

# The role of the state in escaping the middle-income trap: the case for smart industrial policy\*

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## Abstract

Western states and western-run international organizations have advocated the Washington Consensus development agenda for the rest of the world since the 1980s. The consensus implies that capitalist developing countries will be able to create sufficient income and wealth as to become “developed” provided the government limits itself to doing what is needed to make markets work well, and not more (for example, not industrial policy which pushes investment beyond existing comparative advantage). Yet the number of non-western countries which have become developed in the past two centuries is less than 10, and they are almost all small in population. Stylized facts of this kind provide evidence for the non-Washington Consensus idea of a “middle-income trap” (MIT) or “non-convergence trap”. This paper summarizes evidence for the existence of a MIT, outlines several plausible mechanisms, explains why proactive trade and industrial policies are an (almost) necessary condition for getting through the middle income range at more than a snail’s pace, and suggests some “rules of thumb”, based on experience of actual cases, for how to do trade and industrial policies well – rather than, as the mainstream view says, less.

*Key words:* Washington consensus, middle-income trap, developing countries, industrial policy and trade policy.

*JEL codes:* F02, O5, O2, O25.

## 1. Introduction

For a few years after the start of the North Atlantic financial crisis in 2007-08 it looked as though countries of the BRICS (Brazil, Russia, India, China, South Africa) and MINTS (Mexico, Indonesia, Nigeria, Turkey) (and whatever other

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\* Invited article.

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countries global investors choose to put into their acronyms) shared a buoyant economic future “decoupled” from recession in the West. How different things now look.

Brazil is a case in point. The country featured in western media reports almost daily through 2015, for the wrong reasons – captured in the *Financial Times* editorial titled “Brazil’s terrible fall from economic grace” (14 September). The editorial reported, “The economy is in a mess. Brazil’s worst recession since the Great Depression will see the economy shrink by as much as 3 per cent this year, and 2 per cent in 2016. Public finances are in disarray ...”.

In longer perspective, we see that between 1950 and 2010 Brazil spent the first seven years as a “low-income” country and the next 53 years as a “lower-middle-income” country. Lower-middle-income is here defined, following the World Bank, as a per capita GDP of between PPP\$ 2,000 and \$7,250 a year (about \$5.50 to \$20 a day, in 1990 purchasing power parity [PPP] dollars).

Many other Latin American and Caribbean countries have also, like Brazil, spent over four decades between 1950 and 2010 in the lower-middle-income range and remain in that category today: the list includes Bolivia, Brazil, Colombia, Ecuador, El Salvador, Guatemala, Jamaica, Panama, and Peru (Felipe et al., 2012).

Indeed, just about all Latin American countries and Middle East countries had reached the lower-middle-income threshold by the 1960s or 1970s, and most remain in or just above this range today.

In contrast, Japan, Taiwan, South Korea, and China zoomed through the lower-middle-income range in less than two decades *en route* to the upper-middle-income range, and then, for the first three, the high-income range.

The Southeast Asian countries come in between. Malaysia and Thailand spent almost three decades in the lower-middle range before rising to upper-middle range (where they remained as of 2010, when the data set ends). Philippines spent more than three decades before rising to upper-middle. Indonesia spent the 25 years before 2010 as lower-middle; before that, back to 1950, as low-income.

## 2. Causes of the wealth of nations

These numbers highlight the Adam Smith question, of what determines the ability of a national economy to create income and wealth, or relative GDP per person or per working hour. The young Smith gave the following answer:

“Little else is required to carry a state to the highest degree of opulence from the lowest barbarism, but peace, easy taxes, and a tolerable administration of justice, all the rest being brought about by the natural course of things.”

Though Smith himself qualified it in *The Wealth of Nations* (first edition 1776), present-day economists continue to endorse it as basically correct. The

renowned professor of economics at Harvard Gregory Mankiw – author of a leading economics textbook and former chair of the US Council of Economic Advisors – said in the *Wall Street Journal*, 2006, that “Adam Smith was right when he said ... [the above statement]” (Mankiw, 2006).

The renowned British economist Timothy Besley and the renowned Swedish economist Torsten Persson (a long-time member of the selection committee for the Nobel Memorial Prize in Economics) take the Smith statement as the epigraph to their 2011 book *Pillars of Prosperity* (Besley and Persson, 2011).

In this understanding, the core mechanism for creating income and wealth at a fast pace is a free market (complemented with peace, fair taxes and reasonably effective enforcement of law and order). In a free market profit- and wage-seeking producers and controllers of finance will move from places where these factors are abundant to where they are scarcer, bringing recent products, processes, and technologies. The transfer from low productivity to higher productivity areas keeps generating economic growth in the poorer areas until they have roughly caught up with the richer areas (allowing for differences in climate and geography) – provided the mechanism is not blocked by government and special interests.

The mechanism assumes that the world economy is an open system. All countries could, conceptually, become equally “developed”, just as all runners in a marathon race could, conceptually, run abreast. Inherent (non-governmental) segmentations in the world economy, unequal exchange, cumulative causations, are not part of the vision.

On the other hand, pioneers of post Second World War development economics – such as Nurkse, Rosenstein-Rodan, Gerschenkron, Myrdal, Singer, Seers, Hirschman and especially Prebisch – emphasised fundamental differences in economic structure between developed and developing countries (including more market segmentations in the latter), which meant that the institutions and policies able to create income and wealth in developing countries – given the existence of developed countries – had to be substantially different from those of developed countries. Some of the pioneers located the development process in the context of a hierarchical “center-periphery” structure, where the center was the West and the periphery was developing countries, and economic development in the periphery was fundamentally affected by, often constrained by, relations with the center (Fischer, 2015).

“Peripherality” conferred some development advantages, they thought, somewhat in line with neoclassical thinking; especially advantages in terms of technology diffusion – or imitation – from rich to poor countries, enabling the latter to use advanced technologies without having to bear the cost of innovation. But mostly, peripherality conferred disadvantages, quite unlike the metaphor of a marathon race. Perhaps the metaphor might be a mountain race, where lead runners

throw down ropes and ladders to help *some* of the laggards – think East Asian capitalist countries after the Second World War – but increasingly over time, especially after the end of the Cold War, erect obstacles to lagging runners – think the Uruguay Round.

These pioneer development economists thought that the “free market” – even when well-fortified by human rights, property rights and rule of law – could cause countries to become locked into a production structure which constituted a low-income equilibrium trap, because *price signals are good for marginal resource allocation changes but not for the major production upgrading and diversification reallocations necessary for sustained development*. Hence the state in the peripheral country *could* play a major role in overcoming the disadvantages of peripherality and capturing the advantages; and so too *could* international institutions (e.g. commodity agreements, World Bank loans). The pioneers recognized that “could” is not the same as “would”.

The positive developmental role of the state was the reigning consensus in the sub-discipline of development economics until the ascendance of neoliberal development economics in the 1980s. Neoliberal economics calls for a substantially stronger role of the state than classical liberalism did (à la Adam Smith); but a role to restructure economy and society so as to maximize the scope for “market freedom”, as distinct from steering resource allocation. It puts “exchange” at the center of the development process, not “production”, in line with the neoliberal vision of society (individuals, corporations and governments) as a nexus of exchanges (or contractual obligations), rather than as repositories of production capabilities. The only legitimate production role of the state is to “correct market failures” – and maybe not even correct market failures, because the inefficiency costs of government corrective intervention often exceed the inefficiency costs of uncorrected market failure.

### 3. The difficulties of rising to high-income status

If we look at the big picture of growth performance over past decades, we see striking but under-noticed evidence which lends credibility to the now “heterodox” views of pre-neoliberal economists. The evidence points to the sheer difficulty facing “developing countries” in achieving “developed country” economic structure and performance, and the unlikelihood of this occurring with as passive a role of the state in boosting production as the neoliberal economists prescribe.

Consider the following stylized facts.

- “How many *non-western* countries have become developed in the *past two centuries*?”. The answer – even stretching the categories of non-western, developed, and country – is less than 10.
- A World Bank study (2013) identifies 101 countries in 1960 as “middle-income”. Of those 101, only 13 reached “high-income” by 2008.
- A study by IMF researchers (Cherif and Hasanov, 2015) defines its income thresholds in terms of percentage of US GDP per capita (\$PPP 2005), in contrast to the World Bank study which uses absolute per capita income thresholds.<sup>1</sup> Out of a set of 167 low- and middle-income economies in 1970, only nine (5%) had reached high income by 2010 (46% of US GDP per capita). Of these 5%, seven were small European countries, which had already reached upper-middle-income by 1970 (Cyprus, Czech Republic, Greece, Ireland, Malta, Portugal, Slovenia). Only two were non-European: Taiwan and South Korea, which shot from less than 20% of US income in 1970 to more than 65% in 2010. Malaysia, by contrast, was about 20% in 1970 and 26% in 2010. Thailand and Chile had roughly similar performance as Malaysia (Chile doing better over the 2000s thanks to the rise in copper prices).
- Branko Milanovic (2005) classifies countries into four bands of GDP per head. At the top are the “rich countries” of the West plus Japan, down to Greece or Portugal. Next are the “contender” countries (those with the best chance of making it into the ranks of the “rich”), down to two thirds of the income of the bottom rich country. Milanovic traces movement across two time periods, 1960 to 1978, and 1979 to 2000. He finds that less than 15% of the contenders at the start of each period rose to the rich category by the end of the period; moreover, a *majority of the contenders in both periods fell into a lower income category* by the end of the period. On the other hand, few of the “rich” countries at the start of each period fell into a lower category by the end.

It is as though the rich countries have been held up by forces analogous to magnetic levitation, and the “developing” countries held down by forces analogous to gravity.

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<sup>1</sup> The IMF study takes the median as the threshold for “upper-middle-income”, which translates into \$6,600 in 2010 and 16% of the US average income in 2010. It takes the 75<sup>th</sup> percentile as the threshold of “high income”, which translates into \$19,050 in 2010 and 46% of the US average.

Evidence of this kind suggests not only that convergent growth is hard to sustain at middle-income levels, contrary to the spirit of Adam Smith and neoclassical/neoliberal development economics, but also that the difficulties arise not just from features *internal* to each country (e.g. low scores on rule of law, or “inward” rather than “outward” orientation of trade and investment policy) but also from features of the international economy and patterns of peripheral integration into it.

#### 4. Is the middle-income trap real?

The idea of hierarchical center-periphery relations as the global context for development has been rendered more specific with the idea of the middle-income trap (MIT) or “non-convergence trap”. The idea seems to have originated in a 2007 World Bank book by Indermit Gill and Homi Kharas, *An East Asian Renaissance: Ideas for Economic Growth*. But they mention it on only two pages in an almost 350 page book, and say little more than, “In the absence of economies of scale, East Asian middle-income countries would face an uphill struggle to maintain their historically impressive growth. Strategies based on factor accumulation are likely to deliver steadily worse results, which is a natural occurrence as the marginal productivity of capital declines. Latin America and the Middle East are examples of middle-income regions that, for decades, have been unable to escape this trap” (Gill and Kharas, 2007: 18).

More systematic evidence for the reality of the MIT comes from a study by IMF researchers (Aiyar et al., 2013). They examine the frequency of “growth slowdowns” for a large set of countries divided into low, middle and high income using 15 plausible definitions of the “middle-income” range; and define growth slowdowns by a complex formula based on extended deviation downwards from the extrapolated growth path at the earlier faster rate. The bottom-line result is clear: middle income countries have more frequent growth slowdowns than low or high income countries. Robertson and Ye (2013) confirm Aiyar et al.’s conclusions using a somewhat different measure of middle income.

Another study traces income levels in East and Southeast Asia, and Latin America from 1960 to 2010 (Ergin, 2015). Japan had the first post-war take-off; then Hong Kong and Taiwan in the 1970s; then South Korea in the 1980s. But on this scale the Southeast Asian and Latin American countries, clustered together, grew at a snail’s pace, still by 2010 at a per capita income around Korea’s in the early 1980s. We celebrate China’s fast growth; but even by 2010 its per capita income was below that of Mexico, Malaysia, Brazil and Thailand. It makes sense to say that the many snail’s pace growers – not China – have been caught in a middle-income trap.

Still another measure is time spent in the middle-income range, or more specifically, the lower-middle-income range. We noted earlier the substantial variation, between 1950 and 2010, in the number of years regions and countries spend in this range: from less than two decades in the case of four East Asian countries, to over four decades for many Latin American and Caribbean countries, including Brazil.

However, Lant Pritchett and Lawrence Summers (2014) argue that there is no close correlation between *level* of country income and growth slowdowns (contrary to several other researchers, including the IMF researchers Aiyar et al., 2013). Pritchett and Summers find a close correlation between *fast pace of growth* and subsequent sharp slowdowns, regardless of income level.

The dominant tendency in growth patterns, they say, is regression to the global mean. Specifically, episodes of “super-fast” growth (6% per year or more) lasting more than 15 years are uncommon. China set the world record by 2010 (end of data), when it had experienced super-fast growth for each of the previous 33 years. The only countries which come close are Taiwan, 32 years (1962 – 94) and South Korea, 29 years (1962 – 91).

Pritchett and Summers use these results to challenge “Asiaphoria”, the presumption that the center of gravity of world economy is shifting rapidly to China and India, based on extrapolating China and India’s fast growth far ahead. An example is the OECD report *Looking to 2060: Long-term Global Growth Prospects* (2012), which forecasts per capita growth from 2011 to 2020 at 6.6% for China and 6.7% for India. Such forecasts overlook the dominant statistical pattern, regression to the mean. That China had already set the world record for length of super-fast growth by 2010 makes its sharp slowdown after 2012 (to 2016 and continuing) not surprising.

We can conclude that the middle-income *trap* is not well supported empirically if taken to mean that movement from upper-middle to high income is impossible or if taken to mean *a specific average income threshold* (e.g. \$10,000) at which a country will – with high probability – experience a sharp growth deceleration followed by prolonged semi-stagnation (Im and Rosenblatt, 2013).

But if we use the idea in a looser and more metaphorical sense to mean that countries in a broad middle-income band (divided into lower and upper-middle) have a higher probability of experiencing sharp slow-downs and sustained lower-than-average growth for a decade or more than either low or high-income countries, it is “real enough” to be taken seriously by national policy makers and international development organizations – always remembering that income alone (whether level or pace of growth) is not determining, as seen in the earlier figures of variation between *regions*.

Moreover, both Aiyer et al. (2013) and Pritchett and Summers (2014) could be right: sharp growth slowdowns and extended low growth in the broad middle-income range may be caused – in the proximate sense – by a combination of *middle-income level* and *sustained fast pace of growth*, followed by fast regression to the mean.

## 5. Mechanisms of the MIT

The *how* question – how to escape the MIT – depends on the answer to the *why* question – why most countries are caught. The literature suggests several mechanisms. One strand says the causes are too little investment in education and too little “good governance”; so the escape route is more investment in education and more reform of governance. To which one can give a clear maybe. Raising the share of the population with secondary and tertiary education may reduce the chances of experiencing growth slowdowns; but the causality is difficult to establish, and that of something as broad as governance reforms even more so (see Kanchoo and Intarakumnerd, 2014).

There are several more plausible causal mechanisms for the MIT.

### 5.1. *Diminishing returns to inter-sectoral reallocation and factor accumulation*

Countries in the low-income range can grow fast on the back of (a) cheap labor, (b) transfer of resources (including people) from low-productivity agriculture to higher-productivity manufacturing and (some) services in cities, (c) investment to GDP ratios rising from low to medium, and (d) simple imitation of more sophisticated technology. But as a country’s average income continues to rise, these sources of growth yield diminishing returns.

### 5.2. *Export structure*

A second mechanism relates to the sophistication and diversification of the production structure, and specifically the export structure. Jesus Felipe and co-authors (2012) compare countries which spent more than the average time in the lower-middle-income range with countries which spent less time than average before ascending to the upper-middle-income range. They find that the former have a significantly less *sophisticated* and less *diversified* export structure than the latter. With reference to the same comparison at the upper-middle-income level, they test only for the *diversification* of export products, and find that countries which spend more than the average time in the upper-middle range have significantly less diversified exports than those that spend less time than average in the upper-middle-income before ascending to high income. In the same vein, Imbs and Wacziarg

(2003) find that – contrary to neoclassical orthodoxy about the advantages of specialization in line with comparative advantage – per capita income is positively correlated with a *more diversified* production structure until a turning point at around \$20,000 in today's dollars, far above the normal range of “middle income”. Above this, income per capita is positively correlated with production specialization.

The findings of Jan Fagerberg and co-authors (2007) make a qualification to the argument about the importance of diversified export structure. They find, across a large set of countries, that countries which in 1980-82 had a relatively high proportion of their exports from four categories of goods (ICT, pharmaceuticals, instruments, other machinery) enjoyed higher subsequent GDP growth to 2000-02 than countries with less of their exports from these industries –for the reason that these four categories experienced the fastest growth of world trade of products (defined at the 3 digit SITC classification). So countries which specialized relatively more in these four product categories had a high level of “demand competitiveness”, in Fagerberg et al's phrase. This qualifies the idea that diversification of exports *per se* is what matters.

### *5.3. Foreign ownership and glass ceiling*

A third mechanism is the difficulty faced by countries whose manufacturing sector is dominated by foreign-owned firms and dependent on technology imports in transitioning to one controlled by local managers and with substantial local technology development. Kenichi Ohno (2009) calls this a “glass ceiling”.

Multinational corporations (MNCs) tend not to act as conduits for technology diffusion to local firms. They generally prefer to use in-house production or imports from their own suppliers, source only simple content from local firms, and repatriate profits. They locate their R&D departments not in foreign locations but close to the marketing departments, generally at headquarters.

When local firms do manage to integrate themselves into “global” manufacturing value chains (which in fact are mostly “regional”) they may find themselves locked into low value-added manufacturing activities which take on economic qualities similar to low value-added commodities. Without vigorous state action to counter this lock-in a country's firms may be blocked from upgrading to higher value-added items within given product categories or jump to a different set of manufactured products with higher value-added (UNCTAD, 2014; Paus, 2014; Kaplinsky, 2005).

## 6. Brazil

Brazil experienced a dramatic fall in the share of manufactures in exports between 2000 and 2014, and increase in the share of commodities like iron ore, oil seeds, petroleum products and meat. Between 2002 and 2011 commodities rose from 28% of Brazil's total exports to 48%; manufactures fell from 55% to 37%. Between 2003 (start of the Lula government) and 2012 Brazil's exports to China increased by an astonishing 30 times. As of 2010 China became Brazil's biggest trading partner, displacing the US. In 2010, 80% of Brazil's exports to China comprised just three commodities: crude oil, iron ore, and soybeans. At the same time, 98% of Brazil's imports from China were manufactured goods. Most of the elaborate costumes worn for Brazil's *carnivale* are now made in China.

In the light of the above findings about the tendency of middle-income countries with relatively undiversified and unsophisticated production and export structure to get stuck in the middle-income range, these trends are disastrous for Brazil. Without reversing the specialization in commodity exports induced by Chinese demand over the 2000s the economy is likely to remain in the middle-income range for a long time.

## 7. Southeast Asia

For Southeast Asia, Shahid Yusuf and Kaoru Nabeshima, in *Tiger Economies Under Threat* (2009), say the following:

“Unlike the original East Asian Tiger economies, the Southeast Asian Tigers [including Malaysia, Thailand, Philippines, Indonesia] have yet to build the indigenous capacity to design, to innovate, and to diversity into new and more profitable areas with good long-run prospects, and very few of their firms have created regional much less global brand names.... More disquietening is the sparseness of backward links from MNC operations, which would signify progressive industrial deepening, as has occurred in Korea and Taiwan [China], and as is already under way in China. This lack of backward links means that domestic value-added in manufacturing remains low. Moreover, none of these countries has nurtured large and dynamic producers of tradable services” (Yusuf and Nabeshima, 2009: 10).

With reference to Malaysia they say:

“Malaysian industry appears to be sliding down the technological slope, and incentives for workers to improve their skills are weakening” (Yusuf and Nabeshima, 2009: 26).

This is all the more striking because Malaysia has a large concentration of foreign-owned firms (especially on the island of Penang) producing “high tech”

products. But they are “cathedrals in the desert”, not much integrated into the domestic economy.

Recall that Malaysia’s income was about 20% that of the US in 1970 and reached 26% by 2010; and that Taiwan and Korea were less than 20% in 1970 and reached 65% by 2010. Yet for the past three decades Malaysia has achieved as much of most of the standard growth recipe as Taiwan and Korea in the 1970s (including export sophistication, years of secondary schooling, infrastructure, macro stability, trade openness) but has not experienced their sustained fast growth. It is plausible that the key difference is that Malaysia (and many other developing countries, including Thailand and Chile) has invested little in local technology creation, as seen in low levels of R&D relative to GDP, low levels of patenting, and low share of graduates in engineering, manufacturing and construction. Rather, Malaysia has given priority to attracting FDI (Cherif and Hasanov, 2015).

## 8. Another MIT mechanism: the debt trap

We have identified three mechanisms of lock-in to the middle-income range, all related to production: diminishing returns to simple inter-sectoral resource transfer and factor accumulation; lack of diversification and sophistication of exports; largely foreign-owned manufacturing sector, going with local firms’ passive integration into labor-intensive parts of regional value chains.

As well as these, there is the “foreign debt trap”. From the 1970s till today western international organizations and development economists have urged developing country governments to adopt a strategy of “economic growth with foreign borrowing” (Bresser Pereira and Paulo, 2008; Bresser-Pereira et al., 2014). The rationale is that more foreign borrowing permits a higher rate of domestic investment than less foreign borrowing. Advocates of the foreign borrowing strategy tend to downplay the dangers of the country overborrowing in relation to ability to repay. The overborrowing may result from the foreign loans being used to raise *consumption* rather than investment and generate a “feel good” sentiment in the population at large; or from the foreign borrowing being at variable interest rates, and the US Federal Reserve hikes its interest rates and shepherds the currency in response to US conditions in a way that can suddenly multiply the debt burden for developing country borrowers.

When developing countries fall into a debt trap they become vulnerable to the West’s “Washington Consensus” conditionalities, which generally include abandoning a proactive state role in trade and industry. At the time of the East Asian financial crisis of 1997-99 happily excited IMF officials asked their World Bank colleagues across 19<sup>th</sup> Street in Washington DC to send them lists of conditionalities they at the World Bank wished to impose on the crisis countries, describing the crisis as a golden opportunity. The combined IMF and World Bank conditionalities

on the emergency loans to South Korea, Thailand, and Indonesia went far beyond measures related to getting out of the crisis, into a privatization and market liberalization agenda that the organizations and the western states which run them had long wanted. Hence the crisis is known in the region as “the IMF crisis”<sup>2</sup>. A leading American figure in setting the IMF’s and World Bank’s conditionalities in emergency loans to East and Southeast Asian countries in the debt crisis of 1997-1999 explained in private, “If we can’t get them when they’re down we’ll never get them” (personal conversation, 2000).

In short, many but not all middle income countries have rates of long-run growth too low to bring them into the high income category within five or so decades of entering the middle income category. Countries in this “trap” experience a pattern of volatile growth, which itself reflects (1) relatively low “production capabilities” (hence the idea of a “middle capabilities trap”; Paus, 2014) as seen in relatively undiversified and unsophisticated export product composition; and (2) relatively frequent and/or severe foreign debt crises followed by slow growth.

## 9. Escaping the MIT by upgrading the production structure

We can agree that raising the ability of a relatively poor national economy to create income and wealth requires transformation of production structure (coupled with managed rather than free integration into international financial markets). The question is how to transform the production (and export) structure in the direction of more sophisticated and more diversified products, and not just in an enclave of foreign-owned firms, as in Penang.

This brings us to the contentious subject of “industrial policy” (IP). The mainstream (since the ascendancy of neoliberal economics in the 1980s) has said that selective industrial policy is either ineffective or net harmful. This is central to the legitimacy of neoliberal economics, which is unified around antagonism to the planned economy and an extensive welfare state. A small band of dissidents has argued to the contrary.

Below I review some of the main debates about IP, including both “why (or whether) IP?”, and “how”.

I take it as given that IP is about targeting specific industrial sectors to raise their productivity and relative importance; or more broadly, targeting sectors across industry, agriculture and services so as deliberately to change the economy’s production structure. In contrast, mainstream economists commonly prescribe policies to strengthen certain *functions* which will raise productivity “horizontally”,

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<sup>2</sup> For the inside story of the East Asian crisis of 1997-99 see Blustein (2001); also Wade (1998a, 1998b). The Chiang Mai Initiative was established by the ASEAN plus three countries to provide themselves with a means of by-passing the IMF in future crises. See Wade (2013a, 2013b).

or across the board, not limited to specific sectors (such as R&D subsidies, or special access to credit for small and medium enterprises); and sometimes refer to these horizontal policies as acceptable industrial policies, as contrasted with unacceptable vertical, sectorally selective policies.

But the framing of “horizontal or functional versus vertical or sectoral ” is largely meaningless. Almost all state policies beyond basic education and health impact some sectors more than others. Their selective impacts should be planned for.

### *9.1. Fixing market failure, or more?*

The mainstream “market failure” approach to industrial policy and public investment posits a trade-off: the inefficiency costs of leaving market failures unattended versus the inefficiency costs caused by government intervention to correct market failures. The policy conclusion is that state “intervention” can be justified in sectors where (1) the market fails (the necessary condition), and (2) the costs caused by the intervention are less than the costs of leaving the market failure unattended (the sufficient condition). Beyond fixing market failure, a sectorally-targeted role is always unjustified. The practical question is how to identify and measure the costs of “market failure” and “government failure”.

Mainstream economists tend to presume that the above two conditions greatly restrict the legitimate scope for government intervention. But others emphasise the pervasiveness of information and coordination externalities as causes of market failure. Externalities mean effects external to the decisions of uncoordinated private profit-seeking actors, which those actors do not have to take into account.

Information externalities mean that a private entrepreneur has limited incentives to invest in experimenting and innovating, because if the project succeeds others can imitate without paying the experiment costs, while if the project fails the entrepreneur bears the costs. “Socialized benefits and privatized costs” does not make a successful capitalism. Information externalities mean that desirable experimentation, self-discovery and R&D investment by entrepreneurs will be socially sub-optimal.

Coordination externalities imply that investment is hampered if upstream and downstream investments are not made more or less simultaneously especially when economies of scale are large, such that costs of production per unit fall steeply as output rises.

These external effects can justify a proactive role of the state bearing (“socializing”) some of the risk. Commonly, though, the state fails to design the contract so that it gets a financial return on its “interventions” when these help to generate private sector profit, as does a venture capitalist. Commonly, the state

bears the costs and the private sector reaps all the financial gain, leading to underfunding of public R&D (Mazzucato, 2013).

But this debate – whether the state should limit interventions to situations of clear market failure – can go round and round till the cows come home. It is difficult to resolve empirically or theoretically, because the terms of the debate – costs of market failure, costs and benefits of “correcting” – are so elastic. Advocates of different positions on the role of the state can draw the boundaries of externalities where they will.

Moreover, advocates of the market failure approach tend to downplay the big historical fact that from the beginning of capitalism the state has not only “fixed market failures” but also *created and shaped* markets, often by deploying non-market resource allocations – as analysed by Keynes, Schumpeter, Rosenstein-Rodan, Polanyi, Gerschenkron, Prebisch, Minsky and more.

## *9.2. Industrial policy within or also beyond existing comparative advantage?*

Closely related to the debate about market failure as the test of appropriate “government intervention” is debate about how far the state should go in “leading” the market rather than just “following” the market. “Following” means the state placing bets to support investments which private profit-seeking actors would want to do anyway, helping them to go further and faster than otherwise (Wade, 1990a). It means the state promoting some activities ahead of others, but within the limits of the economy’s existing “comparative advantage”. “Leading” the market means the state pushing resources into activities that the private sector would not undertake without sizable state assistance.

Exhibit A of leading the market is South Korea’s POSCO (formerly Pohang Iron and Steel Company), initiated in 1968 as a largely state-owned enterprise against the emphatic advice of the World Bank and the US government, which said that steel was not in Korea’s comparative advantage (radios were). By the late 1980s it was the fifth biggest steel producer in the world.

Justin Yifu Lin, the former chief economist of the World Bank, advocates a “following the market” industrial policy, with some protection and investment support for selected sectors, but only for products and technologies within the economy’s *existing* comparative advantage (perhaps with a few pioneering exceptions added on). Over time, he says, the growth of these targeted activities will endogenously change the economy’s endowment structure, and hence its comparative advantage.

“The best way for a developing country to achieve sustained, dynamic growth is to follow comparative advantage in its industrial development and to tap into the potential of advantages of backwardness in industrial upgrading” (Lin, 2012: 397).

Notice that the justification is not to do with politics – the (alleged) inability of most developing country governments to “lead” the market effectively. It is that limiting industrial policy to promotion of activities within the economy’s existing comparative advantage is the *best* path, even for the most high-capacity government.

This is strange, for both empirical and theoretical reasons. Empirically, there is plausible (though always contestable) evidence that the now developed countries effectively adopted promotion measures during their industrialization which “stretched” comparative advantage rather than stay within its limits, however defined. There is also plausible evidence that the most successful developing countries in the post-Second World War period – including Japan, Taiwan, South Korea, Singapore and Israel – also invested far beyond their comparative advantage at any one point in time (Wade, 1990b; 1992).

The standard retort of neoliberal development economists (and of modestly heterodox ones like Justin Yifu Lin) is: “ah, but they stayed within their *dynamic* comparative advantage, if not within static comparative advantage”. But the criteria for “dynamic” comparative advantage are even fuzzier than for static comparative advantage, and the retort easily becomes a tautology.

The extent to which the now developed countries and the unusually successful post-war developing countries listed above complied with criteria of comparative advantage has been debated between Lin and Ha-Joon Chang (2009). My conclusion is that the evidence favors Chang: the historical evidence can justify a state in promoting activities that lie beyond or “stretch” (like a rubber membrane) present comparative advantage. I leave the issue here (Wade, 2011).

The theoretical basis for the comparative advantage prescription is even weaker than the empirical basis. Comparative advantage theory is fundamentally flawed, and it is amazing that it has been taken as the foundation of mainstream development economics for decades. It assumes, as a *necessary* condition, perfect competition in all markets in all the relevant countries. If there is not perfect competition in some markets in some countries the theory gives no solution. Also, the theory floats on a raft of “*no*’s”: no externalities; no increasing returns; no factor mobility between countries; and no technical change.

### 9.3. Policy instruments

Another focus of debate concerns policy instruments (Wade, 2003). “Price” instruments like tariffs and selective subsidies are relatively easy to implement; but

constrained by WTO rules and, as a broad generalization, arguably more vulnerable to corruption than non-price instruments. However, the fact that WTO rules make certain instruments “prohibited” does not mean that a government which uses them will be punished. Governments which consider their national interest to have been damaged by the actions of another government have to bring a case to the WTO’s Dispute Settlement Mechanism. This is typically a cumbersome and costly process, and it is by no means automatic that a government which uses a “prohibited”, let alone “actionable” instrument will be penalized (Aggarwal and Evenett, 2010; Wade, 2003).

The other big point is that plenty of scope remains within or on the edge of WTO rules for non-price instruments. These include:

- Coordination of investments via (1) entry regulation, (2) investment cartels, (3) negotiated capacity cuts.
- Policies to achieve economies of scale, such as (1) production licensing conditional on production scale, (2) state-mediated mergers and acquisitions.
- Regulation of technology imports, such as screening for import of obsolete technology.
- Regulation of FDI, via (1) ownership restrictions, (2) local content requirements, (3) technology transfer requirements, (4) mandatory worker training.
- Export promotion, via (1) subsidies, (2) loan guarantees, (3) marketing support, (4) national campaigns to persuade producers it is their “national duty” to export, supplemented with prestigious export prizes.
- Government allocation of foreign exchange, prioritizing imports of capital goods and discouraging imports of luxury consumer goods (Kanchoochat and Intarakumnerd, 2014).

Another key instrument in the capitalist East Asian cases was publicly funded R&D, aimed (in the early decades) at domesticating and disseminating foreign technologies in priority sectors. For example, the Taiwan government established the Industrial Research and Training Institute (ITRI), with a staff of some 10,000 by the early 1980s. One of its institutes was the Electronics and Service Organization (ERSO), with a staff of around 700. ITRI was matched on the military technology side by a parallel organization, which had around 20,000 staff by the early 1980s – and whose R&D spilled over into civilian uses. Taiwan at that time had a population of around 19 million, and GDP per head about 40% that of the United States (Wade, 1990b).

Whatever the instruments, the general principles for the design of incentive systems suggest – and capitalist East Asian experience confirms – that assistance

must be given against performance conditions and built-in monitoring against benchmarks (such as price and quality of competing imports); and with clear exit mechanisms, such as sunset clauses. More specifically:

- Support a relatively small number of sectors at any one time; and target fiscal investment incentives at new products or products at the top performance end produced in country, with automatic retargeting as more than a few producers become able to meet the standards.
- Think of export promotion and import replacing as complements rather than substitutes, “two wings of the same bird”. Schemes such as duty drawbacks can be used to protect exporters from import protection. See Wade (1991) for a simple account of the nuts and bolts of Taiwan’s duty drawback scheme.
- Use protection not to insulate domestic producers from international competitive pressure but to *buffer* them – for example by limiting protection to a certain period within which protected producers must reach close to the price and quality of imported substitutes (Wade, 1993).

## 10. How to establish an effective industrial policy agency

Cross-country evidence suggests some rules of thumb for how to create and sustain effective agencies – “islands of excellence” or “pockets of effectiveness” – even in a surrounding bureaucratic swamp (Roll, 2014).

- The top of government must be committed to the mission of diversifying and upgrading production structure.
- The agency director must be appointed by the top.
- The appointment should by-pass normal, patronage criteria – probably against a lot of elite opposition.
- The director will come from *outside the inner elite*. This makes the director less vulnerable to the “*insider’s dilemma*”. A director from inside the inner elite will be under strong pressure to appoint inside-elite staff (including adult children of the inner elite), which risks staffing the agency with less-than-competent people and opening the director to attack for running an ineffective agency. On the other hand, if the director does not staff from the inner elite the agency may be rendered ineffective by attacks from those spurned.
- Initially the director has *weak* political ties to the top political authority; but once appointed must develop *strong* ties to the top, for defence of the agency.
- The director must protect the autonomy of the agency by manipulating connections to politicians, firms, and unions. Autonomy is not the same as “separate” and is not fixed in law. *Autonomy is relational*, it has to be constantly fought for.

- To make sensible decisions on “directional thrust” the agency must engage in dense dialogue with the private sector and state-owned enterprises. In this way the agency can protect itself against the always-ready charge that it is “picking winners” (or in the vocabulary above, “leading the market”). In the dense dialogue the distinction between leading and following the market becomes blurred.
- Dense dialogue with the business sector poses the acute question of the integrity of agency staff, which relates to remuneration. The Singapore solution is worth copying. Set senior public service salary grades by explicit comparison with the nearest equivalents in the private sector. For example, set the remuneration of the top civil servant in a certain agency as the average of the remuneration of the top five executives in the nearest private sector jobs, so that as the latter’s remuneration rises, so does that of the top civil servant; and so on down. Combine with severe sanctions against civil service corruption.

## 11. Conclusions

Adam Smith was wrong to say that, given three conditions (peace, easy taxes, and a tolerable administration of justice), economic development from “barbarism” to “the highest degree of opulence” is easy, because “all the rest [is] brought about by the natural course of things”. He himself would surely be the first to admit this, looking back from today and knowing the evidence described here for the middle-income or non-convergence trap. Apart from mega China and tiny Taiwan (off the Chinese coast), no national economy has grown at more than 6 percent a year for 30 years or more. Others have managed 6 percent or more for 10-15 years, only to experience a protracted growth slowdown. Sharp growth slowdowns seem to be more frequent among middle income countries than either low or high income countries. Most strikingly of all, few – less than 10 – non-western countries have become developed in the past two centuries. There does seem to be something like a “glass ceiling”, resulting from both internal political economy and the hierarchical structure of the world economy.

Sectorally targeted industrial policy can help developing countries escape the middle-income trap, and was effective in East Asia. But it is anything but a silver bullet – more for political rather than narrowly economic reasons. Once industrial diversification and upgrading incentives of various kinds become available, potential beneficiaries have incentives to “fish the government for fools” – to take the money and run, to press for trade protection and subsidies without performance conditions or ones easily fudged.

Exhibit A is again Brazil, where regulations promulgated for the car assembly industry in 2011 included local content requirements fudged in a way that allowed

foreign-owned assemblers to include expenses for marketing, public relations and lobbying (and bribing); and which required a mere 0.5% of gross revenues to be spent on R&D, far less than the industry spends in other countries. Thanks to measures like these, plus substantial trade protection, the car assemblers have enjoyed profit rates of around 10%, three times the common rate in the US market. Similarly in electronics. The Taiwanese-owned company Foxconn has established factories in Brazil and in return received subsidies amounting to 10-15 % of the retail price, enabling imports to be undercut; yet the (real) value-added in Brazil is small, because most is in imported components.

It is easy to see why industrial policies like the Brazilian ones just described are a mistake; and also why implementing ones that are well designed can be politically and administratively difficult. But it bears repeating that the neoliberal or Washington Consensus package is unlikely to yield upwards convergence, because convergence is often blocked by market, property, and political forces reproducing the hierarchical structure of the world economy, including those which make the middle income trap. Well designed and well implemented industrial policies, particularly targeted at boosting the capabilities of local firms, are a necessary but not sufficient condition for a country to ascend relatively fast through the middle income range, against the “gravitational” forces of the world economy and world politics. (Of course, a country sitting on oil, diamonds, copper, lithium or other natural resources may also ascend quickly as long as demand holds up.) Once in the high income range, several kinds of “levitation” forces will tend to keep it there, including trade and investment agreements with poorer economies favourable to itself.

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## Özet

### Orta gelir tuzağından kurtulma sürecinde devletin rolü: Akıllı sanayi politikası gereğesi

Batılı devletler ve onların kontrolündeki uluslararası kuruluşlar 1980'li yıllardan bu yana dünyanın diğer ülkeleri için Washington İttifakı olarak adlandırılan kalkınma gündemini önermişlerdir. Bu ittifak, kapitalist geliştirmekte olan ülkelerin yeterli gelir ve servet yaratarak gelişmiş ülke olabilmelerinin yolunun açık olduğunu savunur. Ancak bunun bir temel şartı vardır: Devlet, kendini sadece piyasaların iyi işletilmesi işleviyle sınırlamalı ve bunu ötesine geçmemeli. Örneğin, ülkeyi mevcut karşılaştırmalı üstünlüklerin ötesine taşıyacak sanayi politikaları uygulamamalı. Ama asla göz ardı edilmemeli ki, son iki yüzyılda gelişmiş ülke konumuna ulaşan batılı-olmayan ülke sayısı 10'dan azdır; bunların tamamına yakını da küçük nüfusa sahip ülkelerdir. Bu durum, Washington İttifakı ile ters düşen bir kavram olan orta gelir tuzağının (başka bir deyişle az gelişmiş ülkelerle gelişmiş ülkeler arasında "yakınsamama tuzağının") varlığı için bir kanıt oluşturmaktadır. Bu çalışma, orta gelir tuzağının varlığını kanıtlayan unsurları ve ona yol açan mekanizmaları özetledikten sonra bu tuzaktan çok gecikmeden çıkabilmek için proaktif (ileriye etkili) dış ticaret ve sanayi politikalarının uygulanmasının (neredeyse) şart olduğunu gerekçelerini ortaya koymaktadır. Bu çalışma ayrıca, çeşitli ülke deneyimleri ışığında dış ticaret ve sanayi politikalarının iyi bir biçimde uygulanma yöntemlerine ilişkin önerilerde bulunmaktadır. Bunu yaparken bu politikalara sıcak bakmayan ana akım yaklaşımlardan farklı bir yol izlemiş olmaktadır. Sektörler temelinde hedeflenmiş sanayi politikalarının orta gelir tuzağından çıkma konusunda etkili olabileceği ve kimi Doğu Asya ülkelerinde başarılı olduğu vurgulanırken bu politikaların uygulanması sürecinde karşılaşılabilecek güçlüklerle de dikkat çekilmektedir.

*Anahtar kelimeler:* Gelişmekte olan ülkeler, Washington İttifakı, orta-gelir tuzağı, sanayi politikası, dış ticaret politikası.

*JEL kodları:* O25, F02, O5, O2.