

LEARNING BY DOING: CHINA–AFRICA CO-OPERATION AND STATE LEARNING

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EXECUTIVE SUMMARY

The view that ‘Africa should learn from China’s development’ has been expressed throughout Africa, from the chairperson of the AU through senior government officials to analysts, scholars and ordinary citizens. China’s 40-fold increase in GDP and its lifting of 500 million people out of poverty in the last 35 years are reason enough, but China has also established itself as a major presence in infrastructure development across Africa.

This paper argues that for Africa to blindly adopt Chinese policies, like the development of special industrial zones, is the equivalent of importing finished goods, rather than developing the skills for production. It is not the static outcomes of Chinese policies that African countries should study, but the processes and institutions by which China devises, adapts and evolves those policies.

CHINA’S DEVELOPMENT AND THE LEARNING STATE

China’s development is an outlier event, in size and speed. The reasons are contested, by outside observers and in China itself. At a macro level, some have considered it largely a result of external factors, principally globalisation, interacting with China’s abundance of cheap labour; others have focused domestically on the institutional foundations created in the early years of the People’s Republic and their adjustment after 1978. Most would now take a combined view, that China’s

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special mixture of institutions and endowments enabled it to benefit from global economic restructuring over several decades, and then to drive that restructuring itself.¹

At a micro level, policies and programmes in a range of sectors are cited as the primary contributors to China's growth. Some cite primary education – both high enrolment and high levels of literacy and numeracy; some the scale of infrastructure investment; others an aggressive industrial policy; yet others aspects of the financial system that promoted investment, such as housing funds, capped interest rates or currency controls.²

However, a striking pattern appears from the detailed record of these and other policies and programmes. In most, the initial design or implementation had mixed results or only small-scale success. At inception, policies and programmes in China are unremarkable. What differs in China is the pace at which policies and programmes improve and spread after inception. In all the sectors listed above, one can find poor initial policies and results, and argue that the sector cannot have helped China's development. A few years later one finds much stronger results in the same sector, and can argue that those results made the difference.

This suggests that the primary cause of China's development may not lie in any set of static policies, but in the dynamic process of state learning that continuously adjusts them. The Chinese state's ability to learn is a product of its institutions and processes. Fortunately, those have been studied in increasing depth.³ They can be summarised as follows.

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- Goals are ratcheted up to be impossible under current policies, through conferences among officials and scholars, planning processes and regular cabinet-level retreats.
- Budgets are made available or policy space is created for adjustments that might meet these more ambitious goals.
- Regional or sectoral leaders are monitored for innovation and results, over a relatively fixed five-year timeframe.
- Officials are brought together for in-depth review and problem-solving sessions.
- A network of national and provincial think tanks and government research units undertake evaluations and make recommendations for improvement.
- A consensus emerges from the evidence about which adjustments or reforms fit which contexts.

The results of these processes are then embodied in larger-scale reforms, and the five-year planning and deployment cycle begins again. Where, under many other systems, malfunctioning regulations or laws remain static for a decade or longer, until they are suddenly revised wholesale, in China there is a steady rhythm of adjustment at five-year intervals. This occurs across sectors including vocational education, social housing, primary and secondary education, and much else. They might be most vividly demonstrated, however, in several sectors of interest in many African countries today.

LEARNING IN DETAIL: EXAMPLES FROM INDUSTRIALISATION, AGRICULTURE AND INFRASTRUCTURE

SPECIAL ECONOMIC ZONES (SEZs), INDUSTRIAL PARKS AND HIGH-TECH ZONES

When China's SEZs launched in the early 1980s, a range of mistakes were made, like unpredictability in tax treatment, which threatened to deter foreign investment. Officials were able to fine-tune the regulations and investment escalated, but several SEZs were unsuccessful for years (Shenzhen being an exception, owing much to its proximity to Hong Kong).⁴

However, two aspects of the SEZ programme created some resilience to early failure and, in some cases, led to later success. First, the policies that would apply within the SEZs were not predefined. In fact, what was 'special' about the zones was their freedom to set and adapt their own policies. This distinguishes them from many zone programmes outside China, which have different policies from the rest of the economy, policies defined in advance, often in rigid national legislation. So, while Chinese SEZs (and Free Trade Zones today), could alter the specifics of tax legislation, in South Africa, for example, those rates are fixed by the SEZ Act of 2014 and the accompanying, one-size-fits-all regulations.⁵ Second, Chinese SEZs were integrated into a larger system of learning, in which lessons learnt through their experiments were rolled out to 'normal' units of governance, such as large municipalities.

Two decades later, a similar process took place for 'hi-tech' parks. From 2001 municipalities were encouraged to establish these, and to apply new policy instruments to attract R&D and high-value manufacturing, from a default list provided by the national Ministry of Science and Technology. The ministry organised frequent seminars, bringing together the officials in charge of implementing the parks, and repeatedly compared results and drew lessons. Where results seemed widely promising, such as programmes to attract high-level research talent from abroad, policies were ramped up nationally; where variance persisted, such as in the exact balance of private and public funding for R&D, national programmes continued to permit local flexibility.⁶

Neither the earlier SEZs nor the hi-tech parks were entirely successful. Zhuhai, an SEZ near Shenzhen, failed to do nearly as well as its neighbour, and other hi-tech parks have become similar, if smaller, white elephants. But the overall record contrasts strongly with similar programmes elsewhere, such as India's which began in 2005. There, SEZs had fixed policy parameters, often unsuitable to the contexts where they were deployed, as well as little to no integration into broader processes of policy reform. When combined with a public perception of widespread corruption, deriving from the 'private sector-driven' governance model of the zones, the programme suffered a severe backlash and was largely abandoned.⁷

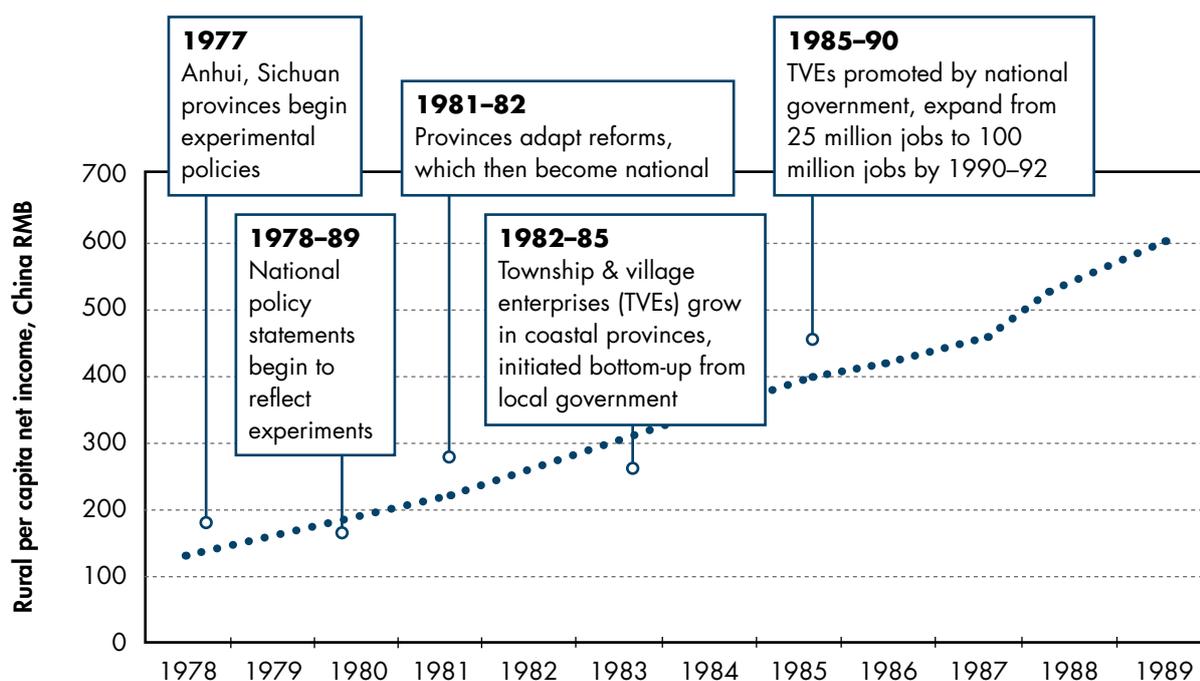
RURAL DEVELOPMENT

Beijing did not originate China's extraordinary agricultural and rural growth in the 1980s. It began with rural officials and farmers. In 1977 peasants in a village in Anhui took the initiative and divided collective land among themselves (the 'household responsibility system'). In the next few years, the model was adapted and extended to other provinces, slowly at first and then more rapidly as its results became clear. It was combined with extension services and access to subsidised inputs in different ways as it spread (see Figure 1). Even in the late 1980s, almost

half of reforms were labelled experimental, and policy learning continued, ranging from the use and form of price supports to the models for input provision.⁸

A similar process took place with rural industrialisation. The township and village enterprises (TVEs), which drove rural and industrial development from the mid-1980s to the mid-1990s, were completely unforeseen by the central government. Local officials and entrepreneurs initiated them as a creative response to securing property rights during the early stages of the reform movement. They spread, first, through intra- and inter-provincial networks of officials, and then were endorsed and supported in national policy. When they ceased being competitive – when property rights were more secure and large enterprises were emerging in cities – they were allowed to wither, though not before they had trained a generation of managers and funded the first wave of village-level rural infrastructure. TVEs themselves are unlikely to be a fitting policy instrument in other contexts, but the manner in which they began bottom-up, and in which the national government allowed them, learnt from them, and then moved on, is instructive.⁹

FIGURE 1 RURAL DEVELOPMENT



Source: US Department of Agriculture, Economic Research Service, <http://www.ers.usda.gov/data-products/china-agricultural-and-economic-data/documentation.aspx>; Pantsov AV & SI Levine, *Deng Xiaoping: A Revolutionary Life*, New York: Oxford University Press, 2015; Vogel EF, *Deng Xiaoping and the Transformation of China*, Cambridge MA: Harvard University Press, 2013, pp. 445–7; Che J & Y Qian, ‘Institutional environment, community government, and corporate governance: Understanding China’s township-village enterprises’, *Journal of Law, Economics, & Organization*, 14, 1, 1998, pp. 1–23; Kung JK & Y Lin, ‘The Decline of Township-and-Village Enterprises in China’s Economic Transition’, *World Development*, 35, 2007, pp. 569–584

BUILDING INFRASTRUCTURE

It might seem that infrastructure is the sector least suited to policy learning. It consists of large, lumpy investments that seem straightforward. In reality, infrastructure is difficult – across the developing and developed world, two-thirds of projects are late, and half do not meet their targets. These difficulties are most often caused by the ‘soft’ infrastructure that precedes ‘hard’ – the detailed financing structures, and the means of organising project selection and execution, which precede the commitment of capital and pouring of concrete. Institutional learning

ELECTRICITY GENERATING CAPACITY IN CHINA

FIGURE 2A TOTAL ELECTRICITY GENERATING CAPACITY

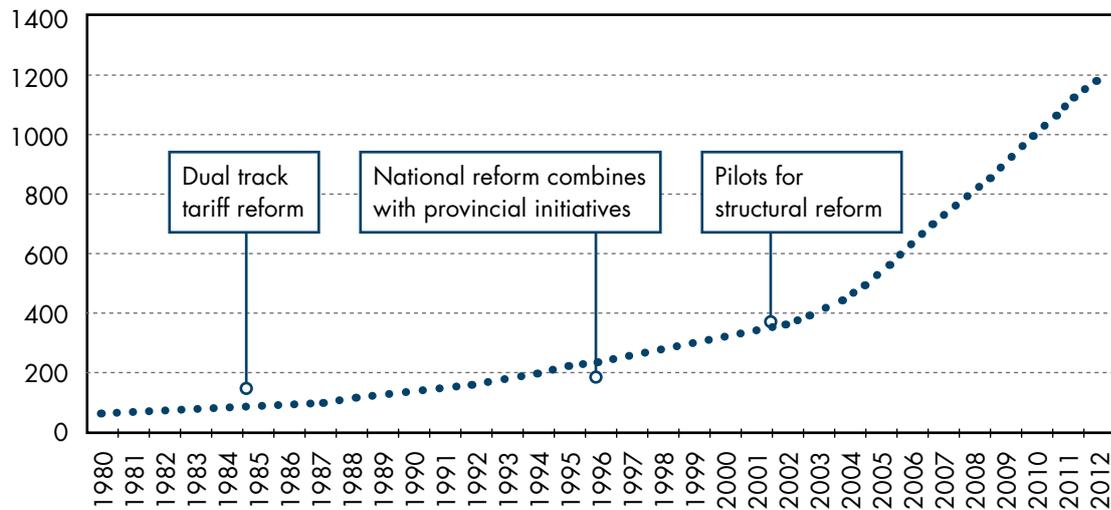
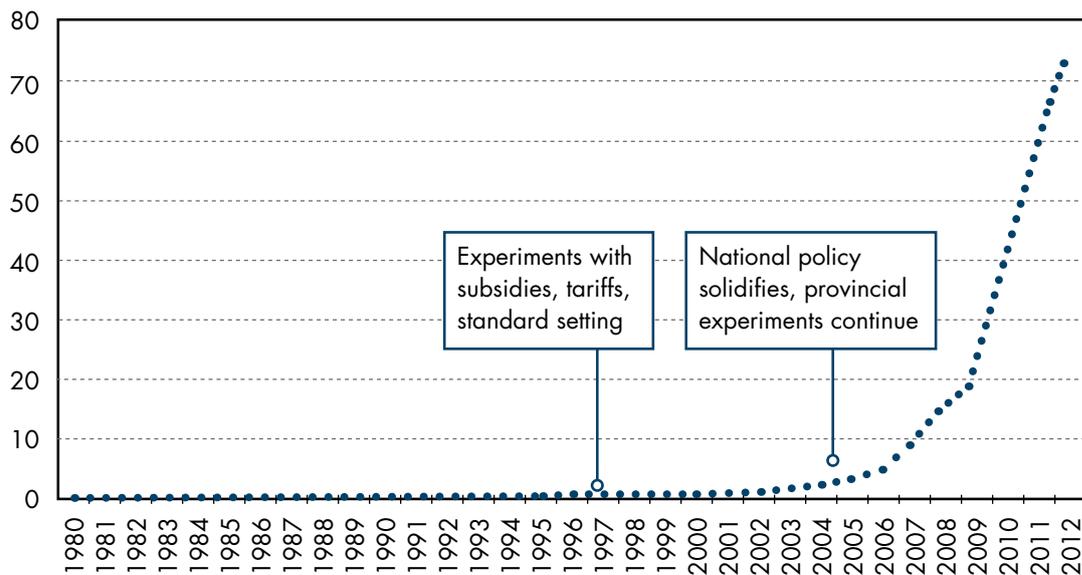


FIGURE 2B NON-HYDROPOWER RENEWABLE GENERATING CAPACITY



Source: US EIA (Energy Information Administration)

in these domains is then not only possible, but, if anything, is even more necessary for sustained and large-scale infrastructure investment than is funding on its own.¹⁰

In power generation, China's extraordinary growth in capacity from 2002/3 onwards was preceded by four periods of adjustment. In 1985 a 'dual track' pricing system was introduced, one for public and one for private producers, and operations were decentralised to provincial bureaus. This delivered new capacity, while gradually introducing new investors and market mechanisms. In 1997 the state power company was corporatised, using lessons learnt from reforms in other industries. From 1999 to 2002 pilot projects were conducted on separating generation from transmission and distribution. In 2002/3, the national power company was divided into five large generating companies and two grid operators, while pricing regulations were adjusted again. In the same period, the province of Shandong introduced provincial-level reforms to public-private financing structures which led to a surge of capacity, when much of the rest of China experienced shortages. Other provinces then learnt from Shandong. The decentralised flood of capital that resulted led to an exponential growth in fossil fuel-generating capacity. A similar process from 1996 onwards then led to similar growth in renewable energy (see Figures 2a + b).¹¹

IMPORTING FINISHED GOODS: TAKING SPECIFIC POLICIES FROM CHINA

Industrial zones and parks, supposedly on the Chinese model, have spread widely in Africa recently. But the contrast between their evolution and that of Chinese zones is striking. In China, the zones were improved by policy learning and regular adjustment. In Africa, as in many other regions, they tend to be static, with unchanging regulatory frameworks and legislation, as well as isolated, with few links to broader processes of reform. Often, the idea of building zones results from a short visit by senior policymakers to China; details are worked out by paper-based analyses; at some point a consensus is reached and embodied in legislation and regulations. The poor results that follow are explained by reference to abstract principles, such as lack of 'private sector involvement' or a 'poor fit to context'. By then, the acknowledgement of failure has been postponed just long enough for the zones or parks to lose political relevance, so that mustering the will to identify and make necessary adjustments is lost.¹²

Importing the idea of zones and parks, without the dynamic of policy learning and programme adjustment that produced them, is analogous to African economies' tendency to import consumer goods from China, rather than build their own productive capacities. It is a specific instance of a general trend. In rural development, for example, China's approach in the 1980s was multifaceted, combining pricing reforms, extensive support mechanisms to small farms, and small-scale industrialisation through the TVEs. These policies are sometimes cited or advocated in part or in whole, but they were effective only in and through their context-specific detail, such as the forms of contracts and the precise pricing of subsidised inputs. Those details are unlikely to contain much to learn from in most African countries, but what might be learnt is how a vast state, with a large and impoverished rural population, was able to experiment and adjust and eventually derive effective policy.

In infrastructure, provincial and municipal Chinese governments, together with banks (mostly quasi-state entities) and construction companies, have learnt how to rapidly mobilise resources for large-scale infrastructure projects. The process

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described above for energy has analogues in highway construction, water treatment and much else. Indeed, in some sectors, learning ‘how to get it built’ may have been too effective, leading to over-capacity – though excess infrastructure capacity is a problem that is probably unlikely in many African economies for some time.

In Africa, though, the lesson that is cited from China is simply to focus on infrastructure, while the constraint on doing so is assumed to be finance. But the deeper learning from China is not just to announce ambitious plans for infrastructure, or actively seek funding for it. It is to build institutions and processes that can more effectively and quickly generate implementable infrastructure projects and deliver on them. That leads to importing not just a single plant or the technology to build a single highway (even with local building materials), but importing the means to deliver dozens of them.

IMPORTING THE KNOW-HOW: AN ALTERNATIVE APPROACH

The question is then what might be done. First, a focus on learning capacity implies a different set of questions for African officials and researchers to ask of and in China.

For officials on study tours in China, visiting industrial parks and zones, it implies asking not only about current incentives for investors, but what those were in the past, and how they changed, and what their governance structures were, and how those changed. For researchers across Africa, whether in government, academia or think tanks, it means engaging with Chinese policy dynamics rather than just statics. Research reports and policy documents should not only describe the current state of a policy or programme, but analyse the process of policy evolution and the institutions that generated it.

A second gap to be filled is knowledge about our own policy systems. In many African countries there is a relative lack of deep but accessible descriptions of how policy change happens, or fails to happen. This handicaps leaders and officials who wish to make policy learning faster and more effective. Such analyses are not trivial – policy systems are complex, and superficial or inadequate descriptions of them risk doing more harm than good. There must at least be a distinction between large, unpredictable lurches in programmes and policy whenever a minister or head of department changes – a type of policy *unlearning* – and a continuous and predictable refinement, with occasional deeper reforms. Such change may imply the need for sustained funding for focused, structured and rigorous comparative analyses across the continent.

A third implication is China’s presentation of its own evolution. Much policy learning in China may be tacit, undertaken through processes and institutions that are second nature, and current officials are unlikely to know the details of prior adjustments. However, China has university departments and think tanks whose researchers have followed policy evolution in their sector over decades. Analyses, presentations and training courses by them on the process of policy evolution in a range of sectors could be a significant and lasting contribution to Africa’s development. That might, for example, be tied to a future session of the Forum on China-Africa Cooperation (FOCAC).

Finally, an ambitious research project – perhaps by pairs of Chinese and African universities – would be to compile a transparent dataset of policy change. At present there is no data that records how often policies are adjusted and with what scale and scope of change. The raw material for that exists, in legislation

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and official gazettes, but it would be labour intensive to compile. Once gathered it might be a form of public good, facilitating a systematic comparison of learning capacities – for example, putting numbers to the distinction between unpredictable lurches and continuous improvement.

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Their processes and systems privilege inflexibility, and their transaction costs are too high to sustain the type of small, parallel experiments required by learning. The World Bank once tried to address this by creating a ‘development learning loan’. This resulted in some notable successes, but then fell into disuse because the bureaucratic costs of delivering it were no lower than for a large loan.¹³ As a result, many ‘south–south learning’ exchanges between African officials tend to be detached from projects that are similar enough for lessons to be useful. There is little to compare to the Chinese system of bringing together officials from neighbouring provinces, pursuing a similar project with similar goals, with slight variations in programme design and context.

This is a gap that might be filled, in part, by the new institutions for co-operation being built between China and Africa. This includes FOCAC, the China–Africa Development Fund, the various agreements and activities of the China Development Bank, and, perhaps most significantly, the New Development Bank (also known as the BRICS Bank). If these do not place some emphasis on underwriting the process of ‘learning to learn’, both within countries and across borders, funds are likely not to be disbursed, controversies are likely to mount, and the new development funders may become very similar to the bureaucratic old ones.

An alternative path might see the establishment of a ‘learning fund’ to underwrite adjustments to institutional arrangements, such as new means to manage preparatory studies, new models for leveraging private finance, or new means to fund and govern operations and maintenance. These parallel experiments might be tied into conscious efforts to extract and systematise learning, through continuous interchange. In this way, the New Partnership for Africa’s Development’s tradition of peer review might be renovated and applied at a project rather than at a country level, focused on achievable and practical adjustments in the processes of building infrastructure.

In parallel, the same or a separate mechanism might fund cross-sector improvements in policy learning. This might include new or renovated institutions at the centre of government, akin to the ‘leading group’ mechanism used to work across silos in Chinese governance; or thickening the network of practice-focused research units on the continent, akin to the network of the Chinese Academy of Social Sciences or the Development Research Centre. To retain independence, the research units might be part-funded by a combination of African countries themselves, African institutions, new and traditional development institutions and bilateral arrangements.

CONCLUSION: OBSTACLES AND PROSPECTS

Realistically, any of the suggestions above face significant obstacles. The most common, and the most deep-seated, is short-termism, manifested in an impatience for ‘tangible results’. This is not to say that results-orientation is misplaced.

Its most useful framing might, however, be found in another phrase of Deng Xiaoping from the early 1980s: ‘a few results in five years, a few more in ten years, a major transformation in fifteen years’.¹⁴

This phrase sums up the dynamic of change as policy learning improves. An initial period of learning, after a period of some results and much adjustment, leads to an exponential take-off. That is reflected in the ‘hockey stick’ pattern seen in many graphs of outcomes in China, whether in power capacity or in university graduates. If an initiative is working not on outcomes, or the policy producing the outcomes, but the system producing the policy, it will have long lag times.

In practice, this approach may not meet the demands for rapid change and short-term results. Those demands may often be traced to volatile politics in many African countries. That same volatility makes lurching change in policy easier than steady evolution.

However, early results are possible and can generate momentum. In China the early reform period did produce a major transformation in agriculture. Given the long history of attempts at agricultural development in many African countries, it would be surprising if a great deal of policy learning did not already exist at home, albeit buried. Some countries might decide to rely on yet more external analyses and yet more technocratic consultants to devise yet another new plan for one more attempt at a promised ‘green revolution’. But others might learn from China’s take-off that it might be more beneficial to systematically and coherently review their own experience, and search for buried knowledge in their own provinces and among their own officials.

Doing so would not be simple. Uncovering, filtering and using buried knowledge is difficult. However, as in China, it may produce strong short-term results that then provide the breathing space to work on deeper adjustments that yield longer-term transformation.

Even in the best case, though, that strategy requires careful rhetoric and positioning by leaders. It requires a strong commitment to goals with a deliberate ambiguity about means. In 1980, China set the goal to ‘quadruple GDP per capita by 2000’ – an ambitious, unwavering and easy-to-measure target that created the discipline for flexibility and learning.¹⁵ It is that combination of long-term orientation, short-term self-knowledge and medium-term learning, which may be the most valuable exchange between China and Africa, and the most important activity that their institutions of co-operation can achieve.

ENDNOTES

- 1 Pritchett L & LW Summers, ‘Asiaphoria meets regression to the mean’, Working Paper No. 20573. Cambridge, MA: NBER (National Bureau of Economic Research), October 2014; Heilmann S & EJ Perry (eds.), *Mao’s Invisible Hand: The Political Foundations of Adaptive Governance in China*. Cambridge, MA: Harvard University Press, 2011; Xu C, ‘The fundamental institutions of China’s reforms and development’, *Journal of Economic Literature*, 49, 2011, pp. 1076–1151; Harvey D, *A Brief History of Neoliberalism*. New York: Oxford University Press, 2005; Arrighi G, *Adam Smith in Beijing: Lineages of the Twenty-First Century*, London: Verso, 2007.
- 2 A sample, by the sector on which each scholar places most explanatory weight: Human capital – Sen A, ‘Quality of life: India vs. China’, *The New York Review of Books*, May 12, 2011; Infrastructure – Bardhan P, ‘Awakening giants, feet of clay: A comparative assessment of the rise of China and India’, *Journal of South Asian Development*, 1, 2006, pp. 1–25; Financial system – Hsieh CT & PJ Klenow, ‘Misallocation and manufacturing

- TFP in China and India', *The Quarterly Journal of Economics*, 124, 2009, pp. 1403–1448; Management – Sutton J, 'The auto-component supply chain in China and India: A benchmarking study', Occasional Paper, London: LSE (The London School of Economics and Political Science), 2004.
- 3 In addition to several works cited above, see: Rodrik D, 'The New development economics: We shall experiment but shall we learn?', Faculty Research Working Papers Series, RWP08-55. Cambridge MA: Harvard Kennedy School, October 2008. Heilmann S, 'From local experiments to national policy: The origins of China's distinctive policy process', *The China Journal*, 59, 2008, pp. 1–30. Also Xu, *op cit.*
 - 4 Among others, Vogel EF, *Deng Xiaoping and the Transformation of China*, Cambridge MA: Harvard University Press, 2013; Zeng, D. Z. (Ed.). (2010). 'Building engines for growth and competitiveness in China: experience with special economic zones and industrial clusters', World Bank Publications.
 - 5 South Africa, Department of Trade and Industry, Special Economic Zones Tax Incentive Guide, https://www.thedti.gov.za/industrial_development/docs/SEZ_Guide.pdf, accessed October 4, 2015; Special Economic Zones Act No. 16 of 2014. Pretoria: Government Printer.
 - 6 Heilmann S, Shih L & A Hofem, 'National planning and local technology zones: Experimental governance in China's torch programme', *The China Quarterly*, 216, 2013, pp. 896–919.
 - 7 Zeng, *op. cit.* on variations in performance in China; for a review of experience in India, see Saleman Y & LS Jordan, 'The Implementation of Industrial Parks: Some Lessons Learned in India', Policy Research Working Paper, 6799. Washington, DC: World Bank, 2014.
 - 8 Most recently: Pantsov AV & SI Levine, *Deng Xiaoping: A Revolutionary Life*, New York: Oxford University Press, 2015.
 - 9 The literature on TVEs is extensive. Among others, see: Vogel, *op. cit.*, pp. 445–7, for the unplanned nature of the TVEs, Che J & Y Qian, 'Institutional environment, community government, and corporate governance: Understanding China's township-village enterprises', *Journal of Law, Economics, & Organization*, 14, 1, 1998, pp. 1–23; Kung JK & Y Lin, 'The Decline of Township-and-Village Enterprises in China's Economic Transition', *World Development*, 35, 2007, pp. 569–584.
 - 10 Flyjberg B, 'What you should know about megaprojects and why', *Project Management Journal*, 45, 2, 2014, pp. 6–19. Deloitte, *Where next on the road ahead? Deloitte Infrastructure Investors Survey 2013*, 2013, <http://www2.deloitte.com/uk/en/pages/infrastructure-and-capital-projects/articles/infrastructure-investors-survey-2013.html>, accessed October 4, 2015.
 - 11 Ma C & L He, 'From state monopoly to renewable portfolio: Restructuring China's electric utility', *Energy Policy*, 36, 2008, pp. 1697–1711.
 - 12 See, for example, some of the cases and analyses in Farole T & G Akinici (eds.), *Special Economic Zones: Progress, Emerging Challenges, and Future Directions*, Washington, DC: The World Bank, 2011.
 - 13 Andrews M, *The Limitations of Institutional Reform in Development: Changing Rules for Realistic Solutions*, New York: Cambridge University Press, 2013.
 - 14 'results in five years': Vogel, *op. cit.*, p. 201.
 - 15 'quadruple GDP per capita by 2000': *ibid.*, pp. 360–361.

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ACKNOWLEDGEMENT

The Foreign Policy Programme is funded by the Swiss Agency for Development and Cooperation. SAIIA gratefully acknowledges this support.



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