by internal consumption and investment, argues Carlos Lopes of the University of Cape Town. The expansion of regional trade would reinforce that dynamic, especially in industry. Manufactured goods make up only 19% of African countries' exports to the rest of the world, but 43% of what they sell to each other.

Yet Africa will not get rich by producing only for itself. The countries south of the Sahara have less combined purchasing power than Germany. To find larger markets, firms must export to the world. As they learn to compete globally, they also become more productive.

Some argue that the key to East Asia's early growth was an activist state, high investment and a relentless focus on manufactured exports. Africa has never come close to replicating it. An early wave of ISI was derailed by a debt crisis. In the 1980s the state lost interest in industrial policy. Factories closed as the IMF and World Bank pressed governments to open their markets to foreign competition.

Unlike Africa, East Asia has little wealth buried beneath its soil, so it relied on sweat instead. At first, low wages gave it a competitive edge. Although Africa has millions of poor people, many African countries are unable to follow the Asian model because their labour costs are too high, according to researchers at the Centre for Global Development, a think-tank. However, wages in Asia have risen a lot in recent years. Since transport costs have fallen, many tasks can now be done thousands of miles apart. Garment firms in Africa stitch shirts from imported fabrics and buttons; carmakers piece together kits of parts. That makes it easier to get a

foot on the industrial ladder, but harder to climb beyond the first rung.

So African countries are scouting out a new path. "The scope for classic labour-intensive, export-oriented industrialisation is narrower now," says Yaw Ansu, advisor to Ghana's finance minister. "But countries like us can compensate by basing our model on adding value to our agriculture and natural resources." One example is Blue Skies, a company near Accra. Its workers dice fruit sold in European shops. Another example is horticulture. In normal times, more than 400 tonnes of cut flowers are flown out of Nairobi every day, on average. In Ziway, an Ethiopian town, kilometre-long greenhouses grow roses for transport to the Netherlands.

This is not classic manufacturing, but it is not subsistence farming either. Economists at UNU-WIDER, a research institute, talk of these as "industries without smokestacks". They include tourism and call centres. Africa's diversity means there will be many routes to success.

If Asian-style manufacturing is to take off anywhere in Africa, it might be in Ethiopia, which has some of the lowest wages in the world. Chinese clothing firms employed 27,000 people in Hawassa before the covid crisis. One Asian factory-owner says the city reminds him of a Bangladeshi port when his uncles opened shop there three decades ago.

Paradoxes exist in Africa's transformation. While economists worry about joblessness, factory bosses struggle to find pliant labour. Workers arrive late and quit at harvest time. Contracts are hard to enforce. Markets gum up.

In societies set to agrarian rhythms, the transition to industrial capitalism is a profound social rupture. It carries new notions of law, time and discipline, and creates new kinds of people: commercial farmers, docile workers, methodical managers. It means loss as well as gain. It should be no surprise when many people are indifferent or hostile to change.

The same hesitation is found in some African leaders, long cushioned by aid and oil money. "The urgency for economic transformation is not making them lose any sleep," says Abebe Shimeles of the African Economic Research Consortium. Yet demographic destiny is pushing the continent towards a reckoning. Some 15m-20m young Africans are entering the workforce each year. Without good jobs, many may take their grievances to the streets.

Some economists such as Dani Rodrik at Harvard University argue that automation, competition and shifting demand are closing the door to countries wanting to copy Asia's miracle. Yet not everyone needs a factory job. Many Africans will move from subsistence farms to commercial ones, or from living alongside a game reserve to guiding tourists around one. Economic transformation, of a distinctively African kind, is a prize worth chasing.

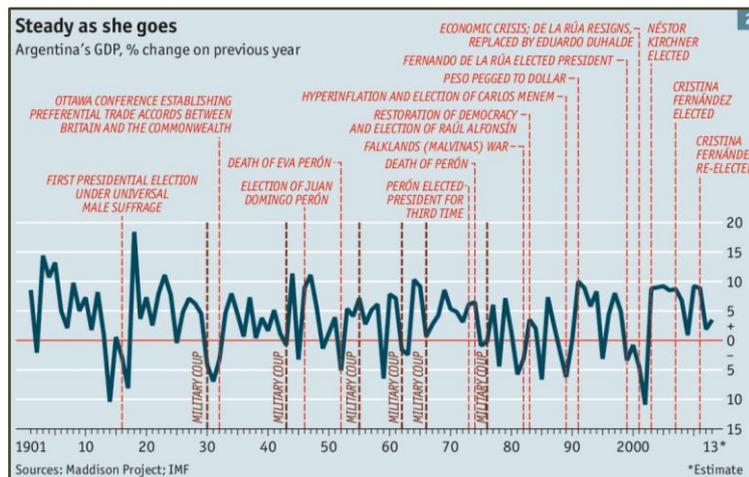
Economist, "Industry in Africa: Will it Bloom?", 13 Jun 2020, p. 23-4.

State Intervention: Case of Argentina

Argentina's Belle Époque was the period before the outbreak of the First World War. In the 43 years leading up to 1914, GDP grew at an annual rate of 6%, the fastest recorded in the world. There were periods of robust growth, particularly during commodity booms. The country ranked

among the ten richest in the world, ahead of France, Germany and Italy. Its income per head was 92% of the average of 16 rich economies. Argentina enjoyed stability and the country was a magnet for European immigrants who flocked to find work on the fertile pampas, where crops and cattle propelled Argentina's expansion [5].

In the past century, it never got better than that. A succession of military coups marks its history. The first came in 1930; others followed in 1943, 1955, 1962, 1966 and 1976. Democracy has not yet led to stability. The metaphor of a "pendulum" describes the swings in GDP growth and inflation-hyperinflation of the past decades: from loose economic policies in the 1980s to Washington-consensus liberalisation in the 1990s and back again under more leftist presidencies of the Kirchners (see chart, steady as she goes) [5].



Argentina became rich by making a triple bet on agriculture, open markets and the UK, then the world's pre-eminent power and its biggest trading partner. That bet turned sour when the external shocks materialised, requiring a severe adjustment. This led to the second theory for Argentina's decline: the role of trade policy [5].

The First World War delivered the initial blow to trade and put a lasting dent in the levels of investment. In a foreshadowing of the 2007-08 global financial crisis, foreign capital headed for home and local banks struggled to fill the gap. Next, the Depression crushed the open trading system on which Argentina depended. Argentina raised import tariffs from an average of 16.7% in 1930 to 28.7% in 1933. Reliance on the UK, another country in decline, backfired as Argentina's favoured export market signed preferential deals with Commonwealth countries [5].

Indeed, one way to think about Argentina in the 20th century is as being out of sync with the rest of the world. It was the model for export-led growth when the open trading system collapsed. After the second world war, when the rich world began its slow return to free trade with the negotiation of the General Agreement on Tariffs and Trade in 1947, Argentina had become a more closed economy—and it kept moving in that direction under Juan Domingo Perón, the towering figure of 20th-century Argentina, who took power in 1946. Thus, just as a multilateral institution to liberalise foreign trade was created, Argentina was deepening its existing policy of import substitution, taxing exports, and reducing trade's share of GDP [5].

The country's dramatic decline has long puzzled economists. Simon Kuznets, a Nobel laureate, is supposed to have remarked: "There are four kinds of countries in the world: developed countries, undeveloped countries, Japan and Argentina." Other countries copied Japan's model of rapid industrialisation; Argentina remains in a class of its own. There is no shortage of candidates for the moment when the country started to go wrong. No one theory solves the puzzle [5].

Three deep-lying explanations help to illuminate the country's diminishment. Firstly, Argentina may have been rich 100 years ago but it was not modern, making it hard to adjust when external shocks hit (world wars, Depression, coups). Wealth came from commodities; the industrial base was only weakly developed. The landowners who made Argentina rich were not so bothered about educating it: cheap labour was what counted. That attitude prevailed into the 1940s, when Argentina had among the highest rates of primary-school enrolment in the world and among the lowest rates of secondary-school attendance. Only the elite needed to be well educated [5].

Without a good education system, Argentina struggled to create competitive industries. It benefited from technology in its Belle Époque period, but it was foreign rather than invented at home. Railways transformed the economics of agriculture and refrigerated shipping made it possible to export meat on an unprecedented scale: between 1900 and 1916 Argentine exports of frozen beef rose from 26,000 tonnes to 411,000 tonnes a year [5].

Argentina's golden age was largely foreign-funded. Half of the country's capital stock was in foreign hands in 1913, further exposing it to any external shocks. Demography partly explains the low levels of domestic savings: large numbers of immigrants with dependents spent money rather than saved it [5].

Autarkic policies had deep roots. Many saw the interests of Argentina's food exporters as being at odds with those of workers. High food prices meant big profits for farmers but empty stomachs for ordinary Argentines. Open borders increased farmers' takings but sharpened competition from abroad for domestic industry. The pampas were divided up less equally than farmland in the US or Australia: the incomes of the richest 1% of Argentines were strongly correlated with the exports of crops and livestock. As the urban, working-class population swelled, so did the constituency susceptible to Perón's promise to support industry and strengthen workers' rights [5].

The third theory for Argentine decline points to the lack of institutions to develop long-term state policies. When it needed to change, Argentina lacked the institutions to create successful policies. Some reckon that things really went downhill between 1975 and 1990 [5].

Some commodity-rich economies resolved their social tensions. Australia, for example, shared many of the traits of early 20th-century Argentina: lots of commodities, a history of immigration and remoteness from big industrial centres. Yet it managed to develop a broader-based economy than Argentina and grew faster. Between 1929 and 1975 Australian income per person increased at an average annual rate of 0.96%, compared with 0.67% in Argentina [5].

Australia had some big advantages: the price of minerals does not affect domestic consumers in the same way as the price of food, for instance. It also had the institutions to balance competing interests: a democracy in which the working class was represented; an apprenticeship system; an independent Tariff Board to advise the government on trade. Argentina had not evolved this political apparatus, despite an early move to universal male suffrage in 1912 [5].

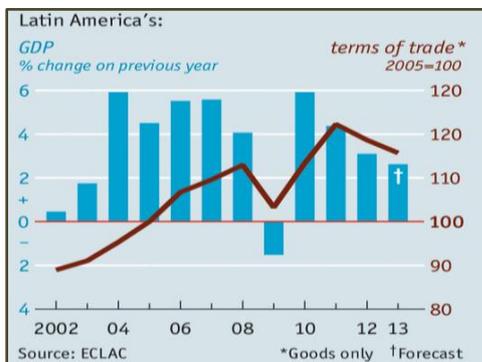
The divide between farmers and workers endures. Heavy export taxes on crops allow the state to top up its dwindling foreign-exchange reserves; limits on wheat exports create surpluses that drive down local prices. They also dissuade farmers from planting more land, enabling other countries to steal market share. The perverse effects of intervention have been amply demonstrated in the Kirchner era: according to the US Department of Agriculture, Argentina was the world's fourth-largest exporter of wheat in 2006. By 2013 it had dropped to tenth place. [5].

Property rights are insecure: ask Repsol, the Spanish firm whose stake in YPF, an Argentine oil company, which was nationalised in 2012. The central bank has had periods in which it lost its independence and control over monetary policy. Macroeconomic statistics could not be trusted under Christina de Kirchner – the IMF threatened to censure Argentina for its widely undercooked inflation estimates [5].

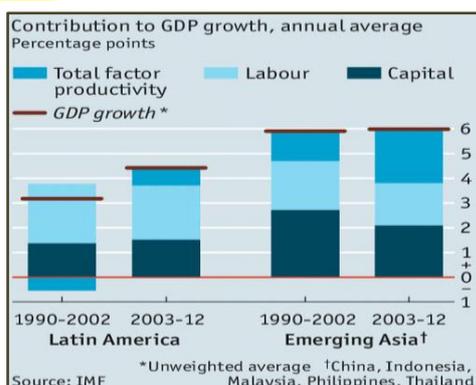
In many Argentine eyes, the liberal reforms of the 1990s were discredited. It is also difficult for society to embrace the concept of pain because the reform requires them to confront their unprecedented decline. Nor other country came so close to joining the rich world, only to slip back [5].

Commodity boom, TOT and productivity growth

In the 2000s, industrialisation in China and India provided an unprecedented boost to the Latin America's terms of trade (the ratio of the price of its exports to that of its imports), which handed many regional countries a bounteous decade (see chart, LA's GDP). No longer. Oil and gas excluded, commodity prices in 2014 were down by a quarter from their level of 2011, with prices of minerals falling by more than those of foodstuffs. After growing by an average of 4.3% in 2004-11, the region's economies managed just 2.6% in 2013 [6].



Productivity has improved a bit, relative to the 1990s, but still lags behind Asia's (see chart, TFP). The reasons for this shortfall date back many years. Latin Americans have more education than in the past, but still lag behind Asia. There is also still a relative lack of innovation by Latin American firms of all sizes, poor transport networks and a lack of competition, especially in services [6].



Another big handicap is the large informal economy. In Peru, no less than 61% of the workforce works in the informal sector, according to the statistics agency. "It was an escape valve when Peru was a poor country, but it's a problem now," says Piero Ghezzi, the minister for production [6].

To see why, take Mexico, where around half the workforce is informal. A report by McKinsey, a consultancy, finds that, astonishingly, Mexican workers have become less productive over the past three decades despite numerous economic reforms. Output per worker fell from \$18.30 an hour (in purchasing-power-parity terms) in 1981 to \$17.90 in 2012 [6].

The reason, McKinsey argues, is that Mexico has a dual economy. Productivity at large, modern firms, those integrated into the world economy, rose by 5.8% a year since 1999. The productivity of small businesses (with ten or fewer workers), many of which are informal, declined from 28% of that of large firms (with 500 or more workers) in 1999 to just 9% in 2009. Small firms account for a big (42%) and growing share of the workforce [6].

The "Washington Consensus"

John Williamson, an economist, coined the concept of the "Washington consensus" when he outlined a description of policy orthodoxy in the late 1980s. In the 1960s and 1970s, booming Latin American countries borrowed heavily to fund infrastructure projects and industrialisation. When interest rates soared in the early 1980s, those debts became unpayable and a wave of defaults threatened. US politicians, fearing for their country's heavily exposed banks, introduced a series of plans to coax as much repayment as possible from the region. They grew frustrated, however, at what they took to be Latin American governments' lack of interest in structural reform [7].

He drafted a paper that captured what Washington's intelligentsia agreed were broadly sensible policies. There were ten planks, which Mr Williamson later summarised as encompassing "macroeconomic discipline, a market economy, and openness to the world". The list reflected only policies that almost everyone in Washington thought wise. He emphasised redirecting industrial subsidies towards education and health. Exchange rates should be competitive, but not necessarily freely floating. Openness meant acceptance of imports and direct investment, but not full capital mobility. Deregulation meant liberating sheltered sectors, not gutting environmental and labour standards. It was more a practical guide to avoiding disaster than a manifesto [7].

The consensus soon came to mean something else entirely, though, and because a flashpoint for intense global debate. Critics associated it with the ideological revolutions of Ronald Reagan and Margaret Thatcher, which they interpreted as fierce hostility to any state intervention. When financial crises racked the developing world in the 1990s, its woes were blamed on the consensus, which was caricatured as a foolhardy attempt to impose orthodoxy on vulnerable places regardless of local conditions. The term became a catchall for neoliberalism, its excesses and failures, real and imagined. Economists found themselves asking whether and how the consensus had gone wrong; Mr Williamson himself acknowledged in 2002 that the term had become a "damaged brand name". but he continued, quietly, to explain what his creation was and was not meant to include [7].

The era of increasing global economic integration began with the collapse of communism. In the mid-1980s scarcely a quarter of the world's population lived in economies

which could be considered open to foreign trade and capital flows, according to an estimate published in 1995 by Jeffrey Sachs, Andrew Warner, Anders Aslund and Stanley Fischer. Ten years on the figure had jumped above 50%, and a three-decade burst of rapid globalisation was under way [8].

The era of openness has been good for much of the world. Yet the performance of the countries of the former eastern bloc has been decidedly mixed. While some, like Poland and Latvia, grew faster than the emerging world as a whole between 1992 and 2019, Russia did little better than the far richer US economy; Ukraine did worse. Thirty years on, the question of why some succeeded while others failed remains difficult to answer [8].

In the critical early years, transitional governments faced huge challenges. Their economies lacked functioning labour and capital markets, and were burdened by uncompetitive manufacturing sectors and a forbidding macroeconomic picture. In the early 1990s inflation exceeded 1,000% in Estonia, Latvia and Lithuania, and 2,000% in Kazakhstan, Russia and Ukraine. Economists broadly agreed on what should be done: economies needed to be opened to trade and market forces, state enterprises sold off, and new institutions built. They differed, though, on how fast to do it. Some, including Mr Sachs, argued for a speedy transition—an approach dubbed “shock therapy”—reckoning that rapid reform would reallocate capital faster and put food on shelves sooner. Critics reckoned that a slower pace would accommodate more institutional reform, and win more political support [8].

In practice, most governments wasted no time opening to trade and confronting macroeconomic challenges. Strategies diverged with respect to privatisation. Some, like Estonia, moved relatively slowly, matching buyers to enterprises one at a time. Others, like Russia, favoured rapid privatisation through schemes which transferred shares to existing managers and employees (though the Russian state retained stakes in critical industries like oil and gas). Building new institutions took longest of all. Early results were mostly disappointing. A few countries notched up healthy growth: in Poland, GDP per person, on a purchasing-power-parity basis, rose at an annual average pace of nearly 8% in 1992-98. Most did not. The core of the former Soviet Union experienced a collapse in incomes—punctuated, in Russia, by a financial crisis [8].

By the 2000s some economists were calling for a reconsideration of the fast-versus-slow debate. In 2006 Sergio Godoy and Joseph Stiglitz argued that faster privatisations had in fact been associated with slower economic growth, and that persistence in developing high-quality legal institutions paid dividends. Jan Svejnar (2002) credited thorough reforms in places like Poland and Hungary for lifting growth, by securing property rights and encouraging good corporate governance [8].

While economists reassessed, the facts on the ground changed. From 1998 to 2013 all of the post-communist world enjoyed a boom. Per-person annual GDP growth accelerated to 7% in the Baltic states and Ukraine, 8% in Russia and 13% in Turkmenistan. Russia’s resurgence enabled it to recapture some geopolitical stature. And the robust growth of emerging markets as a whole, led by China, forced economists to reassess the importance of democracy and the rule of law [8].

Yet in recent years a different picture has come into focus. From 2014, the long boom in commodity prices ended and the fortunes of economies which had hitched their wagons to resource exports turned [8].

Among the economies which joined the EU, in contrast, growth remained strong. In 2016, GDP per person in

Romania overtook that in Russia. While much of the former Soviet Union remained dependent on exports of grain, gas and gold, central Europe and the Baltics became deeply integrated with European labour and financial markets, and tied into European supply chains. Sailing has not been entirely smooth; over the past decade, populist governments in Poland and Hungary have weakened democratic institutions. But such systems remain miles away from the authoritarian regimes common across most of the post-Soviet world [8].

An analysis of Russia’s experience in 1993 by Maxim Boycko, Andrei Schleifer and Robert Vishny reckoned that the country’s privatisation scheme favoured insiders because management and employees enjoyed outsized influence within the Russian parliament, without whose support privatisation could not proceed, to take one example. The divergent experiences raise difficult questions: did the quality of institutional reform determine the economic and political avenues available, for example, or did other factors—like natural-resource endowments or the prospect of closer ties with the EU—affect how robust reforms were? Certainly, the literature on transitional economies suggests that countries faced different internal constraints as they reformed [8].

Economist, “Going for growth: Daredevil economics”, 11 Nov 2023, p. 65-6.

The Economist analysed data from the Fraser Institute, a free-market think-tank, which measures “economic freedom” on a 10-point scale. Cases where a country improves by 1.5 points or more – a quarter of the gap between Switzerland and Venezuela – within a decade are considered. This indicates that bold, liberalising reforms have been undertaken. In the 1980s and 1990s, such “daredevil economics” (i.e. reforms consistent with the Washington consensus) was common, as countries left the Soviet Union, and many deemed unreformable such as Ghana and Peru, provided that they were in fact reformable (see chart, episodes of daredevil reforms). Politicians changed foreign-trade rules, fortified central banks, cut budget deficits and sold state-owned firms.

In recent years, just a handful of countries, i.e., Greece and Ukraine, have implemented reform. In the decade to 2020 only two countries, Myanmar and Iraq, improved by more than 1.5 points. An IMF (2020) report looked at structural reforms and found similar results. In the 1980s and 1990s politicians across the world implemented lots of them, but by 2010 reforms had ground to a halt.

Although economies have become less liberal, the average in 2023 was 30% freer than it was in 1980, according to *The Economist*’s analysis of the Fraser Institute’s data. There are fewer state-run companies; tariffs are lower.

But the decline in daredevil economics also reflects a widely held belief that liberalization failed. In the popular imagination, terms such as “structural-adjustment plan” or “shock therapy” conjure up images of impoverishment in Africa, the creation of mafia states in Russia and Ukraine, and human-rights abuses in Chile. Joseph Stiglitz’s (2002) book *Globalization and its Discontents* and Naomi Klein’s (2007), *The Shock Doctrine*, fomented opposition to the free-market “Washington consensus”. Neoliberal is now a term of abuse in Latin America.

International organisations such as the IMF and World Bank are rather less interested in daredevil economics than before. America has a new consensus, which takes a sceptical view of globalisation’s benefits, prioritises

domestic interests over international ones and favours large-scale subsidies to speed up the green transition and bring home manufacturing. Governments everywhere feel less pressure to reform their own economies.

Yet the view that daredevil economics failed does not stand up to scrutiny, even in projects often produced short-term pain. In the 1990s the three Baltic countries liberalized prices and labour markets. This allowed them to move from membership of the Soviet Union to membership of the euro within 25 years (see chart, real GDP, 1995-2022). In the 2010s Greece implemented many reforms demanded by the IMF and European authorities. Inward foreign direct investment is now soaring, and in 2023 Greece's GDP was expected to grow by about 2.5% - one of the strongest rates in Europe. Not long ago many argued that China had rejected daredevil economics and succeeded. Recent weakness, including a trouble property market, casts doubt on this notion.

A growing body of research studying the effects of liberalising tariffs on imported capital and intermediate goods from the 1970s to the 2000s finds that the policies raised GDP growth by about 1% point.⁴⁵⁶

EAST ASIAN MIRACLE

The export-led growth strategies pursued by East Asian “tiger” economies involved more than just specialization in production of goods in sectors in which those countries had a comparative advantage, exporting those goods and importing goods in sectors in which the country had a comparative disadvantage. It involved industrialization, exports, and maintaining a trade surplus (export receives greater than import payments). Thus, it involved three interrelated policy components: industrial policy, trade policy, and macroeconomic policy (including exchange rate management).

The industrial policy component encouraged production of exportable goods and the trade component aimed at ensuring that those goods were exported. It also ensured that the country maintained a trade surplus. This was complemented by the macroeconomic policy. Keeping the value of the local currency cheap relative to foreign currency helped to increase exports and decrease imports. Encouraging savings was another means of reducing consumption (resulting in larger exportable surpluses and reducing the demand for imports) and provided funds available for investment in new industrial production capacity to further increase production and repeat the process. The dependence of this strategy on exports was sometimes referred to as “export fetishism”, but it did serve as a development model for sustained growth.

The rapid expansion of the East Asian tigers – many by an average of more than 8% a year from the 1970s to the 1990s – provoked fear in the West and pride in Asia. The success of the spectacular economic growth was partly attributed to “Asian values”, a unique mix of moral, social and political ingredients [9]. It also involved the trusted formula of moving workers from fields to more productive manufacturing jobs in cities, have them make goods for export, and watching the rapid formalisation of the economy [11].

⁴ Estevadeordal, A. and A.M. Taylor, “Is the Washington Consensus Dead? Growth, Openness, and the Great Liberalization, 1970s-2000s”, National Bureau of Economic Research (NBER), working paper 14264, Aug 2008, <http://www.nber.org/papers/w14264>.

During those boom years, many of the Asia tigers’ biggest companies were outgrowths of government policy. South Korea’s *chaebol* (family-controlled corporate conglomerates) were showered with cheap credit and tax breaks. Taiwan’s semiconductor champions were spin-offs from an official research institution. Hong Kong’s tycoons cultivated close ties with officials and benefited from its land policies. Singapore’s biggest firms were ultimately owned by the state [12].

Industrial policy was a big factor in the tigers’ take-off. Even the IMF, traditionally a sceptic, published a lengthy paper in 2019 about the success of their government-led models. In the 1970s, the tigers followed others’ strategies. South Korea’s focus on heavy industry borrowed from Japan. They could also license advanced technology as Taiwan did in its semiconductor sector. And they could poach researchers [12].

Never before in world history had any region sustained such rapid growth for so long. The four original tigers (Hong Kong, Singapore, South Korea and Taiwan) were joining the ranks of developed economies in terms of GDP per head (Hong Kong and Singapore are both richer than the UK). Indonesia, Malaysia, Thailand and China started to chase the leaders’ tails, though from much lower levels of income; and the Philippines (a slow starter) joined the Pack later. Unprecedented rates of growth were not all this disparate group of countries had in common (see table) [9].

Paper tigers	GDP per head* 1995, \$	GDP growth annual average %		
		1970-79	1980-89	1990-96
Hong Kong	23,900	9.2	7.5	5.0
Singapore	22,600	9.4	7.2	8.3
Taiwan	13,200	10.2	8.1	6.3
South Korea	11,900	9.3	8.0	7.7
Malaysia	10,400	8.0	5.7	8.8
Thailand	8,000	7.3	7.2	8.6
Indonesia	3,800	7.8	5.7	7.2
China	3,100	7.5	9.3	10.1
Philippines	2,800	6.1	1.8	2.8
Rich industrial countries	19,400	3.4	2.6	2.0

* At purchasing-power parity
Sources: IMF, ING Barings; national statistics

In the late 1990s, almost all of them came down to earth with a bump. Export growth in East Asia was only 5% in 1996 – feeble compared with the roughly 20% growth achieved in 1994 and 1995. Malaysia, South Korea and Thailand ran current-account deficits of 5-8% of GDP. Average GDP growth in the region slowed from almost 9% in 1995 to 7% in 1996 – a rate Americans or Europeans would die for, but industrial production in the richest tigers, Singapore and Hong Kong, tumbled to 5% [9].

Reactions to the slowdown fell into two broad categories. In the first were the pessimists. They were unsurprised, thinking Asia’s rapid expansion was unsustainable all along because (they claimed) it was based on massive inputs of capital and labour – and not on gains in efficiency. To them the slowdown was structural. The tigers were bound to seize

⁵ Chari, A., P.B. Henry and H. Reyes, “The Baker hypothesis: Stabilization, Structural Reforms, and Economic growth”, *Journal of Economic Perspectives*, (35):3 p. 83-108, summer 2021.

⁶ Goldfajn, I., L. Martinez, and R.O. Valdes, “Washington consensus in Latin America: From raw model to straw man”, *Journal of Economic Perspectives* (35):3 p. 109-32, summer 2021.

up sooner or later; the figures showed this was happening [9].

The optimists, on the other hand, were unfazed. They gave little weight to the arguments that something was structurally wrong with the tigers. They reckoned the growth of past decades was rooted in the wise policies of the governments and the profit-seeking behaviour of the people. As for the slowdown in the late 1990s, they explained that away as cyclical. Sooner or later, the optimists thought, the cycle would turn and the Asian miracle would amaze the world anew. As usually happens when people exaggerate to strengthen their case, the truth lies somewhere in between – but nearer the optimistic extreme [9].

Paul Krugman, a US economist at MIT, first and most forcefully put the pessimists' case forth in Nov 1994. In a provocative article called "The Myth of the Asian Miracle" (*Foreign Affairs*, Vol. 73, No. 6), Mr Krugman argued that East Asia had no economic miracle [13] [9]. It was a miracle based on "perspiration" not "inspiration". On closer inspection, there was "startlingly little evidence of improvements in efficiency". Singapore "grew through a mobilisation of resources that would have done Stalin proud", Mr. Krugman wrote [10]. The market mayhem of Asian financial crisis of 1997-98 only fuelled the debate.

The Krugman thesis was that East Asian growth was almost wholly attributable to increased inputs – notably of labour and capital. Invest in more sausage machines and employ more sausage-makers and, of course one can make more sausages. Where is the miracle? Growth will not slow down until you run out of extra sausage-makers. Though a second sausage machine might double output, a third will increase it only by 50%. Unless one learns to make more and better sausages more efficiently, one is subject to the law of diminishing returns. The region's growth had largely been achieved through heavy investment and a big shift of labour from farms into factories, rather than from productivity gains based on technological advance or organisational change [13].

In Singapore, the employed proportion of the population surged from 27% to 51% between 1966 and 1990. Unless babies could be drafted into the workforce, that rise employment was unrepeatable. In a similar period, Malaysia increased investment as a share of GDP from about 20% to more than 40%, which must have been close to the limit [13].

Krugman cheekily likened the Asian economies to the Soviet Union, pointing out the similarities between contemporary western euphoria about East Asia's growth prospects and the anxiety in the 1950s and 1960s about the Soviet Union's apparently looming economic pre-eminence. The parallels, he argued, were not accidental: in both cases growth was based on mobilisation of resources rather than on increases in efficiency. Once inputs are exhausted and capital-to-output ratios rise towards rich-country levels, diminishing returns set in and growth will slow sharply. East Asian growth is "more comprehensible and less sustainable" than many believed. The comparison also carried a provocative implication: that the West has no more to learn from Asian values than from communism, from Lee Kuan Yew than from Stalin [13].

That there were limits on the pace of the tigers' expansion Mr Krugman was unquestionably right [10], but even though trends in the late 1990s appeared to confirm this thesis, Mr Krugman's

arguments were ripped up at the roots by other economists. Critics made three arguments:

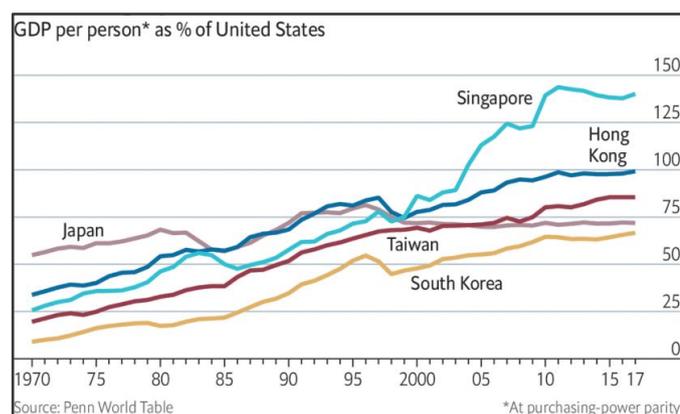
- The numbers. His critics questioned the statistics on which Mr Krugman's conclusions rested. He based his arguments on the work of Alwyn Young, another US economist. Mr Young looked at 118 countries over 1970-85 and attempted to split GDP growth into the part attributable to increased inputs of labour and capital, and that attributable to more productive use of those inputs (which economists call total factor productivity, or TFP). Surprisingly, Mr Young found that the growth of TFP was generally no higher in East Asia than in the rich industrial economies. Singapore's productivity growth, he said, was close to zero [9].

Other economists reckoned Mr Young's numbers were just wrong. The problem is that TFP growth is estimated as a residual – i.e., the bit left over which cannot be explained by increases in capital and labour. It is therefore subject to big measurement problems – which explain why other studies produced higher estimates of productivity growth [9].

For instance, a report by UBS, a Swiss bank, repeated Mr Young's analysis using more up-to-date figures for 1970-90 and came to a very different conclusion⁷. In this study, five East Asian countries (Hong Kong, Thailand, South Korea, Singapore and Taiwan) ranked in the top 12 countries (out of 104) for average TFP growth. In all five, productivity was roughly as important as investment in explaining growth. In a study of ASEAN countries, Michael Sarel of the IMF⁸ also found higher productivity growth. He estimated that Singapore, Malaysia and Thailand all had annual TFP growth of 2-2.5% between 1978 and 1996, compared with 0.3% in the US. Moreover, TFP growth increased in most ASEAN countries between the 1980s and the 1990s [9].

The Asian performance may have been even better than this. It is hard for economists to distinguish between TFP growth and capital investment because much technological progress and better ways to organise production are actually embodied in capital equipment imported from rich economies. As a result, both these studies may underestimate true productivity growth in high-investing Asian countries. Some of the effect that Mr Krugman dismisses as just capital-investment growth may actually be productivity growth in another form [9].

In fact, the Asian tigers averaged annual growth rates of 3% in the 2010s; however, even as inputs of labour grew more slowly, implying that TFP made a bigger contribution. Between 2000-17, it grew at least twice as fast in the tiger economies as in the US, according to the Asian Productivity Organisation in Tokyo. This allowed the tigers to continue on the growth path toward convergence (see chart, GDP per person) [10].



⁷ "The Asian Economic Miracle", UBS International Finance Issue 29, Autumn 1996.

⁸ "Growth and Productivity in ASEAN Economies", presented at an IMF conference in Jakarta, November 1996.

- The significance of investment. Critics claimed that Mr Krugman underestimated the significance of some of the changes he described. Mr Krugman tried to play down the notion of an Asian miracle by arguing that the countries merely invested a lot. “Merely” is misleading. Asia’s ability to invest (and save) more effectively than other developing countries and to import technology from the rest of the world was itself an achievement [see box on the role of savings]. Investment in East Asia amounted to an average of 35% of GDP, almost twice as much as in Latin America [9].

The Soviet Union also invested a lot, but it was different in other ways. Endless studies suggest that high saving, low taxes and government spending, flexible labour markets, strong commitment to education and openness to trade (and hence foreign technology) are all vital to growth. These are areas in which most East Asian economies excel. Relatively open economies ensured that workers and capital were allocated more in response to price signals than by bureaucrats, as happened in the Soviet Union. If East Asia retained these policy advances, growth would continue to outpace that in the rich industrial economies [9].

Whatever the precise estimates of East Asian productivity growth, it remains true that low-income countries can grow faster than those further up the development ladder by copying rich countries’ technology. However, as East Asia approached rich-country levels of capital per worker and educational standards, growth would tend to slow. The process had already played out in Hong Kong and Japan [9]. (Japan’s GDP per person, at purchasing power parity reached 85% of the US’s in 1990, but in 2019 it was at 70%. One cause of the slowdown is due to ageing – a trend that the tigers will also likely face [10]).

East Asian economies would have to become more innovative themselves to grow faster than today’s leaders. Which leads to the third line of criticism:

- The future. Krugman’s critics claimed he too quickly wrote off Asia’s future prospects. Their opportunities for catch-up remained immense. In virtually all the tigers, the amount of capital per worker was considerably lower than in rich industrial economies. The average South Korean, for example, worked with only two-fifths the amount of capital available to his US counterpart. With fancier equipment, his output would rise. Asian workers’ education could improve too, and their productivity with it. In 1994, the average worker received only seven years of education (ranging from four years in Indonesia and Thailand to nine years in South Korea). In contrast, workers in most industrial countries had at least ten years, often much more. The conclusion was that even if Mr Krugman were right – and most Asian growth had come from adding capital and labour – the limits to growth based on this would still be a long way off. In theory, East Asia’s growth could remain faster than rich economies for decades before the need to innovate instead of copy, limited growth [9].

Even if Mr Krugman’s exaggerated his thesis and even if the main causes of the slowdown were cyclical, the slow-down still exposed several structural problems. The weaknesses varied from country to country and were not necessarily the ones most commonly blamed. Some economists pointed to rising wages and current-account deficits as evidence of falling competitiveness. This is too simplistic. Miron Mushkat, chief Asian economist of Lehman Brothers, an US investment bank, pointed out that rising wages go hand in hand with the upgrading of production in Asian economies. Higher wages or rising exchange rates provide an incentive for firms to move into more productive, higher-value activities. This is necessary because the new tigers can no longer rely on cheap labour alone. Countries with lower wages at that time (Eastern Europe, China, or Vietnam)

were able to undercut them in labour-intensive goods. Thus, Asia needed to move up the ladder, from the manufacture of shirts and shoes to things like semiconductors and consumer electronics [9].

However, easy money was partly to blame for over-investment and hence there was excess capacity in several areas, including semiconductors, consumer electronics and petrochemicals. In many countries, the government compounded the problem by attempting to pick winners by directing cheap credit to favoured industries, while starving small firms of cash. Government meddling in capital markets was to blame for the fragile state of banking in almost every country in the region with the exception of Hong Kong and Singapore. Such distortions may not matter so much in the early stages of development, but become increasingly important as economies mature [9].

Infrastructure bottlenecks were widespread because transport and power systems failed to keep pace with industrial expansion. Skills shortages were an even more serious bottleneck. Thailand, in particular, lagged behind in the educational standards and skills needed to move up the ladder to higher-tech industries. Only 38% of 14-year-olds there attended school in 1993, fewer than in China (though reforms led to kids staying in school longer) [9].

Perhaps the biggest challenge to the Asian miracle was not economic but political: the risk that governments take bad policy decisions in response to the slowdowns. Either because of lobbying by the heads of protected industries, or because of their own unwillingness to see growth falter, governments may be tempted to “do something”. In 1996, Malaysia hinted at import controls to help curb its current-account deficit. That would have tackled the symptoms only, not the disease [9].

Both the problem and the policies differed by country. South Korea was heavily concentrated on a few industries, such as electronics and petrochemicals. It needed to open its economy to more competition. The power of the overweening and indebted *chaebol* (conglomerates) had to be reduced, and labour- and capital-market rigidities needed to be relaxed. Financial sectors could be liberated in Thailand and Malaysia. Thailand and Indonesia needed to invest more in infrastructure. Indonesia was hampered by red tape and corruption [9].

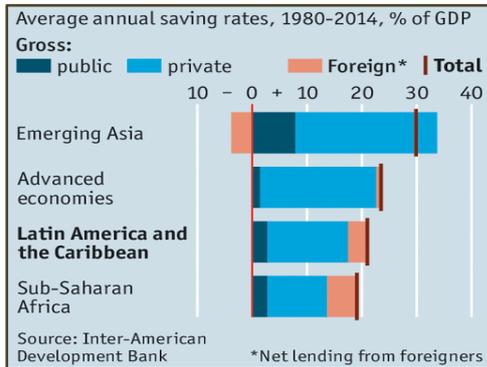
In contrast to South Korea, Hong Kong, Singapore and Taiwan had flexible labour markets, less government intervention, and small, nimble firms. Taiwan pushed ahead with deregulation more swiftly than South Korea; and its more flexible industrial policy was more suited to fast changing business conditions [9].

There is no theoretical reason why in the longer term some other East Asian economies cannot overtake income levels in the West, even as their growth rates slow, by making even better use of the latest technology. The UBS study also noted that inventing new technology may be less important than being quick to adopt the best available technology across all sectors. The slowdown in growth in rich economies is partly explained by policies that subsidise or protect sunset industries or tax policies that distort capital and labour costs, rather than a shortage of new technologies [9].

Role of savings

Economists frown when households—and governments—spend with little regard for tomorrow. Latin Americans and sub-Saharan Africans save much less than the experts think they ought to compared with residents of developed countries, and especially those of emerging Asia (see chart, annual savings rates) [14].

Foreigner capital can help, but it is not a perfect substitute for local savings; it can be fickle, disappearing just when the region needs it most, as happened in Latin America in the late 1990s; reliance on foreign savings can push up the value of the currency, killing off otherwise viable businesses as happened with Brazil [14].



An Inter-American Development Bank report noted that if Latin America's economies are to grow at 5% a year or more, they need to invest around 25% of GDP. Some countries came close to that during the commodity supercycle of 2003-13, but the commodity boom is over. Growth slumped and so did investment. Not surprisingly, the attention of economists turned once again to why Latin America saves so little and how it might save more, and thus invest more [14].

Latin American governments save too little, and favour current spending over public investment. Subsidies and pay for bureaucrats take priority over transport, energy and water infrastructure. The region's low propensity to save has historic roots too. Generations of Latin Americans have seen their governments wipe out their savings, either through inflation or by simply confiscating them. That is why so much capital has flown from the region over the past half-century. Another factor in low savings is the prevalence of informal jobs. (Underground employers seldom enroll their staff in pension plans.) The pension problem is severe [14].

Some economists argue that Latin Americans have developed their own common-sense instruments of saving. They invest in building their own houses and in educating their children. They trust that rental income and family solidarity will provide for them in old age. But this kind of saving does not result in capital that the financial system can turn into productive investment. The region needs to save more [14].

Awkwardly, nobody really knows whether higher savings are a consequence or a cause of higher growth (they may well be both). However, better banks, governments that are more prudent, better pensions, and more financial literacy would help the region in both good times and bad [14].

Problem of crony capitalism

Crony capitalism refers to negative behaviour associated with close relations between the managers of firms and politicians, e.g., different shades of string-pulling or bribery. Much of it is legal, but all of it is unfair. It undermines trust in the state, misallocates resources and stops countries and true entrepreneurs from getting rich [15].

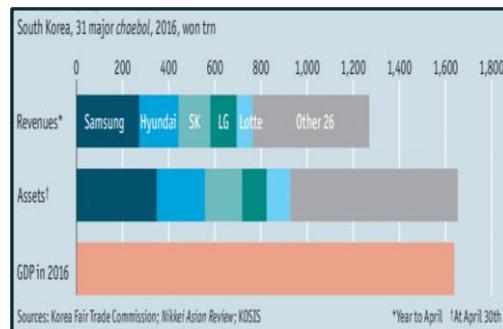
"Rent-seeking" is the term economists use when the owners of an input of production – land, labour, machines, capital – extract more profit than they would get in a competitive market. Cartels, monopolies and lobbying are common ways

to extract rents. Industries that are vulnerable often involve a lot of interaction with the state, or are licensed by it: for example telecoms, natural resources, real estate, construction and defence. Rent seeking can involve corruption, but often it is legal [16].

The years since the late 1990s have been a golden age for crony capitalists – tycoons active in industries where chumminess with government is part of the game. As commodity and property prices soared, so did the value of permits to dig mines in China or build offices in Sao Paulo. Worldwide, the worth of tycoons in crony industries soared by 385% during 2004-14, to \$2 trillion, or a third of total billionaire wealth; much of it (though by no means all) in the emerging world [15].

Since globalisation took off in the 1990s, there has been a surge in billionaire wealth in industries that often involve cosy relations with the government, such as casinos, oil and construction. Corruption scandals have lit a fire under governments in Brazil and Malaysia. Cronyism is central to Vladimir Putin's vision of Russia, the country that scores worst in a crony-capitalism index ranking [16].

In South Korea, the chaebol have had to address complaints about governance. Nine of South Korea's most powerful bosses, some rarely seen in public, were grilled on television by politicians in December 2016 as part of an investigation into collusion. All denied that they had sought favours in return for the billions of won they paid into politically connected charitable foundations. While some served jail sentences, most were let off because of their firm's importance to the economy (i.e., being too big to be brought to justice). The total asset value of the five biggest chaebol, measured in April 2016, reached over half of the country's GDP for that year (see chart, major chaebols) [17].



In addition to the closeness of business with government opening opportunities for corruption, crony capitalism can raise issues related to competition. Firms that are so big (in terms of their contribution to GDP) become identified as a national brand. Market access can be limited by the very size of the firm in controlling the domestic supply chain, or by society's willingness to restrict foreign firms in the name of protecting a national champion, or by preventing the fall of a firm bringing down the welfare of the country.

Picking losers: Malaysia's crisis-ridden national carmaker

What will become of Proton, Malaysia's struggling carmaker? A political project set up by the government in the 1983, Proton started building cars two years later in association with Mitsubishi of Japan. It was a central part of the strategy laid out by Mahathir Mohamad, the prime minister at the time, to transform Malaysia into an industrialised nation by 2020. The idea was that a big carmaker would create jobs, provide access to technology, bring in export earnings and spawn a host of supporting industries. The Proton never got big, was

overtaken by foreign competitors, and became embroiled in a struggle over its future direction. Although it once had 65% of the local market, output never rose above 227,000 cars a year and exports never exceeded 20,000 units annually. In an industry dominated by a handful of global giants, each producing 3m-6m cars a year, Proton was a minnow [18].

Yet it refused to scale down its ambitions. Proton built factories capable of churning out 1m cars a year and launched a range of models, but quality was poor and low volumes meant it was not able to compete on cost. Even local consumers became fed up with Proton's cars, with their sharply declining second-hand values. They switched loyalties to what was once the second national carmaker, Perodua, controlled and very competently run by Japan's Daihatsu, part of Toyota. Proton's market share in Malaysia fell steadily in the mid-2000s and was just 31% in 2006 [18].

The crisis intensified when Proton's cash reserves ran low and the firm was in danger of breaking down altogether. In 2003 it had 3.8 billion ringgit (\$1.1 billion) in the bank, but in Nov 2006 it had only 500m ringgit, half what it had in March. The government wanted to place the company with a "strategic partner" to extricate itself from the mess with minimum humiliation. The government announced that it was in new talks with two big European car groups, Volkswagen and PSA Peugeot Citroën, with a view to selling part or all of its stake to one of them or forming some kind of strategic alliance [18].

The trouble was that Proton was not just an ailing carmaker. It was also a political hot potato, since it was caught up in the feud between Dr Mahathir and Abdullah Badawi, who succeeded him as prime minister in 2003. Mr Badawi saw the firm as a liability, but to Dr Mahathir any sale would be tantamount to dismantling his legacy. Selling out to a foreign firm would spell humiliation. Khazanah, the national investment authority and Proton's main shareholder, was also reluctant to sell because of the write-down it would take [18].

The Proton's struggles illustrate how government's picking national champions can become a national embarrassment. The Malaysian government, the prime minister and the meddling predecessor, had to decide which way to turn. Should Proton give up and become a tiny part of the global car-making industry, or should it struggle on in the hope that things would somehow improve? [15].

Strategies for emerging economies post-economic crises

Export-led growth post global financial crisis (GFC)

Many developing countries traded their way out of poverty. Given their success, it is easy to forget that some development economists were once prey to "export fatalism". Poor countries, they believed, had little to gain from venturing into the world market. If they tried to expand their exports, they would thwart each other, driving down the price of their commodities [19].

Export-led growth strategies, sometimes called "export fetishism", resulted in trade surpluses in those countries and required importing countries to run trade deficits. The continuous process of growth through exports implies larger and larger imbalances over time, a potential cause of the

GFC of 2008. The GFC stirred a new export fatalism in the minds of some economists. Even after the global economic recovery, some argued, developing countries could find it harder to pursue a policy of export-led growth [19].

If the export-led growth strategy became undone, then how should developing countries respond? Dani Rodrik offered a novel suggestion⁹. He argued that developing countries should continue to promote exportables, but no longer promote exports. What's the difference? An exportable is a good that could be traded across borders but need not be. Mr Rodrik's recommended policies would help countries make more of these exportables, without the fetish, i.e., not having to sell quite so many abroad [19].

Countries continue to grow by shifting labour and investment from traditional activities, where productivity is stagnant, to new industries, which abound in economies of scale or opportunities to assimilate better techniques. These new industries usually make exportable goods, such as cotton textiles or toys. But whatever the "export fetishists" believe, there is nothing special about the act of exporting per se, Mr Rodrik argues. For example, companies do not need to venture abroad to feel the bracing sting of international competition. If their products can be traded across borders, then foreign rivals can compete with them at home [19].

As countries industrialise and diversify, their exports grow, which sometimes results in a trade surplus. These three things tend to go together. But in a statistical "horse race" between the three—industrialisation, exports, and exports minus imports—Mr Rodrik finds that it is the growth of tradable, industrial goods, as a share of GDP, that does most of the work [19].

How do you promote exportables without promoting exports? Policymakers need a different set of tools, Mr Rodrik argues. Cheap currencies will not do the trick. They serve as a subsidy to exports, but also act like a tax on imports. They encourage the production of tradable goods, but discourage their consumption—which is why producers look for buyers abroad. Instead, they should set aside their exchange-rate policies in favour of industrial policy, subsidising promising new industries directly. This would expand the production of tradable goods above what the market would dictate. But a subsidy would not discourage their consumption [19].

Mr Rodrik offers a solution to an awkward problem: how policymakers can restore the growth strategies of the pre-crisis era without reviving the trade imbalances that accompanied them. Is his solution as neat as it sounds? Start with the theory. Mr Rodrik claims there is nothing special about exporting. He is probably right. Mr Rodrik's model also assumes a single tradable good. Under his policies, countries sell the same kind of stuff at home that they formerly sold to foreigners. A more elaborate model would allow foreign and local tastes to differ. China, for example, made most of the world's third-generation mobile phones long before 3G telephony was available at home. Firms in poor countries can learn a lot from serving richer customers abroad [19].

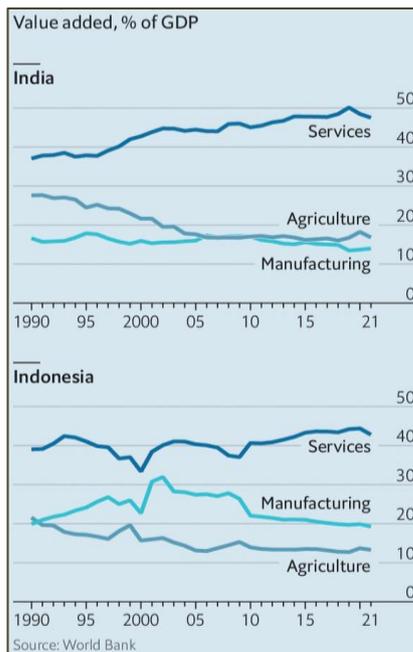
Post-pandemic industrial policy

In the 2020s, under the "new post-pandemic world order" where there appears a trend toward "deglobalization", if not a preference for nations to pursue policies that put their own welfare first, how does a growth and developing strategy work? Two Asian giants were forecast by the IMF to be

⁹ "Growth after the Crisis". Dani Rodrik, May 2009.

among the fastest-growing top-20 economies, India and Indonesia.

Both countries have grown quickly: India's GDP expanded by 71% between 2012-22 and Indonesia by 52%. Services, not manufacturing, dominate output (see chart, value added, % of GDP). Both are relatively open with trade amounting to around 40% of GDP and annual inflows of FDI worth some 1.5% of GDP. Both have large informal sectors: 90% of India's workers and 60% of Indonesia's toil in the "grey" economy. That state is small by rich-world standards: public spending is 30% of GDP in India and 18% in Indonesia. Both countries are undergoing ambitious physical infrastructure building (roads, airports, ports, etc.). With per capita national income at \$4,180 in Indonesia and about half of that in India, both ranked as lower middle-income countries in the early 2020s [11].



This is where the similarities end. *The Economist* proposed four areas to consider for evaluating each countries' growth prospects under this new world order: (1) the success of the leading export sector, as a reflection of comparative advantage; (2) the industrial policy; (3) the geopolitical stance; and (4) the government's strategy for pleasing voters [11].

India's leading export sector is technology services, accounting for 15% of global IT services spending in 2021 and where half a million new engineers are educated each year. Indonesia's is in commodities, some of which, such as nickel, are in global demand owing to the green energy transition. By 2030 Indonesia will be the world's fourth largest producer of "green commodities" used in batteries and grids. These sectors accounted for around 20% of exports in 2021 [11].

Both governments intend to supercharge the private sector through industrial policy. India is betting on \$30bn of "production-linked incentives" to catalyse investment in 14 priority industries, including semiconductors. India pledged to achieve "net-zero" emissions of greenhouse gases by 2070 by building solar farms, producing batteries and more. Indonesia's flagship industrial policy, "downstreaming", is focused on natural resources. It uses sticks more than carrots. It hopes that by banning exports of selected raw materials, it will push multinationals to build refineries locally. Exports of raw nickel, for example, were prohibited in 2014. The number of nickel smelters grew from two before the ban to 13 in 2020 and to as many as 30 by the end of 2023. A ban on bauxite exports is intended to shimmy up

the value chain. Indonesia intends to make electric-car batteries as a means of encouraging EV car making [11].

As Sino-American tensions build, the two countries maintain different geopolitical stances, which should affect foreign investment and trade. Indonesia, with its long-held policy of nonalignment, intends to balance China and the West. China is one of Indonesia's largest sources of FDI. India is more wary of China. Recent border clashes prompted India to join the Quad, a strategic grouping with the US, Australia, and Japan. India has also banned TikTok and dozens of other Chinese apps and investigated Chinese tech firms located domestically. Part of the strategy is designed to lure Western firms that are diversifying away from China [11].

The last category has more to do with political coalitions and is more related to the current political leader. The countries face similar common problems, such as cronyism and competition. The risks to both strategies lay in the politics. Both countries' models of development rely on a narrow part of the economy racing ahead; on wealth trickling down through the informal economy or of welfare schemes; and on the political system being able to manage the resulting social pressures [11].

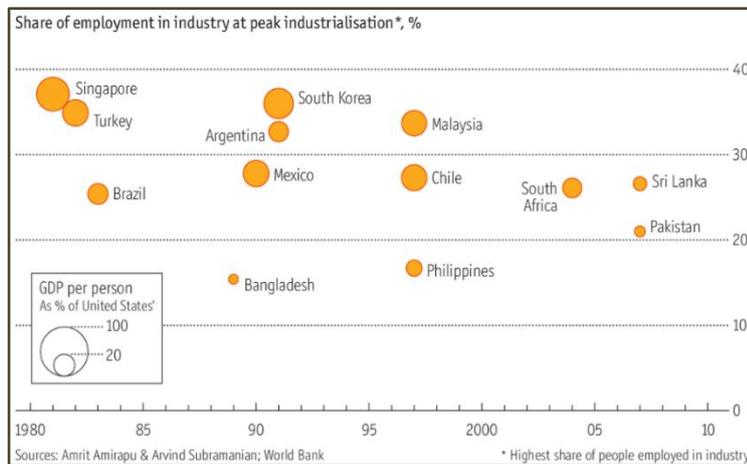
Limits to growth/development through industrialisation

In 1978, the average US income was about 21 times that in China. In 1979 China's leader, Deng Xiaoping, chose Shenzhen as the country's first special economic zone, free to experiment with market activity and trade with the outside world. Shenzhen quickly found itself at the leading edge of Chinese economic development, using the same model as Japan, South Korea and Hong Kong itself had done at earlier stages. In the late 1970s, China was bursting with cheap, unskilled labour. It opened its doors (a bit, in lucky places like Shenzhen) to foreign manufacturers waiting to take advantage of these low labour costs. Even though wages were at rock bottom, both productivity and pay in urban factories were dramatically higher than in agriculture, so China's fledgling industrialisation attracted a steady flow of migrants from the countryside [20].

Over time, local production became more sophisticated and wages went up. Industrial cities served as escalators for development, linking the Chinese economy with global markets and allowing incomes to rise steadily [20].

Governments in emerging markets dream of repeating China's success, but the technological transformation now under way appears to be permanently changing the economics of development. China may be among the last economies to be able to ride industrialisation to middle-income status. The emerging world faces a problem that Dani Rodrik, of the Institute for Advanced Study in Princeton, calls "premature deindustrialisation" [20].

For most of recent economic history, "industrialised" meant rich. Most countries that were highly industrialised were rich, and were rich because they were industrialised. The relationship has broken down. Arvind Subramanian, of the Peterson Institute for International Economics, notes that, at any given level of income, countries today are less reliant on manufacturing, in terms of both output and employment, than they were in the past, and that the level of income per person at which reliance on manufacturing peaks has also declined steadily (see chart, employment in industry at peak). When South Korea reached that point in 1988, its workers' earnings averaged just over \$10,000 (in PPP-adjusted 2011 dollars) per person. When Indonesia got there in 2002, average income was just under \$6,000, and for India in 2008 it was just over \$3,000 [20].



Early loss of industry (or, in India's case, what Mr Subramanian calls "premature non-industrialisation") is a distressing trend, given the role that exports of goods have historically played in economic development. Productivity in export industries is generally high, otherwise they could not compete in global markets. Over time, productivity in making traded goods tends to rise as firms and workers in the industry become familiar with the technologies involved. Past developmental success stories such as the Asian tigers moved from low-margin, labour-intensive goods such as clothing and toys to electronics assembly, then on to component manufacture and, in the textbook cases of Japan and South Korea, to advanced manufacturing, design and management [20].

Export success trickles down to the rest of developing economies. Since producers of non-traded goods and services, such as housebuilders and lawyers, must compete with exporters for labour, they need to pay attractive wages. At the same time the chance of well-paid work in manufacturing creates an incentive for workers to move to cities and invest in education. An industrialising export sector is like a speedboat that pulls the rest of the economy out of poverty [20].

Loss of industry at low-income levels, by contrast, caps the contribution that manufacturing can make to domestic living standards. That is no small problem: there is no obvious alternative strategy for turning poor countries into rich ones [20].

The change in technology's role in development began in the 1980s. Richard Baldwin, of the Graduate Institute of International and Development Studies in Geneva, explains that for much of modern economic history the driving force behind globalisation was the falling cost of transport. Powered shipping in the 19th century and containerisation in the 20th brought down freight charges, in effect shrinking the world. Yet since the 1980s, he says, cheap and powerful information and communications technology (ICT) has played a bigger role, allowing firms to co-ordinate production across great distances and national borders. Manufacturing "unbundled" as supply chains scattered across the world [20].

According to Mr Baldwin, this meant a profound change in what it is to be industrialised. The development of an industrial base in Japan and South Korea was a long and arduous process in which each economy needed to build capabilities along the whole of a supply chain to manufacture finished goods. That meant few economies managed the trick, but those that did were rewarded with a rich and diverse economy [20].

In the era of supply-chain trade, by contrast, industrialisation means little more than opening labour markets to global manufacturers. Countries that link into parts of a global supply chain are rewarded with jobs in manufacturing.

However, development that is easy-come may also be easy-go. Unless the economies concerned quickly build up their workers' skills and infrastructure, wage increases will soon lead manufacturers to up sticks for cheaper locations [20].

Another mechanism through which new technology is changing the process of development is the dematerialisation of economic activity. Consumption the world over is shifting from "stuff to fluff", reckons Mr Subramanian. People everywhere spend a larger share of their income on services such as health care, education and telecommunications. This shift is reflected in trade. Messrs Subramanian and Kessler note

that, measured in gross terms, goods shipments dominate trade as much as ever. They accounted for 80% of world exports in 2008, down only slightly from 83% in 1980. Measured in value-added terms, however, the importance of goods trade tumbled, from 71% of world exports in 1980 to just 57% in 2008, because of the increasing weight of services in the production of traded goods. Much of the value of an iPhone, for example, derives from the original design and engineering of the product rather than from its components and assembly [20].

A McKinsey Global Institute report put the value in 2012 of "knowledge-intensive" trade—meaning flows of goods or services in which research and development or skilled labour contribute a large share of value—at \$12.6 trillion, or nearly half the total value of trade in goods, services and finance. Physical assembly accounts for a declining share of the value of finished goods. The knowledge-intensive component of trade is also growing more quickly than trade in labour-, capital- or resource-intensive products and services. Moreover, the dramatic decline in the cost of ICT has opened up trade in some high-value services. Skilled programmers in India, for example, can sell IT services around the world despite the low overall level of development of the Indian economy [20].

India has masses of cheap, unskilled labour that ought to be attractive to firms wanting to set up low-cost manufacturing facilities. Yet operating them would require at least some skilled workers, and the rising premium on these created by trade in ICT services makes it uneconomic for many would-be manufacturers to hire the necessary talent. Mr Subramanian and Raghuram Rajan, another Indian economist, have dubbed this the "Bangalore bug", a reference to the city's extraordinarily successful ICT cluster. Other emerging economies are similarly affected [20].

Other advances are eliminating the need for human labour altogether. Walking through an electronics production line at Foxconn's Longhua campus in Shenzhen, a worker points out places where people have already been replaced by machinery—"to reduce injuries to workers", he says. Elsewhere on the line, he indicates a place where a robot is being tested to take over a range of tasks from humans. Perhaps 10% of the staff at Longhua now consists of engineers working on such automation. In fast-developing and rapidly ageing China workers are becoming increasingly expensive, as well as hard to find. Automation provides a means to hold on to work that might otherwise pack up and move to another country [20].

The falling cost of automation makes the use of robots attractive even in India, where cities are swarming with underemployed young workers. The main reason for that is the country's thicket of red tape. Mr Subramanian thinks India's best hope now may be to concentrate on churning out more highly skilled workers, rather than count on manufacturing to mop up its jobless millions [20].

The rapid growth in emerging economies since 2000 was good for many very poor countries in Africa and Central America, but most still grew more slowly than richer developing countries in Asia and South America. Given the institutional weakness, inadequate infrastructure and modest skills base in many of the world's poorest places, even rock-bottom wages there may be insufficient to attract much manufacturing [20].

That is a distressing prospect. The United Nations estimates that sub-Saharan Africa's population will roughly triple over the next half-century, to about 2.7 billion. A development model in which rapidly rising incomes are limited to a highly skilled few is unlikely to be sustainable [20].

Middle-income trap

In 2013, the World Bank published a report entitled "China 2030". The publication warned of the "middle-income trap", a term to describe the phenomenon of countries' development becoming stalled. "Of 101 middle-income economies in 1960, only 13 became high-income by 2008," it claimed. This striking statistic was illustrated with a chart similar to the one below (see chart, income per person relative to US). How has the picture changed [21]?



Answering the question depends on the definition of middle-income employed. According to the World Bank's official classifications, a country becomes high-income only when its GDP per person exceeds around \$13,200. By that standard, China looked set to escape the middle-income trap by 2025. But for the purposes of the "China 2030" chart, the bank adopted a more stringent definition: middle-income countries have a GDP per person, at purchasing-power parity, of between roughly 5% and 43% of America's [21].

The "China 2030" chart drew on historical GDP statistics prepared by Angus Maddison, an economist. His colleagues and successors have since revised and updated the estimates to 2018 which *The Economist* further updated to 2022 using figures from the Economist Intelligence Unit, a sister organization [21].

The result is that 23 countries which were middle-income in 1960 now qualify as high-income—more progress than one might have expected over the past difficult decade. Graduates include three countries in the Gulf (Bahrain, Oman and Saudi Arabia) and six

members of the EU (Croatia, Cyprus, Hungary, Malta, Poland and Slovenia). Malaysia has joined the Asian tigers in the high-income bracket. The Seychelles, an island nation off Africa, has also crossed the threshold. Unfortunately, two other countries in the region, Equatorial Guinea and Mauritius, which were considered high-income in 2008, have moved in the other direction [21].

The list could in fact be expanded further. Seven countries that are now high-income by the "China 2030" definition did not exist as sovereign nations in 1960, so do not appear on the chart. These include the Czech and Slovak republics, as well as several former members of the Soviet Union: Estonia, Kazakhstan, Lithuania, Latvia and Turkmenistan. The country that once dominated them, Russia, also moved from middle-income in 1960 to high-income in 2022 [21].

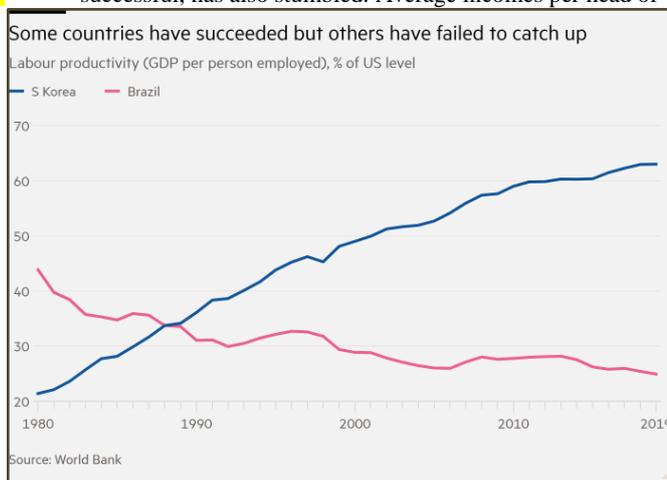
Overcoming the middle-income trap

Middle-income countries are home to three out of every four people – and nearly two-thirds of those who struggle in extreme poverty. They are responsible for 40% of the world's total economic output – and nearly two-thirds of global carbon emissions. Both the efforts to end poverty and reduce climate change will be won or lost in the economic growth and the pattern of growth in these countries. Thus, the concept of a middle-income trap has been revisited¹⁰ by economists [25].

The recent studies are sceptical to the existence of a middle-income trap. Debates about such a trap appear anachronistic: middle-income countries have exhibited higher growth rates than all others since the mid-1980s. Nonetheless, closing gaps in average prosperity between rich and poorer countries is painfully slow and hard. The persistence of these gaps makes the idea that tackling global challenges (including climate change) can be managed by degrowth absurd [25].

The ambition of the 108 middle-income countries is to attain high-income status. The record of meeting the goal is dismal:

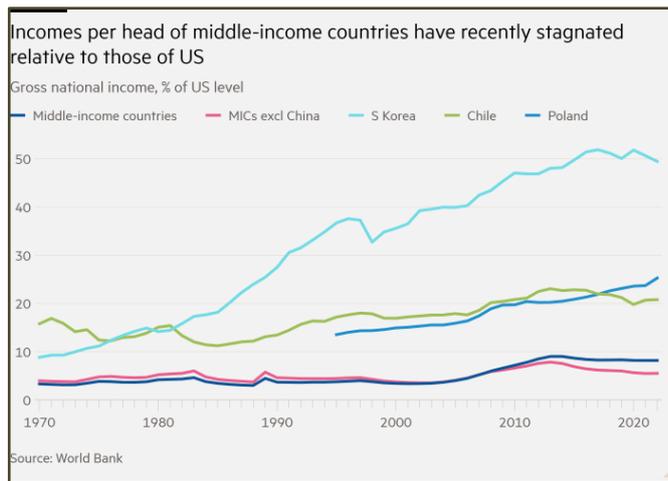
the total population of the 34 middle-income economies that transitioned to high-income status since 1990 is less than 250 million, the population of Pakistan. The most populous country to have become a high-income country since 1990 is South Korea (see charts on relative labour productivity and GNP as % of US level). Meanwhile, important countries have failed to converge. Brazil is an example. Chile, once successful, has also stumbled. Average incomes per head of



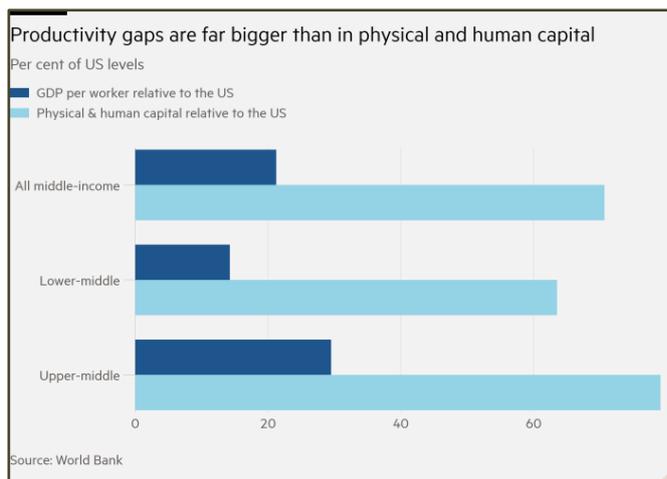
¹⁰ World Bank, *World Development Report 2024: Economic Growth in Middle-Income Countries*, access at <https://thedocs.worldbank.org/en/doc/ba24094c4f9f37714f07345b1505c930-0050062023/original/WDR2024-Concept-Note.pdf>; Imam, P.A. and J.R.W. Temple, "At the Threshold: The Increasing

Relevance of the Middle-Income Trap", IMF Working Paper, WP/24/91, Apr. 2024. Patel, d, J. Sandefur and A. subramanan, "The New Era of Unconditional Convergence", "The New Era of Unconditional Convergence", Center for Global Development, Working Paper 566, Feb 2021.

middle-income countries have stayed below 10% of US levels since 1970 [25].



The record is worrying, whether or not the notion of a “trap” is statistically significant. The path that works for low-income countries will not work for more advanced ones, according to the World Bank. The gap between GDP per worker in in middle-income countries and the US is far greater than the gap in availability of physical and human capital. Thus, the principal failure of middle-income countries lies not in accumulating too little capital, but in using it so poorly (see chart, productivity gap in physical and human capital) [25].



The idea here is that the focus must shift from investment per se in infusion of new ideas available abroad, and then on to domestic innovation. What is needed, in sum, is development of a more sophisticated economy. That depends on the acquisition and development of know how. Infusion depends on the supply of skilled workers (engineers, scientists, managers) and openness to ideas from elsewhere (notably through direct investment and trade). Korea has had dramatic success with these approaches. Its focus on exports was particularly important in facilitating infusion. The EU similarly promoted infusion in Poland and other recent members. For innovation, exchanges of human capital are important, including via education and work abroad. Diasporas are a huge potential asset. Innovation also depends on access to global markets [25].

Countries need to internalise Joseph Schumpeter’s celebrated concept of “creative destruction”. The essential step is to force incumbents to compete, encourage entrants and open the economy to those who were historically outsiders. This involves both creation and destruction. The latter tends to be accelerated by crises. This was notably true in the case of Korea. Social mobility is about 40% lower in middle-income countries than in high-income ones. That must change [25].

Creative destruction is also necessary if the energy transition is to accelerate. Middle-income countries tend to waste energy and have shifted too slowly towards renewables, even though many have exceptional potential. Part of the problem is the high cost of capital, itself the result of high levels of uncertainty. Improvements in institutions with the aim of increasing predictability and security, will help [25].

The rise of protectionism and consequent fragmentation of the world economy are likely to make their prospects worse. Integration has unquestionably been a dominant force behind the development successes. Further protectionism can potentially worsen the diffusion of knowledge to low- and middle-income countries. Similarly, expensive borrowing will make the complementary investments that will be needed harder to afford [25].

Unable to simply copy production methods from more advanced economies, compete based on cheap labor, and move along the value chain, the challenge is now different. When officials and entrepreneurs look ahead, they see only the mists of the future. It might sound clever to develop national strategies for artificial intelligence or quantum computing. But how? There is no technology to copy because it has not been created yet. Genuine innovations are inherently difficult to spot in advance. So the game is more about creating the right conditions for companies to press ahead and to seize on breakthroughs when they arrive [12].

The tigers’ plans for the 2020s can sometimes sound like old-fashioned industrial policies. Taiwan has a “5+2 Innovative Industries Plan”, eyeing sectors such as green energy and smart machinery. Singapore has its 23 Industry Transformation Maps, covering everything from food manufacturing to aerospace. South Korea aims to invest 30trn won (more than \$25bn) over five years in eight emerging industries, from artificial intelligence to autonomous vehicles [12].

But look a little more closely, and the difference with the schemes of yesteryear becomes clear. These are not top-down exercises in planning but rather the outcome of deliberations with companies and experts. And the point is not to recommend subsidies for this or that sector but rather to work out what building blocks are needed. “The process of developing the plan was just as important as the final product,” says Gabriel Lim, permanent secretary of Singapore’s Ministry of Trade and Industry [12].

Some of the elements are obvious: good infrastructure, from ports to internet; openness to trade; highly educated workforces; and high spending on research and development (see chart, R&D spending). But the tigers also have innovative ways to promote innovation [12].

Nevertheless, the tigers’ officials also know their limits. The big decisions these days are made in corporate boardrooms. Economic technocrats now lead from behind [12].

The tigers have also started to concentrate on the parts of their economies that remain far behind the technological frontier. Despite their flair for manufacturing, their service-sector productivity is little more than half that of the US, according to some estimates. Part of the reason is the tyranny of small markets: a retail chain in a country of 6m people is more constrained than one in a market of, say, 1.3bn. Some inefficiencies are self-inflicted. South Korea imposes high regulatory barriers on its service and network

industries—higher than in any other OECD member except Belgium [12].



Innovation, though glorified by businessmen and policymakers, adds nothing to an economy's productivity until it is widely adopted. As Paul David of Stanford University long ago pointed out, it was not until the 1920s, four decades after Thomas Edison's first power station, that manufacturers embraced a killer app for electricity, designing factories to accommodate dynamo-powered assembly lines [12].

Barry Eichengreen of the University of California, Berkeley, Donghyun Park of the Asian Development Bank and Kwanho Shin of Korea University examined the problems of middle-income countries (those with earnings per person of at least \$10,000 in 2005 prices) which in the past half-century had enjoyed average GDP growth of at least 3.5% for several years but whose growth rate had subsequently fallen by at least two percentage points. The research confirmed their hunch that the loss of momentum is mostly due to economic maturity rather than a shortage of workers or a slackening in investment [23].

Instead, most of that drop was caused by a slump in "total factor productivity"—the efficiency with which workers and capital are used. "Growth slowdowns, in a nutshell, are productivity-growth slowdowns," write Mr Eichengreen and his colleagues. A decline in total factor productivity is what you would expect when the "easy" phase of economic development comes to a close. Moving underemployed villagers into urban jobs in factories and offices with imported equipment raises productivity. But as rural slack is used up there are no more such gains to be had [23].

According to the three economists, this sort of slowdown is most likely to happen when average income reaches around \$16,000 in 2005 prices; when income per person rises to 58% of that in the world's leading economy; or when the share of employment in manufacturing gets to 23%. Those three thresholds—of which the absolute level of income is the most important—will not necessarily all be reached at the same time [23].

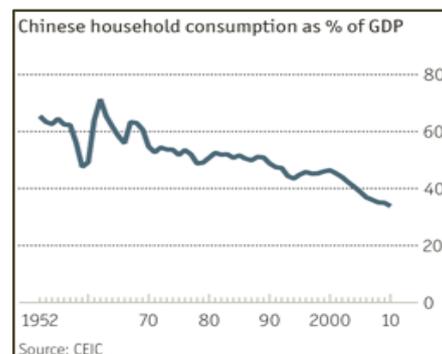
Sceptics about China's economic miracle see how badly state-directed banks have allocated capital. China invests some 50% of its GDP, more than double the average in rich countries. The big capital projects of state-owned enterprises, such as railways, receive funding on easy terms, but interest rates paid on bank deposits are capped. A system that favours certain borrowers over ordinary savers or bank shareholders is bound to back ill-judged projects and run up bad debts, argue the bears [23].

There is a kinder interpretation of China's appetite for prestige projects such as high-speed rail. Its leaders must know that as an economy develops it cannot rely indefinitely on copying the machinery and know-how of richer countries. The better-off a country becomes, the closer its

technology is to best practice and the fewer of its workers are left in low-productivity jobs such as farming. The easy catch-up gains are exhausted and the economy slows or gets stuck. One way out of this "middle-income trap" is by trying to leapfrog the technology leaders [23].

China's growth since 2000 has been so impressive that it seems churlish to question whether it can continue. Yet the country will find it more difficult to grow quickly as it becomes richer [23]. China's reliance on exports and on investment that supports export industries has reached its limits. The country now needs to shift the balance towards domestic demand, which requires capital to be redirected toward the smaller enterprises that serve consumers [6].

China's export-led growth was also the result of mobilising its vast reserves of cheap labour, to which it added a fast-growing stock of physical capital, much of it imported but financed from the country's own savings. But because of China's capital-intensive growth model, consumer spending amounted to an unusually small share of GDP: in 2010 it amounted to 34% (see chart, Chinese household consumption). This only added to the reliance on exports for growth [23].



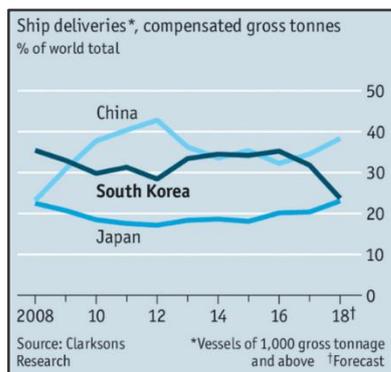
China's financial set-up reinforced this model. The flow of capital across its borders was heavily policed. Interest rates were set in favour of state-owned companies (often monopoly suppliers to exporters) but offered little reward for householders. Credit for consumers is scarce [23].

Asian rivalry in shipbuilding: challenge of maintaining the middle position

Just as South Korean competition sent much of European shipbuilding into bankruptcy, China is now threatening to do much the same to South Korea's industry. In 2008, South Korea was the biggest of the "big three" shipbuilding powers, along with China and Japan, that together account for about 90% of global ship production (see chart ship deliveries). In 2018 its order-book was barely half the size of China's [22].

The agony of the shipyards, the country's biggest exporters after its semiconductor and car industries, feeds South Korea's disquiet about China. It had until recently been seen as a lucrative export market, buying everything from cosmetics to K-pop. These days China is increasingly regarded as a dangerous competitor. A year-long Chinese boycott of South Korean goods during 2017-18, provoked by the deployment of an US missile-defence system, deepened the sense that China poses a threat to South Korea's economic model [22].

South Korean shipmakers thought they had found the middle position, beating Japanese rivals on cost and Chinese ones on quality. Suddenly, they were being squeezed in what Park Chong-hoon of Standard Chartered Bank in Seoul called “a nutcracker”. On one side, he said, China “is picking up technologically faster than we expected”; on the other, Japan has gained competitiveness owing to the weaker yen while South Korea was burdened by the strong won [22].



China already devotes a bigger share of its GDP to research and development than do other countries with similar income levels. That gives it a better chance of sustaining productivity growth when the gains from adopting existing technologies run out [23].

The obstacles are formidable. Shifting to an economy that concentrates on consumers will mean dislocating entire industries. Higher wages in China, which are needed for this sort of rebalancing, are already driving some textile jobs to Vietnam and Cambodia. Banks used to dishing out capital at the government's say-so will need to make finer judgments, withholding money from industries with low returns and moving it to promising new ventures [23].

By contrast, Brazil is the textbook example of a fast-growing country that hit a wall (though it is not covered in the study by Mr Eichengreen and his colleagues). Its economy grew by an average of almost 7% a year between 1945 and 1980. GDP per person rose from just 12% of the US's to 28%, according to the Maddison statistics. Then convergence went into reverse. The debts accumulated to pay for imported machinery became crippling as interest rates shot up. Industries that had served a protected home market were revealed as inefficient. A weak currency and wage indexation fed first inflation and then hyperinflation [23].

Investment at 19% of GDP, is well below China's and quite low even by rich-world standards. That is one reason why productivity is feeble, though Brazil's woeful education system and decrepit infrastructure are also to blame. The economy tends to grow at around 4% a year, faster than most rich countries but more slowly than Brazil's emerging-market peers [23].

Weak investment reflects low domestic saving. Brazil still habitually runs a current-account deficit. This reliance on foreign capital has left it vulnerable to periodic balance-of-payments crises. The flip side of Brazil's low saving is strong consumer spending, at 61% of GDP in 2010. The business of providing loans to householders is booming because BNDES, the state-owned development bank, provides subsidised loans to Brazil's big state-directed companies and to some other firms. That limits

opportunities for business lending, so private banks must look elsewhere [23].

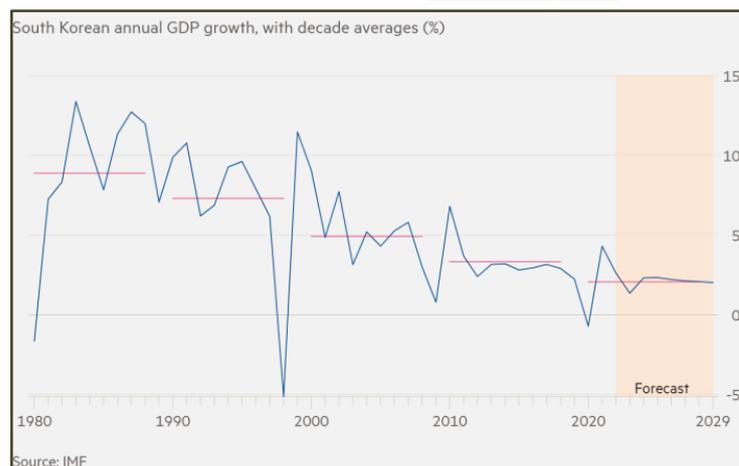
Brazil's budget ought to be in surplus. Government debt is rolled over every three years and crowds out other borrowing. Others worry that Brazil flirts with a state-influenced and inward-facing model of industrialisation that has failed before [23].

India's main challenges are a mix of those facing Brazil and China. Like China, India has enjoyed a recent growth rate above the emerging-market norm, at around 8% a year. It ought to be doing better still: after all, it is poorer than China, so the scope for catching up is greater. Investment is a healthy 38% of GDP. Much of India's investment is financed out of companies' own pockets, a symptom of an immature financial system. Most firms cannot rely on external funding, though giant Indian conglomerates, such as Tata, are able to tap into international capital markets [23].

Like Brazil, India is in desperate need of better roads to link its far-flung internal markets. Corruption is blight on infrastructure projects. The economy is prone to overheating and has a current-account deficit [23].

Is South Korea's miracle over?

Economists worry about the Korean government's determination to double down on the traditional growth drivers of manufacturing and large conglomerates, betraying an unwillingness or inability to reform a model that is showing signs of running out of steam. Having grown at an average of 6.4% between 1970-22, the Bank of Korea warned that it could average 2.1% in the 2020s and by under 1% in the 2030s (see chart, annual GDP growth)[26].



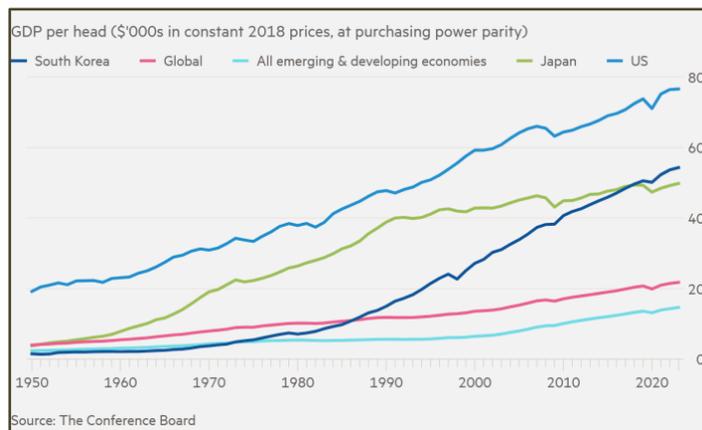
Pillars of the old model, such as cheap energy and labour, are cracking. The state-owned energy monopoly provides Korean manufacturers with heavily subsidised industrial tariffs, has amassed liabilities of \$1450bn. Of the other 37 OECD member countries, only Greece, Chile, Mexico and Colombia have lower workforce productivity [26].

South Korea's weakness in developing new “underlying technologies” – as opposed to its strength in commercialising technologies such as chips and lithium-ion batteries invented in the US and Japan, respectively – is being exposed as Chinese rivals close the innovation gap [26].

Korea's economic structure is based on catching up with the developed world through imitation, has not fundamentally changed since the 1970s. Sceptics point to the country's poor record in addressing challenges ranging from its plummeting fertility rate to its outdated energy sector to its underperforming capital markets. It is hard to reform the old

model or to know what comes next, because the strategy was so successful [26].

The achievements of South Korea's state-guided capitalism, which took it from an impoverished agrarian society to a technological powerhouse in less than half a century. In 2018, Korea's GDP measured at purchasing power parity surpassed that of Japan (see chart, living standards). South Korea made two leaps – one between the 1960s to the 1980s, when the country moved from basic goods to petrochemicals and heavy industry, and the second between the 1980s and 2000s, when it moved to high-tech manufacturing. Between 2005 and 2022, however, only one new sector – displays – entered the country's list of top 10 export products. Meanwhile, South Korea's lead in a range of critical technologies has dwindled. Having led the world in 36 of 120 priority technologies identified by the Korean government in 2012, by 2020 that number dropped to just four [26].



The country's leading conglomerates, or chaebol, many of which are now overseen by the third generation of their founding families, have drifted from a "growth mindset" to an "incumbent mindset". Korea's peak, it is argued, was hit in 2011 after a decade during which Korean tech exports were driven by the related twin demand shocks of the rise of China and the global tech boom, as well as by massive investments by Samsung and LG to seize control of the global display industry from their Japanese counterparts [26].

Since then, Chinese tech firms have caught up in almost every area except the most advanced semiconductors, meaning that Chinese companies that were once customers or suppliers have become rivals. Many of the headline grabbing gains made by the leading conglomerates have come at the expense of their domestic suppliers, who are subjected to price squeezing through exclusive contractual relationships [26].

The result is that small and medium enterprises, which employ more than 80% of the labour force, have less money to invest in their employees or infrastructure, exacerbating low productivity, slowing innovation and stifling growth in the services sector [26].

The rationale used to be that the chaebol should be sheltered from disruption at home so they can focus on disrupting rivals abroad. Now they are the incumbents, they are both stifling innovation at home and highly vulnerable to disruption themselves [26].

Rise of the Services sector – end of "factory Asia"?

Service industries are the future. That is a crude summary of the 2012 edition of "Outlook" for the region published by the Asian Development Bank (ADB). Developing Asia faced a challenge more fundamental than riding out another cyclical downturn in the West. The ADB warned before of

the dangers of growth fuelled by natural bounty and cheap labour. As wages rise, manufacturers find themselves unable to compete either with lower-cost producers elsewhere or, in higher-value-added products, with more advanced economies. They get stuck in a "middle-income trap" [24].

Asia needed to shift to a model based more on rising domestic demand and relying more on its service industries. As farmers' children across Asia have left the land to work in factories, farming's share of output has dropped, so industry's share is now far higher than in the OECD countries. But before developing Asia's industrialisation had run its course, the region needed to replicate the success in services, which accounted for just 48.5% of its GDP, compared with 75% in advanced economies [24].

Asia has some extraordinary success stories in high-end services: not just pop culture, or Bollywood movies, but some of the world's best airports, airlines and hotels. India

has world-beating information-technology services and outsourcing industry. Most of those working in what count as service jobs across Asia lead less modern and productive lives: shopkeepers, rickshaw-pullers, foot-masseuses, security guards, barbers, road-sweepers, dhobi-wallahs, lift attendants, rubbish-pickers and so on. What is needed, the ADB argues, is a boost for "high-value modern services", such as IT and finance. This would create jobs (especially for women), meet the growing need of an urbanising population for more sophisticated services, and open up new export markets [24].

The obstacles to this are huge, including the shortcomings of education systems, telecommunications and other infrastructure and,

in the ADB's words, "above all, burdensome regulations which protect incumbent firms". Powerful vested interests, like some of China's state enterprises stand in the way. A strong service sector does not ensure an escape from the middle-income trap, or lessen the importance of industry. The two places where services have leapfrogged manufacturing, India and the Philippines, are a long way from rich-country status. But without more developed services, Asia will struggle to generate the decent jobs its people will need as it gets used to what the ADB calls a "new era of moderate growth" [24].

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