



# **A Few Comments on China's Manufacturing Industry Development and Technology Transfer**

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I **“China Manufacturing 2025”** is China’s strategy to upgrade its manufacturing industry in the context of **the new industrial revolution** and learn from the common practices of advanced economies in light of **its own economic development stage.**



- After the eruption of the global financial crisis, countries around the world have launched their own versions of re-industrialization strategies to embrace the opportunities of the new industrial revolution. (United State Manufacturing Enhancement Act of 2010、Germany “Industry 4.0”strategy, “New Face of Industry in France”).
- “China Manufacturing 2025” focuses on “smart manufacturing”, which is not essentially different from the US Advanced Manufacturing Partnership (AMP) that puts premium on industrial internet and Germany’s “Industry 4.0” which is primarily concerned with cyber-physical systems (CPS).

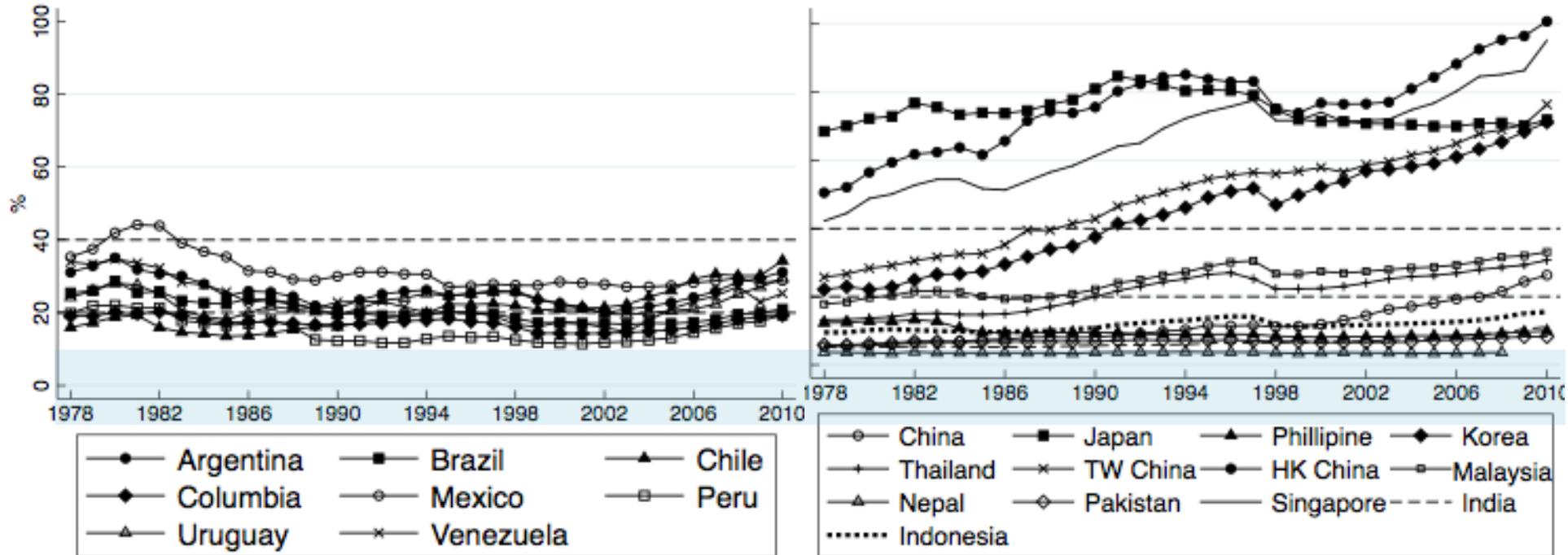


- **China is currently in its middle-income stage.** According to the experiences and lessons of Asia and Latin America, China must rely on innovation to upgrade its manufacturing industry and **avoid the “middle-income trap”**. “China Manufacturing 2025” is a manufacturing upgrade plan formulated according to China’s economic development stage.
- Although China’s manufacturing upgrade plan identifies priorities which are similar to those of the United States, **China is a middle-income country while the U.S. is a post-industrial country.** The two countries have tremendous differences regarding their economic development stages and technological levels. Therefore, instead of competition, there should be more cooperation between both countries.



# “Middle-Income Trap” :

the experiences and lessons of Asia and Latin America



relative incomes of Latin American and East Asian economies

20% < ratio of per capita income to US < 40%



**II** In formulating and implementing “China Manufacturing 2025”, China always **follows a market-based principle and a policy** that respects the fundamental role of competition - these are the intrinsic requirements for China’s industrialization stage and manufacturing upgrade and development.



- “Market orientation plus government guidance” are the foremost principles of “China Manufacturing 2025”.
- China has entered into the late stage of industrialization, and an economic “new normal” featuring the transition from factor-driven to innovation-driven development. In this background, China must follow a market-based principle where the market plays a decisive role in resource allocation, and adopt a competition policy that improves market competition order.
- In the “Opinions on Creating a Fair Competition Review System” released in 2016, the State Council requires that policy-making authorities must conduct a fair competition review in its policy-making process



- As we know, the U.S. Section 301 Investigation Report made criticisms on the local content ratio identified in “China Manufacturing 2025” and the market share and local content mentioned in “Technical Roadmap for China Manufacturing 2025” drafted by industry experts.
- However, these are predictive indicators that serve as guidance only. In fact, they are not government policy objectives and not mandatory. They are not linked with relevant government policies or financial input. It is not uncommon for governments to issue guidance of a similar kind in other countries as well.



**III Without doubt, China aims to enhance China's manufacturing competitiveness through technology innovation. However, the government's role in this process is to **create an open and coordinated ecosystem for technology innovation**, rather than intervene in technology transfers, the Chinese government **does not force foreign companies to transfer their technology****



- The Chinese government understands that fostering a complete **innovation ecosystem** is the key to the implementation of “China Manufacturing 2025”, and treat Chinese and foreign companies as equals without creating any restrictions, discriminations and exclusiveness.
- The joint research and talent development between **Georgia Institute of Technology and China’s National Additive Manufacturing Innovation Center**, as well as cooperation **between GE and Harbin Electric Corporation** in the field of gas turbine manufacturing. With respect to the creation of manufacturing innovation centers, **the National Power Battery Innovation Center and the University of Western Ontario (UWO)** created a joint laboratory, and the National Additive Manufacturing Innovation Alliance has developed three overseas members.



- No institution of foreign investment approval and registration, including development zone committees with this function, may ask for technology transfer as a precondition for foreign investment approval or registration. If any government department in China is in breach of this commitment, **an investor may apply for administrative reconsideration or complaint, or bring an administrative lawsuit.**
- Such technology transfer requirement is **a normal commercial negotiation requirement based on corporate cost-benefit accounting.** If a foreign party believes that a Chinese company is abusing its market dominance to refuse transaction, it should file an antimonopoly complaint or bring a lawsuit.



- 40 years have passed since China started to reform its SOEs. In fact, China's SOEs have highly different situations of development and survival. Most SOEs have already become commercial enterprises with modern diversified ownership structure and market-based management system, known as **the "new SOEs"**. Just like private companies, these "new SOEs" are also driven **by profit maximization goals**.
- **The "technology-seeking"** cross-border M&A strategy exists in corporate cross-border investments, Chinese companies started to create overseas R&D centers or engage in overseas technology-seeking M&A, which is a normal corporate behavior based **on win-win cooperation in the context of globalization**. It is unjustified to consider such behaviors as acquisition of intellectual property under government intervention.



**Fourth, there is a huge space for future Sino-US technical cooperation, especially in the fields of **aerospace, climate, medical care, energy,** and artificial intelligence.**



- **(1) Technical cooperation in the field of aerospace.** China should cooperate with the United States in the field of aerospace to create a community of shared destiny for humankind. Such cooperation will benefit not only both countries but the entire humanity as well.
- **(2) Technical cooperation in public sectors.** We should enhance our cooperation at the level of provincial/state governments in the fields of climate, energy, medicine and others
- **(3) Cooperation in the field of emerging technologies.** Regarding artificial intelligence, Chinese investors are more interested in the application layer, while U.S. investors focus more on the basic layer.



***Thanks!***

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