

# **“Made in China 2025” has been a success, but at what cost?**

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Like lord voldemort from Harry Potter, “Made in China 2025” is an initiative which induces so much fear and loathing abroad that Chinese officials dare not speak its name. The plan, introduced a decade ago, called for pouring money and resources into dozens of industries. The goal was to turn China into a green and innovative “manufacturing power”, one that relied less on labour and Western supply chains, and more on automation and new home-grown technologies. This was Xi Jinping’s vision for the Chinese economy.

It has, for the most part, been a resounding success. Aided by the government, Chinese firms have risen to the very top of some industries. They have grown more automated and sophisticated. The torrent of goods coming from Chinese factories (and weak domestic demand) resulted in a record trade surplus of nearly \$1trn in 2024. But China’s success has had consequences, ranging from economic distortions at home to a backlash abroad.

The details of Made in China 2025 are laid out in hundreds of official documents. A so-called “Green Book”, published by a committee of China’s top engineers, identified targets for government largesse. Ten sectors, ranging from information technology to aerospace, were chosen. Within these, hundreds of industries were designated for support in the form of direct subsidies, cheap credit and inexpensive land. Producers of such things as solar panels, chips and aircraft benefited. The project covered much of China’s industrial base.

## Production value

1

Share of global manufacturing value added, 2015-23\*, percentage-point change



Source: World Bank

\*Or latest available

chart: the economist

The goals were sometimes vague, but the plan also laid out dozens of statistical benchmarks. China appears to have exceeded most of these. It was already the world's largest manufacturer in 2015, accounting for 26% of global value added in this sector. In 2023 that number was 29% (see chart 1). More impressive, though, has been China's performance in fields deemed important by the state.

Two of the clearest examples are electric vehicles (evs) and drones. The plan called for Chinese companies to sell 3m of the former in 2025. That shouldn't be a problem: they sold more than 10m last year, accounting for nearly two-thirds of the global total. In the last quarter of 2024 China's biggest ev-maker, byd, surpassed Tesla, an American firm, in worldwide sales of battery-only cars.

China's biggest drone-maker, dji, is even more dominant. Its share of the global market in consumer drones is over 90%.

In the area of clean energy the aims were fuzzy, but the gains of Chinese companies are unambiguous. Whereas in 2015 they produced 65% of the world's solar panels and 47% of its batteries, today they are responsible for around 90% and 70%. The government's support means they can make these things at lower cost than firms elsewhere. In much of the world, the green transition is powered by kit made in China.



chart: the economist

Chinese manufacturers are making more stuff, but the government also wanted them to make more innovative stuff. So the plan called on them to funnel 1.68% of their total revenue into research and development by 2025, up from less than

1% in 2015 (see chart 2). They achieved that objective in 2023. A related aim, for firms to file more patents, has also been surpassed.

Which goals remained elusive? China hoped to be manufacturing its own large commercial aircraft by now. In 2023 the c919, a Chinese-made passenger plane, did have its first commercial flight from Shanghai to Beijing. But it was made with many foreign parts. Western firms still supply most of China's passenger planes.

An even bigger disappointment has been the slow progress in semiconductor production. Most Chinese companies are still only capable of making mid-range chips. Things were gloomy in the sector even before America imposed export controls on chips and chipmaking equipment. Some argue that these restrictions have spurred innovative workarounds. In 2023 Huawei surprised America when it introduced a phone containing an advanced seven-nanometre chip. Meanwhile, China is increasing the subsidies flowing to companies such as smic, its largest foundry.

Made in China 2025 has, then, achieved most of its aims. But at what cost? The fiscal expense is impossible to calculate. One attempt by the Centre for Strategic and International Studies, a think-tank, estimated that China spent over 1.7% of gdp on industrial policy in 2017-19, which would add up to over \$3trn in today's dollars if sustained for a decade. That money could have been spent on other things, such as health care, which might have better served the public: fewer evs, more icus.

Beyond the fiscal burden, China's industrial ambitions have also required a big commitment of labour and capital. China's manufacturing workforce was over 123m people in 2023. These labourers have become more productive: output per worker has increased by roughly 6% a year on average from 2014 to 2023, falling only modestly short of the government's goals.

But that performance required enormous inputs of capital. When this investment is taken into account, things look less impressive. The economy as a whole has fared badly on measures of "total-factor productivity" (tfp), which try to capture the growth in output that cannot be explained by increases in capital or labour. This disappointment has been felt in high places. It may lie behind Mr Xi's recent push to cultivate "new productive forces", which will supposedly contribute to tfp.

A different policy mix could have encouraged greater household spending, not capital spending, and flourishing services, not manufacturing muscle. These two shifts could have complemented each other nicely. As people grow richer, they devote a higher share of their budgets to education, health and recreation rather than manufactured clutter. Stronger consumer spending would, therefore, have been a boon to China's service firms, which account for the majority of employment. That, in turn, might have bolstered the labour market and created

more of the kinds of jobs that China's millions of university graduates are equipped to fill.

## **Too much of a good thing**

As it is, Chinese buyers do not come close to purchasing all of the things that Chinese factories produce. So the country is busy exporting the rest. Angry trade partners accuse it of flooding their markets with cheap goods, undercutting their companies and hollowing out their manufacturing sectors. They launched almost 200 anti-dumping cases and other trade investigations against China in 2024, according to official data. India, which has its own "Make in India" initiative, made more complaints than any other country.

The fears of China and its foreign critics tend to feed on each other. For Mr Xi, the primary goal of Made in China 2025 is self-reliance. He talks of taking things "into our own hands". That task has become more urgent in the face of foreign tariffs and export controls. Donald Trump's return to the White House, surrounded by China hawks, has undoubtedly reinforced Mr Xi's vision for the Chinese economy.

But even if America had not taken a hawkish turn, it is difficult to imagine the Communist Party under Mr Xi pursuing a different strategy. "They basically think that rich countries are those that make stuff and the richest countries are those that make the most advanced stuff," says Gerard DiPippo of the Rand Corporation, a think-tank. Although in many ways China's big bet on industrial policy has paid off, there have also been large downsides. Just as Voldemort twisted the behaviour of the people he possessed, the policy that must not be named has skewed the evolution of the economy it inhabited. ■