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The People's Republic of China (PRC) has been propelled in less than half a century from the backbenches of industrial development to an industrial giant. Measured as a share of global industrial value-added, no other country has concentrated so much global industrial production over the past fifty years, with China amassing more than one third of the world's gross industrial production. After establishing itself as the world's factory in the 1990s, specializing in low value-added products and tasks, such as textiles and processing, the PRC has since the late 2000s incrementally unrolled a dynamic stream of proactive industrial policies. Under President Xi Jinping, this renewed emphasis on techno-industrial ambitions and efforts has only been amplified, while being redirected in terms of objectives and refined in its implementation.

This testimony will try to decipher the China's current approach to industrial policy, encompassing its objectives, priorities, and implementation. As a case in point of this updated techno-industrial philosophy and its limitations, this analysis will focus on the new role of small- and medium-sized enterprises (SMEs) in Beijing's approach. Finally, the testimony will touch upon the difficulties of current mechanisms in preventing cross-border spillovers of Chinese government support to its producers.

I. Chinese industrial priorities, philosophy of intervention and actual policies

a. An opaque mixture of techno-industrial priorities geared toward securitizing the economy

Chinese industrial policies have been redirected over the past decade away from development objectives toward geopolitical and national security priorities. This resonates with the broader deprioritization of growth over security in high-level documents and speeches of the party-state, which is now well documented.[1] In industrial policy, this has translated into a partial shift away from commercial performance and toward self-reliance.

Indigenous innovation (自主创新) has been a core tenet of the nation's development strategy since the National Medium and Long-Term Plan for the Development of Science and Technology (MLP) of 2006. Some more specific national documents have had more forceful foreign technology and supply substitution objectives,[2] which can also be found in the Made in China 2025 initiative to secure China's position as a global tech leader (see

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[1] Howard Wang. "'Security Is a Prerequisite for Development': Consensus-Building toward a New Top Priority in the Chinese Communist Party," *Journal of Contemporary China*, August 7, 2022, 1–15.

[2] MIIT, "14th Five-Year Plan for Medical Equipment 十部门关于印发《'十四五'医疗装备产业发展规划》的通知," December 28, 2021, https://www.gov.cn/zhengce/zhengceku/2021-12/28/content_5664991.htm.

below). Obviously, local governments have also from time to time displayed similar ambitions. However, it was only in 2020 that the concept of science and technology self-sufficiency and self-empowerment (科技自立自强) was officially proposed and incorporated into the 14th five-year plan (FYP).[3]

In recent years, China has multiplied the sectoral priorities of its industrial policies under various programs and stakeholders.[4] The revival of industrial policy in China is often tracked back to 2006 with the MLP, under the Ministry of Science and Technology (MoST). It was around that period that the more regulatory approach undertaken under former premier Zhu Rongji started to erode more visibly. The 2006 plan targeted a few sectors – shipbuilding, nuclear, aircraft, integrated circuits – and a handful of large national projects that received massive funding after Beijing alleviated the budget constraint on local governments as part of the post-2008 stimulus package.[5]

Since then, the industrial priorities of Beijing have evolved in a flurry of lists, stakeholders, and projects. The strategic emerging industries (SEI) plan of 2010 already listed twenty sectors, placed under the powerful *de facto* economic ministry of the PRC, the National Development and Reform Commission (NDRC).[6] The "innovation-driven development strategy" formalized in 2016 sparked a new round of extending Chinese industrial ambitions to new sectors. The flagship policy of that period was the State Council's Made in China 2025 plan,[7] which listed 10 key priority sectors.[8] The Notice of the State Council on the Publication of Made in China 2025 that followed set a 2020 target of 40 percent internally produced "core basic components and key basic materials" for those sectors, to be raised to 70 percent by 2025.

Other renowned industrial plans also emerged to operationalize the new development strategy, such as Internet Plus, aimed at fostering the digitalization of multiple sectors, or the very broad Military-Civil Fusion (MCF) strategy, designed to support development and integration of civilian technology players with the more traditional defense industry. Sector-specific policies were also published for numerous sectors (photovoltaic, shipbuilding, cloud computing, robotics, medical devices, etc.), some predating and/or overlapping with the previously mentioned broader efforts. In 2020, the NDRC published

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[3] Sun Mingzeng (孙明增). "S&T self-sufficiency and self-empowerment (科技自立自 强)," Guangming Daily (光明日报), 9 November 2020.

[4] Naughton, Xiao and Xu. "The Trajectory of China's Industrial Policies." IGCC. 2023. ucigcc.org/wp-content/uploads/2023/06/Naugton-et-al-working-paper-1-jun-2023.pdf

[5] Naughton B. (2021). "The rise of China's industrial policy, 1978 to 2020." Buena Onda, S.A. de C.V. Mexico: Universidad Nacional Autónoma de México.

[6] State Council. "Decision of the State Council on Accelerating the Cultivation and Development of Strategic New Industries 国务院关于加快培育和发展 战略性新兴产业的决定." October 2010. http://www.gov.cn/zwgk/2010-10/18/content_1724848.htm.

[7] J. Wübbeke, M. Meissner, M. J. Zenglein, J. Ives, B. Conrad. "Made in China 2025: the making of high-tech superpower and consequences for industrial countries." MERICS. December 2016.

[8] New generation information technology; Advanced numerical control machine tools and robotics; Aerospace technology, including aircraft engines and airborne equipment; Biopharmaceuticals; High-performance medical equipment; Electrical equipment; Farming machines; Railway equipment; Energy-saving and new energy vehicles; Ocean engineering.

a list for new growth points, referring to new energy technology bottlenecks in a completely different set of sectors.[9]

The PRC also has technological priorities.[10] The concept of "key core technologies (关键核心技术)," which has been around for almost a decade, does not clearly appear to consistently list specific priorities. In 2021, Xi Jinping called for breakthroughs in core technologies related to "urgent national and long-term needs," providing a list of such technologies. This list differed from another one he produced a year later for the "basic core areas related to overall development and national security."[11] In August 2022, the MoST and the Ministry of Finance also promised a list of technologies to focus on.[12] References to "bottleneck technology" have also flourished without one clear list of associated technologies.[13]

Other less authoritative technology lists and concepts are also often referred to in official documents and speeches, sometimes with clearly defined sectors such as "disruptive technologies" established by the Chinese Academic of Engineering.[14] In addition, local government, especially at the provincial level, has drawn its own technology lists, sometimes reusing concepts of the central state and not necessarily with a consistent scope.[15]

b. An ambition to "guide" market forces to achieve party-state priorities

An old Chinese Communist Party (CCP) concept has been revived to signal the ambition for greater market forces under greater guidance of the party-state. This ambition of a new combination of public authorities and market forces under Xi Jinping appeared in key policy documents as early as 2013. The "decisive role of market forces" in resource allocation in the Chinese economy first appeared then in a high-level document that also

[9] The document lists: wind, solar, and water storage, advanced fuel cells, efficient energy storage, and marine energy generation, and construct infrastructure networks such as smart power grids, microgrids, distributed energy resources, new types of energy storage, hydrogen production and hydrogenation facilities, and fuel cell systems. NDRC. *New Chinese Ambitions for 'Strategic Emerging Industries,' Translated* (关于扩大战略性新兴产业投资 培育壮大新增长点增长极的指导意见). September 2020.

[10] In this testimony, we stick to the technologies lists and leave aside the actual industrial supports provided directly to technology research and development, to focus on the core industrial policy. Some excellent reports delve into this very specific environment. J. Groenewegen-Lau and M. Laha. "Controlling the Innovation Chain. China's Strategy to Become a Science & Technology Superpower." MERICS. 2023. https://merics.org/en/report/controlling-innovation-chain.

[11] The former included: oil and gas, basic raw materials, high-end chips, industrial software, agricultural seeds instruments and equipment for scientific experiments, and chemical preparations. The latter: artificial intelligence, quantum information, integrated circuits, advanced manufacturing, life and health, brain science, biological breeding, aerospace technology, and underground and deep-sea exploration.

[12] "Action Plan for Improving Enterprises' Technological Innovation Capability (2022–2023)" (企业技术创新能力提升行动 方案 2022—2023 年）)

[13] NMSAC, "Industrial Base Innovation Development Catalogue (2021 Edition) 产业基础创新发展目录（2021 年版）," 2022, http://www.cm2025.org/uploadfile/2022/0805/20220805013919818.pdf.

[14] The list, that aims at "seizing the strategic high ground", is made of: Quantum Information Technology; Artificial Intelligence; Mobile Internet Technology; Gene Editing Technology; Synthetic Biology Technology; Graphene; Metamaterials.

[15] See Table 5 in Naughton, Xiao and Xu, "The Trajectory of China's Industrial Policies," IGCC, July 2023. ucigcc.org/wp-content/uploads/2023/06/Naugton-et-al-working-paper-1-jun-2023.pdf

underlined the necessity of “encouraging, supporting and guiding the non-public sector.”[16] If the change in wording sparked expectations of a breakthrough in liberal economic reforms across the board, that proved wrong, multiple localized pro-market measures have been implemented. It is worth noting that less publicized, this language is still present in policy documents.[17] In December 2023, the official press agency of the PRC even claimed that Xi Jinping himself had been behind the decision in 2013 to use the wording “decisive role of market forces”. All the while, the term “guidance" has become more and more common in public policy documents. It has long been in the Chinese Communist vocabulary, meaning something closer to sustained leadership rather than only influence.

High-level documents have underlined the ambitioned new interaction between market forces and state interventions. A leading document for the semiconductor sector in 2018 called for the “organic combination of national strategy and the market mechanism.”[18] A similar combination can also be found in a 2020 high-level document calling for further marketization to “move industrial policy toward generalized systems of preferences and functional approaches; strengthen support for technological innovation and structural upgrading; and strengthen the coordination between industrial policy and competition policy.”[19]

Reforms under Xi Jinping have also refined instruments to incentivize economic entities to align with party-state guidance. Indeed, the previous approach to industrial policy would indicate a priority and allow local governments and state-related players to invest in multiple firms to pursue that ambition, before further down the road consolidating the domestic market around a few “winners”. This “picking the winner” approach had encountered mixed results.[20] Significant progresses in industrial and technological capacities have been achieved for instance in high-speed rail, shipbuilding, and satellite technology, but other strategic industries – including most notably semiconductor and aerospace industries – have seen more limited improvements. Even where success can be considered, there is uncertainty regarding the cost incurred to get there. The massive debt of Chinese rolling-stock or ship producers, state-owned, are legitimate reasons to question the optimality of such an approach.

The Communist Party’s capacity for influence has been deliberately strengthened to ensure that “the Party rules everything” (as added to the constitution of the PRC in 2017). Anti-corruption campaigns have hit many – from local political operatives to state-owned enterprise (SOE) managers, financial leaders and entrepreneurial figures. And the re-emphasis of the party’s absolute control over the whole of society ought to deter entities

[16] The 10th FYP (2001-2005) noted that „market mechanisms are playing increasingly markedly a basic role in the distribution of resources.” The 11th FYP (2006-2010) said that China was “giving more play to fundamental role of the market in allocating resources under guidance of macro regulation and control.” The 12th gave “full play to the socialist mechanism as well as to the market in terms of allocating resources.”

[17] NDRC. “On expanding investment in strategic emerging industries Guiding opinions on cultivating and expanding new growth points 关于扩大战略性新兴产业投资 培育壮大新增长点增长极的指导意见.” September 2020.

[18] Ministry of Finance (Economic Construction Division). 2018. “The operation and investments of the National Integrated Circuit Industry Fund are running smoothly” accessed at http://jjs.mof.gov.cn/zhengwuxinxi/gongzuodongtai/201508/ t20150828_1438798.html.

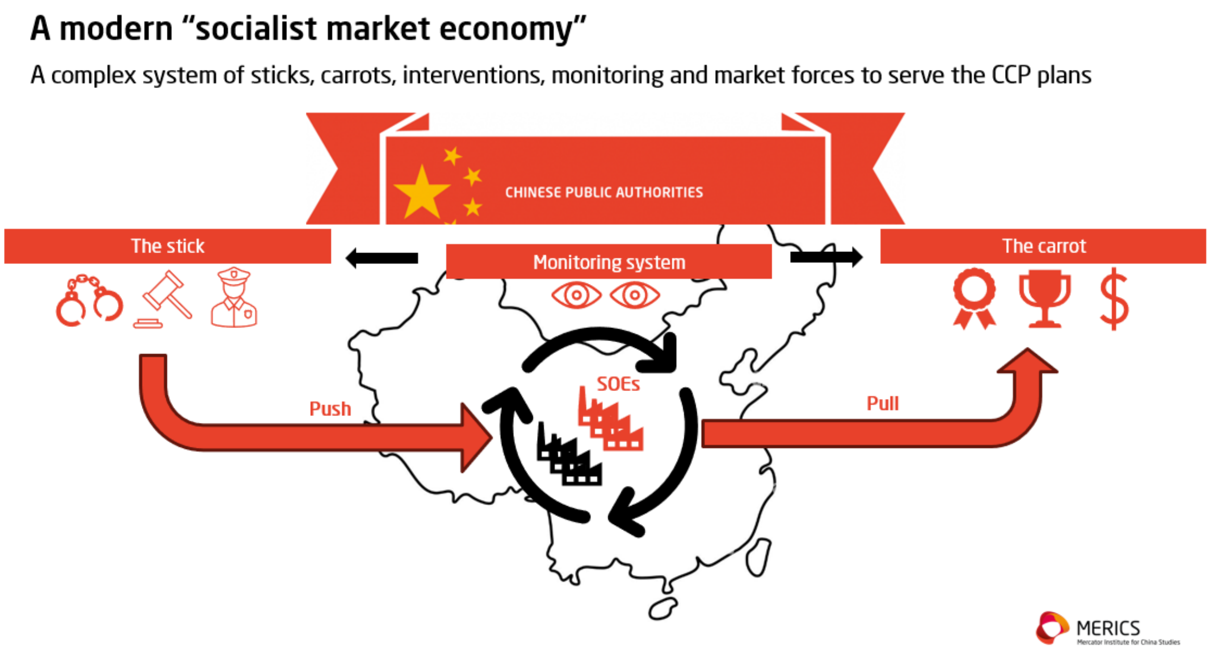
[19] CCP Party Center and State Council. “Views on Accelerating the Perfection of the Socialist Market Economic System in the New Era.” New China News Agency. May 2020.

[20] B. Naughton and B. Boland. “CCP Inc.: The Reshaping of China’s State Capitalist System.” January 2023.

and individuals from being at odds with CCP guidance. The renewed "whole of society" efforts in the pursuit of strategic objectives that encompass techno-industrial priorities, formalizes the idea that all actors of society can be expected to pursue the objectives set by the party-state.[21] Communist Party cells in firms and associations, mandatory for any institution with more than two party members, have been reactivated to help align them with Beijing's goals, even though there role in practice is unclear.[22]

Public investment in firms has bounced back very actively over the past decade. In addition to the newly created golden shares, SOE investment in the economy has picked up, both in absolute and relative numbers.[23] State ownership has also been propelled by a rather novel central instrument in Beijing's industrial ambition: Government Guidance Funds (GGFs, 政 政府引导基金). Not entirely new, these funds really kicked off after 2014, rising to almost USD 2,000 billion of announced investment by 2022 (for more details on those funds see in the dedicated section in 2.c.).[24]

Exhibit 1



[21] J. Gunter, M. Zenglein. "The party knows best: Aligning economic actors with China's strategic goals." MERICS. 2023

[22] Lin, Lauren Yu-Hsin and Curtis J Milhaupt. "Party building or noisy signaling? The contours of political conformity in Chinese corporate governance." The Journal of Legal Studies, 50, 187–217. 2021. For a more up-to-date and comprehensive version of this work, refer to their presentation at the event "How private are Chinese companies?" organized by the CSIS in February 2023.

[23] Allen Franklin, Junhui Cai, Xian Gu, Jun "QJ" Qian, Linda Zhao and Wu Zhu (2022). "Centralization or Decentralization? The Evolution of State-Ownership in China." SSRN Working Paper 4283197.

[24] Wei Y., Ang Y. and Jia N. (2022). "The Promise and Pitfalls of Government Guidance Funds." The China Quarterly.

c. The central role of financial markets

The government is developing a new blend of state capitalism to guide financing toward party-state priorities. On the one hand, it is reducing distortions that benefit traditionally favored sectors and actors, and, on the other, it is creating new distortions that benefit new favored peers. While the former may have had a pro-market aspect, the latter are like a form of modernized statism – where the state has considerable control over the economy and society.

Reducing distortions mostly means fighting the deeply entrenched bias in favor of state-connected and large firms in the allocation of financial resources in China.[25] This bias is rooted in China's bank-centered financial system and pervasive implicit state-guarantees (i.e. the perception that the party-state will always bail out large and connected firms). China's long limited legal framework, high opacity, pervasive political interventions, and constrained risk-pricing have incentivized banks and investors to lend to state-connected and large firms.[26] On top of those genuine factors, the political economy in China, where local governments are strongly aligned with the interests of local business and financial leaders, also contributes to the bias.[27]

Since 2017, China has introduced reforms to make the financial system more market driven by trying to alleviate some of these factors of distortion. The most important reform was greater tolerance for default and insolvency, thus reducing the implicit guarantee, translating into the financially healthy appearance of default (see exhibit 2).[28] Such defaults have hit SOEs, banks and large conglomerates, which were the biggest beneficiaries of the implicit state guarantee. The liberalization of interest rates on deposits and loans, officially achieved in 2015 was further advanced in 2019 with a more market-based "indicative" benchmark, the Loan Prime Rate.

Another substantial dimension of that more liberal-leaning effort has been the reform of direct financing channels, mainly bonds and stock exchanges. However, the ultimate goal is clear, as stated by the then-chairman of the securities regulator, Yi Huiman: capital markets exist to "help implement national strategies regarding technological self-reliance and the development of modern industries."[29] A registration-based procedure for approving initial public offerings (IPO) has been tested and implemented across the board

[25] Zhe Geng, Jun Pan. "The SOE Premium and Government Support in China's Credit Market." NBER. December 2019. A. Harisson et al. "Can a Tiger Change Its Stripes? Reform of Chinese State-Owned Enterprises in the Penumbra of the State." NBER. January 2019. Diego Cerdeiro and Ciane Ruane. "China's Declining Business Dynamism." IMF. Working Paper No. 2022/032. 2022.

[26] "Policies however continue to guide deposit rate pricing. After the deposit rate ceiling was phased out in 2015, authorities introduced a self-regulatory mechanism for deposit pricing" (IMF. "People's Republic of China: Selected Issues." Staff Country Reports, 2020, 15 January 2021.) The selected issues of the equivalent report for 2022 underlines a tightening of the constrain over the past few years, alongside one of the quota mechanism, under the Chinese Macroprudential mechanism established in 2016 and deepened since then (IMF. "People's Republic of China: Selected Issues." IMF Staff Country Reports, 2022. February 2023).

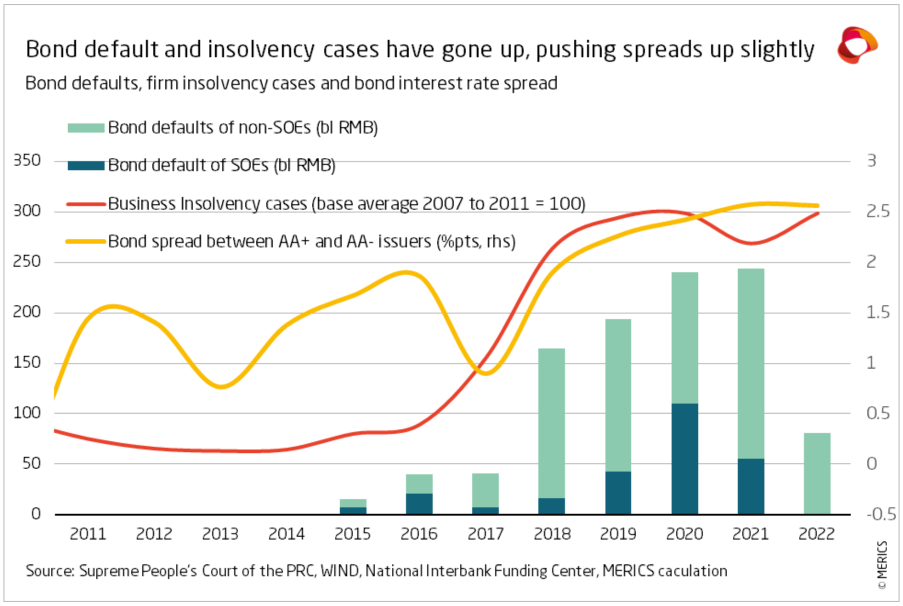
[27] Yu, J., L.-A. Zhou, and G. Zhu. "Strategic interaction in political competition: Evidence from spatial effects across Chinese cities." Regional Science and Urban Economics, 57, 23–37. C. Xu. "The fundamental institutions of China's reforms and development." Journal of Economic Literature, 49, 1076–1151. 2021. Jia, R., M. Kudamatsu, and D. Seim. "Political selection in China: The complementary roles of connections and performance." Journal of the European Economic Association. 13, 631–668. 2015.

[28] Bo Li and J. Ponticelli. "Going Bankrupt in China." *Review Of Finance* 26, no. 3. May 2022.

[29] Huiman Yi. "Further Improve the Functions of the Capital Market (Reflections) 进一步健全资本市场功能（感言)." People's Daily. December 2022.

over three years. In addition, the government has expanded listing opportunities for high-tech SMEs on the mainland stock markets. In 2019, China set up the Shanghai Stock Exchange Science and Technology Innovation Board, also known as the STAR market. The new Beijing Stock Exchange (BSE) was created in 2021 to fulfill this need. Policymakers have progressively liberalized the STAR Market and ChiNext stock market, both dedicated financial exchanges for SME and tech-intensive firms.

Exhibit 2



However, those reforms have not exactly worked. The lack of volatility in the deposit rate among thousands of banking institutions after formal liberalization reflects that some form of strong control remains in place.[30] Other government priorities, including the 2017-2018 deleveraging and regulatory tightening campaign, have further restrained capital flows to riskier firms, such as smaller and non-state-backed ones.[31]

More directive measures have had greater success in guiding capital to prioritized sectors and firms. The central bank has developed new directive instruments to lower the cost of loans in line with certain policy priorities.[32] The People's Bank of China (PBoC) has also included similar criteria in its macroprudential assessment of Chinese financial institutions.[33] Its monetary policy reports prominently feature efforts to "guide" new

[30] The IMF underlined a tightening of the constrain over the past few years, alongside one of the quota mechanisms, under the Chinese macroprudential assessment established in 2016 and deepened since then (IMF. "People's Republic of China: Selected Issues." Staff Country Reports, 2022 2023).

[31] Allen, F and X Gu (2020). "Shadow banking in China compared to other countries." Manchester School, vol 89 (5). September 2020. Wang, Hao and Wang, Honglin and Wang, Lisheng and Zhou, Hao. "Shadow Banking: China's Dual-Track Interest Rate Liberalization." American Economic Association. October 2019.

[32] IMF. "People's Republic of China: Selected Issues." IMF Staff Country Reports. *2022*.

[33] ibid

loans as well.[34] The fact that the central bank also operates "window guidance" – informal and opaque recommendations to financial institutions in their allocation decision – gives an indication of how forceful such "guidance" can be in practice.[35] Indeed, multiple banks have vocally publicized the massive amount of loans they are channeling to such priorities.[36]

A key aspect of China's new blend of state capitalism is the certification effect (i.e., the impact of the government's stamp of approval). Earning the "Specialized SME" or "Little Giant" label essentially certifies that an SME is perceived by the public authorities as a leader among their peers with significant growth and innovation potential, as well as given preferential access to government support. This sort of government imprimatur can work as a form of last-mile guidance for investments, complementing the sectoral priorities established by the party-state. In the words of a Beijing-based joint stock bank credit manager, no matter whether the Specialized SME is certified by the central or local government, banks will approve their loans quickly and without collateral.[37]

Box: What exactly can we know of Chinese industrial subsidies?[38]

While Chinese industrial subsidies have been one of the key drivers of international trade tensions, their details are often overlooked.[39]

If empirical data is an issue for the entire field of industrial policy studies, when it comes to China, the problem is particularly acute.[40] The delegation of public policy to local authorities (more than 4,000 administrative entities) – something unmatched in the world in terms of share of public spending – makes national aggregates hard to compile. The absence of clear boundaries and responsibilities for the public sector adds an extra layer of difficulty. The role and characterization of companies with the state as their main shareholder is often unclear, with local government financing vehicles in particular obscuring the limits on public authorities. The complicated history of private ownership in

[34] China Monetary Policy Report Q4 2021 (PBOC, 2022), China Monetary Policy Report Q2 2019 (PBOC, 2019), China Monetary Policy Report Q4 2018 (PBOC, 2019).

[35] Simon Dikau & Ulrich Volz (2023) Out of the window? Green monetary policy in China: window guidance and the promotion of sustainable lending and investment, Climate Policy, 23:1, 122-137

[36] Sina. "China Development Bank Has Issued 13.1 Billion Yuan in Loans in the First Three Quarters to Support Specialized and New SMEs 国家开发银行前三季度已发放 131 亿元贷款支持专精特新中小企业," October 2022. l. Sina, "Jiangxi Bank's 'Specialized Special New Loan' Injects Financial 'Living Water' into the Development of SMEs 江西银行'专精特新贷'为中小企业发展注入金融'活水'." September 2022. Sina, "Specialized Special New Enterprise Financing Credit May Be More Flexible 专精特新企业融资授信或将更加灵活." May 2022.

[37] Jiaying Xiang. "'Professional and Special New Loans Have Become a Compulsory Course for Banks'——New Trends in Loan Issuance from the Perspective of a Credit Manager '投放专精特新已成银行必修课'——一位信贷经理视角下的贷款投放新动向," Sina. December 2022.; Real interest rate based on calculation in Chapter 4.

[38] This box is a summary of: F. Chimits. "What Do We Know About Chinese Industrial Subsidies?" Policy Brief n42. CEPII. 2023.

[39] There is no consensus on the definition of an industrial subsidy, whether legal or conceptual. To avoid any confusion with the existing national and international legal definition, and to better capture the phenomenon at stake, economists sometimes refer to direct public support for production as all actions by public authorities designed to directly encourage an increase in production, without restricting to direct financial transfer alone. For the sake of fluidity, in this box the term subsidy will be used to refer to that definition.

[40] Lane N. "The New Empirics of Industrial Policy." Journal of Industry, Competition & Trade. Springer, 20(2). 2022.

modern China does not help.[41] Finally, the illiberal nature of the Chinese political system does not favor optimal access to and circulation of information.

No official registry exists. Unlike in the EU and the US, the Chinese government does not keep an open registry of its public subsidies to production, nor does it publish a consolidated budget line for subsidies. On the other hand, as a member of the World Trade Organization (WTO), China is obliged to report its subsidies on an annual basis, which are then published. Because of its accession protocol, this obligation for mainland China exceeds those of all WTO members. However, the lack of effective sanctions for infringement of this obligation enabled China to make its first notification in 2006 and its second in 2010. The list of subsidies Beijing provided to the WTO remains patchy to date, despite a marked improvement in recent years.[42] Even when enriched with counter-notifications made by third parties (the US), the list appears largely incomplete (61 non-agricultural subsidies at the national level in 2014, and 200 counter-notified by the USA; to be compared with information from other sources listed below). To make matters worse, these values are not systematically provided, let alone assessed in an objective and standardized manner.

A review of the existing datasets and methodologies used to assess Chinese public support finds that the most frequently used datasets are dated and/or largely incomplete.[43] The existing datasets only offer a partial coverage of situation in China – either missing local government actions, only capturing listed firms or stopping in 2013. Overall, they only inform on a limited part of the PRC's public support for industrial production. The less direct approach of recomputing state-support from abnormal prices of inputs on firms' balance sheets, such as those from the OECD, has found support of a different magnitude than the traditional datasets covering direct and formal subsidies (see graphic).[44] Even there, the scope of distortions covered remains limited. As an illustration, the following channels of support have not, to our knowledge, been assessed despite much anecdotal evidence of intended distortions by Chinese authorities: coercive technology transfers,[45] strategic mobilization of public procurement,[46] purchase subsidies for domestic industries,[47] attracting foreign talent,[48] upstream sectors and export

[41] Rithmire M. and Hao Chen (2021). "The Emergence of Mafialike Business Systems in China." Harvard Business School. Working Paper 21-098.

[42] Gao H. "The WTO Transparency Obligations and China." The Journal of Comparative Law 12:2: 329-55. 2018.

[43] For a more detailed analysis of the values and limitations of those existing datasets, see; F. Chimits (2023). "What Do We Know About Chinese Industrial Subsidies?" Policy Brief n42. CEPII.

[44] OECD. "Government support in industrial sectors: A synthesis report." Trade Policy Papers, no. 270. 2023.

[45] Prud'homme D., von Zedtwitz M., Thraen J.J., Bader M. "'Forced technology transfer' policies: Workings in China and strategic implications." Technological Forecasting and Social Change, vol. 134(C), pp. 150-168. 2018

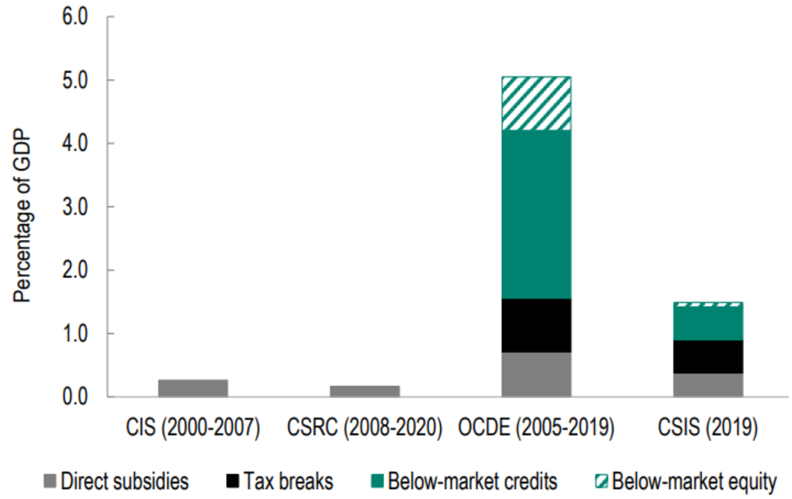
[46] A note of the French administration details these efforts in the software sector (Direction générale du Trésor (2022). "La stratégie de nationalisation des chaînes de valeur industrielles.". Bulletin d'analyse économique Chine du Service Economique de Pékin (French Embassy in Beijing)), which a study finds at work in strategic sectors (Kratz A. and Oertel J. (2021). "Home advantage: How China's protected market threatens Europe's economic power." European Council on Foreign Relations & Rhodium Group). These practices are apparently not confined to industrial objectives (Hanming K., Li M. and Wu Z. (2022). "Tournament-Style Political Competition and Local Protectionism: Theory and Evidence from China." NBER).

[47] In the case of electric vehicles, purchase subsidies were conditional on the use of batteries from a specific list of providers exclusively made by Chinese firms ("China's "whitelist" of power battery companies abolished," Neware, June 2019).

[48] Lu M., Zheng J., Jean A. and Lu Y. (2022). "China's International Talent Policy (ITP): The Changes and Driving Forces 1978- 2020." Journal of Contemporary China, 31:136, 644-661

restrictions,[49] strategic attraction of foreign goods and capital,[50] and preferential treatment in administrative and even judicial procedures.[51]

Exhibit 3: The various channels of Chinese support to industrial production



Note: All series are simple averages of annual data as a share of GDP over the period covered. OECD data has been converted to percentage of GDP by applying the 2005-2019 average ratio of total annual domestic industrial enterprise revenue (from the Chinese National Bureau of Statistics) to GDP.

Sources: NBS, CSRC, OCDE, CSIS.

The Chinese authorities' highly structured and detailed communication and policy planning offers interesting alternative metrics to assess the distribution and evolution of public support to industries. Such an approach complements the more quantitative methodologies above to calculate the actual subsidies to industrial production in China. Some more refined works have developed quantifications of Chinese industrial policy priorities based on language analysis. The language of China's five-year plans has been investigated to identify industries Beijing supports, based on a methodology developed by

[49] Garred J. (2018). "The Persistence of Trade Policy in China After WTO Accession." Journal of International Economics 114: 130-142. Gourdon J., Monjon S. and Poncet S. (2014). "Incomplete VAT rebates to exporters: how do they affect China's export performance." CEPII Working Paper no. 2014-05.

[50] For instance, the Guangdong provincial government circumscribed an effort to attract foreign capital to strategic industrial sectors, including selective market opening and incentives for domestic and foreign financial institutions to finance such projects (Notice of the General Office of the People's Government of Guangdong Province on Printing and Distributing Several Policies and Measures to Promote the High-quality Development of Investment Attraction in Guangdong, March 2023). Other illustrations of such openings based on the needs perceived by Beijing can be found in: OECD (2021). "Report on China's shipbuilding industry and policies affecting it." OECD Science, Technology and Industry Policy Papers, no. 105. OECD Publishing, Paris; OECD (2023). "Measuring distortions in international markets: The rolling-stock value chain.". OECD Trade Policy Papers, no. 267. OECD Publishing, Paris.

[51] The "Notice to support emission obligation of technological and innovative companies" published by the Chinese state participation agency and the financial regulator in November 2022 calls for a priority in the validation process of the issuance of bonds from such firms (中国证监会 国务院国资委关于 支持中央企业发行科技创新公司债券的通知_中国证券监督管理委 员会 (csrc.gov.cn)). A directive from the Ministry of Industry and the Intellectual Property Enforcement Agency recently encouraged the judicial system to deal diligently and severely with IP infringements penalizing firms recognized as strategic (CNIPA and MIIT, "Notice on intellectual property rights measures to help the innovation and development of 'specialized and sophisticated' SME," October 28, 2022).

Chinese researchers.[52] Others have performed a language analysis of some 40,000 official documents to sort industrial policies by various levels of government in China between "most," "mild" and "not" interventionist measures.[53]

II. SMEs, a telling new priority of industrial policies[54]

The Chinese government has been building up a nationwide initiative to identify and cultivate promising "specialized SMEs" in strategic industries and grant them privileged access to public and private resources.[55] In some ways, the government has taken on the role of an incubator to replicate the success of the startup and venture capital scene in software and platform technologies and applied it to hardware technologies where China is reliant on foreign companies. Larger firms still play a central role, but Beijing is now attempting to enhance the contribution of smaller firms as well.

This endeavor embodies and illustrates the new approach Beijing wishes to implement to pursue techno-industrial objectives. Policymakers intend to leverage the dynamism that comes from bottom-up entrepreneurship and competition between SMEs through a top-down framework to achieve national technological goals. In Beijing's eyes, top-down government guidance and market-based competition are not mutually exclusive. They are complementary.

"*The birth of a hidden champion is not a one-day effort. It requires a cultivation process with strategic patience … We should further foster and develop hidden champions in advanced manufacturing segments … especially those that can fill technological shortcomings."* Dong Jingmei, Economic Forecasting Department at the State Information Center (affiliated with NDRC)[56]

It is interesting to note that this new emphasis on SMEs happened concomitantly with the growing focus on self-reliance (see Exhibit 4). And it goes beyond a simple correlation. As former Vice Premier Liu He underlined: "The soul of 'Specialized SMEs' is innovation. At China's current economic development stage, science and technology innovation is not only a development issue but also a survival issue."[57] Three days after this statement, a readout of the Politburo's discussion headed by Xi Jinping mentioned innovation, resilience, Specialized SMEs and bottleneck technologies in one sentence. Indeed, selection criteria for government-supported SMEs now emphasize the replacement of foreign companies in key technology chains.

[52] Xiao C., Fos V. and Wei J. (2020). "A race to lead: How Chinese government interventions shape U.S.-China production competition." Social Science Research Network Working Paper.

[53] Tan Y. (2021). Disaggregating China, Inc.: State Strategies in the Liberal Economic Order. Cornell University Press.

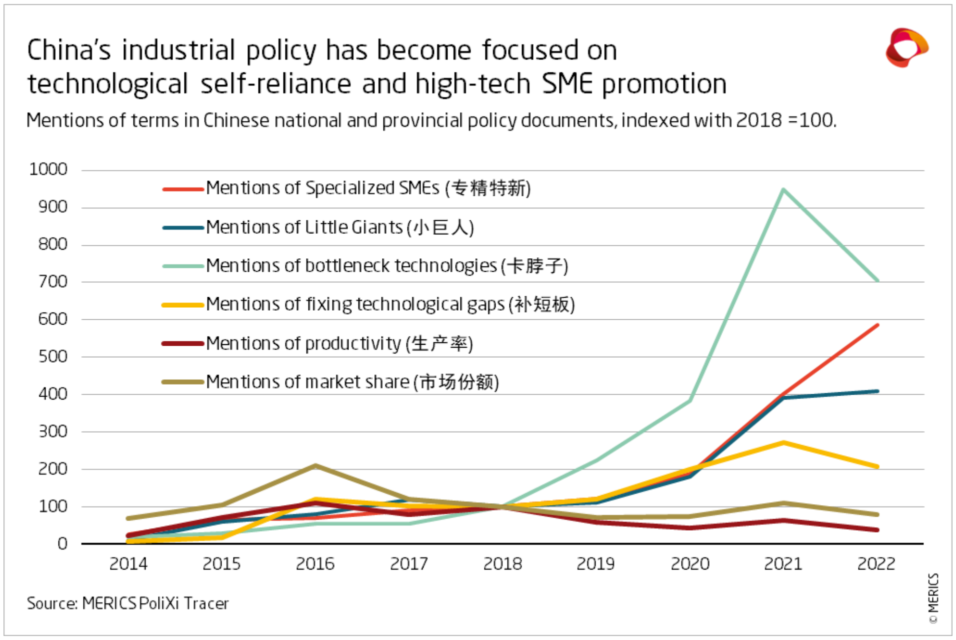
[54] This chapter is derived from a MERICS report the author wrote with colleagues: A. Brown, F. Chimits, G. Sebastian (2023). "Accelerator state: How China fosters `Little Giant` companies." MERICS Report. MERICS.

[55] Chinese SMEs can be quite large. What constitutes an SME in China could very well pass for a small corporation in Europe or North America. According to China's legal classification, SME status differs by industry but generally, SMEs can have as many as 1,000 employees and CNY 400 million in revenue (in sectors like IT or construction numbers can be double). In Europe, in contrast, SMEs employ fewer than 250 persons and have an annual turnover below EUR 50 million (CNY 360 million).

[56] Jingmei Dong. "Expert Opinion】 Invisible Champion Cultivation Path under the Construction of New Development Pattern 【专家观点】新发展格局构建下的隐形冠军培育路径" (NDRC, November 2021).

[57] CNII, "Speech by Liu at the National Summit on 'Specialized and Sophisticated' SMEs 刘鹤在全国'专精特新'中小企业高峰论坛上的致辞," July 27, 2021, https://www.cnii.com.cn/sz/202107/t20210727_296857.html.

Exhibit 4



a. A multi-tier selection process of the hot prospects

Like a sports federation trying to develop an Olympic team, Beijing is rolling out a "pyramid cultivation system" (梯度培育体系) to dynamically select the most promising firms for support (see exhibit 5)**.** The system runs on a good dose of competition in the selection process to ensure that support measures and resources are allocated to the most competitive and promising players. Companies are only guaranteed their spot as government-certified SMEs for three years.

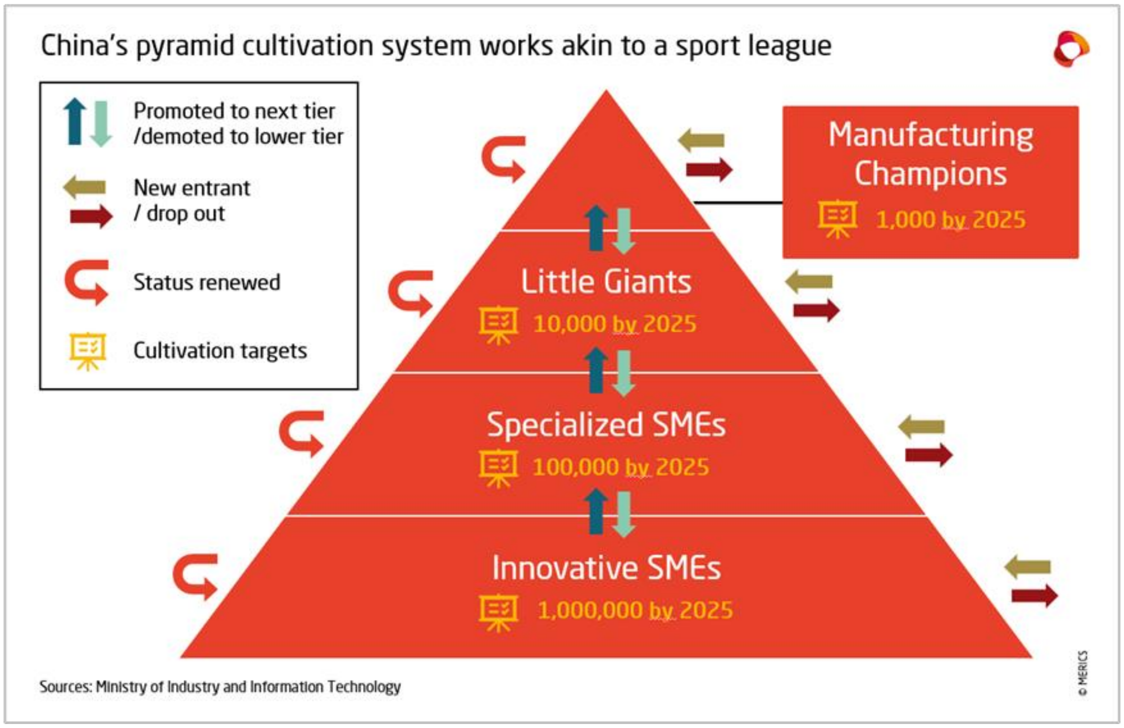
Municipal and provincial governments identify, evaluate, and select local high-tech SMEs based on specific selection criteria. They are then recommended to the central government for further support. Provincial governments draw on this vast pool of innovative SMEs to select more advanced Specialized SMEs (专精特新中小企业) that can tap into a wide array of support mechanisms. The cream of the crop is then promoted to national Little Giant (小巨人) status, and after reaching a certain size, can be recognized as Manufacturing Champions (制造业单项冠军). The last two are considered to be model firms in China's pursuit of innovation-driven development.[58]

Selection criteria have remained rather constant over time, except for the upgrade of technological bottlenecks and substitutes for foreign inputs, and for the corresponding decrease in commercial performance. For each of the programs described in the previous paragraph, the public authority in charge launches a selection process every three years or so, based on updated criteria. No comprehensive analysis of those criteria and their

[58] Pingjun Zhou, "'Specialized, Specialized and New' SME Development Policy Orientation '专精特新'中小企业发展政策取向" (Advanced Manufacturing Technology Business School, 2022).

evolution has been brought to my attention, but reviews of local documents indicate that the usual criteria include growth performance, the number of invention patents, R&D intensity, and niche product focus.[59] Tellingly, for Little Giants, the criteria of the fourth and fifth batches explicitly ask SMEs whether they fill technological bottlenecks or replace products of foreign companies. [60]

Exhibit 5



By July 2023, policymakers had identified more than 70,000 Specialized SMEs (专精特新中小企业) and 12,000 Little Giant SMEs (小巨人), namely high-tech SME firms selected for preferential treatment at the provincial and national level. Officials aim to raise these numbers to over 80,000 and 10,000, respectively, by the end of 2023.[61] Overall, the review process extended the Little Giants status for 155 of the 248 firms selected in the first batch, equivalent to a pass rate of about 60 percent. Out of the 4762 firms selected in the first three rounds of Little Giants, 114 have grown into Manufacturing Champions.[62]

[59] MIIT, "Interim Measures for the Management of Gradient Cultivation of High-Quality Small and Medium-Sized Enterprises 优质中小企业梯度培育管理暂行办法," June 2022.

[60] MIIT, "Interim Measures for the Management of Gradient Cultivation of High-Quality Small and Medium-Sized Enterprises 优质中小企业梯度培育管理暂行办法," June 2022.

[61] MIIT, "National Industry and Information Technology Work Conference Held in Beijing 全国工业和信息化工作会议在京召开," January 11, 2023.

[62] Fang Fang, "The Robot Industry Chain Has Added 72 New National-Level Specialized Special 'Little Giants'机器人产业链又添 72 个国家级专精特新'小巨人'." Gaogong Robot Network. September 2022. People's Daily, "Accelerate the Development of Specialized, Special and New 'Little Giant' Enterprises 专精特新'小巨人'企业发展加速," August 2021.

b. A reform package mixes the alleviation of distortions that help larger firms and new distortions to support SMEs

In the meantime, Chinese public authorities have rolled out new supportive measures targeted at SMEs. The most obvious and direct measures are government subsidies for Specialized SMEs and Little Giants. From 2021 to 2025 the central government will provide at least CNY 10 billion in direct funds to support 10,000 Little Giants. But the size of subsidies differs widely based on where a firm is headquartered. For instance, a nationally recognized Little Giant can receive a one-time award between CNY 500,000 and CNY 6 million which is often matched at the provincial level.[63] Municipal and district-level governments can provide additional funds.[64] The average Little Giant will receive at least CNY 2 million in direct subsidies through the Little Giant program. Wealthy local governments often go above and beyond to support their local high-tech SMEs. Guangzhou is a case in point for a particularly generous local government.[65]

Leaving aside the financial dimension for now (see below), the government is also mobilizing various and unusual state-connected actors and policies to support high-tech SMEs. These include promoting collaboration with universities and research institutes, guiding procurement and R&D funding, and a specifically more robust IP system to support high-tech SMEs.[66] These central policy measures are already trickling down to local governments which are starting to issue their own support measures based on central targets. Nanjing's government intends to cultivate 1,000 Specialized SMEs, 300 Little Giants and 30 Manufacturing Champions by 2025 and has issued a policy to boost SME-university collaboration. Among the many support measures, the local government specifies that Specialized SMEs cooperating with universities will receive priority recommendation for Little Giant titles (see annex for more details).[67]

Large firms, SOEs or not, are also called upon to provide support. In May 2022 the government released a notice signaling that the government expects large corporates,

[63] Guangzhou Municipal Government, "关于印发广州市'专精特新'中小企业培育三年行动方案（2022—2024）的通知," April 26, 2022. KbossChina. "Notice of the General Office of the Ministry of Industry and Information Technology on Carrying out the Fourth Batch of Specialized and New 'Little Giant' Enterprise Cultivation and the First Batch of Specialized and New 'Little Giant' Enterprise Review Work 工业和信息化部办公厅关于开展第四批专精特新'小巨人'企业培育和第一批专精特新'小巨人'企业复核工作的通知," 2022, https://www.kbosschina.com/zizhu/xiaojuren/; 861718.com, "Specialized and Special New Small Giant Enterprise Reward Standard: 6 Million Yuan per Family at the National Level, 2 Million Yuan per Year 专精特新小巨人企业奖励标准：国家级 600 万元/家，每年 200 万." January 2022. Nanfang Daily Online Edition, "广州：新认定国家级专精特新'小巨人'企业免申即享百万奖励 Guangzhou: Newly Recognized National-Level Specialized and New 'Little Giant' Enterprises Can Enjoy Millions of Rewards without Application." April 2022.

[64] Guangdong Province Industrial Park Association, "Summary of 'Specialized, Special and New' National Reward and Subsidy Policies '专精特新'全国奖补政策汇总." 2022. Guangzhou Huangpu District Gov., "Guangzhou Huangpu District Guangzhou Development Zone to Further Support the High-Quality Development of Specialized and Special New Enterprises 广州市黄埔区 广州开发区进一步支持专精特新企业高质量发展办法," 2021.

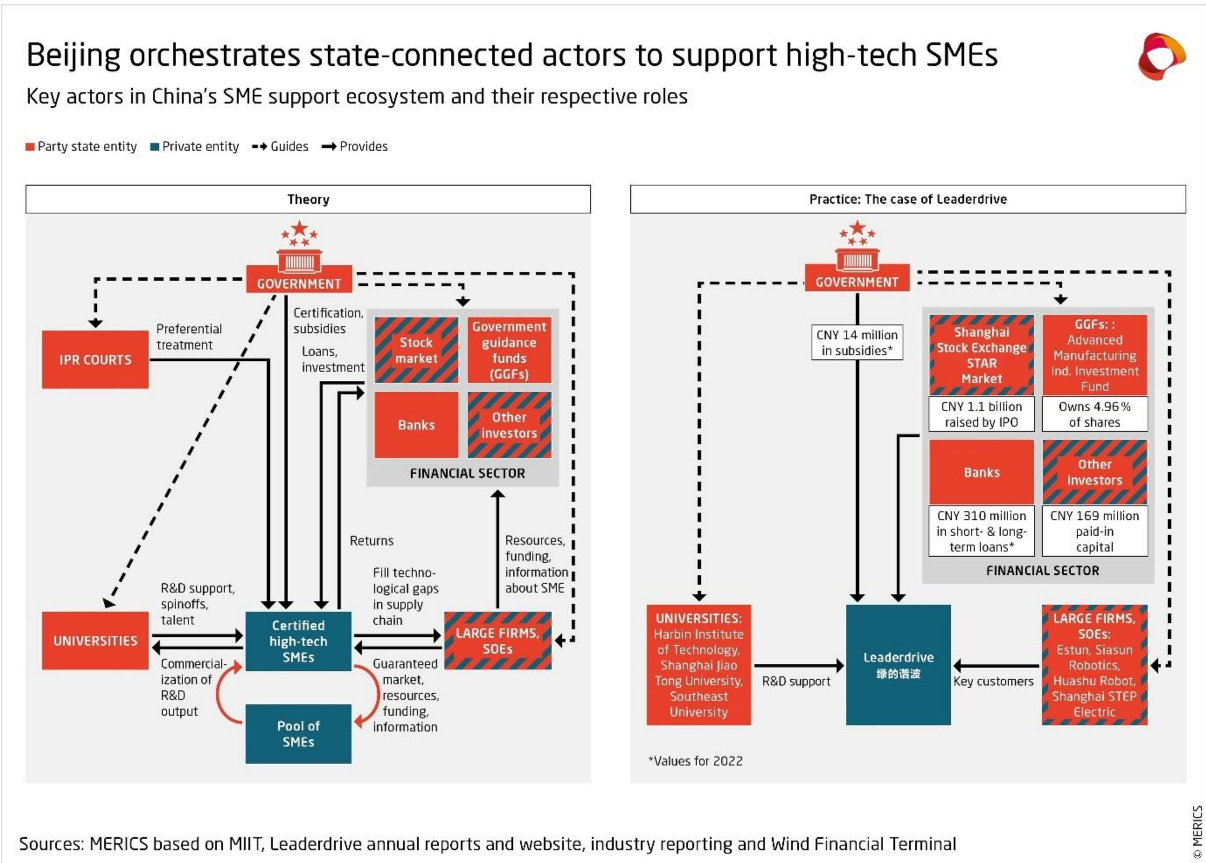
[65] Guangzhou Huangpu District Government, "Guangzhou Huangpu District Guangzhou Development Zone to Further Support the High-Quality Development of Specialized and Special New Enterprises 广州市黄埔区 广州开发区进一步支持专精特新企业高质量发展办法."

[66] For details and references, see A. Brown, F. Chimits, G. Sebastian (2023). "Accelerator state: How China fosters "Little Giant" companies." MERICS Report. MERICS.

[67] Nanjing Municipal Government, "关于印发南京市深化校企协同创新建设培育专精特新企业示范城市若干政策措施的通知," September 2022.

especially SOEs, to play a larger role in supporting innovative SMEs.[68] The MIIT think tank China Academy for Information and Communications Technology (CAICT) has built an online platform to match large firms with SMEs.[69] Meanwhile, the Chinese SOE watchdog, SASAC, not only helped draft the May 2022 government notice[70] which mentions that SOEs will receive additional points in their KPIs for promoting the integration and innovation of Specialized SMEs, but also highlighted the cultivation of Specialized SMEs as a priority for 2023 during meetings with local SASC leaders.[71]

Exhibit 6



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[68] MIIT et. al., "Notice on 'Hand in Hand Action' to Promote the Innovative Integration of Large Firms and SMEs (2022-2025)关于开展'携手行动'促进大中小企业融通创新（2022-2025 年）的通知."

[69] MIIT. "Notice on Printing and Distributing the Operation Guide for the 'Hundred Fields and Thousands of Enterprises' Integration and Innovation Matchmaking Activities of Large and Small Enterprises 关于印发'百场万企'大中小企业融通创新对接交流活动操作指南的通知." September 2022.

[70] MIIT et. al., "Notice on 'Hand in Hand Action' to Promote the Innovative Integration of Large Firms and SMEs (2022-2025)关于开展'携手行动'促进大中小企业融通创新（2022-2025 年）的通知."

[71] SASAC, "The State-Owned Assets Supervision and Administration Commission of the State Council Held a Meeting of Local SASAC Leaders to Deepen the Reform of State-Owned Assets and State-Owned Enterprises, Promote High-Quality Development, and Make New Contributions to the Comprehensive Construction of a Modern Socialist Country 国务院国资委召开地方国资委负责人会议深化国资国企改革推进高质量发展为全面建设社会主义现代化国家开好局起好步作出新贡献," January 2023.

c. The ambition of a refined financial system

Most of the instruments and measures mentioned in the section on reforming the financial sector to "guide" resources toward party-state priorities are specifically geared for high-tech SMEs. Official guiding instruments have most often targeted either SMEs or high-tech firms. According to the abovementioned central bank monetary policy report, so does most of the unofficial "window guidance." Similarly, most of the stock exchange reforms have been aimed at facilitating the funding of high-tech SMEs (see Exhibit 7).

In January 2023, the State Council signaled its intention to double-down on such an approach. A set of measures published to support MSMEs, including Specialized SMEs and Little Giants, refers to "making effective use of monetary policy tools (…) to continue to guide financial institutions to increase lending to MSMEs." [72] This is part of a clear ambition to "guide more funds to invest in advanced manufacturing and strategic emerging industries, and better serve key core technology research enterprises and Specialized SMEs," as the governor of the PBOC recently explained.[73]

Exhibit 7: China's main financial exchanges serving high-tech SMEs

Year founded	2009	2019	2021
Location	Shenzhen	Shanghai	Beijing
Minimum estimated market value at IPO	CNY 1 billion	CNY 1 billion	CNY 200 million
Approval procedure	Registration-based since 2020	Registration-based since inception	Registration-based since inception
Market cap*	CNY 12.3 trillion	CNY 6.7 trillion	CNY 226.26 billion
Number of listed firms**	1247	510	184
Number of Little Giants (share of total firms listed)**	247 (20 percent)	220 (43 percent)	73 (40 percent)

* Data valid as of January 27, 2023.
** Data valid as of March 31, 2023.
Source: Exchange websites, Wind financial terminal, CYZone

Government guidance funds (GGFs) are another rather recent instrument geared toward financing high-tech SMEs. Promoted on a national scale from 2014 onward, these funds

[72] State Council, "Notice on Printing and Distributing Several Measures to Help Small, Medium and Micro Enterprises Stabilize Growth, Adjust Structure and Strengthen 关于印发助力中小微企业稳增长调结构强能力若干措施的通知," January 11, 2023, http://www.gov.cn/zhengce/zhengceku/2023-01/15/content_5737024.htm.

[73] Gang Yi, "Report of the State Council on Financial Work - at the Thirteenth Session of the Standing Committee of the Thirteenth National People's Congress on October 28, 2022 国务院关于金融工作情况的报告——2022 年 10 月 28 日在十三届全国人民代表大会常务委员会第三十七次会议上" (SAFE, October 30, 2022), http://m.safe.gov.cn/safe/2022/1030/21646.html.

are encouraged to "guide and drive social capital towards strategic emerging industries by setting up industrial investment funds in a market-oriented manner."[74]

In line with guidance from Beijing, GGFs bring shareholders or limited partners into a structure similar to venture capital and private equity funds.[75] Apparently, a frequent investing practice of GGFs is to operate as funds of funds, which can effectively transfer the political objectives of their investments into other venture capital and private equity firms.[76] It is important to note that local governments have created most GGFs, in part reorientating the Local Government Financing Vehicles that flourished to finance the post-2008 stimulus package.[77]

The limited prospects for SMEs to list publicly is one of the main challenges hindering the growth of a more dynamic Chinese venture capital scene, of which GGF makes up roughly half of the deals and funds raised.[78] Hence GGFs and the stock market reforms mentioned above are strongly complementary, with public listings potentially allowing GGFs to generate hefty returns that can then be re-invested into new firms.[79]

[74] MOF. "Interim Measures for the Administration of Government Investment Funds 政府投资基金 暂行管理办法," 2016, http://www.gov.cn/gongbao/content/2016/content_5051233.htm; NDRC, "Guiding Opinions on Expanding Investment in Strategic Emerging Industries, Cultivating and Expanding New Growth Points and Growth Pole 关于扩大战略性新兴产业投资培育壮大新增长点增长极的指导意见." 2020.

[75] Ngor Luong, Zachary Arnold, and B. Murphy, "Understanding Chinese Government Guidance Funds," March 2021, https://cset.georgetown.edu/publication/understanding-chinese-government-guidance-funds/.

[76] Luong A. and Murphy, "Understanding Chinese Government Guidance Funds"; Yue Yue, Liwei Wang, and Wei Han. "Four Things to Know About the State's Role in China's Private Investment Market." Caixin. October 2020.

Industry experts assesses that state-connected capital makes up for 75 percent of funds raised by leading PE firms come from local and central government-backed funds in China.

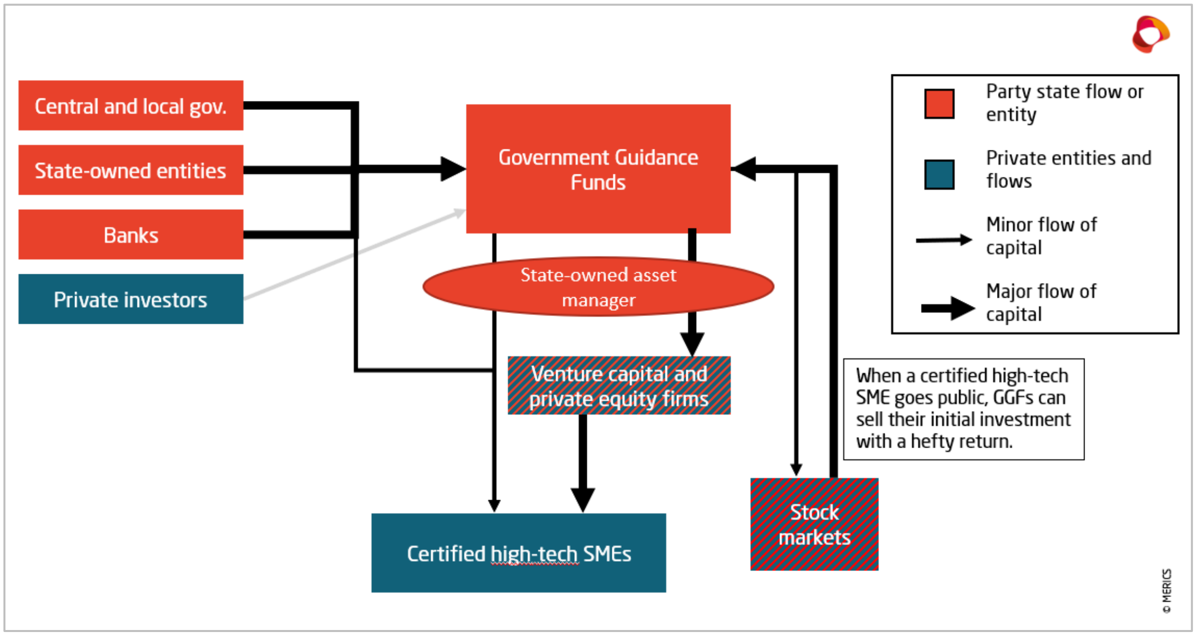
[77] Fenghua Pan, Fangzhu Zhang, and Fulong Wu, "State-Led Financialization in China: The Case of the Government-Guided Investment Fund," *The China Quarterly* 247 (September 2021): 749–72, https://doi.org/10.1017/S0305741020000880; Jianchao Fan, Jing Liu, and Yinggang Zhou, "Investing like Conglomerates: Is Diversification a Blessing or Curse for China's Local Governments?" BIS. January 2021.

[78] Li, Jinlin, Government as an Equity Investor: Evidence from Chinese Government Venture Capital through Cycles (March 17, 2022). Available at SSRN. Colonnelli, Li, Liu, "Investing with the government: A field experiment in China," June 2022 (revised in April 2023), NBER.

[79] Anton Malkin, "China's Experience in Building a Venture Capital Sector: Four Lessons for Policy Makers" (CIGI Papers, 2021), https://www.cigionline.org/static/documents/documents/no.248_0.pdf.

Xiang, D.W. and Li, Z.Y. (2016) Government Equity Investment Guide Fund: Questions, Analysis and Recommendations. Economic Research Reference, No. 19, 22-27.

Exhibit 8: The financial structure of government guidance funds



Source: MERICS

d. A mixed bag of preliminary outcomes, echoing the success of broader reform efforts

By being more targeted, more flexible and more market driven, the accelerator state approach brings China's industrial policy closer to the "embedded autonomy" that economists have identified as a key characteristic of successful industrial ambitions.[80]

A few initial success stories appear to validate China's approach. The accelerator system is still young, but several Little Giants are already touting their achievements in helping to solve China's technological bottleneck problems. One such firm is Little Giant Shandong Yongju Pharmaceutical Technology (山东永聚医药科技) which has developed machines for packaging food and drugs in cooperation with Shantou University.[81] Previously, China relied on imports for the equipment.

In line with sectoral priorities, VC funding shifted slightly away from software and consumer goods, and toward "hard" technologies. The former went from more than 60 percent of VC investment from 2015 to 2019, to around a third over 2020 to 2022. Indeed, about two-thirds of Little Giants are in manufacturing, followed by another 21 percent in scientific research and technical services.[82] The sectoral distribution of listed Little Giants

[80] Juhasz, Lane and Rodrik, "The new economics of industrial policy" (draft), Annual Review of economics, August 2023. https://drodrik.scholar.harvard.edu/sites/scholar.harvard.edu/files/dani-rodrik/files/the_new_economics_of_ip_080123.pdf. Reda Cherif and Hasanov Fuad, "The Return of the Policy That Shall Not Be Named: Principles of Industrial Policy," IMF, Working Paper No. 2019/074, March 2019, 79.

[81] Sina, "Zibo: 'Stuck Neck' Technology Achieves 'Little Giant' Enterprise 淄博：'卡脖子'技术成就'小巨人'企业," October 17, 2022, https://k.sina.com.cn/article_1893761531_70e081fb02002gcjb.html#/.

[82] Weibin Zheng, "More than 60% of Specialized and New 'Little Giant' Enterprises Are Concentrated in the Manufacturing Industry | Xinjing Think Tank 超六成专精特新'小巨人'企业集中在制造业 | 新京智库," *Sina*, November 14, 2022, https://news.sina.cn/2022-11-14/detail-imqmmthc4473666.d.html.

shows that their technological focus is aligned with Beijing's industrial policy priorities. As of the end of 2022, the top three sectors of 624 listed Little Giants were machinery (19 percent), electronic equipment (15 percent) and chemicals (13 percent). And the end goal seems to be well understood too, as 318 of 719 annual reports from 2021 of publicly listed Little Giants mention the term domestic substitution (国产替代).

Indeed, it seems more financial resources are going toward high-tech SMEs. The share of micro, small and medium enterprises in total bank loans has steadily risen since hitting a low point in mid-2019. More volatile, the share of capital raised on SME-oriented stock exchanges compared to total stock exchange funding has been rising steadily since late 2018. More anecdotally, in 2022, 40 percent of new listings on the Shanghai, Shenzhen and Beijing stock exchanges were made by Little Giant companies.

Some sectoral analyses have supported such an efficiency gain by switching to GGF-driven industrial policy.[83] Other researchers have found an uptick in innovation efforts in areas in China with more GGF investments, indicating that they create a "compete-for-financing" effect in innovation.[84]

Evidence of serious flaws have also emerged. MERICS colleagues have found a marginal but significant number of selected Little Giants that do not pass the selection criteria because, for instance they are not SMEs or their recent revenue or profit growth rate was too low.[85] The IMF has suggested that credit policies towards micro, small and medium enterprises could be used simply as window dressing to channel additional funding to the housing market and large firms through shell companies.[86]

In addition, running counter to the original ambition and various later efforts, the vast majority of limited partners among GGFs are SOEs, local governments or other public institutions.[87] And indeed, anecdotal information depicts a bleak picture of local political distortions running high in the management of GGFs.[88] Some researchers have found significant underperformance and distortions from GGFs, especially at the local level.[89]

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[83] Xin Tong and Xiaomeng Wan, "National Industrial Investment Fund and China's Integrated Circuit Industry Technology Innovation," *Journal of Innovation & Knowledge* 8, no. 1 (January 2023): 100319, https://doi.org/10.1016/j.jik.2023.100319.

[84] Chen, Joy and Gong, Kaiji and Li, Jinlin, "Industrial Policy in a New Era: Government Venture Capital in the U.S.-China Trade War" (July 2, 2023). Available at SSRN: https://ssrn.com/abstract=4218297 or http://dx.doi.org/10.2139/ssrn.4218297

[85] A. Brown, F. Chimits, G. Sebastian (2023). "Accelerator state: How China fosters `Little Giant` companies." MERICS Report. MERICS.

[86] "People's Republic of China: Selected Issues," *IMF Staff Country Reports*, *2022*, IMF, February 2023 (see para. 33, p. 41).

[87] Ibid.

[88] Yifan Wei, Yuen Yuen Ang, and Nan Jia, "The Promise and Pitfalls of Government Guidance Funds," *The China Quarterly*, August 25, 2022, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4200771.

[89] Li, Jinlin, Government as an Equity Investor: Evidence from Chinese Government Venture Capital through Cycles (March 2022). Available at SSRN. Kajitani, K, K Chen and K Mitsunami (2022), "How Do Industrial Guidance Funds Affect the Performance of Chinese Manufacturing Enterprises?" RIETI Discussion Paper Series 22-E-110. Colonnelli, Li, Liu, "Investing with the government: A field experiment in China", June 2022 (revised in April 2023), NBER.

Nevertheless, multiple recent policy documents indicate an ambition to double down on GGFs to pursue industrial objectives.[90] Jin Zhuanglong, the Minister for Industry and Information Technology, has underlined the need to "give full play to the guiding role of industrial investment funds."[91] High-level policy documents on the cultivation of SMEs underlines the key role of GGFs in supporting high-tech SMEs and manufacturing.[92]

III. The EU has implemented instruments to tackle complex support schemes

Beyond the well-known divergences on the dispute-settlement mechanism, the EU and the US have grown dissatisfied with the WTO rule book that, with China in mind, they deem unsuited for dealing with distortions. The WTO rule book, approved in 1994, sets a high burden of proof before countries are allowed to put tariffs on subsidized goods. What's more, the WTO transparency obligations on subsidies are toothless and poorly respected. Subsidization through below-market financing – in the form of cheap loans or cheap equity – or through below-market inputs is also hard to demonstrate at the WTO. The WTO rules do not properly cover subsidies for production sites in third countries or those channelled through a state-guided entity. The rules around coercive technology transfers and currency manipulation could also be considered not stringent enough against such distortions. On top of this, the rules do not cover the service sector at all.

Correspondingly, the EU, in line with its internal practices and preferences, has been proactively bolstering its approach to preserving a level playing field against Chinese distortions.[93] As early as 2017, a first-of-its-kind, EU official 477-page report listed the "significant distortions" taking place in China, ushering in a new method for the use of EU trade defense instruments. Since then, European tariff sanctions on Chinese goods have increased substantially.[94]

[90] The last two CCP Congress reports (October 2022 and October 2017) underlined the need for the CCP to "guide the development of the non-public sector" as a core dimension of the socialist market economy. In the section on technology, the current five-year plan published in 2021 calls to "encourage the development of angel investment and venture capital and make better use of the role of venture capital guidance funds." The MIIT recently mentioned as part of its top priorities for 2023, "deepen the integration of industry, give full play to the driving role of investment funds, and guide social capital to increase investment in manufacturing." The experience of the Hefei government in spurring state-investments in tech-intensive firms and especially SMEs was publicized through a series of articles in late 2022 in The People's Daily.

[91] Zheng Wang, "Authoritative Interview: All-out Effort to Promote a Positive Recovery and Steady Rebound of the Industrial Economy 权威访谈：全力推动工业经济积极恢复、稳步回升." *People's Daily.* January 2023.

[92] "9. Improve financial, fiscal and talent policies and measures. Give play to the role of government guidance funds, and encourage private capital to invest in high-quality enterprise cultivation funds." ("Accelerating the Cultivation and Development of High-quality Manufacturing Enterprises." MIIT, MOFCOM, SASAC. June 2021)

"All local departments in charge of industry and information technology and intellectual property management departments should make full use of special funds for the development of SMEs." (Notice on Several Measures for Intellectual Property Rights to Help the Innovation and Development of Specialized, Specialized and New SMEs, MIIT, November 2022)

[93] A level playing field is a situation in which market participants "compete on an equal footing" (OECD). Discriminative state interventions such as specific subsidies, regulatory discrimination, and national preference are the usual culprit for tilting the playing field.

[94] M. Huotari, S. Jean. « Bolstering Europe's Economic Strategy vis-à-vis China ». Conseil d'analyse économique. Juin 2022.

To overcome the uncertainty around the non-market economy status of the PRC at the WTO after 2015, the EU has developed its own fact-based country and sector-specific assessments, which has been recognized as WTO-compliant. In addition to its legal capacities, the EU strengthened its administrative ability by creating the position of a Chief Trade Enforcement Officer in 2020, with dedicated personnel and a mandate to enforce international trade rules. Since 2018, EU trade defense instruments have started to target new distortions. The lack of labor-union diversity, in addition to political influence through CCP cells in firms or CCP members in top management, subsidized inputs and restrictions on exports of raw materials have been cited to justify the classification of Chinese sectors as non-market-based.

The CCP presence within entities as well as a declaration of allegiance to party-state initiatives are also used as grounds to categorize those as public bodies. In addition, below-market financing and preferential input prices (including land, electricity, or minerals) have also been taken into account when establishing tariffs on Chinese subsidized products. Anti-subsidy investigations have led to tariffs for transnational subsidies provided to a Chinese firm for production in third markets before being exported to the EU. Economic and Trade Cooperation Zones under the Belt and Road Initiative have been targeted explicitly.

A new regulation enables EU authorities to also tackle state-supported Chinese firms producing and operating on the European market, including for mergers and acquisitions. The new foreign subsidy instrument approved in late 2022 and in place since summer 2023, but not yet fully tested, explicitly covers distortions not covered by the WTO. More specifically, this enables the European Commission to sanction foreign support to players operating on the European market for the entire service sector, but also potentially for any production in Europe, as well as any merger or acquisition and public procurements.

IV. Recommendations

1. **Complete the refining of the US trade defense toolbox and implement more forceful actions against Chinese-subsidized imports into the US, while distinguishing a level-playing-field from security-related instruments.** So far, most of the Chinese distortions have been de facto treated in the US through security-related measures and domestic subsidies. Trade defense tools have been more marginal in the US response. Indeed, they might be more limited in only protecting the national market from such distortions, whereas security-related measure and subsidies have consequences on foreign markets too. However, for a more comprehensive approach trade defense tools offer a valuable alternative in sectors less related to security. Inspired by the European approach, US instruments could be refined to tackle non-market economies, transnational subsidies or even distortions in investments and services.

2. **Increase the understanding and monitoring of Chinese industrial distortions.** Chinese industrial efforts deserve more attention, for our own policy reaction(s) obviously, but potentially also occasionally for policy inspiration. While OECD countries cannot and should not reproduce the PRC's toolkit on public intervention throughout society, the

scale and the innovative dimension of industrial policy in China can be very informative. And many like-minded partners do not have the capacity to conduct a thorough and up-to-date analysis of Chinese efforts and successes.

3. **Domestic industrial policy might be a practical response for national firms to fight Chinese competition in third markets, but a credible alternative rulebook for international exchanges will also be necessary to respond to the broader challenges posed by the PRC**. This can be conceived as a post-WTO or WTO-plus framework. Not that such an alternative is easily within reach. However, in the long term, partners will need predictability and fairness for them to engage in deeper interactions.[95] Given the bargaining power and the size of the US, partners will need some form of a rule-based system. And with no easy solution in sight, it is better to start sooner rather than later.

4. **An iterative, bottom-up approach, building on specific areas of converging analysis and preferences, could be more fruitful both in terms of concrete outcomes as well as in terms of trust building**. OECD countries diverge fundamentally on key issues and there is a considerable degree of uncertainty among many partners surrounding the desired comprehensive system. Aiming at a comprehensive new rulebook for an international level playing field in trade would require tremendous efforts for a very uncertain outcome. The past deliverables of the US-Japan-EU trilateral on transparency and on the treatment of SOEs and public bodies offer solid starting points.[96]

   Other areas of possible convergence of interest and preferences span from:
   - the treatment of developing countries within such a framework (or a well-calibrated special and differentiated treatment),
   - the rules around trade restrictions related to global commons (and especially the environment),
   - the treatment of non-market economies,
   - and the extension of level playing field instruments to services.

[95] The EU met the new US administration with an ambitious cooperation proposition for a renewed rules-based liberal order. It intends to "be the linchpin of a new global alliance of like-minded partners," based on "common values of fairness, openness and competition" and "centered on areas where our interests converge, our collective leverage can best be used" (European Commission (2020). EU-US: A new transatlantic agenda for global change. European Commission). Interestingly, the EU-US Trade and Technology Council also intends to "coordinate approaches to key global trade, economic, and technology issues" in order to "better protect our businesses and workers from unfair trade practices." A working group of the council is dedicated to "global trade challenges," largely to tackle Chinese distortions. No deliverables have been produced or even rumoured on those matters so far.

[96] The discussions on the WTO rules launched in 2017 between the EU, the United States, and Japan made progress, but seemingly stopped in January 2020. This trilateral framework was created to strengthen their "commitment to ensure a global level playing field." The discussions were structured around transparency, subsidy, and state-owned-enterprises (SOEs). These have led to joint communiqués and formal propositions. (see Office of the United States Representative (2017). Joint Statement by the United States, European Union and Japan at MC11). One outcome was a joint proposal on transparency obligations at the WTO, centred on raising the cost on non-compliance to notify subsidies – a poorly observed obligation that lacks any serious enforcement. The three sides also agreed upon a proposition regarding subsidies in January 2020, never made public as the trilateral cooperation froze as the US imposed new tariffs on the EU. The update apparently included a broader scope for the most harmful – and thus prohibited – subsidies, a softening of the burden of proof of the complaining party and more enforceable rules on subsidies through preferential prices, credit, or equity.